



WOLF 1MS WOLF 2MS

FM Monitoring System and Streaming Device

(Rev. 1.8 ENG)





SUMMARY

1 INTRO	DUCTION	5
1.1 A	VAILABLE MODEL	5
1.2 U	SE OF THIS MANUAL	5
1.3 R	EVISION HYSTORY AND NOTES	5
2 GENER		6
3 SAFEI	Y WARNINGS / ISTRUZIONI PER LA SICUREZZA	
3.1 F(JREWURD	
4 SAFET	T WARNINGS	
6 ISTRU	ZIONI IMPORTANTI PER LA SICUREZZA	23
7 WICH1	IGE SICHERHEITSHINWEISE	
8 INSTR	UCCIONES IMPORTANTES DE SEGURIDAD	
9 UNPAG	CKING AND INSPECTION	
10 FIRS	ST INSTALLATION RECOMMENDATIONS	
10.1 P	OWER SUPPLY CABLE	
10.1 PI	ROTECTION AGAINST LIGHTNING - NUMERAZIONE	
10.2 VI	ENTILATION	
11 WOI	LF 2MS INSTALLATION NOTE AND FIRST STEP	
11.1 IM	PORTANT NOTE ON USER NAME AND PASSWORD	
17.2 HC	JW TO SHUT DOWN WOLF ZMS	
12 1 14	LI ZING GENERAR DEGONIF HON	
12.2 W	OLE 2MS FRONT PANEL	
12.3 W	OLF 2MS REAR PANEL	
12.4 W	OLF 2MS DISPLAY AND LED PANEL	
12.4.1	Tuner Module-1 Zone Functionality	
12.4.2	Audio Streaming Module-1 Zone Functionality	
12.4.4	Tuner Module-2 Zone Functionality	40
12.4.5	GPIO Zone Functionality	41
12.4.6	Time and Date Zone Functionality	
12.4.7	Alarms Panel Zone Functionality	
12.4.8	I AN 1 Page Functionality (How to set the TCP/IP FTH 1)	
12.4.9	LAN-1 Fuge Functionality (How to set the TCP/IP FTH-1)	43 44
12.4.11	IMPORTANT NOTE	
13 WOL	F 2MS WEB PAGE	
13.1.1	The Home web page	
13.1.2	NTP Time and Date Synch in Wolf 2MS	46
13.1.3	LOGIN into WOLF2MS	48
13.1.4	Tuner-1 Data – Main Webpage	49
13.1.5	Deviation, Imbalancement and MPX Power	
13.1.6	RDS Group Transmission Alarm	
13.1./	The Alternative Channel and the Adjacent Channel	
13.1.0	Tuner 1 Data The FON page	
13.1.10	The STATS page	57
13.2 SI	ETUP	
13.2.1	MAIN -1 Page	
13.2.2	MAIN -2 Page	61
13.2.	2.1 SMTP SETTINGS – EMAIL NOTIFICATIONS	63
13.2.3	Note about NTP Settings and behavior	65
13.2.4	Note about Activity Heart Signal	
13.2.5	NMS 1-2 Page	
13.2.0 14 TUE	ADMIN PAGE	۵۵ مع
141 H	TO LOGIN IN WOLF 2MS	
14.2 но	DW TO ADD A NEW USER	
14.2.1	Consideration on Username and Password	
14.3 тн	IE ADMINISTRATION TOOLS	
14.3.1	The User Right Management – How to change a Password	
14.3.2	The User Right Management – How to enable/disable features	71
14.3.3	How to logout a user from Wolf 2MS	71
14.4 GE	ENERAL CONSIDERATION ABOUT USER LOGGED IN AND NON LOGGED	
14.5 DA	ATA EXPORT AND IMPORT	
14.5.1	Un SD Cara Using wab browser	73 כד
14.3.2	Using wed Drowser	/3





14.5	5.3 Network section	74
14.6	SETTINGS – TUNER 1	74
14.6	5.1 Tuner-1 – Main	75
14.6	5.2 Tuning Mode	76
14.6	5.3 Smart Scan	
14.6	5.4 Deemphasys	
14.0	5.5 External Attenuator	/0
14.0	5.0 Global Tuner Mask Mode	
14.0	5.7 The meaning of Mask on each single parameter under control	
14.0	59 RFL1	
14.6	5.10 RFH1	
14.6	5.11 RFH2	
14.6	5.12 DEV (Maximum Deviation allowed)	95
14.6	5.13 PILOT LOW (19kHz Pilot Stereo level)	98
14.6	5.14 PILOT (19kHz Pilot Stereo level)	99
14.6	5.15 RDS Low (57kHz RDS Data Level)	102
14.6	5.16 RDS (57kHz RDS Data Level)	103
14.6	5.17 Audio DEV (Silence detector)	107
14.6	5.18 Audio Left (Silence detector)	109
14.0	5.19 Audio Right (Silence detector)	
14.0	5.20 Audio MS (Mono Silence)	
14.0	5.21 Audio SI (Siereo Imbalance)	112
14.0	5.22 RDS F1 (Flogram Identifier)	
14.0	5.25 RDS 1.5 (170gram Service)	115 116
14.0	525 Note 2. PS Settings	110
14.6	5.26 RDS TP (Traffic Program)	
14.6	5.27 RDS TA (Traffic Announcement)	
14.6	5.28 RDS CT (Real Time Clock)	120
14.6	5.29 Particular case for RDS CT - Real Time Clock	121
14.6	5.30 RDS RT (RadioText)	122
14.6	5.31 RDS AF (Alternative Frequency)	123
14.6	5.32 RDS EON (Enhance Other Network)	124
14.6	5.33 RDS IH (In-House)	125
14.6	5.34 RDS TMC (Traffic Message Channel)	126
14.6	5.35 RDS RT+ (Radio Text Plus Service)	
14.0	0.36 RDS ODAT and ODA2	
14.0	5.37 RDS BLER (Block Error Ratio)	129
14.0	ארא גער ארא איז איז ארא גער ארא גער איז גער	130
14.0	540 Frample 1 - PI with regional variations	132
14.0	541 Example 2 - Control TA / TP	134 136
14.6	5.42 Example 3 - Control EON AF presence of specific IP	
14.6	6.43 Example 4 - Control of the togele A / B flag	
14.6	5.44 Example 5 - Transparent Data Channel.	139
14.6	6.45 Example 6 - Recording TMC	140
14.6	5.46 Example 7 - Alert C on TMC	141
14.1	AUDIO 1 - SETUP	142
14.2	AUDIO 2 - SETUP	143
14.3	ANALOG AUDIO INPUT SETUP	
14.4	DIGITAL AUDIO INPUT SETUP	
10 V	YULF ZIYIƏ ƏLAIN AND ƏWART ƏLAIN WIUDE FECHNICAT ADDENDIY	140 1
16 1		141 1 <i>1</i> 7
16.7	APPENDIX R - LISB A/R CONNECTION	
16.3	APPENDIX C – ETHERNET / LAN CONNECTION	
16.4	APPENDIX D – SERIAL CONNECTION	
16.5	APPENDIX E - GPIO PORT	
16.6	APPENDIX F – WOLF 2MS UPGRADE PROCEDURE	150
16.6	5.1 Note about upgrading from rel 0.4.1 – 0.4.7	151
16.7	APPENDIX G – WOLF 2MS CONSIDERATION ON FW REL 1.2.1	153
16.8	APPENDIX $H-$ wolf 2 ms test procedure and consideration	154
16.9	SYNCH TO PC TIME	
16.10	NTP	
16.11	NORMAL ACTIVITY TRAP	
10.1	1.1 KT-L2 MONIIOF IESI (1UNEF-1 1UNEF-2)	

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16.11.2	RF-L1 Monitor test (Tuner-1 Tuner-2)	
16.11.3	RF-H1 Monitor test (Tuner-1 Tuner-2)	
16.11.4	RF-H2 Monitor test (Tuner-1 Tuner-2)	
16.11.5	Frequency Deviation Test (Tuner-1 Tuner-2)	
16.11.6	Pilot Level – Low and Windows combined Test (Tuner-1 Tuner-2)	
16.11.7	RDS Level – Low and Windows combined Test (Tuner-1 Tuner-2)	
16.11.8	MPX Audio Deviation Test (Tuner-1 Tuner-2)	
16.11.9	Audio Left/Right level Test (Tuner-1 Tuner-2)	
16.11.10	Smart Scan General Description	
16.11.11	RDS PI Data test (Tuner-1 Tuner-2)	
16.11.12	RDS PS Data test (Tuner-1 Tuner-2)	
16.11.13	RDS TP Data test (Tuner-1 Tuner-2)	
16.11.14	RDS TA Data test (Tuner-1 Tuner-2)	
16.11.15	RDS CT Data test (Tuner-1 Tuner-2)	
16.11.16	RDS RT Data test (Tuner-1 Tuner-2)	
16.11.17	RDS EON Data test (Tuner-1 Tuner-2)	
16.11.18	RDS BLER Data test (Tuner-1 Tuner-2)	
16.11.19	Audio Streaming	
16.11.20	Note about event failure sampling	
16.11.21	RDS InHouse (Tuner-1 Tuner-2)	
16.11.22	RDS TMC (Tuner-1 Tuner-2)	
16.11.23	RDS RT+ (Tuner-1 Tuner-2)	
16.11.24	RDS ODA-1 ODA-2 (Tuner-1 Tuner-2)	
16.11.25	SMTP	
16.11.26	RDS Streaming	
16.11.27	Traps and email notification with analogical or digital inputs	
16.11.28	Format and Import/Export configuration	
17 TECHI	NICAL SPECIFICATION WOLF 2MS	
18 WEEE	Directive – Informativa RAEE	
19 WARR	ANTY	
WOLF 1MS D	ECLARATION OF CONFORMITY	239
WOLF 2MS D	ECLARATION OF CONFORMITY	240
WOLF 1MS D	ICHIARAZIONE DI CONFORMITA'	241
WOLF 2MS D	ICHIARAZIONE DI CONFORMITA'	242

1 INTRODUCTION

1.1 AVAILABLE MODEL

CODE#	MODEL	COMMERCIAL DESCRIPTION
A110160001	WOLF 2MS	Dual FM monitoring system for FM networks. Double internal tuner with configurable band scan. Real time measures on RF, MPX, Audio and RDS with decoder with group sequence. HTTP, SNMP, FTP and XML protocol. Web server, double audio streaming for monitor. 2x LAN, USB and GPIO. Headphone output.
A110160020	WOLF 1MS	Monitoring system for FM networks. Internal FM tuner with configurable band scan. Real time measures on RF, MPX, Audio and RDS decoder with group sequence. HTTP, SNMP, FTP and XML protocol. Web server and audio streaming for monitor. 2xLAN/USB and GPIO. Headphone output and universal power supply.

1.2 USE OF THIS MANUAL

This manual can be used with the Wolf 1MS and Wolf 2MS products. Some features may be changed without notice.



1.3 REVISION HYSTORY AND NOTES

Rev.	Note	Date	Sign	Change / Descritpion
1.0.3		23 May 2014	Gabriele Rocchini	User Manual updating from 0.8.5 to 1.0.3



2 GENERAL DESCRIPTION

WOLF 1MS & 2MS





FM OFF AIR MONITOR SYSTEM Rev 4.8

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HIGHLIGHTS

- Real Time measurement for FM networks
- Single/double high quality FM Tuner
- Signal analysis modules: RF, MPX, AUDIO and RDS
- High invulnerability to strong RF fields
- Configurable single/bandscan for each FM tuner
- Embedded web server for worldwide consultation
- Single/double AoIP streaming for monitoring with IceCast2 Server
- Single/double RDS decoder with group sequence decoding
- SNMP, HTTP web interface, FTP, NTP and email supported
- Double Ethernet/USB ports, LCD display and headphone out



PRODUCT OVERVIEW

Wolf 2MS is a state-of-the-art monitoring system, designed to supervise FM air signals. The accuracy of the onboard twin tuners allows a very rigorous frequencies scan, high performances in FM reception, MPX audio encoding and RDS data streaming. This cutting-edge equipment features three main operating modes: continuously reception, bandscan and smart bandscan.

The FM static modality allows to focus on a single channel, selected and monitored exclusively. Scan mode implies that up to 32 channels for each tuner can be scanned and supervised in a single analysis. Receiving up to 64 memories in total, Wolf 2MS allows a complete and accurate scrutiny of RF, MPX, RDS, Audio and RDS data dynamic services. In smart mode the channel scan time is adjusted automatically according to instantaneous measurements requirements.

Outstanding quality of Wolf 2MS is the integration into a Network Management System. Supporting SNMP protocol, all data and information captured during FM monitoring are graphically displayed on any kind of web interface. For simplest configurations not requiring NMS software, Wolf 2MS can send via email a daily report of the 24 hours events. Wolf 2MS provides a database sheet to manage this information.

Two built-in audio streamers are an essential feature of Wolf 2MS; audio channels can be streamed to a remote logging system that records both audio and data coming from the transmitter site. The audio stream can also be sent to a remote player for audio-on-demand purposes. From any site users can listen to each single FM tuner and streamed audio, using any Internet browser.

Two onboard network interfaces provide maximum flexibility in streaming and connectivity processes. From PCs, tablets and smartphones broadcasters can control completely Wolf 2MS and access all data and alarms. When an alarm rises, it is the NMS system that sends notifications via SMS or email or takes an action to fix any possible issue.

External input sources are available: analog Left+Right and digital AES/EBU inputs. Users can connect audio to the external input sources that should be under control. These audio inputs are constantly monitored: silence detection, and audio presence. Thorough tests, performed also by end users, showed that Wolf 2MS circuits are extremely safe and completely unaffected by any kind of radiofrequency interferences

TECHNICAL DESCRIPTION

Wolf 1MS and Wolf 2MS are FM monitoring systems designed for FM Off Air signal monitoring purpose. Wolf 1MS is provided with one high quality FM tuner, while Wolf 2MS allows the broadcaster to receive up to two frequencies thanks to internal double tuner. Tuners are each other independents and they can operate in three ways: Continuous reception, bandscan and SmartScan.

Internal tuner assures strong performances in FM reception, RF and MPX audio analysis and RDS data stream output. The monitoring made on FM channels can be a basic RF analysis or an advanced RF, MPX and AUDIO measurement.

- *Continuous reception:* a single carrier is selected and under monitoring.
- Bandscan mode: a total of 32 FM Channels can be scanned and monitored in Wolf 1MS and 64 FM Channels for Wolf 2MS. The bandscan time is also user definable, in a range from 1 second up to 10 seconds for each channel.
- SmartScan mode allows an intelligent and variable scan time that is adjusted automatically to fit the instantaneous measurement requirements. This is to avoid false-positive rising errors.

During continuous reception mode, each single tuner checks and completely decodes the multiplexed signal:

Mono level, Pilot level, Audio and RDS levels are measured and kept always under control. All captured datas during FM Channel monitoring can be sent to a Network Management System (such as Axel Technology's Ranger) or showed in a common password protected web page. Communication between Wolf 2MS and Ranger NMS is SNMP v2C protocol. For all single parameter under monitoring, a threshold can be set. If one or more values go out of range, alarms are delivered.

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Tuners modules are with extended RF input range from 11dBuV to over 120dBuV through an internal programmable attenuator. FM monitor will be able to work nominally at its best with strong RF levels from 80dbuV to over 120dBuV coming from an RF combiner. RF sensitivity of 20-30dBuV will be still available for the use as audio and RDS-UECP rebroadcaster.

Once the RF signal is received, audio should be streamed from the transmitter site back to a remote logging system. The streamer input allows an internal selection between all inputs available: Tuners, External Analog In, External AES/EBU In.

Wolf 1MS and Wolf 2MS are completed with "*External Input*" source: analog Left+Right input and Digital Left+Right in AES/EBU format. This audio input is continuously monitored: silence detection (Threshold/time and level), left and right presence, peak left, peak right. Rear-panel audio output always presents the audio decoded from Tuner-1 or Tuner-2 and this setting is user definable while audio is available on Analog or AES/EBU format.

Wolf 1MS and Wolf 2MS provide a large variety of connection: double Ethernet port, USB and front panel headphone output, 4x GPIn opto coupled and 4x GPOut over relays. Rs232 serial port for RDS-UECP bridging and rebroadcasting purposes, and rear panel placed SD card to store or recall the complete equipment configuration.

RF antenna inputs are over BNC connectors, a XLR balanced stereo analog input and output, AES/EBU input and output. OS and datas are loaded and stored over solid state memory as SD and flash RAM. Universal switching power supply to operate worldwide, 1 rack unit space in fan-less configuration.



MEASURES AND COMPARISON TABLE

	General features	Wolf 1MS	Wolf 2MS	
	Number of FM tuners on board	1	2	
	FM channels under monitor	32 Channels	64 FM Channels (32 FM/Tuner)	
	Scanning mode	Single, Bandscar	n and SmartScan	
	Streaming available	1	2	
Field	Type of measure	Measures made by W	Volf 1MS –Wolf 2MS	U.M
RF	4x RF Level Lower threshold			
	2x Adjacent Channel L1 threshold	ivieasure, alarm via	a email/trap SiviviP	αвμν
	Alternative Channel - Worse	Mea	sure	dBr
	Carrier precision	Mea	sure	ppm
	Multi Path	Mea	sure	%
MPX	Deviation Max			
	2x Pilot Lower level - 2 threshold level			
	MPX Power – ITU-R BS.412	Measure, alarm via	a email/trap SNMP	kHz/dBr
RDS Level	RDS Level Lower threshold			
	RDS Level Higher threshold			
AUDIO	Peak Left - Peak Right threshold			
	RMS Left - RMS Right threshold			
	Audio Imbalance – L/R delta threshold	Measure, alarm via	a email/trap SNMP	dBr
	Mono silence – L+R threshold			
	Audio MPX deviation threshold	Measure, alarm via	a email/trap SNMP	kHz
	Audio MPX Silence detection threshold			
	Audio Left – Right Silence det. threshold	Measure, alarm via	a email/trap SNMP	S
RDS Data	AF-Complete Decoding + Visualization	RDS Data decoding	group, visualization	
	PS – 4 PS matching reference	and storage. Alarm	generation in case	
	PI – 3 PI Code matching reference	of error, can be she	owed in a common	
	CT – Time offset	web page or deliver	ed via email.	
	DI – Decoder Information			
	PTY – Program Type	Interfacing with up	to 4 NMS allows	
	TP/TA – timeout TA	equipment to de	eliver traps using	
	M/S – Music Speech	SNMP protocol.		
	BLER – Block Error Rate			
	TMC – AID – Group – Data			
	EON Enhance Other Channel			
	LA = EG = ILS = LSN-PIN			
	ODA RT+			
	ODA-1 ODA-2			
	SLC0 - SLC1 - SLC2 - SLC3 - SLC4 - SLC5 -			
	SLC6 - SLC7			





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FRONT- REAR PANEL DETAIL

In the left side display the first row is divided for *TUNER-1* and *TUNER-2* frequency and RDS-PI code. The STATUS field indicates the condition (status) of the frequency under control. The scan value indicates the scanned frequency and all the related value, frequency in MHz and PI code, this scan value (01-02-.. up to 32) rotate around each 5 seconds. Same behavior for the Tuner-2.



Wolf 2MS – Front Panel

INFO row shows some information about Wolf 2MS shown such as PS for Tuner-1 and PS for Tuner-2 about the frequency under control, or the set of *bandscan* frequency. Last row shows date & time and *ALARM PANEL*.

If TU1 is set in the ALARM PANEL field, the right side 6 leds panel shows if lighted on the alarms related to Tuner -1. Same for Tuner -2.



Wolf 2MS – Rear Panel

Wolf 1MS shows some differences between Wolf 2MS in particular about right 6 leds panel side. Accordingly to one RF tuner is it possible for Wolf 1MS to report about more alarms related to a single frequency under control. PS, PI Code and frequency are showed into 3 rows LCD display, moreover each single RF and MPX component such as deviation, RF level, Stereo Pilot and RDS deviation are clearly reported.





Back side Wolf 1MS and Wolf 2MS allows a large variety of connection, AES/EBU and analog balanced input/output connections are provided over standard XLR connectors. Double Ethernet and USB –A type port make Wolf 1MS and Wolf 2MS equipment perfectly matching the most demanding broadcast market application. Furthermore GPIO opto coupler Input and relay output provides a seamless integration with 3rd party equipment. RDS decoded data in UECP format can be gived back over SubD 9p female connector, for rebroadcasting purposes.



Wolf 1MS – Rear Panel



WOLF 1MS - WEB PAGE

X CIVIL	Impossibile collegarsi a au))
C A 🗋 10.0.127.11.	2							ا
Wolf1MS							AXEL	
*	Monitoring Tuner			Settings Setup	Admin Tune	r Audio	🛓 Logout	
GENERAL IN	FORMATION							
			IP-Eth1		GPO R	elease Firmware R		
WOLF1MS			010.000.127.112	03/04/14	0 1 2 3 0	.8.12 0	.8.12	
			IP-Eth2		GPI	oxy Mode U		
			048.087.080.165	15:23:36	0 1 2 3 D	isabled	dmin	
TUNER-1	STEREO H			AUDIO-1	ALAR	Γ		
Ch. Mem.	+requency Cna	innel Label	Mode	Source	Imbalance Mono	eak-L Peak-K K	MS-L KMS-K	
1	104.20 MHz RD	iS via Dorsale	STATIC	TUNER1	0.3 dB -3.2 dBr 1	.1 dBr 1.0 dBr -	3.3 dBr -3.2 dBr	3.8.8
RF		LARM H1 H2		AUDIO SPECTRUN	I ANALYZER			
	Carrier M.Path	Adj-Chan	Alt-Chan	10dBr			LR	
66.00	dBuV 4 ppm 1.75 9	6 -17.87 -17.62 dBr	-20.75 dBr	0+				
DEVIATION	V	LARM		-10			-	
		ļ						
YAW	Audio	10114	STE I	1. 1.				
91.66	kHz 81.46 kH	z 6.99 kHz	3.21 kHz	-30	_			
RDS DATA	V	LARM						
	BLER	Sd	TP TA	-50				
5264	004	• RDS •	ON OFF					
	D	PTY	CT GROUPS	02-				
MUSIC	STEREO STATIC	VARIED	OK		4.0 8.0	12.0	 16.0kHz	
	AF	EON	Η					
Ю	ок	-	-	PLAYER				
	RT+	ODA-1	ODA-2			Countdown		
	-	-	-	Listening AUDIO-1 (vo	ırbis / 96kbits / stereo)	OFF		



×		•												111															ł
	-22																												
		AXEL	logout								STATIC										GROUPS	-	7-401			RMS-R -79.5 dBr			
		6				.8.12		dmin						30.50			80		-	,						MS-L I			
			Audio		are R	•	n	o I				ΗZ	A	đđ		B	kHz 0		F	•	0	• •				ak-R R 7.0 dBr -	- 1 0	untdown	-
			Н			.12		abled	H RDS			Ē		.37 -50.62			0									k-L Pe. .0 dBr -6	- <u>e</u>	5 8	5
			Tuner-2		Rele	3 0.8	Prov	3 Dis	TUNED		XL	ALARM	th Adj-	% -51	ALARM	Pilo	kHz 0.0	ALARM	8	*	PTV				ALARM	o Peal 5 dBr -67		I	
			7			1 2		1 2	TEREO		0 MHz	Ē	r M.Pa	ppm 0.00	T			T				-			T	ance Mond dB -79.6	-29	I	
			Tune		GPO	•	GPI	•		Freque	100.8		Carrie	suv 1		Audio	кнг 0.04		BLER	ł	ā	1				Imbala 0.3		tion	
ł			dmin			4		9							NOIL			ATA				1	1		- 2-(~	 	ng Informat	
ł			Ac			03/04/1		15:28:56	TUNER		1	RF		90.00	DEVIA		0.45	RDS D			M/S	1	2 1		AUDIO	Source TUNER2		Streami	кеалу
			Setup			12		02			АТІС									<u></u>	OUPS) SERV			IS-R 0 dBr			
cella da 🗙			Ľ			. 168.050.20		.000.127.00		W	ST			.75			2		TA	G	GR	ŏ	SERV NC			s-L RN dBr -5.			
oni - Cano					IP-E	192	IP-EI	010			ouor		Alt-(dBr -24.		RDS	kHz 2.8		đ	NO	5	ð	ERV NO			RMS RMS dBr -4.9	4	uwop	
Impostazi									RDS		ensione Sı	Ē		2 -18.75						•		0	ERV NO S			. Peak dBr 0.3		Count	
×			ner-2 Data						TUNED		Radio Dim	ALARM	Adj-Ch	% -25.6	ALARM	Pilot	cHz 6.08	ALARM	S	* • RDS	μ	VARIE			ALARM	Peak-I dBr 0.2		location	foala
llegarsi a a			ata Tu						REO	c د	MHz	H	M.Path	m 4.12	Ϊ							STATIC	NO SEI		Τ	te Mono	- 9-	to / sticked	2K012 / 21
ossibile col			Tuner-1 Da	MATION						Frequen	97.90		Carrier	4 pp		Audio	: 70.29		BLER	007	D	STEREO	9			Imbalano 0.0	- -	l Internet	er / sigio
Kå Imp	7.2	ទ	П	L INFOR		nilia								dBuV	ION			LA –					ă		-		- S	Information	
×	10.0.12	Wolf2N	*	GENERA		Anzola Er		Gabry	TUNER-:		6	RF -		51.62	DEVIATI		79.19	RDS DA		5264	M/S	MUSIC	ŏ		-OIDIO-	Source TUNER1		Streaming	רוצנבעוואב
	*																												
Wolf2MS	0																												
A.	4																												
																				GE	:NE	:RA	_ DE	SC	RIPT	ION	14		

WOLF 2MS - WEB PAGE



WOLF 1MS - WOLF 2MS BLOCK DIAGRAM





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TECHNICAL SPECS

PARAMETER	DESCRIPTION
Main Power	100 Vac – 240 Vac 50/60 Hz internal, universal power supply
Power consumption	25 W
Power connector	IEC plug filter with internal fuse 2.0 AT
Headphone	Stereo Jack 6.3 mm
Safety and EMC	Compliant to CE laws
Working temperature	0° to 50° C (storage -5 to + 50 °C)
Housing Dimensions	19 inch x 1u x 240 mm (depth)
Weight	3.5 kg
RF TUNERS	
Tuner frequency	87.5 MHz - 108.0 MHz
Tuner step	10 kHz
RF tuning stability	+/- 500 Hz
RF input sensitivity	20 to 120 dBµV
RF input nominal level	80 to 100 dBμV
RF inputs main	2x BNC, with 50 Ohm unbalanced
Max frequency deviation	125 kHz
IF Filter bandwidth	34 kHz to 138 kHz – Manual or Automatic
Input RF level	$30 \text{ dB}\mu\text{V} - 120 \text{ dB}\mu\text{V}$ with Internal attenuator
Bandscan carrier number	32 Channels
Bandscan time	Static Mode, Scan 2s to 20s and Smart Mode*
Selectivity at ± 120 kHz	> -3 dB
Selectivity at ± 200 kHz	> -40 dB
Selectivity at ± 300 kHz	>- 50 dB
Selectivity at ± 400 kHz	>-65 dB
Image Rejection @ 22.5 kHz	70 dB
Adjacent channel rejection	63 - 65 dB
Alternate channel rejection	65 - 72 dB
THD @ dev=75 kHz	0.05 – 0.1 %
Mono (S+N)/N	75 dB typ – 68 dB min (No A-Weighting 30 Hz – 15 kHz)
STEREO DECODERS	
Stereo (S+N)/N	
Pilot 19kHz suppression	55 dB (Stereo modulation L = 1, R = 0.Deviation=67.5 kHz, pilot deviation=6.75
	kHz)
	Massures @ 70 dBull with 75 kHz deviation
	• 1 kHz - 0.061 %
	• 5 kHz - 0.19 %
	• 10 kHz - 0.46 %





	45 dB (Stereo modulation L = 1, R = 0, Deviation=67.5 kHz, pilot deviation=6.75
Stereo separation	kHz)
	• 48 dB @ 400 Hz
	• 48 dB @ 1 kHz
	• 48 dB @ 5 KHZ
	• 38 dB @ 10 K⊓Z • 38 dB @ 14 7 kHz
RDS DECODER	
RDS Sensitivity	20 dBμV (dev f = 2 kHz, RDS BLER < 5%)
RDS Synchronization time	80 ms (dev f = 2 kHz RF input = 60 dBμV)
RDS PI Lock time	100 ms (dev f = 2 kHz RF input = 60 dBµV)
RDS data decoding and Streaming	RDS Level indication and deviation (voltage, kHz and dBr)
RDS Data decoding services	PS, PI, M/S, DI, TP, TA, AF, AF List Presence A/B Method, Scrolling PS, AF EON,
	Radio Text, Radio Text Plus, CT, PTY, PIN, IH, TMC, EWS, TDC. ODA generic
RF MEASUREMENT MODULE	Ranges – Resolution - Precision
RF Level	0 – 80 dBμV (Resolution 1 dBμV, precision 2 dBμV)
	82 – 120 dBμV (Resolution 2 dBμV, precision 5 dBμV)
Deviation	0-125 kHz (Resolution 1 kHz, precision 2 kHz)
Tuned Carrier Frequency Offset	0-250 ppm (Resolution 2 ppm, precision 5 ppm)
Multipath	0-100 %
Adjacent Channel RF Level	0 – 80 dBμV (Resolution 1 dBμV, precision 2 dBμV) (+-200kHz)
MPX MEASUREMENT MODULE	Ranges – Resolution - Precision
Pilot Level	0-20 kHz (Resolution 0.1 kHz, precision 0.2 kHz)
Kas Level Max Power ITLL P. BS(12 (Estimated)	0-20 kHz (Resolution 0.1 kHz, precision 0.2 kHz)
Stereo	Valid Stereo signal detector
AUDIO MEASUREMENT MODULE	Ranges – Resolution – Precision
Left Quasi Peak	Programmable Attack Time from 0 mS to 2mS (Resolution 0.1 dB)
Right Quasi Peak	Programmable Attack Time from 0 mS to 2mS (Resolution 0.1 dB)
Audio Silence	Threshold -80 dB to 0 dB, Time: 1-120 Sec
Unbalanced Stereo Signal	Threshold -80 dB to 0 dB, Time: 1-120 Sec
AUDIO OUTPUT	
Available output on XLR	Tuner-1 or Tuner-2, definable via web page. Same audio on Analog and
Phones (Front Panel)	$50 \text{ m}2 - 13 \text{ km}2$, $\pm 0.5 \text{ ub}$
ANALOG OUTPUT MODULE	
D/A Conversion	24bit Sigma-Delta Conversion – 32 kHz Sample rate
Connectors	2x XLR, male - Electronically balanced
Output Level	-12.0 dBu to +14.0 dBu (0.1 dBu Step) – Max (+20 dBu)
Impedance Source	47 Ω
Load Impendance	600 Ω or greater
Distorsion	Less than 0.02% TDH+Noise (0.0dBu @ 1Khz)
Dynamic range	108 dB (110 dB A-weighted, 20Hz – 15kHz)
Sources	Streamer1_Source , Streamer2_Source
Connectors:	ALK, IVIAIE – Electronically balanced

AxelTech





Format	AES3/EBU
Sample rates	32 kHz
Resolution	24 bits
Operative Nominal level:	From 0.0 dBFs to -24dBFs (0.1 dBu step)
Dynamic Range:	125 dB (Typ), 122 dB (Min)
Distortion	less than 0.01% TDH+NOISE (-20dBFs @ 1Khz)
Freq response	20Hz-15kHz
Dynamic range	108 dB
Sources	Streamer1_Source , Streamer2_Source
AUDIO INPUT	
Encoder Streaming Input source	User selectable between Tuner-1, Tuner-2, External Input Analog, External Input AES/EBU
DIGITAL INPUT MODULE	
Connectors:	XLR, female – Electronically balanced
Format	AES3/EBU
Sample rates	32 kHz / 44.1 kHz / 48 kHz / 96 kHz with src and jitter correction
Operative Nominal level:	From 0.0 dBFs to -24dBFs (0.1 dBu step)
Dynamic Range:	125 dB (Typ)
Distortion	less than 0.01% TDH+Noise (-20dBFs@ 1Khz)
Input Modes:	Stereo, Mono (Left), Mono (Right), Mono (Left+Right)
ANALOG INPUT MODULE	
A/D Conversion	24bit Sigma-Delta Conversion – 32kHz sample rate
Connectors:	XLR, female - Electronically balanced
AD Clipping Point	+20.0dBu
Operative Nominal Level:	From –12.0dBu to +12.0dBu (0.1dBu Step)
Line Impedance	10 kΩ (Electronically balanced selectable) EMI–suppressed
Distortion:	less than 0.02% TDH+NOISE (0.0dBu @ 1Khz)
AD Dynamic Range:	108 dB RMS (110 dB A-weighted, 20Hz - 15kHz)
Input Modes:	Stereo, Mono (Left), Mono (Right), Mono (Left+Right)
AUDIO & RDS STREAMING MODULES	
Protocols	UDP/RTP, TCP/IP, IceCast2
Encoders	OGG-VORBIS
Interface	Ethernet Port 10/100 Mb/s
Bitrate	User select 24 kbps to 192 kbps
Sample Rates	32Ksamples/sec
RDS Streaming	Proprietary redundant protocol over UDP or RAW-TCP/IP
Administration	User right management

ORDERING INFORMATION

CODE#	MODEL	COMMERCIAL DESCRIPTION
A110160020	WOLF 1MS	Monitoring system for FM networks. Internal FM tuner with configurable band scan. Real time measures on RF, MPX, Audio and RDS decoder with group sequence. HTTP, SNMP, FTP and XML protocol. Web server and audio streaming for monitor. 2x LAN/USB and GPIO. Headphone output and universal power supply.
A110160001	WOLF 2MS	Dual FM monitoring system for FM networks. Double internal tuner with configurable band scan. Real time measures on RF, MPX, Audio and RDS decoder with group sequence. HTTP,



		SNMP, FTP and XML protocol. Web server, double audio streaming for monitor. 2xLAN/USB and GPIO. Headphone output. Universal PSU	
A110160020	WOLF 1MS	Système de surveillance pour les réseaux FM. Tuner interne pour band-scan configurable. Mesure en temps réel de RF, MPX, audio et RDS (séquence de décodage). HTTP, SNMP, FTP et XML. Serveur Web, double moniteur streaming audio. 2xLAN, USB et GPIO.Prise casque enface. Alimentation universelle	
A110160001	WOLF 2MS	Double système de surveillance pour les réseaux FM. Double tuner interne pour band-scan configurable. Mesure en temps réel de RF,MPX, Audio et RDS (séquence de décodage). HTTP,SNMP,FTP-XML. Serveur Web, double moniteur streaming audio.2xLAN,USB et GPIO. Prise casque enface. Alimentation universelle	



3 SAFETY WARNINGS / ISTRUZIONI PER LA SICUREZZA

SAFETY WARNINGS

CONSIGNES DE SÉCURITÉ IMPORTANTES

ISTRUZIONI IMPORTANTI PER LA SICUREZZA

WICHTIGE SICHERHEITSHINWEISE

INSTRUCCIONES IMPORTANTES DE SEGURIDAD

(Rel. 1.6)

3.1 FOREWORD

For your own safety and to avoid invalidation of the warranty all text marked with these Warning Symbols should be read carefully.



Information in this manual is subject to change without notice and does not represent a commitment on the part of the vendor.

The manufacturer shall not be liable for any loss or damage whatsoever arising from the use of information or any error contained in this manual, or through any mis-operation or fault in hardware contained in the product.

It is recommended that all maintenance and service on the product should be carried out by the manufacturer or its authorised agents. The manufacturer cannot accept any liability whatsoever for any loss or damage caused by service, maintenance or repair by unauthorised personnel.



4 SAFETY WARNINGS

The installation and servicing instructions in this manual are for use by qualified personnel only.

- Read All Instructions. All safety and operating instructions must be read before operating the product. They also must be retained for future reference, as it contains a number of useful hints for determining the best combination of equipment settings for Yr particular application.
- Heed All Warnings. All warnings on the product and those listed in the operating instructions must be adhered to.
- Heat. This product must be situated away from any heat sources such as radiators or other products (including power amplifiers or transmitters) that produce heat.
- Power Sources. This product must be operated from the type of power source indicated on the marking label and in the installation instructions. If you are not sure of the type of power supplied to your facility, consult your local power company. Make sure the AC main voltage corresponds to that indicated in the technical specifications. If a different voltage (ex. 110/115 VAC) is available, open the equipment closure and set the voltage switch on the main supply circuit, located behind the AC socket
- Power Cord Protection. Power supply cords must be routed so that they are not likely to be walked on nor pinched by items placed upon or against them. Pay particular attention to the cords at AC wall plugs and convenience receptacles, and at the point where the cord plugs into the product
- Use only with a cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
- Lightning. For added protection for this product during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the AC wall outlet and the audio connections. This will prevent damage to the product due to lightning and power line surges
- Installation. Configuration and installation should only be carried out by a competent installation engineer
- Cabling. Using high quality wires, well protected. Make sure the cable integrity.



This symbol alerts you to the presence of dangerous voltage inside the closure – voltage which may be sufficient to constitute a risk of shock. Do not perform any servicing other than that contained in the operating instructions. Refer all servicing to qualified personnel



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.



Do not change the voltage setting or replace the mains fuse without first turning the unit off and unplugging the mains cord



Make sure the AC main voltage corresponds to that indicated in the technical specifications. THIS APPARATUS MUST BE EARTHED !



To avoid risk of fire use the correct value fuse, as indicated on the label stuck on the right side of the unit.



This apparatus uses a single pole mains switch and does therefore not separate the unit completely from the mains power. To completely separate from mains power (f.i. in the event of danger) unplug mains power cord. As the MAINS plug is the disconnect device, the disconnect device shall remain readily operable.



5 CONSIGNES DE SÉCURITÉ IMPORTANTES

- Lire ces consignes
- Conserver ces consignes
- Observer tous les avertissements
- Suivre toutes les consignes
- Ne pas utiliser cet appareil à proximité de l'eau
- Ne pas obstruer les ouvertures de ventilation. Installer en respectant les consignes du fabricant
- Ne pas installer à proximité d'une source de chaleur telle qu'un radiateur, une bouche de chaleur, un poêle ou d'autres appareils (dont les amplificateurs) produisant de la chaleur.
- Ne pas annuler la sécurité de la fiche de terre, la troisième branche est destinée à la sécurité. Si la fiche fournie ne s'adapte pas à la prise électrique, demander à un électricien de remplacer la prise hors normes.
- **Protéger le cordon d'alimentation** afin que personne ne marche dessus et que rien ne le pince, en particulier aux fiches, aux prises de courant et au point de sortie de l'appareil
- Utiliser uniquement les accessoires spécifiés par le fabricant
- Utiliser uniquement avec un chariot, un support ou une table spécifié par le fabricant ou vendu avec l'appareil. Si un chariot est utilisé, déplacer l'ensemble chariot-appareil avec précaution afin de ne pas le renverser, ce qui pourrait entraîner des blessures
- Débrancher l'appareil pendant les orages ou quand il ne sera pas utilisé pendant longtemps.
- Confier toute réparation à du personnel qualifié. Des réparations sont nécessaires si l'appareil est endommagé d'une façon quelconque, par exemple: cordon ou prise d'alimentation endommagé, liquide renversé ou objet tombé à l'intérieur de l'appareil, exposition de l'appareil à la pluie ou à l'humidité, appareil qui ne marche pas normalement ou que l'on a fait tomber.
- NE PAS exposer cet appareil aux égouttures et aux éclaboussements. Ne pas poser des objets contenant de l'eau, comme des vases, sur l'appareil



Ce symbole indique la présence d'une tension dangereuse dans l'appareil constituant un risque de choc électrique.



Ce symbole indique que la documentation fournie avec l'appareil contient des instructions d'utilisation et d'entretien importantes.



Avant de modifier le commutateur de changement de tension ou replacer le fusible il faut débrancher l'appareil de la prise électrique. Pendant son usage, l'appareil doit etre branchee à la prise de terre



Utiliser le fusible principal AC avec le valeur qui est indiquée sur l'étiquette collée sur le coffret.



Assurez-vous que la tension principale AC correspond à celle indiquée dans les spécifications techniques.



L'interrupteur d'alimentation interrompt un pôle du réseau d'alimentation excepté le conducteur de terre de protection. En cas de danger, debrancher le cordon d'alimentation. Parce que la prise du réseau de alimentation est utilisée comme dispositif de déconnexion, ce dispositif doit demeuré aisément accessible



6 ISTRUZIONI IMPORTANTI PER LA SICUREZZA

- Leggere le presenti istruzioni
- Conservare queste istruzioni
- Osservare tutte le avvertenze
- Seguire scrupolosamente tutte le istruzioni
- Non usare questo apparecchio in prossimità di acqua
- Non ostruire alcuna apertura per il raffreddamento. Installare l'apparecchio seguendo le istruzioni
- Non installare l'apparecchio accanto a fonti di calore quali radiatori, aperture per l'afflusso di aria calda, forni o altri apparecchi (amplificatori inclusi) che generino calore
- Non rimuovere il terminale di connessione a terra sul cordone di alimentazione: esso ha lo scopo di tutelare l'incolumità dell'utilizzatore. Se la spina in dotazione non si adatta alla presa di corrente, rivolgersi ad un elettricista per far eseguire le modifiche necessarie.
- Evitare di calpestare il cavo di alimentazione o di comprimerlo, specialmente in corrispondenza della spina e del punto di inserzione sull'apparato.
- Utilizzare solo dispositivi di collegamento e gli accessori specificati dal produttore.
- Utilizzare l'apparecchio solo con un carrello, un sostegno, una staffa o un tavolo di tipo specificato dal produttore o venduto insieme all'apparecchio. Se si utilizza un carrello, fare attenzione negli spostamenti per evitare infortuni causati da ribaltamenti del carrello stesso.
- Scollegare l'apparecchio dalla presa di corrente durante i temporali o quando inutilizzato a lungo
- Per qualsiasi intervento, rivolgersi a personale di assistenza qualificato. È' necessario intervenire sull'apparecchio ogniqualvolta si verificano danneggiamenti di qualsiasi natura. Ad esempio, la spina o il cavo di alimentazione sono danneggiati, è entrato liquido nell'apparecchio o sono caduti oggetti su di esso, l'apparecchio è stato esposto alla pioggia o all'umidità, non funziona normalmente o è caduto.
- Non esporre a sgocciolamenti o spruzzi. Non appoggiare sull'apparecchio oggetti pieni di liquidi, ad esempio vasi da fiori.



Questo simbolo indica la presenza di alta tensione all'interno dell'apparecchio, che comporta rischi di scossa elettrica.



Questo simbolo indica la presenza di istruzioni importanti per l'uso e la manutenzione nella documentazione in dotazione all'apparecchio.



Non sostituire il fusibile o cambiare la tensione di alimentazione senza aver prima scollegato il cordone di alimentazione. L'APPARATO DEVE ESSERE CONNESSO A TERRA.



Sostituire il fusibile generale con uno di identico valore, come indicato sulla etichetta applicata sul mobile dell'apparato



Assicurarsi che la tensione di rete corrisponda a quella per la quale è configurato l'apparecchio



Questo apparato utilizza un interruttore di alimentazione di tipo unipolare e l'isolamento dalla rete elettrica non è pertanto completo. Per ottenere un isolamento totale (ad esempio in caso di pericolo), scollegare il cordone di alimentazione. Inoltre, poichè la spina di alimentazione è utilizzata come dispositivo di sezionamento, essa deve restare facilmente raggiungibile

| ISTRUZIONI IMPORTANTI PER LA SICUREZZA 24



7 WICHTIGE SICHERHEITSHINWEISE

- Diese Hinweise LESEN
- Diese Hinweise AUFHEBEN
- Alle Warnhinweise BEACHTEN
- Alle Anweisungen BEFOLGEN
- Dieses Gerät NICHT in der Nähe von Wasser verwenden
- KEINE Lüftungsöffnungen verdecken. Gemäß den Anweisungen des Herstellers einbauen
- Nicht in der Nähe von Wärmequellen, wie Heizkörpern, Raumheizungen, Herden oder anderen Geräten (einschließlich Verstärkern) installieren, die Wärme erzeugen
- Die Schutzfunktion des Schukosteckers NICHT umgehen. Bei Steckern für die USA gibt es polarisierte Stecker, bei denen ein Leiter breiter als der andere ist; US-Stecker mit Erdung verfügen über einen dritten Schutzleiter. Bei diesen Steckerausführungen dient der breitere Leiter bzw. der Schutzleiter Ihrer Sicherheit. Wenn der mitgelieferte Stecker nicht in die Steckdose passt, einen Elektriker mit dem Austauschen der veralteten Steckdose beauftragen
- VERHINDERN, dass das Netzkabel gequetscht oder darauf getreten wird, insbesondere im Bereich der Stecker, Netzsteckdosen und an der Austrittsstelle vom Gerät
- NUR das vom Hersteller angegebene Zubehör und entsprechende Zusatzgeräte verwenden.
- **NUR in Verbindung** mit einem vom Hersteller angegebenen oder mit dem Gerät verkauften Transportwagen, Stand, Stativ, Träger oder Tisch verwenden. Wenn ein Transportwagen verwendet wird, beim Verschieben der Transportwagen-Geräte- Einheit vorsichtig vorgehen, um Verletzungen durch Umkippen
- Das Netzkabel dieses Geräts während Gewittern oder bei längeren Stillstandszeiten aus der Steckdose ABZIEHEN.
- Alle Reparatur- und Wartungsarbeiten von qualifiziertem Kundendienstpersonal DURCHFÜHREN LASSEN. Kundendienst ist erforderlich, wenn das Gerät auf irgendwelche Weise beschädigt wurde, z.B. wenn das Netzkabel oder der Netzstecker beschädigt wurden, wenn Flüssigkeiten in das Gerät verschüttet wurden oder Fremdkörper hineinfielen, wenn das Gerät Regen oder Feuchtigkeit ausgesetzt war, nicht normal funktioniert oder fallen gelassen wurde.
- **Dieses Gerät vor Tropf- und Spritzwasser SCHÜTZEN**. KEINE mit Wasser gefüllten Gegenstände wie zum Beispiel Vasen auf das Gerät STELLEN.



Dieses Symbol zeigt an, dass gefährliche Spannungswerte, die ein Stromschlagrisiko darstellen, innerhalb dieses Geräts auftreten.



Dieses Symbol zeigt an, dass das diesem Gerät beiliegende Handbuch wichtige Betriebs- und Wartungsanweisungen enthält.



Vor Änderung der Netzspannung oder Sicherungswechsel Netzkabel trennen. Das Gerät muss für den Betrieb geerdet werden.



Hauptsicherung nur mit einer gleichwertigen austauschen (s. entsprechende Etikette).



Vor Einschalten Netzspannungseinstellung am Gerät überprüfen bzw. anpassen.



Inpoliger Netzschalter. In Notfälle oder für Wartungsarbeiten Netzkabel trennen. Der Netzstecker fungiert auch als Trennelement muss deshalb zugänglich bleiben





8 INSTRUCCIONES IMPORTANTES DE SEGURIDAD

- LEA estas instrucciones
- CONSERVE estas instrucciones
- PRESTE ATENCION a todas las advertencias.
- SIGA todas las instrucciones
- NO utilice este aparato cerca del agua
- NO obstruya ninguna de las aberturas de ventilación. Instálese según lo indicado en las instrucciones del fabricante
- No instale el aparato cerca de fuentes de calor tales como radiadores, registros de calefacción, estufas u otros aparatos (incluyendo amplificadores) que produzcan calor
- NO anule la función de seguridad del enchufe polarizado o con clavija de puesta a tierra. Un enchufe polarizado tiene dos patas, una más ancha que la otra. Un enchufe con puesta a tierra tiene dos patas y una tercera clavija con puesta a tierra. La pata más ancha o la tercera clavija se proporciona para su seguridad. Si el toma corriente no es del tipo apropiado para el enchufe, consulte a un electricista para que sustituya el toma corriente de estilo anticuado
- **PROTEJA el cable eléctrico** para evitar que personas lo pisen o estrujen, particularmente en sus enchufes, en los toma corrientes y en el punto en el cual sale del aparato
- UTILICE únicamente los accesorios especificados por el fabricante
- UTILICESE únicamente con un carro, pedestal, escuadra o mesa del tipo especificado por el fabricante o vendido con el aparato. Si se usa un carro, el mismo debe moverse con sumo cuidado para evitar que se vuelque con el aparato
- DESENCHUFE el aparato durante las tormentas eléctricas, o si no va a ser utilizado por un lapso prolongado.
- TODA reparación debe ser llevada a cabo por técnicos calificados. El aparato requiere reparación si ha sufrido cualquier tipo de daño, incluyendo los daños al cordón o enchufe eléctrico, si se derrama líquido sobre el aparato o si caen objetos en su interior, si ha sido expuesto a la lluvia o la humedad, si no funciona de modo normal, o si se ha caído.
- NO exponga este aparato a chorros o salpicaduras de líquidos. NO coloque objetos llenos con líquido, tales como floreros, sobre el aparato.



Este símbolo indica que la unidad contiene niveles de voltaje peligrosos que representan un riesgo de choques eléctricos.



Este símbolo indica que la literatura que acompaña a esta unidad contiene instrucciones importantes de funcionamiento y mantenimiento.



Antes de cambiar la alimentacion de voltaje o de cambiar el fusible, desconecte el cable de alimentacion. Para reducir el riesgo de descargas electricas, esta unidad debe ser conectada a tierra.



Remplaze el fusible con lo mismo, que corresponde a lo indicado en el panel del equipo.



Antes de encender, controlar que la linea de alimentacion de voltaje corresponda a la indicada





El interruptor de alimentación es unipolar. En el caso de peligro, desconecte el cable de alimentación. Porque la clavija de conexion a red sirve por la desconection de la unidad, la clavija debe ser ubicada en proximidad de la unidad



UNPACKING AND INSPECTION 9

Your equipment was packed carefully at the factory in a container designed to protect the unit during shipment. Nevertheless, we recommend making a careful inspection of the shipping carton and the contents for any signs of physical damage.

Damage & Claims

If damage is evident, do not discard the container or packing material. Contact your carrier immediately to file a claim for damages. Customarily, the carrier requires you, the consignee, to make all damage claims. It will be helpful to retain the shipping documents and the waybill number.

Save all packing materials! If You should ever have to ship the unti (e.g. for servicing), it is best to ship it in the original carton with its packing materials because both the carton and packing material have been carefully designed to protect the unit.

Under normal conditions no user maintenance or calibration are required. Internal links and preset controls may be set to configure the unit during installation. Any service work required should be carried out by qualified service personnel only.

We are able to offer further product support through our worldwide network of approved dealers and service agents.



To help us provide the most efficient service please would you keep a record of the unit serial number, and date and place of purchase to be quoted in any communication regarding this product.

The actual equipment Serial Number is indicated on the silver label stuck on the rear panel of the equipment closure.



Tools And Equipment Needed

Only standard technician's tools are required to install this equipment.



10 FIRST INSTALLATION RECOMMENDATIONS

10.1 POWER SUPPLY CABLE

A power supply cable of approx. 2 mt length is supplied with the device, which has a moulded IEC plug attached – this is a legal requirement.

The type of plug for the power supply depends on the country in which it is delivered.

If for any reason, you need to use this appliance with a different plug, you should use the following wiring guidelines in replacing the exsisting plug with the new one:

Earth	Green, or green and yellow
Neutral (N)	Blue
Live (L)	Brown

Supply cables should be laid in such a manner that one does not step or walk on them. They should not be squashed by any objects.

THIS EQUIPMENT MUST BE EARTHED.

The chassis is always connected to mains earth to ensure your safety: check your mains wiring and earthing before switching on.

10.1 PROTECTION AGAINST LIGHTNING - NUMERAZIONE



Should the device be put out of action due to being struck by lightning or excess voltage, disconnect it from the power supply without delay. Do not reconnect until the device has been checked. If in doubt contact the technical support service.

Make sure there is suitable lightning protection to protect the device. Alternatively you should disconnect all connectors from the device during a storm or when the device is going to be unsupervised or not used for a longer period of time.

These measures will protect against damage by lightning or excess voltage.

10.2 VENTILATION

The equipment will operate as a free-standing unit without requiring any special cooling arrangement.

However, slots and openings in the product are provided for ventilation. They ensure reliable operation of the product, keeping it from overheating. These openings must not be blocked nor covered during operation.

YOU MUST LEAVE AT A MINIMUM ONE RACK UNIT OF EMPTY SPACE ABOVE THE EQUIPMENT TO ENHANCE VENTILATION AND TO GET A LONGER EQUIPMENT LIFE.



11 WOLF 2MS INSTALLATION NOTE AND FIRST STEP

Best setup location

The Wolf 2MS should be installed in a 19" rack. Avoid direct sunlight, close proximity to radiators and air conditioning, dust, water, and chemicals. Choose a rack location that permits a clear view to the indicators on the device and ensure a sufficient heat dissipation of the device.

Power supply

The device is designed for operation with 100 to 240 V AC, 50 Hz to 60 Hz. Check the corresponding device labelling for compatibility to the domestic line voltage and frequency before connecting the IEC power connector to the mains supply!



WARNING

Disconnect mains power plug before you open the housing. Repair of the equipment must only be carried out by authorized and qualified personnel.

1	Power Supply	Please make sure that the device and the contained fuse(s) (please see p. 20) are compatible to the domestic line voltage and frequency. If the device is compatible, connect the power supply cord fully to the IEC power connector at the rear side of the device and a mains power outlet. The "LCD Screed" will then turn on.
2	Network configuration	For delivery, the device is configured with default settings for the first connection via the IP interface. Wolf 2MS have a display, so you can configure the IP settings right now: See step " <u>LAN-1 Page Functionality (How to set the TCP/IP ETH-1)</u> "
3	Connect to network	Connect a network patch cable to the "10/100-Base-T" connector on the rear side of the device and your existing IP network.
4	Web interface	The device can be fully operated with an internet browser via the integrated web interface. Use a computer that is connected to the same IP network that the Wolf 2MS device is connected to. Start an internet browser, Firefox/Mozilla >V2.0 Google Chrome both with Java Script activated and enter the configured IP address in the address bar of the browser. If the IP address has not been changed in step 2, please enter the default address in the address bar of the browser: 192.168.XXX.XXX.
5	Connect FM antenna cable to each Tuner-1 and Tuner-2	Now connect the antenna cable to Wolf 2MS. There are two separate BNC inputs, please provide a correct level of RF signal to the equipment. See in the technical specs the RF level range.
6	Ready!	These first steps are only intended for a quick first start and do not cover all device functions. Pease read carefully the entire manual to be able to use all functions of the device.
7	Important note on the Username and password	The equipment comes out from Axel Technology with a standard username: admin and password: admin Each time a NEW user, with administration rights is created, the user <i>admin</i> disappear and it is replaced by the new one just created. If all users are deleted, the standard admin – admin comes out again



11.1 IMPORTANT NOTE ON USER NAME AND PASSWORD

The equipment comes out from Axel Technology with a standard username:

Username: **admin** password: **admin**

(case sensitive)

Each time a NEW user, with administration rights is created, the user *admin* disappear and it is replaced by the new one just created. If all users are deleted, the standard admin – admin comes out again, in order to create and enter the Wolf 2MS



11.2 HOW TO SHUT DOWN WOLF 2MS

Wolf 2MS is an Operative System-based equipment (as a PC) so a particular procedure to shut Wolf 2MS down is:

1.Holding for 3 seconds the encoder button. Press OK



2.Will be displayed a window to confirm the system shut down procedure.



3.After this procedure a blank screen will be displayed. Now it is possible to shut down the device



12 WOLF 2MS GENERAL DESCRIPTION

12.1 WOLF 2MS BLOCK DIAGRAM



AxelTech

WOLF 2MS GENERAL DESCRIPTION 34

12.2 WOLF 2MS FRONT PANEL



N°	CONTROL NAME	FUNCTION
1	EQUIPMENT NAME	Label designed for model name and optional features.
2	LCD DISPLAY	LCD display on two lines showing the status and operation of Wolf 2MS. All the technical parameters for each menu are displayed.
3	JOG-SHUTTLE	Jog Shuttle in order to be able to access the various navigation menus and to make changes. Pressing the Jog Shuttle will confirm the selection. Acessing the <i>Menu</i> , it is possible to fully configure the machine for the operation mode.
4	LED ALARM PANEL	This six-led panel shows some alarms during band scanning or frequency check.
5	HEADPHONE OUT	On this connector it's available the decoded audio out from Tuner -1 or from Tuner -2. Volume control selectable via front panel.



12.3 WOLF 2MS REAR PANEL



N°	CONTROL NAME	FUNCTION
1	POWER SUPPLY UNIT	Power inlet with integrated switch on/off. The switch-power socket unit is protected via fuse placed directly over the switching power supply. The fuse is a retarded type <u>2000 mA for 230V mains voltage</u> . Please refer to <u>"Fuse Replacement"</u> in order to replace the fuse.
2	RF ANTENNA IN 1 - 2	RF antenna input -1 for Tuner -1 and RF antenna input -2 for Tuner -2. The connection provided is over BNC unbalanced 50Ω
3	ANALOG INPUT	<i>External Input</i> source in analog Left + Right. The user can connect to this input, an audio source to be monitored and under control. This audio input is continuously monitored: silence detection (Threshold/time and level), left and right presence, peak left, peak right.
4	ANALOG OUTPUT	Wolf 2MS analog audio output, electronically balanced, on XLR balanced stereo connector. This audio output presents the capability to listen the Tuner -1 or the Tuner -2 output software selectable.
5	DIGITAL AES/EBU	<i>External Input</i> source in/out digital in AES/EBU format. The user can connect to this input, an audio source. This audio input is continuously monitored: silence detection (Threshold/time and level), left and right presence, peak left, peak right. The digital output presents the capability to listen the Tuner -1 or the Tuner -2 output software selectable. The audio output is over XLR electronically balanced connection.
6	ETHERNET	Double Ethernet port over Rj45 connectors. The port n°1 is used to connect the device to a LAN network and upload or download configurations and settings. The port n°2 is used an audio streaming port.


7	SD CARD HOST	Rear panel SD Card host
8	USB 1 – USB 2	Wolf 2MS is also featured with a double USB port type A. The USB port is generally used to connect other devices.
9	GPIO INTERFACE and SERIAL INTERFACE	 Wolf 2MS provide a GPIO interface composed by 4x photo coupler as GPIn, and 4x relays dry contact output. The connector is a 15 pole HD female on SubD connector. Wolf 2MS provides 1 serial port for RDS-UECP bridging and re broadcasting data. Wolf 2MS use a SubD 9p male connector with serial Rs232 protocol. For information on the pinout of the GPIO Interface port refer to the Appendix at the end of this manual. See the specific section for the operation of each GPI and GPO in the next few pages of this manual.



12.4 WOLF 2MS DISPLAY AND LED PANEL



This section explain the front panel main display features. Divided by color are reported below:

- GREEN Zone : The display shows the Tuner 1's Status.
- ORANGE Zone : The display shows the Audio Streaming Module-1's Status.
- PINK Zone : The display shows the Tuner 2's Status.
- BLACK Zone : The display shows the Audio Streaming Module-2's Status.
- GREY Zone : The display shows the GPIO's Status.
- YELLOW Zone : The display shows the internal DATE and TIME.
- RED Zone : The display shows the Alarm Panel Settings (LED's Panel).
- VIOLET Zone : The display shows the headphone level and source.
- BROWN Zone : Next page button

12.4.1 Tuner Module-1 Zone Functionality

In order analyze each single frequency an antenna or a Transmitter RF test must be connected to the Tuner-1 BNC input connector. The single frequency or the multiple band scan frequencies must be set via web page.



A) Shows the number of the memory and the frequency connected

- In **STATIC** mode the memory and his frequency are fixed.
- In **SCAN** mode the memory does a loop, between all the frequencies stored via web page. Then the frequency set (in MHz) appear for the scanning time set.

B) This label shows the status of the memory:

- **OK**: there are no errors (RF, DEVIATION, RDS)
- **ER**: there are one more errors

How to check this functionality in case of **ER**:

By using the web page move the threshold of RF-H1 under the measured value.

Verify that the status of B zone change from **OK** to **ER**.

C) This zone shows the INFO and change the functionality :

- 1) In case that no alarms are present:
- The D zone shows the PS-RDS
- 2) In case that alarms are present:
- The D zone shows the list of alarms

a. Test n°1

- Using an external RDS Encoder change the PI or using an antenna tune some radio station.
- Verify that the PS change and correspond to the PS set.
- In case that there isn't RDS signal the PS show NO RDS as the photo.



b. Test n°2

- Using web page move the RF-H1 threshold under the measured value.
- Verify that the status of D zone shows TUNER ERROR as the photo.
- Using the Jog Shuttle move the cursor on the display under the memory number
- Push the Jog Shuttle (To select the function)
- Now the display (Tuner-1 zone) show the memory and the frequency selected but in the background the scanning still working.
- Select the right memory moving the jog shuttle

The D zone shows the list of the all alarms that are present.

- After 30 seconds the display start again to shows the loop of all memories that are scanned.

D) This zone shows the **PS-RDS** if PS is present and valid, or NO RDS if it is not valid.

- Tuner in Static Mode: turning the encoder positioning the index of the channel and pressing it to select the channel, the list of possible errors is printed in zone D) as a carousel.

- Tuner Scanning Mode: After selecting the channel as above, turning the encoder you can 'browse through all channels, checking the status (which is printed in zone D). If there are errors, are printed in the same area of the display as a carousel.

- 3) In case that no alarms are present:
- The D zone shows the PS-RDS
- 4) In case that alarms are present:
- The D zone shows the list of alarms

c. Test n°1

- Using an external RDS Encoder change the PI or using an antenna tune some radio station.
- Verify that the PS change and correspond to the PS set.
- In case that there isn't RDS signal the PS show NO RDS as the photo.

12.4.2 Audio Streaming Module-1 Zone Functionality

		FREQ. MHz	RDS-PI	STATUS CH	FREQ. MHz	RDS-PI	
	ER 01	93.80		OK 01	100.80		122 G
IFO	TUNER	ALARN	1	NO	RDS		1 2 3 4
	03-05-	13 09	:52	36 SC	-SC .atl.	TU1	NEX PAG
			TI	I AL PA	ARM LEVEL (SOURCE	

D) This label show the status of Audio Streaming Module-1:

T1, T2, AN, DG: Audio source in streaming





12.4.4 Tuner Module-2 Zone Functionality

Repeats all tests using the Tuner-2 instead of Tuner-1 from the point A to D expressed below







12.4.5 GPIO Zone Functionality

	STATUS	СН	FREQ. I	R-1 VIHz	RDS-PI	STATUS	ен	FREQ.	MHz	RDS-PI	
	ER	01	93.	80	-	OK	31 1	00.	80	F.S.	GPI 4
INFO	TU	INER	AL	.ARM			NO	RD	S		GPO
	03-	05-	13	09	:52:	36	SC-	SC		101	PAGE
							ALA PAN	RM I		ର source	-

A) Shows the status of the 4 GP-Inputs

No Polarization: the small box in the right side of the display is empty

With Polarization: the small box in the right side of the display is full

Verify that functionality using the GPIO port and an external source to polarized the opto-couplers, check the electric diagram.

B) Shows the status of the 4 GP-Outputs (Relay Contacts)

- Opened contact: the small box in the right side of the display is empty

- Closed contact: the small box in the right side of the display is full

Verify that functionality using the GPIO port and an external devices to enable using the 4 relay contacts, check the electric diagram.

12.4.6 Time and Date Zone Functionality



Shows the status internal clock. It is not possible to modify these parameters through the display interface.



12.4.7 Alarms Panel Zone Functionality

This Label shows the status of the Alarms panel This Label shows the status of the Alarms panel



The Alarms Panel (Left LED Panel) shows:

- on the left side the alarms of Tuner module-1
- on the right side the alarms of Tuner module-2

In the Right LCD Panel it is possible to find the Alarm Panel label (red square in the picture above) The status of this label should be:

AC	All Channels - Mode In AC Mode the LEDs indicate the OR (sum) of the all same alarm type when the LEDs are on theirs status is blinking.
SC	Single Channel - Mode In SC Mode the LEDs indicate only the alarm of the memory and frequency selected, when the LEDs are on theirs status is fixed.

This label shows the status of the two areas of alarms panel :

- Label AC-AC (Tuner-1 and Tuner 2 are in All Channels Mode)
- Label SC-SC (Tuner-1 and Tuner 2 are in Single Channel Mode)
- Label **AC-SC** (Tuner-1 is in All Channels Mode and Tuner 2 is in Single Channel Mode) Label **SC-AC** (Tuner-1 is in Single Channel Mode and Tuner 2 is in All Channels Mode)

Check the display functionality and **RF ALARM** Status:

- Using web page set SCAN mode for the 1st and 2nd tuner.
- Verify the display status : AC-AC
- Using web server move the RF-H1 threshold of the first memory under the measured value for each tuner.
- Verify that the display shows TUNER ERROR, in memory 01 for each tuner.
- The first led **RF ALARM** is blinking for each tuner.
- Using the the Jog Shuttle move the cursor on the display under the tuner-1 memory number.
- Push the Jog Shuttle (To select the function)
- Rotate the Jog Shuttle till to set Memory 01
- Verify the display status : SC-AC
- The first led RF ALARM of Tuner-1 is fixed
- The first led RF ALARM of Tuner-2 is blinking
- Using the the Jog Shuttle move the cursor on the display under the tuner-2 memory number.
- Push the Jog Shuttle (To select the function)
- Rotate the Jog Shuttle till to set Memory 01
- Verify the display status : SC-SC
- The first led RF ALARM of Tuner-1 is fixed
- The first led RF ALARM of Tuner-2 is fixed

Check the functionality of MPX ALARM Status:





- Using web server adjust the RF-H1 threshold for each tuner.
- Move the threshold of deviation at 50kHz
- Check the alarm panel

Check the functionality of RDS ALARM Status:

- At the moment this functionality it is not available.

12.4.8 Headphone Panel Zone Functionality

			TUNER		RDS-PI	STATUS	CH	FREQ. MHz	RDS-PI	
	ER	01	93.	80-		0K	011	00.80		GPI
INFO	TU	NER	AL	ARM			NO	RH3		GPO
	03-	05-	13	09:	52:	36	SC-	-SC .atl	TU1	NEXT
		DATE		I	TIME		ALA PA		Channer +	

A) Shows the status of the headphones level

- Using the Jog Shuttle move the cursor on the display under the headphones level.
- Push the Jog Shuttle (To select the function)
- Rotate the Jog Shuttle till to find the right volume.
- Push the Jog Shuttle (To unselect the function)

B) Shows the headphones source and the sources selectable are:

TU1	Audio coming from Tuner-1
TU2	Audio coming from Tuner-2
ANL	Audio coming from Analog input
DGT	Audio coming from Digital input

- Push the Jog Shuttle (To select the function)
- Rotate the Jog Shuttle till to find the right source.
- Push the Jog Shuttle (To unselect the function)

12.4.9 LAN-1 Page Functionality (How to set the TCP/IP ETH-1)

		FREQ. MHz	RDS-PI	STATUS C	CH FRI	EQ. MHz	RDS-PI	
LS		IPADD:	19	2.16	8.00	0.181	LAN1	GP
ĀŤ		SMASK:	25	5.25	5.25	5.000)	Z GP
ïÿ		GTWAY:	192	2.168	3.00	0.101		4 NEXT
	DATE		TIME	1	ALARM PANEL	I LEVEL O	SOURCE	PAGE

Shows the status of the LAN-1 Setup

- Using the Jog Shuttle move the cursor on the display under the number that is necessary to change.
- Push the Jog Shuttle (To edit the number)
- Rotate the Jog Shuttle till to find the right number.
- Push the Jog Shuttle (To confirm the new number)
- Next page to confirm data changes

To access LAN-1 and access LAN-2: by pressing NEXT PAGE it is possible to change the page/settings.



12.4.10 LAN-2 Page Functionality (How to set the TCP/IP ETH-2)



Shows the status of the LAN-2 Setup

- Using the Jog Shuttle move the cursor on the display under the number that is necessary to change.
- Push the Jog Shuttle (To edit the number)
- Rotate the Jog Shuttle till to find the right number.
- Push the Jog Shuttle (To confirm the new number)
- After pressing the Jog Shuttle a reboot is required.

					ATHIS CH			
	DA'	TA L	AN CH	ANGED	REE	BOOT N	EEDED	GPI
INFO	0K	to	reboo	t and	app]	y cha	nges	GPO
				E (ЖЗ			A NEXT PAGE
						ARM LEVE	SOURCE	11

Press OK to reboot the WOLF 2MS.

hilliz	RDS-PI	STATUS	CH F	REQ. MH2	RDS-PI	
TEM	REE	300T	CONF	IRM	St. Fre	1
0K	to	conf	irm	nebo	ot	ſ
		E OLA	••••			
		LOKI				
						- C
	EM OK	EM REE OK to	EM REBOOT OK to conf [OK]	EN REBOOT CON OK to confirm [OK]	EN REBOOT CONFIRM OK to confirm rebo [OK]	EM REBOOT CONFIRM OK to confirm reboot. [OK]

- During reboot the screen appears this way

STATUS	CH FRE	Q. MHz	RDS-PI	STATUS C	H FRE	Q. MHz	RDS-PI	
Wo-1	f2MS	is	Rebo	oting			1 4 1 K 1	12
								14
								20 GP
								NEXT
			TIME	1	ALARM	LEVEL	SOURCE	PAGy
								2

12.4.11 **IMPORTANT NOTE**

Wolf 2MS is an Operative System-based equipment (as a PC) so, in order to change correctly the IP is necessary to wait some minutes, the screen will come back to the main page and then shut down and restart Wolf 2MS.

Remember that before each shut down, it is necessary to wait some minutes before to store correctly all the information on Wolf 2MS.



13 WOLF 2MS WEB PAGE

The Wolf 2MS can be managed via remote by using a simple web browser, ie Internet Explorer, Chrome, Mozilla etc etc. To reach a Wolf 2MS equipment, insert in the web browser navigation bar the Wolf 2MS IP. To get this information please see <u>LAN-1 and LAN-2 Page Functionality</u>. By inserting the Wolf 2MS IP in the navigation bar, this is the Wolf 2MS home page:

13.1.1 The Home web page

Wolf2MS											•	AXEL
	onitoring Tuner-1 Data Tune	er-2 Data		Settings Setup	Adm	nin	Tuner-1	Tur	ner-2	Audio		Login
GENERAL INFOR	MATION ———											
			IP-Eth1				GPO		Release Fi		Release W	
Axel Technology			192.168.0	050.203	22/05/14		0 1	23	1.0.3		1.0.2	
Location			IP-Eth2		Time		GPI		Ргоху Мос	le	User Name	2
Pluto			010.000.1	127.003	17:07:07		0 1	2 3	Disabled	I	Guest	
TUNER-1 —	STEREO TU	INED RDS			TUNER-2	2 —	STER	ΕΟ - ΤυΙ		RDS		
	Frequency Cha			Mode				Chan				
27	100.80 MHz Loc	cal Axel 100.8		STATIC	1		100.80	MHz Cha	n1 Label			STATIC
RF		LARM H1 H2			RF –		-[_2]-[ARM H	1 H2		
	Carrier M.Path	Adj-Chan	Alt-Chan					M.Path	Adj-Chan		Alt-Chan	
77.00 dBuV	4 ppm 10.37 %	6 -15.25 -38.12 de	r -23.75		96.00	dBuV	4 ppm	0.00 %	-38.62 -3	9.37 dBr	-79.00	
DEVIATION -	AL	LARM			DEVIATI	ION –		AL	ARM			
	Audio	Pilot	RDS				Audio		Pilot		RDS	
26.72 kHz	16.16 kHz	z 6.26 kH	z 4.30		17.10		6.97		6.28		3.85	
RDS DATA —	AL	LARM			RDS DA	та —		AL	ARM			
	PS	BLER CT	тр	ТА					BLER	ст	тр	
5123	FalconXT	053 % OK	ON	OFF	5123		FalconXT		000 %	ОК	ON	OFF
	DI	РТҮ	FILTERS	GROUPS			DI		РТҮ		FILTERS	
MUSIC	STEREO STATIC	NO_PROG	ОК	ОК	MUSIC		STEREO ST	ΓΑΤΙΟ	NO_PROC		ОК	ОК
RT AF	EON IH	TMC RT+	ODA-1	ODA-2		AF	EON	IH	тмс	RT+	ODA-1	
ок ок	ОК				ОК	ОК	ОК					
AUDIO-1 —	AL				AUDIO-2	2 —						
Source	Impalance Mono	Pedk-L Peak-R	RMS-L	KMS-K	Source		Imbalance		Peak-L	Peak-R	RMS-L	RMIS-R
L -60 -50 -4	1.2 08 -26.8 dB 0 -30 -20 -10	+0 +10 +10	-25.7 dB	-28.0 dB	L -60	-50 -40	1.2 dB	-26.2 dBr	-19.0 dBr	-20.7 d8/	-25.7 dBr	-26.6 087
Streaming Information		Countdow OFF	m	•	Streaming Ready	Information				Countdown		•

÷.

The HOME page is mainly divided in two: in the Left side all the information retrieved from Tuner-1 and in the Right side all the information retrieved from Tuner-2.

	Monitoring		Settings							
Â	Tuner-1 Data	Tuner-2 Data	Setup	Admin	Tuner-1	Tuner-2	Audio	Logout		



The central front bar allows to browse inside the Wolf 2MS. This bar is mainly divided in two sections, the Monitoring and the Settings. Some Setup and Admin pages are under password protection.

Wolf2MS					
Monitoring Tuner-1 Data Tuner-2 Data	Settings Setup	Admin	Tuner-1 Tun	er-2 Audio	Logout
GENERAL INFORMATION					
	IP-Eth1		GPO		
Axel Technology	192.168.050.203	22/05/14	0 1 2 3	1.0.3	1.0.2
	IP-Eth2		GPI		
Pluto	010.000.127.003	17:19:39	0 1 2 3	Disabled	admin

In the lower side some general information are reported, as Wolf 2MS name, the Location where it is installed, the IP Ethernet Address 1 and IP Ethernet Address 2. The internal clock time and date information are reported together with GPIn and GPOut, and the Release Firmware and web page.

13.1.2 NTP Time and Date Synch in Wolf 2MS

If the Date and Time are with a red label below the box, this means that Wolf 2MS has not been able to synchronize via NTP the time and the clock. To set the NTP server in Wolf 2MS please refer to <u>Settings 2 – MAIN PAGE 2</u>.

Wolf2M	IS														
f	М	onitoring uner-1 Data	a Tuner	-2 Data			Settings Setup	Adm	nin	Tuner-1	Tur	ner-2	Audio		Login
GENERA	L INFORM	ATION -													
										GPO		Release Fi		Release W	
Axel Techr	nology					192.168.0	50.203	22/05/14		0 1	2 3	1.0.3		1.0.2	
										GPI		Proxy Mod		User Nam	
Pluto						010.000.1	27.003	17:07:07		0 1	23	Disabled		Guest	
							TUNER-2	2 —	STER	ΕΟ Τυ		RDS			
			Chan				Mode			Frequency	Char				Mode
27		100.80	MHz Loca	al Axel 100.8	3		STATIC	1		100.80	MHz Cha	in1 Label			STATIC
RF –		-[12]-[1	L1 AL#	ARM H	L-H2-			RF -		-[_2]-[L1 AL	arm – H	1 H2		
			M.Path							Carrier	M.Path	Adj-Chan		Alt-Chan	
77.00	dBuV		10.37 %	-15.25 -38	.12 dBr	-23.75		96.00	dBuV	4 ppm	0.00 %	-38.62 -3	9.37 dBr	-79.00	
DEVIATION ALARM						DEVIATI	ION –		AL	ARM					
										Audio		Pilot		RDS	
26.72		16.16		6.26		4.30		17.10		6.97		6.28		3.85	
RDS DAT	г а —		ALA	ARM				RDS DATA			ALARM				
							ТА			PS		BLER	ст	тр	ТА
5123		FalconXT			ок	ON	OFF	5123		FalconXT		000 %	ОК	ON	OFF
							GROUPS			DI		РТҮ		FILTERS	GROUPS
MUSIC		STEREO ST	ATIC	NO_PROG		ОК	ОК	MUSIC		STEREO S	TATIC	NO_PROC	;	ОК	OK
RT	AF	EON	н	тмс	RT+	ODA-1	ODA-2	RT	AF	EON	IH	TMC	RT+	ODA-1	ODA-2
ОК	OK	OK						OK	ОК	OK					
AUDIO-1	ı —		ALA	ARM				AUDIO-	2 —		AL	ARM			
			Mono				RMS-R			Imbalance	Mono	Peak-L	Peak-R	RMS-L	RMS-R
TUNER1		1.2 dB	-26.8 dBr	-18.8 dBr	-20.1 dBr	-25.7 dBr	-28.0 dBr	TUNER2		1.2 dB	-26.2 dBr	-19.0 dBr	-20.7 dBr	-25.7 dBr	-26.6 dBr
L R -60	-50 -40	-30 -20	0 -10 +	0 +10	+040			L -60 R	-50 -40) -30 -2	0 -10 4	0 +10	+0 -40		
Streaming I Ready	Information				Countdown OFF			Streaming Ready	Information				Countdown OFF		►



All the information proposed in this page are only to be visualized.



The lower parts is related to Audio-1 and Audio-2 Stream, and the button Countdown allows the user to stop the stream after a kick out time, to reduce the stream data flow. The audio delivered to the audio streaming module can be selected by different sources, that should be Tuner-1 or Tuner-2 or Analog Input or Digital Input. Please refer to "Audio-1 Setup" and "Audio-2 Setup" to configure the input source for the audio streaming encoder.



13.1.3 LOGIN into WOLF2MS

Is it possible to LogIn into Wolf2MS and, as per right management, execute some changes. By pressing the Login button is it possible to set each own user name and password. Please refer to the <u>ADMIN</u> page in order to create or login with the standard credential



Gabrielerocchini	
OK Cancel	
Status : Insert username and password	

Starting from release 0.6.4 release a new function has been improved about users and login. Wolf 2MS comes out with a standard user called "admin" (and password "admin"). <u>Once a new user is created with Profile Administrator rights allowed</u>, the "admin" user disappear from the list of users. In the picture below it is possible to see that Mauro is the Profile Administrator.

USERS	PROFILE MANAGER
Mauro	
Mauro2	Mauro
gabriele	
Christian	
Christian-2	
alessandro	
	Rights allowed
	Profile Administrator
	🛛 Setup
	Tuner-1
	☑ Tuner-2
	🗹 Audio
v	

But, once from Mauro's user the Profile Administrator is removed, Wolf 2MS creates automatically one more time the "admin" user with all rights allowed. This admin user is highlighted in yellow, as per picture below:

ADMIN	
USERS ————	PROFILE MANAGER
admin	User Name
Mauro	admin
Mauro2	
gabriele	New Password
Christian	This password can't be modified
Christian-2	
alessandro	Confirm Password
	This password can't be modified
	Rights allowed
	Profile Administrator
	🖬 Setup
	🖬 Tuner-1
	U Tuner-2
	V Audio

NOTE: It is not possible to change the password for admin user

13.1.4 Tuner-1 Data - Main Webpage

This page presents all the information coming from the Tuner-1. Assuming that the Tuner-1 has been placed in "Static" page displays information related to the frequency set in the Setup approximately decoded by Tuner-1.

The display of this page depends on the setup of the machine available in Settings -> Tuner-1 -> Main.

Wolf2MS									RAXEL		
	Monitoring			Settings							
A	Tuner-1 Data Tune	er-2 Data		Setup	Admin		Tuner-1 Tu	uner-2 Audio	Logout		
RDS Data Reset							MAIN AF01-3	2 AF33-64	EON STATS		
TUNER-1 —			<mark>- S</mark> T	EREO TUP	NED RDS						
Ch. Mem.	Frequency Cha	nnel Label		Mode							
27	100.80 MHz Loc	STATIC									
RF	[12][13][ALARM][H1][H2]				СТ						
	Carrier M Path	Adi_Chan	Alternativ	e-Chan				LocalTime Offset	Offset Time		
76.00 dBu	V 4 ppm 12.28 %	-10 42 -26 85 dBr	-19 14	dBr	22/05/14		15:22	+01.00	-3601 sec		
DEVIATION		ARM			SLC						
МРХ	Audio - MPX	Pilot	RDS		SLCO-paging/I	ECC	SLC1-TMC	SLC2-paging	SLC3-Lang.Codes		
65.73 kł	tz 55.13 kHz	: 6.28 kHz	4.32	kHz							
Imbalance	Mono E.MpxPw	Peak-L Peak-R	RMS-L	RMS-R	SLC4		SLC5	SLC6-Broad.use	SLC7-EWS Ch.ID		
0.4 0	lB -7.6 dBr 3.8 dB	3 -2.3 dBr -2.7 dBr	-7.4 dBr	r - 7.9 dBr							
RDS DATA -	AL	ARM			RT —		AI	LARM			
	PS	BLER CT	тр	ТА					A/B		
5123	FalconXT	058 % OK	ON	OFF							
M/S	DI	РТҮ	FILTERS	GROUPS	In & Out Of L	love / On	Air Now by Bon Jovi		1		
MUSIC	STEREO STATIC	NO_PROG	ОК	ОК	PIN & PTY	'N —					
RT	AF	EON	н					PIN-MINUTE	PTYN		
OK	OK	OK									
IMC	K1+	ODA-1	ODA-2			IDS					
10	FG	115	ISN		RDS GROUPS						
OFF	OFF	OFF	000	_	GROUP-DATA	L					
					0A 2A 4A 14A		_				
ОДА-ТМС —	AL	ARM			ODA-1		AI	LARM			
		Group	Data					Group	Data		
ODA-RT+ —	AL	ARM			ODA-2		AI	LARM			
		Group	Data					Group	Data		
RF		LARM H1 H1 H2]		-	Leve	I: the level of a	vailable RF	It is possible		
Level	Carrier M Path	Adi Chan	Alter	native Chan		Tune	r		to set the		
78.00 deu	V 7 ppm 1.65	% -17.88 -20.00	dBr -13.6	6 di	Br	Carr	er: this value is	s a Carrier	level of the		
		17.00 -20.00	10.00	- u		the Ir	nternal tuner an	id the Frequency	y Settings->		
						that i	s under measu	re.	Tuner-1 ->		
						M.Path: Value of Multi Path					

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МРХ	Audio MD					
	Augio - IVIP					
73.16 k⊦	z 62.23		6.86		4.07	
	Mono	E.MpxPw				
0.9 d	8 -7.6 dBr	2.2 dB	-1.0 dBr	-2.0 dBr	- 6.8 dBr	-8.5 dBr

Offset. It's the difference between the Internal tuner and the Frequency that is under measure. M.Path: Value of Multi Path Adj-Chan: see explanation below Alternative-Chan: see explanation below	alarms in Settings-> Tuner-1 -> RF
MPX: level of the signal Multiplex	It is possible
Audio-MPX: Audio signal level	to set the
inside the product Multiplex	level of the
Pilot: Pilot Level stereo	alarms in
RDS: RDS data carrier level	Settings->
Peak Left-Right: Audio Peak Level	Tuner-1 ->
RMS Left-Right: Audio RMS Level	RF DEV /
-	PILOT

49

RDS DATA —	AL	ARM			This box displays all the informationIt is possibleregarding the decoding of the datato set the						
		BLER	ст	тр	ТА	carrier RDS. If a parameter set in the level of the					
5123	FalconXT	074 %	ок	ON	OFF	ALARM box will become red. Settings->					
		РТҮ		FILTERS	GROUPS	ALARM Tuner-1 ->					
MUSIC	STEREO STATIC	NO_PROG		ОК	ОК	RDS					
		EON	EON II								
ОК	ОК	ОК	ок -								
		ODA-1	DDA-1								
		ILS	ILS								
OFF	OFF	OFF		000							
ОДА-ТМС —	AL	ARM				ODA TMC: If the service is indexed with the AID of					
		Group		Data		OK. Otherwise, if there is no (or a bit lower timeout)					
						recording on the 3A writes REG NO. If the data do					
			_			not change (not arrive) set out in writing NO DATA. If					
						This applies to TMC, ODA + RT 1 and 2.					
ODA-RT+	ALA	.RM				ODA RT+: Check the presence or absence of the					
						settings specified on this form is transmitted press					
All		Group		Uata		OK. Otherwise, if there is no (or a bit lower timeout)					
						recording on the 3A writes REG NO. If the data do					

ст ——	AL	ALARM							
DATE		LocalTime Offset	Offset Time						
23/10/13	12:12	+02.00	-14 sec						
RT	RT ALARM								
DATA									
RT NUMERO 3 - 33333333	3333333333333333333333333	3333333333333333333333333333		0					
PT NUMERO 1 - 11111111	111111111111111111111111111111111111111	11111111111111111111		1					

ODA-1	ARM	ODA and ODA-1-2: reports have been inserted equal to the TMC and RT + on the presence or absence of	
AID	Group	Data	the service. If the service is indexed with the AID of
			the settings specified on this form is transmitted press
ODA-2	ARM		recording on the 3A writes REG NO. If the data do not change (not arrive) set out in writing NO DATA. If
AID	Group	Data	the service is completely lacking writes NO SERV.
			This applies to thic, $ODA + RT T and 2.$

Each single web page shows the status or the data coming from the Wolf 2MS for Tuner-1 and Tuner-2. In the main page it is possible to see the value, but it is not possible to operate because the information can only be viewed. The single page can shows MAIN - AF01-32 - AF33-64 - EON.

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not change (not arrive) set out in writing NO DATA. If the service is completely lacking writes NO SERV. This applies to TMC, ODA + RT 1 and 2.

CT: Check the presence or absence of the service inside the group 4A. if the parameter match with one inserted in the check page no alarm will be generated, if not an alarm will be reported.

Wolf 2MS displays the double buffer. Displays the buffer is that of the flag A flag B. The bottom line shows the RT that you are receiving. With each change of flag A/B copied this comes in the line above and below that will shape the new RT arrives. In the case of single RT (or if there is no 'change of flag a / b) after 10 min. above the line is cleaned.



13.1.5 Deviation, Imbalancement and MPX Power

The MPX power is estimated using the available separate components infos present in the MPX signal. The Pilot power, Rds power and Audio power is integrated inside a 1 minute window and referenced to a 19 kHz single tone power. This measurement estimates with a good precision the MPX Power only under typical nominal operative conditions.

DEVIATION	ALARM								SLC ——				—	
										SLC1-TMC		2-paging SLC3-Lang.Codes		
56.97 kH	Hz	46.66		6.28			4.03							
		Mono	E.MpxPw	Peak-L	Pe			RMS-R		SLC4 SLC5 SLC6-Broad.use SLC7-EWS (
0.6 d	dB	-9.0 db	5.2 dB	3.7	dBr -3	3.2 dBr	- 8.4 dBr	-9.6 dBr						
RDS DATAALARM								RT	AL	ARM				
					С			TA					A/B	
5123		FalconXT		074	% O	ж	ON	OFF	I'll Be There For You	I'II Be There For You / OnAir Now by Bon Jovi				
								GROUPS	Radio TEXT service b	y Falcon XT-R			0	
MUSIC		STEREO ST	ATIC	NO_PF	ROG		ок	ОК	PIN & PTYN -					
ок		ОК		ОК					PIN-DATE	PIN-HOUR	PIN-MINUTE	PTYN		
										-				
									RDS GROUPS	AL/	ARM			
OFF		OFF		OFF		000			0A 2A 4A 14A	0A 2A 4A 14A				

13.1.6 RDS Group Transmission Alarm

An alarm is now included to monitor the transmitted Rds groups. A mask allows to define all groups present in the transmission and an alarm is raised if after the timeout one or more groups hasn't been received. The Group Mask is an 32bits integer in HEX. Every bit in this mask is referred to a Rds group. The Group Mask bit0 is the 0A group, the bit1 is the 0B group, the bit2 is the 1A and so on Example: 11 (0A and 2A)

DEVIATION -			ARM					SLC —				
	Audio - MP									SLC2-paging	SLC3-Lang.Codes	
56.97 kHz	46.66		6.28		4.03							
	Mono			Peak-R						SLC6-Broad.use	SLC7-EWS Ch.ID	
0.6 dB	-9.0 dBr	5.2 dB	-3.7 dBr	-3.2 dBr	- 8.4 dBr	-9.6 dBr						
RDS DATA —	RDS DATA ALARM								AL	ARM		
	PS			СТ								A/B
5123	FalconXT		074 %	ОК	ON	OFF		I'll Be There For You	/ OnAir Now by Bon Jo	vi		1
	DI				FILTERS	GROUPS		Radio TEXT service by	Falcon XT-R			0
MUSIC	STEREO ST	TATIC	NO_PROC		ок	ок		PIN & PTYN –				
	AF											
ОК	ОК		ОК					PIN-DATE	PIN-HOUR	PIN-MINUTE	PTYN	_
	RT+											
								RDS GROUPS	AL	ARM		
	EG						GROUP-DATA					
OFF	OFF		OFF		000			0A 2A 4A 14A				

Available the status variable and the trap as well as all parameters to control the state (Timeout, Validation, Hold and Mask)



won2MS												RAXEL
	Monitorii	ng			Setting	25						
A	Tuner-1	Data Tu	iner-2 Data		S	etup A	dmin	Tuner-1	Tune	er-2	Audio	Logout
GLOBAL	RF 12	RFu	RF H1	RF _{HZ}	DEV	PILOT	PILOT	RDSL	RDS	AUDIO DE	AUDIO	AUDIO _R
AUDIO MS		PI	PS	ТР	ТА	ст	RT	AF	EON	ін	тмс	RT.
ODA ₁	ODA ₂	BLER	GROUPS	FILTERS								
TUNER-1 -	- RDS GROU	JPS TRANS	SMISSION									
TUNER-1	- RDS GROU	IPS TRANS	SMISSION			Par	ameters Settin	g - Use Mous	e (Drag or	r Wheel) to s	croll	
TUNER-1 -	- RDS GROU Chan Chan Lai	JPS TRANS nels Identifi	SMISSION ication Frequency	Preset	Scan Time	Par Chan Mask	ameters Settin Groups N	<mark>g - Use Mous</mark> Jask Tin	e (Drag or neout	Wheel) to s Validation	croll Hold	Mask
TUNER-1 - Chan	- RDS GROU Chan Chan Lal Rai Radi	JPS TRANS nels Identifi bel o 1	SMISSION ication Frequency 89.50 MHz	Preset Preset-1	Scan Time	Par Chan Mask unmasked	ameters Settin Groups N 000000	<mark>g - Use Mous</mark> lask Tin 21 60	e (Drag or neout	r Wheel) to s Validation 10 sec	icroll Hold 10 sec	Mask masked
Chan	- RDS GROU Chan Chan Lal Rai Radi Rai Radi	JPS TRANS nels Identifi bel o 1 o 2	Cation Frequency 89.50 MHz 89.00 MHz	Preset Preset-1 Preset-2	Scan Time 2 sec 3 sec	Par Chan Mask unmasked masked	ameters Settin Groups M 0000000	g - Use Mous lask Tin 01 60	e (Drag or neout	r Wheel) to s Validation 10 sec	Hold 10 sec	Mask masked masked
TUNER-1 -	RDS GROU Chan Chan Lat Rai Radi Rai Radi	IPS TRANS	SMISSION ication Frequency 89.50 MHz 89.00 MHz 93.00 MHz	Preset Preset-1 Preset-2 Preset-25	Scan Time 2 sec 3 sec 2 sec	Par Chan Mask unmasked masked unmasked	ameters Settin Groups M coccoo concoo	g - Use Mous iask Tin 01 60 01 60	e (Drag or neout	r Wheel) to s Validation 10 sec 10 sec 10 sec	Fold 10 sec 10 sec 10 sec	Mask masked masked masked
TUNER-1 - Chan - 1 - 2 - 25 - 26 -	RDS GROU Chan Chan Ial Rai Radi Rai Radi Radio Gamm Unknow 10	IPS TRANS	Cation Frequency 89.50 MHz 89.00 MHz 93.00 MHz 105.00 MHz	Preset Preset-1 Preset-2 Preset-25 Preset-26	Scan Time 2 sec 3 sec 2 sec 3 sec	Par Chan Mask unmasked masked unmasked masked	ameters Settin Groups M Donnon Donnon Donnon Donnon Donnon	g - Use Mous lask Tin 21 60 21 60 21 60 21 60	e (Drag or neout) sec) sec) sec) sec)	r Wheel) to s Validation 10 sec 10 sec 10 sec 10 sec	croll Hold 10 sec 10 sec 10 sec 10 sec	Mask masked masked masked masked
TUNER-1 - Chan - 1 - 2 - 25 - 26 - 27 -	RDS GROU Chan Chan Lai Rai Radi Radio Gamm Unknow 10 Local Axel	JPS TRANS nels Identifi o 1 o 2 na 93.00 05.00 100.8	Cation Frequency 89.50 MHz 93.00 MHz 93.00 MHz 105.00 MHz 100.80 MHz	Preset Preset-1 Preset-25 Preset-25 Preset-27	Scan Time 2 sec 3 sec 2 sec 3 sec 4 sec	Par Chan Mask unmasked masked masked unmasked unmasked	ameters Settin Groups M 000000 000000 000000 100001	g - Use Mous lask Tin 01 60 01 60 01 60 01 60 11 60	e (Drag or neout sec	r Wheel) to s Validation 10 sec 10 sec 10 sec 10 sec 10 sec	Koroll Hold 10 sec 10 sec 10 sec 10 sec 10 sec	Mask masked masked masked unmasked
TUNER-1 - Chan - 1 - 2 - 25 - 26 - 27 - 28 -	RDS GROU Chan Chan Lat Rai Radi Radio Gamm Unknow 10 Local Axel Chan28 La	JPS TRANS nels Identifi o 1 o 2 ia 93.00 05.00 100.8 abel	Cation Frequency 89.50 MHz 89.50 MHz 93.00 MHz 105.00 MHz 100.80 MHz 100.00 MHz	Preset Preset-1 Preset-25 Preset-25 Preset-27 Preset-27 Preset-28	Scan Time 2 sec 3 sec 2 sec 2 sec 3 sec 4 sec 5 sec	Par Chan Mask unmasked masked unmasked unmasked masked	Groups M 000000 000000 0000000 0000000 0000000 0000000 0000000 0000000 0000000 0000000 00000001 0000001 0000001	g - Use Mous lask Tin 01 60 01 60 01 60 01 60 01 60 01 60 01 60 01 60 01 60	e (Drag or neout sec s sec s sec sec s sec sec s sec sec s	Validation 10 sec 10 sec 10 sec 10 sec 10 sec 10 sec 10 sec	Hold Hold 10 sec 10 sec 10 sec 10 sec 10 sec 10 sec	Mask masked masked masked unmasked masked

		_8°⊢	IEX			_7°⊦	IEX			_6°⊦	IEX			_5°⊦	IEX			_4°⊢	IEX			_3°⊦	IEX			2°H	IEX			_1°⊦	EX	
Ľ	15B	15A	14B	14A	13B	13A	12B	12A	11B	11A	10B	10A	9B	9A	8B	8A	7B	7A	6B	6A	5B	5A	4B	4A	3B	3A	2B	2A	1B	1A	0B	OA
Ŀ	4°bit	3°bit	2°bit	1°bit																												
Γ	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	1
Γ		HE	X=1			HE	X=0			HE.	X=0			HE	X=0			HE	X=0			HE	X=1			HE	X=1			HE	K=1	

Example: Check 11A,7A,5A,1B,1A,0A =0040440D Check 15A,14A,4A,0A=50000101

RDS DATA —		ARM			RT	AL	ARM					
		BLER CT										
5123		054 % OK	ON	OFF	Spaceman / OnAir No	ow by 4 Non Blondes						
		РТҮ		GROUPS	Always / OnAir Now by Bon Jovi							
MUSIC	STEREO STATIC	NO_PROG	ок	NO	PIN & PTYN							
		EON	н									
ок	ок	ОК			PIN-DATE	PIN-HOUR	PIN-MINUTE	PTYN				
						-						
					RDS GROUPS	AL	ARM					
		ILS										
OFF	OFF	OFF	000		0A 2A 4A 14A							

26 Uhknow 105.00 105.00 MHz Preset-26 3 sec masked 00000001 60 sec 10 sec 10 sec masked 27 Local Axel 100.8 100.80 MHz Preset-27 4 sec unmasked 50000111 60 sec 10 sec 10 sec unmasked 28 Chan28 Label 100.00 MHz Preset-28 S sec masked 00000001 60 sec 10 sec 10 sec masked 29 Chan29 Label 100.10 MHz Preset-29 2 sec unmasked 00000001 60 sec 10 sec 10 sec masked	25	Radio Gamma 93.00	93.00 MHz	Preset-25		unmasked	0000001	60 sec	10 sec	10 sec	masked
27 Local Axel 100.8 100.80 MHz Preset-27 4 sec unmasked 50000111 60 sec 10 sec 10 sec unmasked 28 Chan28 Label 100.00 MHz Preset-28 5 sec masked 00000001 60 sec 10 sec 10 sec masked 29 Chan29 Label 109.60 MHz Preset-29 2 sec unmasked 00000001 60 sec 10 sec 19 sec masked											
28 Chan28 Label 100.00 MHz Preset-28 5 sec." masked 00000001 60 sec. 10 sec. 10 sec. masked 29 Chan29 Label 100.10 MHz Preset-29 2 sec. unmasked 00000001 60 sec. 10 sec. 10 sec. masked		Local Axel 100.8	100.80 MHz	Preset-27	4 sec	unmasked	50000111	60 sec	10 sec	10 sec	unmasked
29 Chan29 Label 100.10 MHz Preset-29 2 sec unmasked 00000001 60 sec 10 sec 10 sec masked											
			100.10 WHz								masked

-					_																											
Γ		_8°⊦	IEX			_7°⊦	HEX			6°⊦	IEX			_5°⊦	IEX			4°H	ΕX			_3°⊦	IEX			2°H	IEX			1°H	EX	
E	15B	15A	14B	14A	13B	13A	12B	12A	11B	11A	10B	10A	9B	9A	8B	8A	7B	7A	6B	6A	5B	5A	4B	4A	3B	3A	2B	2A	1B	1 A	0B	0A
E	4°bit	3°bit	2°bit	1°bit	4°bit	3°bit	2°bit	1°bit																								
E	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	1
Г		HE	X=5			HE	X=0			HE	X=0	-		HE	X=0	-		HE	K=0			HE	X=1			HE	X=1			HE)	X=1	

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13.1.7 The Alternative Channel and the Adjacent Channel

The Adjacent Channel is the measure of the level closer to -100kHz and +100 kHz respect the fundamental carrier frequency measured. This measure could indicate that at +100 kHz or -100kHz there is a carrier (or another kind of disturb) which could affect the measurement of the fundamental frequency.



The Alternative Channel instead is exactly the same extent as set out above, but measured and +200 kHz-200 kHz. <u>It is shown, however, only the worst value</u>, that is the most high and thus may cause more noise than our fundamental frequency.





13.1.8 Tuner-1 Data - AF01-32 AF33-64

Before any explanation about how does Wolf 1MS/2MS decode and show AF frequency, some information on how does AF Lists are encoded by RDS Encoders.

There are two ways to transmit lists of alternative frequencies: Method A and Method B.

In both cases the lists should include only those frequencies for the nearest transmitters and repeaters (with overlapping coverage areas). Generally speaking, **Method A** is used when the list contains no more than 25 frequencies, and **Method B** when the list is longer (for a maximum of 24 lists). <u>Method B is recommended when splitting areas or when different programs are broadcast.</u>

NOTE: use of encoding method A or B is not explicitly assigned by a dedicated signal to the receiver, as the latter is capable of identifying which method is used by analyzing the transmitted data structure (whether or not they are organized in pairs).

METHOD A

Compile the AF1 list assigning the tuning frequency (i.e. the frequency carrying the list of alternative frequencies) in the first position, and then continue in strictly increasing order with the alternative frequencies transmitting exactly the same program.

We recommend recording the alternative frequencies (those of adjacent transmitters and repeaters with overlapping coverage areas) on each transmitter, being careful that the first position indicates the frequency carrying the list of alternative frequencies.

METHOD B

As mentioned earlier, Method B is used with high numbers of alternative frequencies and/or when the transmitter also has frequencies that broadcast different radio program at various times of day (splitting, local programming, etc.).

In the latter instance, the mobile receiver should check whether the AF is broadcasting the same content before selecting another frequency.

Each list begins with the *tuning* frequency (for which the list is valid) and then contains up to 12 **pairs of frequencies** in sequence, each containing the *tuning* frequency and an alternate. If there are more than 12 possible alternative frequencies, the list continues in other lists in the same manner.

The order of the frequencies in each pair follow the rules below: - If the order is increasing, the alternative frequency broadcasts the same programming as the *tuning* frequency.

- If the order is decreasing, the two frequencies have different programming



By pressing AF01-32 it is possible to see all the decoded value by the RDS data Stream from Wolf 2MS. The maximum number of AF are up to 64 with EON service (reported next chapter).

Wolf2M	IS														AXEL
n	М	onitoring Tuner-1 Data	a Tune	r-2 Data			Settings Setup	Ad	min	Tuner-1	Tur	ner-2	Audio		Logout
RDS Data	Reset									MAIN	AF01-32	AF33	-64	EON	STATS
TUNER-2	2 —					S TI	EREO T		tDS						
Ch. Mem.	\sim	Frequency	Cha		~		Mode								
1 (A) AF 01-3	2 (B)	100.80	MP(R)	n1 Label	(?)		STATIC								
List-1	List-2	List-3	List-4	List-5	List-6	List-7	List-8		List-10	list-11	List-12	List-13	List-14	List-15	List-16
87.7 (A) 87.8 87.9 88.0 88.2 88.4 88.6 90.6 90.6 90.7 90.9 95.4 98.0	90.0 (B) 91.0 92.0 93.0 94.0 95.0 96.0 97.0 98.0 99.0 100.0	90.0 (B) 107.0 106.0 105.0 104.0	93.0 (3) 94.0 95.0 96.0 97.C (R) 98.0 (R) 99.0 (R)	94.0 (B) 95.0 96.0	97.0 97.0 99.0 97.0 100.0 100.0 100.1	97.0 (B) 100.0 (R) 101.0 (R) 102.0 (R) 103.0 (R) 104.0 (R) 105.0 (R)	97.0 (B) 105.0 (R) 103.0 (R) 102.0 (R) 101.0 (R) 100.0 (R)	99.0 (?) 99.0 100.0 99.0 101.0 99.0 102.0 89.7 90.0 90.3 90.5	100.0 (B) 99.0 (R) 97.0 (R) 95.0 (R) 93.0 (R)						
List-17	List-18	List-19	list-20	List-21	List-22	List-23	tist-24	List-25	List-26	List-27	List-28	List-29	List-30	List-31	List-32

The AF lists can be ordered and see nearby each single AF some letters as reported in the picture. The letters between brackets represents different insertion method.

(A) The AF list has been inserted as Method A. Respect the main AF frequency the AF are in increasing order with alternative frequency transmitting exactly the same program.

(B) The AF list has been inserted as Method B. In particular List 2 has been inserted in Method B with increasing order, that means that the AF is broadcasting the same program.

(R) This indication means that the order of the AF is not increasing but decreasing. In this case it means that the AF is broadcasting for a part of the day a different program, and *sometimes* should have different program. The example is in List-4

(?) This question mark means that the AF list has been inserted in a wrong way. It is not Method A increasing mode, it is not Method B increasing/decreasing mode. So it means that the AF list has been inserted in a wrong mode.

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NOTE: The refresh of lists AF can be done manually by pressing the "Reset AF List" or whenever a change is detected by PI Code lists are placed in AF mode growing.





13.1.9 Tuner-1 Data – The EON page

The EON are sorted by PI increasing. Also in this case the sorting and refreshing takes place dynamically.

Wolf2M	IS														
	M	onitoring					Settings								
f	Г	uner-1 Data	a Tunei	r-2 Data			Setup	Adm	nin	Tuner-1	Tur	ner-2	Audio		Logout
RDS Data	Reset									MAIN	AF01-32	AF33	-64	EON	STATS
TUNER-:	2 —	STER	εο - τυ		RDS			EON				ARM			
		Frequency	Char				Mode								
1		100.80	MHz Cha	n1 Label			STATIC	5							
EON-1								EON-6							
		PS		PIN						PS					
5001		NETWRKO	1												
тр	ТА	LA	EG	ILS	LSN	AF	РТҮ	TP	ТА	LA	EG	ILS	LSN	AF	РТҮ
OFF	OFF	OFF	OFF	OFF	000	NO	NO_PROG								
EON-2								EON-7							
		PS		PIN						PS					
5854															
	TA	LA	EG	ILS	LSN	AF	РТҮ		ТА	LA	EG	ILS	LSN	AF	РТҮ
OFF	OFF	OFF	OFF	OFF	000	NO	NO_PROG								
EON-3								EON-8							
		PS		PIN						PS					
6019															
	TA	LA	EG	ILS	LSN	AF	РТҮ		TA	LA	EG	ILS	LSN	AF	РТҮ
OFF	OFF	OFF	OFF	OFF	000	NO	NO_PROG								
EON-4								EON-9							
		PS		PIN						PS					
6C63															
тр	TA	LA	EG	ILS	LSN	AF	РТҮ	ТР	ТА	LA	EG	ILS	LSN	AF	РТҮ
OFF	OFF	OFF	OFF	OFF	000	NO	NO_PROG								
EON-5								EON-10							
		PS		PIN						PS					
9061		NETWRKO													
	TA	LA	EG	ILS	LSN	AF	РТҮ		TA	LA	EG	ILS	LSN	AF	РТҮ
OFF	OFF	OFF	OFF	OFF	000	NO	NO_PROG								

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13.1.10 The STATS page

The Stats page shows the statistic of the RDS groups received and the total number of the RDS groups. Using Stats page it is also possible to records the groups and using the filtering function with stop, clear and download of all the Rds datas recorded.

Wolf2N	IS															RA	XEL
A	М	onitoring uner-1 Data	a T	uner-2 Data			Settings Setup		Admir	1	Tuner	-1	Tuner-2	2 A	udio	Logo	out
RDS Data	Reset										MAIN	AF	01-32	AF33-64	EON	STA	TS
TUNER-2	2 —					ST	EREO - TI	JNED	RDS	;							
Ch. Mem.		Frequency	MHT	Channel Label			Mode										
GROUP	1 100.80 MHz Chan1 Label GROUP STATS							RD	S STRE	АМ							
	Number	%				Number	%										
0A	290	53.0			OB	0	0.0		0A		OB	Filtered	1	40	Total	140	
1A	0	0.0			1B	0	0.0		1A		1B	ØA	5123	040A E75	F 6F6E	on	-
2A	160	29.3			2B	0	0.0		2A	•	2B	14A	5123	E40E 000	0 5001		
3A	0	0.0			3B	0	0.0		3A	~	3B	14A	5123	E400 4E4	5 5001		
4A	1	0.2			4B	0	0.0		4A	~	4B	0A	5123	040F 5F7	3 5854	XT	
5A	0	0.0			5B	0	0.0		5A		5B	2A 0A	5123	0408 5F7	0 2020	Fa	
6A	0	0.0			6B	0	0.0		6A		6B	2A	5123	2410 4C6	9 7669	Livi	
7A	0	0.0			7B	0	0.0		7A		7B	2A	5123	2411 6E2	7 204F	n' 0	
8A	0	0.0			8B	0	0.0	v	8A	~	8B	ØA	5123	0409 7D7	E 6C63	lc	
9A	0	0.0			9B	0	0.0		9A		9B	A0	5123	040A EB7	3 6F6E	on	
10A	0	0.0			10B	0	0.0		10A		10B	0A 14A	5123	640F 737) 5854 7 5001	XI	
11A	0	0.0			11B	0	0.0		11A		11B	0A	5123	0408 738	7 4661	Fa	
12A	0	0.0			12B	0	0.0		12A		12B	ØA	5123	0409 7393	1 6C63	lc	
13A	0	0.0			13B	0	0.0		13A		13B	2A	5123	2412 6E20	0 4120	n A	
14A	96	17.6			14B	0	0.0		14A		14B	2A	5123	2413 507	2 6179	Pray	
15A	0	0.0			15B	0	0.0		15A	•	15B	A0	5123	040A 161	9 6F6E	on	-
							547		C		×		C	OWNLOAD	STOP	REST.	ART

GROUP	STATS			-	
Group	Number	%	Group	Number	%
0A	290	53.0	0B		0.0
1A		0.0	1B		0.0
2A	160	29.3	2B		0.0
3A		0.0	3B		0.0
4A		0.2	4B		0.0
5A		0.0	5B		0.0
6A		0.0	6B		0.0
		0.0			0.0
8A		0.0	8B		0.0
9A		0.0	9B		0.0
10A		0.0	10B		0.0
11A		0.0	11B		0.0
12A		0.0	12B		0.0
		0.0			0.0
14A	96	17.6	14B		0.0
15A		0.0	15B		0.0
					547

This part of Stats page shows the number of packet that have passed into Rds stream, the number and the percentage. This part of Stats page is viewing only.

RDS STREAM

RD	S STRE	АМ										
Gro	up Filter			Data Group								
	0A	•	OB	Filtered		14	10		Total		140	
	1A	•	1B	ØA	512	23	040A	E75F	6F6E	0	n	-
	2A	~	2B	14A	512	23	E40E	0000	5001			
	3A	v	3B	14A	512	23	E400	4E45	5001			
	4A	~	4B	ØA	512	23	040F	5F73	5854	X	Г	
	5A		58	2A	512	23	241F	2020	2020			
	CA		CD	ØA	512	23	0408	5F7D	4661	F	a 	
V	bА		00	2A	512	23	2410	4C69	7669	L	ivi	
Image: A start and a start	7A	2	7B	2A	512	23	2411	6E27	204F	n	' 0	
v	8A	<	8B	ØA	512	23	0409	7D7E	6C63	1	c	
v	9A	~	9B	ØA	512	23	040A	EB73	6F6E	0	n	
	10A	~	10B	ØA	512	23	040F	737D	5854	X	Т	
	11.0		118	14A	512	23	E401	5457	5001	-		
	114		110	ØA	512	23	0408	/38/	4661	F	а	
	12A		128	ØA	512	23	0409	7391	6C63	1	C	
2	13A	<	13B	2A	512	23	2412	6E20	4120	n	А	- 11
	14A	~	14B	2A	512	23	2413	5072	6179	P	ray	- 11
	15A	•	15B	ØA	512	23	040A	1619	6F6E	0	n	- -
_					_		_				_	
	C		×			D	OWNLO	DAD	STOP	,	REST	ART

The Group Filter section allows the user by checkbox to select wich group should be filtered.

This two buttons permit to flag all the groups or unflag all groups at a glance

DATA GROUP:

In Data Group Section it's possible to see the Rds decoded stream filtered with each single packet and group, PI Code and HEX datas. By using Restart and Stop it's possible to stop and reload datas decoding. By pressing Download it is possible to save a TXT file with Data downloaded.



13.2 SETUP

In this page it's possible to set some working parameters about Wolf 2MS. This section is divided in four different sub-sections: MAIN -1, MAIN -2, NMS 1-2, NMS 3-4

13.2.1 MAIN -1 Page	
Wolf2MS	
Monitoring Settings Tuner-1 Data Tuner-2 Data Setur	Admin Tuner-1 Tuner-2 Audio Logout MAIN-1 MAIN-2 NMS 1-2 NMS 3-4
GENERAL SETUP	
NAME	GLOBAL SETUP
Axel Technology	enabled 👻
Target Location Ref	HTTP SETTINGS
Pluto	
Target Operator Ref	normalBand
Gabriele Rocchini	HTTP streamer auto kick out
AUDIO IO SETTINGS	0
audio1source 👻	enabled
	OTHER SETTINGS
11.00 dB 🗸	
	Language
0.00 dBu 👻	
disabled 👻	
Digital Output gain	
0.00 dB 🗸 🗸	
Digital Input Ref	
-15.00 dBfs 👻	
75.00 kHz 👻	

In the NAME box and Target Name Reference and Target Location reference are written all the information about the Wolf 2MS, where it is installed and some other extra information.

Analogic output mode audio1source	Analogic Output Mode: Disable – Audio1Source – Audio2Source	
Analogic output gain 0.00 dB Image: Control of the second second	Analogic Output Gain: between -20.0dB up to 20.0dB in 0.1step/dB	
Analogic Input Ref 0.00 dBu	Analogic Input Ref: This reference will be used to convert from external analogic level in dBu to the internal dBr reference.	
Digital output mode audio1source	Digital Output Mode: Disable – Audio1Source – Audio2Source	
Digital Input Ref -15.00 dBfs	Digital Input Reference : This reference will be used to convert from external digital level in dBFs to the internal dBr reference.	
Digital Input gain 0.00 dB Input gain 	Digital Input Gain: between -20.0dB up to 20.0dB in 0.1step/dB	

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Front Panel enabled	Front Panel: should enable or not the front palenl operation.
HTTP streamer auto kick out 0	HTTP Streamer auto kick out: timeout in minutes about the audio streaming from Wolf 2MS to the webpage.
Khz to dBr Conversion 1.00 kHz Interview Interview	kHz to dBr Conversion: converts the tuner audio level from the audio deviation in kHz to the internal reference dBr.
Digital Output gain 0.00 dB	Digital Output Gain: between -20.0dB up to 20.0dB in 0.1step/dB
Front Panel enabled	Front Panel: This control allows the user to manage Wolf 1MS/2MS to be managed by front panel. If it is set on disable front panel encoder is unable to set functions
HTTP Band Mode	HTTP Band Mode: Settings for the network band audio available. Available set: Low/Normal/High band or GPRS Band
Http Streamer Players enabled	HTTP Streamer Player: Enables or Disable the streaming function for each player.
Language English	Language: language selection for Wolf 1MS/2MS



13.2.2 MAIN -2 Page

Wolf2MS	RAXEL
Monitoring Settings	
🔒 Tuner-1 Data Tuner-2 Data Setup	Admin Tuner-1 Tuner-2 Audio 👤 Logout
	MAIN-1 MAIN-2 NMS 1-2 NMS 3-4
CENERAL SETUD	
SERENCE SETON	
RDS DATA STREAM	SNMP SETTING
serialTun1	public
Rds Ueep Rebroadcasting	
PS	private
ACTIVITY HEART SIGNAL	TIME AND NTP SETTINGS
0 min 🔹	193.204.114.105
SMTP SETTING	
Smtn Senier In Address	2 min
Smtn Server Licer Name	trapEnable 👻
	Failure Email
Smta Server Password	emailEnable 👻
user	Local Time Set
Smtn eMail 1 Address	Sync to PC Time
user1@mail.it	
Smin eMail 2 Address	Europe/Rome -
user2@mail.it	FTP SETTING
Smtp eMail 3 Address	Log File
user3@mail.it	LogMode1
Smtp eMail 4 Address	
user4@mail.it	

In the Tab MAIN-2 it is possible to set other parameter about Wolf 2MS. Some of these parameters are under development.

SNMP SETTING	In this box it is possible to set the password for
Read Community	the SNMP protocol in read and write.
public	
Write Community	
private	
TIME AND NTP SETTINGS	IP Address: is the IP of the NTP server.
IP Address	Auto Request Time: minutes between each
69.25.96.13	single Time Synch.
Auto Request Time	0 = time synch disable
1	1440 = max day-time synch
Failure Trap	Failure Trap: If Wolf 2MS is not able to set the
trapEnable	time a trap is sent to NSM.
Cailure Email	Failure Email: If Wolf 2MS is not able to set the
emailEnable	time an email is sent to the Email recipient
	Local time Set String: it's possible to send a time
Local time set string	synch command via PC
Sync to PC Time	
Time zone definition	Time Zone definition: it's possible to set the GMT
paris	I me zone from this control



FTP SETTING tog File LogMode1	This version of log file will catch all alarms, regardless all trap's enable status. <i>status.log</i> will be download in ftp mode: id: user, pwd: user To reset <i>status.log</i> file is necessary to disable and re-enable in LogMode1.	The log file is enabled under MAIN2 \rightarrow FTP Settings \rightarrow Log File
		→LogMode1
RDS Stream Setup serialTun1 Rds Uecp Rebroadcasting PS	 RDS Stream Setup: it is possible to decode the RDS Data Stream and deliver it to the Serial Port in UECP format. It is possible to select of the Tuner to decode RDS Uecp ReBroadcasting: It is possible to filter what service can be delivered to the serial output. In ie only the PS. But other options are available 	
ACTIVITY HEART SIGNAL Trap Dispatch Timing Omin	Activity Heart Signal: each "n" minutes as express in the box, the Wolf 2MS send a trap to the NMS System in order to understand that the Wolf 2MS is "alive" and working correctly	



13.2.2.1 SMTP SETTINGS – EMAIL NOTIFICATIONS

It's possible to receive the Wolf 1MS 2MS alarms through an ALERT email. You need to follow the next steps to activate the critical notification by mail.

- 1. Install HmailServer from https://www.hmailserver.com/download
- 2. Following the steps in this video https://www.youtube.com/watch?v=1TN_FJ5hfJ0
- 3. Set the Domain as axeltechnology.com,



4. Then add this account **wolf2ms**

hMailServer Administrator - Bocalhost	- D X
File Help	
Welcome	wolf2ms@axeltechnology.com
Satur S	General Auto-reply Forwarding Signature External accounts Rules Active Directory Active Address molPans Password <c<encrypted>> Size (ME) Maximum size (ME) 0 Administration level User</c<encrypted>
SSL cetificates	2022-01-31 05:34:37 PM
TT Internet	Enabled

5. Go to settings > advance > IP ranges > internet and remove the Require SMTP authentication

Welcome Status	Internet	
Source Source	General Name Internet Lower IP 0.0.0.0	Priority 10 Upper IP 255-255-255
Annos Antocols Antocols Antocols Antocols Antocols Antocols Antocols SSL certificates TP Ranges The My computer Internet Internet Nocomputer Solution Solution	Allow connections SMTP POP3 DALAP Allow deliveries from Local to local e-mail addresses Local to external e-mail addresses Dalafterses External to local e-mail addresses Data to external e-mail addresses Data to external e-mail addresses	Other Anti-cluan Anti-cluan Bequird SSR/TLS for authentication Require SSR/TLS for authentication Cocal to local e-mail addresses Cocal to external e-mail addresses External to local e-mail addresses External to local e-mail addresses External to local e-mail addresses

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6. Then go to your **WOLF 1MS 2MS** web interface LOGIN the go to

Setup > MAIN-2 > smtp server ip address then add IP of your HmailServer (ip of your pc). Setup > MAIN-2 > USER NAME

Setup > MAIN-2 > Password

SMTP SETTING —	
Smtp Server Ip Address	
192.168.99.113	
Smtp Server User Name	
wolf2ms	
Smtp Server Password	
admin	

7. Last you can add the **SEND TO** mail up to 4 mail receivers.

Smtp eMail 1 Address
name@gmail.com
Smtp eMail 2 Address
name@yahoo.com
Smtp eMail 3 Address
name@hotmail.com
Smtp eMail 4 Address
••



13.2.3 Note about NTP Settings and behavior

To activate the NTP auto synchronization set a not zero value in AutoRequest Time. After a modification of this parameter or a modification of the NTP IP address, the Wolf2MS will try to synchronize the system clock. After the first synchronization, the server will be contacted automatically with the selected period in minutes.

After a system reboot or restart, if AutoRequestTime is activated, in the first operative minute the NTP-V3 server will be contacted, as well as after the selected period.

The NtpSynch status starts as OK (synchronized) at the system startup, but after the first synchronization attempt it will show the real status. Every NtpSync status variation is signaled (if enabled) with the NtpFailureNotificationTrap.

Wolf2MS										AXEL	
Monitoring Tuner-1 Data Tuner-2 Data	ł	Settings Setup	Admin	Tune	er-1	1	Tu	ner-2	Audio	Logout	
				GPO				Releas			
WOLF2MS	192.168.000.180		27/10/13	1 2			4	0.6.1		0.6.0	
	IP-Eth2			GPI				Proxy Mode			
	Disabled		19:28:58	1	2	3	4	Disabl	ed	Mauro	

An NTP synchronization failure will be indicated with a red alarm line under the Date/Time field. Moreover, Date and time will blink in the display panel in case of synchronization failure.

Starting from Fw release 1.0.4 the NTP behavior has been modified. Wolf 2MS tries for 3 minutes a replies from the NTP server before reporting an error. In previous release Wolf 2MS replies immediately about the NTP loss. In case of alarm, Wolf 2MS tries each single minute until Wolf 2MS gets a reply from NTP server.

With this new feature, random errors caused by NTP loss are no longer reported. No more parameters have been added to mask this kind of alarm.

Description		Source	Time					
trapOID: .iso.org.d	od.internet.private.enterprises.axelTech.monitorsFm.wolf2M5.wolf2msTraps.modules.generalTraps.generalTrapPrefix.iNtpAlarmStatusNotify	192.168.0.180	2013-10-29 07:27:					
trapOID: .iso.org.d	od.internet.private.enterprises.axelTech.monitorsFm.wolf2MS.wolf2msTraps.modules.generalTraps.generalTrapPrefix.iActivityHeartNotify	192.168.0.180	2013-10-29 07:26:					
trapOID: .iso.org.d	od.internet.private.enterprises.axelTech.monitorsFm.wolf2MS.wolf2msTraps.modules.tuner1Traps.tuner1RfMpx.tuner1RfMpxPrefix.iTun1PilotLowLevelAlarmStatusNotify	192.168.0.180	2013-10-29 07:22:					
trapOID: .iso.org.d	od.internet.private.enterprises.axelTech.monitorsFm.wolf2MS.wolf2msTraps.modules.tuner1Traps.tuner1RfMpx.tuner1RfMpxPrefix.iTun1PilotLevelAlarmStatusNotify	192.168.0.180	2013-10-29 07:21					
trapOID: .iso.org.d	od.internet.private.enterprises.axelTech.monitorsFm.wolf2MS.wolf2msTraps.modules.tuner2Traps.tuner2RfMpx.tuner2RfMpxPrefix.iTun2PilotLowLevelAlarmStatusNotify	192.168.0.180	2013-10-29 07:21					
trapOID: .iso.org.d	od.internet.private.enterprises.axelTech.monitorsFm.wolf2MS.wolf2msTraps.modules.tuner1Traps.tuner1RfMpx.tuner1RfMpxPrefix.iTun1RdsLevelAlarmStatusNotify	192.168.0.180	2013-10-29 07:20					
A.T								
Source:	192.168.0.180 Timestamp: 11 minutes 31 seconds SNMP Version:	2						
Trap OID:	.iso.org, dod.internet.private.enterprises.axelTech.monitorsFm.wolf2MS.wolf2msTraps.modules.generalTraps.generalTrapPrefix.iNtpAlarmSt	atusNotify						
- Variable Bindi		-						
	•							
Name:	.iso.org.dod.internet.mgmt.mib-2.system.sysUpTime.0							
Value:	[TimeTicks] 11 minutes 31 seconds (69156)							
Name:	snmp TrapOID							
Value:	[OID] iNtpAlarmStatusNotify							
Name:	iso org dod internet private enterprises axelTech monitorsFm wolf2MS generalSettings timeSettings iNtoAlarmStatus ()							
Value:	ino segura ante prima ante prima ante prima del mantenza del mantenza del mandenza del mantenza del mantenza de							
	[
Name:	iso.org.dod.internet.private.enterprises.axelTech.monitorsFm.wolf2MS.wolf2msTraps.aTrapDateTime.0							
Value:	[OctetString] 2013-10-29 07:28:00							
Name:	iso org dod internet private enterprises axelTech monitorsFm wolf2MS wolf2msTraps iTrapCounter ()							
N-loss	. 10- vig soor and a new private, dired private, date i fetit monitori si ni, won zints i reps. i reps							
value:	[Integer] 24							
Description:	"Ntn failure Notification Tran "							



13.2.4 **Note about Activity Heart Signal** This trap will be sent periodically to indicate that the system is OK and the Wolf2MS host process is able to communicate with all its interfaces without apparent problems. One trap will be sent at every change of the time parameter or at the system start-up (few seconds after the cold start SNMP trap), as well as according to the period selected. This Trap will not be replayed.

RDS DATA STREAM	
RDS Stream Setup	
serialTun1	~
Rds Uecp Rebroadcasting	
PS	~
ACTIVITY HEART SIGNAL	
Trap Dispatch Timing	
10 min	*

The value "0" means function disabled. A different value indicates the period in minutes of the signal trap. In the example tested the period is 10 minutes.

Description				Source	Time	
trapOID: .iso.org.do	d.internet.private.enterprises.ax	<pre>keilech.monitorsEm.wolf2M5.wolf2msIraps.</pre>	modules.general I raps.general I rapPrefix.iActivityHeartNotify	192.168.0.180	2013-10-26 14:21:51	
trapOID: .iso.org.do	OID: iso.org.dod.internet.private.enterprises.axelTech.monitorsFm.wolf2M5.wolf2msTraps.modules.generalTraps.generalTrapPrefix.iActivityHeartNotify 192.168.0.180 2013-10-26 14:11:51					
trapOID: .iso.org.do	DID: .iso.org.dod.internet.private.enterprises.axelTech.monitorsFm.wolf2MS.wolf2msTraps.modules.generalTraps.generalTrapPrefix.iActivityHeartNotify 192.168.0.180 2013-10-26 14:01:51					
trapOID: .iso.org.do	d.internet.private.enterprises.a>	kelTech.monitorsFm.wolf2M5.wolf2msTraps.	modules.generalTraps.generalTrapPrefix.iActivityHeartNotify	192.168.0.180	2013-10-26 13:51:50	
trapOID: .iso.org.do	d.internet.private.enterprises.a>	<pre>kelTech.monitorsFm.wolf2MS.wolf2msTraps.</pre>	modules.generalTraps.generalTrapPrefix.iActivityHeartNotify	192.168.0.180	2013-10-26 13:41:50	
trapOID: .iso.org.do	d.internet.private.enterprises.a>	kelTech.monitorsFm.wolf2MS.wolf2msTraps.	modules.generalTraps.generalTrapPrefix.iActivityHeartNotify	192.168.0.180	2013-10-26 13:31:50	
trapOID: .iso.org.do	d.internet.private.enterprises.a>	<pre>celTech.monitorsFm.wolf2MS.wolf2msTraps.</pre>	modules.generalTraps.generalTrapPrefix.iActivityHeartNotify	192.168.0.180	2013-10-26 13:21:50	
trapOID: .iso.org.do	d.internet.private.enterprises.a>	celTech.monitorsFm.wolf2MS.wolf2msTraps.	modules.generalTraps.generalTrapPrefix.iActivityHeartNotify	192.168.0.180	2013-10-26 13:11:50	
trapOID: .iso.org.do	d.internet.private.enterprises.a>	kelTech.monitorsFm.wolf2M5.wolf2msTraps.	modules.generalTraps.generalTrapPrefix.iActivityHeartNotify	192.168.0.180	2013-10-26 13:01:49	
Source:	192.168.0.180	Timestamp:	2 hours 35 minutes 17 seconds	SNMP Version:	2	
Trap OID:	.iso.org.dod.internet.pr	ivate.enterprises.axelTech.monitorsFr	n.wolf2MS.wolf2msTraps.modules.generalTraps.generalT	rapPrefix.iActivityHeartNotify		
Variable Bindin	gs:	-				
Name:	.iso.org.dod.internet.m;	gmt.mib-2.system.sysUpTime.0				
Value:	[TimeTicks] 2 hours 3:	5 minutes 17 seconds (931775)				
Name:	snmpTrapOID					
Value:	[OID] iActivityHeartNo	otify				
Name:	.iso.org.dod.internet.pr	ivate.enterprises.axelTech.monitorsFr	n.wolf2MS.wolf2msTraps.aTrapDateTime.0			
Value:	[OctetString] 2013-10-	26 13:01:47				
Name:	.iso.org.dod.internet.pr	ivate.enterprises.axelTech.monitorsFr	n.wolf2MS.wolf2msTraps.iTrapCounter.0			
Value:	[Integer] 59	•				
Description:	"Normal Activity Signa	1 Trap "				



13.2.5 NMS 1-2 Page

In this setup it is possible to set some parameter about the communication between the Wolf 2MS and the Network Management System. SNMP is the protocol to communicate between remote equipment and NMS.

Wolf2MS							
Monitoring S	ettings						
🔒 Tuner-1 Data Tuner-2 Data	Setup	Admin Tuner-1 Tuner-2 Audio 👤 Logout					
		MAIN-1 MAIN-2 NMS 1-2 NMS 3-4					
GENERAL SETUP							
NMS-1 SETTING		NMS-2 SETTING					
10 Address		10 Addrass					
		0000					
Tras Bart		Tean Bort					
152		162					
Tran Community		Tran Community					
nublic	_						
		Tens Clabel Fashind					
	-						
	· ·						
		trapSomol/1					
trapSnmpV1							
	_						
	_						
10							
NMS-1 SETTING	In this	s box it is possible to set the IP Address and					
IP Address	the P	ort to communicate with the Network					
192.168.0.203	Mana	igement System.					
Trap Port							
Trap Community	This i	s the Trap Community string					
public	11110						
Trap Global Enabled	Trap	Global Enable: Enable or Disable the trap					
enable		notification to the NMS					
Тгар Туре	Пар	rype. configuration the map on win version					
informSnmpV2							
Trap Time-Out	Trap	Time-Out: if the Trap Type is <i>InformSnmpV2</i> , this					
	value Secor	set the time between each single retry, expressed in and					
Trap Retry	00001						
	Trap	Retry: if the Trap Type is <i>InformSnmpV2</i> , this value					
	set the	e maximum number or retry					



13.2.6 NMS 3-4 Page

In this setup it is possible to set some parameter about the communication between the Wolf 2MS and the Network Management System. SNMP is the protocol to communicate between remote equipment and NMS. The same configuration can be found in the NMS 1-2 Page.

Wolf2MS	
Monitoring Settings Tuner-1 Data Tuner-2 Data Setup	Admin Tuner-1 Tuner-2 Audio 👤 Logout
	MAIN-1 MAIN-2 NMS 1-2 NMS 3-4
GENERAL SETUP	
NMS-2 SETTING	NMS-4 SETTING
0.0.0	0.0.0.0
162	162
Trap Community	Trap Community
public	public
Trap Global Enabled	Trap Global Enabled
disable	disable
Тгар Туре	Тгар Түре
trapSnmpV1	trapSnmpV1 👻
Trap Time-Out	Trap Time-Out
10 *	10 ~
Trap Retry	Trap Retry
10 *	10 👻



14 THE ADMIN PAGE

It is possible to manage Users, Profile and right for each single user by using the Admin page.

Wolf2MS								
^	Monitoring Tuner-1 Data Tuner-2 Data	Setting Set	gs ietup	Admin	Tuner-1	Tuner-2	Audio	Logout
+	- L Save Password Save	e Rights				Prot	ile Data	Network
ADMIN								
USERS				PROFILE MANA				
admin								
				admin				
				This password car	n't be modified			
				Confirm Password				
				This password car	n't be modified			
				🗾 Profile Admin	istrator			
				🗾 Setup				
				🔽 Tuner-1				
				✓ Tuner-2				
				V Audio	_	_	_	

14.1 HOW TO LOGIN IN WOLF 2MS

From the Home Wolf 2MS screen it is possible to Login in the system using the initial standard credential. The standard login credential are

Username: **admin** Password: **admin**

Wolf2MS					RAXEL
Monitoring Tuner-1 Data Tuner-2 Data	Settings Setup	Admin	Tuner-1 Tur	ner-2 Audio	Logout
GENERAL INFORMATION	IP-Eth1	Date	GPO	Release Firmware	Release WebApp
Axel Technology	192.168.050.201	23/05/14	0 1 2 3	1.0.3	1.0.2
	IP-Eth2		GPI	Proxy Mode	User Name
Pluto	010.000.127.001	17:23:22	0 1 2 3	Disabled	admin
TUNER-1STEREOTUNEDRDS		TUNER-2 —	STEREO TU	NED RDS	
Ch. Mem. Frequency Channel Label	Mode		Frequency Char		Mode
17 100.20 MHz Radio Bruno San Luca	STATIC		100.80 MHz Cha	n1 Label	STATIC
RF		RF		ARM H1 H2	



-1

+1

14.2 HOW TO ADD A NEW USER

Once the Administrator is logged in, it is possible to add or remove an User by using the button + and – as reported in the picture.

After pressing + a new page appear, asking the insertion of Username and Password, but the user must take in consideration the below condition.

14.2.1 Consideration on Username and Password

- 1. Be aware that the user and Admin are case sensitive
- 2. For the password field there are no minimal limitation
- 3. No complexion requirement must be reached
- 4. At least one character must be filled
- 5. No Empty password allowed
- 6. The total length is 50 characters
- 7. Backspace is a character, and considered as character

After pressing the + button this screen appear. Set the username and password and check the single function that the Administrator wants to make available for each single user. By using the already existing functionalities it is possible to flag and allow the user in order to use completely the function flagged. Ie: SETUP – Profile Administrator – Tuner-1 – Tuner-2 – AUDIO.

After pressing SAVE the user is created.

14.3 THE ADMINISTRATION TOOLS

The Admin screen is divided in two parts: the Users and the Profile Manager. By using this control it is possible to manage all the rights for each single user.

ADMIN	
USERS	PROFILE MANAGER
GabrieleSetup	
Pino	GabrieleSetup
away	
Mauro	
prova	
Tutto	
Davide	Confirmed Password
valerio	
Gabriele	
TestTime	Rights
Christian	☑ Setup
Christian-2	Tuner-1
alessandro	Tuner-2

14.3.1 The User Right Management - How to change a Password

In the left side it is possible to see the complete list of user allowed on the Wolf 2MS taken in consideration. By pressing only one click on the User in the left, the profile manager on the right side shows all the allowed functionalities.

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Once a user is selected it is possible to change the password, by inserting a new password in the field "NEW PASSWORD" and repeating "CONFIRM PASSWORD". To change the field a double click is required. In order to insert a correct password, the <u>Consideration on User name and Password</u> must be respected.



BROFTIE MANAGER		
PROFILE MANAGER		
GabrieleSetup		
1234		
	1234	



The password appears clearly in the fields, as in the picture. Once the password has been modified, the user must save all the changes by pressing the button "Save Password". When the password has been correctly changed a message appears on the screen, Password Changed. By pressing OK it is possible to go on in other setup.



14.3.2 The User Right Management – How to enable/disable features

In the left side it is possible to see the complete list of user allowed on the Wolf 2MS taken in consideration. By pressing only one click on the User in the left, the profile manager on the right side shows all the allowed functionalities. In order to change to a single user a Rights, by simple flag (or unflag) the function on the corresponding box.

PROFILE MANAGER
Mauro
Regits ☑ Profile Administrator
Setup
Tuner-1
▼ Tuner-2
Audio
- dμ ¹ μ ¹

In the example above, the user Mauro is allowed to enter and manage the Profile Administrator, the Setup and the Tuner-2. The user Mauro is not allows to CHANGE or MODIFY Tuner-1 and Audio. To enable the single user also to CHANGE and MODIFY Tuner-1 and Audio, by simply flag the function and press Save Rights.



The webpage will shows a message Permission Changed as reported below to confirm that the Rights has been modified.



14.3.3 How to logout a user from Wolf 2MS

Logout can be happen for 3 different reason, that are also reported in the table below.

N°	Condition
1	User manually press Logout
2	The user take no action for at least 60 minutes
3	Two user with same username are logged in, from 2 different position, and one of this press logout



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14.4 GENERAL CONSIDERATION ABOUT USER LOGGED IN AND NON LOGGED

Once a Wolf 2MS is connected in a network, by using a simple web browser it is possible to "surf" in the Wolf 2MS and explore all the function. This general consideration must be taken in mind when a Wolf 2MS is used.

N°	No User logged in Wolf 2MS	Note
1	It is possible to see and browse all the Home, Tuner-1 and Tuner-2 data information.	
2	In the Home web page it is possible to start playing the streaming for Audio-1 and Audio-2. If a countdown is allowed, after pressing PLAY, the countdown will start to count down and at the end the streaming will be set to OFF. If no countdown is set, the streaming will be never stop.	
3	In the Tuner-1 Data a non-logged user can enter, and browse inside the submenu MAIN – AF01-32 – AF33-64 – EON. The button STATS is not available. The non-logged user can see and browse but in read-only mode. There is no way to make changes to the measures or wolf 2MS behaviour.	No timing limitation
4	In the Tuner-2 Data a non-logged user can enter, and browse inside the submenu MAIN – AF01-32 – AF33-64 – EON. The button STATS is not available. The non-logged user can see and browse but in read-only mode. There is no way to make changes to the measures or wolf 2MS behaviour.	

Once no user is logged in, the Wolf 2MS shows

23/05/14 0 1 2 3 1.0.3 1.0.2 Time GPI Proxy Mode User Name		GPO	Release Firmware	
Time GPI Proxy Mode User Name	23/05/14	0 1 2 3	1.0.3	1.0.2
		GPI	Proxy Mode	User Name
17:33:49 0 1 2 3 Disabled Guest	17:33:49	0 1 2 3	Disabled	Guest

N°	User logged in Wolf 2MS	Note
1	It is possible to see and browse all the Home, Tuner-1 and Tuner-2 data information.	
2	In the Home web page it is possible to start playing the streaming for Audio-1 and Audio-2. If a countdown is allowed, after pressing PLAY, the countdown will start to count down and at the end the streaming will be set to OFF. If no countdown is set, the streaming will be never stop.	Timing limitation to 60 minutes. After this time, the user
3	In the Tuner-1 Data a logged user can enter, and browse inside the submenu MAIN – AF01-32 – AF33-64 – EON. A RDS Data Reset button appears, and allows the user to reset all the RDS information and restart the RDS data collection.	automatically logged out
4	In the Tuner-2 Data a logged user can enter, and browse inside the submenu MAIN – AF01-32 – AF33-64 – EON. A RDS Data Reset button appears, and allows the user to reset all the RDS information and restart the RDS data collection.	
5	The user can enter in the Settings as per the Rights allowed by the Administrator.	Timing limitation to 60 minutes. After this time, the user automatically logged out.
6	Two or more SAME Username can be logged in and works together, in different place and using different web browser	If one of the two (or more) user press Logout, ALL the other "same-user" connected are logged out.

It is possible to see what user is actually logged in




14.5 DATA EXPORT AND IMPORT

A new feature still under development, is related to data import and export on Wolf 2MS's SD Card and PC.

14.5.1 On SD Card

The Export allows the user to save the complete Wolf 2MS configuration in a SD Card. Moreover, also MAC Address is exported and saved, so this function allows the user to create a complete "clone" of the Wolf 2MS. This can be useful, once a Wolf 2MS is completely configured to store data on the SD Card, so in case of fault the SD Card can be removed and inserted in a new Wolf 2MS equipment and using the Import function all data can be retrieved and get a complete clone of the faulty equipment. To achieve this function the user must access via front panel, "SECURE DIGITAL CARD MANAGER" and select IMPORT – EXPORT – FORMAT

14.5.2 Using web browser

Via Web browser it is possible to download or upload a configuration, save and store in a PC as a common Json file . Same for Access Log in TXT and same for Trap Event Log as TXT log

Wolf2MS								GAXEL
			_					
Monitori Tuner-1	l Data Tuner-2 Data		Settings Setup	Admin	Tuner-1	Tuner-2	Audio	Logout
						Profi	le Data	Network
ADMIN —								
CONFIGURATIONS -		STATUS						
Upload	Download							
		STATUS						
Refresh	Download							
[2014-02-26 17:45:29]								Ê
[2014-02-27 17:26:00]								
[2014-02-27 17:46:01]								
[2014-02-28 12:20:15]								
[2014-02-28 12:22:38]								
[2014-03-04 14:24:54]								
[2014-03-04 16:22:32]	Login: Superadmin, Rights: A	DMIN-SETUP-TUNE	R1-TUNER2-AUDIO					
[2014-03-04 16:23:44]	Logout: Superadmin				_			•
TRAP EVENT LOG –		STATUS						
Dofroch	Download							
	Download							
[2014-05-07 09:37:05]	Trap: ACTIVITY HEART SIGNAL							^
[2014-05-07 09:38:05]	Trap: ACTIVITY HEART SIGNAL							
[2014-05-07 09:39:05]	Trap: ACTIVITY HEART SIGNAL							
[2014-05-07 09:40:05]	Trap: ACTIVITY HEART SIGNAL							
[2014-05-07 09:41:05]	Trap: ACTIVITY HEART SIGNAL							
[2014-05-07 09:42:05]	Trap: ACTIVITY HEART SIGNAL							
[2014-05-07 09:43:05]	Trap: ACTIVITY HEART SIGNAL							
[2014-05-07 09:44:05]	Trap: ACTIVITY HEART SIGNAL							-



14.5.3 Network section

By pressing this button it is possible to access and modify the value for Ethernet -1 and Ethernet -2. Can be set IP Address, Subnet mark, and Gateway for each network card. Once the modifying has been done, press "Change ETH1 & Reboot" or "Change ETH2 and Reboot". The equipment will be rebooted and after restart modifying will be applied. <u>System Reboot</u> button restart the device

Wolf2MS										GAXEL
	Monitoring			Settings						
A	Tuner-1 Data	Tuner-2 Data		Setup	Admin	Tuner-1	Tuner-2	A	udio	👤 Logout
System Reboot							P	rofile	Data	Network
ADMIN -										
ETHERNET 1 S	SETUP				ETHERNET 2 S	ETUP				
192.168.50.203					10.0.127.3					
SubnetMask					SubnetMask					
255.255.255.0					255.255.255.0					
Gateway					Gateway					
192.168.50.101					10.0.127.100					
	Cha	inge ETH1 & Rebo	oot			Cha	ange ETH2 & R	boot		

14.6 SETTINGS – TUNER 1

This page allows the user to manage all the parameters and alarms managed by Wolf 2MS. The MAIN page shows and give the users the capability to set the general parameters as GLOBAL SETTINGS and RECEIVER DEMODULATION SETTINGS of the Wolf 2MS.



Wolf2MS												
	Monitori	ng			Setti	ngs						
A	Tuner-1	l Data Tu	ner-2 Data			Setup	Admin	Tuner-1	Tune	r-2 Au	udio	Logout
GLOBAL	RF ₁₂	RFu	RF _{H1}	RF _{H2}	DEV	PILOT	PILOT	RDSL	RDS	AUDIO DEV	AUDIOL	AUDIO _R
AUDIO _{MS}	AUDIO	PI	PS	ТР	ТА	ст	RT	AF	EON	IH	тмс	RT+
ODA1	ODA ₂	BLER	GROUPS	FILTERS								
TUNER-1 -	GLOBAL S	ETUP										
GLOBAL SE	TTINGS											
deobhe br												
Tuning Mode												
Static						*						
Last Channel S	canning Index											
26						Ŧ						
27						Ŧ						
50uSec						Ŧ						
individual m	asking					~						
0.00 dB						-						

14.6.1 Tuner-1 – Main

In this page it is possible to set the behavior of the Tuner-1 and each single parameter it is reported below:

TUNER-1	
GLOBAL SETTINGS	
Tuning Mode	
Static	-
Last Channel Scanning Index	
4	-
Static Channel Index	
1	-
50uSec	-
Global Tuner Mask Mode	
individual masking	-
0.00 dB	-



14.6.2 Tuning Mode

By using this parameter it is possible to change the tuning mode that should be OFF - Static - Scan - Smart Scan.

OFF	In OFF the tuner is unavailable
STATIC	in Static the tuner remain fixed on a single frequency that is depending by the parameter Static Channel Index
SCAN	In Scan mode the tuner starts to scan the FM band, from channel 1 up to the <last channel="" index="" scanning=""></last>
SMART SCAN	In smart mode the channel scan time is adjusted automatically according to instantaneous measurements requirements.

14.6.3 Smart Scan

The smart scan is an scan evolution method and "smart" mode to check each single parameter of the checked frequency: if during a scan, a single parameter of the scanned frequency is out-of-range the Wolf 2MS should decide to remain more time (in seconds) on the checked frequency, in order to get the correct value, or exclude a false-positive alarm.

Practical example: a typical case should be the decoding of the ODA service in RDS, or a PI Code, or any value checked. If the decoding gives an "error" the Wolf 2MS can stay more seconds on this frequency, and wait in order to get the correct value, and don't generate an error (via snmp trap) that can overload the NMS system. In the real fact the checked valued is correct, but sometimes due to a lot of unpredictable situation, this value should be considered as an error.

14.6.4 Deemphasys

The internal tuner-1 Deemphasis value can be set between 50uS or 75uS accordingly to the country/region where the Wolf 2MS has been installed.

14.6.5 External Attenuator

In order to provide to Wolf 2MS a correct RF input level, in case an external RF attenuator is required, it is necessary to insert here the same attenuation level introduced by the external RF attenuator.

14.6.6 Global Tuner Mask Mode

By using this settings it is possible to set the behavior of the errors, if these should be masked or not.

Masked	Mask all alarms with priority over any individual configuration. Mask an alarm means "NO errors are reported and NO errors are visible on the webpage"
Unmasked	Unmasks all alarms with priority over any individual configuration. Unmask an alarm means that "the alarms are <i>reported and visible on the webpage</i> "
Severity-1	Mask all alarms with severity equal to 1 (The others errors are not masked)
Severity-2	Mask all alarms with severity less than or equal to 2 (The others errors are not masked)
Severity-3	Mask all alarms with severity less than or equal to 3.



Individual
Masking

This parameter allows the user to set for each single parameter under control if the parameter must be masked or not.



It is possible to set for each single parameter under control the Masked or unmasked and the Severity Level on these value:

RFL2 - RFL1 / RFH1 - RFH2 - DEV - PILOT Low - PILOT - RDS Low - RDS - AUDIO Dev - AUDIO Left - AUDIO Right -AUDIO Ms - AUDIO Si - PI - PS - TP - TA - CT - RT - AF - EON - IH - TMC - RT+ - ODA1 - ODA2 - BLER in the column MASK.

Wolf2MS												RAX	EL
	Monitori	ng			Settin	gs							
f	Tuner-1	Data Tu	iner-2 Data		s	etup	Admin	Tuner-1	Tun	er-2	Audio	Logout	
GLOBAL	RF ₁₂	RFu	RF _{H1}	RF _{HZ}	DEV	PILOT	PILOT	RDSL	RDS	AUDIO DE	V AUDI	OL AUDIO	R
AUDIO _{MS}	AUDIO _{SI}	PI	PS	ТР	ТА	СТ	RT	AF	EON	IH	TM	C RT+	
ODA1	ODA ₂	BLER	GROUPS	FILTERS									
TUNER-2	- RADIO FR	EQUENCY	LOW LEVEL	2 —									
	Chan	nels Identifi	cation				Parameters Set	ting - Use M	louse (Drag o	r Wheel) to s	croll		
Chan						Chan Mas	ik Thr	Ну	steresis \	alidation		Mask	
1	Chan1 La	ibel	100.80 MHz		5 sec	unmaske	ed 30.00 df	3uV 3.0	0 dBuV	2 sec	2 sec	masked '	-
2	Chan2 La	ıbel	87.50 MHz			unmaske	ed 30.00 dB	3uV 5.0	0 dBuV	2 sec		unmasked masked	-1
3	Chan3 La	ibel	87.50 MHz			unmaske	ed 30.00 dE	3uV 5.0	0 dBuV	2 sec		severity1	
4	Chan4 La	ibel	87.50 MHz			unmaske	ed 30.00 dE	3uV 5.0	0 dBuV	2 sec		severity3	
5						unmaske	-d 30.00 df	3uV 5.0	0 dBuV	2 sec			

14.6.7 The meaning of "Mask" on each single parameter under control

On each single parameter under control it is also possible to set the if the single parameter can be Masked, unmasked, Severity1 – Severity2 – Severity3 or RFL2. In this case each single parameter follow an Individual Masking.

The severity level is generally assigned in order to have a relation between the parameter under control and the priority. All the parameters involved in Severity1 – Severity2 – Severity3 can be masked or not.

Masked	Alarm IS masked (if <i>Global Tuner Mask Mode</i> is set in individual masking)
Unmasked	Alarm IS NOT masked (if Global Tuner Mask Mode is set in individual masking)
Severity-1	The Alarm is masked only if <i>Global Tuner Mask Mode</i> is set on a Severity < or equal to 1 (it means always not masked)
Severity-2	The Alarm is masked only if <i>Global Tuner Mask Mode</i> is set on a Severity < or equal to 2
Severity-3	The Alarm is masked only if <i>Global Tuner Mask Mode</i> is set on a Severity < or equal to 3 (it means always masked)
RFL2 Mask	Masked if the Alarm RFL2 Mask is active. (see Note2 below)

Note1: it is not possible to mix the (Severity1-Severity2-Severity3) with Individual Masking

Note2: in order to work properly the RFL2 Mask requires that validation is less of RFL2 and Hold time is greater than the individual alarms that use this type of mask.



L

Example 1: Masked, Unmasked and Individual Masking.

This schemes shows from left to right the flow of each single Alarm.

In the first row the example is the PI Code. Once it is reported an error (PI) if the Parameter Mask in the single Parameter under control is MASKED but the Global Tuner Mask Mode is INDIVIDUAL MASKING = NO error report



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Example 2: Severity-1, Severity-2, Severity3.

This schemes shows from left to right the flow of each single Alarm.





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Example 3: RFL2 MASK

This schemes shows from left to right the flow of each single Alarm.





14.6.8 **RFL2**

This section is about the Radio Frequency LOWER LEVEL 2.

TUNER-	TUNER-1 - RADIO FREQUENCY LOW LEVEL 2											
	Channels Identifi	cation			Para	meters Setting -	Use Mouse (Dra	ag or Wheel) t	o scroll			

NAME	DESCRIPTION							
Chan (*)	Channel Number							
Chan Label	Mnemonic name that can be applied to the Channel / Frequency							
Frequency	Frequency corresponding to the Channel, expressed in MHz							
Preset	String used and managed by the Configuration Manager							
Scan Time	This value represents the time in seconds that the tuner remain on this frequency.							
Chan Mask	This control allow (or not) the channel to be under control.	If it is masked, the channel is NOT under control						
Thr or Threshold	Threshold level. Below this threshold level an alarm is generated.	See Note1 reported below						
Hysteresis level	This value can be set as range of Hysteresis for the measurement. Hysteresis is the dependence of a system not only on its current environment but also on its past environment.							
Validation	This field contains the time of persistence necessary to the alarm to be considered "validated". For example, if the system launches an alarm, this alarm must remain "up" or "Active" for all the time of "Validation" to be considered a true alarm to avoid the detection of spikes.							
Hold	is the time between the cessation of the alarm condition and alarm signaling finished							
Mask	It is possible to set, for each single parameter: unmasked, masked, severity-1, severity-2, severity-3, RFL2 mask.							
Email	In case the alarm/error raise up, the Wolf 2MS sends an email if <enable>. If is <disable> no action are taken.</disable></enable>	Scroll Mouse						
Тгар	In case the alarm/error raise up, the Wolf 2MS sends a trap if <enable>. If is <disable> no action are taken.</disable></enable>	Scroll Mouse						
Label	This is the label/content that the user can choose to shows via email or in the trap in case of error.	Scroll Mouse						



Alarm generation RFL2:



Note1:

Condition	Description
Error Generation	If the RF Signal under control is < (<i>RFL2 Thr</i>) for a duration > <i>Validation</i> = the error is generated.
Error Come out	If the RF Signal under control > (<i>RFL2 Thr</i> + <i>Hysteresis</i>) for a duration > <i>Hold</i> = the error come out.





14.6.9 **RFL1**

This section is about the Radio Frequency LOWER LEVEL 1.

TUNER-1 - RADIO FREQUENCY LOW LEVEL 1										
Channels Identification					Parameters Setting - Use Mouse (Drag or Wheel) to scroll					
										Mask
										masked
										masked
										masked
										masked

NAME	DESCRIPTION	NOTE
Chan (*)	Channel Number	
Chan Label	Mnemonic name that can be applied to the Channel / Frequency	
Frequency	Frequency corresponding to the Channel, expressed in MHz	
Preset	String used and managed by the Configuration Manager	
Scan Time	This value represents the time in seconds that the tuner remain on this frequency.	
Chan Mask	This control allow (or not) the channel to be under control.	If it is masked, the channel is NOT under control
Thr or Threshold	Threshold level. Below this threshold level an alarm is generated.	See Note1 reported below
Hysteresis level	This value can be set as range of Hysteresis for the measurement. Hysteresis is the dependence of a system not only on its current environment but also on its past environment.	
Validation	This field contains the time of persistence necessary to the alarm to be considered "validated". For example, if the system launches an alarm, this alarm must remain "up" or "Active" for all the time of "Validation" to be considered a true alarm to avoid the detection of spikes.	
Hold	is the time between the cessation of the alarm condition and alarm signaling finished	
Mask	It is possible to set, for each single parameter: unmasked, masked, severity-1, severity-2, severity-3, RFL2 mask.	
Email	In case the alarm/error raise up, the Wolf 2MS sends an email if <enable>. If is <disable> no action are taken.</disable></enable>	Scroll Mouse
Trap	In case the alarm/error raise up, the Wolf 2MS sends a trap if <enable>. If is <disable> no action are taken.</disable></enable>	Scroll Mouse
Label	This is the label/content that the user can choose to shows via email or in the trap in case of error.	Scroll Mouse



Alarm generation RFL1:



Note1

Condition	Description
Error Generation	If the RF Signal level under control < (<i>RFL1</i>) for a duration > <i>Validation</i> = the error is generated
Error Come out	If the RF Signal level under control > (RFL1 Thr + Hysteresis) for a duration > Hold = the error come out



14.6.10 **RFH1**

This section is about the Radio Frequency HIGHER LEVEL 1.

TUNFR-	TUNER-1 - RADIO EREQUENCY HIGH LEVEL 1									
	Channels Identifi	cation			Parameters Setting - Use Mouse (Drag or Wheel) to scroll					
										masked

NAME	DESCRIPTION	NOTE
Chan (*)	Channel Number	
Chan Label	Mnemonic name that can be applied to the Channel / Frequency	
Frequency	Frequency corresponding to the Channel, expressed in MHz	
Preset	String used and managed by the Configuration Manager	
Scan Time	This value represents the time in seconds that the tuner remain on this frequency.	
Chan Mask	This control allow (or not) the channel to be under control.	If it is masked, the channel is NOT under control
Thr or Threshold	Threshold level. Beyond this threshold level an alarm is generated.	See Note1 reported below
Hysteresis level	This value can be set as range of Hysteresis for the measurement. Hysteresis is the dependence of a system not only on its current environment but also on its past environment.	
Validation	This field contains the time of persistence necessary to the alarm to be considered "validated". For example, if the system launches an alarm, this alarm must remain "up" or "Active" for all the time of "Validation" to be considered a true alarm to avoid the detection of spikes.	
Hold	is the time between the cessation of the alarm condition and alarm signaling finished	
Mask	It is possible to set, for each single parameter: unmasked, masked, severity-1, severity-2, severity-3, RFL2 mask.	
Email	In case the alarm/error raise up, the Wolf 2MS sends an email if <enable>. If is <disable> no action are taken.</disable></enable>	
Тгар	In case the alarm/error raise up, the Wolf 2MS sends a trap if <enable>. If is <disable> no action are taken.</disable></enable>	





This is the label/content that the user can choose to shows via email or in the trap in case of error.

Alarm generation RFH1:



Note1

Condition	Description
Error Generation	If the RF Signal level under control > (<i>RFH1</i> + <i>Hysteresis</i>) for a duration > <i>Validation</i> = the error is generated

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Error Come out	If the RF Signal level under control < (<i>RFH1 - Hysteresis</i>) for a duration > <i>Hold</i> = the error come out



14.6.11 **RFH2**

This section is about the $\ensuremath{\textbf{Radio}}\xspace$ $\ensuremath{\textbf{HGHER}}\xspace$ $\ensuremath{\textbf{LEVEL 2}}\xspace$.

TUNER	TUNER'I - KADIO FREQUENCI NIGN LEVEL 2									
Channels Identification					Parameters Setting - Use Mouse (Drag or Wheel) to scroll					
	Chan Label									Mask
	Radio Capital									
	Punto Radio									masked
	Radio deejay									masked
	RMC									masked

NAME	DESCRIPTION	NOTE
Chan (*)	Channel Number	
Chan Label	Mnemonic name that can be applied to the Channel / Frequency	
Frequency	Frequency corresponding to the Channel, expressed in MHz	
Preset	String used and managed by the Configuration Manager	
Scan Time	This value represents the time in seconds that the tuner remain on this frequency.	
Chan Mask	This control allow (or not) the channel to be under control.	If it is masked, the channel is NOT under control
Thr or Threshold	Threshold level. Beyond this threshold level an alarm is generated.	See Note1 reported below
Hysteresis level	This value can be set as range of Hysteresis for the measurement. Hysteresis is the dependence of a system not only on its current environment but also on its past environment.	
Validation	This field contains the time of persistence necessary to the alarm to be considered "validated". For example, if the system launches an alarm, this alarm must remain "up" or "Active" for all the time of "Validation" to be considered a true alarm to avoid the detection of spikes.	
Hold	is the time between the cessation of the alarm condition and alarm signaling finishe	
Mask	It is possible to set, for each single parameter: unmasked, masked, severity-1, severity-2, severity-3, RFL2 mask.	
Email	In case the alarm/error raise up, the Wolf 2MS sends an email if <enable>. If is <disable> no action are taken.</disable></enable>	
Trap	In case the alarm/error raise up, the Wolf 2MS sends a trap if <enable>. If is <disable> no action are taken.</disable></enable>	
Label	This is the label/content that the user can choose to shows via email or in the trap in case of error.	



Alarm generation RFH2



Note1

Condition	Description
Error Generation	If the RF Signal level under control > (<i>RFH2</i> + <i>Hysteresis</i>) for a duration > <i>Validation</i> = the error is generated
Error Come out	If the RF Signal level under control < (<i>RFH2 Thr – Hysteresis</i>) for a duration > <i>Hold</i> = the error come out





14.6.12 **DEV (Maximum Deviation allowed)**

This page allows the user to set mainly the maximum threshold level for the Deviation, for each single Channel / Frequency.

Channels Identification			Parameters Setting - Use Mouse (Drag or Wheel) to scroll						
Chan									Mask
1									masked
2									masked
3									masked
4									masked

NAME	DESCRIPTION	NOTE
Chan	Channel Number	
Chan Label	Mnemonic name that can be applied to the Channel / Frequency	
Frequency	Frequency corresponding to the Channel, expressed in MHz	
Preset	String used by the configurator	
Scan Time	this value represents the time in s that the tuner remain on this frequency.	
Chan Mask	This control allow (or not) the channel to be under control.	If it is masked, the channel is NOT under control
Max Thr	Maximum Threshold level. The value set here is the maximum deviation that the RF carrier can reach. By default the level il 80kHz. With a double click on the box can be changed by inserting the desired value.	See Note1 reported below
Hysteresis	This value can be set as range of Hysteresis for the measurement. Hysteresis is the dependence of a system not only on its current environment but also on its past environment.	
Validation	This field contains the time of persistence necessary to the alarm to be considered "validated". For example, if the system launches an alarm, this alarm must remain "up" or "Active" for all the time of "Validation" to be considered a true alarm to avoid the detection of spikes.	
HOLD	is the time between the cessation of the alarm condition and alarm signaling finished	
Mask	It is possible to set, for each single parameter: unmasked, masked, severity-1, severity-2, severity-3, RFL2 mask.	
Email	In case the alarm/error raise up, the Wolf 2MS sends an email if <enable>. If is <disable> no action are taken.</disable></enable>	
Тгар	In case the alarm/error raise up, the Wolf 2MS sends a trap if <enable>. If is <disable> no action are taken.</disable></enable>	
Label	This is the label/content that the user can choose to shows via email or in the trap in case of error.	



Alarm generation DEV – Deviation



Note1

Condition	Description
Error Generation	If the RF Signal level under control $> (DEV)$ for a duration $> Validation =$ the error is generated
Error Come out	If the RF Signal level under control < (<i>DEV</i> – <i>Hysteresis</i>) for a duration > <i>Hold</i> = the error come out





14.6.13 **PILOT LOW (19kHz Pilot Stereo level)** This page allows the user to set **ONLY** the **minimum threshold level** for the Stereo Pilot, for each single Channel / Frequency. This status variable allows to monitor if the pilot level goes down a given threshold level.

TIINEP-											
TUNER											
Channels Identification					Parameters Setting - Use Mouse (Drag or Wheel) to scroll						

NAME	DESCRIPTION	NOTE
Chan	Channel Number	
Chan Label	Mnemonic name that can be applied to the Channel / Frequency	
Frequency	Frequency corresponding to the Channel, expressed in MHz	
Preset	String used by the configurator	
Scan Time	This value represents the time in s that the tuner remain on this frequency.	
Chan Mask	This control allow (or not) the channel to be under control.	If it is masked, the channel is NOT under control
Thr	Minimum Threshold level for the Pilot Stereo 19kHz. The value set here is the minimum deviation level that the Pilot Stereo 19kHz carrier can reach. By default the level is 5kHz. With a double click on the box can be changed by inserting the desired value.	
Hysteresis level	this value can be set as range of Hysteresis for the measurement. Hysteresis is the dependence of a system not only on its current environment but also on its past environment.	
Validation	This field contains the time of persistence necessary to the alarm to be considered "validated". For example, if the system launches an alarm, this alarm must remain "up" or "Active" for all the time of "Validation" to be considered a true alarm to avoid the detection of spikes.	
Hold	It is the time between the cessation of the alarm condition and alarm signaling finished	
Mask	It is possible to set, for each single parameter: unmasked, masked, severity-1, severity-2, severity-3, RFL2 mask.	
Email	In case the alarm/error raise up, the Wolf 2MS sends an email if <enable>. If is <disable> no action are taken.</disable></enable>	
Trap	In case the alarm/error raise up, the Wolf 2MS sends a trap if <enable>. If is <disable> no action are taken.</disable></enable>	
Label	This is the label/content that the user can choose to shows via email or in the trap in case of error.	



14.6.14 **PILOT (19kHz Pilot Stereo level)** This page allows the user to set mainly **the minimum and the maximum threshold** level for the Stereo Pilot, for each single Channel / Frequency. With this alarm status variable (using a window zone) it is possible to monitor the pilot level inside a nominal window zone and if it falls under a minimum level or monitor two low levels zones like RF levels.

TUNER-1 - PILOT OPERATIVE WINDOW ZONE										
Channels Identification					Para	meters Setting -	Use Mouse (Dra	ag or Wheel) to	scroll	
		Frequency								
		87.50 MHz								
		87.90 MHz								
		88.70 MHz								
		89.20 MHz								

NAME	DESCRIPTION	NOTE
Chan	Channel Number	
Chan Label	Mnemonic name that can be applied to the Channel / Frequency	
Frequency	Frequency corresponding to the Channel, expressed in MHz	
Preset	String used by the configurator	
Scan Time	This value represents the time in s that the tuner remain on this frequency.	
Chan Mask	This control allow (or not) the channel to be under control.	If it is masked, the channel is NOT under control
Min. Thr	Minimum Threshold level for the Pilot Stereo 19kHz. The value set here is the minimum deviation level that the Pilot Stereo 19kHz carrier can reach. By default the level is 5kHz. With a double click on the box can be changed by inserting the desired value.	See Note1 reported below
Max. Thr	Maximum Threshold level for the Pilot Stereo 19kHz. The value set here is the maximum deviation level that the Pilot Stereo 19kHz carrier can reach. By default the level is 8kHz. With a double click on the box can be changed by inserting the desired value.	See Note2 reported below
Hysteresis level	this value can be set as range of Hysteresis for the measurement. Hysteresis is the dependence of a system not only on its current environment but also on its past environment.	
Validation	This field contains the time of persistence necessary to the alarm to be considered "validated". For example, if the system launches an alarm, this alarm must remain "up" or "Active" for all the time of "Validation" to be considered a true alarm to avoid the detection of spikes.	
Hold	It is the time between the cessation of the alarm condition and alarm signaling finished	
Mask	It is possible to set, for each single parameter: unmasked, masked, severity-1, severity-2, severity-3, RFL2 mask.	
Email	In case the alarm/error raise up, the Wolf 2MS sends an email if <enable>. If is <disable> no action are taken.</disable></enable>	



Trap	In case the alarm/error raise up, the Wolf 2MS sends a trap if <enable>. If is <disable> no action are taken.</disable></enable>	
Label	This is the label/content that the user can choose to shows via email or in the trap in case of error.	



Note1

Condition	Description
Error Generation Min. Threshold	If the RF Signal level under control < (<i>Min. Thr</i>) for a duration > <i>Validation</i> = the error is generated
Error Come out Min. Threshold	If the RF Signal level under control > (<i>Min. Thr</i> + <i>Hysteresis</i>) for a duration > <i>Hold</i> = the error come out





Note2

Condition	Description
Error Generation Max. Threshold	If the RF Signal level under control $>$ (<i>Max. Thr</i>) for a duration $>$ <i>Validation</i> = the error is generated
Error Come out Max. Threshold	If the RF Signal level under control > (<i>Max. Thr - Hysteresis</i>) for a duration > <i>Hold</i> = the error come out



14.6.15 **RDS Low (57kHz RDS Data Level)** This page allows the user to set ONLY the minimum threshold level for the RDS Data Level, for each single Channel / Frequency. This settings mainly means that below this level an error is generated and some receivers may not correctly decode the RDS data stream

TUNER-	TUNER-1 - RDS LOW LEVEL									
	Channels Identifi		Parameters Setting - Use Mouse (Drag or Wheel) to scroll							

NAME	DESCRIPTION	NOTE
Chan	Channel Number	
Chan Label	Mnemonic name that can be applied to the Channel / Frequency	
Frequency	Frequency corresponding to the Channel, expressed in MHz	
Preset	String used by the configurator	
Scan Time	This value represents the time in s that the tuner remain on this frequency.	
Chan Mask	This control allow (or not) the channel to be under control.	If it is masked, the channel is NOT under control
Thr	Minimum Threshold level for the RDS Data 57kHz. The value set here is the minimum deviation level that the RDS Data 57kHz carrier can reach. By default the level is 1.80kHz. With a double click on the box can be changed by inserting the desired value.	
Hysteresis level	This value can be set as range of Hysteresis for the measurement. Hysteresis is the dependence of a system not only on its current environment but also on its past environment.	
Validation	This field contains the time of persistence necessary to the alarm to be considered "validated". For example, if the system launches an alarm, this alarm must remain "up" or "Active" for all the time of "Validation" to be considered a true alarm to avoid the detection of spikes.	
Hold	is the time between the cessation of the alarm condition and alarm signaling finished	
Mask	It is possible to set, for each single parameter: unmasked, masked, severity-1, severity-2, severity-3, RFL2 mask.	
Email	In case the alarm/error raise up, the Wolf 2MS sends an email if <enable>. If is <disable> no action are taken.</disable></enable>	
Trap	In case the alarm/error raise up, the Wolf 2MS sends a trap if <enable>. If is <disable> no action are taken.</disable></enable>	
Label	This is the label/content that the user can choose to shows via email or in the trap in case of error.	



14.6.16 RDS (57kHz RDS Data Level)

This page allows the user to set mainly the minimum and the maximum threshold level for the RDS Data Level, for each single Channel / Frequency. In this settings it is possible to set normal window working level for the RDS data.

TUNER-	TUNER-1 - RDS OPERATIVE WINDOW ZONE										
Channels Identification					Parameters Setting - Use Mouse (Drag or Wheel) to scroll						
						Min. Thr					
						1.80 kHz					
						1.80 kHz					
						1.80 kHz					
						1.80 kHz					

NAME	DESCRIPTION					
Chan	Channel Number					
Chan Label	Mnemonic name Mnemonicthat can be applied to the Channel / Frequency					
Frequency	Frequency corresponding to the Channel, expressed in MHz					
Preset	String used by the configurator					
Scan Time	This value represents the time in s that the tuner remain on this frequency.					
Chan Mask	This control allow (or not) the channel to be under control.	If it is masked, the channel is NOT under control				
Min. Thr	Minimum Threshold level for the RDS Data 57kHz. The value set here is the minimum deviation level that the RDS Data 57kHz carrier can reach. By default the level is 1.80kHz. With a double click on the box can be changed by inserting the desired value.	See Note1 reported below				
Max. Thr	Maximum Threshold level for the RDS Data 57kHz. The value set here is the maximum deviation level that the RDS Data 57kHz carrier can reach. By default the level is 4.0kHz. With a double click on the box can be changed by inserting the desired value.	See Note2 reported below				
Hysteresis level	This value can be set as range of Hysteresis for the measurement. Hysteresis is the dependence of a system not only on its current environment but also on its past environment.					
Validation	This field contains the time of persistence necessary to the alarm to be considered "validated". For example, if the system launches an alarm, this alarm must remain "up" or "Active" for all the time of "Validation" to be considered a true alarm to avoid the detection of spikes.					
Hold	is the time between the cessation of the alarm condition and alarm signaling finished					
Mask	It is possible to set, for each single parameter: unmasked, masked, severity-1, severity-2, severity-3, RFL2 mask.					
Email	In case the alarm/error raise up, the Wolf 2MS sends an email if <enable>. If is <disable> no action are taken.</disable></enable>					
Тгар	In case the alarm/error raise up, the Wolf 2MS sends a trap if <enable>.</enable>					





Note1

Condition	Description
Error Generation Min. Threshold	If the RF Signal level under control < (<i>Min. Thr</i>) for a duration > <i>Validation</i> = the error is generated
Error Come out Min. Threshold	If the RF Signal level under control > (<i>Min. Thr</i> + <i>Hysteresis</i>) for a duration > <i>Hold</i> = the error come out





Note2

Condition	Description
Error Generation Max. Threshold	If the RF Signal level under control $>$ (<i>Max. Thr</i>) for a duration $>$ <i>Validation</i> = the error is generated
Error Come out Max. Threshold	If the RF Signal level under control > (<i>Max. Thr - Hysteresis</i>) for a duration > <i>Hold</i> = the error come out





14.6.17Audio DEV (Silence detector)This page allows the user to set mainly the silence threshold and timing, for each single Channel / Frequency.

TUNER-1 - AUDIO MPX DEVIATION										
Channels Identification				Parameters Setting - Use Mouse (Drag or Wheel) to scroll						
Chan										
1										
2										
4										

NAME	DESCRIPTION					
Chan	Channel Number					
Chan Label	Mnemonic name that can be applied to the Channel / Frequency					
Frequency	Frequency corresponding to the Channel, expressed in MHz					
Preset	String used by the configurator					
Scan Time	This value represents the time in s that the tuner remain on this frequency.					
Chan Mask	This control allow (or not) the channel to be under control.	If it is masked, the channel is NOT under control				
Silence Thr	This is the minimum level to be considered <i>audio</i> . Under this threshold the audio is considered "silence".	See Note1 reported below				
Silence Time	This parameter is related to Silence Thr, after this <silence time=""> the incoming audio is considered "Silence"</silence>					
Silence Hold	is the time between the cessation of the alarm condition and alarm signaling finished					
Silence Mask	It is possible to set, for each single parameter: unmasked, masked, severity-1, severity-2, severity-3, RFL2 mask.					
Silence Email	In case the alarm/error raise up, the Wolf 2MS sends an email if <enable>. If is <disable> no action are taken.</disable></enable>					
Silence Trap	In case the alarm/error raise up, the Wolf 2MS sends a trap if <enable>. If is <disable> no action are taken.</disable></enable>					
Silence Label	This is the label/content that the user can choose to shows via email or in the trap in case of error.					





Note1

Condition	Description
Error Generation Silence	If the RF Signal level under control < (<i>Silence Thr</i>) for a duration > <i>Silence Time</i> = the error is generated
Error Come out Silence	If the RF Signal level under control > (<i>Silence Thr</i>) for a duration > Silence <i>Hold</i> = the error come out


14.6.18Audio Left (Silence detector)This page allows the user to set mainly the silence threshold and timing, for the single Left Channel

TUNER-	TUNER-1 - AUDIO LEFT LEVEL										
	Channels Identifi	Parameters Setting - Use Mouse (Drag or Wheel) to scroll									
						Silence Thr					
1	Radio Capital	87.50 MHz		5 sec	unmasked	-20.00 dBr	20 sec	2 sec	masked	disable	
						-20.00 dBr					
3						-20.00 dBr					
						-20.00 dBr					

NAME	DESCRIPTION	NOTE
Chan	Channel Number	
Chan Label	Mnemonic name that can be applied to the Channel / Frequency	
Frequency	Frequency corresponding to the Channel, expressed in MHz	
Preset	String used by the configurator	
Scan Time	This value represents the time in s that the tuner remain on this frequency.	
Chan Mask	This control allow (or not) the channel to be under control.	If it is masked, the channel is NOT under control
Silence Thr	This is the minimum level on the LEFT CHANNEL to be considered <i>audio</i> . Under this threshold the audio is considered "silence".	
Silence Time	This parameter is related to Silence Thr, after this <silence time=""> the incoming audio is considered "Silence"</silence>	
Silence Hold	is the time between the cessation of the alarm condition and alarm signaling finished	
Silence Mask	It is possible to set, for each single parameter: unmasked, masked, severity-1, severity-2, severity-3, RFL2 mask.	
Silence Email	In case the alarm/error raise up, the Wolf 2MS sends an email if <enable>. If is <disable> no action are taken.</disable></enable>	
Silence Trap	In case the alarm/error raise up, the Wolf 2MS sends a trap if <enable>. If is <disable> no action are taken.</disable></enable>	
Silence Label	This is the label/content that the user can choose to shows via email or in the trap in case of error.	



14.6.19Audio Right (Silence detector)This page allows the user to set mainly the silence threshold and timing, for the single Right Channel

TIMED-											
TUNER											
	Channels Identifi	Parameters Setting - Use Mouse (Drag or Wheel) to scroll									
	Chan Label	Frequency	Preset				Silence Time				
	Radio Capital	87.50 MHz		5 sec	unmasked	-20.00 dBr	20 sec	2 sec	masked	disable	
		87.90 MHz									
		88.70 MHz									
		89.20 MHz									

NAME	DESCRIPTION	NOTE
Chan	Channel Number	
Chan Label	Mnemonic name that can be applied to the Channel / Frequency	
Frequency	Frequency corresponding to the Channel, expressed in MHz	
Preset	String used by the configurator	
Scan Time	This value represents the time in s that the tuner remain on this frequency.	
Chan Mask	This control allow (or not) the channel to be under control.	If it is masked, the channel is NOT under control
Silence Thr	This is the minimum level on the RIGHT CHANNEL to be considered <i>audio</i> . Under this threshold the audio is considered "silence".	
Silence Time	This parameter is related to Silence Thr, after this <silence time=""> the incoming audio is considered "Silence"</silence>	
Silence Hold	is the time between the cessation of the alarm condition and alarm signaling finished	
Silence Mask	It is possible to set, for each single parameter: unmasked, masked, severity-1, severity-2, severity-3, RFL2 mask.	
Silence Email	In case the alarm/error raise up, the Wolf 2MS sends an email if <enable>. If is <disable> no action are taken.</disable></enable>	
Silence Trap	In case the alarm/error raise up, the Wolf 2MS sends a trap if <enable>. If is <disable> no action are taken.</disable></enable>	
Silence Label	This is the label/content that the user can choose to shows via email or in the trap in case of error.	



14.6.20 Audio MS (Mono Silence)

This page allows the user to set mainly the silence threshold and timing, for Audio Mono inside MPX Signal.

Mono Silence alarm and about 16 new Oids in the Audio Module branches and two new traps. This new alarm rises up when the audio levels "(LeftRms+RightRms)/2" is under the threshold for a time greater than the silence time. The threshold range is down to -60dBr. The measurement value is available with all input sources, but the alarms and traps are available for the Tun1 e Tun2 sources only. MIB L4-0 is required

TUNER-	TINER-1 - AUDTO MONO STI ENCE									
Channels Identification					Parameters Setting - Use Mouse (Drag or Wheel) to scroll					
	Radio Capital	87.50 MHz		5 sec	unmasked	-20.00 dBr	20 sec	10 sec	masked	disable

NAME	DESCRIPTION	NOTE
Chan	Channel Number	
Chan Label	Mnemonic name that can be applied to the Channel / Frequency	
Frequency	Frequency corresponding to the Channel, expressed in MHz	
Preset	String used by the configurator	
Scan Time	This value represents the time in s that the tuner remain on this frequency.	
Chan Mask	This control allow (or not) the channel to be under control.	
Thr	This is the minimum level to be considered <i>audio</i> . Under this threshold the audio is considered "silence".	
Time	This parameter is related to Silence Thr, after this <validation> the incoming audio is considered "Silence"</validation>	
Hold	is the time between the cessation of the alarm condition and alarm signaling finished	
Mask	It is possible to set, for each single parameter: unmasked, masked, severity-1, severity-2, severity-3, RFL2 mask.	
Email	In case the alarm/error raise up, the Wolf 2MS sends an email if <enable>. If is <disable> no action are taken.</disable></enable>	
Trap	In case the alarm/error raise up, the Wolf 2MS sends a trap if <enable>. If is <disable> no action are taken.</disable></enable>	
Label	This is the label/content that the user can choose to shows via email or in the trap in case of error.	



14.6.21 Audio SI (Stereo Imbalance)

This page allows the user to set mainly the audio imbalancement between channel Left and Channel Right threshold and timing, for Stereo Signal. Stereo Imbalance alarm and about 18 new Oids in the Audio Module branches and two new traps. This new alarm rises up when the audio levels if the unbalance "abs(RmsLeft-RmsRight)" averaged in the "AVG" time is greater than the threshold value more than validation time. The AVG is calculated using a single pole IIR filter with the constant time equal to the AVG time. That means that the AVG time is the time required to reach about the 70% of the final value. The measurement value is available with all input sources, but the alarms and traps are available for the Tun1 e Tun2 sources only. MIB L4-0 is required.

TIINEP-	INER-1 - AUDIO STEREO IMBALANCE												
TUNER													
Channels Identification					Para	neters Setting	- Use Mouse (D	rag or Wheel)	to scroll				
										Mask			
	Radio Capital	87.50 MHz		5 sec	unmasked	20 sec	10.00 dB	20 sec	10 sec	masked			
										masked			
										masked			
										masked			

NAME	DESCRIPTION	NOTE
Chan	Channel Number	
Chan Label	Mnemonic name that can be applied to the Channel / Frequency	
Frequency	Frequency corresponding to the Channel, expressed in MHz	
Preset	String used by the configurator	
Scan Time	This value represents the time in s that the tuner remain on this frequency.	
Chan Mask	This control allow (or not) the channel to be under control.	
Avg	This is the Average time considered for the Threshold and generate an alarm in case of Stereo Audio Imbalancement	
Validation	This parameter is related to Avg, after this <validation> the incoming audio is considered "Imbalanced" and an alarm will be delibered</validation>	
Hold	is the time between the cessation of the alarm condition and alarm signaling finished	
Mask	It is possible to set, for each single parameter: unmasked, masked, severity-1, severity-2, severity-3, RFL2 mask.	
Email	In case the alarm/error raise up, the Wolf 2MS sends an email if <enable>. If is <disable> no action are taken.</disable></enable>	
Trap	In case the alarm/error raise up, the Wolf 2MS sends a trap if <enable>. If is <disable> no action are taken.</disable></enable>	



 Label
 This is the label/content that the user can choose to shows via email or in the trap in case of error.

14.6.22 RDS PI (Program Identifier)

It is possible to specify up to 3 PI reference (as a 4 digit exadecimal value). If received PI doesn't match with anyone of this there is an alarm condition. It is possible to replace any of the four digits of PI fields with a wildcard (represented with an asterisk *).

TUNER-	UNER-1 - RDS PROGRAM IDENTIFICATION													
Channels Identification					Para	meters Setting	- Use Mouse	(Drag or Whe	el) to scroll					
	Radio deejay	88.70 MHz		5 sec	unmasked	5214	5000	5000	10 sec	10 sec				

NAME	DESCRIPTION	NOTE
Chan	Channel Number	
Chan Label	Mnemonic name that can be applied to the Channel / Frequency	
Frequency	Frequency corresponding to the Channel, expressed in MHz	
Preset	String used by the configurator	
Scan Time	This value represents the time in s that the tuner remain on this frequency.	
Chan Mask	This control allow (or not) the channel to be under control.	If it is masked, the channel is NOT under control
Ref 1	PI Code Reference Number -1	See Note reported below
Ref 2	PI Code Reference Number -2	See Note reported below
Ref 3	PI Code Reference Number -3	See Note reported below
Validation	This field contains the time of persistence necessary to the alarm to be considered "validated". For example, if the system launches an alarm, this alarm must remain "up" or "Active" for all the time of "Validation" to be considered a true alarm to avoid the detection of spikes.	
Hold	is the time between the cessation of the alarm condition and alarm signaling finished	
Mask	It is possible to set, for each single parameter: unmasked, masked, severity-1, severity-2, severity-3, RFL2 mask.	
Email	In case the alarm/error raise up, the Wolf 2MS sends an email if <enable>. If is <disable> no action are taken.</disable></enable>	



Тгар	In case the alarm/error raise up, the Wolf 2MS sends a trap if <enable>. If is <disable> no action are taken.</disable></enable>	
Label	This is the label/content that the user can choose to shows via email or in the trap in case of error.	

Note1

There is no control check on input field. Please pay attention to the correct typing. So, for example, a PI Ref. 5*00 will match with 5000, 5100, 5200, etc.

It is possible to replace more than one field at a time (up to all!). An example: PI Ref: 5^{***} matches with PI values from 5000 up to 5FFF.

Example:

The PI Code can be Ref1 or Ref2. If a PI Code is different from Ref1 and Ref2 and alarm is generated. This setting is usefull to broadcaster that change the PI Code during regional broadcasting.

Note2

It is possible to replace any of the four digits of PI fields with a wildcard (represented with an asterisk). So, for example, a PI Ref. 5*00 will match with 5000, 5100, 5200, etc.

It is possible to replace more than one field at a time (up to all!). An example: PI Ref: 5*** matches with PI values from 5000 up to 5FFF.

Please focus on comparison mechanism: received Pl will be compared first with RefMask1 and then with RefMask2, so this case:

Ref1=5*02 Ref2=54*2 PI=5712

raise an alarm, but

Ref1=5**2 Ref2=1234 PI=5712

matches.

Note3

The PI Code can be compared with Ref1 or Ref2. If a PI Code is different from Ref1 and Ref2 and alarm is generated. This setting is useful to broadcaster that change the PI Code during regional broadcasting.

Note4

If a Reference is empty no comparison with received PI occurs but only other RefMask is taken into account for a match. If each Reference Mask are empty no comparison with PI occurs at all.



14.6.23 RDS PS (Program Service)

If the Timeout field is =0, the system compares the received PS with 4 inserted Ref1, Ref2, ref3, Ref4. At least one of the 4 PS must match to don't generate an alarm. If no PS (Ref1, Ref2, ref3, Ref4) match an alarm is generated.

If the Timeout field is > 0 the system checks that there is a change of contents of the PS within the time limit specified by the Timeout field and the 4 PS (Ref1, Ref2, ref3, Ref4) otherwise an alarm is generated.

See next page for particular case and behaviour

TIMED		VICE													
TUNEK-															
	Channels Identif			meters Setting	- Use Mouse	(Drag or Whe	el) to scroll								
		Frequency				Ref 1									
		87.50 MHz				•••••									
		87.90 MHz				•••••									
	Radio deejay	88.70 MHz		5 sec	unmasked	DEEJAY	•••••	••••	•••••		60 se				
		89.20 MHz													

NAME	DESCRIPTION	NOTE
Chan	Channel Number	
Chan Label	Mnemonic name that can be applied to the Channel / Frequency	
Frequency	Frequency corresponding to the Channel, expressed in MHz	
Preset	String used by the configurator	
Scan Time	This value represents the time in s that the tuner remain on this frequency.	
Chan Mask	This control allow (or not) the channel to be under control.	If it is masked, the channel is NOT under control
Ref 1	PS name 1 to be monitored	See Note1 reported below
Ref 2	PS name 2 to be monitored	See Note1 reported below
Ref 3	PS name 3 to be monitored	See Note1 reported below
Ref 4	PS name 4 to be monitored	See Note1 reported below
CharRef	It is possible to configure one "special" character that, in case is present in the Ref field it is not taken in consideration in the checking.	
Timeout	If the Timeout field is > 0 the system checks that there is a change of contents of the PS within the time limit specified by the Timeout field and the 4 PS (Ref1, Ref2, ref3, Ref4) otherwise an alarm is generated.	
Hold	is the time between the cessation of the alarm condition and alarm signaling finished	



Mask	It is possible to set, for each single parameter: unmasked, masked, severity-1, severity-2, severity-3, RFL2 mask. PsRef masks accept empty (NULL) strings	
Email	In case the alarm/error raise up, the Wolf 2MS sends an email if <enable>. If is <disable> no action are taken.</disable></enable>	
Trap	In case the alarm/error raise up, the Wolf 2MS sends a trap if <enable>. If is <disable> no action are taken.</disable></enable>	
Label	This is the label/content that the user can choose to shows via email or in the trap in case of error.	

14.6.24 Note 1: Particular case for PS check

N°	DESCRIPTION	BEHAVIOUR
1	Timeout > 0 and PsRef1 (NOT empty) and PsRef2 = NULL (empty)	Wolf2MS search for PSRef1 into PS occurrence. It will can be a sub-string. This solution is useful when PS contains leading or tail blanks. After a time = Timeout if no match occurred, an alarm will be generated;
2	Timeout > 0 and PsRef1 = NULL (empty) and PsRef2 not empty	Wolf2Ms search for PsRef2 into PS. It will can be a sub-string occurrence. After a time = Timeout if no match occurred, an alarm will be generated;
3	Timeout > 0 and PsRef1 not empty and PsRef2 not empty	Wolf2Ms search for PsRef1 AND PsRef2 into PS occurrence. If no match of BOTH PsRef occurred into Timeout, an alarm will be generated;
4	Timeout = 0 and PsRef1 not empty and PsRef2 = NULL (empty)	Wolf2Ms search for PsRef1 into PS (it will can be a sub-string) occurrence. 1 second validation and hold time is required
5	Timeout = 0 and PsRef1 = NULL (empty) PsRef2 not empty	Wolf2Ms search for PsRef2 into PS (it will can be a sub-string) occurrence. 1 second validation and hold time is required
6	Timeout > 0 and PsRef1 = NULL (empty) PsRef2 = NULL (empty)	Wolf2Ms search for PS content changes (useful for PS Scroll monitoring) into Timeout.
7	Timeout = 0 PsRef1=NULL (empty) PsRef2 = NULL (empty)	No action taken into account.
8	Upper Apex. What does it mean?	The upper apex character appears when some words are inserted in the Ref field box. This is used ONLY to count the number of words (up to 8) inserted in the field.



14.6.25 Note 2: PS Settings

As already specified for the alarms driven by an missing truth condition, the invalid condition is often not related to a precise timing. In this case if at the end of the timeout all conditions required aren't verified the alarm is raised and the start of the failure is placed the second after the last valid condition has been verified. The Ps in the varibind is sampled in this moment and so can be even a PS valid. Please consider this behavior definitive. About the alarm triggering rules, please read again the matching criteria for rising an alarm.

Wolf2MS can perform various type of checks on received PS. As can be seen in fig. below, there are four Reference Masks (set by default to '*******'), a CharRef (an asterisk by default), a Timeout field and an Hold field.

	Monitori	ing			Settin	gs						
f	Tuner-1	l Data Tu	iner-2 Data		s	etup	Admin	Tuner-1	Tuner	-2 Au	oibu	👤 Logout
GLOBAL	RE	RF	RFut	RF	DEV	PILOT	PILOT	RDS,	RDS	AUDIO DEV	AUDIO	AUDIO.
AUDIO MS	AUDIO _{SI}	PI	PS	TP	ТА	ст	RT	AF	EON	IH	тмс	RT+
ODA ₁	ODA 2	BLER	GROUPS	FILTERS								
TIINEP-1		DAM SED	ЛСЕ									
TONER I	Char	nels Identifi	ication				Parameters S	etting - Use Mo	use (Drag or \	Wheel) to scro		
Chan	Chan La	ibel	Frequency	Preset	Scan Time	Chan Mas	sk Ref	1 Ref 2	Ref 3	Ref 4	Wild C	har Timeo
1			87.50 MHz			unmaske	ed *****	••• ••••	•• •••••	•• •••••	•• •	60 se
2			87.90 MHz			unmaske	ed *****	••• ••••	•• •••••	•• •••••	•• •	60 se
3	Radio de	ejay	88.70 MHz		5 sec	unmaske	ed DEEJ	AY *****	•• •••••	•• •••••	•• •	60 se
4			89.20 MHz			unmaske	ed *****				•• •	60 se

System can compare received PS with UP TO four PS Reference Masks. If a Ref Mask is empty no check is performed for that field. CharRef field specify a character (that can be chosen and modified by user) that can be used into PS Ref Masks as a WILDCARD. So, for example, if CharRef='*' and PS Ref 1 = "RADIO***" both received PS = "RADIOABC" that "RADIO123" match with Ref 1. Please pay attention to PS Ref field length. It can be from 1 up to 8 chars long.

Further inserted chars will be ignored. If a 8-chars long PS Ref is specified, the system check for a precise match with received PS (of course taking into account any wildcard occurrence), otherwise PS Ref is considered as a sub-string to be searched for into received PS (wildcard rules are still true). There are four types of operative scenario:

1. At least one PS Ref not empty. Timeout > 0.

System compares received PS with all not empty PS and it search for at least a match with ALL not empty Ref mask in a time under Timeout value. Example: Ref1="RADIO1", Ref2="RADIO2", Ref3="RADIO3", Ref4="" (empty), Timeout=45 sec. Received PS must change in time and should contain "RADIO1", "RADIO2" and "RADIO3" (not necessarily in this 3/3 order). System should recognize at least an occurrence of all three values in 45 seconds or an alarm condition raises up.

2. At least one PS Ref not empty. Timeout=0.

System compares received PS with all not empty PS Ref (sub)string. If a match with anyone of them is found, no alarm condition is set, otherwise alarm rises up instantaneously.

3. ALL Ps Ref empty. Timeout > 0.

System checks only for PS content variations (in a time not exceeding Timeout). This is useful for PS scrolling monitor.

4. ALL Ps Ref empty. Timeout=0.

No check is performed by system. This is not a 'real' operative mode. NOTE: Ref Mask formed by 8 wildcards will match anyway.



14.6.26 **RDS TP (Traffic Program)**

TIINED_		DAM							<u> </u>	1
TUNEK-	I - KUS IKAFFIC PROG	КАМ								
Channels Identification Parameters Setting - Use Mouse (Drag or W								Drag or Whee	el) to scroll	
										Email
										disable
										disable
	Radio deejay	88.70 MHz		5 sec	unmasked	off	10 sec	10 sec	masked	disable
										disable

NAME	DESCRIPTION	NOTE
Chan	Channel Number	
Chan Label	Mnemonic name that can be applied to the Channel / Frequency	
Frequency	Frequency corresponding to the Channel, expressed in MHz	
Preset	String used by the configurator	
Scan Time	This value represents the time in s that the tuner remain on this frequency.	
Chan Mask	This control allow (or not) the channel to be under control.	If it is masked, the channel is NOT under control
Ref (Reference)	TP indicates the current value of the Traffic Program. The alarm can be triggered by a value other than the one set in the mask Ref or to a non-variation of more than timer set	
Validation	This field contains the time of persistence necessary to the alarm to be considered "validated". For example, if the system launches an alarm, this alarm must remain "up" or "Active" for all the time of "Validation" to be considered a true alarm to avoid the detection of spikes.	
Hold	is the time between the cessation of the alarm condition and alarm signaling finished	
Mask	It is possible to set, for each single parameter: unmasked, masked, severity-1, severity-2, severity-3, RFL2 mask.	
Email	In case the alarm/error raise up, the Wolf 2MS sends an email if <enable>. If is <disable> no action are taken.</disable></enable>	
Trap	In case the alarm/error raise up, the Wolf 2MS sends a trap if <enable>. If is <disable> no action are taken.</disable></enable>	
Label	This is the label/content that the user can choose to shows via email or in the trap in case of error.	



14.6.27 RDS TA (Traffic Announcement)

TUNER-	1 - RDS TRAFFIC ANNO	UNCEMENT						
		Uncerneitti						
	Channels Identifi				meters Setting - Use Mo	ouse (Drag or Wheel) to		
							Mask	
							masked	
							masked	
	Radio deejay	88.70 MHz	5 sec	unmasked	60 sec	1440 min	masked	disable
							masked	

NAME	DESCRIPTION	NOTE
Chan	Channel Number	
Chan Label	Mnemonic name that can be applied to the Channel / Frequency	
Frequency	Frequency corresponding to the Channel, expressed in MHz	
Preset	String used by the configurator	
Scan Time	This value represents the time in s that the tuner remain on this frequency.	
Chan Mask	This control allow (or not) the channel to be under control.	If it is masked, the channel is NOT under control
MaxOn Timeout	When TA is ON for a time greater than <i>MaxOnTimeout</i> value, an alarm is reported. timeout = 0 no alarms are reported	Value expressed in Seconds
NoVarTimeout	This parameter launches an alarm if there is not a change in the TA for a certain period. This NoVarTimeout is useful to monitor the radio stations that are using TA.	Value expressed in minutes
Mask	It is possible to set, for each single parameter: unmasked, masked, severity-1, severity-2, severity-3, RFL2 mask.	
Email	In case the alarm/error raise up, the Wolf 2MS sends an email if <enable>. If is <disable> no action are taken.</disable></enable>	
Тгар	In case the alarm/error raise up, the Wolf 2MS sends a trap if <enable>. If is <disable> no action are taken.</disable></enable>	
Label	This is the label/content that the user can choose to shows via email or in the trap in case of error.	



14.6.28 RDS CT (Real Time Clock)

TUNER-	TUNER-1 - RDS CLOCK AND TIME									
	Channels Identifi	cation			Para	meters Setting	- Use Mouse (Drag or Wheel) to	scroll	
						Timeout			Email	Trap
						130 sec			disable	disabl
						130 sec			disable	disabl
	Radio deejay	88.70 MHz		5 sec	unmasked	130 sec	60 sec	masked	disable	disabl
						130 sec			disable	disabl

NAME	DESCRIPTION	NOTE
Chan	Channel Number	
Chan Label	Mnemonic name that can be applied to the Channel / Frequency	
Frequency	Frequency corresponding to the Channel, expressed in MHz	
Preset	String used by the configurator	
Scan Time	This value represents the time in s that the tuner remain on this frequency.	
Chan Mask	This control allow (or not) the channel to be under control.	If it is masked, the channel is NOT under control
Timeout	Timeout value for CT	See explanation above
Max Offset	The parameter "Max Offset" defines the maximum allowed time difference between CT and Wolf2MS time in seconds.	See explanation above
Mask	It is possible to set, for each single parameter: unmasked, masked, severity-1, severity-2, severity-3, RFL2 mask.	
Email	In case the alarm/error raise up, the Wolf 2MS sends an email if <enable>. If is <disable> no action are taken.</disable></enable>	
Тгар	In case the alarm/error raise up, the Wolf 2MS sends a trap if <enable>. If is <disable> no action are taken.</disable></enable>	
Label	This is the label/content that the user can choose to shows via email or in the trap in case of error.	



14.6.29 Particular case for RDS CT - Real Time Clock

For the Real Time Clock there is a double check:

Case1 – NO INFORMATION RECEIVED/Timeout: if no time information are received from 4A group (CT) for a period greater than *Timeout* value an error is reported.

Case2 – Max Offset: if the received time (inside the 4A group CT) is different than the local Wolf 2MS time for a *MaxOffset* value, an error is reported.



Note

A Timeout value lower than 60 has no sense, due to the fact that the group 4A is automatically encoded by RDS Encoder.



14.6.30 RDS RT (RadioText)

TUNER-	TUNER-1 - RDS RADIOTEXT									
	Channels Identifi			Para	meters Setting	- Use Mouse	(Drag or Wheel) to	scroll		
										Trap
										disabl
										disabl
	Radio deejay	88.70 MHz		5 sec	unmasked	60 sec	10 sec	masked	disable	disabl
										disabl

NAME	DESCRIPTION	NOTE
Chan	Channel Number	
Chan Label	Mnemonic name that can be applied to the Channel / Frequency	
Frequency	Frequency corresponding to the Channel, expressed in MHz	
Preset	String used by the configurator	
Scan Time	This value represents the time in s that the tuner remain on this frequency.	
Chan Mask	This control allow (or not) the channel to be under control.	If it is masked, the channel is NOT under control
Timeout	The Timeout refers to A/B Flag toggle. When the time between two toggle is greater than Timeout value an alarm is generated.	See important note below
Hold	is the time between the cessation of the alarm condition and alarm signaling finished	
Mask	It is possible to set, for each single parameter: unmasked, masked, severity-1, severity-2, severity-3, RFL2 mask.	
Email	In case the alarm/error raise up, the Wolf 2MS sends an email if <enable>. If is <disable> no action are taken.</disable></enable>	
Тгар	In case the alarm/error raise up, the Wolf 2MS sends a trap if <enable>. If is <disable> no action are taken.</disable></enable>	
Label	This is the label/content that the user can choose to shows via email or in the trap in case of error.	

Important Note: If the timeout = 0 is monitored the presence of groups 2A.



14.6.31 RDS AF (Alternative Frequency)

For Alternative Frequencies there is only a presence check. If in the RDS there are no AF's an error is reported.

TUNER-:	TUNER-1 - RDS ALTERNATIVE FREQUENCIES											
Channels Identification				Parameters Setting - Use Mouse (Drag or Wheel) to scroll								
Chan	Chan Label	Frequency	Preset	Scan Time	Chan Mask	Validation	Hold	Mask	Email	Trap		
		87.50 MHz							disable	disab		
		87.90 MHz							disable	disab		
	Radio deejay	88.70 MHz		5 sec	unmasked	10 sec	10 sec	masked	disable	disat		
		89.20 MHz							disable	disab		

NAME	DESCRIPTION	NOTE
Chan	Channel Number	
Chan Label	Mnemonic name that can be applied to the Channel / Frequency	
Frequency	Frequency corresponding to the Channel, expressed in MHz	
Preset	String used by the configurator	
Scan Time	This value represents the time in s that the tuner remain on this frequency.	
Chan Mask	This control allow (or not) the channel to be under control.	If it is masked, the channel is NOT under control
Validation	This field contains the time of persistence necessary to the alarm to be considered "validated". For example, if the system launches an alarm, this alarm must remain "up" or "Active" for all the time of "Validation" to be considered a true alarm to avoid the detection of spikes.	
Hold	is the time between the cessation of the alarm condition and alarm signaling finished	
Mask	It is possible to set, for each single parameter: unmasked, masked, severity-1, severity-2, severity-3, RFL2 mask.	
Email	In case the alarm/error raise up, the Wolf 2MS sends an email if <enable>. If is <disable> no action are taken.</disable></enable>	
Тгар	In case the alarm/error raise up, the Wolf 2MS sends a trap if <enable>. If is <disable> no action are taken.</disable></enable>	
Label	This is the label/content that the user can choose to shows via email or in the trap in case of error.	



14.6.32 RDS EON (Enhance Other Network)

For EON there is only a presence check between group 14A and the Timeout. If in the RDS there are no passage of group 14A in relation to the Timeout an error is reported.

TUNER-:	TUNER-1 - RDS ENANCED OTHER NETWORKS INFORMATIONS											
Channels Identification					Parameters Setting - Use Mouse (Drag or Wheel) to scroll							
										Trap		
										disab		
										disab		
	Radio deejay	88.70 MHz		5 sec	unmasked	60 sec	10 sec	masked	disable	disab		
										disab		

NAME	DESCRIPTION	NOTE
Chan	Channel Number	
Chan Label	Mnemonic name that can be applied to the Channel / Frequency	
Frequency	Frequency corresponding to the Channel, expressed in MHz	
Preset	String used by the configurator	
Scan Time	This value represents the time in s that the tuner remain on this frequency.	
Chan Mask	This control allow (or not) the channel to be under control.	If it is masked, the channel is NOT under control
Timeout	The timeout refers to 14A group presence, if no data are passing for a timinig before timeout, and alarms is reported	
Hold	is the time between the cessation of the alarm condition and alarm signaling finished	
Mask	It is possible to set, for each single parameter: unmasked, masked, severity-1, severity-2, severity-3, RFL2 mask.	
Email	In case the alarm/error raise up, the Wolf 2MS sends an email if <enable>. If is <disable> no action are taken.</disable></enable>	
Тгар	In case the alarm/error raise up, the Wolf 2MS sends a trap if <enable>. If is <disable> no action are taken.</disable></enable>	
Label	This is the label/content that the user can choose to shows via email or in the trap in case of error.	



14.6.33 **RDS IH (In-House)**

For IH there is only a presence check between group 6A and the Timeout. If in the RDS there are no passage of group 6A in relation to the Timeout an error is reported.

TUNER-1	L - RDS IN HOUSE APP	LICATIONS									
Channels Identification				Parameters Setting - Use Mouse (Drag or Wheel) to scroll							
		Frequency									
		87.50 MHz									
		87.90 MHz									
	Radio deejay	88.70 MHz		5 sec	unmasked	60 sec	60 sec	10 sec	masked		
		89.20 MHz									

NAME	DESCRIPTION	NOTE
Chan	Channel Number	
Chan Label	Mnemonic name that can be applied to the Channel / Frequency	
Frequency	Frequency corresponding to the Channel, expressed in MHz	
Preset	String used by the configurator	
Scan Time	This value represents the time in s that the tuner remain on this frequency.	
Chan Mask	This control allow (or not) the channel to be under control.	If it is masked, the channel is NOT under control
Data Timeout	The timeout refers to 6A group presence.	
Group Timeout	The group timeout refers to 6A group presence, if no data are passing for a timinig before timeout, and alarms is reported	
Mask	It is possible to set, for each single parameter: unmasked, masked, severity-1, severity-2, severity-3, RFL2 mask.	
Email	In case the alarm/error raise up, the Wolf 2MS sends an email if <enable>. If is <disable> no action are taken.</disable></enable>	
Тгар	In case the alarm/error raise up, the Wolf 2MS sends a trap if <enable>. If is <disable> no action are taken.</disable></enable>	
Label	This is the label/content that the user can choose to shows via email or in the trap in case of error.	



14.6.34	RDS TMC (Traffic Message Channel)
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П

TIINED-	TINED-1 - POS TRAFFIC MESSAGE CHANNEL											
TUNER												
Channels Identification				Parameters Setting - Use Mouse (Drag or Wheel) to scroll								
						Timeout Reg.				Email		
						60 sec				disable		
						60 sec				disable		
	Radio deejay	88.70 MHz		5 sec	unmasked	60 sec	60 sec	10 sec	masked	disable		
						60 sec				disable		

NAME	DESCRIPTION	NOTE
Chan	Channel Number	
Chan Label	Mnemonic name that can be applied to the Channel / Frequency	
Frequency	Frequency corresponding to the Channel, expressed in MHz	
Preset	String used by the configurator	
Scan Time	This value represents the time in s that the tuner remain on this frequency.	
Chan Mask	This control allow (or not) the channel to be under control.	If it is masked, the channel is NOT under control
<i>Timeout Reg and Timeout Data</i>	Particular attention is placed on TMC and RT+ and in addition two other services that could also be generic ODA TDC and IH. The Wolf 2MS controls the recording of the service through the group 3A and monitored the transmission of data over the corresponding group ODA recorded. For this purpose are provided two timeout, one on the arrival of logging messages of the service and one on the packets containing the data. When you cross the threshold of either an alarm is triggered on the service.	
Mask	It is possible to set, for each single parameter: unmasked, masked, severity-1, severity-2, severity-3, RFL2 mask.	
Email	In case the alarm/error raise up, the Wolf 2MS sends an email if <enable>. If is <disable> no action are taken.</disable></enable>	
Тгар	In case the alarm/error raise up, the Wolf 2MS sends a trap if <enable>. If is <disable> no action are taken.</disable></enable>	
Label	This is the label/content that the user can choose to shows via email or in the trap in case of error.	



14.6.35 **RDS RT+ (Radio Text Plus Service)**

TUNER-1 - RDS RADIO TEXT PLUS											
Channels Identification				Parameters Setting - Use Mouse (Drag or Wheel) to scroll							
						Timeout Reg.	Timeout Data			Email	
						60 sec	60 sec			disable	
						60 sec	60 sec			disable	
	Radio deejay	88.70 MHz		5 sec	unmasked	60 sec	60 sec	10 sec	masked	disable	
						60 sec	60 sec			disable	

NAME	DESCRIPTION	NOTE
Chan	Channel Number	
Chan Label	Mnemonic name that can be applied to the Channel / Frequency	
Frequency	Frequency corresponding to the Channel, expressed in MHz	
Preset	String used by the configurator	
Scan Time	This value represents the time in s that the tuner remain on this frequency.	
<i>Timeout Reg and Timeout Data</i>	Particular attention is placed on TMC and RT+ and in addition two other services that could also be generic ODA TDC and IH. The Wolf 2MS controls the recording of the service through the group 3A and monitored the transmission of data over the corresponding group ODA recorded.For this purpose are provided two timeout, one on the arrival of logging messages of the service and one on the packets containing the data.When you cross the threshold of either an alarm is triggered on the service.	
Mask	It is possible to set, for each single parameter: unmasked, masked, severity-1, severity-2, severity-3, RFL2 mask.	
Email	In case the alarm/error raise up, the Wolf 2MS sends an email if <enable>. If is <disable> no action are taken.</disable></enable>	
Trap	In case the alarm/error raise up, the Wolf 2MS sends a trap if <enable>. If is <disable> no action are taken.</disable></enable>	
Label	This is the label/content that the user can choose to shows via email or in the trap in case of error.	



14.6.36 **RDS ODA1 and ODA2**

TUNER-1	TUNER-1 - RDS GENERIC ODA 1											
	Channels Identifi	cation			Parameters Setting - Use Mouse (Drag or Wheel) to scroll							
				Scan Time				Timeout Data				
				5 sec				60 sec				
				5 sec				60 sec				
	Radio deejay	88.70 MHz		5 sec	unmasked	0000	60 sec	60 sec	10 sec	masked		
				5 sec				60 sec				
TUNER-	1 - RDS GENERIC ODA	2 –										
	Channels Identif	ication		Parameters Setting - Use Mouse (Drag or Wheel) to scroll								
	Chan Label	Frequency					Timeout Reg.	Timeout Data				
	Radio Capital	87.50 MHz					60 sec	60 sec				
	Punto Radio	87.90 MHz					60 sec	60 sec				
3	Punto Radio Radio deejay	87.90 MHz 88.70 MHz		5 sec 5 sec	unmasked unmasked	0000 0000	60 sec 60 sec	60 sec 60 sec	10 sec 10 sec	masked masked		

NAME	DESCRIPTION	NOTE
Chan	Channel Number	
Chan Label	Mnemonic name that can be applied to the Channel / Frequency	
Frequency	Frequency corresponding to the Channel, expressed in MHz	
Preset	String used by the configurator	
Scan Time	This value represents the time in s that the tuner remain on this frequency.	
Chan Mask	This control allow (or not) the channel to be under control.	If it is masked, the channel is NOT under control
Timeout Reg and Timeout Data	The system can check two registered ODA service in addition to TMC and RT+. These services can be of any type. The behavior is the same seen for TMC.	
Mask	It is possible to set, for each single parameter: unmasked, masked, severity-1, severity-2, severity-3, RFL2 mask.	
Email	In case the alarm/error raise up, the Wolf 2MS sends an email if <enable>. If is <disable> no action are taken.</disable></enable>	
Trap	In case the alarm/error raise up, the Wolf 2MS sends a trap if <enable>. If is <disable> no action are taken.</disable></enable>	
Label	This is the label/content that the user can choose to shows via email or in the trap in case of error.	



14.6.37 **RDS BLER (Block Error Ratio)**

TIINER-		OLTO							
TONER	E ROS BEOCK ERROR								
	Channels Identifi	cation		Parar	meters Setting	- Use Mouse (D	rag or Wheel)	to scroll	
									Mask
									masked
									masked
	Radio deejay	88.70 MHz	5 sec	unmasked	20 %	5 %	1 sec	1 sec	masked
									masked

NAME	DESCRIPTION	NOTE
Chan	Channel Number	
Chan Label	Mnemonic name that can be applied to the Channel / Frequency	
Frequency	Frequency corresponding to the Channel, expressed in MHz	
Preset	String used by the configurator	
Scan Time	This value represents the time in s that the tuner remain on this frequency.	
Chan Mask	This control allow (or not) the channel to be under control.	If it is masked, the channel is NOT under control
ΜΑΧ	Particular attention is placed on TMC and RT+ and in addition two other services that could also be generic ODA TDC and IH. The Wolf 2MS controls the recording of the service through the group 3A and monitored the transmission of data over the corresponding group ODA recorded.For this purpose are provided two timeout, one on the arrival of logging messages of the service and one on the packets containing the data.When you cross the threshold of either an alarm is triggered on the service.	
Hysteresis level	This value can be set as range of Hysteresis for the measurement. Hysteresis is the dependence of a system not only on its current environment but also on its past environment.	
Validation	This field contains the time of persistence necessary to the alarm to be considered "validated". For example, if the system launches an alarm, this alarm must remain "up" or "Active" for all the time of "Validation" to be considered a true alarm to avoid the detection of spikes.	
Hold	is the time between the cessation of the alarm condition and alarm signaling finished	
Mask	It is possible to set, for each single parameter: unmasked, masked, severity-1, severity-2, severity-3, RFL2 mask.	
Email	In case the alarm/error raise up, the Wolf 2MS sends an email if <enable>. If is <disable> no action are taken.</disable></enable>	
Trap	In case the alarm/error raise up, the Wolf 2MS sends a trap if <enable>. If is <disable> no action are taken.</disable></enable>	



Label	This is the label/content that the user can choose to shows via email or in the trap in case of error.	

14.6.38 **RDS Group Transmission Alarm**

An alarm is now included to monitor the transmitted Rds groups. A mask allows to define all groups present in the transmission and an alarm is raised if after the timeout one or more groups hasn't been received. The Group Mask is an 32bits integer in HEX. Every bit in this mask is referred to a Rds group. The Group Mask bit0 is the 0A group, the bit1 is the 0B group, the bit2 is the 1A and so on Example: 11 (0A and 2A)

DEVIATION ·	DEVIATION ALARM							SLC —					
	Audio - MP				RDS				SLC1-TMC	SLC2-paging	SLC3-Lang.Codes		
56.97 kHz	46.66		6.28		4.03								
	Mono	E.MpxPw		Peak-R	RMS-L	RMS-R		SLC4 SLC5 SLC6-Broad.use SLC7-EWS Ch.					
0.6 de	-9.0 dBr	5.2 dB	- 3.7 dB	r - 3.2 dB	- 8.4 dBr	-9.6 dBr							
RDS DATA –			RM					RT	AL	ARM			
	PS			СТ	тр	TA						A/B	
5123	FalconXT		074 9	ок	ON	OFF		I'll Be There For You	/ OnAir Now by Bon Jo	<i>r</i> i		1	
	DI				FILTERS	GROUPS		Radio TEXT service by	y Falcon XT-R			0	
MUSIC	STEREO ST	TATIC	NO_PRO		ок	ок		PIN & PTYN –					
	AF				IH								
ок	ОК		ОК					PIN-DATE	PIN-HOUR	PIN-MINUTE	PTYN		
	RT+				ODA-2								
								RDS GROUPS	AL/	ARM			
	EG				LSN			GROUP-DATA					
OFF	OFF		OFF		000		0A 2A 4A 14A						

Available the status variable and the trap as well as all parameters to control the state (Timeout, Validation, Hold and Mask)

Wolf2MS	;											GAXEL
	Monitori	ng			Settin	gs						
↑	Tuner-1	Data Tu	iner-2 Data		s	ietup	Admin	Tuner-1	Τι	uner-2	Audio	👤 Logout
GLOBAL	RF L2	RFu	RF _{H1}	RF _{HZ}	DEV	PILOT	PILOT	RDSL	RDS	AUDIO DEV	AUDIOL	AUDIO _R
AUDIO MS		PI	PS	ТР	ТА	ст	RT	AF	EON	ін	тмс	RT+
ODA1	ODA ₂	BLER	GROUPS	FILTERS								
TUNER-1	- RDS GROL	JPS TRANS	MISSION									
	Chan	nels Identifi	cation				Parameters Se	etting - Use M	ouse (Drae	or Wheel) to sc	roll	
Chan	Chan La	bel	Frequency	Preset	Scan Time	Chan Ma	sk Grou	ps Mask	Timeout	Validation	Hold	Mask
1	Rai Radi	o 1	89.50 MHz	Preset-1	2 sec	unmask	ed 000	00001	60 sec	10 sec	10 sec	masked
2	Rai Radi	o 2	89 00 MHz	Preset-2	3 sec	maske	d 000	00001	60 sec	10 sec	10 sec	masked
							_	_			_	
25	Radio Gamm	1a 93.00	93.00 MHz	Preset-25	2 sec	unmask	ed 000	00001	60 sec	10 sec	10 sec	masked
26	Unknow 1	05.00	105.00 MHz	Preset-26	3 sec	maske	d 000	00001	60 sec	10 sec	10 sec	masked
27	Local Axel	100.8	100.80 MHz	Preset-27	4 sec	unmask	ed 100	00111	60 sec	10 sec	10 sec	unmasked
28	Chan28 La	abel	100.00 MHz	Preset-28	5 sec	maske	d 000	00001	60 sec	10 sec	10 sec	masked
29	Unan29 La	aber	NUCLEO WICZ	Preset-29	z sec	unmask	ea UUL	100001	ov sec	TO SEC	Let NEC	masked
8°	HEX	7°HEX	(6°HEX	5°HEX		4°HEX	3°HE	Х	2°HEX	1°	HEX
4°bit 3°bit	t 2°bit 1°bit 4°	bit 3°bit 2°bi	t 1°bit 4°bit 3	bit 2°bit 1°bit	9B 9A 8B 4°bit 3°bit 2°bi	it 1°bit 4°bit	7A 6B 6A 3°bit 2°bit 1°bit	5B 5A 4 4°bit 3°bit 2	B 4A 3	3B 3A 2B 3 4°bit 3°bit 2°bit 1	ZA TB 1A 1°bit 4°bit 3°b	t 2°bit 1°bit
0 0 HE	0 1 0 X=1	HEX=0	0 0	0 0 0 HEX=0	0 0 0 HEX=0	0 0	0 0 0 HEX=0	0 0 HEX	0 1 =1	0 0 0 HEX=1	1 0 0 H	0 1 EX=1

Example: Check 11A,7A,5A,1B,1A,0A =0040440D



L

Check 15A,14A,4A,0A=50000101

RDS DATA —	AL	ARM			RT								
	PS	BLER	ст	тр	TA						A/B		
5123	k	054 %	ок	ON	OFF		Spaceman / OnAir No	ow by 4 Non Blondes			1		
	DI	ртү		FILTERS	GROUPS		Always / OnAir Now b	by Bon Jovi			0		
MUSIC	STEREO STATIC	NO_PROG		ок	NO		PIN&PTYN -						
	AF	EON		ін									
ОК	ОК	ОК					PIN-DATE	PIN-HOUR	PIN-MINUTE	PTYN			
тмс	RT+	ODA-1		ODA-2									
							RDS GROUPS	AL	ARM				
LA	EG	ILS		LSN			GROUP-DATA						
OFF	OFF	OFF		000		0A 2A 4A 14A							

25	Radio Gamma 93.00	93.00 MHz	Preset-25	2 sec	unmasked	0000001	60 sec	10 sec	10 sec	masked
	Local Axel 100.8	100.80 MHz	Preset-27	4 sec	unmasked	50000111	60 sec	10 sec	10 sec	unmasked

	8°ŀ	HEX			_7°⊦	IEX			6°⊦	IEX			5°⊦	IEX			4°H	ΕX			_3°⊦	ΕX			2°⊦	IEX			1°H	EX	
15B	15A	14B	14A	13B	13A	12B	12A	11B	11A	10B	10A	9B	9A	8B	8A	7B	7A	6B	6A	5B	5A	4B	4A	3B	3A	2B	2A	1B	1A	0B	0A
4°bit	3°bit	2°bit	1°bit																												
0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	1
	HE	X=5			HE	X=0	-		HE	X=0			HE	X=0			HE)	K=0			HE	K=1			HE	X=1			HE	K=1	



14.6.39 **RDS FILTERS**

TUNER-:	1 - RDS GENERIC FILTE	RS				
	Channels Identifi	cation		Parameters Setting - Us	e Mouse (Drag or Wheel) to scroll	
						Block3 Masl
	Radio Capital	87.50 MHz		X0000000000000000	X00000000000000	X000000000X
	Punto Radio	87.90 MHz		X0000000000000000	X000000000000000	X000000000X
	Radio deejay	88.70 MHz		X00000000000000X	x000000000000000	x000000000x
	RMC	89.20 MHz		XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx	000000000000000000000000000000000000000

NAME	DESCRIPTION	NOTE
Chan	Channel Number	
Chan Label	Mnemonic name that can be applied to the Channel / Frequency	
Frequency	Frequency corresponding to the Channel, expressed in MHz	
Preset	String used by the configurator	

Foreword: How does generic RDS Data filter works.

Block Masks Mask Ref consist of 16 symbols, each referring to a bit of the data block of information



Figure 8 - Structure of the baseband coding

The symbols allowed are 0, 1, X, V.



TIINED-	2 - POS CENEDIC ETI TE	DC			
TUNER	Z KUJ GLNEKIC HILH	. N .5			
	Channels Identif	ication		Parameters Setting - Us	e Mouse (Drag or Wheel) to scroll
Chan		Frequency	Channel Ref		
		95.30 MHz	1	X0000000000000000	X000000000000000
2	Chan2 Label	100.50 MHz	1	X0000000000000000	X0000000000000X
		87.50 MHz	1	X00000000000000000	X00000000000000
		87.50 MHz	1	X00000000000000000	X000000000000000
		87.50 MHz	1	x0000000000000000000000000000000000000	x000000000000000000
		87.50 MHz	1	X00000000000000X	X00000000000000

If we set the mask to a specific bit to 0 or 1, it means that we expect the fixed value in the block (see eg. PI in Block1). If even one or more of these masks do not match after Timeout + Validation Time, an alarm is generated.

If you specify an X for a bit generic, it means that this bit it's masked and its value is not considered.

Finally, if you specify a V for a bit, we expect that, in the time specified by the timeout, there has been a change of state. The length of the mask must be 16 characters. If the length is less will not be accepted if the items are cut higher than 16.

It's possible to associated with one or more filters to a specific channel, simply by associating the index of the channel to the Channel Ref required. For example, here the filters tuned to the channel (the no. 2) are the n. 4 and n. 7:

TUNER-2 - RDS GENERIC FILTERS							
Channels Identification					Parameters Setting - Us	e Mouse (Drag or Wheel) to scroll	
Chan	Chan Label	Frequency				Block2 Mask Ref	Block3 Masl
1	Chan1 Label	95.30 MHz			X0000000000000X	X0000000000000X	X000000000X
2	Chan2 Label	100.50 MHz			X0000000000000X	X000000000000X	X000000000X
3	Chan3 Label	87.50 MHz			X0000000000000X	X000000000000X	x000000000x
4	Chan4 Label	87.50 MHz			X00000000000000X	X000000000000X	x000000000x
5	Chan5 Label	87.50 MHz			X0000000000000X	X0000000000000X	X000000000X
6	Chan6 Label	87.50 MHz			X0000000000000X	X000000000000X	X000000000X
7	Chan7 Label	87.50 MHz			X000000000000000	x0000000000000000	x000000000x
8	Chan8 Label	87.50 MHz			XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	X0000000000000X	X000000000X

You can then bind up to 32 filters to a specific channel, or distribute it freely.

IMPORTANT NOTE

7

In the following examples the ChanRef = 4 because the tuned station is in this specific case on channel 4. Where it is different, this has to be changed congruently.

In all the examples that follow for generality do not check a specific PI, clearly programming the block 1 for a specific PI, the filter also considers the IP than simply the service.



14.6.40 Example 1 - PI with regional variations

Let's see how to set a filter on the data received in order to check for the presence of regional variations.



Figure 12 - Basic tuning and switching information - Type 0A group

Then it sets a filter (eg. number 1): ChanRef = 4

Block1Ref = XXXXVVVVXXXXXXXX (we want to verify the change of the IP assigned to regional variations, ignoring the rest)

Block2Ref = xxxxxxxxxxxxxxx (do not take care of the group: the PI is always transmitted)

Block3Ref = xxxxxxxxxxx (we do not treat)

Block4Ref = xxxxxxxxxxx (we do not treat)

Timeout = 43200s (time window (1 day) in which I expect the change in the PI)

Validation= 10s Hold = 10s Mask = Unmasked Trap = Enabled

This test allows to verify if at least once a day the PI regional variable changes

With PI = 5124

Country Group		Coverage Area	Ref	Code	
PI: IT, JO, SK	-	INTERNATIONAL 💌	036	5124	

After the set time, if the IP does not vary (or varies incorrectly), you have an alarm on the filter:

RDS DATA —					
5124	RAI	000 %	ОК %	ON	ON
				FILTERS	
MUSIC	STEREO STATIC	NO_PROG		NO	ОК
ОК	NO	ОК		ок	
OFF	OFF	OFF		000	



Logger can also be seen on the trap with the index of the filter that has tripped:

TRAP EVENT LOG —		STATUS					
Refresh	Download						
[2014-05-07 13:20:41] T	rap: TUN1 RDS GROUP FILTER	Chan: 4	Status: 0(OK)	FilterIndex:7	Time: 2014-05-07 13:20:41		^
[2014-05-07 13:22:03] T	rap: TUN1 RDS GROUP FILTER	Chan: 4	Status: 1(ALRM)	FilterIndex:16	Time: 2014-05-07 13:21:54		
[2014-05-07 13:23:19] T	rap: TUN1 RDS GROUP FILTER	Chan: 4	Status: 0(OK)	FilterIndex:16	Time: 2014-05-07 13:23:10		
[2014-05-07 13:26:43] T	rap: TUN1 RDS GROUP FILTER	Chan: 4	Status: 1(ALRM)	FilterIndex:16	Time: 2014-05-07 13:26:34		
[2014-05-07 13:27:06] T	rap: TUN1 RDS GROUP FILTER	Chan: 4	Status: 0(OK)	FilterIndex:16	Time: 2014-05-07 13:26:57		
[2014-05-07 13:31:07] T	rap: TUN1 RDS GROUP FILTER	Chan: 4	Status: 1(ALRM)	FilterIndex:16	Time: 2014-05-07 13:30:58		
[2014-05-07 14:45:42] T	rap: TUN1 RDS GROUP FILTER	Chan: 4	Status: 0(OK)	FilterIndex:16	Time: 2014-05-07 14:45:42		
[2014-05-07 15:07:29] T	rap: TUN1 RDS GROUP FILTER	Chan: 4	Status: 1(ALRM)	FilterIndex:1	Time: 2014-05-07 15:07:20	-	
		_	_				Υ.

By changing the regional variant, the alarm will cease.

RDS DATA ALARM						
		BLER	ст			
5024	RAI	000 %	ОК %	ON	ON	
	DI	РТҮ		FILTERS	GROUPS	
MUSIC	STEREO STATIC	NO_PROG		ОК	ОК	
		EON				
ОК	NO	ОК				
	RT+	ODA-1		ODA-2		
		ILS		LSN		
OFF	OFF	OFF		000		

And the logger also show a status (OK)

TRAP EVENT LOG -		STATUS	—
Refresh	Download		-
[2014-05-07 13:22:03] 1	Trap: TUN1 RDS GROUP FILTER	Chan: 4 Status: 1(ALRM) FilterIndex:16 Time: 2014-05-07 13:21:54	^
[2014-05-07 13:23:19] 1 [2014-05-07 13:26:43] 1	Trap: TUN1 RDS GROUP FILTER	Chan: 4 Status: 0(OK) FilterIndex:16 Time: 2014-05-07 13:23:10 Chan: 4 Status: 1(ALRM) FilterIndex:16 Time: 2014-05-07 13:26:34 Chan: 4 Status: 0(OK) - SilterIndex:16 Time: 2014-05-07 13:26:34	
[2014-05-07 13:27:06] [2014-05-07 13:31:07] 1 [2014-05-07 14:45:42] 1	Trap: TUNI RDS GROUP FILTER	Chan: 4 Status: 0(OK) Filterindex:16 Time: 2014-05-07 13:20:57 Chan: 4 Status: 1(ALRM) Filterindex:16 Time: 2014-05-07 13:30:58 Chan: 4 Status: 0(OK) Filterindex:16 Time: 2014-05-07 14:45:42	
[2014-05-07 15:07:29] 1 [2014-05-07 15:25:45] 1	Trap: TUN1 RDS GROUP FILTER Trap: TUN1 RDS GROUP FILTER	Chan: 4 Status: 1(ALRM) FilterIndex:1 Time: 2014-05-07 15:07:20 Chan: 4 Status: 0(OK) FilterIndex:1 Time: 2014-05-07 15:25:36	
			¥.



14.6.41 Example 2 - Control TA / TP

Let's see how to set a filter on the data received in order to check the status of bits TA and TP.

For example if we want an alarm to the radio (which supports the service TA) has the TA = On for a period longer than 10 minutes.

We set the filter:

ChanRef = 4

Block1Ref = xxxxxxxxxxxxx (we do not care this time of the IP)

Block2Ref = 000001XXXXX0XXXX (group 0A - TP = 1 - TA = 0)

Block3Ref = xxxxxxxxxxx (we do not treat)

Block4Ref = xxxxxxxxxxx (we do not treat)

Timeout = 1200s

Validation=10s Hold =10s Mask=Unmasked Trap=Enabled

An alarm is generated if TA remains unchanged equal to 0 for 20 min



Figure 12 - Basic tuning and switching information - Type 0A group

Starting from TP=1 and TA=0

	Traffic Programme		Traffic Announcement		
TP:	ENABLED	•	TA:	DISABLED	-

When TA = 1, after the set time, the filter goes into alarm:

Traffic Program	mme	Traffic A	Traffic Announcement		
TP: ENABLED	-	TA: ENABL	ED	•	
M/S	DI	РТҮ	FILTERS	GROUPS	
MUSIC	STEREO STATIC	NO_PROG	NO	ОК	



14.6.42 Example 3 - Control EON AF presence of specific IP

Let's see how to set a filter on the data received in order to check the presence of Mapped Frequencies of EON on a given IP.

Both EON PI = 5201 and there is a list of Eon AF as follows: TF = 103.3 = 103.5 AF1 AF2 AF3 = 103.6 = 105.2 Method (B): Mapped FM Freq. 1

Let's make sure that the radio transmits the group 14A.

We set the filter: ChanRef = 4

Block1Ref = xxxxxxxxxxxx (we do not care this time of the IP)

Block2Ref = 11100XXXXXX0101 (group 14A - Variant 5)

Block3Ref = VVVVVVVVVVVVVVVVV (they vary)

Block4Ref = 010100100000001 (EON PI = 5201)

Timeout = 60s

Validation=10s Hold=10s Mask=Unmasked Trap=Enabled



Figure 37 - Enhanced Other Networks information - Type 14A groups

If data are correct, the filter will not rise an alarm. For example, removing the EON AF (or changing the freq. Map), eliminating the EON from the list, removing or changing the group 14A or changing the EON PI filter an alarm is generated.



14.6.43 Example 4 - Control of the toggle A / B flag

Let's see how to set a filter on the data in order to check that it managed the A / B flag in the transmission of RadioText. Attune on a radio that transmits RT with the use of A / B flag (eg. Rai).

We set the filter: ChanRef = 4

Block1Ref = xxxxxxxxxxxx (we do not care this time of the IP)

Block2Ref = 00100XXXXXXVXXXX (group 2A - Change in A / B flag)

Timeout = 80s

Validation=10s Hold=10s Mask=Unmasked Trap=Enabled



Figure 16 - RadioText - Type 2A group

In this way it 'possible to check the correct reception of the RadioText.



14.6.44 Example 5 - Transparent Data Channel

Let's see how to set a filter on the data in order to check that data is received on channel 1 TDC.



Figure 22 - Transparent data channels - Type 5A group

First, we check to be tuned to a radio that transmits data TDC:

RDS GROUPS	ALARM
GROUP-DATA	
0A 2A 5A	

After you set the filter for channel 1:

ChanRef = 4

Block1Ref = xxxxxxxxxxxx (do not take care of the IP)

Block2Ref = 01010XXXXXX00001 (Group 5A - channel 1)

Timeout = 120s (time window within which the data must vary)

Validation=10s Hold=10s Mask=Unmasked

If the channel over which data is sent is not the # 1 or if the data does not vary (eg.), The filter goes into alarm.



14.6.45 Example 6 - Recording TMC

Let's see how to set a filter on the data in order to check that data is received registration TMC



Figure 18 - Application Identification for Open data - Type 3A group

Let the typical case in which the TMC is transported on groups 8A and is recorded with two different messages (Msg1 = 0068, Msg2 = 6040) alternated. Recall that for the TMC AID = CD46.

We set up two filters:

Filter 1:

ChanRef = 4

Block1Ref = xxxxxxxxxxxx (do not take care of the IP)

Block2Ref = 00110XXXXX10000 (Group 3A - AGT = 8A)

Block3Ref = 000000001101000 (message bits = 0068)

Block4Ref = 1100110101000110 (AID TMC = CD46)

Timeout = 120s (time window within which the data must vary)

Validation=10s Hold=10s Mask= Unmasked

Filter 2:

ChanRef = 4

Block1Ref = xxxxxxxxxxxx (do not take care of the IP)

Block2Ref = 00110XXXXX10000 (Group 3A - AGT = 8A)

Block3Ref = 011000001000000 (message bits = 6040)

Block4Ref = 11001101000110 (AID TMC = CD46)

Timeout = 120s (time window within which the data must vary)

Validation=10s Hold=10s Mask= Unmasked

If the service is transmitted correctly there is no alarm.



14.6.46 Example 7 - Alert C on TMC

Let's see how to set a filter on the data in order to check that data is received TMC properly. Head if the bit X4 Alert-C is equal to 0 for more than the timeout and / or no data block 3-4 is varied in time out. If X4 = 0 (bit 5 Block2) data traffic are transmitted, X4 = 1 if the data are ancillary information not directly related to the service then X4 = 1 for a longer time than expected and 'alarm condition.

We set the filter:

Filter 1:

ChanRef = 4

Block1Ref = xxxxxxxxxxxxx (do not take care of the IP)

Block2Ref = 10000XXXXXX0XXXX (group 8A - bit X4)

Timeout = 3600s (the time window within which the data must vary)

Validation=10s Hold=10s Mask= Unmasked



Figure 27 - Traffic Message Channel - Type 8A group

NOTE: Alarms Filter type not supported in SMART-SCAN mode. Then an alarm of this type does not block the scan. We recommend that you use this feature to scan just to test repetitive conditions.



L

14.1 AUDIO 1 - SETUP

This section allows the user to configure the audio source delivered to the Audio Streamer Module.

AUDIO		
AUDIO-1 GLOBAL SETUP		AUDIO-2 GLOBAL SETUP
Audio1 Source	-	Audio2 Source
Audiol Claudillione		Audio2 Simul Blome
Audio1 signal marie		Audio2 Signal Name
AudioTivallie		Audiozname
STREAM-1 GLOBAL SETUP		STREAM-2 GLOBAL SETUP
10.00 dB	-	10.00 dB 🗸
Stream1 Encoder		Stream2 Encoder
vorbis	-	vorbis
64kbits	*	40kbits 👻
stereo	*	stereo 👻
ANALOG INPUT SILENCE SETUP		DIGITAL INPUT SILENCE SETUP
AudioTrap		AudioTrap
Audio Analog Left Silence Thr		Audio Digital Left Silence Thr
-20.00 dBr	-	-20.00 dBr 👻
Audio Analog Left Silence Time		Audio Digital Left Silence Time
20 sec	-	20 sec 🗸 🗸
Audio Analog Left Silence Hold		Audio Digital Left Silence Hold
2 sec	-	2 sec 👻
masked	-	masked 👻
Audio Analog Left Silence Email Enable		Audio Digital Left Silence Email Enable
disabled	-	disabled 👻
Audio Analog Left Silence Trap Enable		Audio Digital Left Silence Trap Enable

AUDIO-1 GLOBAL SETUP	Audio1 Source: This setting allows to
	deliver to the Audio-1 stream module, an
Audio1 Source	audio source that can be selected between
Tuner-1	Tuner-1 or Tuner-2 or Analog or Digital.
	It is also possible to
Audio1 Signal Name	Audio1 Signal Name: it is possible to
Audio1Name	apply a name to the signal delivered to the
	streamer.
STREAM-1 GLOBAL SETUP	Stream Source Gain: is the gain that is
	applied to the Audio Source. The admitted
Stream1 Source Gain	values are between -20.0 dB and +20.0 dB
19.10 dB	in 0.1dB steps.
Stream1 Encoder	Stream1 Encoder: it is possible to decide
disabled	what type of audio encoder to use for the
	streaming.
Stream1 BitRate	
disabled 🔹	Stream1 BitRate: in this setup it is
	possible to decide the audio encoding
Stream1 Mode	bitrate
disabled	



Stream1 Mode: it is possible to choose if
the streaming is Mono or Stereo

14.2 AUDIO 2 - SETUP

This section allows the user to configure the audio source delivered to the Audio Streamer Module.

AUDIO-2 GLOBAL SETUP	Audio2 Source: This setting allows to
	deliver to the Audio-1 stream module, an
Audio2 Source	audio source that can be selected between
Tuner-2 👻	Tuner-1 or Tuner-2 or Analog or Digital.
	It is also possible to
Audio2 Signal Name	Audio2 Signal Name: it is possible to
Audio2Name	apply a name to the signal delivered to the
	streamer.
STREAM-2 GLOBAL SETUP	Stream2 Source Gain: is the gain that is
	applied to the Audio Source. The admitted
Stream2 Source Gain	values are between -20.0 dB and +20.0 dB
0.00 dB	in 0.1dB steps.
Stream2 Encoder	Stream2 Encoder: it is possible to decide
mp3 ~	what type of audio encoder to use for the
	streaming.
Stream2 BitRate	
32Kbit	Stream2 BitRate: in this setup it is
	possible to decide the audio encoding
Stream2 Mode	bitrate
	Stream? Mode: it is possible to chaose if
	the streaming is Mana or Stores
	the streaming is wono or Stereo



14.3 ANALOG AUDIO INPUT SETUP

The following setup is about the Analog Input Module, alarms generation and configurable settings. The A.A.L means Audio Analog Left while A.A.R means Audio Analog Right.

ANALOG INPUT SILENCE SETUP	Audio Analog Left Silence Trap Label: define the Trap label over the NMS manager.
Audio Analog Left Silence Trap Label	A.A.L.Silence Threshold: defines the threshold level to be considered audio or silence.
-20.00 dBr	A.A.L.Silence Time: defines the maximum time under A.A.L.Silence Threshold to consider the input audio not valid (as silence)
Audio Analog Left Silence Time 20 sec	A.A.L.Silence Hold: It's the time in which the audio signal must be stably present to be considered valid.
Audio Analog Left Silence Hold 2 sec	A.A.L.Silence Mask: if this parameter is Mask the silence error is not reported, while unmasked means the error is visible and reported.
Audio Analog Left Silence Mask masked	A.A.L.Silence Email Enabled : this parameter enable the email sending in case of silence error.
Audio Analog Left Silence Email Enable disabled	A.A.L.Silence Trap Enabled : this parameter enable the Trap sending in case of silence error.
Audio Analog Left Silence Trap Enable	
	L
Audio Analog Right Silence Trap Label	Audio Analog Right Silence Trap Label: define the Trap label over the NMS manager.
Audio Analog Right Silence Trap Label AudioTrap	Audio Analog Right Silence Trap Label: define the Trap label over the NMS manager.
Audio Analog Right Silence Trap Label AudioTrap Audio Analog Right Silence Thr	 Audio Analog Right Silence Trap Label: define the Trap label over the NMS manager. A.A.R.Silence Threshold: defines the threshold level to be considered audio or silence.
Audio Analog Right Silence Trap Label Audio Trap Audio Analog Right Silence Thr -20.00 dBr Audio Analog Right Silence Time	 Audio Analog Right Silence Trap Label: define the Trap label over the NMS manager. A.A.R.Silence Threshold: defines the threshold level to be considered audio or silence. A.A.R.Silence Time: defines the maximum time under A.A.R.Silence Threshold to consider the input audio not valid (as silence)
Audio Analog Right Silence Trap Label Audio Trap Audio Analog Right Silence Thr -20.00 dBr Audio Analog Right Silence Time 20 sec	 Audio Analog Right Silence Trap Label: define the Trap label over the NMS manager. A.A.R.Silence Threshold: defines the threshold level to be considered audio or silence. A.A.R.Silence Time: defines the maximum time under A.A.R.Silence Threshold to consider the input audio not valid (as silence) A.A.R.Silence Hold: It's the time in which the audio signal must be stably present to be
Audio Analog Right Silence Trap Label Audio Trap Audio Analog Right Silence Thr -20.00 dBr Audio Analog Right Silence Time 20 sec Audio Analog Right Silence Hold	 Audio Analog Right Silence Trap Label: define the Trap label over the NMS manager. A.A.R.Silence Threshold: defines the threshold level to be considered audio or silence. A.A.R.Silence Time: defines the maximum time under A.A.R.Silence Threshold to consider the input audio not valid (as silence) A.A.R.Silence Hold: It's the time in which the audio signal must be stably present to be considered valid.
Audio Analog Right Silence Trap Label Audio Trap Audio Analog Right Silence Thr -20.00 dBr Audio Analog Right Silence Time 20 sec Audio Analog Right Silence Hold 2 sec	 Audio Analog Right Silence Trap Label: define the Trap label over the NMS manager. A.A.R.Silence Threshold: defines the threshold level to be considered audio or silence. A.A.R.Silence Time: defines the maximum time under A.A.R.Silence Threshold to consider the input audio not valid (as silence) A.A.R.Silence Hold: It's the time in which the audio signal must be stably present to be considered valid. A.A.R.Silence Mask: if this parameter is Mask the
Audio Analog Right Silence Trap Label AudioTrap Audio Analog Right Silence Thr -20.00 dBr Audio Analog Right Silence Time 20 sec Audio Analog Right Silence Hold 2 sec Audio Analog Right Silence Mask	 Audio Analog Right Silence Trap Label: define the Trap label over the NMS manager. A.A.R.Silence Threshold: defines the threshold level to be considered audio or silence. A.A.R.Silence Time: defines the maximum time under A.A.R.Silence Threshold to consider the input audio not valid (as silence) A.A.R.Silence Hold: It's the time in which the audio signal must be stably present to be considered valid. A.A.R.Silence Mask: if this parameter is Mask the silence error is not reported, while unmasked means the error is visible and reported
Audio Analog Right Silence Trap Label Audio Trap Audio Analog Right Silence Thr -20.00 dBr Audio Analog Right Silence Time 20 sec Audio Analog Right Silence Hold 2 sec Audio Analog Right Silence Mold 2 sec Audio Analog Right Silence Mold xudio Analog Right Silence Mask	 Audio Analog Right Silence Trap Label: define the Trap label over the NMS manager. A.A.R.Silence Threshold: defines the threshold level to be considered audio or silence. A.A.R.Silence Time: defines the maximum time under A.A.R.Silence Threshold to consider the input audio not valid (as silence) A.A.R.Silence Hold: It's the time in which the audio signal must be stably present to be considered valid. A.A.R.Silence Mask: if this parameter is Mask the silence error is not reported, while unmasked means the error is visible and reported.
Audio Analog Right Silence Trap Label Audio Trap Audio Analog Right Silence Thr -20.00 dBr Audio Analog Right Silence Time 20 sec Audio Analog Right Silence Hold 2 sec Audio Analog Right Silence Mold 2 sec Audio Analog Right Silence Mold 2 sec Audio Analog Right Silence Mold 2 sec Audio Analog Right Silence Email Enable	 Audio Analog Right Silence Trap Label: define the Trap label over the NMS manager. A.A.R.Silence Threshold: defines the threshold level to be considered audio or silence. A.A.R.Silence Time: defines the maximum time under A.A.R.Silence Threshold to consider the input audio not valid (as silence) A.A.R.Silence Hold: It's the time in which the audio signal must be stably present to be considered valid. A.A.R.Silence Mask: if this parameter is Mask the silence error is not reported, while unmasked means the error is visible and reported. A.A.R.Silence Email Enabled: this parameter enable the email sending in case of silence error.
Audio Analog Right Silence Trap Label Audio Trap Audio Analog Right Silence Thr -20.00 dBr Audio Analog Right Silence Time 20 sec Audio Analog Right Silence Hold 2 sec Audio Analog Right Silence Mold 2 sec Audio Analog Right Silence Hold 2 sec Audio Analog Right Silence Mask masked Madio Analog Right Silence Email Enable disabled	 Audio Analog Right Silence Trap Label: define the Trap label over the NMS manager. A.A.R.Silence Threshold: defines the threshold level to be considered audio or silence. A.A.R.Silence Time: defines the maximum time under A.A.R.Silence Threshold to consider the input audio not valid (as silence) A.A.R.Silence Hold: It's the time in which the audio signal must be stably present to be considered valid. A.A.R.Silence Mask: if this parameter is Mask the silence error is not reported, while unmasked means the error is visible and reported. A.A.R.Silence Email Enabled: this parameter enable the email sending in case of silence error.
Audio Analog Right Silence Trap Label Audio Trap Audio Analog Right Silence Thr -20.00 dBr Audio Analog Right Silence Time 20 sec Audio Analog Right Silence Hold 2 sec Audio Analog Right Silence Mask masked Audio Analog Right Silence Email Enable disabled Audio Analog Right Silence Email Enable	 Audio Analog Right Silence Trap Label: define the Trap label over the NMS manager. A.A.R.Silence Threshold: defines the threshold level to be considered audio or silence. A.A.R.Silence Time: defines the maximum time under A.A.R.Silence Threshold to consider the input audio not valid (as silence) A.A.R.Silence Hold: It's the time in which the audio signal must be stably present to be considered valid. A.A.R.Silence Mask: if this parameter is Mask the silence error is not reported, while unmasked means the error is visible and reported. A.A.R.Silence Trap Enabled: this parameter enable the Trap sending in case of silence error.
Audio Analog Right Silence Trap Label Audio Trap Audio Analog Right Silence Thr -20.00 dBr Audio Analog Right Silence Time 20 sec Audio Analog Right Silence Hold 2 sec Audio Analog Right Silence Mask masked Audio Analog Right Silence Email Enable disabled	 Audio Analog Right Silence Trap Label: define the Trap label over the NMS manager. A.A.R.Silence Threshold: defines the threshold level to be considered audio or silence. A.A.R.Silence Time: defines the maximum time under A.A.R.Silence Threshold to consider the input audio not valid (as silence) A.A.R.Silence Hold: It's the time in which the audio signal must be stably present to be considered valid. A.A.R.Silence Mask: if this parameter is Mask the silence error is not reported, while unmasked means the error is visible and reported. A.A.R.Silence Trap Enabled: this parameter enable the Trap sending in case of silence error.


14.4 DIGITAL AUDIO INPUT SETUP

The following setup is about the Digital Input Module, alarms generation and configurable settings. The A.D.L means Audio Digital Left while A.D.R means Audio Digital Right.

DIGITAL INPUT SILENCE SETUP	A.D.L Silence Trap Label: define the Trap label over the NMS manager.
Audio Digital Left Silence Trap Label	A D L Silonce Threshold: defines the threshold
AudioTrap	level to be considered audio or silence.
Audio Digital Left Silence Thr	A D I Silence Time: defines the maximum time
-20.00 dBr	under A.D.L.Silence Threshold to consider the input audio not valid (as silence)
Audio Digital Left Silence Time	A D I Silence Hold: It's the time in which the audio
20 sec 👻	signal must be stably present to be considered valid.
Audio Digital Left Silence Hold	A D L Silonco Mask: if this parameter is Mask the
2 sec	silence error is not reported, while unmasked means the error is visible and reported.
Audio Digital Left Silence Mask	A D L Silance Email Enchlad, this perometer
masked	enable the email sending in case of silence error.
disabled	A.D.L Silence Trap Enabled: this parameter enable the Trap sending in case of silence error.
Audio Digital Loft Silence Tran Enable	
dicabled	
Audio Digital Right Silence Trap Label	Audio Digital Right Silence Trap Label: define the Trap label over the NMS manager.
Audio Digital Right Silence Trap Label AudioTrap	Audio Digital Right Silence Trap Label: define the Trap label over the NMS manager.
Audio Digital Right Silence Trap Label AudioTrap Audio Digital Right Silence Thr	 Audio Digital Right Silence Trap Label: define the Trap label over the NMS manager. A.D.R.Silence Threshold: defines the threshold level to be considered audio or silence.
Audio Digital Right Silence Trap Label Audio Trap Audio Digital Right Silence Thr -20.00 dBr	 Audio Digital Right Silence Trap Label: define the Trap label over the NMS manager. A.D.R.Silence Threshold: defines the threshold level to be considered audio or silence. A.D.R.Silence Time: defines the maximum time
Audio Digital Right Silence Trap Label Audio Trap Audio Digital Right Silence Thr -20.00 dBr Audio Digital Right Silence Time	 Audio Digital Right Silence Trap Label: define the Trap label over the NMS manager. A.D.R.Silence Threshold: defines the threshold level to be considered audio or silence. A.D.R.Silence Time: defines the maximum time under A.A.R.Silence Threshold to consider the input undig net updid (a ciloneo).
Audio Digital Right Silence Trap Label Audio Trap Audio Digital Right Silence Thr -20.00 dBr Audio Digital Right Silence Time 20 sec	 Audio Digital Right Silence Trap Label: define the Trap label over the NMS manager. A.D.R.Silence Threshold: defines the threshold level to be considered audio or silence. A.D.R.Silence Time: defines the maximum time under A.A.R.Silence Threshold to consider the input audio not valid (as silence)
Audio Digital Right Silence Trap Label Audio Trap Audio Digital Right Silence Thr -20.00 dBr Audio Digital Right Silence Time 20 sec Audio Digital Right Silence Hold	 Audio Digital Right Silence Trap Label: define the Trap label over the NMS manager. A.D.R.Silence Threshold: defines the threshold level to be considered audio or silence. A.D.R.Silence Time: defines the maximum time under A.A.R.Silence Threshold to consider the input audio not valid (as silence) A.D.R.Silence Hold: It's the time in which the audio signal must be stably present to be
Audio Digital Right Silence Trap Label Audio Trap Audio Digital Right Silence Thr -20.00 dBr Audio Digital Right Silence Time 20 sec Audio Digital Right Silence Hold 2 sec	 Audio Digital Right Silence Trap Label: define the Trap label over the NMS manager. A.D.R.Silence Threshold: defines the threshold level to be considered audio or silence. A.D.R.Silence Time: defines the maximum time under A.A.R.Silence Threshold to consider the input audio not valid (as silence) A.D.R.Silence Hold: It's the time in which the audio signal must be stably present to be considered valid.
Audio Digital Right Silence Trap Label Audio Trap Audio Digital Right Silence Thr -20.00 dBr Audio Digital Right Silence Time 20 sec Audio Digital Right Silence Hold 2 sec Audio Digital Right Silence Mask	 Audio Digital Right Silence Trap Label: define the Trap label over the NMS manager. A.D.R.Silence Threshold: defines the threshold level to be considered audio or silence. A.D.R.Silence Time: defines the maximum time under A.A.R.Silence Threshold to consider the input audio not valid (as silence) A.D.R.Silence Hold: It's the time in which the audio signal must be stably present to be considered valid. A.D.R.Silence Mask: if this parameter is Mask the silence error is not reported, while unmasked
Audio Digital Right Silence Trap Label Audio Trap Audio Digital Right Silence Thr -20.00 dBr Audio Digital Right Silence Time 20 sec Audio Digital Right Silence Hold 2 sec Audio Digital Right Silence Mold 2 sec Audio Digital Right Silence Mold —	 Audio Digital Right Silence Trap Label: define the Trap label over the NMS manager. A.D.R.Silence Threshold: defines the threshold level to be considered audio or silence. A.D.R.Silence Time: defines the maximum time under A.A.R.Silence Threshold to consider the input audio not valid (as silence) A.D.R.Silence Hold: It's the time in which the audio signal must be stably present to be considered valid. A.D.R.Silence Mask: if this parameter is Mask the silence error is not reported, while unmasked means the error is visible and reported.
Audio Digital Right Silence Trap Label Audio Trap Audio Digital Right Silence Thr -20.00 dBr Audio Digital Right Silence Time 20 sec Audio Digital Right Silence Hold 2 sec Audio Digital Right Silence Mold 2 sec Audio Digital Right Silence Mask masked	 Audio Digital Right Silence Trap Label: define the Trap label over the NMS manager. A.D.R.Silence Threshold: defines the threshold level to be considered audio or silence. A.D.R.Silence Time: defines the maximum time under A.A.R.Silence Threshold to consider the input audio not valid (as silence) A.D.R.Silence Hold: It's the time in which the audio signal must be stably present to be considered valid. A.D.R.Silence Mask: if this parameter is Mask the silence error is not reported, while unmasked means the error is visible and reported. A.D.R.Silence Email Enabled: this parameter
Audio Digital Right Silence Trap Label Audio Trap Audio Digital Right Silence Thr -20.00 dBr -20.00 dBr Audio Digital Right Silence Time 20 sec Audio Digital Right Silence Hold 2 sec Audio Digital Right Silence Mask masked Audio Digital Right Silence Email Enable disabled	 Audio Digital Right Silence Trap Label: define the Trap label over the NMS manager. A.D.R.Silence Threshold: defines the threshold level to be considered audio or silence. A.D.R.Silence Time: defines the maximum time under A.A.R.Silence Threshold to consider the input audio not valid (as silence) A.D.R.Silence Hold: It's the time in which the audio signal must be stably present to be considered valid. A.D.R.Silence Mask: if this parameter is Mask the silence error is not reported, while unmasked means the error is visible and reported. A.D.R.Silence Email Enabled: this parameter enable the email sending in case of silence error.
Audio Digital Right Silence Trap Label Audio Trap Audio Digital Right Silence Thr -20.00 dBr Audio Digital Right Silence Time 20 sec Audio Digital Right Silence Hold 2 sec Audio Digital Right Silence Mask masked Audio Digital Right Silence Email Enable disabled Audio Digital Right Silence Trap Enable	 Audio Digital Right Silence Trap Label: define the Trap label over the NMS manager. A.D.R.Silence Threshold: defines the threshold level to be considered audio or silence. A.D.R.Silence Time: defines the maximum time under A.A.R.Silence Threshold to consider the input audio not valid (as silence) A.D.R.Silence Hold: It's the time in which the audio signal must be stably present to be considered valid. A.D.R.Silence Mask: if this parameter is Mask the silence error is not reported, while unmasked means the error is visible and reported. A.D.R.Silence Email Enabled: this parameter enable the email sending in case of silence error.
Audio Digital Right Silence Trap Label Audio Trap Audio Digital Right Silence Thr -20.00 dBr -20.00 dBr Audio Digital Right Silence Time 20 sec Audio Digital Right Silence Hold 2 sec Audio Digital Right Silence Mold 2 sec Audio Digital Right Silence Mask masked Audio Digital Right Silence Email Enable disabled	 Audio Digital Right Silence Trap Label: define the Trap label over the NMS manager. A.D.R.Silence Threshold: defines the threshold level to be considered audio or silence. A.D.R.Silence Time: defines the maximum time under A.A.R.Silence Threshold to consider the input audio not valid (as silence) A.D.R.Silence Hold: It's the time in which the audio signal must be stably present to be considered valid. A.D.R.Silence Mask: if this parameter is Mask the silence error is not reported, while unmasked means the error is visible and reported. A.D.R.Silence Trap Enabled: this parameter enable the Trap sending in case of silence error.



15 WOLF 2MS SCAN AND SMART SCAN MODE

Once Scan or Smart Scan is selected in Settings -> Tuner-1 (or Tuner-2) -> Global as per picture shown below, the Wolf 2MS start scanning the channels selected.

TUNER-1 - GLOBAL SETUP	
GLOBAL SETTINGS	
SmartScan	~
32	-
3	-
50uSec	-
individual masking	*
0.00 dB	*

In the menu Last Channel Scanning index it's possible to select the last channel that Wolf 2MS needs to scan starting from the channel n°1. To set the scan time go in RF or any tab available. To see the result of the scanning press the Tuner-1 Data or Tuner-2 Data and see that the that a list of channel appears.

TUMED_1									
Ch. Mem.	Frequency		Channel Label	Mode	RF		DEVIATION	RDS Data	
	87.50		Radio Capital	S-SCAN		ALARM	ALARM	ALARM	•
					RF			RDS Data	
	87.90		Punto Radio	S-SCAN		ALARM	ALARM	ALARM	•
					RF			RDS Data	
						ALARM	ALARM	ALARM	~
					RF			RDS Data	
						ALARM	ALARM	ALARM	•
					RF			RDS Data	
						ALARM	ALARM	ALARM	~
					RF			RDS Data	
						ALARM	ALARM	ALARM	~
					RF			RDS Data	
						ALARM	ALARM	ALARM	~
					RF			RDS Data	
8		MHz				ALARM	ALARM	ALARM	~
					RF			RDS Data	
						ALARM	ALARM	ALARM	~
					RF			RDS Data	
10						ALARM	ALARM	ALARM	~
					RF			RDS Data	
11						ALARM	ALARM	ALARM	~
					RF			RDS Data	
12						ALARM	ALARM	ALARM	~
					RF			RDS Data	
13		MHz				ALARM	ALARM	ALARM	~
					RF			RDS Data	

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16 TECHNICAL APPENDIX

The following provides all the technical explanations, the connection pinouts to and from the Wolf 2MS device. Always refer to this technical appendix for the connections and the connection procedures. Should you discover inconsistencies between the documentation below and the hardware device, please contact Axel Technology at the numbers and emails provided at the end of this manual. Our technical and support department will be happy to help and assist you to the best of our ability!

16.1 APPENDIX A - BALANCED AUDIO AND PINOUT CONNECTION

Connection diagram Balanced Audio on Balanced XLR for Analog audio Input and Output (Left+Right) and Input and Output AES/EBU Digital Audio.



16.2 APPENDIX B - USB A/B CONNECTION









16.4 APPENDIX D - SERIAL CONNECTION

PO	RT 1	RDS E	NCODER
2	Тx	2	Tx
3	Rx	3	Rx
4	DTR	4	/
5	GND	5	GND



The cable that must be used to connect a RDS UECP encoder to Wolf 2MS must be a straight forward cable. A common Pin-to-Pin subD 9pole Female-Male. The maximum lengh must be 10mt. This cable can be used between WOLF 2MS and a RDS Encoder UECP compliant. The RDS data bridging can be achieved by connecting the Serial output from Wolf 2MS to the RDS Encoder data input. Please refer to this user manual and the RDS Encoder user manual to set the correct speed data and baud rate.



16.5 APPENDIX E - GPIO PORT

The SubD 15p HD GPIO connector on the back of the Wolf 2 MS device provides 4x General Purpose Inputs and 4x binary General Purpose outputs. The inputs are on polarised Opto coupler while the outputs are via relay dry contact.

They can be used to send commands to the device and perform certain tasks. The inputs are constituted by polarised photo couplers on each input and a 150 Ohm protection resistance in series is always inserted within. The maximum current that can circulate on every photo coupler is 20 mA. The voltage supplied between pin 8 and pin 15 is +5 Vdc non stabilized.



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16.6 APPENDIX F - WOLF 2MS UPGRADE PROCEDURE

In order to upgrade a Wolf 2MS equipment some software equipment are needed before the upgrade:

- 1. A FTP client installed in the pc workstation.
- 2. OS should be Windows XP or Windows 7.
- Get the file "Update.taz.gz" from Axel Technology please contact the support dept. 3.
- Connect the FTP client to Wolf 2MS with username: upgrader password: wolf2ms 4.

🔁 upgrader@192.168.99.195 - FileZilla	
File Modifica Visualizza Trasferimento Server Segnalibri Aiuto	
12 ▼ 7 🗉 😭 🚅 🛠 🏁 💺 🛷 🗉 📯 😚 🔥	
Host: 192.168.99.195 Nome utente: upgrader Password: •••••• Porta: Connessione	rapida 🔻
Risposta: 200 Switching to Binary mode. Comando: PASV Risposta: 222 Entering Passive Mode (192,166,99,195,60,254) Comando: LIST Risposta: 225 Directory send OK. Risposta: 226 Directory send OK. Stato: Contenduo cartelle letto con successo	
Sto locale: C:WOLF2NS Upgrade\ B: Universal Software Remoter B: Usb Driver B: Users B: vic.0.8.6 B: Windows B: Windows B: Windows B: Windows	Sito remoto: /
Nome file 🔺 🛛 Dimensione Tipo file 🔹 Ultima modifica	Nome 🔺 Dimension Tipo file Ultima modifica Permessi Proprietario
update.tar.gz 627,302 WinRAR archive 03/06/2013 11:46:28	Elenco cartella vuoto
Selezionato 1 file. Dimensione totale: 627,302 byte	Cartella vuota.
File server/locale Direzione File remoto Dimensione Priorità Stato	
File in coda Trasferimenti non completati Trasferimenti riusciti	
	👔 📾 Coda: vuota 🖉 👁 🥼

- 5. When the FTP client is connect, the destination folder appears automatically.
- Copy the file in this folder. 6.
- 7. Now a reboot is necessary, and can be performed.
 - a. Manually, by shutting down the unit and reboot Wolf 2MS via the rear panel switch b. Via web with the url: http://<ip wolf2ms>/cgi-bin-auth/reboot.cgi

4	utenticazione rich	iesta	×
	Il server http://192. password. Il server (168.99.195:80 richiede un r dichiara: Wolf2MS auth.	nome utente e una
duttore di siti we	Nome utente: Password:	upgrader ******	
		Accedi	Annulla

c. At this page a login is required. (username: upgrader password: wolf2ms)







16.6.1 Note about upgrading from rel 0.4.1 - 0.4.7

Starting from Wolf 2MS release 0.4.7 it is necessary to update and upgrade the complete equipment, starting from

- a. File System (then)
- b. Kernel (then)
- Firmware с.

The correct upgrading procedure starting from firmware release 0.4.1 ore 0.4.7 is

- 1. File System
- 2. Kernel
- 3. Firmware rel 0.5.1
- 4. Firmware rel 0.6.1
- 5. Firmware rel 0.6.6
- 6. Firmware rel 0.6.x
- 7. Firmware and Kernel 0.8.5

It is possible to retrieve the correct File System, Kernel and Firmware release asking Axel Technology support dept

support@axeltechnology.com

Step 1: File System Upgrade

Upg	rade			×
U	pgrade and loc	IS		
	Logs of the operat	ions to upgrade.		
	Unservice file surface	n winned on malabad		
	opgrading life system	n wizard completed.		
Log	Is			2 V
	Datetime	Device	Operation	Message
	27/11/2013 16:03:42	Wolf 2MS LAB-1	Upgrading	Upgrade file system version from "[unknown version]" to "1.5.0"
	27/11/2013 16:03:41	Wolf 0.71	Upgrading	Upgrade file system version from "[unknown version]" to "1.5.0"
	27/11/2013 16:03:41	Wolf 0.70	Upgrading	Upgrade file system version from "[unknown version]" to "1.5.0"
	27/11/2013 16:03:41	Wolf 0.69	Upgrading	Upgrade file system version from "[unknown version]" to "1.5.0"
	27/11/2013 16:03:41	Wolf 0.68	Upgrading	Upgrade file system version from "[unknown version]" to "1.5.0"
	27/11/2013 16:03:41	Wolf 0.67	Upgrading	Upgrade file system version from "[unknown version]" to "1.5.0"
	27/11/2013 16:03:41	Wolf 0.66	Upgrading	Upgrade file system version from "[unknown version]" to "1.5.0"
	27/11/2013 16:03:40	Wolf 0.65	Upgrading	Upgrade file system version from "[unknown version]" to "1.5.0"
	27/11/2013 16:03:40	Wolf 0.64	Upgrading	Upgrade file system version from "[unknown version]" to "1.5.0"
	27/11/2013 16:03:40	Wolf 0.63	Upgrading	Upgrade file system version from "[unknown version]" to "1.5.0"
	27/11/2013 16:03:40	Wolf 0.62	Upgrading	Upgrade file system version from "[unknown version]" to "1.5.0"
	ancel			Previous Next <u>Finish</u>

Step 2: Kernel Upgrade

Upgi	rade			×
U	ograde and loo	S		
	Logs of the operat	, ions to upgrade.		
	lla ana dia a kaona kui			
	Upgrading kernel wi	ard completed.		
Log	s			T 2
	Datetime	Device	Operation	Message
	27/11/2013 16:17:56	Wolf 2MS LAB-1	Upgrading	Upgrade kernel version from "[unknown version]" to "366"
	27/11/2013 16:17:56	Wolf 0.71	Upgrading	Upgrade kernel version from "[unknown version]" to "366"
	27/11/2013 16:17:56	Wolf 0.70	Upgrading	Upgrade kernel version from "[unknown version]" to "366"
	27/11/2013 16:17:56	Wolf 0.69	Upgrading	Upgrade kernel version from "[unknown version]" to "366"
	27/11/2013 16:17:55	Wolf 0.68	Upgrading	Upgrade kernel version from "[unknown version]" to "366"
	27/11/2013 16:17:55	Wolf 0.67	Upgrading	Upgrade kernel version from "[unknown version]" to "366"
	27/11/2013 16:17:55	Wolf 0.66	Upgrading	Upgrade kernel version from "[unknown version]" to "366"
	27/11/2013 16:17:54	Wolf 0.65	Upgrading	Upgrade kernel version from "[unknown version]" to "366"
	27/11/2013 16:17:54	Wolf 0.64	Upgrading	Upgrade kernel version from "[unknown version]" to "366"
	27/11/2013 16:17:54	Wolf 0.63	Upgrading	Upgrade kernel version from "[unknown version]" to "366"
	27/11/2013 16:17:54	Wolf 0.62	Upgrading	Upgrade kernel version from "[unknown version]" to "366"
C	ancel			Previous Next Finish

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Step 3: Firmware Upgrade from 0.4.1 to 0.5.1



	Upgrading firmware	wizard completed.		
g	5			7
	Datetime	Device	Operation	Message
Ĩ	27/11/2013 16:30:04	Wolf 2MS LAB-1	Upgrading	Upgrade firmware version from "0.4.1" to "0.5.1"
	27/11/2013 16:30:04	Wolf 0.71	Upgrading	Upgrade firmware version from "0.4.1" to "0.5.1"
	27/11/2013 16:30:04	Wolf 0.70	Upgrading	Upgrade firmware version from "0.4.1" to "0.5.1"
	27/11/2013 16:30:04	Wolf 0.69	Upgrading	Upgrade firmware version from "0.4.1" to "0.5.1"
	27/11/2013 16:30:04	Wolf 0.68	Upgrading	Upgrade firmware version from "0.4.1" to "0.5.1"
	27/11/2013 16:30:04	Wolf 0.67	Upgrading	Upgrade firmware version from "0.4.1" to "0.5.1"
	27/11/2013 16:30:03	Wolf 0.66	Upgrading	Upgrade firmware version from "0.4.1" to "0.5.1"
	27/11/2013 16:30:03	Wolf 0.65	Upgrading	Upgrade firmware version from "0.4.1" to "0.5.1"
	27/11/2013 16:30:03	Wolf 0.64	Upgrading	Upgrade firmware version from "0.4.1" to "0.5.1"
	27/11/2013 16:30:03	Wolf 0.63	Upgrading	Upgrade firmware version from "0.4.1" to "0.5.1"
	27/11/2013 16:30:03	Wolf 0.62	Upgrading	Upgrade firmware version from "0.4.1" to "0.5.1"

Step 4: Firmware Upgrade from 0.5.1 to 0.6.1

U	pgrade and log	JS		
	Upgrading firmware	wizard completed.		
lo			_	
-	Datetime	Device	Operation	Message
Г	27/11/2013 16:34:47	Wolf 2MS LAB-1	Upgrading	Upgrade firmware version from "0.5.1" to "0.6.1"
	27/11/2013 16:34:47	Wolf 0.71	Upgrading	Upgrade firmware version from "0.5.1" to "0.6.1"
	27/11/2013 16:34:47	Wolf 0.70	Upgrading	Upgrade firmware version from "0.5.1" to "0.6.1"
	27/11/2013 16:34:47	Wolf 0.69	Upgrading	Upgrade firmware version from "0.5.1" to "0.6.1"
	27/11/2013 16:34:47	Wolf 0.68	Upgrading	Upgrade firmware version from "0.5.1" to "0.6.1"
	27/11/2013 16:34:47	Wolf 0.67	Upgrading	Upgrade firmware version from "0.5.1" to "0.6.1"
	27/11/2013 16:34:47	Wolf 0.66	Upgrading	Upgrade firmware version from "0.5.1" to "0.6.1"
	27/11/2013 16:34:47	Wolf 0.65	Upgrading	Upgrade firmware version from "0.5.1" to "0.6.1"
	27/11/2013 16:34:47	Wolf 0.64	Upgrading	Upgrade firmware version from "0.5.1" to "0.6.1"
	27/11/2013 16:34:47	Wolf 0.63	Upgrading	Upgrade firmware version from "0.5.1" to "0.6.1"
Þ	27/11/2013 16:34:46	Wolf 0.62	Upgrading	Upgrade firmware version from "0.5.1" to "0.6.1"
	<u>C</u> ancel			Previous Next Einish

Firmware Upgrade from 0.6.1 to 0.6.6

grade			
pgrade and log	JS		
Logs of the operat	ions to upgrade.		
Upgrading firmware	wizard completed.		
,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			
)s			7
Datetime	Device	Operation	Message
27/11/2013 16:43:08	Wolf 2MS LAB-1	Upgrading	Upgrade firmware version from "0.6.1" to "0.6.6
27/11/2013 16:43:08	Wolf 0.71	Upgrading	Upgrade firmware version from "0.6.1" to "0.6.6
27/11/2013 16:43:08	Wolf 0.70	Upgrading	Upgrade firmware version from "0.6.1" to "0.6.6
27/11/2013 16:43:08	Wolf 0.69	Upgrading	Upgrade firmware version from "0.6.1" to "0.6.6
27/11/2013 16:43:07	Wolf 0.68	Upgrading	Upgrade firmware version from "0.6.1" to "0.6.6
27/11/2013 16:43:07	Wolf 0.67	Upgrading	Upgrade firmware version from "0.6.1" to "0.6.6
27/11/2013 16:43:07	Wolf 0.66	Upgrading	Upgrade firmware version from "0.6.1" to "0.6.6
27/11/2013 16:43:07	Wolf 0.65	Upgrading	Upgrade firmware version from "0.6.1" to "0.6.6
27/11/2013 16:43:07	Wolf 0.64	Upgrading	Upgrade firmware version from "0.6.1" to "0.6.6
27/11/2013 16:43:07	Wolf 0.63	Upgrading	Upgrade firmware version from "0.6.1" to "0.6.6
27/11/2013 16:43:07	Wolf 0.62	Upgrading	Upgrade firmware version from "0.6.1" to "0.6.6
Cancel			Previous Next Finis

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16.7 APPENDIX G – WOLF 2MS CONSIDERATION ON FW REL 1.2.1

In latest Wolf 2MS Firmware Release 1.2.1 has been improved and fixed the following features.

Highlights

- Bug fix about issue concerning reboot and related issues
- Bug fix about audio parameter saving
- During NMS parameter change operation a bug was blocking the SNMP
- Label correction of NMS-3
- Has been added the information that trap-timeout and trap-retry work only in informV2 mode
- Improved the trap retry from 100 to 1000
- Tested Trap behavior with no Ethernet connection

Information about new firmware rel.

- Only if has been selected InformV2, traps are automatically managed and repeated until an acknowledgement a. has been received by NMS system.
- Informv2 protocol provides as reported below: informV2 this protocol provides: b.
 - The agent, in this case wolf2ms should try again with a certain time period defined trap-timeout and return to N times (trap-Retry) the same trap if it does not receive an ACK (acknowledgement) from the NMS.

Scenario -1 example

if we set (Trap-Type:informV2, Trap-Timeout:10, Trap-Retry:360) we are going to set Wolf 2MS to retry for about 1 hour to find an ACK from NMS server. All the traps are queued waiting for a response

with the above example by disconnecting the network cable for a time below 1 hour, and creating events, as soon as cable has been reconnected (or Server has been closed and the opened again) all the traps queued are delivered. If the timing in sec is exceeded (Trap-timeout*Trap-Retry) all the traps will be lost.

- Trap order is not granted as mentioned in the protocol, because it's a delivery retry. The traps arriving is C. determined by the Ethernet link come back, each trap contains all the timing information of the events so the information can pass with no problem.
- d. We have done some test by disconnecting the network until 30 minutes and all the workflow is perfectly granted.
- e. Using v1 or V2simple mode there is a simple trap delivery

Trap replay

Wolf 2MS also supports trap-replay features replay (iTrapReplayEnabledTrapsReg). The server knows that the synchronization could be lost and can ask to the agent (Wolf 2MS) all the variation that has been happened about issue and alarms on the trap enabled. So a trap comes resend for each status variations that has been happened

Scenario -2 example:

The system works this way: the informV2 mode must plug gaps and short causal connection. Long connection interruptions should be managed by the NMS server with a trapReplay request. Now the maximum time is 60 * 1000 seconds. So it could be managed until almost a day's lack of linkage.

Note:

If you change the parameters of the NMS pages, these become active 20-30 seconds later.



16.8 APPENDIX H – WOLF 2MS TEST PROCEDURE AND CONSIDERATION

Scope of the test proposal is to verify and test all Wolf2MS functionalities in order to check in detail the behavior of all equipment. We will split all Wolf2MS functions in three Groups and test every function, checking and comparing the results with the expected ones in all interfaces available (WEB PAGES, SNMP, Front Panel display and Leds).

For every function an example configuration will be described in a nominal situation, as well as what happens when an alarm rises up. The expected timing will be indicated with the related measurements and in brief the effects on all interfaces.

All the tests will be done and the variations explained on all the three possible situations (Static, Scan, SmartScan). For every function will be indicated if an improvement is planned in the next releases or must considered definitive.

The scope of this test isn't a strict measure sequence, but scan all functionalities together for finding bugs, unexpected behaviors on one or more interfaces, for enhancing weak and strong point of the system .

So, the test configuration proposed is only an example to follow, the important thing will be for every functionality have a report about the test results. Every buggy behavior found will be fixed in the next release, every improvement suggested will be discussed and every limitation found will be defined.



16.9 SYNCH TO PC TIME

By pressing the "Synch to PC Time" button, the WOLF2MS will be synchronized with the PC Clock

P Address 9.25.96.13 uto Request Time 20 siliure Trap	
9.25.96.13 uto Request Time 20 nilure Trap	
uto Request Time 20 allure Trap	
20 ailure Trap	
rapEnable	*
ailure Email	
mailDisable	*
ocal time set string	
	Sync to PC Time
ome	4



16.10 NTP

To activate the NTP auto synchronization set a not zero value in AutoRequest Time.

After a modification of this parameter or a modification of the NTP IP address, the Wolf2MS will try to synchronize the system clock. After the first synchronization, the server will be contacted automatically with the selected period in minutes.

After a system reboot or restart, if AutoRequestTime is activated, in the first operative minute the NTP-V3 server will be contacted, as well as after the selected period.

The NtpSynch status starts as OK(synchronized) at the system startup, but after the first synchronization attempt it will show the real status. Every NtpSync status variation is signaled (if enabled) with the NtpFailureNotificationTrap.

Wolf2MS												
n Me	Ionitoring Tuner-1 Data	Tuner-2 Data		Settings Setup	Admin	Tun	er-1		Tun	er-2	Audio	Logout
Name			IP-Eth1		Date	GPO				Release	: Firmware	Release WebApp
WOLF2MS Location			192.168. IP-Eth2	000.180	27/10/13 Time	1 GPI	2	3	4	0.6.1 Proxy N	lode	0.6.0 User Name
			Disable	d	19:28:58	1	2	3	4	Disabl	ed	Mauro

An NTP synchronization failure will be indicated with a red alarm line under the Date/Time field.

Description		Source	Time
trapOID: .iso.org.d	od.internet.private.enterprises.axelTech.monitorsFm.wolf2MS.wolf2msTraps.modules.generalTraps.generalTrapPrefix.iNtpAlarmStatusNotify	192.168.0.180	2013-10-29 07:27:
trapOID: .iso.org.d	od.internet.private.enterprises.axelTech.monitorsFm.wolf2MS.wolf2msTraps.modules.generalTraps.generalTrapPrefix.iActivityHeartNotify	192.168.0.180	2013-10-29 07:26:
trapOID: .iso.org.d	od.internet.private.enterprises.axelTech.monitorsFm.wolf2MS.wolf2msTraps.modules.tuner1Traps.tuner1RfMpx.tuner1RfMpxPrefix.iTun1PilotLowLevelAlarmStatusNotify	192.168.0.180	2013-10-29 07:22:
trapOID: .iso.org.d	od.internet.private.enterprises.axelTech.monitorsFm.wolf2M5.wolf2msTraps.modules.tuner1Traps.tuner1RfMpx.tuner1RfMpxPrefix.iTun1PilotLevelAlarmStatusNotify	192.168.0.180	2013-10-29 07:21:
trapOID: .iso.org.d	od.internet.private.enterprises.axelTech.monitorsFm.wolf2MS.wolf2msTraps.modules.tuner2Traps.tuner2RfMpx.tuner2RfMpxPrefix.iTun2PilotLowLevelAlarmStatusNotify	192.168.0.180	2013-10-29 07:21:
trapOID: .iso.org.d	od.internet.private.enterprises.axelTech.monitorsFm.wolf2MS.wolf2msTraps.modules.tuner1Traps.tuner1RfMpx.tuner1RfMpxPrefix.iTun1RdsLevelAlarmStatusNotify	192.168.0.180	2013-10-29 07:20:
A T			
Source:	192.168.0.180 Timestamp: 11 minutes 31 seconds SNMP Version:	2	
Trap OID:	.iso.org.dod.internet.private.enterprises.axelTech.monitorsFm.wolf2MS.wolf2msTraps.modules.generalTraps.generalTrapPrefix.iNtpAlarmSt	atusNotify	
Variable Bindi	ngs:		
Name:	.iso.org.dod.internet.mgmt.mib-2.svstem.svsUpTime.0		
Value:	[TimeTicks] 11 minutes 31 seconds (69156)		
Name:	snmpTrapOID		
Value:	[OID] iNtpAlarmStatusNotify		
Name: Value:	.iso.org.dod.internet.private.enterprises.axelTech.monitorsFm.wolf2MS.generalSettings.timeSettings.iNtpAlarmStatus.0 [Integer] alarm (1)		
Name:	.iso.org.dod.internet.private.enterprises.axelTech.monitorsFm.wolf2MS.wolf2msTraps.aTrapDateTime.0		
Value:	[OctetString] 2013-10-29 07:28:00		
Name:	.iso.org. dod internet. private.enterprises.axelTech.monitorsFm.wolf2MS.wolf2msTraps.iTrapCounter.0		
Value:	[Integer] 24		
Description:	"Ntp failure Notification Trap "		

Modified the behavior of the NTP client in the release 0.6.5. Peer Polling interval is set now as 4 (16 sec) in place of 3 (8 sec). If the timing adjustment is less than 5 seconds the sysclock will be adjusted in a slow continuous way (about 2 sec/hour) avoiding sysclocks jumps (very important for the streaming, will be documented in the manual) and the recommended synch period should be at least one per day

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16.11 NORMAL ACTIVITY TRAP

This trap will be sent periodically to indicate that the system is OK and the Wolf2MS host process is able to communicate with all its interfaces without apparent problems.

One trap will be sent at every change of the time parameter or at the system start-up (few seconds after the cold start SNMP trap), as well as according to the period selected.

This Trap will not be replayed.

Wolf2MS			
GENERAL SETUP			
RDS DATA STREAM		SNMP SETTING	
off 👻]	public	
ACTIVITY HEART SIGNAL		private	
Trap Dispatch Timing		TIME AND NTP SETTINGS	
<u>10</u>	١,	10 Addrase	
SMTP SETTING		69 25 96 13	
		Auto Request Time	

The value "0" means function disabled. A different value indicates the period in minutes of the signal trap. In the example tested the period is 10 minutes.

Description				Source	Time
trapOID: .iso.org.do	d.internet.private.enterprises.axe	Hech.monitorsHm.wolf2M5.wolf2msTraps.	modules.general iraps.general irapPrefix.iActivityHeartNotify	192.168.0.180	2013-10-26 14:21:51
trapOID: .iso.org.do	d.internet.private.enterprises.axe	ITech.monitorsFm.wolf2MS.wolf2msTraps.	modules.generalTraps.generalTrapPrefix.iActivityHeartNotify	192.168.0.180	2013-10-26 14:11:51
trapOID: .iso.org.do	d.internet.private.enterprises.axe	ITech.monitorsFm.wolf2MS.wolf2msTraps.	modules.generalTraps.generalTrapPrefix.iActivityHeartNotify	192.168.0.180	2013-10-26 14:01:51
trapOID: .iso.org.do	d.internet.private.enterprises.axe	Tech.monitorsFm.wolf2MS.wolf2msTraps.	modules.generalTraps.generalTrapPrefix.iActivityHeartNotify	192.168.0.180	2013-10-26 13:51:50
trapOID: .iso.org.do	d.internet.private.enterprises.axe	ITech.monitorsFm.wolf2MS.wolf2msTraps.	modules.generalTraps.generalTrapPrefix.iActivityHeartNotify	192.168.0.180	2013-10-26 13:41:50
trapOID: .iso.org.do	d.internet.private.enterprises.axe	ITech.monitorsFm.wolf2MS.wolf2msTraps.	modules.generalTraps.generalTrapPrefix.iActivityHeartNotify	192.168.0.180	2013-10-26 13:31:50
trapOID: .iso.org.do	d.internet.private.enterprises.axe	Tech.monitorsFm.wolf2MS.wolf2msTraps.	modules.generalTraps.generalTrapPrefix.iActivityHeartNotify	192.168.0.180	2013-10-26 13:21:50
trapOID: .iso.org.do	d.internet.private.enterprises.axe	ITech.monitorsFm.wolf2MS.wolf2msTraps.	modules.generalTraps.generalTrapPrefix.iActivityHeartNotify	192.168.0.180	2013-10-26 13:11:50
trapOID: .iso.org.do	d.internet.private.enterprises.axe	ITech.monitorsFm.wolf2MS.wolf2msTraps.	modules.generalTraps.generalTrapPrefix.iActivityHeartNotify	192.168.0.180	2013-10-26 13:01:49 🛛 🗸
Source:	192.168.0.180	Timestamp:	2 hours 35 minutes 17 seconds	SNMP Version:	2
Tran OID:	iso org dod internet priv	ate enternrises axelTech monitorsFr	n wolf2MS wolf2msTrans modules generalTrans genera	alTranPrefix iActivityHeartNotify	
			n o on mano, a on mao ri apo modados. Bana a ri apo Bana	a ridpi romi a rono prica a roni y	
Variable Bindu	igs:				
Name:	.iso.org.dod.internet.mgr	nt.mib-2.system.sysUpTime.0			
Value:	[TimeTicks] 2 hours 35	minutes 17 seconds (931775)			
Name:	snmpTrapOID				
Value:	[OID] iActivityHeartNoti	fy			
Name:	.iso.org.dod.internet.priv	ate.enterprises.axelTech.monitorsFr	n.wolf2MS.wolf2msTraps.aTrapDateTime.0		
Value	ECost of Strein of 1012 10 1	6 12:01:47	• •		
value.	[Octetating] 2013-10-2	5 15.01.4)			
Name:	.iso.org.dod.internet.priv	ate.enterprises.axelTech.monitorsFr	n.wolf2MS.wolf2msTraps.iTrapCounter.0		
Value:	[Integer] 59	-			
Description:	"Normal Activity Signal "	Frap "			



RF-L2 Monitor test (Tuner-1 Tuner-2) 16.11.1

An RF signal combined with one or more frequencies is applied to the tuner1 and/or tuner2 RF inputs. One carrier RF level will be varied to test the alarms the other ones will be used to fill the scanning list (for the scanning test only). Frequencies of 100.80MHz (RF sweeping) and 100.50MHz (RF stable) will be used.

By slowly changing the RF levels (compatibly with the chosen Validation and Hold time) around the test zone, wait for the alarms and go back up to the starting point.

Tested is in Static mode first.

In static mode the alarm rises up after the validation time. When the status variable changes, a trap will be sent with time and RF values of the first sample out of the range. When the RF level is greater or equal to THR+ Hysteresis, the status alarm after the hold time comes back to the (ok) state and another trap will be sent with the RF value and time of the first valid sample.

The following values have been tested in static mode: Thr: +30dBuV, Hyst: +3dBuV, Validation:2sec, Hold:2Sec Thr: +30dBuV, Hyst: +3dBuV, Validation:20sec, Hold:10Sec Thr: +30dBuV, Hyst: +3dBuV, Validation:180sec, Hold:60Sec

The observed behavior resulted to be compatible with the specifications with an accuracy error on the measure of about 1 dBuV and timing errors of about 1-2 seconds

Typical Accuracy and Precision expected in general: Min RF value readable : -6 dBuV, Max RF value readable: +123 dBuV Accuracy: +-3 dBuV, Precision +-2 dBuV (Range -6 dBuV to +19 dBuV) Accuracy: +-2 dBuV, Precision +-1 dBuV (Range +20 dBuV to +79 dBuV) Accuracy: +-3 dBuV, Precision +-3 dBuV (Range +80 dBuV to +123 dBuV)

Description		Source	Time
trapOID: .iso.org.	dod.internet.private.enterprises.axelTech.monitorsFm.wolf2M5/wolf2msTraps.modules.tuner1Traps.tuner1RfMpx.tuner1RfMpxPrefix.iTun1RFlevelLow2AlarmStatusNotify	192.168.0.180	2013-10-26 10:32:07
trapOID: .iso.org.	.dod.internet.private.enterprises.axelTech.monitorsFm.wolf2M5.wolf2msTraps.modules.tuner1Traps.tuner1RfMpx.tuner1RfMpxPrefix.tun1RFlevelLow2AlarmStatusNotify	192.168.0.180	2013-10-26 10:31:52
Source.	102.168.0.180 Timestamp 5 minutes 24 seconds SNMP Version		2
Tran OID:	is a constant of internet minute entermises and the monitor Firm una FIMS una Firm modules three Tenne three 19 files three	Tup IRFlevell our 241	
Variable Bind	то обдающитися разво спортного спортного акат сельтнопалото и моталото, «опалот тар» пососо консата грару, консателицура топа Name	Tunne Rocksow 244	amotatusivoniy
	mēz:		
Name:	.iso. org. dod.internet.mgmt.mib-2.system.sysUpTime.0		
Value:	[TimeTicks] 5 minutes 24 seconds (32401)		
Name:	snmpTrapOID		
Value:	[OID] iTun1RFleveILow2AlarmStatusNotify		
Name:	iso org dod internet private enterprises axelTech monitorsFm wolf2MS tuner1Module tun1Data tun1DataTable tun1DataEntry.fTun1Freg.1		
Value:	Contestining 100 80		
Name:	. iso. org. dod.internet.private.enterprises.axelTech.monitorsFm.wolf2MS.tuner1Module.tun1Data.tun1DataTable.tun1DataEntry.fTun1RFlevelVal.	1	
Value:	[OctetString] 29.33		
Nomo	ico ara ded internet erinte enternices and Took manifereTre untFMC tuner[Module tun]Ferre tun]FerreTokie tun (FerreTokie tun (FerreTokie tun)	orran abol 1	
Name.	isolog, dowinited net private cated prises and reaching monosismit won zivis, which hydrole, white reast, white reast, while reast, and reaching a runner reast, and reaching reast.	JUW2 Haptauci, I	
value:			
Name:	. iso, org. dod.internet.private.enterprises.axelTech.monitorsFm.wolf2MS.tuner1Module.tun1Data.tun1DataTable.tun1DataEntry.iTun1RFlevelLow	72AlarmStatus. 1	
Value:	[Integer] alarm (1)		
Name:	iso.org. dod.internet.private.enterprises.axelTech.monitorsFm.wolf2MS.tuner1Module.tun1Freqs.tun1FreqsTable.tun1FreqsEntry.iTun1RFlevell	.ow2Mask.1	
Value:	[Integer] unmasked (0)		
Name:	iso org dod internet private enterprises axelTech monitorsFm wolf2MS wolf2msTraps aTrapDateTime 0		
Value:	[OctetString] 2013-10-26 10:31:44		
Name:	.iso.org.dod.internet.private.enterprises.axelTech.monitorsFm.wolf2MS.wolf2msTraps.iTrapCounter.0		
Value:	[Integer] 6		
Name:	iso and dad internet arityste enterprises avelTech manifordEm walf2MS tuner1Madule tun1Data tun1DataTable tun1DataEntry tun1DataIndey 1		
Value:	. No ong wo monte, privac, ana privas ana rotri montorsi ni, wonzivas kara provac, kara para rati para		
value.	[mo2a] v		
Description:	"Tun1RFlevelLow1AlarmStatus Notification Trap "		

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Under the alarm condition the RF alarm led on the panel must be on (not flashing) and by clicking on the channel number of the correspondent tuner the RF error will be displayed. ("RF LEV L2")

In order to alternate the conditions, the system has been tested in scanning mode with another constant RF carrier at 70dBuV.

F1=100.80MHZ (40dBuV sweeping from 40dBuV to 20dBuV) F2=100.50 MHZ (70dBuV stable) Thr: +30dBuV, Hyst: +3dBuV, Validation:2sec, Hold:2Sec Thr: +30dBuV, Hyst: +3dBuV, Validation:20sec, Hold:10Sec Thr: +30dBuV, Hyst: +3dBuV, Validation:180sec, Hold:60Sec

The observed behavior resulted compatible with the specifications with an accuracy error on the measure of about 1 dBuV and timing errors of about 1-2 seconds

Non	2MS															N <u>AXE</u>
_	↑	Monitorin Tuner-1	g Data	Tuner-2 Dat	•		Settings Setu	ip	Admin	Т	uner-1	Tun	er-2	Aı	Idio	Logout
GLC	BAL	RF 12	RF L1	RF	1 R	F _{H2}	DEV	PILOT	PILOT	R	DSL	RDS	AUD	DIO DEV		AUDIO _R
В	ER	PI	PS	ТР		ГА	ст	RT	AF	E	ON	Ъ	Т	мс	RT.	ODA ₁
0	DA ₂															
OI TUNI	0A ₂ ER1 - RA	DIO FREG	QUENC	Y LOW LEV	/EL 2			Unstangele								
TUNI Chan	DA 2 ER1 - RA Chan	DIO FREC Label Under Test	QUENC Preset	Y LOW LEV Frequency 100.80 MHz	/EL 2 Scan Time 5 sec	Chan Mask unmasked	Thr 30.00 dBuV	Hysteresis 3.00 dBuV	Validation 20 sec	Hold 10 sec	Mask unmasked	Em ail disable	Trap enable	Tun1	Label RF-L2 30 dBu	I rv Thr (Chan 1)
OI TUNI Chan 1 2	OA ₂ ER1 - RA Chan Channel 1 Channel 2	DIO FREC Label Under Test Under Test	QUENC Preset	Y LOW LEV Frequency 100.80 MHz 100.50 MHz	/EL 2 Scan Time 5 sec 5 sec	Chan Mask unmasked unmasked	Thr 30.00 dBuV 30.00 dBuV	Hysteresis 3.00 dBuV 3.00 dBuV	Validation 20 sec 20 sec	Hold 10 sec 10 sec	Mask unmasked unmasked	Email disable disable	Trap enable enable	Tun1	Label RF-L2 30 dBu RF-L2 30 dBu	I rv Thr (Chan 1) W Thr (Chan2)
Chan 1 2 3	DA 2 ER1 - RA Chan 1 Channel 1 Channel 2 Channel 3	DIO FREC Label Under Test Under Test Under Test	Preset	Y LOW LEV Frequency 100.80 MHz 100.50 MHz 100.80 MHz	VEL 2 Scan Time 5 sec 5 sec 5 sec	Chan Mask unmasked unmasked unmasked	Thr 30.00 dBuV 30.00 dBuV 30.00 dBuV	Hysteresis 3.00 dBuV 3.00 dBuV 3.00 dBuV	Validation 20 sec 20 sec 10 sec	Hold 10 sec 10 sec 5 sec	Mask unmasked unmasked unmasked	Email disable disable disable	Trap enable enable enable	Tun1 Tun1 Tun1	Label RF-L2 30 dBu RF-L2 30 dBu RF-L2 30 dBu	I rv Thr (Chan1) W Thr (Chan2) W Thr (Chan3)

In scanning mode all traps will be sent in the same way but the validation and hold time must be calculated on the time the scanner is observing the channel.

TUNER-1											
				Mode							
1	100.80	MHz	Channel 1 Under Test	SCAN	ALA	RM	ALARM]	ALARM		•
Ch. Mem.	Frequency		Channel Label	Mode	RF		DEVIATION		RDS Data		
	100.50	MHz	Channel 2 Under Test	SCAN	ALA	RM	ALARM		ALARM		•
Ch. Mem.	Frequency		Channel Label	Mode	RF		DEVIATION		RDS Data		
	100.80		Channel 3 Under Test	SCAN		RM	ALARM		ALARM		^
					Level		MPX		PI	BLER	
					28.00	dBu∀	84.34	kHz	5001	044	%
					Carrier	M.Path	Audio		PS	TP	TA
					- 7 ppm	2 %	73.35	kHz	polli	OFF	ON
					Adj-Chan		Pilot	_	M/S	AF	EON
					-18.0 -16.0	dBr	7.02	kHz	SPEECH	ок	ОК
					Alternativ	e-Chan	RDS		ст	RT	RT+
					- 13.50	dBr	3.97	kHz		ОК	
					Peak-L		Peak-R		РТҮ	тмс	ODA-1
					-0.92	dBr	-2.56	dBr	NO_PROG		
					RMS-L		RMS-R		DI	IH	ODA-2
					- 10.48	dBr	- 12.95	dBr	MONO STATIC		
Ch. Mem.	Frequency		Channel Label	Mode	RF		DEVIATION		RDS Data		
4	100.50		Channel 4 Under Test	SCAN	ALA	RM	ALARM		ALARM		•
			Channel Label	Mode							

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159

The traps will be sent in the instant the alarm rises up, but the RF value and the time in the var-binds will be related to the first sample out of the range.

Under the alarm condition the RF alarm led on the panel must be on (flashing if the alarms are more than one on the channel list) and by clicking on the channel number of the correspondent tuner the RF error will be displayed. In case of more errors on the related channel, they will rotate for about 30 seconds in a sequence carousel.

In SmartScan Mode the behavior expected is the same of the normal Scanning mode because this parameter is continuous and always available on the channel.

REPLAY ENABLED TRAPS

The RF-L2 alarm trap is replayed with its original status, time and RF value. Trap Counter is normally incremented. All data and parameters are available in the MIB L3-5 to set and test this configuration.



RF-L1 Monitor test (Tuner-1 Tuner-2) 16.11.2

An RF combined signal with one or more frequencies are applied to the tuner1 and/or tuner2 RF inputs. One carrier RF level will be varied to test the alarms the other ones will be used to fill the scanning list. We have used 100.80MHz (RF sweeping) and 100.50MHz(RF stable).

By slowly changing the RF levels (compatibly with the chosen Validation and Hold time) around the test zone, wait for the alarms and go back up to the starting point.

Test is in Static mode first.

In static mode the alarm rises up after the validation time. When the status variable changes a trap will be sent with time and RF values of the first sample out of the range. When the RF level is greater or equal to THR+ Hysteresis, the status alarm after the hold time comes back to the (ok) state and another trap will be sent with the RF value and time of the first valid sample.

The following values have been tested in static mode: Thr: +50dBuV, Hyst: +3dBuV, Validation:2sec, Hold:2Sec Thr: +50dBuV, Hyst: +3dBuV, Validation:20sec, Hold:10Sec Thr: +50dBuV, Hyst: +3dBuV, Validation:180sec, Hold:60Sec

The observed behavior resulted to be compatible with the specifications with an accuracy error on the measure of about 1 dBuV and timing errors of about 1-2 seconds

Typical Accuracy and Precision expected in general: Min RF value readable : -6 dBuV, Max RF value readable: +123 dBuV Accuracy: +-3 dBuV, Precision +-2 dBuV (Range -6 dBuV to +19 dBuV) Accuracy: +-2 dBuV, Precision +-1 dBuV (Range +20 dBuV to +79 dBuV) Accuracy: +-3 dBuV, Precision +-3 dBuV (Range +80 dBuV to +123 dBuV)

Under the alarm condition the RF alarm led on the panel must be on (not flashing) and clicking on the channel number of the correspondent tuner the RF error will be displayed. ("RF LEV L1")

		Monitoring					Settings									
	f	Tuner-1D) Data	Tuner-2 Data			Setu	IP	Admin	Tun	er-1	Tune	r-2	Au	dio	Logout
GLO	DBAL	RF 12	RF L1	RF _H :	1 RF	H2	DEV	PILOTL	PILOT	RDS	i.	RDS	AUDI	O _{DEV}	AUDIO L	AUDIO _R
В	.ER	PI	PS	ТР	Т	A	ст	RT	AF	EON	N	ы	Тм	1C	RT+	ODA ₁
0	DA 2															
'UNI han	ER1 - RAD	DIO FREQ	UENC' Preset	Y LOW LEV Frequency	'EL 1 Scan Time			Hysteresis	Validation	Hold						
TUNI han 1	ER1 - RAE Chan L Channel I U	DIO FREQ abel Inder Test	UENC [®] Preset	Y LOW LEV Frequency 100.80 MHz	'EL 1 Scan Time 5 sec	Chan Mask unmasked	Thr 50.00 dBuV	Hysteresis 3.00 dBuV	Validation 180 sec	Hold 60 sec u	Mask unmasked	Em ail disable	Trap enable	Tun1f	Labe RF-L 1 50 dBu	v Thr (Chan 1)
UN han 1 2	ER1 - RAE Chan L Channel 1 U Channel 2 U	DIO FREQ abel Inder Test Inder Test	UENC Preset	Y LOW LEV Frequency 100.80 MHz 100.50 MHz	PEL 1 Scan Time 5 sec 5 sec	Chan Mask unmasked unmasked	Thr 50.00 dBuV 50.00 dBuV	Hysteresis 3.00 dBuV 3.00 dBuV	Validation 180 sec 10 sec	Hold 60 sec u 5 sec u	Mask unmasked unmasked	Email disable disable	Trap enable enable	Tun1F	Labe RF-L150 dBu RF-L150 dBu	v Thr (Chan1) v Thr (Chan2)
TUN Ihan 1 2 3	ER1 - RAD Chan L Channel 1 U Channel 2 U Channel 3 U	DIO FREQ abel Inder Test Inder Test	UENC [®] Preset	Y LOW LEV Frequency 100.80 MHz 100.50 MHz 100.80 MHz	EL 1 Scan Time 5 sec 5 sec 5 sec	Chan Mask unmasked unmasked unmasked	Thr 50.00 dBuV 50.00 dBuV 50.00 dBuV	Hysteresis 3.00 dBuV 3.00 dBuV 5.00 dBuV	Validation 180 sec 10 sec 10 sec	Hold 60 sec u 5 sec u 5 sec	Mask unmasked unmasked masked	Email disable disable disable	Trap enable enable enable	Tun1 F Tun1 F Tun1 F	Labe RF-L150 dBu RF-L150 dBu	v Thr (Chan I) v Thr (Chan 2) v Thr (Chan3)

Axel Tech



Tested in scanning mode with another carrier with a constant RF at 70dBuV to alternate the conditions.

F1=100.80MHZ (sweeping from 70dBuV to 40dBuV) F2=100.50 MHZ (70dBuV stable) Thr: +50dBuV, Hyst: +3dBuV, Validation:2sec, Hold:2Sec Thr: +50dBuV, Hyst: +3dBuV, Validation:20sec, Hold:10Sec Thr: +50dBuV, Hyst: +3dBuV, Validation:180sec, Hold:60Sec

The behavior observed has been compatible with the definition with an accuracy error on the measure of about 1 dBuV and timing errors of about 1-2 seconds

r	Description		Source	Time
	rapOID: .iso.org	.dod.internet.private.enterprises.axelTech.monitorsFm.wolf2M5.wolf2msTraps.modules.tuner1Traps.tuner1RfMpx.tuner1RfMpxPrefix.iTun1RFlevelLow1AlarmStatusNotify	192.168.0.180	2013-10-30 12:37:40
	rapOID: .iso.org	.dod.internet.private.enterprises.axelTech.monitorsFm.wolf2MS.wolf2msTraps.modules.generalTraps.generalTrapPrefix.iActivityHeartNotify	192.168.0.180	2013-10-30 12:36:29
	rapOID: .iso.org	.dod.internet.private.enterprises.axelTech.monitorsFm.wolf2M5.wolf2msTraps.modules.tuner1Traps.tuner1RfMpx.tuner1RfMpxPrefix.iTun1RFlevelLow1AlarmStatusNotify	192.168.0.180	2013-10-30 12:36:22
	•			
	Source:	192.168.0.180 Timestamp: 4 hours 40 minutes 26 seconds SNMP Version:	2	
	Tran OID:	iso org dod internet private enterprises axel Tech monitorsEm wolf2MS wolf2msTrans modules tuner I Trans tuner I R fMox tuner I R fMoxPrefix i T	m1RFlevelLow1A	armStatusNotify
	Variable Bin			
		ung».		
Ш	Name:	.iso.org. dod.internet.mgmt.mib-2.system.sysUp Time.0		
	Value:	[TimeTicks] 4 hours 40 minutes 26 seconds (1682651)		
	Name:	snmpTrapOID		
	Value:	[OID] iTun1RFleveILow1AlarmStatusNotify		
	Name:	iso orgidod internet private enterprises avelTech monitorsEm wolf2MS timer1Module tun1Data tun1Data Table tun1DataEntry fTun1Ereq 1		
	Values			
	value:			
	Name:	. iso. org. dod.internet.private.enterprises.axelTech.monitorsFm.wolf2MS.tuner1Module.tun1Data_tun1DataTable.tun1DataEntry.fTun1RFlevelVal.1		
	Value:	[OctetString] 48.25		
	Name:	.iso.org dod internet private enterprises axelTech monitorsFm wolf2MS tuner1Module tun1Freqs tun1FreqsTable tun1FreqsEntry aTun1RFleveLc	w1TrapLabel.1	
	Value:	[OctetString] Tunl RF-L1 50 dBuv Thr (Chan1)		
	Name:	iso orgidod internet private enterprises avelTech monitorsEm wolf2MS tuner1Module tun1Data tun1Data Table tun1DataFateguitun1RElevell.ow1	AlarmStatus 1	
	Value	The one of the second	. 1011 1110 010 040. 1	
	value.	[muRel aarm (1)		
	Name:	. is 0. org. dod. internet. private. enterprises. axel Tech. monitors Fm. wolf 2MS. tuner 1 Module. tun 1 Freqs. tun 1 Freqs. Table. tun 1 Freqs. Fable. tun 1 Freqs. Table. Tun 1 Freqs. Table. Tun 1 Freqs. Table. Tun 1 Freqs. Tun 1 Freqs. Table. Tun 1 Freqs. Table. Tun 1 Freqs. Tun 1 Freq	w1Mask.1	
	Value:	[Integer] unmasked (0)		
	Name:	.150. org. dod. internet. private. enterprises. axelTech. monitorsFm. wolf2MS. wolf2msTraps.aTrapDateTime. 0		
	Value:	[OctetString] 2013-10-30 12:33:23		
	Name:	ico ora dod internet private enterprises avelTech monitorsEm wolfJMS wolfJmcTrans iTranCounter ()		
	Traille.	nooring uou internet production prises, and prises, and refer monitors in won 2016, won 2016 (rapedound), o Distance 140		
	value:	limegal 40		
	Name:	.iso.org.dod.internet.private.enterprises.axelTech.monitorsFm.wolf2MS.tuner1Module.tun1Data.tun1DataTable.tun1DataEntry.tun1DataIndex.1		
	Value:	Integel 1		
		r		

Description: "Tun1RFlevelLow1AlarmStatus Notification Trap "

The traps will be sent if the instant the alarm rises up, but the RF value and the time in the var-binds will be related to the first sample out of the range.

Under the alarm condition the RF alarm led on the panel must be on (flashing if the alarms are more than one on the channel list) and clicking on the channel number of the correspondent tuner the RF error will be displayed. In case of more errors on the related channel, they will rotate for about 30 seconds in a sequence carousel.

In SmartScan Mode the behavior expected is the same of the normal Scanning mode because this parameter is continuous and always available on the channel.

REPLAY ENABLED TRAPS

The RF-L1 alarm trap is replayed with its original status, time and RF value. Trap Counter is normally incremented. All data and parameters are available in the MIB L3-5 to set and test this configuration.



16.11.3 **RF-H1 Monitor test (Tuner-1 Tuner-2)**

An RF combined signal with one or more frequencies are applied to the tuner1 and/or tuner2 RF inputs. One carrier RF level will be varied to test the alarms the other ones will be used to fill the scanning list. We have used 100.80MHz (RF sweeping) and 100.50MHz(RF stable).

By slowly changing the the RF levels (in compatible way with the Validation and Hold time chosen) around the test zone, wait for the alarms and go back up to the starting point.

Tested in Static mode first.

In static mode the alarm rises up after the validation time, a trap will be sent when the status variable changes but with the time and the RF value of the first sample out of the range. When the RF level is lower or equal to THR- Hysteresis, the status alarm after the hold time comes back to the (ok) state and another trap will be sent with the RF value and the time of the first valid sample.

We have tested in static mode with the following values: Thr: +80dBuV, Hyst: +3dBuV, Validation:2sec, Hold:2Sec Thr: +80dBuV, Hyst: +3dBuV, Validation:20sec, Hold:10Sec Thr: +80dBuV, Hyst: +3dBuV, Validation:180sec, Hold:60Sec

The behavior observed has been compatible with the definition with an accuracy error on the measure of about 2 dBuV and timing errors of about 1-2 seconds

Typical Accuracy and Precision expected in general: Min RF value readable : -6 dBuV, Max RF value readable: +123 dBuV Accuracy: +-3 dBuV, Precision +-2 dBuV (Range -6 dBuV to +19 dBuV) Accuracy: +-2 dBuV, Precision +-1 dBuV (Range +20 dBuV to +79 dBuV) Accuracy: +-3 dBuV, Precision +-3 dBuV (Range +80 dBuV to +123 dBuV)

	IS														6	AXEI
ń	Monitori Tuner-1	ng . Data	Tuner-2 Dat	a		Settings Setup	p	Admin	Tu	ner-1	Tune	r-2	Au	dio	Lo	ogout
GLOBAI	RF L2	RF L	1 RF	11 R	F _{H2}	DEV	PILOTL	PILOT	RD	SL	RDS	AUDI	O DEV	AUDIO		JDIO _r
BLER	PI	PS	T		ГА	ст	RT	AF	EO	N	н	Тм	1C	RT.	. 0	DA ₁
ODA 2																
TUNER1 Chan	- RADIO FRE	QUENC Preset	Y HIGH LE	VEL 1 Scan Time					Hold							
TUNER1 Chan 1 Cha	- RADIO FRE Chan Label innel 1 Under Test	QUENC Preset	CY HIGH LE Frequency 100.80 MHz	VEL 1 Scan Time 5 sec	<mark>Chan Mask</mark> unmasked	Thr 80.00 dBuV	Hysteresis 3.00 dBuV	Validation 20 sec	Hold 10 sec	Mask unmasked	Email disable	Trap enable	Tun1 R	Li 15-H1 80	abel dBuv Thr (1	Chan 1)
TUNER1 Chan 1 Cha 2 Cha	- RADIO FRE Chan Label Innel 1 Under Test	QUENC Preset	Y HIGH LE Frequency 100.80 MHz 100.50 MHz	VEL 1 Scan Time 5 sec 5 sec	<mark>Chan Mask</mark> unmasked unmasked	Thr 80.00 dBuV 80.00 dBuV	Hysteresis 3.00 dBuV 3.00 dBuV	Validation 20 sec 20 sec	Hold 10 sec 10 sec	Mask unmasked unmasked	Email disable disable	Trap enable enable	Tun1 R Tun1 R	La RF-H1 80 RF-H1 80	abel dBuv Thr (v dBuv Thr (v	Chan 1) Chan 1)
TUNER1 Chan 1 Cha 2 Cha 3 Cha	- RADIO FRE Chan Label Innel 1 Under Test Innel 2 Under Test	QUENC Preset	Frequency 100.80 MHz 100.50 MHz 100.80 MHz	VEL 1 Scan Time 5 sec 5 sec 5 sec	Chari Mask unmasked unmasked unmasked	Thr 80.00 dBuV 80.00 dBuV 80.00 dBuV	Hysteresis 3.00 dBuV 3.00 dBuV 3.00 dBuV	Validation 20 sec 20 sec 20 sec	Hold 10 sec 10 sec 10 sec	Mask unmasked unmasked unmasked	Email disable disable disable	Trap enable enable enable	Tun1 R Tun1 R Tun1 R	La 1 F-H1 80 1F-H1 80 1F-H1 80	abel dBuv Thr (dBuv Thr (dBuv Thr ()	Chan 1) Chan 1) Chan 3)

Under the alarm condition the RF alarm led on the panel must be on (not flashing) and clicking on the channel number of the correspondent tuner the RF error will be displayed. ("RF LEV H1")



Description		Source	Time
trapOID: .iso.or	g.dod.internet.private.enterprises.axelTech.monitorsFm.wolf2M5.wolf2msTraps.modules.tuner1Traps.tuner1RfMpx.tuner1RfMpxPrefix.iTun1RFleveHilgh1AlarmStatusNotify	192.168.0.180	2013-10-30 15:33:41
trapOID: .iso.or	g. dod. internet. private. enterprises. axelTech. monitorsFm. wolf2M5. wolf2msTraps. modules.generalTraps.generalTrapPrefix.iActivityHeartNotify	192.168.0.180	2013-10-30 15:26:28
trapOID: .iso.or	g, dod.internet.private.enterprises.axelTech.monitorsFm.wolf2mS1.wolf2msTraps.modules.generalTraps.generalTrapPrefix.iActivityHeartNotify	192.168.0.180	2013-10-30 15:16:28
			
Source:	192.168.0.180 Timestamp: 7 hours 37 minutes 45 seconds SNMP Version:		2
Tran OID:	iso ora dod internet private enterprises avellen monitorsEm wolf?MS wolf?msTrans modules tuner1Trans tuner1RfMay tuner1RfMayErefy iTi	m1RFlevelHigh1(- JarmStatueNotify
Voriable Bir		anna 1000a again	aannoaloon toany
	imið:		
Name:	iso.org.dod.internet.mgmt.mib-2.system.sysUpTime.0		
Value	[TimeTicks] 7 hours 37 minutes 45 seconds (7746546)		
Name:	snmpTrapOID		
Value:	[OID] iTun1RFlevelHigh1AlarmStatusNotify		
Name: Value:	iso.org.dod.internet.private.enterprises.axelTech.monitorsFm.wolf2MS.tuner1Module.tun1Data.tun1DataTable.tun1DataEntry.fTun1Freq.1 [OctetString] 100.80		
Name: Value:	iso.org.dod internet.private.enterprises.axelTech.monitorsFm.wolf2MS.tuner1Module.tun1Data.tun1DataTable.tun1DataEntry.fTun1RFlevelVal.1 [OctetString] 82.87		
Name: Value:	.iso.org.dod.internet.private.enterprises.axelTech.monitorsFm.wolf2MS.tuner1Module.tun1Freqs.tun1FreqsTable.tun1FreqsEntry.aTun1RFlevelHig [OctetString] Tun1 RF-H1 80 dBuv Thr (Chan1)	gh1TrapLabel.1	
Name: Value:	. iso.org. dod internet. private. enterprises. axel Tech. monitorsFm. wolf2MS. tuner1Module. tun1Data. tun1DataTable. tun1DataEntry. iTun1RFlevelHigh1. [Integer] alarm (1)	AlarmStatus, 1	
Name: Value:	iso.org.dod internet.private.enterprises.axelTech.monitorsFm.wolf2MS.tuner1Module.tun1Freqs.tun1FreqsTable.tun1FreqsEntry.iTun1RFlevelHig [Integer] unmasked (0)	h1Mask.1	
Name: Value:	iso.org.dod.internet.private.enterprises.axelTech.monitorsFm.wolf2MS.wolf2msTraps.aTrapDateTime.0 [OctetString] 2013-10-30 15:33:22		
Name: Value:	iso.org.dod internet.private.enterprises.axelTech.monitorsFm.wolf2MS.wolf2msTraps.iTrapCounter.0 [Integer] 83		
Name: Value:	iso.org.dod internet.private.enterprises.axelTech.monitorsFm.wolf2MS.tuner1Module.tun1Data.tun1DataTable.tun1DataEntry.tun1DataIndex.1 [Integer] 1		

Tested in scanning mode with another carrier with a constant RF at 70dBuV to alternate the conditions. F1=100.80MHZ (sweeping from 90dBuV to 60dBuV)

F2=100.50 MHZ (70dBuV stable)

Thr: +80dBuV, Hyst: +3dBuV, Validation:2sec, Hold:2Sec Thr: +80dBuV, Hyst: +3dBuV, Validation:20sec, Hold:10Sec

Thr: +80dBuV, Hyst: +3dBuV, Validation:180sec, Hold:60Sec

The behavior observed has been compatible with the definition with an accuracy error on the measure of about 2 dBuV and timing errors of about 1-2 seconds

The traps will be sent if the instant the alarm rises up, but the RF value and the time in the var-binds will be related to the first sample out of the range.

Under the alarm condition the RF alarm led on the panel must be on (flashing if the alarms are more than one on the channel list) and clicking on the channel number of the correspondent tuner the RF error will be displayed. In case of more errors on the related channel, they will rotate for about 30 seconds in a sequence carousel. In SmartScan Mode the behavior expected is the same of the normal Scanning mode because this parameter is continuous and always available on the channel.

REPLAY ENABLED TRAPS

The RF-H1 alarm trap is replayed with its original status, time and RF value. Trap Counter is normally incremented. All data and parameters are available in the MIB L3-4 to set and test this configuration.

NOTES

Over 80dBuV the internal full band automatic attenuator starts to attenuate with a control hysteresis of 2 dBuV. This causes two effects : 1) less measurement accuracy (as specified) and less sensitivity for lower carrier on other frequencies





16.11.4 **RF-H2 Monitor test (Tuner-1 Tuner-2)**

An RF combined signal with one or more frequencies are applied to the tuner1 and/or tuner2 RF inputs. One carrier RF level will be varied to test the alarms the other ones will be used to fill the scanning list. We have used 100.80MHz (RF sweeping) and 100.50MHz(RF stable).

By slowly changing the the RF levels (in compatible way with the Validation and Hold time chosen) around the test zone, wait for the alarms and go back up to the starting point.

Tested in Static mode first.

In static mode the alarm rises up after the validation time, a trap will be sent when the status variable changes but with the time and the RF value of the first sample out of the range. When the RF level is lower or equal to THR- Hysteresis, the status alarm after the hold time comes back to the (ok) state and another trap will be sent with the RF value and the time of the first valid sample.

We have tested in static mode with the following values: Thr: +110dBuV, Hyst: +3dBuV, Validation:2sec, Hold:2Sec Thr: +110dBuV, Hyst: +3dBuV, Validation:20sec, Hold:10Sec Thr: +110dBuV, Hyst: +3dBuV, Validation:180sec, Hold:60Sec

The behavior observed has been compatible with the definition with an accuracy error on the measure of about 2 dBuV and timing errors of about 1-2 seconds

Typical Accuracy and Precision expected in general: Min RF value readable: -6 dBuV, Max RF value readable: +123 dBuV Accuracy: +-3 dBuV, Precision +-2 dBuV (Range -6 dBuV to +19 dBuV) Accuracy: +-2 dBuV, Precision +-1 dBuV (Range +20 dBuV to +79 dBuV) Accuracy: +-3 dBuV, Precision +-3 dBuV (Range +80 dBuV to +123 dBuV)

_		Monitorir	ng D-t-	T			Settings		A	To		T	2			
	н	Tuner-1	Data	Tuner-2 Da	a		Setu	ф	Admin	Tur	ner-1	Tun	er-z	Au	dio	Logout
GL	OBAL	RF L2	RF _L	1 RF	н1 .	IF _{H2}	DEV	PILOTL	PILOT	RD	SL	RDS	AUE	DIO _{DEV}	AUDIOL	AUDIO _R
В	LER	PI	PS	Т	P	TA	ст	RT	AF	EO	N	н	Т	мс	RT+	ODA ₁
0	DA 2															
TUN	ER1 - RAI	DIO FRE	QUENC	CY HIGH LI	VEL 2											
			Preset	Frequency	Scan Time	Chan Mask	Thr	Hysteresis	Validation	Hold	Mask	Email	Trap		Label	
Chan						and the second s	110.00 dB.M	2.00 40.4/	20 605	10 sec 1	inmasked	dirable	enable	Turs1 RE	-H2 110 dB	w Thr (Chan I)
Chan 1	Channel 1 U	Inder Test		100.80 MHz	5 sec	unmasked	110.00 0004	3.00 ubuv	20 300	To see t	аппизкси	uisable	enable	TUITIN	-112 110 000	
Chan 1 2	Channel 1 U Channel 2 U	Inder Test Inder Test		100.80 MHz 100.50 MHz	5 sec	unmasked	110.00 dBuV	3.00 dBuV	20 sec	10 sec L	ınmasked	disable	enable	Tun1 RF	-H2 110 dBu	iv Thr (Chan2)
Chan 1 2 3	Channel 1 U Channel 2 U Channel 3 U	Inder Test Inder Test Inder Test		100.80 MHz 100.50 MHz 100.80 MHz	5 sec 5 sec 5 sec	unmasked unmasked unmasked	110.00 dBuV 110.00 dBuV	3.00 dBuV 3.00 dBuV 3.00 dBuV	20 sec 20 sec	10 sec 1 10 sec 1	ınmasked ınmasked	disable disable	enable enable	Tun1 RF	-H2 110 dBu -H2 110 dBu	ıv Thr (Chan2) ıv Thr (Chan3)

Under the alarm condition the RF alarm led on the panel must be on (not flashing) and clicking on the channel number of the correspondent tuner the RF error will be displayed. ("RF_LEV_H2")



Description		Source	Time
tranOID: .iso.org		192,168,0,180	2013-10-30 16:08:30
trapOID: .iso.orc	dod.internet.private.enterprises.axelTech.monitorsFm.wolf2MS.wolf2msTraps.modules.tuner1Traps.tuner1RfMpx.tuner1RfMpx.truner1RfMpx.tuner	192.168.0.180	2013-10-30 16:08:19
trapOID: .iso.orc	.dod.internet.private.enterprises.axelTech.monitorsFm.wolf2M5.wolf2M5.modules.generalTraps.generalTrapPrefix.iActivityHeartNotify	192.168.0.180	2013-10-30 16:06:29 🔳
trapOID: .iso.org	.dod.internet.private.enterprises.axelTech.monitorsFm.wolf2M5.wolf2msTraps.modules.tuner1Traps.tuner1RfMpx.tuner1RfMpxPrefix.iTun1RFlevelHigh2AlarmStatusNotify	192.168.0.180	2013-10-30 16:06:09
trapOID: .iso.org	.dod.internet.private.enterprises.axelTech.monitorsFm.wolf2MS.wolf2msTraps.modules.tuner1Traps.tuner1RfMpx.tuner1RfMpxPrefix.iTun1RFlevelHigh2AlarmStatusNotify	192.168.0.180	2013-10-30 16:05:59
trapOID: .iso.org	.dod.internet.private.enterprises.axelTech.monitorsFm.wolf2MS.wolf2msTraps.modules.tuner1Traps.tuner1Rds.tuner1RdsPrefix.iTun1DataScanPiStatusNotify	192.168.0.180	2013-10-30 16:02:31
trapOID: .iso.org	.dod.internet.private.enterprises.axelTech.monitorsFm.wolf2M5.wolf2msTraps.modules.tuner1Traps.tuner1RfMpx.tuner1RfMpxPrefix.iTun1RFlevelHigh2AlarmStatusNotify	192.168.0.180	2013-10-30 15:59:42
trapOID: .iso.org	.dod.internet.private.enterprises.axelTech.monitorsFm.wolf2MS.wolf2msTraps.modules.tuner1Traps.tuner1RfMpx?tuner1RfMpx?trafx.iTun1RFleveHigh2AlarmStatusNotfy	192.168.0.180	2013-10-30 15:59:32
AT ISO OF	dod infernet nivate enternises aveilert montorstm montorstm montors transmonder transmontation transmontation of the second s	192 168 11 180	2013-10-30 15/59/31
Source:	192.168.0.180 Timestamp: 8 hours 10 minutes 14 seconds SNMP Version:		2
Trap OID:	. iso. org. dod. internet. private. enterprises. axelTech. monitorsFm. wolf2MS. wolf2Ms Traps. modules. tuner 1 Traps. tuner 1 RfMpx. tuner 1 RfMpxPrefix. iT	un1RF1evelHigh2	AlarmStatusNotify
Variable Bin	dings:		
Name:	.iso.org.dod.internet.mgmt.mib-2.system.sysUpTime.0		
Value	[TimeTicks] & hours 10 minutes 14 seconds (2041444)		
varue.			
Name:	snmpTrapOID		
Value:	[OID] iTun1RFlevelHigh2AlarmStatusNotify		
Name:	iso org dod internet private enterprises axelTech monitorsFm wolf2MS tuner1Module tun1Data tun1DataTable tun1DataFntry fTun1Fren 1		
Value			
varue.	[Octabuling] 100.00		
Name:	. iso. org. dod.internet. private.enterprises.axelTech.monitorsFm.wolf2MS.tuner1Module.tun1Data.tun1DataTable.tun1DataEntry.fTun1RFlevelVal.1		
Value:	[OctetString] 94.00		
Name:	.iso.org. dod.internet.private.enterprises.axelTech.monitorsFm.wolf2MS.tuner1Module.tun1Freqs.tun1FreqsTable.tun1FreqsEntry.aTun1RFlevelHi	gh2TrapLabel.1	
Value:	[OctetString] Tun1 RF-H2 110 dBuv Thr (Chan1)		
Name:	iso org dod internet private enterprises avelTech monitorsFrn wolf2MS tuner Module tun IData tun IData Table tun IDataFatry iTun IRFleveHigh2	AlarmStatus 1	
1 value.		riidi illioidi (45. 1	
value:	[imega] ok (0)		
Name:	iso org dod internet private enterprises avel Tech monitors Em wolf2MS tuner Module tun Freqs tun FreqsTable tun FreqsEntry iTun RElevel His	zh2Mask 1	
Values			
value.	[miegel] amiesken (u)		
Name:	.iso.org.dod.internet.private.enterprises.axelTech.monitorsFm.wolf2MS.wolf2MS.Traps.aTrapDateTime.0		
Value	Content String 2012.10.20.16:05:42		
value.			
Name:	iso, org. dod. internet.private.enterprises.axelTech.monitorsFm.wolf2MS.wolf2MS.Traps.iTrapCounter. 0		
Value	Integer 16		
	[meeka] 20		
Name:	. iso. org. dod. internet. private. enterprises.axelTech. monitorsFm. wolf2MS, tuner1Module.tun1Data.tun1DataTable.tun1DataEntry.tun1DataIndex.1		
Value	Integer 1		
, and .	[mege] .		

Tested in scanning mode with another carrier with a constant RF at 70dBuV to alternate the conditions.

F1=100.80MHZ (sweeping from 120dBuV to 100dBuV) F2=100.50 MHZ (70dBuV stable) Thr: +110dBuV, Hyst: +3dBuV, Validation:2sec, Hold:2Sec Thr: +110dBuV, Hyst: +3dBuV, Validation:20sec, Hold:10Sec Thr: +110dBuV, Hyst: +3dBuV, Validation:180sec, Hold:60Sec

The behavior observed has been compatible with the specification with an accuracy error on the measure of about 2 dBuV and timing errors of about 1-2 seconds

The traps will be sent if the instant the alarm rises up, but the RF value and the time in the var-binds will be related to the first sample out of the range.

Under the alarm condition the RF alarm led on the panel must be on (flashing if the alarms are more than one on the channel list) and clicking on the channel number of the correspondent tuner the RF error will be displayed. In case of more errors on the related channel, they will rotate for about 30 seconds in a sequence carousel. In SmartScan Mode the behavior expected is the same of the normal Scanning mode because this parameter is continuous and always available on the channel.

REPLAY ENABLED TRAPS

The RF-H2 alarm trap is replayed with its original status, time and RF value. Trap Counter is normally incremented. All data and parameters are available in the MIB L3-5 to set and test this configuration.

PLANNED IMPROVEMENTS

Sample of the RF Carrier Offset after its stabilization in the channel change transient (already improved for the 0.6.3 release).

Add in the panel display even the out of range RF value in the list error sequence after the alarm label "RF LEV H2"

NOTES

over 80dBuV the internal full band automatic attenuator starts to attenuate with a control hysteresis of 2 dBuV. This causes two effects : 1) less measurement accuracy (as specified) and less sensitivity for lower carrier on other frequencies



16.11.5 Frequency Deviation Test (Tuner-1 Tuner-2)

An RF combined signal with one or more frequencies are applied to the tuner1 and/or tuner2 RF inputs. One carrier the pilot level will be varied to test the alarms the other ones will be used to fill the scanning list with a stable pilot level. We have used for scanning test 100.80MHz (Pilot sweeping) and 100.50MHz(Pilot stable), RF level >70dBuV.

By slowly changing the Pilot (in compatible way with the Validation and Hold time chosen) around the test zone, wait for the alarms and go back up to the starting point.

Tested in Static mode first.

In static mode the alarm rises up after the validation time, a trap will be sent when the status variable changes but with the time and the Pilot value of the first sample out of the range. When the Pilot level comes back to the (ok) state another trap will be sent with the Pilot value and the time of the first sample valid.

We have tested in static mode with the following values: Tested first as "multilevel alarm": PilotLow=Failure and PilotWindow=Out of Nominal Zone;

PilotLowThr:5.0kHz, PilotThrMin:6.0kHz, PilotThrMax:7.0kHz Hyst: 0.3kHz, Validation:2sec, Hold:2Sec PilotLowThr:5.0kHz, PilotThrMin:6.0kHz, PilotThrMax:7.0kHz Hyst: 0.3kHz, Validation:20sec, Hold:10Sec PilotLowThr:5.0kHz, PilotThrMin:6.0kHz, PilotThrMax:7.0kHz Hyst: 0.3kHz, Validation:180sec, Hold:60Sec

Tested then as: PilotLow=LowThr and PilotWindow=MaxThr;

PilotLowThr:6.0kHz, PilotThrMin:0.0kHz, PilotThrMax:7.0kHz Hyst: 0.3kHz, Validation:2sec, Hold:2Sec PilotLowThr:6.0kHz, PilotThrMin:0.0kHz, PilotThrMax:7.0kHz Hyst: 0.3kHz, Validation:20sec, Hold:10Sec PilotLowThr:6.0kHz, PilotThrMin:0.0kHz, PilotThrMax:7.0kHz Hyst: 0.3kHz, Validation:180sec, Hold:60Sec

The behavior observed in dynamic nominal conditions (75kHz deviation, Mid audio compression/power, varied audio contents) has been compatible with the specifications with an accuracy error on the measure of about +- 0.1 kHz and timing errors of about 1-2 seconds.

Typical Accuracy expected in general (RF Level > 70dBuV):Min Pilot Level value readable : +0.3 kHz, Max Pilot level value readable: +10.0 kHzAccuracy: +-0.2 kHz(Mid mpx power, Dev<80Khz, TDF default, see Notes)</td>Accuracy: -0.1kHz +0.3kHz,(High mpx power, Dev>100Khz, see Notes)Accuracy: +-0.2 kHz ,(Low mpx power, Dev<80Khz, MB default, see Notes)</td>

TUN	ER1 - PILOT OP	ERATIV	VE WINDO	W ZONE										
						Min. Thr	Max. Thr							
	Channel 1 Under Test		100.80 MHz	5 sec	unmasked	6.00 kHz	7.00 kHz	0.30 kHz	20 sec	10 sec	unmasked	disable	enable	Tun1 Pilot 6.00-7.00 Khz Thr (Chan1)

	*													
TUN	TUNER1 - PILOT LOW LEVEL													
		Preset												
	Channel 1 Under Test		100.80 MHz	5 sec	unmasked	5.00 kHz	0.30 kHz	20 sec	10 sec	unmasked	disable	enable	Tun1 Pilot Low 5.00 Khz Thr (Chan1)	



	Operations	ools		
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	Description		Source	Time
	trapOID: .iso.org	.dod.internet.private.enterprises.axelTech.monitorsFm.wolf2M5.wolf2msTraps.modules.tuner1Traps.tuner1RfMpx.tuner1RfMpxPrefix.iTun1PilotLevelAlarmStatusNotify	192.168.0.180	2013-10-31 13:08:05
-	trapOID: .iso.org	.dod.internet.private.enterprises.axelTech.monitorsFm.wolf2MS.wolf2msTraps.modules.tuner1Traps.tuner1RfMpx.tuner1RfMpxPrefix.iTun1PilotLowLevelAlarmStatusNotify	192.168.0.180	2013-10-31 13:07:17
27	trapOID: .1.3.6.	.6.3.1.1.5.1	192.168.0.180	2013-10-31 13:05:54
U U U	A7			
VC.	Source:	192.168.0.180 Timestamp: 1 minute 44 seconds SNMP Version:	2	
	Trap OID:	.iso, org. dod.internet.private.enterprises.axelTech.monitorsFm.wolf2MS.wolf2msTraps.modules.tuner1Traps.tuner1RfMpx.tuner1RfMpxPrefix.iTur	n1PilotLowLevelA	armStatusNotify
	Variable Bin	tings:		-
		•		
	Name:	.iso. org. dod.internet.mgmt.mib-2.system.sysUpTime.0		
	Value:	[TimeTicks] 1 minute 44 seconds (10435)		
	News			
	Ivame:			
	Value:	[UD] 11 un PilotLowLevelAlarmStatusNotify		
	Name:	.iso.org.dod.internet.private.enterprises.axelTech.monitorsFm.wolf2MS.tuner1Module.tun1Data.tun1DataTable.tun1DataEntry.fTun1Freg.1		
	Value:	[OctetString] 100.80		
	Name:	, is o. org. dod. internet. private. enterprises. axelTech. monitors Fm. wolf 2MS. tuner 1 Module. tun 1 Data. tun 1 Data Table. tun 1 Data Entry. fTun 1 Pilot Level Val. 1 Pilot		
5	Value:	[OctetString] 4.81		
2	Neme	is an definite at an interaction and that manipulate metric to the data to the second state to the second state	maiTeenTehal 1	
	Ivame:	iso, org, double net private enterprises axe rech monitors rin wonzwis, tane module to intrreds have contrreds have contrreds the private enterprises axe rech monitors rin wonzwis, tane module to intrreds have contrreds have a contract of the private enterprises axes rech monitors rin wonzwis, tane module to intrreds have been contracted by a contract of the private enterprises axes rech monitors rin wonzwis, tane module to intrreds have been contracted by a contract of the private enterprises axes rech monitors rin wonzwis, tane module to intrreds have been contracted by a contract of the private enterprises axes rech monitors rin wonzwis, tane module to intrreds have been contracted by a contract of the private enterprises axes rech monitors rin wonzwis, tane module to interreds have been contracted by a contract of the private enterprises axes rech monitors rin wonzwis, tane module to interreds have been contracted by a contract of the private enterprises axes rech monitors rin wonzwis, tane module to interreds have been contracted by a contracted by	сусттарьаось т	
-	vanue:	[Uctetstring] Tuni Pilot Low 5.00 Knz Thr (Chan1)		
	Name:	.iso.org.dod internet.private.enterprises.axelTech.monitorsFm.wolf2MS.tuner1Module.tun1Data.tun1DataTable.tun1DataEntry.iTun1PilotLowLevel.	AlarmStatus, 1	
1	Value:	Integer Jarm (1)		
		[model] annu (v)		
	Name:	. is o. org. dod. internet. private. enterprises. axelTech.monitorsFm. wolf 2MS. tuner 1 Module. tun 1 Freqs. tun 1 Freqs. Table. tun 1 Freqs. Entry. iTun 1 Pilot Low Levent and the second	velMask. 1	
	Value:	[Integer] unmasked (0)		
	Name:	.iso.org.dod.internet.private.enterprises.axelTech.monitorsFm.wolf2MS.wolf2msTraps.aTrapDateTime.U		
	Value:	[OctetString] 2013-10-31 13:07:00		
	Name:	iso org dod internet private enterprises axelTech monitorsFm wolf2MS wolf2msTraps iTrapCounter 0		
	Vahue			
		[unc6a] >		
	Name:	.iso.org. dod.internet.private.enterprises.axelTech.monitorsFm.wolf2MS.tuner1Module.tun1Data.tun1DataTable.tun1DataEntry.tun1DataIndex.1		
	Value:	[Integer] 1		
	Description:	"iTun1PilotLowLevelAlarmStatusNotify Notification Trap "		
	I			

Description		Source	Time
trapOID: .iso.org	dod.internet.private.enterprises.axelTech.monitorsFm.wolf2M5.wolf2msTraps.modules.tuner1Traps.tuner1RfMox.tuner1RfMoxPrefix.iTun1PilotLowLevelAlarmStatusNotify	192.168.0.180	2013-10-31 13:23:49
trapOID: .iso.org	dod.internet.private.enterprises.axelTech.monitorsFm.wolf2M5.wolf2msTraps.modules.tuner1Traps.tuner1RfMpx.tuner1RfMpxPrefix.iTun1PilotLevelAlarmStatusNotify	192.168.0.180	2013-10-31 13:23:49
trapOID: .1.3.6.3	.6.3.1.1.5.1	192.168.0.180	2013-10-31 13:23:00
trapOID: .iso.org	dod.internet.private.enterprises.axelTech.monitorsFm.wol/2MS.wol/2msTraps.modules.tuner1Traps.tuner1RHMpx.tuner1RHMpxPrehx.iTun1PilotLevelAlamStatusNotity ded internet.private.enterprises.axelTech.monitorsFm.wol/2MS.wol/2msTraps.modules.tuner1Traps.tuner1RHMpxPrehx.itune1DibtovPrehx.iTun1PilotLevelAlamStatusNotity	192.168.0.180	2013-10-31 13:08:05
trapOID: .1.3.6.	add and the prover end press add techniquicors in worzho, worzh steps indudes and traps and transport of the provement o	192.168.0.180	2013-10-31 13:05:54
.			
Source:	192.168.0.180 Timestamp: 18 minutes 16 seconds SNMP Version:	2	
Trap OID:	. is o. org. dod. internet. private. enterprises. axel Tech. monitors Fm. wolf 2MS. wolf 2ms Traps. modules. tuner 1 Traps. tuner 1 Rf Mpx. tuner 1 Rf Mpx Prefix. iTraps. for the second sec	in1PilotLevelAlarm	StatusNotify
Variable Bin	lings:		
Name:	.iso. org. dod.internet.mgmt.mib-2.system.sysUpTime.0		
Value:	[TimeTicks] 18 minutes 16 seconds (109626)		
Name:	snmpTrapOID		
Value:	[OID] iTun1PilotLevelAlarmStatusNotify		
Name:	iso org dod internet private enterprises avelTech monitorsEm wolf2MS tuner1Module tun1Data tun1DataTable tun1DataEntry fTun1Eren 1		
Value:	[OctetString] 100.80		
Neme	• • • • • • • • • • • • • • • • • • •	1	
Name:	. iso. org. doa. miernet. private. enterprises. axe i ech. montorsr.m. woir2005. uuner intoquie. tun i Data. tun i Data. Lui i Data. tun i	1	
value:	[Octastring] 4.55		
Name:	. is o. org. dod. internet. private. enterprises. axelTech. monitors Fm. wolf 2MS. tuner 1 Module. tun 1 Freqs. tun 1 Freqs. Table. Tabl	TrapLabel 1	
Value:	[OctetString] Tun1 Pilot 6.00-7.00 Khz Thr (Chan1)		
Name:	.iso.org.dod.internet.private.enterprises.axelTech.monitorsFm.wolf2MS.tuner1Module.tun1Data.tun1DataTable.tun1DataEntry.iTun1PilotLevelAlar	mStatus. 1	
Value:	[Integer] alarm (1)		
Name:	.iso.org.dod.internet.private.enterprises.axel1ech.monitorshm.wolf2MS.tuner1Module.tun1Freqs.tun1FreqsTable.tun1FreqsEntry.i1un1PilotLevelf	Mask. 1	
Value:	[Integer] unmasked (0)		
Name:	.iso.org.dod.internet.private.enterprises.axelTech.monitorsFm.wolf2MS.wolf2MS.aTrapSatFirapDateTime.0		
Value:	[OctetString] 2013-10-31 13:23:32		
News			
Ivame:	.iso.org.uou.internet.private.enterprises.axei i ech montorisr in wonizivis. Wolfzms i raps.i i rapt.outier. U		
vanue:	[integer] 2		
Name:	.iso.org.dod.internet.private.enterprises.axelTech.monitorsFm.wolf2MS.tuner1Module.tun1Data.tun1DataTable.tun1DataEntry.tun1DataIndex.1		
Value:	[Integer] 1		
Description	Erne (Dilati and Chain Maille Maille atha Tan II		
Description:	11 util+noutevensialusmouly mounication. Irap ~		

Under the alarm condition the MPX alarm led on the panel must be on (not flashing) and clicking on the channel number of the correspondent tuner the MPX error will be displayed. ("PILOT_LEV")



Tested in scanning mode with another carrier to alternate the conditions. F1=100.80MHZ (Pilot sweeping from 4 kHz to 8kHz) F2=100.50 MHZ (6.5 kHz stable)

Tested first as "multilevel alarm": PilotLow=Failure and PilotWindow=Out of Nominal Zone; PilotLowThr:5.0kHz, PilotThrMin:6.0kHz, PilotThrMax:7.0kHz Hyst: 0.3kHz, Validation:2sec, Hold:2Sec PilotLowThr:5.0kHz, PilotThrMin:6.0kHz, PilotThrMax:7.0kHz Hyst: 0.3kHz, Validation:20sec, Hold:10Sec PilotLowThr:5.0kHz, PilotThrMin:6.0kHz, PilotThrMax:7.0kHz Hyst: 0.3kHz, Validation:180sec, Hold:60Sec

Tested then as: PilotLow=LowThr and PilotWindow=MaxThr;

PilotLowThr:6.0kHz, PilotThrMin:0.0kHz, PilotThrMax:7.0kHz Hyst: 0.3kHz, Validation:2sec, Hold:2Sec PilotLowThr:6.0kHz, PilotThrMin:0.0kHz, PilotThrMax:7.0kHz Hyst: 0.3kHz, Validation:20sec, Hold:10Sec PilotLowThr:6.0kHz, PilotThrMin:0.0kHz, PilotThrMax:7.0kHz Hyst: 0.3kHz, Validation:180sec, Hold:60Sec

The behavior observed has been compatible with the specifications with the same static case accuracy error

f2MS															RAXEL		
						Cutor.											
•	Monitorin	g Data	Tuper-2 Data			Settings	ID	Admin	Т	uper-1	Tup	er-7	Δι	udio	Logout		
		b'utu					*	, and the second s							Logoat		
OBAL	RF 12	RF L1	RF H	II R	F _{H2}	DEV	PILOTL	PILOT	R	DSL	RDS	AUD	DIO _{DEV}	AUDIO L	AUDIO _R		
LER	PI	PS	ТР		ГА	ст	RT	AF	E	ON	н	П	мс	RT+	ODA1		
DA 2																	
DA ₂																	
DA ₂ IER1 - R	ADIO FRE	QUENC	Y LOW LEV	/EL 2													
DA ₂ IER1 - R Char	ADIO FRE	QUENC	Y LOW LE V Frequency	/EL 2 Scan Time			Hysteresis										
ER1 - R Char Channel :	ADIO FREG 1 Label 1 Under Test	QUENC Preset	Y LOW LEV Frequency 100.80 MHz	/EL 2 Scan Time 5 sec	Chan Mask unmasked	Thr 30.00 dBuV	Hysteresis 3.00 dBuV	Validation 20 sec	Hold 10 sec	<u>Mask</u> unmasked	Email disable	Trap enable	Tun1	Label RF-L2 30 dBu	v Thr (Chan 1)		
IDA 2 IER1 - R Char Channel 2 Channel 2	ADIO FREG Label LUnder Test 2 Under Test	QUENC Preset	Y LOW LEV Frequency 100.80 MHz 100.50 MHz	/EL 2 Scan Time 5 sec 5 sec	Chan Mask unmasked unmasked	Thr 30.00 dBuV 30.00 dBuV	Hysteresis 3.00 dBuV 3.00 dBuV	Validation 20 sec 20 sec	Hold 10 sec 10 sec	Mask unmasked unmasked	Email disable disable	Trap enable enable	Tun1 l	Label RF-L2 30 dBut RF-L2 30 dBut	v Thr (Chan 1) / Thr (Chan2)		
ER1 - R Chan Channel 2 Channel 2 Channel 2	ADIO FREG 1 Label 1 Under Test 2 Under Test 3 Under Test	QUENC Preset	Y LOW LEV Frequency 100.80 MHz 100.50 MHz 100.80 MHz	/EL 2 Scan Time 5 sec 5 sec 5 sec	Chan Mask unmasked unmasked unmasked	Thr 30.00 dBuV 30.00 dBuV 30.00 dBuV	Hysteresis 3.00 dBuV 3.00 dBuV 3.00 dBuV	Validation 20 sec 20 sec 10 sec	Hold 10 sec 5 sec	Mask unmasked unmasked unmasked	Email disable disable disable	Trap enable enable enable	Tun11 Tun11 Tun11	Label RF-L2 30 dBur RF-L2 30 dBur RF-L2 30 dBur	v Thr (Chan 1) / Thr (Chan 2) / Thr (Chan 3)		
	A OBAL	Monitorin Tuner-1 OBAL RF 12 NER PI	Monitoring Tuner-1 Data OBAL RF12 RF13 LER PI PS	Monitoring Tuner-1 Data Tuner-2 Data OBAL RF12 RF11 RF1 LER PI PS TP	Monitoring Tuner-1 Data Tuner-2 Data OBAL RF _{L2} RF _{L1} RF _{H1} R LER PI PS TP T	Monitoring Tuner-1 Data Tuner-2 Data OBAL RF ₁₂ RF ₁₁ RF _{H1} RF _{H2} LER PI PS TP TA	Monitoring Tuner-1 Data Tuner-2 Data Settings DBAL RF 12 RF 11 RF 141 RF 142 DEV LER PI PS TP TA CT	Monitoring Tuner-1 Data Tuner-2 Data OBAL RF 12 RF 11 RF 141 RF 142 DEV PILOT L LER PI PS TP TA CT RT	Monitoring Tuner-1 Data Tuner-2 Data DBAL RF12 RF11 RF142 DEV PILOTL PILOT LER PI PS TP TA CT RT AF	Monitoring Tuner-1 Data Tuner-2 Data DBAL RF ₁₂ RF ₁₁ RF _{H2} DEV PILOT _L PILOT R LER PI PS TP TA CT RT AF E	Monitoring Tuner-1 Data Tuner-2 Data DBAL RF12 RF11 RFH1 RFH2 DEV PILOTL PILOT RDSL LER PI PS TP TA CT RT AF EON	Monitoring Tuner-1 Data Tuner-2 Data OBAL RF12 RF11 RF11 RF12 DEV PILOTL PILOT RDSL RDS LER PI PS TP TA CT RT AF EON JH	Monitoring Tuner-1 Data Tuner-2 Data OBAL RF 12 RF 11 RF H1 RF H2 DEV PILOT L PILOT RDS AUC LER PI PS TP TA CT RT AF EON IH T	Monitoring Tuner-1 Data Tuner-2 Data DBAL RF _{L2} RF _{H1} RF _{H2} DEV PILOT _L PILOT RDS _L RDS AUDIO _{DEV} ALER PI PS TP TA CT RT AF EON IH TMC	Monitoring Tuner-1 Data Tuner-2 Data DBAL RF D RF H1 RF H1 RF H2 DEV PILOT PILOT RDSL RDS AUDIO DEV AUDIO L LER PI PS TP TA CT RT AF EON JH TMC RT.		

In scanning mode all traps will be sent in the same way but the validation and hold time must be calculated on the time the scanner is observing the channel.

TUNER-1	ı ——						
		Channel Label	Mode	RF			
	100.80 MH:	Channel 1 Under Test	SCAN	ALARM	ALARM	ALARM	^
					МРХ		BLER
				74.00 dBuV	57.60 kHz	5001	000 %
				Carrier M.Path			TP TA
				0 ppm 0 %	47.38 kHz	polle	OFF ON
							AF EON
				-37.0 -38.0 dBr	7.22 kHz	SPEECH	ок ок
							RT RT+
				- 69.00 dBr	3.00 kHz	ок	ОК
							TMC ODA-1
				- 1.24 dBr	- 1.11 dBr	NO_PROG	
							IH ODA-2
				-11.77 dBr	- 10.14 dBr	MONO STATIC	
	Frequency	Channel Label	Mode	RF			
	100.50 MH:	Channel 2 Under Test	SCAN	ALARM	ALARM	ALARM	~
		Channel Label	Mode	RF			
	100.80 MH:	Channel 3 Under Test	SCAN	ALARM	ALARM	ALARM	~
		Channel Label	Mode	RF			
4	100.50 MH:	Channel 4 Under Test	SCAN	ALARM	ALARM	ALARM	~
Ch. Mem.	Frequency	Channel Label	Mode	RF	DEVIATION	RDS Data	

The traps will be sent if the instant the alarm rises up, but the Pilot Level value and the time in the var-binds will be related to the first sample out of the range.



Under the alarm condition the MPX alarm led on the panel must be on (flashing if the alarms are more than one on the channel list) and clicking on the channel number of the correspondent tuner the MPX error will be displayed. In case of more errors on the related channel, they will rotate for about 30 seconds in a sequence carousel.

In SmartScan Mode the behavior expected is the same of the normal Scanning mode because this parameter is continuous and always available on the channel.

REPLAY ENABLED TRAPS

The PILOT LEVEL alarm trap is replayed with its original status, time and value. Trap Counter is normally incremented. All data and parameters are available in the MIB L3-5 to set and test this configuration.

PLANNED IMPROVEMENTS

Add in the panel display even the out of range Pilot Level value in the list error sequence after the alarm label "PILOT_LEV"

NOTES

Noticed (as already measured and documented by MB) a dependence of the measure from the deviation/power of the signal. With strong audio compression (over 6.0 dBitubs412) or very high deviation (over 100kHz) the error range can be : -0.1kHz to +0.3kHz

Testing under low mpx power conditions and normal deviation(power less than 1 dBitubs412, deviation less than 80kHz) , the loss of precision caused from the deviation/power dependence is typically less than 0.1kHz.



16.11.6 **Pilot Level – Low and Windows combined Test (Tuner-1 Tuner-2)**

An RF combined signal with one or more frequencies are applied to the tuner1 and/or tuner2 RF inputs. One carrier the pilot level will be varied to test the alarms the other ones will be used to fill the scanning list with a stable pilot level. We have used for scanning test 100.80MHz (Pilot sweeping) and 100.50MHz(Pilot stable), RF level >70dBuV.

By slowly changing the Pilot (in compatible way with the Validation and Hold time chosen) around the test zone, wait for the alarms and go back up to the starting point.

Tested in Static mode first.

In static mode the alarm rises up after the validation time, a trap will be sent when the status variable changes but with the time and the Pilot value of the first sample out of the range. When the Pilot level comes back to the (ok) state another trap will be sent with the Pilot value and the time of the first sample valid.

We have tested in static mode with the following values: Tested first as "multilevel alarm": PilotLow=Failure and PilotWindow=Out of Nominal Zone;

PilotLowThr:5.0kHz, PilotThrMin:6.0kHz, PilotThrMax:7.0kHz Hyst: 0.3kHz, Validation:2sec, Hold:2Sec PilotLowThr:5.0kHz, PilotThrMin:6.0kHz, PilotThrMax:7.0kHz Hyst: 0.3kHz, Validation:20sec, Hold:10Sec PilotLowThr:5.0kHz, PilotThrMin:6.0kHz, PilotThrMax:7.0kHz Hyst: 0.3kHz, Validation:180sec, Hold:60Sec

Tested then as: PilotLow=LowThr and PilotWindow=MaxThr;

PilotLowThr:6.0kHz, PilotThrMin:0.0kHz, PilotThrMax:7.0kHz Hyst: 0.3kHz, Validation:2sec, Hold:2Sec PilotLowThr:6.0kHz, PilotThrMin:0.0kHz, PilotThrMax:7.0kHz Hyst: 0.3kHz, Validation:20sec, Hold:10Sec PilotLowThr:6.0kHz, PilotThrMin:0.0kHz, PilotThrMax:7.0kHz Hyst: 0.3kHz, Validation:180sec, Hold:60Sec

The behavior observed in dynamic nominal conditions (75kHz deviation, Mid audio compression/power, varied audio contents) has been compatible with the specifications with an accuracy error on the measure of about +- 0.1 kHz and timing errors of about 1-2 seconds.

Typical Accuracy expected in general (RF Level > 70dBuV):Min Pilot Level value readable : +0.3 kHz, Max Pilot level value readable: +10.0 kHzAccuracy: +-0.2 kHz(Mid mpx power, Dev<80Khz, TDF default, see Notes)</td>Accuracy: -0.1kHz +0.3kHz,(High mpx power, Dev>100Khz, see Notes)Accuracy: +-0.2 kHz ,(Low mpx power, Dev<80Khz, MB default, see Notes)</td>

TUN	UNER1 - PILOT OPERATIVE WINDOW ZONE													
						Min. Thr	Max. Thr							
	Channel 1 Under Test		100.80 MHz	5 sec	unmasked	6.00 kHz	7.00 kHz	0.30 kHz	20 sec	10 sec	unmasked	disable	enable	Tun1 Pilot 6.00-7.00 Khz Thr (Chan1)

	·												
TUN	ER1 - PILOT LOW	LEVE	L										
		Preset											
	Channel 1 Under Test		100.80 MHz	5 sec	unmasked	5.00 kHz	0.30 kHz	20 sec	10 sec	unmasked	disable	enable	Tun1 Pilot Low 5.00 Khz Thr (Chan1)



	Operations	ools		
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	Description		Source	Time
	trapOID: .iso.org	.dod.internet.private.enterprises.axelTech.monitorsFm.wolf2M5.wolf2msTraps.modules.tuner1Traps.tuner1RfMpx.tuner1RfMpxPrefix.iTun1PilotLevelAlarmStatusNotify	192.168.0.180	2013-10-31 13:08:05
-	trapOID: .iso.org	.dod.internet.private.enterprises.axelTech.monitorsFm.wolf2MS.wolf2msTraps.modules.tuner1Traps.tuner1RfMpx.tuner1RfMpxPrefix.iTun1PilotLowLevelAlarmStatusNotify	192.168.0.180	2013-10-31 13:07:17
27	trapOID: .1.3.6.	.6.3.1.1.5.1	192.168.0.180	2013-10-31 13:05:54
U U U	A7			
VC.	Source:	192.168.0.180 Timestamp: 1 minute 44 seconds SNMP Version:	2	
	Trap OID:	.iso, org. dod.internet.private.enterprises.axelTech.monitorsFm.wolf2MS.wolf2msTraps.modules.tuner1Traps.tuner1RfMpx.tuner1RfMpxPrefix.iTur	n1PilotLowLevelA	armStatusNotify
	Variable Bin	tings:		-
		•		
	Name:	.iso. org. dod.internet.mgmt.mib-2.system.sysUpTime.0		
	Value:	[TimeTicks] 1 minute 44 seconds (10435)		
	News			
	Ivame:			
	Value:	[UD] 11 un PilotLowLevelAlarmStatusNotify		
	Name:	.iso.org.dod.internet.private.enterprises.axelTech.monitorsFm.wolf2MS.tuner1Module.tun1Data.tun1DataTable.tun1DataEntry.fTun1Freg.1		
	Value:	[OctetString] 100.80		
	Name:	, is o. org. dod. internet. private. enterprises. axelTech. monitors Fm. wolf 2MS. tuner 1 Module. tun 1 Data. tun 1 Data Table. tun 1 Data Entry. fTun 1 Pilot Level Val. 1 Pilot		
5	Value:	[OctetString] 4.81		
2	Neme	is an definite at an interaction and that manipulate matrix (the matrix is the data to the second state to the second state of the	maiTeenTehal 1	
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-	vanue:	[Uctetstring] Tuni Pilot Low 5.00 Knz Thr (Chan1)		
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Name: iso org dod internet private enterprises axelTech monitorsFm wolf2MS tuner 1Module tun1Data tun1Data Table tun1DataEntry iTun1PilotLevelAlarmStatus 1 Value: [Integer] alarm (1) Name: iso org dod internet private enterprises axelTech monitorsFm wolf2MS tuner 1Module tun1Freqs tun1FreqsTable tun1PreqsEntry iTun1PilotLevelMask 1 Value: [Integer] unmasked (0) Name: iso org dod internet private enterprises axelTech monitorsFm wolf2MS wolf2ms Traps aTrapDateTime 0 Value: [OctetString] 2013-10-31 13:23:32 Name: iso org dod internet private enterprises axelTech monitorsFm wolf2MS wolf2ms Traps iTrapCounter.0 Value: [Integer] 2 Name: iso org dod internet private enterprises axelTech monitorsFm wolf2MS.tuner1Module tun1Data tun1Data Table tun1DataEntry.tun1DataIndex.1 Value: [Integer] 2 Name: iso org dod internet.private enterprises axelTech monitorsFm wolf2MS.tuner1Module tun1Data.tun1Data Table tun1DataEntry.tun1DataIndex.1 Value: [Integer] 1 Description: "Tun1PilotLevelStatusNotify Notification Trap *	Value:	[OctetString] Tun1 Pilot 6.00-7.00 Khz Thr (Chan1)		
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Name: iso org dod internet private enterprises axelTech monitorsFm wolf2MS tuner1Module tun1Freqs Table tun1FreqsEntry iTun1PilotLevelMask.1 Value: [Integer] unmasked (0) Name: iso org dod internet private enterprises axelTech monitorsFm wolf2MS.wolf2msTraps.aTrapDateTime.0 Value: [OctedString] 2013-10-31 13 23:32 Name: iso org dod internet private enterprises axelTech monitorsFm wolf2MS.wolf2msTraps.iTrapCounter.0 Value: [Integer] 2 Name: iso org dod internet private enterprises axelTech monitorsFm wolf2MS.tuner1Module tun1Data.tun1DataTable tun1DataEntry.tun1DataIndex.1 Value: [Integer] 1 Description: "Tun1PilotLevelStatusNotify Notification Trap *	Value:	[Integer] alarm (1)		
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Name: iso.org.dod.internet.private enterprises axelTech.monitorsFm.wolf2MS.wolf2msTraps.aTrapDateTime.0 Value: [OctetString] 2013-10-31 13.23.32 Name: iso.org.dod.internet.private enterprises axelTech.monitorsFm.wolf2MS.wolf2msTraps.iTrapCounter.0 Value: [Integer] 2 Name: iso.org.dod.internet.private enterprises axelTech.monitorsFm.wolf2MS tuner1Module.tun1Data.tun1DataTable.tun1DataEntry.tun1DataIndex.1 Value: [Integer] 1 Description: "Tun1PilotLevelStatusNotify Notification Trap *		[
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Value: [Integer] 2 Name: isso org dod internet private enterprises axelTech monitorsFm wolf2MS, tuner1Module tun1Data tun1Data Table tun1DataEntry, tun1DataIndex, 1 Value: [Integer] 1 Description: "Tun1PilotLevelStatusNotify Notification Trap"	Name:	iso org. dod internet private enterprises axelTech monitorsFm wolf2MS.wolf2msTraps iTrapCounter 0		
Name: isso org.dod.internet.private.enterprises.axelTech.monitorsFm.wolf2MS.tuner1Module.tun1Data.tun1DataTable.tun1DataEntry.tun1DataIndex.1 Value: [Integer] 1 Description: "Tun1PilotLevelStatusNotify Notification Trap *	Value:	[Integer] 2		
Name: iso org dod internet private enterprises axelTech monitorsFm wolf2MS tuner IModule tun1Data tun1DataTable tun1DataEntry tun1DataIndex.1 Value: [Integer] 1 Description: "iTun1PilotLevelStatusNotify Notification Trap *		(
Value: [Integer] 1 Description: "Tun1PilotLevelStatusNotify Notification Trap "	Name:	. is o. org. dod. internet. private. enterprises. axel Tech. monitors Fm. wolf 21 MS. tuner 1 Module. tun 1 Data. tun 1 Data Table. tun 1 DataEntry. tun 1 DataIndex. 1 State Stat		
Description: "Tun1PilotLevelStatusNotify Notification Trap "	Value:	[Integer] 1		
	Description:	"iTun 1PilotLevelStatusNotify Notification Trap "		

Under the alarm condition the MPX alarm led on the panel must be on (not flashing) and clicking on the channel number of the correspondent tuner the MPX error will be displayed. ("PILOT_LEV")



Tested in scanning mode with another carrier to alternate the conditions. F1=100.80MHZ (Pilot sweeping from 4 kHz to 8kHz) F2=100.50 MHZ (6.5 kHz stable)

Tested first as "multilevel alarm": PilotLow=Failure and PilotWindow=Out of Nominal Zone; PilotLowThr:5.0kHz, PilotThrMin:6.0kHz, PilotThrMax:7.0kHz Hyst: 0.3kHz, Validation:2sec, Hold:2Sec PilotLowThr:5.0kHz, PilotThrMin:6.0kHz, PilotThrMax:7.0kHz Hyst: 0.3kHz, Validation:20sec, Hold:10Sec PilotLowThr:5.0kHz, PilotThrMin:6.0kHz, PilotThrMax:7.0kHz Hyst: 0.3kHz, Validation:180sec, Hold:60Sec

Tested then as: PilotLow=LowThr and PilotWindow=MaxThr;

PilotLowThr:6.0kHz, PilotThrMin:0.0kHz, PilotThrMax:7.0kHz Hyst: 0.3kHz, Validation:2sec, Hold:2Sec PilotLowThr:6.0kHz, PilotThrMin:0.0kHz, PilotThrMax:7.0kHz Hyst: 0.3kHz, Validation:20sec, Hold:10Sec PilotLowThr:6.0kHz, PilotThrMin:0.0kHz, PilotThrMax:7.0kHz Hyst: 0.3kHz, Validation:180sec, Hold:60Sec

The behavior observed has been compatible with the specifications with the same static case accuracy error

Noli	2MS														R AXEI
						a ut									
	ft Tuner	ring - 1 Data	Tuner-2 Dat	а		Settings	ıр	Admin	Т	uner-1	Tun	er-2	Au	ıdio	Logout
<u> </u>					-	DEV	DILOT	DIOT			nDC	AUD	NO	ALIDIO	
GLU	DBAL Kr	KP L	1 KF	н1 К	F H2	DEV	PILOT	PILUI	ĸ	DSL	KDS	AUL	DEV DEV	AUDIOL	AUDIO _R
В	LER PI	PS	Т	, -	ΓA	ст	RT	AF	E	ON	н	П	мс	RT.	ODA ₁
0	DA 2														
TUN	ER1 - RADIO FR	EQUENC	EY LOW LE	VEL 2											
		Preset	Frequency	Scan Time			Hysteresis	Validation							
1	Channel 1 Under Te	st	100.80 MHz	5 sec	unmasked	30.00 dBuV	3.00 dBuV	20 sec	10 sec	unmasked	disable	enable	Tun1	RF-L2 30 dBu	v Thr (Chan 1)
2	Channel 2 Under Te	st	100.50 MHz	5 sec	unmasked	30.00 dBuV	3.00 dBuV	20 sec	10 sec	unmasked	disable	enable	Tun1	RF-L2 30 dBu\	/ Thr (Chan2)
		st	100.80 MHz	5 sec			3.00 dBuV	10 sec							
4	Channel 4 Under Te	st	100.50 MHz	5 sec	unmasked	30.00 dBuV	3.00 dBuV	10 sec	5 sec	unmasked	disable	enable	Tun1	RF-L2 30 dBu\	/ Thr (Chan4)

In scanning mode all traps will be sent in the same way but the validation and hold time must be calculated on the time the scanner is observing the channel.

TUNER-1								
Ch. Mem. Frequency		Channel Label	Mode	RF				
1	100.80 MI	iz Channel 1 Under Test	SCAN	ALARM	ALARM	ALARM	^	
				Level	MPX	PI	BLER	
				74.00 dBuV	57.60 kHz	5001	000 %	
				Carrier M.Path			TP TA	
				0 ppm 0 %	47.38 kHz	polle	OFF ON	
							AF EON	
				-37.0 -38.0 dBr	7.22 kHz	SPEECH	ок ок	
							RT RT+	
				- 69.00 dBr	3.00 kHz	ок	ОК	
							TMC ODA-1	
				- 1.24 dBr	- 1.11 dBr	NO_PROG		
							IH ODA-2	
				- 11.77 dBr	- 10.14 dBr	MONO STATIC		
Ch. Mem.	Frequency	Channel Label	Mode	RF	DEVIATION	RDS Data		
	100.50 MI	z Channel 2 Under Test	SCAN	ALARM	ALARM	ALARM	~	
Ch. Mem.	Frequency	Channel Label	Mode	RF	DEVIATION	RDS Data		
	100.80 MI	z Channel 3 Under Test	SCAN	ALARM	ALARM	ALARM	~	
		Channel Label	Mode	RF				
4	100.50 Mi	iz Channel 4 Under Test	SCAN	ALARM	ALARM	ALARM	~	
Ch. Mem.	Frequency	Channel Label	Mode	RF	DEVIATION	RDS Data		

The traps will be sent if the instant the alarm rises up, but the Pilot Level value and the time in the var-binds will be related to the first sample out of the range.



Under the alarm condition the MPX alarm led on the panel must be on (flashing if the alarms are more than one on the channel list) and clicking on the channel number of the correspondent tuner the MPX error will be displayed. In case of more errors on the related channel, they will rotate for about 30 seconds in a sequence carousel.

In SmartScan Mode the behavior expected is the same of the normal Scanning mode because this parameter is continuous and always available on the channel.

REPLAY ENABLED TRAPS

The PILOT LEVEL alarm trap is replayed with its original status, time and RF value. Trap Counter is normally incremented. All data and parameters are available in the MIB L3-4 to set and test this configuration.

Add in the panel display even the out of range Pilot Level value in the list error sequence after the alarm label "PILOT_LEV"

NOTES

Noticed (as already measured and documented from MB) a dependence of the measure from the deviation/power of the signal. With strong audio compression (over 6.0 dBitubs412) or very high deviation (over 100kHz) the error range can be: -0.1kHz to +0.3kHz

Testing under low mpx power conditions and normal deviation(power less than 1 dBitubs412, deviation less than 80kHz), the loss of precision caused from the deviation/power dependence is typically less than 0.1kHz.



RDS Level – Low and Windows combined Test (Tuner-1 Tuner-2) 16.11.7

An RF combined signal with one or more frequencies are applied to the tuner1 and/or tuner2 RF inputs. On one frequency signal Rds Level will be varied to test the alarms the on other ones will be used to fill the scanning list. We have used for scanning test 100.80MHz (Rds level sweeping) and 100.50MHz(Rds Level stable), RF level >70dBuV.

By slowly changing the Rds Level (in compatible way with the Validation and Hold time chosen) around the test zone, wait for the alarms and go back up to the starting point.

Tested in Static mode first.

In static mode the alarm rises up after the validation time, a trap will be sent when the status variable changes but with the time and the Rds value of the first sample out of the range. When the Rds level comes back to the (ok) state another trap will be sent with the Rds value and the time of the first sample valid.

We have tested in static mode with the following values: Tested first as "multilevel alarm": RdsLow=Failure and RdsWindow= Out of Nominal Zone ; RdsLowThr:2.0kHz, RdsThrMin:2.5kHz, RdsThrMax:3.5kHz Hyst: 0.3kHz, Validation:2sec, Hold:2Sec RdsLowThr:2.0kHz, RdsThrMin:2.5kHz, RdsThrMax:3.5kHz Hvst; 0.3kHz, Validation:20sec, Hold:10Sec RdsLowThr:2.0kHz, RdsThrMin:2.5kHz, RdsThrMax:3.5kHz Hyst: 0.3kHz, Validation:180sec, Hold:60Sec

Tested then as: RdsLow=LowThr and RdsWindow=MaxThr; RdsLowThr:2.0kHz, RdsThrMin:0.0kHz, RdsThrMax:3.5kHz Hyst: 0.3kHz, Validation:2sec, Hold:2Sec RdsLowThr:2.0kHz, RdsThrMin:0.0kHz, RdsThrMax:3.5kHz Hyst: 0.3kHz, Validation:20sec, Hold:10Sec RdsLowThr:2.0kHz, RdsThrMin:0.0kHz, RdsThrMax:3.5kHz Hyst: 0.3kHz, Validation:180sec, Hold:60Sec

The behavior observed in dynamic nominal conditions (75kHz deviation, Mid audio compression/power, varied audio contents) has been compatible with the specifications with an accuracy error on the measure of about -0.1 kHz to +0.2kHz and timing errors of about 1-2 seconds

Typical Accuracy expected in general (RF Level > 70dBuV): Min Rds Level value readable : +0.5 kHz, Max Rds Level value readable: +10.0 kHz Accuracy: -0.1kHz +0.3kHz (Mid-High mpx power, Dev<80Khz, TDF default, see Notes) Accuracy: -0.1kHz +0.2kHz (Low mpx power, Dev<80Khz, MB default, see Notes) Accuracy: -0.1kHz +0.4kHz, (High mpx power, Dev>100Khz, see Notes)

TUNER1 - RDS LOW LEVEL													
	Channel 1 Under Test		100.80 MHz	5 sec	unmasked	2.00 kHz	0.20 kHz	20 sec	10 sec	unmasked	disable	enable	RdsLowLevelTrap1

TUNER1 - RDS OPERATIVE WINDOW ZONE														
	Channel 1 Under Test		100.80 MHz	5 sec	unmasked	2.50 kHz	3.50 kHz	0.30 kHz	20 sec	10 sec	unmasked	disable	enable	TrapRds1





Operations Tools

Description		Source	lime
trapOID: .iso.c	g. dod.internet.private.enterprises.axalTech.monitorsFm.volf2MS.wolf2mSTraps.modules.tuner1Traps.tuner1RfMpx.tuner1RfMpxPrefix.iTun1RdsLevelAlarmStatusNotfy g. dod.internet.private.enterprises.axelTech.monitorsFm.volf2MS.wolf2mSTraps.modules.tuner1Traps.tuner1RfMpx.tuner1RfMpxPrefix.iTun1RdsLowLevelAlarmStatusNotfj 	192.168.0.180 / 192.168.0.180	2013-10-31 . 2013-10-31 .
AT			
Source:	192.168.0.180 Timestamp: 1 hour 28 minutes 21 seconds SNMP Version:	2 Fue 1R dat errol/	Joseph Pitotu ak
Variable Bi	so.org.uod.mientei, private enterprises.axerrech.momorsent.worzivis.worzins maps.moudies.unterr maps.unterrenipx.unterrenipx.unterrenipx. indings:	unnusiever	samstatusi
Name:	.iso.org.dod.internet.mgmt.mib-2.system.sysUpTime.0		
Value:	[TimeTicks] 1 hour 28 minutes 21 seconds (530119)		
Name:	snmpTrapOID		
Value:	[OID] iTun1RdsLevelAlarmStatusNotify		
Name: Value:	.iso.org.dod.internet.private.enterprises.axelTech.monitorsFm.wolf2MS.tuner1Module.tun1Data_tun1DataTable.tun1DataEntry.fTun1Freq.1 [OctetString] 100.80		
Name: Value:	.iso.org.dod.internet.private.enterprises.axelTech.monitorsFm.wolf2MS.tuner1Module.tun1Data.tun1DataTable.tun1DataEntry.fTun1RdsLevelVal [OctetString] 2.82	1	
Name: Value:	.iso.org. dod.internet.private.enterprises.axelTech.monitorsFm.wolf2MS.tuner1Module.tun1Freqs.tun1FreqsTable.tun1FreqsEntry.aTun1RdsLeve [OctetString] TrapRds1	(TrapLabel. 1	
Name: Value:	.iso.org. dod.internet.private.enterprises.axelTech.monitorsFm.wolf2MS.tuner1Module.tun1Data_tun1DataTable.tun1DataEntry iTun1RdsLevelAla [Integer] ok (0)	rmStatus. 1	
Name: Value:	.iso.org.dod.internet.private.enterprises.axelTech.monitorsFm.wolf2MS.tuner1Module.tun1Freqs.tun1FreqsTable.tun1FreqsEntry.iTun1RdsLevel [Integer] unmasked (0)	Mask. 1	
Name: Value:	.iso.org. dod.internet.private.enterprises.axelTech.monitorsFm.wolf2MS.wolf2msTraps.aTrapDateTime.0 [OctetString] 2013-10-31 14:33:47		
Name: Value:	.iso.org. dod.internet.private.enterprises.axelTech.monitorsFm.wolf2MS.wolf2msTraps.iTrapCounter.0 [Integer] 19		
Name: Value:	.iso.org.dod.internet.private.enterprises.axelTech.monitorsFm.wolf2MS.tuner1Module.tun1Data.tun1DataTable.tun1DataEntry.tun1DataIndex.1 [Integer] 1		
Description	"iTun1RdsLevelStatusNotify Notification Trap "		
<			>
rises.axelTech.n	onitorsFm.wolf2M5.tuner1Module.tun1Data.tun1DataTable		

11

Description		Source	Time
trapOID: .iso.or	g.dod.internet.private.enterprises.axelTech.monitorsFm.wolf2MS.wolf2msTraps.modules.tuner1Traps.tuner1RfMpx.tuner1RfMpxPrefix.iTun1RdsLevelAlarmStatusNotify	192.168.0.18	30 2013-10-31
trapOID: .iso.o	g. dod.internet. private.enterprises.axelTech.monitorsFm.woll2MS.woll2msTraps.modules.tuner1Traps.tuner1RfMpx.tuner1RfMpxPrefix.iTun1RdsLowLevelAlarmStatusNotify	192.168.0.1	30 2013-10-31
A.			
Source:	192.168.0.180 Timestamp: 1 hour 27 minutes 42 seconds SNMP Version:		2
Trap OID:	. is 0. org. dod. internet. private. enterprises. axel Tech. monitors Fm. wolf 2MS. wolf 2Ms. Traps. modules. tuner 1 Traps. tuner 1 RfMpx. tuner 1 RfMpx. Traps. tuner 1 RfMpx. tuner 1	un1RdsLow	LevelAlarmSta
Variable Bi	ndings:		
Name:	.iso.org.dod.internet.mgmt.mib-2.svstem.svsUpTime.0		
Value:	[TimeTicks] 1 hour 27 minutes 42 seconds (526221)		
Name:	snmp[TrapOID		
Value:	[OID] iTun1RdsLowLevelAlarmStatusNotify		
Name:	. iso. org. dod internet. private.enterprises.axelTech.monitorsFm.wolf2MS, tuner 1Module.tun 1Data.tun 1DataTable.tun 1DataEntry.fTun 1Freq. 1		
Value:	[OctetString] 100.80		
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Name.		1	
Name:	. is o. org. dod. internet. private. enterprises. axelTech. monitors Fm. wolf 2MS. tuner 1 Module. tun 1 Freqs. tun 1 Freqs. Table. tun 1 FreqsEntry. aTun 1 RdsLow Internet. The second seco	.evelTrapLa	bel. 1
Value:	[OctetString] RdsLowLevelTrap1		
Name:	.iso.org.dod.internet.private.enterprises.axelTech.monitorsFm.wolf2MS.tuner1Module.tun1Data.tun1DataTable.tun1DataEntry.iTun1RdsLowLeve	lAlarmStatu	s.1
Value:	[Integer] ok (0)		
Name:	.so.org.dod.internet.private.enterprises.axelTech.monitorsPm.wolf2MS.tunerIModule.tunIFreqs.tunIFreqsTable.tunIFreqsTable.tunIFreqsEntry.iTunIRdsLowL	evelivlask. 1	
Value:	[integer] unmaskea (U)		
Name:	. iso. org. dod internet. private. enterprises. axel Tech monitors Fm. wolf 2MS. wolf 2Ms. Traps. a TrapDate Time. 0 $$		
Value:	[OctetString] 2013-10-31 14:33:08		
Name:	iso ora dod internet private enterprises avelTech monitoreEm wolf?MS wolf?msTrans iTranCounter 0		
Value:			
	[uneBea] to		
Name:	. is o, org. dod internet. private. enterprises. axel Tech. monitors Fm wolf 2MS. tuner 1 Module. tun 1 Data. tun 1 Data Entry. tun 1 Data Index. 1 - 0.00000000000000000000000000000000		
Value:	[Integer] 1		
Description	"Tun1RdsLowLevelAlarmStatusNotify Notification Trap "		
<			>
rices avelTech m	onitorran wolf2MS humanimodula humiData humiDataTabla		

Under the alarm condition the MPX alarm led on the panel must be on (not flashing) and clicking on the channel number of the correspondent tuner the MPX error will be displayed. ("RDS_LEV")

AxelTech



Tested in scanning mode with another carrier with stable Rds Level to alternate the conditions. F1=100.80MHZ (Rds sweeping from 1.5 kHz to 4 kHz) F2=100.50 MHZ (2.5 kHz stable)

Tested first as "multilevel alarm": RdsLow=Failure and RdsWindow= Out of Nominal Zone ; RdsLowThr:2.0kHz, RdsThrMin:2.5kHz, RdsThrMax:3.5kHz Hyst: 0.3kHz, Validation:2sec, Hold:2Sec RdsLowThr:2.0kHz, RdsThrMin:2.5kHz, RdsThrMax:3.5kHz Hyst: 0.3kHz, Validation:20sec, Hold:10Sec RdsLowThr:2.0kHz, RdsThrMin:2.5kHz, RdsThrMax:3.5kHz Hyst: 0.3kHz, Validation:180sec, Hold:60Sec

Tested then as: RdsLow=LowThr and RdsWindow=MaxThr; RdsLowThr:2.0kHz, RdsThrMin:0.0kHz, RdsThrMax:3.5kHz Hyst: 0.3kHz, Validation:2sec, Hold:2Sec RdsLowThr:2.0kHz, RdsThrMin:0.0kHz, RdsThrMax:3.5kHz Hyst: 0.3kHz, Validation:20sec, Hold:10Sec RdsLowThr:2.0kHz, RdsThrMin:0.0kHz, RdsThrMax:3.5kHz Hyst: 0.3kHz, Validation:180sec, Hold:60Sec

The behavior observed has been compatible with the specifications with the same static case accuracy error

VOII	ZIVIS															A CALIFORNIA
		Monitorin	g				Settings									
	↑	Tuner-1	Data	Tuner-2 Dat	a		Setu	φ	Admin	Т	uner-1	Tun	er-2	Αι	ıdio	👤 Logout
GLO	BAL	RF 12	RF L1	RF _P	n Ri	F _{H2}	DEV	PILOT _L	PILOT	R	DSL	RDS	AUD	DIO _{DEV}	AUDIO L	AUDIO _R
BL	ER	PI	PS	TP	T	ГА	ст	RT	AF	E	ON	н	Π	мс	RT+	ODA ₁
OD	A ₂															
OD TUNE	A2 R1 - RA	DIO FREG	QUENC	Y LOW LEV	/EL 2			Hertororie	Validation							
OD TUNE Than	A2 R1 - RA Chan I Channel 1	DIO FREG Label Under Test	QUENC Preset	Y LOW LEV Frequency 100.80 MHz	/EL 2 Scan Time 5 sec	Chan Mask unmasked	Thr 30.00 dBuV	Hysteresis	Validation 20 sec	Hold 10 sec	Mask unmasked	Email	Trap enable	Tun1	Label RF-L2 30 dBu	I Iv Thr (Chan1)
OD FUNE han 1 2	R1 - RA Chan I Channel 1 Channel 2	DIO FREC Label Under Test Under Test	QUENC Preset	Y LOW LEV Frequency 100.80 MHz 100.50 MHz	/EL 2 Scan Time 5 sec 5 sec	Chan Mask unmasked unmasked	Thr 30.00 dBuV 30.00 dBuV	Hysteresis 3.00 dBuV 3.00 dBuV	Validation 20 sec 20 sec	Hold 10 sec 10 sec	Mask unmasked unmasked	Email disable disable	Trap enable enable	Tun1 Tun1	Label RF-L2 30 dBu RF-L2 30 dBu	I Iv Thr (Chan1) W Thr (Chan2)
OD FUNE han 1 2 3	R1 - RA Chan I Channel 1 I Channel 2 I Channel 3 I	DIO FREC Label Under Test Under Test Under Test	QUENC Preset	Y LOW LEV Frequency 100.80 MHz 100.50 MHz 100.80 MHz	VEL 2 Scan Time 5 sec 5 sec 5 sec	Chan Mask unmasked unmasked unmasked	Thr 30.00 dBuV 30.00 dBuV 30.00 dBuV	Hysteresis 3.00 dBuV 3.00 dBuV 3.00 dBuV	Validation 20 sec 20 sec 10 sec	Hold 10 sec 10 sec 5 sec	Mask unmasked unmasked unmasked	Email disable disable disable	Trap enable enable enable	Tun1 Tun1 Tun11	Labei RF-L2 30 dBu RF-L2 30 dBu RF-L2 30 dBu	l Iv Thr (Chan 1) IV Thr (Chan 2) IV Thr (Chan 3)

In scanning mode all traps will be sent in the same way but the validation and hold time must be calculated on the time the scanner is observing the channel.

TUNER-1	ι —									
	100.80	Channel 1 Under Test	SCAN	ALA	IRM .	ALARM		ALARM	-	•
				74.00	dBuV	66.64	Hz	5001	000	
				0 ppm		58.22	Hz	12345678	OFF	ON
				-30.0 -27.0		6.61 i	tHz	SPEECH	ОК	ок
				-64.00		1.81 1	tHz	ок	ОК	
				-0.85		- 1.08	dBr	NO_PROG		
				-8.80		-8.47	dBr	MONO STATIC		
			Mode							
	100.50	Channel 2 Under Test	SCAN	ALA	1RM	ALARM		ALARM	•	/
	100.80	Channel 3 Under Test	SCAN	ALA	RM	ALARM		ALARM		•
	100.50	Channel 4 Under Test	SCAN	ALA	.RM	ALARM	T	ALARM	_	•
			Mada							

The traps will be sent in the instant the alarm rises up, but the Rds Level value and the time in the var-binds will be related to the first sample out of the range.

Under the alarm condition the MPX alarm led on the panel must be on (flashing if the alarms are more than one on the channel list) and clicking on the channel number of the correspondent tuner the MPX error will be displayed. In case of more errors on the related channel, they will rotate for about 30 seconds in a sequence carousel.

In SmartScan Mode the behavior expected is the same of the normal Scanning mode because this parameter is continuous and always available on the channel.

REPLAY ENABLED TRAPS

The RDS LEVEL alarm trap is replayed with its original status, time and value. Trap Counter is normally incremented. All data and parameters are available in the MIB L3-5 to set and test this configuration.

PLANNED IMPROVEMENTS

Add in the panel display even the out of range Rds Level value in the list error sequence after the alarm label "RDS LEV"

NOTES

Noticed (as already measured and documented by MB) a dependence of the measure from the deviation/power of the signal. With strong audio compression (over 6.0 dBitubs412) or very high deviation (over 100kHz) the error range can be : -0.1kHz to +0.4kHz

Testing under low power mpx conditions and normal deviation(power less than 1 dBitubs412, deviation less than 80kHz) , the loss of precision caused from the deviation/power dependence is typically less than +- 0.2kHz.

On this release the measurement attack time has been reduced to stabilize better the measure.

Acting with very slow attack times and fast releases measure times is possible to improve the long term precision measurement.

With an attack time of some minutes (only for the near 0.5kHz convergence) could be possible have a precision better +-0.2kHz on all conditions filtering the positive error tendency.



16.11.8 MPX Audio Deviation Test (Tuner-1 Tuner-2)

An RF combined signal with one or more frequencies is applied to the tuner1 and/or tuner2 RF inputs. The MPX Audio Deviation on one carrier RF level will be varied to test the alarms while the other ones will be used to fill the scanning list. We have used 100.80MHz (Audio MPX level sweeping) and 100.50MHz(Audio MPX stable).

By slowly changing the MPX Audio deviation (in compatible way with the Silence and Hold time chosen) around the test zone, wait for the alarms and go back up to the starting point. The deviation should be generated from a controlled compressed audio from and audio processor.

Tested in Static mode first.

In static mode the alarm rises up after the MPX audio deviation is under threshold for the silence time, a trap will be sent when the status variable changes but with the time and the Audio MPX value of the first sample out of the range. When the MPX Audio deviation is greater or equal to THR for the Silence Hold the status alarm comes back to the (ok) state and another trap will be sent with the Audio MPX value and the time of the first sample valid.

Set the kHz to dBr Conversion to the chosen reference. (75kHz for TDF, 20kHz for MB [40kHz=6.0dBr])

We have tested in static mode with the following values: Thr: -20dBr, Silence:2sec, Hold:2Sec Thr: -20dBr, Silence:20sec, Hold:10Sec Thr: -20dBr, Silence:180sec, Hold:60Sec

The behavior observed has been compatible with the definition with an accuracy error on the measure less than 2 kHz and timing errors of about 1-2 seconds

Typical Accuracy and Precision expected in general (RF Level > 70dBuV): Min Dev value readable : 0 kHz, Max Dev value readable: +120 kHz 0.0 kHz is read (Range 0 kHz to +2.9 kHz) Accuracy: +-2 kHz, Precision +-2 kHz (Range 3 kHz to +9 kHz) Accuracy: +-2 kHz, Precision +-1 kHz (Range 10 kHz to +99 kHz) Accuracy: +-3 kHz, Precision +-1 kHz (Range 100 kHz to +120 kHz)

	2MS												
	↑	Monitoring Tuner-1 [g Data	Tuner-2 Data			Settings Setup	Admi	in Tur	ier-1 Tu	uner-2	Audio	Logout
GLC	DBAL F	RF L2	RF L1	RF H1	RF	H2 D	EV PI	LOT _L PIL	OT RDS	SL RDS			AUDIO _R
BI	.ER	PI	PS	TP	Т	A (ст	RT A	F EO	И	ТМС	RT+	ODA ₁
O	DA ₂												
OL TUNI Chan	DA 2 E R1 - AUD Chan La	DIO MPX abel	DEVIA Preset	TION Frequency				Silence Time	Silence Hold				
TUNI Chan	DA 2 E R1 - AUD Chan La Channel 1 U	DIO MPX abel Inder Test	DEVIA Preset	TION Frequency 100.80 MHz	Scan Time 5 sec	Chan Mask unmasked	Silence Thr -20.00 dBr	Silence Time 20 sec	Silence Hold 10 sec	Silence Mask unmasked	Silence Email disable	Silence Trap enable	Silence Labe AudioTrap1
TUNI Chan 1 2	DA 2 ER1 - AUD Chan La Channel 1 U Channel 2 U	DIO MPX abel Inder Test	DEVIA Preset	TION Frequency 100.80 MHz 100.50 MHz	Scan Time 5 sec 5 sec	Chan Mask unmasked unmasked	Silence Thr -20.00 dBr -20.00 dBr	Silence Time 20 sec 20 sec	Silence Hold 10 sec 2 sec	Silence Mask unmasked masked	Silence Email disable disable	Silence Trap enable disable	Silence Labe AudioTrap1 AudioTrap2
Chan 1 2 3	DA ₂ ER1 - AUD Chan La Channel 1 U Channel 2 U Channel 3 U	DIO MPX abel Inder Test Inder Test	DEVIA Preset	Frequency 100.80 MHz 100.50 MHz 100.80 MHz	Scan Time 5 sec 5 sec 5 sec	Chan Mask unmasked unmasked unmasked	Silence Thr -20.00 dBr -20.00 dBr -20.00 dBr	Silence Time 20 sec 20 sec 20 sec	Silence Hold 10 sec 2 sec 2 sec	Silence Mask unmasked masked masked	Silence Email disable disable disable	Silence Trap enable disable disable	Silence Laber AudioTrap1 AudioTrap2 AudioTrap3

Under the alarm condition the MPX alarm led on the panel must be on (not flashing) and clicking on the channel number of the correspondent tuner the MPX error will be displayed. "AUDIO DEV"

AxelTech



179

D 🙆	1 🖌 🖌	
Description trapOID: .iso.o trapOID: .iso.o trapOID: .iso.o	rg. dod. internet. private. enterprises. axelTech. monitorsFm. wolf2MS. wolf2msTraps. modules. audioTraps. audioTrapPrefix. iAudioTun1RightSilenceAlarmStatusNotify rg. dod. internet. private. enterprises. axelTech. monitorsFm. wolf2MS. wolf2msTraps. modules. audioTraps. audioTrapPrefix. iAudioTun1RightSilenceAlarmStatusNotify rg. dod. internet. private. enterprises. axelTech. monitorsFm. wolf2MS. wolf2msTraps.modules. audioTraps. audioTrapPrefix. iAudioTun1RightSilenceAlarmStatusNotify	Source Time 192.168.0.180 2013-10-31 192.168.0.180 2013-10-31 192.168.0.180 2013-10-31 192.168.0.180 2013-10-31
trapOID: .iso.o trapOID: .iso.o trapOID: .iso.o	rg. dod.internet.private.enterprises.axelTech.monitorsFm.wolf2MS.wolf2msTraps.modules.atuloi raps.atuloi rapPrenx.iAudioi LunzLetroilenceAlarmStatusNotify rg. dod.internet.private.enterprises.axelTech.monitorsFm.wolf2MS.wolf2msTraps.modules.tuner12Traps.tuner12fMpx.tuner12fMpxPrefix.iTun1AudioSilenceAlarmStatusNotify rg. dod.internet.private.enterprises.axelTech.monitorsFm.wolf2MS.wolf2msTraps.modules.tuner2Traps.tuner2RfMpx.tuner2RfMpxPrefix.iTun2AudioSilenceAlarmStatusNotify	192.168.0.180 2013-10-31 192.168.0.180 2013-10-31 192.168.0.180 2013-10-31
Source: Trap OID: Variable Bi	192.168.0.180 Timestamp: 3 hours 9 minutes 26 seconds SNMP Version: .iso.org.dod.internet.private.enterprises.axelTech.monitorsFm.wolf2MS.wolf2msTraps.modules.tuner1Traps.tuner1RfMpx.tuner1RfMpxPrefix.iTun1Au ndings:	2 IdioSilenceAlarmStatusNotify
Name: Value:	.iso.org.dod.internet.mgmt.mib-2.system.sysUpTime.0 [TimeTicks] 3 hours 9 minutes 26 seconds (1136669)	
Name: Value:	snmpTrapOID [OID] iTun1AudioSilenceAlarmStatusNotify	
Name: Value:	. iso. org. dod.internet.private.enterprises.axelTech.monitorsFm.wolf2MS.tuner1Module.tun1Data.tun1DataTable.tun1DataEntry.fTun1Freq.1 [OctetString] 100.80	
Name: Value:	. is o. org. dod. internet. private. enterprises. axel Tech. monitors Fm. wolf 2MS. tuner 1 Module. tun 1 Data. tun 1 Data Table. tun 1 DataEntry. fTun 1 Audio Deviation Val. [Octet String] 0.00	1
Name: Value:	. iso. org. dod.internet.private.enterprises.axelTech.monitorsFm.wolf2MS.tuner1Module.tun1Freqs.tun1FreqsTable.tun1FreqsEntry.aTun1AudioSilenceTra [OctetString] AudioTrap1	apLabel. 1
Name: Value:	. iso. org. dod. internet. private. enterprises. axelTech. monitorsFm. wolf2MS. tuner1Module. tun1Data. tun1DataTable. tun1DataEntry. iTun1AudioSilenceAlarms[Integer] alarm (1)	Status, 1
Name: Value:	. iso. org. dod. internet. private. enterprises.axelTech. monitorsFm. wolf2MS. tuner1Module. tun1Freqs. tun1FreqsTable. tun1FreqsEntry.iTun1AudioSilenceMa [Integer] unmasked (0)	sk. 1
Name: Value:	. iso. org. dod. internet. private. enterprises.axelTech. monitorsFm. wolf2MS. wolf2msTraps.aTrapDateTime.0 [OctetString] 2013-10-31 19:28:16	
Name: Value:	. iso. org. dod.internet.private.enterprises.axelTech.monitorsFm.wolf2MS.wolf2msTraps.iTrapCounter.0 [Integer] 41	
Name: Value:	.iso.org.dod internet.private.enterprises.axelTech.monitorsFm.wolf2MS.tuner1Module.tun1Data.tun1DataTable.tun1DataEntry.tun1DataIndex.1 [Integer] 1	
Description	: "iTun1AudioSilenceAlarmStatusNotify Notification Trap "	

Tested in scanning mode with another carrier to alternate the conditions.

F1=100.80MHZ (audio mpx sweeping from 5kHz to 50kHz and/or audio silences)

F2=100.50 MHZ (normal mpx audio deviation without silence)

Thr: -20dBr, Silence:2sec, Hold:2Sec

Thr: -20dBr, Silence:20sec, Hold:10Sec

Thr: -20dBr, Silence:180sec, Hold:60Sec

The behavior observed has been compatible with the definition with an accuracy error on the measure of less than 2 kHz and timing errors of about 1-2 seconds

In scanning mode all traps will be sent in the same way but the validation and hold time must be calculated on the time the scanner is observing the channel.

The traps will be sent in the instant the alarm rises up, but the Audio MPX value and the time in the var-binds will be related to the first sample out of the range.

Under the alarm condition the MPX alarm led on the panel must be on (flashing if the alarms are more than one on the channel list) and clicking on the channel number of the correspondent tuner the MPX error will be displayed. In case of more errors on the related channel, they will rotate for about 30 seconds in a sequence carousel.

In SmartScan Mode the behavior expected is the same of the normal Scanning mode because this parameter is continuous and always available on the channel.


REPLAY ENABLED TRAPS

The AUDIO DEV alarm trap is replayed with its original status, time and value. Trap Counter is normally incremented. All data and parameters are available in the MIB L3-4 to set and test this configuration.

PLANNED IMPROVEMENTS

Add in the panel display even the out of range Audio Mpx Dev value in the list error sequence after the alarm label "AUDIO DĖV"

NOTES

The limitation about the measurement clears to zero under 3kHz must be considered definitive.



16.11.9 Audio Left/Right level Test (Tuner-1 Tuner-2)

An RF combined signal with one or more frequencies is applied to the tuner1 and/or tuner2 RF inputs. The Audio the Left/Right level on one frequency will be varied to test the alarms while the other ones will be used to fill the scanning list. We have used 100.80MHz (with left/right audio silences) and 100.50MHz (audio without audio silences).

TUNER-1 —	STEREO	TUN	ED - F	1D S			TUNER-2	: —	STERI	0 - TU		RD S		
Ch. Mem.	Frequency									Char				
1	100.80 мнг	Chan	nel 1 Unde	r Test con i		STATIC	1		100.80	мн₂ 32 С	hars Chann	el Label		STATIC
RF		ALA	RM H1	<u>- H2</u> -			RF —		-[_2]-[ARM – HI			
Level	Carrier M.Pat	th									Adj-Chan			
69.00 d BuV	2 ppm 0.00	%	-25.00 -24.0	87 dør	-57.37	d Br	69.00	dBu√	2 ppm	0.00 %	-22.87 -23	. 12 d Br	-66.12	d Br
DEVIATION -	[ALA	RM				DEVIATI	on –		AL/	ARM			
MPX														
74.84 kHz	66.06	kHz	6.64	kHz	2.14	kHz	74.37	kHz	65.59	kHz	6.63	kHz	2.15	kH2
RDS DATA —	[ALA	RM				RDS DAT	а —		AL	ARM			
PI														
5001	000	%	12345678		OFF	ON	5001		000		12345678		OFF	ON
M/S														
SPEECH	MONO STATIC		NO_PROG		ок		SPEECH		MONO STA	TIC	NO_PROG		ок	
RT AF	EON IH		тмс											
ок ок	ок						ОК	ОК	ОК					
AUDIO-1 —	(ALA	RM				AUDIO-2	<u> </u>			ARM			
	Souro	е	Peak-L			RMS-R								RMS-R
Audio 1 Name pippo	polloe TUNE	R1	-0.6 dør	-44.6 dør	-6.0 dør	-50.4 dBr	Audio 2 na	ame		TUNER2	-0.6 dBr	-44.8 dør	-6.5 d8r	-50.4 dør
Listening AUDIO-1 (v	orbis / 128kBits / s	tereo)					Ready							
					countdown OFF								countdown OFF	►

Test left/right level generating silences on both channel compatibly with the silence and hold times.

Settings 75kHz (TDF setup) as dBr references and testing with a typical Mpx stereo signal (6.5kHz pilot deviation, 2.5kHz rds deviation) means audio peaks at about (66kHz) so about -1.1dbr from the reference.

On the silenced audio channel is expected to see a level of about -43dBr (peak) and about -50dBr (rms) with medium compress audio.

Settings 20kHz (MB setup) as dBr reference and testing with a typical Mpx stereo signal (6.5kHz pilot deviation, 2.0kHz rds deviation) means audio peaks at about (66.5kHz) so about +11dBr from the reference.

On the silenced audio channel is expected to see a level of about -32dBr (peak) and about -38dBr (rms) with medium compress audio.

We have tested (using 75kHz as reference) in static mode with the following values:

Thr: -30dBr, Validation:20sec, Hold:10Sec Thr: -35dBr, Validation:20sec, Hold:15Sec Thr: -45dBr, Validation:20sec, Hold:15Sec



Wolf2	2MS												R AXEL
		Monitorin]		Settings						
	†	Tuner-11	Data	Tuner-2 Data			Setup	Adm	in Tu	ner-1 T	uner-2	Audio	👤 Logout
GLO	BAL	RF 12	RF L1	RF H1	RF	H2 D	EV PI	LOT _L PI	.OT RD	S _L RDS	AUDIO	AUDIO L	AUDIO _R
BLE	ER	PI	PS	ТР	T/	A (т	RT 4	AF EC	N IH	тмс	RT+	ODA ₁
OD	A ₂												
TUNE	R1 - AL	JDIO LEFT	LEVEL										
Chan	Chan	Label	Preset	Frequency	Scan Time	Chan Mask	Silence Thr	Silence Time	Silence Hold	Silence Mask	Silence Emai	Silence Trap	Silence Label
1	Channel 1	Under Test		100.80 MHz	5 sec	unmasked	-30.00 dBr	20 sec	10 sec	unmasked	disable	enable	AudioTrap1
2									10 sec	unmasked	disable	enable	
3									10 sec	unmasked	disable	enable	
4									10 sec	unmasked	disable	enable	
5	Ch	5 Jabel		97.50 MH-	5		20.00 JD-	20	2		- Dana kalar	dia a la la	A codi o Toron F

Under the alarm condition the MPX alarm led on (We have associated the audio silence alarm to the panel leds mpx error) the panel must be on (not flashing) and clicking on the channel number of the correspondent tuner the MPX error will be displayed. ("RIGHT/LEFT SIL")

Tested in scanning mode with another carrier to alternate the conditions. F1=100.80MHZ (Left/ Right audio silences)

F2=100.50 MHZ (audio deviation without audio silences)

Thr: -30dBr, Validation:20sec, Hold:10Sec

Thr: -35dBr, Validation:20sec, Hold:15Sec

Thr: -45dBr, Validation:20sec, Hold:15Sec

Description		Source	Time
trapOID: .isc	.org.dod.internet.private.enterprises.axelTech.monitorsFm.wolf2MS.wolf2msTraps.modules.audioTraps.audioTrapPrefix.iAudioTun1RightSilenceAlarmStatusNotify	192.168.0.180	2013-11-13 12:50:22
trapOID: .iso	org.dod.internet.private.enterprises.axelTech.monitorsFm.wolf2MS.wolf2mSTraps.modules.audioTraps.audioTrapPrefix.iAudioTun2RightSilenceAlarmStatusNotify	192.168.0.180	2013-11-13 12:50:22
trapOID: .isc	.org.dod.internet.private.enterprises.axell.etch.monitorsFm.woirZmS.irraps.modules.audioirraps.audioirraps.ruluioirraps.fraudioirraps.audioir	192.168.0.180	2013-11-13 12:49:58
аарото, лье	nog addin tenet private iertel prises akter et innonico si miveli zins maps induies addio maps addio maps renk ieddio drizkigi i Cherice Hambakasi toki y	192.100.0.100	2013-11-13 12,49,30
AV			
Variable I	Bindings:		
Name:	.iso.org.dod.internet.mgmt.mib-2.system.sysUpTime.0		
Value:	[TimeTicks] 4 hours 26 minutes 27 seconds (1598766)		
Name:	snmpTrapOID		
Value:	[OID] iAudioTun1RightSilenceAlarmStatusNotify		
Name:	. iso.org. dod.internet.private.enterprises.axelTech.monitorsFm.wolf2MS.tuner1Module.tun1Data.tun1DataTable.tun1DataEntry.fTun1Freq.1		
Value:	[OctetString] 100.80		
Name:	iso org dod internet private enterprises axelTech monitorsFm wolf2MS audioModule audioData audioTun1DataTable audioTun1DataFntry, fAudio	Tun1RightRms.1	
Value:	[OctetString] -50.20		
Name:	.iso.org. dod.internet.private.enterprises.axelTech.monitorsFm.wolf2MS.audioModule.audioSettings.audioTun1SetupTable.audioTun1SetupEntry.a	Audio Tun 1 Right Sile	enceTrapLabel.1
Value:	[OctetString] Audio Trap1	Ŭ	•
Name:	.iso.org. dod.internet.private.enterprises.axelTech.monitorsFm.wolf2MS.audioModule.audioData.audioTun1DataTable.audioTun1DataEntry.iAudio	Tun1RightSilenceAl	armStatus. 1
Value:	[Integer] alarm (1)		
Name:	. iso.org. dod.internet.private.enterprises.axelTech.monitorsFm.wolf2MS.audioModule.audioSettings.audioTun1SetupTable.audioTun1SetupEntry.i	AudioTun1RightSile	nceMask. 1
Value:	[Integer] unmasked (0)		
Name:	iso.org.dod.internet.private.enterprises.axelTech.monitorsFm.wolf2MS.wolf2msTraps.aTrapDateTime.0		
Value:	[OctetString] 2013-11-13 12:50:04		
Name:	iso.org.dod.internet.private.enterprises.axelTech.monitorsFm.wolf2MS.wolf2msTraps.iTrapCounter.0		
Value:	[Integer] 72		
Name:	. iso. org. dod. internet. private. enterprises. axel Tech. monitors Fm. wolf 2MS. audio Module. audio Data. audio Tun 1 Data Table. audio Tun 1 Data Entry. audio T	`un1DataIndex.1	
Value:	[Integer] 1		
Name:	. iso. org. dod. internet. private. enterprises.axelTech.monitorsFm.wolf2MS.audioModule.audioSettings.audio1Setup.iAudio1Source.0		
Value:	[Integer] tuner1 (0)		
Name:	. iso. org. dod. internet. private. enterprises.axelTech.monitorsFm.wolf2MS.audioModule.audioSettings.audio2Setup.iAudio2Source.0		
Value:	[Integer] tuner2(1)		



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U 😺 🖻	H 🔟 %					
Description					Source	Time
trapOID: .iso.o	rg.dod.internet.private.enterpris	ies.axelTech.monitorsFm.wolf2M5.wolf2ms	Fraps.modules.audioFraps.audioFrapPrefix.iAudioFu	h2LeftSilenceAlarmStatusNotify	192.168.0.180	2013-11-13 13:02:59
trapUID: .iso.o	rg.dod.internet.private.enterpris	es.axeliech.monitorsFm.wolf2M5.wolf2m	Traps.modules.audioTraps.audioTrapPrefix.iAudioTu Traps.modules.audioTraps.audioTrapPrefix.iAudioTu	nilertsienceAlarmstatusivotiry	192.168.0.180	2013-11-13 13:02:59
trapOID: .iso.o	rg, dod, internet, private, enterpris	es axelTech.monitorsEm.wolf2MS.wolf2ms	Traps.modules.audioTraps.audioTrapPrefix.iAudioTu	12 RightSilenceAlarmStatusNotify	192,160,0,100	2013-11-13 13:02:40
trapOID: .iso.o	ra dod internet private enterpris	es axelTech monitorsEm wolf2MS wolf2ms	Traps.modules.addiorraps.addiorraprienx.iAddiorra Traps.modules.generalTraps.generalTrapPrefix.iActiv	/invigricolience#lambcaccishocily	192,168,0,180	2013-11-13 13:01:09
▲▼	rg. douinternet.privaterenterpris		rrapsmodalesigenerarrapsigenerarrapirenxineer	Acy i cardwoor y	172.100.0.100	2013 11 13 13:01:07
Source:	192.168.0.180	Timestamp:	4 hours 39 minutes 4 seconds	SNMP Version:		2
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Value:	[integer] tuner1 (0)					
Name:	iso org. dod internet priva	ate enterprises axelTech monitorsFn	n wolf2MS audioModule audioSettings audio	Setup iAudio2Source 0		
		are, carrier print or, carrier a correspondent of th				

The traps will be sent in the instant the alarm rises up, but Left/Right and the time in the var-binds will be related to the first sample out of the range.

Under the alarm condition the MPX alarm led on the panel must be on (flashing if the alarms are more than one on the channel list) and clicking on the channel number of the correspondent tuner the MPX error will be displayed. In case of more errors on the related channel, they will rotate for about 30 seconds in a sequence carousel. In SmartScan Mode the behavior expected is the same of the normal Scanning mode because this parameter is continuous and always available on the channel.

REPLAY ENABLED TRAPS

The LEFT/RIGHT audio silence alarm trap are replayed with their original status, time and value. Trap Counter is normally incremented.

All data and parameters are available in the MIB L3-5 to set and test this configuration.

NOTES

After some problems found in the release 0.62 (levels alignment, peaks in the separation, requests to set silence threshold as lower as possible) we have modified some things.

1) The source silence alarm signal is now the RMS value in place of the PEAK (this choice allows to gain 3-5 dB in the absolute level of the threshold). The average RMS signal in the muted channel is about -50 dBr (TDF reference) or -38dBr (MB reference)

2) Modified the attack time (now slower) of the audio measurement in the level zone from -50dBr to -30dBr to filter separation peaks in some situations. This modification allows even to stabilize the muted channel separation, slightly increasing the max measured separation. The behavior in the nominal level zone (-20dBr to +10dBr) is exactly the same. This solution filters an unexpected receiver behavior in the particular case of high channel level unbalance (one channel muted) and dynamic changes from very low to high levels. This seems to depend by a dynamic module (stereo blend engine) that continues to act on the separation even in disabled mode. We are asking to Silicon Labs to find a solution even on the receiver audio signal.



16.11.10 Smart Scan General Description

The SMART-SCAN mode has been strongly modified and tested in the last release. Here a little general description for understanding and testing the definitive behavior .

In general the SMART-SCAN mode locks the scanning sequence before rising an alarm and it waits a defined time (actually fixed for every service). In general with all services having the "Timeout" parameter in place of the "Validation" in SMART-SCAN the behavior is different. The "Timeout" (as name and notation) is used because we intended that the service is complex or non always available on the channel and instead of a validated error condition, we are searching a valid condition before "Timeout" expires. This condition generates trouble in scanning situations, so doesn't exist a sampled out of range data, but a waited event missing in the defined timing.

SMART-SCAN is able to wait up to six services at the same time (concurrently) handling the scanning sequencer and masking the alarms under verification. At first it tries to sample the event in the scanning time, but at the end of the timeout, before rising the alarm, waits a time (about the double of the normal period expected for the kind of service) and decides to rise the alarm or not.

Monita Tune			ng Data Tun	er-2 Data			Settings	Adm	in T	uner-1	Tuner-2	Au	dio	
		- runci x			J	L	octop				Turici 2			ToPoor
GLOE	BAL	RF 12	RFu	RF _{H1}	RF _{H2}	DE	/ PILOT	L PI	LOT R	DS _L F	IDS A	AUDIO _{dev}	AUDIO	AUDIOR
BLE	R	PI	PS	ТР	ТА	ст	RT		AF E	ON	ін	тмс	RT+	ODA 1
OD/	A ₂													
TUNE	R1 - RD	S CLOCK	AND TIME											
Chan	Char		el	Preset	Frequency	Scan Time	Chan Mask	COO see	Max Unset	Midsk	cmail	dicable	Tuel D	Label
1	Criar	iner I Ond	ler test			2.260	unmaskeu	000 Sec	ou sec	unmaskeu	disable	disable	TUNI K	as crinap 1
2	Char	nel 2 Und	ler Test		100.50 MHz	5 sec	unmasked	600 sec	60 sec	unmasked	disable	disable	Tun1 R	ds CT Trap 2
3	Char	nel 3 Und	ler Test		100.80 MHz	5 sec	unmasked	600 sec	60 sec	unmasked	disable	disable	Tun1 R	ds CT Trap 3
4	Char	nel 4 Und	ler Test		100.50 MHz	5 sec	unmasked	600 sec	60 sec	unmasked	disable	disable	Tun1 R	ds CT Trap 4
5							unmasked		60 sec	masked	disable	disable	Tun1 R	

Example: CT service test inside a scanning list of 4 frequencies.

The 4A group will be searched for 600 seconds in every frequency. At the end of the 600seconds per stations (that's means 2400 seconds) we are lucky and on three frequencies and we have found the 4A group, but in one them we have not been able to sample a 4A group.

At the end of the "Timeout" in normal SCAN-MODE the CT alarm is raised for the unlucky station, the one in which the random scanning routine failed.

In SMART-SCAN mode instead, the scanner will lock on the unlucky frequency and it will wait up to 130 seconds (defined Smart Wait time for the CT service) to verify if really the service isn't available. If the waiting stage has success, the scanner restarts, and it will try again to catch another 4A in the next 600 seconds with a normal scanning sequence. If the waiting stage fails the alarm is raised and the scanner restarts to loop.

In the previous releases in the next loop (failed SmartWait case), the SMART-SCAN locks again trying to solve the alarm, instead in the last release for the next 30 minutes (only for the frequency and the service with the alarm raised) the loop will continue like a normal scan mode avoiding to lock the normal scanning sequence and trying to sample a valid 4A.

So, in the last release the SMART-WAIT will try only one time every "RETRY SMART WAIT" time to lock the sequence and verify an alarm after the previous one failed. This behavior will allow to avoid locking situations for the other stations in the scanning list and with a one or more fails in a scanning list, the average looping will be guaranteed.

Please test it and give us suggestions to improve it (if necessary) or report buggy behaviors .

The SMART-WAIT state is visible on the web page as a red line under the Channel Number. The service/services with the problem will be displayed inside the brackets. In the current release max 2 services are displayed at the same time, in the final one will be 3.



		Disabled		23:10:44	1 2 3	4 Disabled	Guest
TUNER-1 —	STEREO TUNE	ED RDS		TUNER-2 —	STEREO		
	Frequency Chann				Frequency		Mode
1 of 3 (PS-RT)	106.70 MHz Chan	nel 1 Under	S-SCAN		89.30 MHz	Chan1	STATIC
RF		RM H1 H2		RF	-[12]-[11]-[ALARM H1 H2	
	Carrier M.Path	Adj-Chan Alt-Chan			Carrier M.Pa	th Adj-Chan	
57.12 dBuV	0 ppm 3.25 %	-21.50 -19.25 dBr -16.62	dBr	60.00 dBuV	2 ppm 0.00	% -26.75 -27.12 dBr	-38.25 dBr
DEVIATION -	ALAI	RM		DEVIATION -	[ALARM	
MPX	Audio	Pilot RDS		MPX		Pilot	

SMART-WAIT timings:

CT: Max 130 seconds

(waits for a 4A, able to recognize an offset error or the failure of the service)

PS: Max 80 seconds (waits a sequence of PS and able to recognize of up to 4 different PS or simply waits for PS variations)

RT: Max 80 seconds (waits for A/B flag variations and/or groups 2A-2B presence)

TMC: Max 60 seconds (waits for TMC service registration and/or TMC data variations)

RT+: Max 190 seconds (waits for RT+ service registration and/or RT+ data variations)

IH: Max 190 seconds (waits for IH data variations or service presence)

ODA1-2: Max 120 seconds (waits for ODAx service registration and/or ODAx data variations)

RETRY SMART WAIT: 30 minutes (all services)

Actually these timings are fixed, but it planned in future to create a parameters group to adjust them.



16.11.11 RDS PI Data test (Tuner-1 Tuner-2)

This test checks alarms and traps on a Radio with PI=5215 tuned on frequency 100.5MHz. The test was carried out on both tuners.

In Static mode we have set a PI Ref Mask to 5000 with Validation time and Hold time equal to 10 sec. (see fig. below)

Wolf2MS														
		Monitoring				Settin	ngs							
		Tuner-1 Data	a Tuner-2 I	ata		s	Setup	Admin	Tur	her-1	Tuner-2	Auc	dio	👤 Logout
GLOBAL RF _{L2} RF _{L1} RF _{H1} RF _{H2} DEV PILOT _L PILOT RDS _L RDS AUDIO _{DEV} AUDIO _L												AUDIOR		
BLE	R	PI	PS	тр	ТА	ст	RT	AF	EO	N II	H	тмс	RT+	ODA1
OD/	Az													
TUNER1 - RDS PROGRAM IDENTIFICATION														
		PROGRAM	IDENTIFIC	ATION										
Chan		l Preset	IDENTIFIC Frequency	ATION Scan Time	Chan Mask	Ref 1	Ref 2 Ref 3	Validation	Hold		Email			
Chan 1	Chan Lab Chan1 Lab	el	IDENTIFIC Frequency 100.50 MHz	ATION Scan Time 5 sec	Chan Mask unmasked	Ref 1 5000	Ref 2 Ref 3	Validation 10 sec	Hold 10 sec	Mask unmasked	Email disable	Trap enable	Tun1 R	label ds PI Trap 1
Chan 1 2	<mark>Chan Lab</mark> Chan1 Lab Chan2 Lab	el	IDENTIFIC Frequency 100.50 MHz 87.50 MHz	ATION Scan Time 5 sec 5 sec	Chan Mask unmasked unmasked	Ref 1 5000	Ref 2 Ref 3 5000 5000	Validation 10 sec 10 sec	Hold 10 sec	Mask unmasked masked	Email disable disable	Trap enable disable	Tun1 Ro	Label ds PI Trap 1 ds PI Trap 2

The system checks for a match between any not empty Ref Masks and received PI. If at least one of them matches OK condition is true, otherwise an alarm condition raises.

In this case there is an alarm condition (received PI=5215 won't match with PI Ref1=5000).

Under the alarm condition the RDS alarm led (we have associated the PI alarm to the panel led Rds error) on the panel must be on (not flashing) and clicking on the channel number of the correspondent tuner the RDS error will be displayed ("RDS DATA").

Tested in Scan mode with 3 frequencies:

- F1: 100.5 MHz
- F2: 95.3 MHz

F3: 96.7 MHz

and two Pi Ref Mask: 5000 and 51** (we have used wildcards) as depicted below.

Validation Time = 15 sec. Hold Time = 10 sec.

For this test we've added PI Ref Mask2=51**. Now system search for a PI=5000 or a PI from 5100 up to 51FF.

Received PI=5215 don't match any PI Ref so an alarm condition raises.

	Mon Tur	itoring Ier-1 Data	a Tuner-2 D	ata		Setti	ngs Setup		Admin	τυ	ner-1	Tuner-2	Auc	lio	Logout
GLO	BAL RF _{L2}		RF _{LL} R	IF _{H1}	RF _{HZ}	DEV	PI	LOT _l	PILOT	RE	S _L RI	DS AI	JDIO _{dev}	AUDIOL	AUDIOR
BL	ER PI		PS	ТР	ТА	ст		RT	AF	EC	DN II	H	тмс	RT+	ODA ₁
OD	A z														
TUNE	R1 - RDS PR	OGRAM	IDENTIFIC	ATION											
Chan		Preset											Trap		
1	Chan1 Label		100.50 MHz	10 sec	unmasked	5000	51**		15 sec	10 sec	unmasked	disable	enable	Tun1 Ro	ds PI Trap 1
2	Chan2 Label		95.30 MHz	10 sec	unmasked	5000	5000	5000	10 sec	10 sec	masked	disable	disable	Tun1 Ro	ds PI Trap 2
3	Chan3 Label		96.70 MHz	10 sec	unmasked	5000	5000	5000	10 sec	10 sec	masked	disable	disable	Tun1 Ro	ds PI Trap 3
4													disable		



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Description				Source	Time
apOID: .iso.org.dod. apOID: .iso.org.dod. apOID: .iso.org.dod. apOID: .iso.org.dod.	internet.private.enterprises.axelTech.mo internet.private.enterprises.axelTech.mo internet.private.enterprises.axelTech.mo internet.private.enterprises.axelTech.mo	ntorsFm.wolf2MS.wolf2msTraps.modules.tune nitorsFm.wolf2MS.wolf2msTraps.modules.tune initorsFm.wolf2MS.wolf2msTraps.modules.tune initorsFm.wolf2MS.wolf2msTraps.modules.tune	r: TTaps. luner 1Rds. luner: IRdsPrefix. ITun IDataScanPiStat r: TTaps. luner: IRds. luner: IRdsPrefix. ITun IDataScanPiStat r: TTaps. luner: IRds. luner: IRdsPrefix. ITun IDataScanPiStat r: TTaps. luner: IRds. luner: IRdsPrefix. ITun IDataScanPiStat	192, 168.0, 141 192, 168.0, 141 192, 168.0, 141 192, 168.0, 141 192, 168.0, 141	2013-11-11 08:51:00 2013-11-11 08:50:38 2013-11-11 08:49:14 2013-11-11 08:48:39
Source: Trap OID: Variable Binding	192.168.0.141 .iso.org.dod.internet.private.en s:	Timestamp: terprises.axelTech.monitorsFm.wolf2M	25 minutes 30 seconds S.wolf?msTraps.modules.tuner1Traps.tuner1Rds.tt	SNMP Version: mer1RdsPrefix.iTun1DataScanPiStatusNoti	2 fy
Name: Value:	.iso.org.dod.internet.mgmt.mib [TimeTicks] 25 minutes 30 se	i-2. system. sysUpTime. 0 conds (153029)			
Name: Value:	snmpTrapOID [OID] iTun1DataScanPiStatus]	Notify			
Name: Value:	.iso.org.dod.internet.private.en [OctetString] 100.50	terprises.axelTech.monitorsFm.wolf2M	S. tuner 1 Module. tun 1 Data. tun 1 Data Table. tun 1 DataE	ntry.fTun1Freq.l	
Name: Value:	.iso.org.dod.internet.private.en [OctetString] 5215	terprises.axelTech.monitorsFm.wolf2M	S. tuner 1 Module. tun 1 RdsScanData. tun 1 RdsScanDat	a Table.tun 1 RdsScanDataEntry.a Tun 1 DataS	canPiVal.1
Name: Value:	.iso.org.dod.internet.private.en [Integer] alarm (1)	terprises.axelTech.monitorsFm.wolf2M	S. tuner 1Module. tun 1RdsScanData. tun 1RdsScanDat	a Table.tun 1 RdsScanDataEntry.iTun 1 DataS	canPiStatus.1
Name: Value:	.iso.org.dod.internet.private.en [OctetString] Tun1 Rds PI Tra	terprises.axelTech.monitorsFm.wolf2M p 1	S. tuner 1 Module. tun 1 Rds. tun 1 Rds Table. tun 1 RdsEnt	ry.aTun1RdsSettingsPiTrapLabel.1	
Name: Value:	.iso.org.dod.internet.private.en [Integer] unmasked (0)	terprises.axelTech.monitorsFm.wolf2M	S. tuner 1 Module. tun 1 Rds. tun 1 Rds Table. tun 1 RdsEnt	ry.iTun1RdsSettingsPiMask.1	
Name: Value:	.iso.org.dod.internet.private.en [OctetString] 2013-11-11 08:5	terprises.axelTech.monitorsFm.wolf2M 0:51	S.wolf?msTraps.aTrapDateTime.0		
Name: Value:	.iso.org.dod.internet.private.en [Integer] 8	terprises.axelTech.monitorsFm.wolf2M	S.wolf?msTraps.iTrapCounter.0		
Name: Value:	.iso.org.dod.internet.private.en [Integer] 1	terprises.axelTech.monitorsFm.wolf2M	S. tuner 1 Module. tun 1 Data. tun 1 Data Table. tun 1 DataE	ntry.tun1DataIndex.1	
Deservications	NT.u. 1 Date Saca Di Status Matif	ention Trop "			

"iTun1DataScanPiStatus Notification Trap escrip Ľ

The traps will be sent in the instant the alarm rises up, but PI and the time in the var-binds will be related to the first failed check.

Under the alarm condition the RDS alarm led on the panel must be on (flashing if the alarms are more than one on the channel list) and clicking on the channel number of the correspondent tuner the RDS error will be displayed ("RDS DATA").

In case of more errors on the related channel, they will rotate for about 30 seconds in a sequence carousel. In SmartScan Mode the behavior expected is the same of the normal Scanning mode because this parameter is continuous and always available on the channel.

REPLAY ENABLED TRAPS

The Rds PI alarm trap are replayed with its original status, time and value. Trap Counter is normally incremented. All data and parameters are available in the MIB L3-5 to set and test this configuration.

NOTES

The PI Reference Masks accepts (multiple) * wildcards in each position. Empty Ref Masks will be not taken into account. SMARTMODE references inside the brackets when sequencer locks missing in the scan monitor tab pages (will be fixed).

16.11.12 RDS PS Data test (Tuner-1 Tuner-2)

This test checks alarms and traps on a Radio with PS="ABCRADIO" tuned on frequency 100.5MHz. The test was carried out on both tuners.

	n l	Monitor Tuner-:	ing 1 Data Tu	ıner-2 Data			Settin	gs etup	Adm	in	Tuner	-1	Tuner-2	2	Audio		Logout
GL	OBAL R	lF _{L2}	RFu	RF _{H1}	RF	HZ	DEV	PILOT	, PI	LOT	RDSL		RDS	AUDIO D	ev Al	JDIO _L	AUDIOR
В	ILER	PI	PS	ТР	Т/	۹	СТ	RT	,	١F	EON		IH	тмс		RT+	ODA ₁
0	DAz																
TUN	ER1 - RDS	PROG	RAM SERV	ICE													
Chan	Chan Label	Preset	Frequency	Scan Time	Chan Mask	Ref 1	Ref 2	Ref 3	Ref 4	CharRef	Timeout	Hold	Mask	Email	Trap		Label
1	Chan1 Label		100.50 MHz	10 sec	unmasked	KRADIO	•••••	•••••	••••	•	30 sec	20 sec	unmasked	disable	enable	Tun1 F	Rds PS Trap 1

In static mode we have set PS Ref Mask1 to "KRADIO" and we leave default values on Ref Mask2 up to Ref Mask4 (*******) and CharRef=*, a Timeout of 30 sec and an Hold Time of 20 sec as in fig. above.

The system need to find a match between received PS and ALL of not empty Ref Masks no later than Timeout, otherwise an alarm condition raises.

PS Ref Masks (like PI) accepts wildcards and wildcard character is shown by CharRef field. Of course this character can be modified by user. Note that Ref Masks can be 1 to 8 chars long. If a Ref Mask is shorter than 8 chars a sub-string search is performed on received PS. Also note that a Ref Mask formed by 8 wildcards will match anyway. Instead if the Timeout is equal to zero only PS variations will be searched for having a valid condition to be the approximately a match any acception for the term of the term.

In this case an alarm condition raises up because system search a match for Ref1 substring (KRADIO) into PS.

0 🚳 🛍 🏹	*					
Description				:	Source	Time
trapOID: .iso.org.dod.in	ternet.private.enterprises.axelTe	ch.monitorsFm.wolf2MS.wolf2msTra	os.modules.tuner 1Traps.tuner 1Rds.tuner 1F	RdsPrefix.iTun 1DataScanPsSt 1	92.168.0.141	2013-11-11 11:18:04
trapOID: .iso.org.dod.in	ternet.private.enterprises.axelTe	ech.monitorsFm.wolf2MS.wolf2msTra	os.modules.tuner 1Traps.tuner 1Rds.tuner 1F	RdsPrefix.iTun 1DataScanPsSt 1	92.168.0.141	2013-11-11 10:47:30
trapOID: .iso.org.dod.in	ternet.private.enterprises.axelTe	ech.monitorsFm.wolf2MS.wolf2msTra	os.modules.tuner 1Traps.tuner 1Rds.tuner 1F	RdsPrefix.iTun1DataScanPsSt 1	92.168.0.141	2013-11-11 10:41:40
trapOID: .iso.org.dod.in	ternet.private.enterprises.axel1e	ech.monitorsFm.wolf2MS.wolf2ms1ra	os.modules.tuner1Traps.tuner1Rds.tuner1F	RdsPrefix.ii un 1DataScanPsSt 1	92.168.0.141	2013-11-11 10:40:15
Source:	192.168.0.141	Timestamp:	2 hours	52 minutes 34 seconds	SNMP Version:	2
Trap OID:	.iso.org.dod.internet.priva	ate.enterprises.axelTech.monito	sFm.wolf2MS.wolf2msTraps.modu	les.tuner1Traps.tuner1Rds.tu	ner1RdsPrefix.iTun1DataScanPsStatusNo	tify
Variable Bindings:						
Name:	.iso.org.dod.internet.mgn	nt.mib-2.system.sysUpTime.0				
Value:	[TimeTicks] 2 hours 52 i	minutes 34 seconds (1035435)				
Name:	snmpTrapOID					
Value:	[OID] iTun1DataScanPs	StatusNotify				
Name:	iso org dod internet priva	ate enterprises axelTech monito	sFm wolf2MS tuner1Module tun1Da	ata tun i Data Table tun i DataEr	ntry fTunlFreq 1	
Value	[OctetString] 100 50					
value.						
Name:	iso.org.dod.internet.priva	ate.enterprises.axelTech.monito	sFm.wolf2MS.tuner1Module.tun1Re	isScanData.tun1RdsScanData	Table.tun1RdsScanDataEntry.aTun1Data	ScanPsVal.1
Value:	[OctetString] ABCRADIO)				
Name:	iso org dod internet prive	te enternrises avelTech monito	Fro wolf?MS tuner1Module tun1R	leSconData tun IR deSconData	Table tun IR deScanDataEnter (Tun I Data)	ScanDeStatue 1
Ivanie.	.iso.org.uou.incinci.priva	are enterprises axer recurriturito.	si iii woli 21063. turier Hviodure, turi i to	ISOCALE/AIA. IULIII/USOCALE/AIA	Table turn tuss campataenin y 11 un pata	SCALE SSIAIUS. I
value:	[integer] alarm (1)					
Name:	iso org.dod internet priva	ate enterprises axelTech monito	sFm.wolf2MS.tuner1Module.tun1Rd	is.tun1RdsTable.tun1RdsEntr	y.aTun1RdsSettingsPsTrapLabel.1	
Value:	[OctetString] Tun1 Rds H	PS Trap 1				
Name:	.iso.org.dod.internet.priva	ate. enterprises.axelTech.monito	sFm.wolf2MS.tuner1Module.tun1Ro	is.tun1RdsTable.tun1RdsEntr	y.iTun1RdsSettingsPsMask.1	
Value:	[Integer] unmasked (0)					
Name:	.iso.org.dod.internet.priva	ate.enterprises.axelTech.monito	sFm.wolf2MS.wolf2msTraps.aTrap	DateTime.0		
Value:	[OctetString] 2013-11-11	11.18.04				
Name:	iso.org.dod.internet.priva	ate.enterprises.axelTech.monito	sFm.wolf2MS.wolf2msTraps.iTrap	Counter. O		
Value:	[Integer] 39					
Name:	iso org. dod internet priva	ate.enterprises.axelTech monito	sFm.wolf2MS.tuner1Module.tun1Da	ata tun 1 Data Table tun 1 Data Fr	ntry.tun1DataIndex.1	
Value	[Integer] 1					
, varue.	[mucBer] 1					
Description:	"iTun1DataScanPsStatus	Notification Trap "				
		-				

Under the alarm condition the RDS alarm led (we have associated the PS alarm to the panel led Rds error) on the panel must be on (not flashing) and clicking on the channel number of the correspondent tuner the RDS error will be displayed ("RDS DATA").



Tested in Scan mode with 3 frequencies: F1: 100.5 MHz F2: 95.3 MHz F3: 96.7 MHz and two PS Ref Mask: "KRADIO" and "ABC" as depicted below. Timeout = 30 sec. Hold Time = 10 sec.

In Scan Mode system perform a time-division cyclical check on selected radios (see Settings->Tuner1->Last Channel Scanning Index or alter ego for Tuner 2). It starts from Chan 1 and rests for the setted Scan Time related to channel before pass away. If an alarm condition (or more of them) is found, it will be signaled (and - if enabled - a trap is launched).

Now system search a match on Chan1 PS (ABCRADIO) with two Refs (substring "KRADIO" and substring "ABC"). PS Ref Mask2 content will match ("ABC" is a substring of "ABCRADIO") but Ref Mask1 will not, so an error condition will raises up.

		Monito	ring				Settir	ngs									
	f	Tuner	-1 Data Ti	uner-2 Data	1			Setup	Adm	in	Tune	r-1	Tuner-	2	Audio		Logout
G	OBAL	DE	DE	DE			DEV	PILOT		IOT	PDS		PDS			סוס	
		NI 12	KI LI			H2					NDOL		KD3	AODIOD			AODIOR
E	BLER	PI	PS	ТР	т	Ά	СТ	RT		AF	EON		IH	TMC	F	ат₊	ODA ₁
C	DA ₂																
TUN	ER1 - RD	S PROC	GRAM SERV	ACE													
		Preset												Email	Trap		
	Chan1 Labe	I	100.50 MHz	10 sec	unmasked	KRADIO	ABC				30 sec	20 sec	unmasked	disable	enable	Tun1 F	Rds PS Trap 1
2	Chan2 Labe	I	95.30 MHz	10 sec	unmasked	•••••	•••••	•••••	•••••		60 sec	10 sec	masked	disable	disable	Tun1 F	Rds PS Trap 2
	Chan3 Labe		96.70 MHz	10 sec	unmasked	•••••	•••••	•••••	•••••		60 sec	10 sec	masked	disable	disable	Tun1 F	Rds PS Trap 3
														disable	disable		

The traps will be sent in the instant the alarm rises up, but PS and the time in the var-binds will be related to the moment the Timeout is expired.

Under the alarm condition the RDS alarm led on the panel must be on (flashing if the alarms are more than one on the channel list) and clicking on the channel number of the correspondent tuner the RDS error will be displayed ("RDS DATA").

In case of more errors on the related channel, they will rotate for about 30 seconds in a sequence carousel.

Tested in SmartScan with the same setup depicted above for 'normal' Scan Mode.

Scan Mode is an evolution of normal Scan Mode that rigidly cycles between selected Channels. If an alarm condition is found on a channel, instead of state an alarm condition, system stops on channel for a period (depending on tested service that cause alarm condition) collecting more data. In this state no alarm or Trap was reported. The Channel Memory index reports the cause(s) of the stop (see below: "1 of 3 (PS)").



TUNER-1		STER	0 - 1	TUNE	D	RDS	}		
			С						
1 of 3 (PS)		100.50	MHz C	han1	l Label				S-SCAN
RF —		- <u>L2</u> -		ALAR	ам — н	1 -	2		
81.00	dBuV	-7 ppm	0.00	% -	-38.25 -3(5.87		-66.37	dBr
DEVIATI	on –		<u> </u>	ALAR	ιm				
13.05		0.00		Hz (6.50			3.32	
RDS DAT	а —		— <u>[</u> /	ALAR	ιm —				
5215		000		% /	ABCRADI	0		OFF	OFF
				1					
MUSIC		STEREO ST	ATIC	L	JAZZ			ОК	
				1		RT+			
ОК	ОК	ОК							

If a valid (no alarm) condition is found in this time, system unlocks and normal scan reprises. If a new alarm condition raises up, system stops again for another observation step.

If no valid condition is found (as in this test case), system unlocks, normal scan reprises and an alarm condition and/or a trap is reported:

TUNER-1		STERE	ю т и		RDS		
			Cha				
1 of 3		100.50	MHz Cha	n1 Label			S-SCAN
RF —		- [2]-[]		ARM H	1 - H2 -		
				Adj-Chan			
82.00	dBuV	-7 ppm	0.00 %	-38.37 -36	. 87 dBr	-66.25	dBr
DEVIATIO	DN —			ARM			
				Pilot			
12.75		0.00		6.52		3.37	
RDS DAT	a —			ARM			
				PS			
5215		000		ABCRADIC)	OFF	OFF
				РТҮ			
MUSIC		STEREO ST	ATIC	JAZZ		ОК	
RT				тмс			
ОК	ОК	ОК					

Note that Channel Memory reports normal index display ("1 of 3").

If alarm condition persists, after a while the system stops again on channel and the procedure restarts (note that now the alarm condition status ON persists).



REPLAY ENABLED TRAPS

The Rds PS alarm trap are replayed with its original status, time and value of the moment in which the Timeout is expired. Trap Counter is normally incremented.

All data and parameters are available in the MIB L3-5 to set and test this configuration.

NOTES

The PS Reference Masks accepts (multiple) wildcards. Used wildcard for the masks of a channel is reported and selectable into Settings. Empty Ref Masks will be not taken into account.

SMARTMODE references inside the brackets when sequencer locks missing in the scan monitor tab pages (will be fixed).



16.11.13 RDS TP Data test (Tuner-1 Tuner-2)

This test checks alarms and traps on a Radio with TP=ON tuned on frequency 100.5MHz. The test was carried out on both tuners.

System checks received TP and compares it with TP Ref. If a match is found an alarm condition raises up.

In Static mode we have set a TP Ref Mask to OFF with Validation time of 15 sec. and Hold time equal to 25 sec. (see fig. below)

	Monito Tuner	ring •1 Data	Tuner-2 Data		Setting	;s :tup	Admi	n	Tuner-1	Tuner-2	Aud	io	Logout
GLOB	AL RF ₁₂	L RF _{L2} RF _{L1} RF _{H1} RF _{H2}					OT _L PIL	от	RDSL	RDS A	UDIO DEV	AUDIO	AUDIO _R
BLE	R PI	PS	TP	ТА	ст	R	т а	F	EON	ІН	тмс	RT+	ODA ₁
ODA	A _z												
TUNF	R1 - RDS TRAF	FIC PRO	GRAM										
						D -6				r 11			
chan	Chan Label	Préset	Frequency	scan Time	chan Mask	Ref	validation	Hold	Wask	Email	Trap		Label
1	Chan1 Label		100.50 MHz	10 sec	unmasked	off	15 sec	25 sec	unmasked	disable	enable	Rds 1	TP Trap 1
						off				disable	disable	Rds 1	

Under the alarm condition the RDS alarm led (we have associated the TP alarm to the panel led Rds error) on the panel must be on (not flashing) and clicking on the channel number of the correspondent tuner the RDS error will be displayed ("RDS DATA").

Tested in Scan mode with 3 frequencies: F1: 100.5 MHz

F2: 95.3 MHz

F3: 96.7 MHz

and TP Ref Mask: OFF as depicted below.

Validation Time = 15 sec. Hold Time = 25 sec.

Мо	nitoring				Settin	gs					Settings							
	ner-1 Data	Tuner-2	Data		s	etup	Admi	n	Tuner-1	Tune	r-2	Audic		Logout				
BAL RF	RE	Fu	RF H1	RF _{H2}	DEV	PILO	т, ри	от	RDS	RDS	AUDIO			AUDIO				
R PI	P	rs 🔽	ТР	ТА	ст	RT		F	EON	IH	ТМ	c	RT.	ODA1				
Az																		
R2 - RDS TI	AFFIC PR	OGRAM																
	Prese	t Frequ	iency	Scan Time		Ref		Hold	Mask	Em	ail	Trap						
Chan1 Labe		100.50) MHz	10 sec	unmasked	off	15 sec	25 sec	unmaske	d disa	ble e	nable		ciccio				
Chan2 Labe		95.30	MHz	10 sec	unmasked	off	10 sec	10 sec	masked	disa	ble d	isable	Rds (2 TP Trap 2				
Chan3 Labe		96.70	MHz	10 sec	unmasked	off	10 sec	10 sec	masked	disa	ble d	isable	Rds	2 TP Trap 3				
		102.30) MHz	5 sec		off		10 sec	masked	disa	ole d	isable	Rds					
	Mon Tur IAL RF 12 R PI A2 R PI A2 Chan Label Chan1 Labe Chan3 Labe Chan4 Labe	Monitoring Tuner-1 Data	Monitoring Tuner-1 Data Tuner-2 AL RF L2 RF L1 R PI PS A2 Chan Label Preset Freq Chan 2 Label 95.30 Chan 3 Label 96.70 Chan 4 Label 96.70	Monitoring Tuner-1 Data Tuner-2 Data Tuner-2 Data Tuner-2 Data RAL RF I2 RF I1 RF H1 R PI PS TP A2 Chan Label Preset Frequency Chan Label Preset Frequency Chan Label Preset 95.30 MHz Chan Label 95.30 MHz Chan Label 95.30 MHz Chan Label 96.70 MHz	Monitoring Tuner-1 Data Tuner-2 Data AL RF L2 RF L1 RF H1 RF H2 R PI PS TP TA A2 Chan Label Preset Frequency Scan Time Chan Label 100.50 MHz 10 sec Chan Label 95.30 MHz 10 sec Chan Label 95.30 MHz 10 sec Chan Label 95.30 MHz 10 sec	Monitoring Setting Tuner-1 Data Tuner-2 Data KAL RF L2 RF L1 RF H2 DEV R PI PS TP TA CT A2 Chan Label Preset Frequency Scan Time Chan Masked Chan Label Preset Frequency Scan Time Chan Masked Chan Label 100.50 MHz 10 sec unmasked Chan Label 95.30 MHz 10 sec unmasked Chan 3 Label 102.30 MHz 10 sec unmasked	Monitoring Settings Tuner-1 Data Tuner-2 Data KAL RF L2 RF L4 RF H1 RF H2 DEV PILOT R PI PS TP TA CT RT A2 - RDS TRAFFIC PROGRAM	Monitoring Settings Tuner-1 Data Tuner-2 Data Setup Admin AL RF u2 RF u1 RF H1 RF H2 DEV PILOT L PILOT L R PI PS TP TA CT RT Admin A2 Tuner-1 Data TP TA CT RT Admin Chan Label Preset Frequency Scan Time Chan Mask Ref Validation Chan1 Label 100.50 MHz 10 sec unmasked off 15 sec Chan3 Label 96.70 MHz 10 sec unmasked off 10 sec Chan4 Label 102.30 MHz 5 sec unmasked off 10 sec	Monitoring Settings Tuner-1 Data Tuner-2 Data Setup Admin AAL RF L2 RF L4 RF H2 DEV PILOTL PILOTL R PI PS TP TA CT RT AF A2 Chan Label Preset Frequency Scan Time Chan Masked off 15 sec 25 sec Chan Label Preset Frequency Scan Time Chan Masked off 10 sec 10 sec Chan3 Label 96.70 MH2 10 sec unmasked off 10 sec 10 sec Chan4 Label 102.30 MH2 5 sec unmasked off 10 sec 10 sec	Monitoring Settings Tuner-1 Data Tuner-2 Data Setup Admin Tuner-1 NAL RF L2 RF L4 RF H2 DEV PILOT V PILOT V RDS V R PI PS TP TA CT RT AF EON A2 Tuner-1 DS V TA CT RT AF EON EON A2 V VI Settings VIIII VIIII VIIII VIIII VIIIII VIIIII VIIIII VIIIII VIIIII VIIIII VIIIIII	Monitoring Settings Tuner-1 Data Tuner-2 Data RF H2 Setup Admin Tuner-1 Tuner-1 Tuner-1 MAL RF L2 RF L4 RF H2 DEV PILOT L PILOT L RDS L RDS L RDS L R PI PS TP TA CT RT AF EON IH A2 Chan Label Preset Frequency Scan Time Chan Mask Ref Validation Hold Mask Em Chan Label Preset Frequency Scan Time Chan Mask Ref Validation Hold Mask Em Chan Label 100.50 MH2 10 sec unmasked off 15 sec 25 sec unmasked disa Chan Label 95.30 MH2 10 sec unmasked off 10 sec 10 sec masked disa Chan Label 96.70 MH2 10 sec unmasked off 10 sec masked disa Chan Label 96.70 MH2 10 sec <t< td=""><td>Monitoring Settings Tuner-1 Data Tuner-2 Data AL RF u RF u RF H2 DEV PILOT PILOT PILOT RDS RDS AUDIO R PI PS TP TA CT RT AF EON IH TM A2 F PI PS TP TA CT RT AF EON IH TM A2 F RS Scan Time Chan Mask Ref Validation Hold Mask Email Image: Chan Label Preset Frequency Scan Time Chan Mask Ref Validation Hold Mask Email Image: Chan Label Image: Chan Mask Ref Validation Hold Mask Email Image: Chan Label Image: Chan Mask Ref Validation Hold Mask Email Image: Chan Label Image: Chan Mask Ref Validation Hold Mask Email Image: Chan Label Image: Chan Mask Ref Validation Hold Mask Email Image: Chan Mask Image: Chan Mask Image: Chan Mask Image: Chan Mask <t< td=""><td>Monitoring Tuner-2 Data Tuner-2 Data Settings Admin Tuner-1 Tuner-2 Addition AL RF L2 RF L4 RF H4 RF H4 RF H4 DEV PILOT L PILOT RDS L RDS AUDIO 06V AUD</td><td>Monitoring Settings Tuner-1 Data Tuner-2 Data Tuner-2 Data Refuz DEV PILOT PILOT RDS AUDIO gev AUDIO ge</td></t<></td></t<>	Monitoring Settings Tuner-1 Data Tuner-2 Data AL RF u RF u RF H2 DEV PILOT PILOT PILOT RDS RDS AUDIO R PI PS TP TA CT RT AF EON IH TM A2 F PI PS TP TA CT RT AF EON IH TM A2 F RS Scan Time Chan Mask Ref Validation Hold Mask Email Image: Chan Label Preset Frequency Scan Time Chan Mask Ref Validation Hold Mask Email Image: Chan Label Image: Chan Mask Ref Validation Hold Mask Email Image: Chan Label Image: Chan Mask Ref Validation Hold Mask Email Image: Chan Label Image: Chan Mask Ref Validation Hold Mask Email Image: Chan Label Image: Chan Mask Ref Validation Hold Mask Email Image: Chan Mask Image: Chan Mask Image: Chan Mask Image: Chan Mask <t< td=""><td>Monitoring Tuner-2 Data Tuner-2 Data Settings Admin Tuner-1 Tuner-2 Addition AL RF L2 RF L4 RF H4 RF H4 RF H4 DEV PILOT L PILOT RDS L RDS AUDIO 06V AUD</td><td>Monitoring Settings Tuner-1 Data Tuner-2 Data Tuner-2 Data Refuz DEV PILOT PILOT RDS AUDIO gev AUDIO ge</td></t<>	Monitoring Tuner-2 Data Tuner-2 Data Settings Admin Tuner-1 Tuner-2 Addition AL RF L2 RF L4 RF H4 RF H4 RF H4 DEV PILOT L PILOT RDS L RDS AUDIO 06V AUD	Monitoring Settings Tuner-1 Data Tuner-2 Data Tuner-2 Data Refuz DEV PILOT PILOT RDS AUDIO gev AUDIO ge				



🔘 🔇 🔠 🏹	16				
Description trapOID: .iso.org.dod.ir	ernet.private.enterprises.axelTech.monitorsFm.	wolf2MS.wolf2msTraps.modules.tuner1	Traps.tuner 1Rds.tuner 1RdsPrefix.iTun 1DataScanTpS	Source t 192.168.0.141	Time 2013-11-11 15:45:25
Source: Trap OID: Variable Bindings:	192.168.0.141 .iso.org.dod.internet.private.enterprises	Timestamp: . axelTech.monitorsFm.wolf2MS.	2 hours 20 minutes 58 seconds wolf2msTraps.modules.tuner1Traps.tuner1R	SNMP Vers ds.tuner1RdsPrefix.iTun1DataScanTpSta	sion: 2 atusNotify
Name: Value:	.iso.org.dod.internet.mgmt.mib-2.syste [TimeTicks] 2 hours 20 minutes 58 sec	an.sysUpTime.0 conds (845849)			
Name: Value:	snmpTrapOID [OID] iTun1DataScanTpStatusNotify				
Name: Value:	.iso.org.dod.internet.private.enterprises [OctetString] 100.50	axelTech.monitorsFm.wolf2MS.	tuner 1 Module, tun 1 Data, tun 1 Data Table, tun 1 D	ataEntry.fTun1Freq	
Name: Value:	.iso.org.dod.internet.private.enterprises [Integer] tpon (1)	axelTech.monitorsFm.wolf2MS.	tuner1Module.tun1RdsScanData.tun1RdsSca	nDataTable.tun1RdsScanDataEntry.iTun	1DataScanTpVa1
Name: Value:	.iso.org.dod.internet.private.enterprises [Integer] alarm (1)	axelTech.monitorsFm.wolf2MS.	tuner1Module.tun1RdsScanData.tun1RdsSca	nDataTable.tun1RdsScanDataEntry.iTun	1DataScanTpStatus
Name: Value:	.iso.org.dod.internet.private.enterprises [OctetString] Rds 1 TP Trap 1	axelTech.monitorsFm.wolf2MS.	tuner 1 Module. tun 1 Rds. tun 1 Rds Table. tun 1 Rd	sEntry.aTun1RdsSettingsTpTrapLabel	
Name: Value:	.iso.org.dod.internet.private.enterprises [Integer] unmasked (0)	axelTech.monitorsFm.wolf2MS.	tuner 1 Module. tun 1 Rds. tun 1 Rds Table. tun 1 Rd	sEntry.iTun1RdsSettingsTpMask	
Name: Value:	.iso.org.dod.internet.private.enterprises [OctetString] 2013-11-11 15:45:11	axelTech.monitorsFm.wolf2MS.	wolf2msTraps.aTrapDateTime.0		
Name: Value:	.iso.org.dod.internet.private.enterprises [Integer] 12	axelTech.monitorsFm.wolf2MS.	wolf?msTraps.iTrapCounter.0		
Name: Value:	.iso.org.dod.internet.private.enterprises [Integer] 1	axelTech.monitorsFm.wolf2MS.	tuner 1 Module. tun 1 Data. tun 1 Data Table. tun 1 D	ataEntry.tunlDataIndex	
Description:	"iTun2DataScanTpStatus Notification 7	Trap "			

The traps will be sent in the instant the alarm rises up, but TP and the time in the var-binds will be related to the first failed check.

Under the alarm condition the RDS alarm led on the panel must be on (flashing if the alarms are more than one on the channel list) and clicking on the channel number of the correspondent tuner the RDS error will be displayed. In case of more errors on the related channel, they will rotate for about 30 seconds in a sequence carousel.

In SmartScan Mode the behavior expected is the same of the normal Scanning mode because this parameter is continuous and always available on the channel.

REPLAY ENABLED TRAPS

The Rds TP alarm trap are replayed with its original status, time and value. Trap Counter is normally incremented. All data and parameters are available in the MIB L3-5 to set and test this configuration. SMARTMODE references inside the brackets when sequencer locks missing in the scan monitor tab pages (will be fixed).



16.11.14 RDS TA Data test (Tuner-1 Tuner-2)

This test checks alarms and traps on a Radio with TA=ON tuned on frequency 100.5MHz. The test was carried out on both tuners.

System can check TA status and raise an alarm after a period of TA=ON (MaxOnTimeout) as can monitor TA status invariance in time (alarm can be signaled after NoVarTimeout).

In Static mode we have set a TA MaxOnTimeout to 60 sec. and NoVarTimeout to 1440 min. (see fig. below) Tuned radio TA=ON will raise up an alarm after MaxOnTimeout.

	ft Moni	toring er-1 Data	Tuner-2 Da	ita		Settings Setup	Admin	Tuner-1	Tuner-2	! Aı	udio	Logout
GLO	BAL RF ₁₂	F	RF _{LL} RF	H1 R	F _{HZ} DE	V PILOT	PILOT	RDSL	RDS	AUDIO DEV	AUDIO	AUDIO _R
BLE	ER PI		PS T	P T	TA CT	r rt	AF	EON	ІН	тмс	RT+	ODA ₁
OD	Az											
TUNE	R1 - RDS TR/	AFFIC A	NNOUNCEMI	ENT ·								
Chan		Preset				MaxOnTimeout	NoVarTimed	out Mask	Email	Trap	I	
1	Chan1 Label		100.50 MHz	10 sec	unmasked	60 sec	1440 min	unmask	ed disable	enable	Tun1 Ro	ls TA Trap 1
2						60 sec	1440 min	maske	d disable	disable	Tun1 Ro	

Under the alarm condition the RDS alarm led (we have associated the TA alarm to the panel led Rds error) on the panel must be on (not flashing) and clicking on the channel number of the correspondent tuner the RDS error will be displayed ("RDS DATA").

Tested in Scan mode with 3 frequencies:

F1: 100.5 MHz

- F2: 95.3 MHz
- F3: 96.7 MHz

and MaxOnTimeout=60 sec. - NoVarTimeout=1440 min. as depicted below.

In Scan Mode an alarm condition raises up after MaxOnTimeout time passed on channel 1.

	Moni	toring er-1 Data	Tuner-2 Da	Ita		Settings Setup Admin Tuner-1 Tuner-2 Audio								Lopout
		ci i bata	Tunci 2 bu			octup		, and the second s			runer 2			Topour
GLO	BAL RF 12	F	RF u RF	H1 RI	HZ DE	V PI	LOTL	PILOT	RDS	S _L	RDS	AUDIO _{dev}	AUDIOL	AUDIO _R
BLE	ER PI		PS T	P T	A C	r	RT	AF	EOI	N	ін	тмс	RT+	ODA ₁
OD	Az													
TIINE	D1 - DING TD/			NT .										
TUNE			MOUNCLIM											
Chan		Preset							ut			Trap		
1	Chan1 Label		100.50 MHz	10 sec	unmasked	60 se	c	1440 min	u	nmasked	disable	enable	Tun1 Rd	s TA Trap 1
2	Chan2 Label		95.30 MHz	10 sec	unmasked	60 se	c	1440 min		masked	disable	disable	Tun1 Rd	s TA Trap 2
3	Chan3 Label		96.70 MHz	10 sec	unmasked	60 se	c	1440 min		masked	disable	disable	Tun1 Rd	s TA Trap 3



Description		Source	Time
apOID: .iso.org.dod.internet	private.enterprises.axelTech.monitorsFm.wolf2MS.wolf2msTraps.modules.tuner1Traps.tuner1Rds.tuner1RdsPrefix.Tun1DataScanTaStatusNotify	192.168.0.141	2013-11-12 09:30:40
apOID: .iso.org.dod.internet	.private.enterprises.axelTech.monitorsFm.wolf2MS.wolf2msTraps.modules.tuner 1Traps.tuner 1Rds.tuner 1RdsPrefix.iTun 1DataScanTaStatusNotify	192.168.0.141	2013-11-12 09:23:16
apOID: .iso.org.dod.internet	.private.enterprises.axelTech.monitorsFm.wolf2MS.wolf2msTraps.modules.tuner1Traps.tuner1Rds.tuner1RdsPrefix.iTun1DataScanTaStatusNotify	192.168.0.141	2013-11-12 09:20:30
pOID: .iso.org.dod.internet	.private.enterprises.axelTech.monitorsFm.wolf2MS.wolf2msTraps.modules.tuner1Traps.tuner1Rds.tuner1RdsPrefix.iTun1DataScanTaStatusNotify	192.168.0.141	2013-11-12 09:19:31
apOID: .iso.org.dod.internet	.private.enterprises.axelTech.monitorsFm.wolf2MS.wolf2msTraps.modules.tuner1Traps.tuner1Rds.tuner1RdsPrefix.iTun1DataScanTaStatusNotify	192.168.0.141	2013-11-12 09:16:20
pOID: .iso.org.dod.internet	.private.enterprises.axelTech.monitorsFm.wolf2MS.wolf2msTraps.modules.tuner1Traps.tuner1Rds.tuner1Rds.tuner1Indprefix.iTun1DataScanTaStatusNotify	192.168.0.141	2013-11-12 09:15:21
apOID: .iso.org.dod.internet	.private.enterprises.axelTech.monitorsFm.wolf2MS.wolf2msTraps.modules.tuner 1Traps.tuner 1Rds.tuner 1RdsPrefix.iTun 1DataScanTaStatusNotify	192.168.0.141	2013-11-12 09:14:01
apOID: .iso.org.dod.internet	.private.enterprises.axeTrech.monitorsFm.wolf2MS.wolf2msTraps.modules.tuner2Traps.tuner2Rds.tuner2Rds/trefix.Trun2DataScanTpStatusNotify	192.168.0.141	2013-11-12 09:01:33
. ▼	100 160 0 141 Timestamp	ter 40 eccende SNMD Versien.	
ource:	192.108.0.141 interstand: I hour 4 minut	ies 49 seconds Sivier version:	
trap OID:	iso org dod internet private enterprises axel l'ech monitorsi m. wolf JMS, wolf Jms Traps modules tuner I Traps tuner I Rds tu	ner1RdsPrefix.iTun1DataScanTaStatusNotify	
Variable Bindings:			
Name:	.iso.org.dod.internet.mgmt.mib-2.system.sysUpTime.0		
Value:	[TimeTicks] 1 hour 4 minutes 49 seconds (388926)		
Name:	smmp TrapOID		
Value	IODI iTuu DataSaarTaStatusNatifir		
value:	[OID] IT UIT Data Scall I a Status Pointy		
Name:	.iso.org.dod.internet.private.enterprises.axelTech.monitorsFm.wolf2MS.tuner1Module.tun1Data.tun1DataTable.tun1DataE	ntry fTun1Freq 1	
Value:	[OctetString] 100.50		
Name:	iso org. dod. internet. private, enterprises, axelTech.monitorsFm, wolf2MS, tuner1Module, tun1RdsScanData, tun1RdsScanData	a Table.tun 1 RdsScanDataEntry.iTun 1 DataScan TaVal.1	
Value:	[Integer] taon (1)	,	
Name:	.iso.org.dod.internet.private.enterprises.axelTech.monitorsFm.wolf2MS.tuner1Module.tun1RdsScanData.tun1RdsScanDat	aTable.tun1RdsScanDataEntry.iTun1DataScanTaStatus.1	
Value:	[Integer] alarm (1)		
Name:	iso.org.dod.internet.private.enterprises.axelTech.monitorsFm.wolf2MS.tuner1Module.tun1Rds.tun1RdsTable.tun1RdsEnt	rv.aTun1RdsSettingsTaTrapLabel.1	
Value:	OcteString Tup I Edg TA Top 1	, <u> </u>	
value.	[occosting] run was the tub t		
Name:	iso, org. dod. internet. private. enterprises. axelTech. monitorsFm. wolf2MS. tuner1Module. tun1Rds. tun1RdsTable. tun1RdsEntr	ry.iTun1RdsSettingsTaMask.1	
Value:	[Integer] unmasked (0)		
Nama	ice are dedictored acients astronoises and Tash manifers For malfilly (1991) ma Trans a Tran Data Time I		
vame.	.150. 01 g. dou internet private enterprises, azerr ech montorschi, won hvis, won his stabs, a trappate rinte, o		
Value:	[OctetString] 2013-11-12 09:30:40		
Name:	iso org dod internet private enterprises axelTech monitorsFm wolf2MS wolf2msTraps iTranCounter 0		
vanue:	Linteger) 10		
Name:	iso org.dod internet.private.enterprises.axelTech.monitorsFm.wolf2MS.tuner1Module.tun1Data.tun1DataTable.tun1DataE	ntry.tun1DataIndex.1	
Value:	[Integer] 1		

The traps will be sent in the instant the alarm rises up, but TA and the time in the var-binds will be related to the first failed check.

Under the alarm condition the RDS alarm led on the panel must be on (flashing if the alarms are more than one on the channel list) and clicking on the channel number of the correspondent tuner the RDS error will be displayed ("RDS DATA").

In case of more errors on the related channel, they will rotate for about 30 seconds in a sequence carousel.

In SmartScan Mode the behavior expected is the same of the normal Scanning mode because this parameter is continuous and always available on the channel.

A second branch of test is performed with MaxOnTimeout=0 and NoVarTimeout=2 min. on each tuner in Static mode as depicted below:

					1							
	Mon	itoring				Settings						
	🔒 Tun	er-1 Data	Tuner-2 Da	ata		Setup	Admin	Tuner-1	Tuner-2	Au	idio	👤 Logout
GLO	BAL RF 12	F	RF u RF	H1 R	F _{HZ} DI	EV PILOT _L	PILOT	RDSL	RDS	AUDIO DEV	AUDIOL	AUDIO _R
BLE	R PI		PS T	P	TA C	T RT	AF	EON	ІН	тмс	RT+	ODA ₁
OD	A ₂											
TUNE		AEETC A										
		AFFIC A	NNOUNCEM									
Chan		Preset	Frequency	Scan Time	Chan Mask	MaxOnTimeout	NoVarTimeou	t Mask	Email	Trap	L	
1	Chan1 Label		100.50 MHz	10 sec	unmasked	0 sec	2 min	unmasked	disable	enable	Tun1 Rd	s TA Trap 1
2			95.30 MHz	10 sec	unmasked	60 sec	1440 min	masked	disable	disable	Tun1 Rd	

In this case we don't care of TA=ON condition, but we look for TA status invariance in time. After NoVarTimeout time (if TA status remains untouched) an alarm condition raises up.

And then in Scan Mode and SmartScan Mode with three frequencies F1: 100.5 MHz F2: 95.3 MHz

F3: 96.7 MHz

and MaxOnTimeout=0 sec. - NoVarTimeout=2 min. as depicted below.

196

	м	onitoring				Settings						
	î I	uner-1 Data	Tuner-2 Da	ita		Setup	Admin	Tuner-1	Tuner-	-2 A	udio	👤 Logout
GLOE	BAL RF	12	RF _{LL} RF	H1 R	F _{HZ} DI	EV PILOT	L PILOT	RDSL	RDS	AUDIO DEV	AUDIO	AUDIO _R
BLE	R PI		PS T	P	га с	T RT	AF	EON	IH	тмс	RT+	ODA ₁
OD	A ₂											
TUNF	R1 - RDS1	RAFFIC A		NT ·								
- Gritz												
Chan		Preset	Frequency			MaxOnTimeo	It NoVarTime	out Mas	ik Email	Trap	l	
1	Chan1 Labe		100.50 MHz	10 sec	unmasked	0 sec	2 min	unmas	ked disabl	e enable	Tun1 Ro	ls TA Trap 1
2	Chan2 Labe		95.30 MHz	10 sec	unmasked	60 sec	1440 mir	n mask	ed disable	e disable	Tun1 Ro	ds TA Trap 2
3	Chan3 Labe		96.70 MHz	10 sec	unmasked	60 sec	1440 mir	n mask	ed disable	e disable	Tun1 Ro	ds TA Trap 3
4			102.30 MHz			60 sec	1440 mir	n mask	ed disable	e disable	Tun1 Ro	

REPLAY ENABLED TRAPS

The Rds TA alarm trap are replayed with its original status, time and value. Trap Counter is normally incremented. All data and parameters are available in the MIB L3-5 to set and test this configuration.

NOTES

Unwanted checks on TA signal were performed by settings corresponding Timeout to 0. SMARTMODE references inside the brackets when sequencer locks missing in the scan monitor tab pages (will be fixed).



16.11.15 RDS CT Data test (Tuner-1 Tuner-2)

This test checks alarms and traps on a Radio tuned on frequency 100.5MHz that carries CT service. The test was carried out on both tuners.

The system can check CT service signal presence and time offset between internal system clock and CT carried time.

First, we have set Radio CT=ON with an offset about 10 min. When system receives first CT data, displays it and calculate time difference:

ст ——	ALA	ARM	
12/11/13	09:45	+01.00	595 sec

Then we have tested in Static Mode with Timeout=360 sec. and Offset Time = 60 sec. Timeout field indicates max time the system wait for a new CT group before raise up an alarm.

	Monito Tuner	ring •1 Data	Tuner-2 Data		Setting	gs etup	Admin	Tuner-1	Tuner	-2	Audio	Logout
GLOI	BAL RF _{L2}	RFu	RF _{H1}	RF _{HZ}	DEV	PILOT	PILOT	RDSL	RDS	AUDIO DEV	AUDIOL	AUDIO _R
BLE	R PI	PS	ТР	ТА	СТ	RT	AF	EON	ІН	тмс	RT+	ODA ₁
OD	A _z											
TUNE	R1 - RDS CLOO	K AND T	IME ·									
Chan	Chan Label	Preset	Frequency	Scan Time	Chan Mask	Timeout	Max Offset	Mask	Email	Trap	L	abel
1	Chan1 Label		100.50 MHz	10 sec	unmasked	360 sec	60 sec	unmasked	disable	enable	Tun1 Rd	s CT Trap 1
2	Chan2 Label	Chan2 Label 95.30 MHz			10 sec unmasked 130 sec			masked	disable	disable	Tun1 Rd	s CT Trap 2

Under the alarm condition the RDS alarm led (we have associated the CT alarm to the panel led Rds error) on the panel must be on (not flashing) and clicking on the channel number of the correspondent tuner the RDS error will be displayed ("RDS DATA").

Tested in Scan mode with 3 frequencies:

F1: 100.5 MHz

F2: 95.3 MHz

F3: 96.7 MHz

and Timeout=360 sec. - Max Offset=60 sec. as depicted below.

Same conditions of Static mode test. The behavior is as illustrated for PS Scan Mode test.

System cycles thru selected frequencies. At first time CT signal arrives on Channel1 radio, alarm raises up and corresponding CT field shows a red underlined text: "OFFSET ERROR".

	Monito	oring			Settings								
	Tuner	r-1 Data	Tuner-2 Data		s	etup	Admin	Tuner-1	Tuner	-2 4	ludio	👤 Logout	
GLOE	BAL RF _{L2}	RFL	1 RF _{H1}	RF _{HZ}	DEV	PILOT	PILOT	RDSL	RDS	AUDIO DEV	AUDIO	AUDIO _R	
BLE	R PI	PS	ТР	ТА	ст	RT	AF	EON	IH	тмс	RT+	ODA 1	
OD/	A ₂												
TUNE	R1 - RDS CLO	CK AND 1	ПМЕ										
Chan		Preset							Email				
1	Chan1 Label		100.50 MHz	10 sec	unmasked	360 sec	60 sec	unmasked	disable	enable	Tun1 Ro	ls CT Trap 1	
2	Chan2 Label		95.30 MHz	10 sec	unmasked	130 sec	60 sec	masked	disable	disable	Tun1 Ro	ls CT Trap 2	
3	Chan3 Label		96.70 MHz	10 sec	unmasked	130 sec	60 sec	masked	disable	disable	Tun1 Ro	ls CT Trap 3	
4									disable				



198

Tested in SmartScan with the same setup depicted above for 'normal' Scan Mode.

If an alarm condition is found on a channel, instead of state an alarm condition, system stops on channel for a period (depending on tested service that cause alarm condition) collecting more data. In this state no alarm or Trap was reported. The Channel Memory index reports the cause(s) of the stop (see below: "1 of 3 (CT)").

	Frequency Cha		Mode							
1 of 3 (CT)	100.50 MHz Cha	n1 Label	S-SCAN							
RF		ARM H1 H2								
	Carrier M.Path									
81.00 dBuV	-7 ppm 0.00 %	-34.00 -34.00 dBr	- 64.50 dBr							
DEVIATION -		ARM								
		Pilot								
71.53 kHz	61.56 kHz	6.57 kHz	3.40 kHz							
RDS DATA —	AL	ARM								
		PS	TA TA							
5215	000 %	ABCRADIO	OFF OFF							
M/S	DI	РТҮ	ст							
MUSIC	STEREO STATIC	JAZZ	ОК							
RT AF	EON IH	TMC RT+	ODA-1 ODA-2							
ок ок	ок									

If a valid (no alarm) condition is found in this time, system unlocks and normal scan reprises. If a new alarm condition raises up, system stops again for another observation step.

If no valid condition is found (as in this test case), system unlocks, normal scan reprises and an alarm condition and/or a trap is reported (corresponding CT field shows a red underlined text: "OFFSET ERROR"):

TUNER-1		STERE			RDS			
			Char					
1 of 3		100.50	MHz Chai	n1 Label			S-SCAN	
RF —		- 12-		RM HI	Н2-			
	Level Carrier M.Path Adj-Chan Alt-Chan							
81.50	dBuV	-5 ppm	0.00 %	-36.00 -34	.50 dBr	-67.00	dBr	
DEVIATIO	DN —		AL	ARM				
40.73		30.76		6.57		3.40		
RDS DAT	a —		AL					
5215		000		ABCRADIO		OFF	OFF	
MUSIC	ATIC	JAZZ		OFFSET ER	ROR			
ОК	ОК	ОК						

Note that Channel Memory reports normal index display ("1 of 3").

If alarm condition persists (as in this test case), after a while the system stops again on channel and the procedure restarts (note that now the alarm condition status ON persists).

Description				Source	Time
trapOID: .iso.org.dod.in	ernet.private.enterprises.axelTech.monit	torsFm.wolf2MS.wolf2msTraps.modules.tun	er 1Traps.tuner 1Rds.tuner 1RdsPrefix.iTun 1DataScanCtStatusNotify	192.168.0.141	2013-11-12 13:16:10
trapOID: .iso.org.dod.in	ernet.private.enterprises.axelTech.monit	torsFm.wolf2MS.wolf2msTraps.modules.gen	eralTraps.generalTrapPrefix.iActivityHeartNotify	192.168.0.141	2013-11-12 13:13:11
rapOID: .iso.org.dod.in	ernet.private.enterprises.axelTech.monit	torsFm.wolf2MS.wolf2msTraps.modules.tun	er 1 Traps. tuner 1 Rds. tuner 1 RdsPrefix. i Tun 1 DataScan Rt Status Notify	192.168.0.141	2013-11-12 13:11:21
trapOID: .iso.org.dod.in	ernet.private.enterprises.axelTech.monit	torsFm.wolf2MS.wolf2msTraps.modules.tun	er 2Traps.tuner 2Rds.tuner 2RdsPrefix.iTun 2DataScanRtStatusNotify	192.168.0.141	2013-11-12 13:11:21
Source:	192.168.0.141	Timestamp:	4 hours 50 minutes 20 seconds	SNMP Version:	2
Trap OID:	.iso.org.dod.internet.private.enter	prises.axelTech.monitorsFm.wolf2M	IS.wolf2msTraps.modules.tuner1Traps.tuner1Rds.tuner1RdsPr	refix.iTun1DataScanCtStatusNotify	
Variable Bindings:		-		-	
Name:	iso org dod internet mant mih-?	evetem evel In Time 0			
Volue:	[TimoTiolsa] 4 hours 50 minutes	20 accords (1742020)			
value:	[Imelicks] 4 nours 50 mmutes	20 seconds (1742039)			
Name:	snmpTrapOID				
Value:	[OID] iTun1DataScanCtStatusNo	otify			
Name	iso org dod internet private enter	nnises avelTech monitorsEm wolf?M	IS tuner1Module tun1Data tun1DataTable tun1DataEntry fTun1	Freq 1	
Value.	[OstatString] 100 50	prises are recention of state won site.	is the module terribute terribute residentification of the	ii i cq. i	
value:	[Octetatring] 100.50				
Name:	iso org.dod.internet.private.enter	prises.axelTech.monitorsFm.wolf2M	IS tuner1Module.tun1RdsScanData.tun1RdsScanDataTable.tun	1RdsScanDataEntry.aTun1DataScan0	CtVal. 1
Value:	[OctetString] 12/11/2013 12:14 L	_to: +01.00			
Name:	iso org dod internet private enter	nrises axelTech monitorsFm wolf?M	IS tuner 1 Module tun 1 RdsScanData tun 1 RdsScanData Table tun	1RdsScanDataEntry iTun1DataScanC	tStatus 1
Value:	Integer alorm (1)	prises and recentionators in wonsiv		indissedifsatiliting in ambatasedito	ibilitios. 1
value:	[integer] atarin (1)				
Name:	.iso.org.dod.internet.private.enter	prises.axelTech.monitorsFm.wolf2M	IS. tuner 1Module. tun1Rds. tun1Rds Table. tun1RdsEntry. a Tun1R	dsSettingsCtTrapLabel.1	
Value:	[OctetString] Tun1 Rds CT Trap	1			
	· · · · · · · · ·				
Name:	.iso.org.dod.internet.private.enter	prises axelTech monitorsFin.wolf2M	IS tuner I Module tun I Rds tun I Rds Table tun I RdsEntry i Tun I R	dsSettingsCtMask.1	
Value:	[Integer] unmasked (0)				
Name:	iso org dod internet private enter	prises axelTech monitorsFm wolf2M	IS.wolf?msTraps.aTrapDateTime.0		
Value	[OctetString] 12/11/2013 12:14 I	to: +01.00			
value.	[Octoballing] 15/11/5015 15:14 E	5.6. (61.66			
Name:	iso org.dod.internet.private.enter	prises.axelTech.monitorsFm.wolf2M	IS.wolf2msTraps.iTrapCounter.0		
Value:	[Integer] 16				
N	the second and instances structure to the	main an attraction with a track to the second	Reasonable data to 1Date to 1Date Table to 1D to 1D to 1D to 1D	hade Too door 1	
Name:	.iso.org.dod.internet.private.enter	prises.axelTech.monitorsFm.wolf2N	1S. tuner1Module.tun1Data.tun1DataTable.tun1DataEntry.tun1D	DataIndex.1	

Description: "iTun1DataScanCtStatus Notification Trap "

The traps will be sent in the instant the alarm rises up, but CT and the time in the var-binds will be related to the first failed check.

Under the alarm condition the RDS alarm led on the panel must be on (flashing if the alarms are more than one on the channel list) and clicking on the channel number of the correspondent tuner the RDS error will be displayed ("RDS DATA").

In case of more errors on the related channel, they will rotate for about 30 seconds in a sequence carousel.

For a second branch of tests we have set Timeout to 130 sec. and stopped Radio CT transmission (no 4A groups was broadcasted).

	Monitor	ing 1 Data	Tuner-2 Data		Settin	gs Setup	Admin	Tuner-1	Tuner	-2 A	ludio	Logout
GLO	BAL RF _{L2}	RFu	1 RF _{H1}	RF _{HZ}	DEV	PILOT	PILOT	RDSL	RDS	AUDIO DEV	AUDIOL	AUDIO _R
BLE	R PI	PS	ТР	ТА	ст	RT	AF	EON	IH	тмс	RT.	ODA ₁
OD	Az											
TUNE	R1 - RDS CLOC	K AND T	птме									
Chan		Frequency	Scan Time		Timeout		Mask	Email	Trap			
1	1 Chan1 Label 100.50 MHz		10 sec	unmasked	130 sec	60 sec	unmasked	disable	enable	Tun1 Rds	CT Trap 1	
2	2 Chan2 Label 95.30 MHz		10 sec		130 sec		masked	disable	disable			

We have performed the same tests in Static Mode, Scan Mode and Smart Scan Mode as above, checking front panel visualization and leds, alarms and traps.

We've obtained the same behaviors of Test 1 with the only difference on CT alarm description:





REPLAY ENABLED TRAPS

The Rds CT alarm traps are replayed with its original status, time and value. Trap Counter is normally incremented. All data and parameters are available in the MIB L3-5 to set and test this configuration.

NOTES

Timeout field can be set to 0. This avoid control check on CT signal frequency (but not CT clock precision). SMARTMODE references inside the brackets when sequencer locks missing in the scan monitor tab pages (will be fixed).

TrapdateTime varbind content wrong (the CT value has been used). Will be fixed.



16.11.16 RDS RT Data test (Tuner-1 Tuner-2)

This test checks alarms and traps on a Radio tuned on frequency 100.5MHz that carries RadioText service. The test was carried out on both tuners.

System can monitor RadioText service presence (modified in 0.6.5 release)

For the Static Mode test we set Timeout=60 sec. and Hold Time=10 sec. If the RT service (2A-2B groups) will not be present for 60 sec the alarm will rise up.

	Monitoring Tuner-1 Data Tuner-2 Data					up	Admin	Tuner-1	Tune	r-2	Audio	Logout
GLOB	AL RF ₁₂	RFu	RF _{H1}	RF _{HZ}	DEV	PILOTL	PILOT	RDSL	RDS	AUDIO DEV	, AUDIO _L	AUDIO _R
BLE	R PI	PS	ТР	ТА	ст	RT	AF	EON	IH	тмс	RT.	ODA ₁
ODA	2											
TUNER	1 - RDS RADIO	DTEXT										
Chan		Preset				Timeout	Hold					
1	Chan1 Label		100.50 MHz	10 sec	unmasked	60 sec	10 sec	unmasked	disable	enable	Tun1 Rds	RT Trap 1
2						1 sec	10 sec					

Under the alarm condition the RDS alarm led (We have associated the RT alarm to the panel led Rds error) on the panel must be on (not flashing) and clicking on the channel number of the correspondent tuner the RDS error will be displayed ("RDS DATA").

Tested in Scan mode with 3 frequencies: F1: 100.5 MHz

F1: 100.5 MHz

F2: 95.3 MHZ F3: 96.7 MHz

and Timeout=60 sec. Hold Time=10 sec. as depicted below.

	Monito	Tuner-2 Data	Settings Setup Admin Tuner-1					Tune	Tuner-2 Audio			
GLOE	BAL RF _{L2}	RF LI	RF _{H1} TP	RF _{Hz}	DEV		PILOT	RDS L	RDS	AUDIO _{DEV}	AUDIO _L	
OD/	A _z											
TUNE	R2 - RDS RADI	ΟΤΕΧΤ										
Chan	Chan Label	Preset	Frequency	Scan Time	Chan Mask	Timeout	Hold	Mask	Email	Trap	Lab	el
1	Chan1 Label		100.50 MHz	10 sec	unmasked	60 sec	10 sec	unmasked	disable	enable	Tun2 Rds I	RT Trap 1
2	Chan2 Label		95.30 MHz	10 sec	unmasked	60 sec	10 sec	masked	disable	disable	Tun2 Rds I	RT Trap 2
3	Chan3 Label		96.70 MHz	10 sec	unmasked	60 sec	10 sec	masked	disable	disable	Tun2 Rds I	RT Trap 3
4						60 sec	10 sec			disable		

Tested in SmartScan with the same setup depicted above for 'normal' Scan Mode.

If an alarm condition is found on a channel, instead of state an alarm condition, system stops on channel for a period (depending on tested service that cause alarm condition) collecting more data. In this state no alarm or Trap was reported. The Channel Memory index reports the cause(s) of the stop (see below: "1 of 3 (RT)").



TUNER-1	TUNER-1												
			Char										
1 of 3 (RT)		100.50	MHz Chai	n1 Label			S-SCAN						
RFL2 L1 ALARM H1 H2													
Level Carrier M.Path Adj-Chan Alt-Chan													
82.00	dBu∨	-7 ppm	0.00 %	-34.00 -33	. 87 dBr	-66.37							
DEVIATI	on –		ALA	IRM									
73.45		63.53		6.55		3.37							
RDS DAT	a —		ALA	ARM									
4000		000		american		OFF	OFF						
MUSIC		STEREO ST	ATIC	NO_PROG OK									
ОК	NO												

If a valid (no alarm) condition is found in this time, system unlocks and normal scan reprises. If no valid condition is found, system unlocks, normal scan reprises and an alarm condition and/or a trap is reported:



Note that Channel Memory reports normal index display ("1 of 3").

If alarm condition persists, after a while the system stops again on channel and the procedure restarts (note that now the alarm condition status ON persists).



			Char						
1 of 3 (RT)		100.50	MHz Cha	n1 Label			S-SCAN		
RF –		-[12]-[ARM H	1 - [H2]-				
81.00	dBuV	-7 ppm	0.00 %	-31.33 -31	00 dBr	-66.00			
DEVIATI	on —		AL/	ARM					
75.30		65.36		6.57		3.37			
RDS DAT	a —			ARM					
4000		000		american		OFF	OFF		
MUSIC		STEREO ST	ATIC	NO_PROG		ОК			
NO	NO								

🔊 🔗 🗶 🔀 🖉

U 🥴 🖽 🔰	1 🐔				
Description				Source	Time
trapOID: .iso.org.dod.i trapOID: .iso.org.dod.i	nternet.private.enterprises.axelTech internet.private.enterprises.axelTech	.monitorsFm.wolf2MS.wolf2msTraps.modules.tun .monitorsFm.wolf2MS.wolf2msTraps.modules.tun	er 1 Traps. tuner 1 Rds. tuner 1 RdsPrefix. Tun 1 DataScan Rt Status Notify er 2 Traps. tuner 2 Rds. tuner 2 RdsPrefix. Tun 2 DataScan Rt Status Notify	192.168.0.141 192.168.0.141	2013-11-12 13:11:21 2013-11-12 13:11:21
	nene aprivateren aprisesiaxer ear			1321100101111	2010 11 12 15/11/21
Source:	192.168.0.141	Timestamp:	4 hours 45 minutes 31 seconds	SNMP Version:	2
Trap OID:	.iso.org.dod.internet.private.	enterprises.axelTech.monitorsFm.wolf2N	IS. wolf2msTraps.modules.tuner1Traps.tuner1Rds.tuner1RdsP	refix.iTun1DataScanRtStatusNotify	
Variable Bindings					
Name:	.iso.org.dod.internet.mgmt.r	nib-2. system. sysUpTime. 0			
Value:	[TimeTicks] 4 hours 45 min	nutes 31 seconds (1713134)			
Name:	snmp TrapOID				
Value:	[OID] iTun1DataScanRtStat	tusNotify			
Name:	iso.org.dod.internet.private.	enterprises.axel1ech.monitorsFm.wolf2N	15. tuner 11 Module. tun 1Data. tun 1Data 1 able. tun 1DataEntry. f 1 un.	IFreq. I	
varue:	[Octetatring] 100.50				
Name:	.iso.org.dod.internet.private.	enterprises.axelTech.monitorsFm.wolf2N	1S.tuner1Module.tun1RdsScanData.tun1RdsScanDataTable.tun	1RdsScanDataEntry.iTun1DataScanRt	Status 1
Value:	[Integer] alarm (1)				
Name:	.iso.org.dod.internet.private.	enterprises.axelTech.monitorsFm.wolf2N	IS. tuner 1 Module. tun 1 Rds. tun 1 Rds Table. tun 1 RdsEntry. a Tun 1 R	.dsSettingsRtTrapLabel.1	
Value:	[OctetString] Tun1 Rds RT	Trap 1			
Name:	iso org dod internet private	entermises avelTech monitorsEm wolf?M	IS typer1Module typ1Rds typ1RdsTable typ1RdsEntry iTyp1R	dsSettingsRtMask 1	
Value:	[Integer] unmasked (II)	cherphises and recention for sine wonsiv	is the interaction of the	associal Barcianair. I	
	[moBa] ammonos (o)				
Name:	.iso.org.dod.internet.private.	enterprises.axelTech.monitorsFm.wolf2N	IS.wolf2msTraps.aTrapDateTime.0		
Value:	[OctetString] 2013-11-12 13	3:11:22			
Name:	.iso.org.dod.internet.private.	enterprises.axelTech.monitorsFm.wolf2M	IS.wolf2msTraps.iTrapCounter.0		
Value:	[Integer] 14				
Name:	iso org. dod. internet. private.	enterprises.axelTech.monitorsFm.wolf2M	15. tuner 1 Module. tun 1 Data. tun 1 Data Table. tun 1 DataEntry. tun 1 D	DataIndex. 1	
Value:	[Integer] 1	•	,		
Design for the second s		tif ti There II			
Description:	"HuniDataScanRtStatus No	uncation Trap			

The traps will be sent in the instant the alarm rises up, but RT and the time in the var-binds will be related to the first failed check.

Under the alarm condition the RDS alarm led on the panel must be on (flashing if the alarms are more than one on the channel list) and clicking on the channel number of the correspondent tuner the RDS error will be displayed ("RDS DATA").

In case of more errors on the related channel, they will rotate for about 30 seconds in a sequence carousel.



21. Rds AF data test (Tuner1-Tuner2)

This test checks alarms and traps on AF lists of a Radio tuned on frequency 100.5MHz. The test was carried out on both tuners.

The system can monitor AF lists presence. Tuned radio has empty AF lists so the test raises up an alarm.

For the Static Mode test we set Validation Time=20 sec. and Hold Time=15 sec.

	Monitoring Tuner-1 Data Tuner-2 Data					s etup	Admin	Tuner-1	Tuner	-2 A	udio	Logout
GLOB	AL RF 12	RFu	RF _{H1}	RF _{HZ}	DEV	PILOT	PILOT	RDSL	RDS	AUDIO DEV	AUDIOL	AUDIO _R
BLE	R PI	PS	ТР	ТА	ст	RT	AF	EON	ін	тмс	RT+	ODA ₁
OD/	2											
TUNER	2 - RDS ALTER	RNATIVE	FREQUENCIES									
Chan		Preset	Frequency	Scan Time		Validation	Hold	Mask	Email	Тгар		
1	Chan1 Label	V	100.50 MHz	10 sec	unmasked	20 sec	15 sec	unmasked	disable	enable	Tun2 Rds	AF Trap 1
2		V	95.30 MHz	10 sec		10 sec	10 sec	masked	disable	disable		

Under the alarm condition the RDS alarm led (we have associated the AF alarm to the panel led Rds error) on the panel must be on (not flashing) and clicking on the channel number of the correspondent tuner the RDS error will be displayed ("RDS DATA").

Tested in Scan mode with 3 frequencies: F1: 100.5 MHz

F2: 95.3 MHz

F3: 96.7 MHz

and Validation Time=20 sec. - Hold Time=15 sec. as depicted below.

	Monitoring Tuner-1 Data Tuner-2 Data					gs etup	Admin	Tuner-1	Tuner	2 A	Audio	Logout
GLOB	AL RF _{L2}	RFu	RF H1	RF _{HZ}	DEV	PILOT	PILOT	RDSL	RDS	AUDIO DEV	AUDIO	AUDIO _R
BLE	R PI	PS	ТР	ТА	ст	RT	AF	EON	ін	тмс	RT+	ODA ₁
ODA	2											
TUNER	1 - RDS ALTE	RNATIVE	FREQUENCIE	s —								
Chan	(han Label	Drocot	Eranuanov	Scan Time	Chan Mack	Validation	Hold			Tran		
		ricset		10 ses			15	Widsk	disable	Trap	La	AE Tran 1
1			100.50 MHz	IU SEC	unmasked	20 sec	15 sec	unmasked	disable	enable	TUNI KOS	Аг Ігар 1
2	Chan2 Label		95.30 MHz	10 sec	unmasked	10 sec	10 sec	masked	disable	disable	Tun1 Rds	AF Trap 2
3	Chan3 Label		96.70 MHz	10 sec	unmasked	10 sec	10 sec	masked	disable	disable	Tun1 Rds	AF Trap 3
4						10 sec	10 sec			disable		

AxelTech

The behavior is similar to other tests.



escription		Source	Time
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apOID: .iso.org.dod.ir	emet, private, enter prises, aver red, monitorismi, von zins, von zins majos, monitoria, une private, enter private	192.108.0.141	2013-11-12 14:49:
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*		· · · · · · · · · · · · · · · · · · ·	
ource:	192.168.0.141 Timestamp: 7 hours 5 minutes 29 seconds	SNMP Version:	2
`rap OID:	. iso. org. dod. internet. private. enterprises. axel Tech. monitorsFm. wolf2MS. wolf2ms Traps. modules. tuner 1 Traps. tuner 1 Rds. tu	efix.iTun1DataScanAFStatusNotify	
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ande.			
lame:	. iso. org. dod. internet. private. enterprises. axelTech. monitorsFm. wolf2MS. tuner1Module. tun1Data. tun1DataTable. tun1DataEntry.fTun1	Freq.1	
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anue:	Locierum Ri 2012-11-12-12-12-101		
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/ahuo:	[Intersel]		
and.	[uucBei] i		
	"Tun I Data Scan & Estatus Matification Tran "		
lescrimtion.			

The traps will be sent in the instant the alarm rises up, but AF and the time in the var-binds will be related to the first failed check.

Under the alarm condition the RDS alarm led on the panel must be on (flashing if the alarms are more than one on the channel list) and clicking on the channel number of the correspondent tuner the RDS error will be displayed ("RDS DATA").

In case of more errors on the related channel, they will rotate for about 30 seconds in a sequence carousel.

In SmartScan Mode the behavior expected is the same of the normal Scanning mode because this parameter is continuous and always available on the channel.

REPLAY ENABLED TRAPS

The Rds AF alarm trap are replayed with its original status, time and value. Trap Counter is normally incremented. All data and parameters are available in the MIB L3-5 to set and test this configuration.



RDS EON Data test (Tuner-1 Tuner-2) 16.11.17

This test checks alarms and traps on EON of a Radio tuned on frequency 100.5MHz. The test was carried out on both tuners.

The system can monitor EON presence on tuned radio. In this test branch Tuned radio has no EON.

For the Static Mode test we set Timeout=20 sec. and Hold Time=15 sec.

	Monitor Tuner-	Monitoring Tuner-1 Data Tuner-2 Data					Admin	Tuner-1	Tur	ner-2	Audio	Logout
GLOE	IAL RF 12	RFu	RF _{H1}	RF _{HZ}	DEV	PILOT	PILOT	RDSL	RDS	AUDIO	DEV AUDIO	AUDIO _R
BLE	R PI	PS	ТР	ТА	ст	RT	AF	EON	ІН	тмс	RT+	ODA ₁
OD/	A ₂											
TUNE	R1 - RDS ENAN	CED OTI	HER NETWORK	(S INFORMA	tions —							
						Timeout						
	Chan1 Label		100.50 MHz	10 sec	unmasked	20 sec	15 sec	unmasked	disable	enable	Tun1 Rds	Eon Trap 1
						60 sec		10 sec masked di				

Under the alarm condition the RDS alarm led on (we have associated the EON alarm to the panel led Rds error) on the panel must be on (not flashing) and clicking on the channel number of the correspondent tuner the RDS error will be displayed ("RDS DATA").

Tested in Scan mode with 3 frequencies: F1: 100.5 MHz F2: 95.3 MHz F3: 96.7 MHz

and Timeout=20 sec. - Hold Time=15 sec. as depicted below.

	Monitoring Tuner-1 Data Tuner-2 Data					ts etup	Admin	Tuner-1	Tune	er-2 A	Audio	Logout
GLOB	SLOBAL RF ₁₂ RF ₁₄ RF _{H2}		DEV	PILOT	PILOT	RDSL	RDS	AUDIO DEV	AUDIOL	AUDIOR		
BLE	R PI	PS	ТР	тр та		RT	AF	EON	ін	тмс	RT+	ODA1
ODA	A 2											
TUNE	R2 - RDS ENAN	CED OTH	IER NETWORK	(S INFORMA	tions —							
Chan		Preset				Timeout		Mask	Email	Тгар		
1	Chan1 Label		100.50 MHz	10 sec	unmasked	20 sec	15 sec	unmasked	disable	enable	Tun2 Rds Eq	on Trap 1
2	Chan2 Label	Label 95.30 MHz 10 sec		unmasked	60 sec	10 sec	masked	disable	disable	Tun2 Rds Ec	on Trap 2	
3	Chan3 Label		96.70 MHz	10 sec	unmasked	60 sec	10 sec	masked	disable	disable	Tun2 Rds Ec	on Trap 3
4						60 sec		masked	disable	disable		



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Description		Source	Time
trapOID: .iso.org.dod.intern	et.private.enterprises.axelTech.monitorsEm.wolf2MS.wolf2msTraps.modules.tuner1Traps.tuner1Rds.tuner1RdsPrefix.iTun1DataScanEonStatusNotify	192.168.0.141	2013-11-13 13:22:45
trapOID: .iso.org.dod.intern	et.private.enterprises.axelTech.monitorsFm.wolf2MS.wolf2msTraps.modules.tuner2Traps.tuner2Rds.tuner2RdsPrefix.iTun2DataScanEonStatusNotify	192, 168, 0, 141	2013-11-13 13:22:45
trapOID: .iso.org.dod.intern	et.private.enterprises.axelTech.monitorsFm.wolf2MS.wolf2msTraps.modules.tuner1Traps.tuner1Rds.tuner1RdsPrefix.iTun1DataScanEonStatusNotify	192.168.0.141	2013-11-13 13:21:57
trapOID: .iso.org.dod.intern	et.private.enterprises.axelTech.monitorsFm.wolf2MS.wolf2msTraps.modules.tuner2Traps.tuner2Rds.tuner2Rds.tuner2RdsPrefix.iTun2DataScanEonStatusNotify	192.168.0.141	2013-11-13 13:21:57
trapOID: .iso.org.dod.intern	et.private.enterprises.axelTech.monitorsFm.wolf2MS.wolf2msTraps.modules.tuner2Traps.tuner2Rds.tuner2RdsPrefix.iTun2DataScanEonStatusNotify	192.168.0.141	2013-11-13 13:16:26
trapOID: .iso.org.dod.intern	et.private.enterprises.axelTech.monitorsFm.wolf2MS.wolf2msTraps.modules.tuner1Traps.tuner1Rds.tuner1RdsPrefix.iTun1DataScanEonStatusNotify	192.168.0.141	2013-11-13 13:16:05
trapOID: .1.3.6.1.6.3.1.1.5	1	192.168.0.141	2013-11-13 13:15:27
trapOID: .iso.org.dod.interr	et.private.enterprises.axelTech.monitorsFm.wolf2MS.wolf2msTraps.modules.tuner1Traps.tuner1Rds.tuner1RdsPrefix.iTun1DataScanEonStatusNotify	192.168.0.141	2013-11-13 13:10:42
trapOID: .iso.org.dod.interr	et.private.enterprises.axelTech.monitorsFm.wolf2MS.wolf2msTraps.modules.tuner2Traps.tuner2Rds.tuner2Rds.tuner2RdsPrefix.iTun2DataScanEonStatusNotify	192.168.0.141	2013-11-13 13:10:42
trapOID: .iso.org.dod.intern	et. private.enterprises.axelTech.monitorsFm.wolf2MS.wolf2msTraps.modules.tuner2Traps.tuner2Rds.tuner2RdsPrefix.iTun2DataScanEonStatusNotifv	192.168.0.141	2013-11-13 13:10:04
Source:	192.168.0.141 Timestamp: 25 minutes 7 seconds	SNMP Version:	2
Trap OID:	iso org. dod internet private enterprises axelTech monitorsFm, wolf2MS, wolf2msTraps, modules, tuner 1 Traps, tuner 1 Rds, tuner 1	RdsPrefix.iTun1DataScanEonStatusNotify	
Variable Bindings:	.		
Name:	iso org dad internet mamt mib-? system sysUnTime 0		
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value:	[Time ficks] 25 minutes / seconds (1507/1)		
Name:	smmo Trap OID		
X7-1			
value:	[OID] 11 uniDatascaneonstatustoury		
Name:	iso org. dod internet private enterprises axelTech monitorsFm. wolf2MS tuner1Module tun1Data tun1DataTable tun1DataEntry	fTun1Freq.1	
X7-h			
value:	[Octetaming] 100.50		
Name:	iso org dod internet private enterprises avelTech monitorsEm wolf2MS timer1Module tim1RdsScanData tim1RdsScanDataTab	e tun 18 dsScanDataEntry a Tun 1 DataScanFonNetworkB	ef 1
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Value:	[Integer] unmasked (0)		
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Value:	[Integer] 1		
Description:	"iTun 1 DataScanEonStatus Notification Trap "		

The traps will be sent in the instant the alarm rises up, but EON and the time in the var-binds will be related to the first failed check.

Under the alarm condition the RDS alarm led on the panel must be on (flashing if the alarms are more than one on the channel list) and clicking on the channel number of the correspondent tuner the RDS error will be displayed ("RDS DATA").

In case of more errors on the related channel, they will rotate for about 30 seconds in a sequence carousel.

In SmartScan Mode the behavior expected is the same of the normal Scanning mode because this parameter is continuous and always available on the channel.

REPLAY ENABLED TRAPS

I

The Rds EON alarm trap are replayed with its original status, time and value. Trap Counter is normally incremented. All data and parameters are available in the MIB L3-5 to set and test this configuration.



16.11.18 RDS BLER Data test (Tuner-1 Tuner-2)

This test checks alarms and traps on BLER of a Radio tuned on frequency 100.5MHz. The test was carried out on both tuners.

The system can monitor Rds data Block Error Rate (Bler) as signal quality expressed as percents.

For the Static Mode test we set Max Bler=10% and an Hysteresis=5%, Validation Time=10 sec. and Hold Time=15 sec.

	Monitoring Tuner-1 Data Tuner-2 Data							Admin		Tuner-1	Tuner-:	2	Audio	Logout
GLO	GLOBAL RF ₁₂ RF ₁₄ RF _{H1} RF _{H2}				RF _{HZ}	DEV	PILOT	PILO	т	RDSL	RDS	AUDIO DEV	AUDIO	AUDIOR
BL	ER PI		PS	ТР	ТА		RT	AF		EON	ІН	тмс	RT+	ODA ₁
OE	DA 2													
TIINE	R1 - RDS RI	OCK FE												
Chan	Chan Laber	Preset	Frequency	Scan Time	Chan Mask	Max	Hysteresis	Validation	Ησια	Mask	Email	Trap	La	bel
1	Chan1 Label		100.50 MHz	10 sec	unmasked		5 %	10 sec	5 sec	unmasked	disable	enable	RdsSetting	sBlerTrap1
					unmasked 2									

Under the alarm condition the RDS alarm led on (we have associated the Bler alarm to the panel led Rds error) on the panel must be on (not flashing) and clicking on the channel number of the correspondent tuner the RDS error will be displayed ("RDS DATA").

Tested in Scan mode with 3 frequencies:

F1: 100.5 MHz

F2: 95.3 MHz

F3: 96.7 MHz

and Timeout=20 sec. - Hold Time=15 sec. as depicted below.

	↑ Mor	nitoring ner-1 Dat	ta Tuner-2	Data		Se	ttings Setup	Admin		Tuner-1	Tuner-2		udio	Logout
GLC	BAL RF 12		RFu	RF _{H1}	RF _{H2}	DEV	PILOT	L PILC	т	RDSL	RDS	AUDIO DEV	AUDIOL	AUDIO _R
BL	ER PI		PS	ТР	ТА	СТ	RT	AF		EON	IH	TMC	RT+	ODA1
Ο	A ₂													
TUNE	R2 - RDS BL	OCK EI	ROR RATIO											
		Preset										Trap		
1	Chan1 Label		100.50 MHz	10 sec	unmasked	10 %	5 %	10 sec	5 sec	unmasked	disable	enable	RdsSetting	sBlerTrap1
2	Chan2 Label		95.30 MHz	10 sec	unmasked	20 %	5 %	1 sec	1 sec	masked	disable	disable	RdsSetting	sBlerTrap2
	Chan3 Label		96.70 MHz	10 sec	unmasked	20 %	5 %	1 sec	1 sec	masked	disable	disable	RdsSetting	sBlerTrap3
												disable		



TECHNICAL APPENDIX

Description			-
Description		Source	
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trapOID: .iso.org.	add internet, predetence presestaet extra monitories in involuziona apparatoria per sociale registradori de presestaet e constructiva additivativa e constructiva e constructiv	192.168.0.180	2013-11-13 10:01:59
trapOID: .iso.org.	dod.internet.private.enterprises.axelTech.monitorsFm.wolf2MS.wolf2msTraps.modules.tuner1Traps.tuner1Rds.tuner1RdsPrefix.iTun1DataScanBlerStatusNotifv	192.168.0.180	2013-11-13 10:01:50
trapOID: .iso.org.	dod.internet.private.enterprises.axelTech.monitorsFm.wolf2M5.wolf2msTraps.modules.tuner2Traps.tuner2RfMpx.tuner2RfMpxPrefix.iTun2RdsLowLevelAlarmStatusNoti/	fy 192.168.0.180	2013-11-13 10:01:50
trapOID: .iso.org.	dod.internet.private.enterprises.axelTech.monitorsFm.wolf2M5.wolf2msTraps.modules.tuner2Traps.tuner2RfMpx.tuner2RfMpxPrefix.iTun2PilotLowLevelAlarmStatusNoti	fy 192.168.0.180	2013-11-13 10:01:50
C			2
source:	192.108.0.180 Innestamp: I hour 38 minutes 8 seconds Sivil Versio	n:	2
Trap OID:	.iso.org.dod.internet.private.enterprises.axelTech.monitorsFm.wolf2MS.wolf2msTraps.modules.tuner1Traps.tuner1Rds.tuner1RdsPrefix.iTun	1DataScanBlerStatusNoti	fy
Variable Bind	lings:		
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Value:	[limelicks] I hour 38 minutes 8 seconds (5888/6)		
Name:	snmpTrapOID		
Value:	[OID] iTun 1 DataScanBlerStatusNotify		
Name:	.iso.org.dod.internet.private.enterprises.axelTech.monitorsFm.wolf2MS.tuner1Module.tun1Data.tun1DataTable.tun1DataEntry.fTun1Freq.1		
Value:	[OctetString] 100.30		
Name:	iso.org.dod.internet.private.enterprises.axelTech.monitorsFm.wolf2MS.tuner1Module.tun1RdsScanData.tun1RdsScanDataTable.tun1RdsScar	nDataEntry.iTun1DataSca	nBler, 1
Value:	[Integer] 46		
Name:	iso. org. dod internet. private. enterprises axelTech. monitorsFm. wolf2MS. tuner1Module. tun1RdsScanData. tun1RdsScanDataTable. tun1RdsScar	nDataEntry.iTun1DataSca	nBlerStatus, 1
Value	[integer] alarm (1)	2	
	[
Name:	iso.org.dod.internet.private.enterprises.axelTech.monitorsFm.wolf2MS.tuner1Module.tun1Rds.tun1RdsTable.tun1RdsEntry.aTun1RdsSetting	sBlerTrapLabel. 1	
Value:	[OctetString] RdsSettingsBlerTrap1		
Name:	iso.org.dod.internet.private.enterprises.axelTech.monitorsFm.wolf2MS.tuner1Module.tun1Rds.tun1RdsTable.tun1RdsEntry.iTun1RdsSettings	BlerMask. 1	
Value:	[Integer] unmasked (0)		
Name	ion and dad internet private enterprises avelTech monitorsFin wolf?MS wolf?msTrans aTranDateTime ()		
Traine.	iso to global internet, private energiness and reen monitorist in wonzivis, wonzins maps a maps are meteo		
value:	[Octestimg] 2013-11-13 10:01:50		
Name:	iso.org.dod.internet.private.enterprises.axelTech.monitorsFm.wolf2MS.wolf2msTraps.iTrap.Counter.0		
Value	Intervent 18		
value.	[intgu] to		
Name:	.iso.org.dod.internet.private.enterprises.axelTech.monitorsFm.wolf2MS.tuner1Module.tun1Data.tun1DataTable.tun1DataEntry.tun1DataIndex.	1	
Value	[integr] 1		
	[
Description:	"iTun1DataScanBlerStatus Notification Trap "		

The traps will be sent in the instant the alarm rises up, but AF and the time in the var-binds will be related to the first failed check.

Under the alarm condition the RDS alarm led on the panel must be on (flashing if the alarms are more than one on the channel list) and clicking on the channel number of the correspondent tuner the RDS error will be displayed ("RDS DATA").

In case of more errors on the related channel, they will rotate for about 30 seconds in a sequence carousel.

In SmartScan Mode the behavior expected is the same of the normal Scanning mode because this parameter is continuous and always available on the channel.

REPLAY ENABLED TRAPS

The Rds AF alarm trap are replayed with its original status, time and value. Trap Counter is normally incremented. All data and parameters are available in the MIB L3-5 to set and test this configuration.



16.11.19 Audio Streaming

GPRS LINK test.

Select the streamer encoder sources. Set the Stream1 bit rate to 28Kbit/s and stereo.

AUDIO		
AUDIO-1 GLOBAL SETUP		AUDIO-2 GLOBAL SETUP
Tuner-1	-	Tuner-2
Audio1 Signal Name		Audio2 Signal Name
Test Audio 1		Test Audio 2
STREAM-1 GLOBAL SETUP		STREAM-2 GLOBAL SETUP
10.00 dB	-	10.00 dB 👻
Stream1 Encoder		Stream2 Encoder
vorbis	Ψ.	vorbis
Stream1 BitRate		Stream2 BitRate
28kBits	Ŧ	128kBits 💌
Stream1 Mode		Stream2 Mode
stereo	-	stereo 👻

Select gprsBand for the HTTP Band Mode and the streamers enabled.

GENERAL SETUP	
NAME	GLOBAL SETUP
WOLF2MS	enabled
Target Location Ref	HTTP SETTINGS
Target Operator Ref	HTTP Band Mode
http://www.axeltechnology.com/	gprsBand 🔫
AUDIO IO SETTINGS	HTTP streamer auto kick out 0
Analogic Output mode	
audio1source 👻	enabled
Analogic Output gain	
0.00 48	

Reload the web page (to be sure the gprsMode is activated) and push the play button.

AUDIO-1											AUDIO-2	AL	ARM							
					R							Source	Peal		Pea		RM		RM	
Test Audio 1	TUNER1	-2.1	dBr	-2.3	dBr	-7.7	dBr	-8.3	dBr		Test Audio 2	TUNER2	-2.0	dBr	-2.3	dBr	-7.2	dBr	-7.	8 dBr
Listening AUDIO-1 (vorbis / 28kBit	s/stereo)										Ready									
						countde OFF	own	I									coun OFF	tdowr	'n	Þ

In GPRS mode if one player is in listening mode the page refresh rate will be only one every six second.

In this condition the average bit rate (data + 1 stream) should be about 32 Kbit/sec.

We have focused on the point to give the best performances possible at very low bit rates (lower than 40 Kbits/sec). The encoder has a strong VBR characterization (for example at 28Kbit/sec the instant bit rate sweep from 8 to 40 Kbits/sec, with an average always less or equal 28kbytes. With a muted or simple audio (like a test tone or silence) the bit rate drops down to 8 Kbits/sec, instead with voice or music we have an average value of 28Kbit.

The IceCast server have a 48Kbytes buffer for every stream and instead every client player (VLC and so on) have a different and programmable buffer size (some time expressed in second, but often expressed in Kbytes).

In the instant of the connection, the delay line is expressed in Kbytes, so the same 48Kbytes of buffer can be 14 sec with normal music or 48 seconds in an extreme case of silenced signal.

With a 128 Kbit/sec (a more classic bit rate) we have a delay between 3 to 5 sec. The player creates another buffer locally (usually 64 Kbytes, so the final delay is a complex mixed situation about 20 seconds in the 28Kbit/s example and about 4 seconds in a 128kbits/s case).

So with a real time player is very difficult to estimate the buffer delay, but a recorder can (partially) compensate it.

The Home page players are quite simple and are intended only for occasional check tests . The behavior can be little different in Firefox or Chrome. The peak meters will be visible again in future.

In the next months will be available the OPUS codec and the VORBIS codec will be improved for the bit rates over 48 Kbits/s (full sample rate mode). The VORBIS quality at very low bit rates (under 48 Kbits/s) instead must be considered definitive. By the way the OPUS codec will give better performance only in the middle rate zone (40Kbits/s-96kbits/s), over 96Kbits the audio quality will be comparable.



16.11.20 Note about event failure sampling

We have a logical problem related to a group of alarms (in general all ones with the "Timeout" in place of the "Validation"). I saw in the TDF report (read too late to take an action on the release) that has been considered wrong the behavior of the timing reported in the PS trap varbinds.

TDF asked that the trap must report the time of the first event out of range and the value in that instant.

The problem is that, with some kind of alarms the failure instant (as well as the wrong sampled value) doesn't exist.

So we have only a moment in which a valid situation or condition isn't happened and that a timer is expired.

Missing this information we decided for this group of alarms to consider the old logic the only one applicable, the same one you are actually considered "KO".

So in the release 0.6.4. you'll find the same situation for "PS","CT","RT","EON" and in the next step "TMC", "RT+", "ODA1" ,"ODA2".

The question is:

If I'm rising an alarm because I waited 70 seconds for a 4A block, or a I waited 50 seconds for a PS sequence and my timer expired, I have only the timeout error as reference, no other values or timings. So the alarm trap time is the same of the failed timeout event .

So, or this logic is accepted or we have to define how a failure past condition (not sampled) happens. I only have the last valid event sampled and the timeout instant (nothing more between them).

For example in the CT case, I have the last valid 4A received, or for the PS the last valid completed sequence.

I can't locate future events easily because I have to consider a scanning complex situation.

In the release 0.6.5 We have modified the logic to sample the failure event in the "Timeout case". The trap will be sent at the timeout expiration but the failure time will be considered some seconds after the last valid event seen with the meaning of "After this time the service stopped to work properly". This new logic will affect the following alarms (PS,CT,RT,EON,TMC,RT+,ODA1,ODA2,IH)



16.11.21 RDS InHouse (Tuner-1 Tuner-2)

This test checks alarms and traps on IH service of a Radio tuned on frequency 100.5MHz. The test was carried out on both tuners.

The system can monitor IH (6A) groups presence on tuned radio. It can also monitor IH data flow (by monitoring content variations).

When 6A groups are not received for a certain time (selectable by Group Timeout) an error condition raises up. If carried data don't change for a certain time (selectable by Data Timeout) an error condition raises up.

On web client IH field shows the service status:

RDS DAT	га —	ALARM									
		000		RAVENNA		ON OFF					
MUSIC		STEREO ST	ATIC	VARIED							
			NO SERV								

If 6A groups are correctly received and data content changes (in respect of timeouts) IH field print is "OK". When no IH service is broadcasted or the time between 6A groups exceeds Timeout, IH field print is "NO SERV". When IH data content don't change before Timeout, IH field print is "NO DATA".

For the Static Mode test we set Data Timeout=20 sec. Group Timeout=30 sec. and Hold Time=15 sec.

	Monitoring							is	Adaria	Turner	Tu		A		
	<u> </u>	uner-1 Data	a Tune	r-2 Data			56	etup	Admin	Tuner	-1 10	her-z	Audio		Logout
GLO	BAL RF	2	RFu	RF _{H1}	RF _{HZ} D		EV	PILOT	PILOT	RDSL	RDS	AUDIO	D _{DEV} A		AUDIOR
BL	ER PI		PS	ТР	ТА	с	π	RT	AF	EON	IH	тм	с	RT+	ODA ₁
OD	Az														
TUNE	R1 - RDSI	N HOUSE		ATIONS											
Chan		Preset	Freque	ncy Scan 1	Time Cha			Timeout		Hold			Trap		
1	Chan1 Label		100.50 N	/Hz 10 s	sec un	masked	20	sec	30 sec	10 sec	unmasked	disable	enable	Rds	1 IH Trap 1
2	Chan2 Label		95.30 N	IHz 10 s	ec un	masked	1	sec	1 sec	10 sec	masked	disable	disable	Rds	1 IH Trap 2

Under the alarm condition the RDS alarm led on (we have associated the IH alarm to the panel led Rds error) on the panel must be on (not flashing) and clicking on the channel number of the correspondent tuner the RDS error will be displayed ("RDS DATA").

Tested in Scan mode with 3 frequencies: F1: 100.5 MHz F2: 95.3 MHz F3: 96.7 MHz Data Timeout=20 sec. - Group Timeout=30 sec. - Hold Time=15 sec. as depicted below.



Monitoring Tuner-1 Data Tuner-2 Data			Data		Settings Setup Admin Tuner-1 Tuner-2 Audio						idio	Logout			
GLC	BAL RF ₁₂		RF u	RF _{H1}	RF _{Hz}	DEV	PILO)T∟ T	PILOT	R		RDS III	AUDIO _{DEV}		AUDIO _R
OE)A _z														
TUNER2 - RDS IN HOUSE APPLICATIONS															
						Data Tim	eout					Email	Trap		
1	Chan1 Label		100.50 MHz	10 sec	unmasked	20 se	с	3	0 sec	10 sec	unmasked	disable	enable	Rds 2 I	H Trap 1
2	Chan2 Label		95.30 MHz	10 sec	unmasked	60 se	c	6	0 sec	10 sec	masked	disable	disable	Rds 2 I	H Trap 2
	Chan3 Label		96.70 MHz	5 sec	unmasked	60 se	c	6	0 sec	10 sec	masked	disable	disable	Rds 2 I	H Trap 3
						60 se	c					disable	disable		

Tested in SmartScan with the same setup depicted above for 'normal' Scan Mode.

If an alarm condition is found on a channel, instead of state an alarm condition, system stops on channel for a period (depending on tested service that cause alarm condition) collecting more data. In this state no alarm or Trap was reported. The Channel Memory index reports the cause(s) of the stop (see below: "1 of 3 (IH)").

TUNER-1											
			Cha								
1 of 3 (IH)		100.50	MHz Cha	n1 Label	S-SCAN						
RF [12][11][ALARM][H1][H2]											
77.00	dBuV		1.50 %	-35.87 -28	. 25 dBr	-59.25					
DEVIATI	DEVIATIONALARM										
54.67		46.54 kHz		5.37 kHz		2.76					
RDS DATAALARM											
5215		000		R-101		ON OFF					
MUSIC		STEREO ST	ATIC	VARIED							
ОК	ОК										

			Chai								
1 of 3		100.50	MHz Cha	n1 Label	S-SCAN						
RF –											
77.25			1.12 %	-36.37 -29.50 de		-59.12					
DEVIATI	on –			ARM							
56.74		48.63		5.38 kHz		2.73					
RDS DATA											
5215		000		RAVENNA		ON	OFF				
MUSIC		STEREO ST	ATIC	VARIED		ок					
		EON IH									
ОК	ОК	NO SERV									



If a valid (no alarm) condition is found in this time, system unlocks and normal scan reprises.

If no valid condition is found, system unlocks, normal scan reprises and an alarm condition and/or a trap is reported (see above).

Note that Channel Memory reports normal index display ("1 of 3").

If alarm condition persists, after a while the system stops again on channel and the procedure restarts (note that now the alarm condition status ON persists).

Description					Source	Time	
trapOID: .iso.org.o	lod.internet.private.enterprises.axel1	rech.monitorsFm.wolf2MS.wolf2msTrap	s.modules.tuner2Traps.tuner2Rds.tuner2RdsPrefix.iTun2DataSc	anIhStatusNotify	192.168.0.141	2013-11-26 10:50:52	
trapOID: .iso.org.o	lod.internet.private.enterprises.axel1	rech.monitorsFm.wolf2MS.wolf2msTrap	s.modules.tuner 1Traps.tuner 1Rds.tuner 1RdsPrefix.iTun 1DataSc	anIhStatusNotify	192.168.0.141	2013-11-26 10:50:30	
trapOID: .iso.org.o	lod.internet.private.enterprises.axell	rech.monitorsFm.wolf2MS.wolf2msTrap	s.modules.tuner2Traps.tuner2Rds.tuner2RdsPrefix.iTun2DataSc	anIhStatusNotify	192.168.0.141	2013-11-26 10:50:27	
trapOID: .iso.org.o	lod.internet.private.enterprises.axel1	ech.monitorsFm.wolf2MS.wolf2msTrap	s.modules.tuner 1Traps.tuner 1Rds.tuner 1RdsPrefix.iTun 1DataSc	anIhStatusNotify	192.168.0.141	2013-11-26 10:50:19	
trapOID: .iso.org.c	dod.internet.private.enterprises.axel	ech.monitorsFm.wolf2MS.wolf2msTrap	s.modules.tuner2Traps.tuner2Rds.tuner2RdsPrefix.iTun2DataSc	anOdaGen2StatusNo	192.168.0.141	2013-11-26 10:29:12	
Source:	192.168.0.141	Timestamp:	1 hour 8 minutes 33 seconds	SNMP	Version:	2	
Trap OID:	.iso.org.dod.internet.private.e	nterprises.axelTech.monitorsFm.	wolf2MS.wolf2msTraps.modules.tuner2Traps.tuner2R	ds.tuner2RdsPrefix.:	iTun2DataScanIhStat	tusNotify	
Variable Bindi	ings:						
N	· · · · · · · · · · · · · · · · · · ·	it a meters and the Time of					
Name:	.iso.org.dod.internet.ingmt.in	10-2. system. sysOp Lime. U					
Value:	[TimeTicks] 1 hour 8 minute	s 33 seconds (411363)					
Name:	snmp TrapOID						
Value:	[OID] iTun?DataScanIhStatu	isNotify					
	[]						
Name:	.iso.org.dod.internet.private.e	nterprises.axelTech.monitorsFm.•	wolf2MS.tuner2Module.tun2Data.tun2DataTable.tun2D	ataEntry.fTun2Freq			
Value:	[OctetString] 100.50						
News	·				Care Data Entra i Tra d	Date Cara It Status	
Name:	.iso.org.dod.internet.private.e	nterprises.axei Lech.monitorshm.v	wolf 2M5. tuner 2Module. tun 2Kds5 canData. tun 2Kds5 ca	nData I able tun 2Rds	ScanDataEntry.11un.	2Data5canin5tatus	
Value:	[Integer] alarm (1)						
Name:	iso org dod internet private e	ntermises axelTech monitorsEm :	wolf2MS tuner2Module tun2Rds tun2RdsTable tun2Rd	sEntry aTun?RdsSe	ttingsIhTranI ahel		
X-lass	ContaChrised Data 2 HI Trees	1		<i></i>	and a manufactoria		
value:	[Octetating] Rds 2 IA Trap	1					
Name:	iso org dod internet private e	nterprises axelTech monitorsFm.	wolf2MS.tuner2Module.tun2Rds.tun2RdsTable.tun2Rd	sEntry.iTun2RdsSet	tingsIhMask		
Value	[Integer] upmorked (0)	1					
value.	[IIIIeBei] milliasven (n)						
Name:	.iso.org.dod.internet.private.e	nterprises axelTech monitorsFm.	wolf2MS.wolf2msTraps.aTrapDateTime.0				
Value	[OctetString] 2013-11-26 10:	50.33	* *				
value.	[Octobiling] 2015-11-20 10.						
Name:	.iso.org.dod.internet.private.e	nterprises.axelTech.monitorsFm.v	wolf2MS.wolf2msTraps.iTrapCounter.0				
Value	[Integer] 24	-					
value.	[meger] 34						
Name:	.iso.org.dod.internet.private.e	nterprises.axelTech.monitorsFm.	wolf2MS.tuner2Module.tun2Data.tun2DataTable.tun2D	ataEntry.tun2DataIr	ıdex		
Value	[Integer] 1	-					
raue.	[mcBel] i						
Description	"iTun?DataScanIhStatus Noti	ification Tran "					

L

The traps will be sent in the instant the alarm rises up, but IH and the time in the var-binds will be related to the first failed check.

Under the alarm condition the RDS alarm led on the panel must be on (flashing if the alarms are more than one on the channel list) and clicking on the channel number of the correspondent tuner the RDS error will be displayed ("RDS DATA"). In case of more errors on the related channel, they will rotate for about 30 seconds in a sequence carousel.

REPLAY ENABLED TRAPS

The Rds IH alarm trap are replayed with its original status, time and value. Trap Counter is normally incremented. All data and parameters are available in the MIB L3-5 to set and test this configuration.


16.11.22 RDS TMC (Tuner-1 Tuner-2)

This test checks alarms and traps on Trafic Message Channel service of a Radio tuned on frequency 100.5MHz. The test was carried out on both tuners.

The system can monitor TMC registered groups presence on tuned radio. It can also monitor TMC data flow (by monitoring associated data group presence) and TMC service registration (3A groups with specific TMC AID).

When TMC data groups (usually 8A) are not received for a certain time (selectable by Timeout Data) an error condition raises up.

Similarly when TMC registration groups (3A) are not received for a certain time (selectable by Timeout Reg.) an error condition raises up.

On web client TMC field shows the service status:

RDS DATA									
5201		000		RAI		ON	OFF		
MUSIC		STEREO ST	ATIC	NEWS					
OK	ОК	ОК		ОК					

If TMC service data is correctly received (in respect of timeouts) TMC field print is "OK".

When no TMC service is broadcasted, TMC field print is "NO SERV".

When no TMC groups data are received but 3A TMC service registration groups are broadcasted, TMC field print is "NO DATA".

Finally, when no 3A TMC service registration groups are received but TMC data groups are, TMC field print is "NO REG".

For the test in Static Mode we have tuned on 100.5 MHz a radio that broadcast TMC service. We set Data Timeout=20 sec. Group Timeout=30 sec. and Hold Time=40 sec.

Monitoring Tuner-1 Data Tuner-2 Data						Settings Set	Settings Setup Admin Tuner-1 Tuner-2 Audio 👤 Log						
GLC	DBAL RF	2	RFu	RF _{H1}	RF _{HZ}	DEV	PILOT	PILOT	RDSL	RDS	AUDIC	D _{DEV} AUDIO	AUDIO _R
BL	.ER PI		PS	TP	ТА	ст	RT	AF	EON	ІН	TM	C RT+	ODA ₁
0	DA 2												
TUNE	ER1 - RDS T	RAFFIC	MESSAGE	CHANNEL									
Chan	Chan Label	Preset	Frequency	Scan Time	Chan Mask	Timeout Reg	. Timeout I	Data Hol	d Mask	Email	Trap	La	bel
1	Chan1 Label		100.50 MHz	10 sec	unmasked	30 sec	20 sec	c 40 s	ec unmasked	disable	enable	Tun1 Rds Od	a TMC Trap 1
2	Chan2 Label		95.30 MHz	10 sec	unmasked	1 sec	1 sec	: 10 s	ec masked	disable	disable	Tun1 Rds Od	a TMC Trap 2

AxelTech

Tested in Scan mode with 3 frequencies:

- F1: 100.5 MHz
- F2: 95.3 MHz
- F3: 96.7 MHz

Data Timeout=20 sec. - Reg. Timeout=30 sec. - Hold Time=40 sec. as depicted below.



	Monitoring Tuner-1 Data Tuner-2 Data						Settings Setup Admin Tuner-1 Tuner-2 Audio					dio	Logout		
GLO	BAL RF L2		RF	RF H1	RF _{HZ}	DEV	PILOT	PILOT	т	RDSL	RDS	AUDIO	O _{DEV}	AUDIOL	AUDIO _R
BL	ER PI		PS	ТР	ТА	СТ	RT	AF		EON	ін	ТМ	IC	RT+	ODA ₁
OD	DAz														
TUNE	R2 - RDS TR		MESSAGE C	HANNEL											
TUNE	ER2 – RDS TR Chan Label	AFFIC	MESSAGE C	HANNEL Scan Time		Timeout Re	eg. Timeo	ut Data			Email				
TUNE Chan	ER2 - RDS TR Chan Label Chan1 Label	AFFIC Preset	MESSAGE C Frequency 100.50 MHz	HANNEL Scan Time 10 sec	Chan Mask unmasked	Timeout R 30 sec	eg. Timeo 20	ut Data sec	Hold 40 sec	Mask unmasked	Email disable	Trap enable	Tu	Label In2 Rds Oda 1	FMC Trap 1
TUNE Chan 1 2	Chan Label Chan1 Label Chan1 Label Chan2 Label	AFFIC Preset	MESSAGE C Frequency 100.50 MHz 95.30 MHz	HANNEL Scan Time 10 sec 10 sec	Chan Mask unmasked unmasked	Timeout R 30 sec 60 sec	eg. Timeo 20 60	ut Data sec sec	Hold 40 sec 10 sec	Mask unmasked masked	Email disable disable	Trap enable disable	Tu	Label n2 Rds Oda 1 n2 Rds Oda 1	TMC Trap 1
TUNE Chan 1 2 3	R2 - RDS TR Chan Label Chan1 Label Chan2 Label Chan3 Label	AFFIC	MESSAGE C Frequency 100.50 MHz 95.30 MHz 96.70 MHz	HANNEL Scan Time 10 sec 10 sec 5 sec	Chan Mask unmasked unmasked unmasked	Timeout R 30 sec 60 sec 60 sec	eg. Timeo 20 60 60	ut Data sec sec sec	Hold 40 sec 10 sec 10 sec	Mask unmasked masked masked	Email disable disable disable	Trap enable disable disable	Tu Tu Tu	Label n2 Rds Oda 1 n2 Rds Oda 1 n2 Rds Oda 1	TMC Trap 1 TMC Trap 2 TMC Trap 3

Tested in SmartScan with the same setup depicted above for 'normal' Scan Mode.

If an alarm condition is found on a channel, instead of state an alarm condition, system stops on channel for a period (depending on tested service that cause alarm condition) collecting more data. In this state no alarm or Trap was reported. The Channel Memory index reports the cause(s) of the stop (see below: "1 of 3 (TMC)").

TUNER-2	2 —	STER	O TUN		RDS				
			Char						
1 of 3 (TM	C)	100.50	MHz Chai	n1 Label		S-SCAN			
RF —		- 12-1		ARM H1 H2					
94.00	dBuV	-2 ppm	0.00 %	-41.00 -42	. 37 dBr	-78.25			
DEVIATI	on —		ALA	ARM					
9.20		0.00		5.40		2.74			
RDS DAT	a —		ALA	ARM					
5215		000		TEST		ON	OFF		
MUSIC		STEREO ST	ATIC	VARIED		ОК			
ОК	ОК			ОК					

If a valid (no alarm) condition is found in this time, system unlocks and normal scan reprises.

If no valid condition is found, system unlocks, normal scan reprises and an alarm condition and/or a trap is reported (see above).

Note that Channel Memory reports normal index display ("1 of 3").

If alarm condition persists, after a while the system stops again on channel and the procedure restarts (note that now the alarm condition status ON persists).



TUNER-2	TUNER-2									
			Char							
1 of 3		100.50	MHz Chai	Chan1 Label						
RF —		-[_2]-[]		IRM – HI	. на-					
94.00	dBuV	-2 ppm	0.00 %	-41.11 -42	. 22 dBr	-77.66				
DEVIATI	on –		ALA							
9.28		0.00		5.40		2.72				
RDS DAT	а —			RM						
5215		000		R-101		ON	OFF			
MUSIC		STEREO ST	ATIC	VARIED OK						
ОК	ОК			NO SERV						

0 🙆 🎦	1 1/2 1/2 1/2 1/2 1/2 1/2 1/2 1/2 1/2 1/		
Description		Source	Time
trapOID: .iso.org	dod.internet.private.enterprises.axelTech.monitorsFm.wolf2MS.wolf2msTraps.modules.tuner 1Traps.tuner 1Rds.tuner 1RdsPrefix.iTun 1DataScanOdaTmcStatusNotify	192.168.0.141	2013-11-26 15:09:44
trapOID: .iso.org	dod.internet.private.enterprises.axelTech.monitorsFm.wolf2MS.wolf2msTraps.modules.tuner1Traps.tuner1Rds.tuner1RdsPrefix.iTun1DataScanOdaTmcStatusNotify	192.168.0.141	2013-11-26 15:07:31
Source:	192.168.0.141 Timestamp: 5 hours 27 minutes 20 seconds SNMP	Version:	2
Trap OID:	.iso.org.dod.internet.private.enterprises.axelTech.monitorsFm.wolf2MS.wolf2msTraps.modules.tuner1Traps.tuner1Rds.tuner1RdsPrefix.iT	un1DataScanOdaTmcSta	tusNotify
Variable Bind	lings:		
Name:	.iso.org.dod.internet.mgmt.mib-2.system.sysUpTime.0		
Value:	[TimeTicks] 5 hours 27 minutes 20 seconds (1964054)		
Name	rown Tron O ID		
Name. Value:	Initian Index Can Oda Time Status Notify		
Name:	iso org. dod internet private enterprises axelTech monitorsFm wolf2MS tuner 1Module tun1Data tun1DataTable tun1DataEntry.fTun1Freq.1		
Value:	[OctetString] 100.50		
Name:	.iso.org.dod.internet.private.enterprises.axelTech.monitorsFm.wolf2MS.tuner1Module.tun1RdsScanData.tun1RdsScanDataTable.tun1RdsS	canDataEntry.iTun1DataS	canOdaTmcStatus.1
Value:	[Integer] ok (0)		
Name:	.iso.org.dod.internet.private.enterprises.axelTech.monitorsFm.wolf2MS.tuner1Module.tun1Rds.tun1RdsTable.tun1RdsEntry.aTun1RdsSetti	ngsOdaTmcTrapLabel.1	
Value:	[OctetString] Tuni Rds Oda TMC Trap 1		
Name:	iso ora dod internet private enterprises avelTech monitorsEm wolf?MS timer!Module tim!Rds tim!RdsTable tim!RdsEntry iTim!RdsSetti	ursOdaTmcMask 1	
Value:	(Integer) unmasked (0)	igo da i mervasa. i	
Name:	. iso. org. dod.internet. private.enterprises.axelTech.monitorsFm.wolf2MS.wolF2msTraps.aTrapDateTime.0		
Value:	[UctetString] 2013-11-20 15:09:00		
Name:	iso.org.dod.internet.private.enterprises.axelTech.monitorsFm.wolf2MS.wolf2msTraps.iTrapCounter.0		
Value:	[Integer] 7		
Name:	.iso.org.dod.internet.private.enterprises.axelTech.monitorsFm.wolf2MS.tuner1Module.tun1Data.tun1DataTable.tun1DataEntrv.tun1DataInd	ex. 1	
Value:	[Integer] 1		

Description: "iTun1DataScanOdaTmcStatus Notification Trap "

The traps will be sent in the instant the alarm rises up, but TMC and the time in the var-binds will be related to a time antecedent trap signal.

Under the alarm condition the RDS alarm led on the panel must be on (flashing if the alarms are more than one on the channel list) and clicking on the channel number of the correspondent tuner the RDS error will be displayed ("RDS DATA").

In case of more errors on the related channel, they will rotate for about 30 seconds in a sequence carousel.

REPLAY ENABLED TRAPS

The Rds TMC alarm trap are replayed with its original status, time and value. Trap Counter is normally incremented. All data and parameters are available in the MIB L3-5 to set and test this configuration.



RDS RT+ (Tuner-1 Tuner-2) 16.11.23

This test checks alarms and traps on RadioText Plus service of a Radio tuned on frequency 100.5MHz. The test was carried out on both tuners.

The system can monitor RT+ registered groups presence on tuned radio.

It can also monitor RT+ data flow (by monitoring associated data group presence) and RT+ service registration (3A groups with specific RT+ AID).

When RT+ data groups (usually 12A) are not received for a certain time (selectable by Timeout Data) an error condition raises up.

Similarly when RT+ registration groups (3A) are not received for a certain time (selectable by Timeout Reg.) an error condition raises up.

On web client RT+ field shows the service status:

RDS DATA ALARM										
5215		041		TEST		ON	OFF			
MUSIC		STEREO ST	ATIC	VARIED		ОК				
ОК	ОК				ОК					

If RT+ service data is correctly received (in respect of timeouts) RT+ field print is "OK".

When no RT+ service is broadcasted, RT+ field print is "NO SERV".

When no RT+ groups data are received but 3A RT+ service registration groups are broadcasted, RT+ field print is "NO DATA".

Finally, when no 3A RT+ service registration groups are received but RT+ data groups are, RT+ field print is "NO REG".

For the test in Static Mode we have tuned on 100.5 MHz a radio that broadcast RT+ service. We set Data Timeout=20 sec. Group Timeout=30 sec. and Hold Time=40 sec.

	Monitoring Tuner-1 Data Tuner-2 Data					Settings Setu	Settings Setup Admin Tuner-1 Tuner-2 Audio						
GLC	DBAL RF	2	RFu	RF H1	RF _{HZ}	DEV	PILOTL	PILOT	RDSL	RDS	AUDIO	AUDIO	AUDIOR
BL	.ER PI		PS	ТР	ТА	ст	RT	AF	EON	ІН	тмс	: RT+	ODA1
0[DAz												
TUNE	ER1 - RDS R	ADIO T	EXT PLUS										
Chan		Preset		Scan Time			Timeout I	Data Hold	Mask				
1	Chan1 Label		100.50 MHz	10 sec	unmasked	30 sec	20 se	c 40 seo	unmasked	disable	enable	Tun1 Rds O	da RTP Trap 1
2				10 sec			60 se	c 10 sec	masked				

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Tested in Scan mode with 3 frequencies:

F1: 100.5 MHz

F2: 95.3 MHz

F3: 96.7 MHz

Data Timeout=20 sec. - Reg. Timeout=30 sec. - Hold Time=40 sec. as depicted below.



	Monitoring Tuner-1 Data Tuner-2 Data					Settings Setu	Settings Setup Admin Tuner-1 Tuner-2 Audio						Audio	Logout
GLC	DBAL RF	2	RFu	RF _{H1}	RF _{HZ}	DEV	PILOTL	PILO	т	RDSL	RDS	AUDIO	AUDIOL	AUDIO _R
В	.ER PI		PS	ТР	ТА	ст	RT	AF		EON	IH	тмс	RT+	ODA ₁
0	DA 2													
TUN	ER2 - RDS R	ADIO T	EXT PLUS											
		Preset					Timeout	Data						
	Chan1 Label		100.50 MHz	10 sec	unmasked	30 sec	20 se	ec -	40 sec	unmasked	disable	enable	Tun2 Rds Oc	la RTP Trap 1
2	Chan2 Label		95.30 MHz	10 sec	unmasked	60 sec	60 se	ec 🗄	10 sec	masked	disable	disable	Tun2 Rds Oc	la RTP Trap 2
	Chan3 Label		96.70 MHz	5 sec	unmasked	60 sec	60 se	ec i	10 sec	masked	disable	disable	Tun2 Rds Oc	la RTP Trap 3
							60 se	ec 🛛						

Tested in SmartScan with the same setup depicted above for 'normal' Scan Mode.

If an alarm condition is found on a channel, instead of state an alarm condition, system stops on channel for a period (depending on tested service that cause alarm condition) collecting more data. In this state no alarm or Trap was reported. The Channel Memory index reports the cause(s) of the stop (see below: "1 of 3 (RTP)").

TUNER-2 —	TUNER-2									
	Frequency	r Char								
1 of 3 (RTP)	100.50 MHz Chan1 Label									
RF										
	Carrier	M.Path								
95.00 dBu	v -2 ppm	0.00 %	-41.12 -42		-78.50					
DEVIATION		ALA	ARM							
	Audio									
9.28 kt	z 0.00		5.40		2.72					
RDS DATA -		ALA	ARM							
	BLER									
5215	000		R-101		ON	OFF				
	DI									
MUSIC	STEREO ST	TATIC	VARIED		ОК					
RT AF	EON									
ок ок				ОК						

If a valid (no alarm) condition is found in this time, system unlocks and normal scan reprises. If no valid condition is found, system unlocks, normal scan reprises and an alarm condition and/or a trap is reported (see above).

Note that Channel Memory reports normal index display ("1 of 3").

If alarm condition persists, after a while the system stops again on channel and the procedure restarts (note that now the alarm condition status ON persists).



TUNER-2	<u> </u>	STER	ю - п	JNED	RDS			
			Ch					
1 of 3		100.50			S-SCAN			
RF –								
				Adj-Chan				
94.00	dBu∨	-2 ppm	0.00	6 -41.00 -42		-77.00		
DEVIATI	on –		A	LARM				
				Pilot				
9.51		0.00		z 5.40		2.72		
RDS DAT	а —		_ _					
				PS				
5215		000		6 RAVENNA		ON	OFF	
				РТҮ				
MUSIC		STEREO ST	ATIC	VARIED		ОК		
				тмс				
ОК	ОК				NO DATA			

0 🕺 街	W			
Description	de l'internet aire de la companya d		Source	Time
trapOID: .iso.org.	dod.internet.private.enterprises.axeii.ech.monitors=m.woir2//s.woir2	ms ir aps. modules, tuner i ir aps, tuner ikos, tuner ikosprenx, ii un ibatasci	anOdaRtpStatusNotity 192.168.0.141	2013-11-26 15:59:29
Source: Tran OID:	iso org dod internet private enterprises axelTech monitor:	o hours 1/ minutes o seconds Fm wolf2MS wolf2msTraps modules tuper1 Traps tuper1Rd	snnip version: is tuner1RdsPrefix iTun1DataScanOdaR	2 ItoStatusNotify
Variable Bind	lings:			
Name:	.iso.org.dod.internet.mgmt.mib-2.system.sysUpTime.0			
Value:	[TimeTicks] 6 hours 17 minutes 6 seconds (2262655)			
Name:	snmpTrapOID			
Value:	[OID] iTun1DataScanOdaRtpStatusNotify			
Name: Value:	. iso, org. dod.internet.private.enterprises.axelTech.monitor: [OctetString] 100-50	Fm.wolf2MS.tuner1Module.tun1Data.tun1DataTable.tun1Da	taEntry.fTun1Freq.1	
News			D-1-7-11-1-11-1-0D-1-E-1	1D-t-CO-t-Dt-Ct-tr1
Name: Value:	Iso. org. dod. internet. private. enterprises.axei i ech. monitor: [Integer] alarm (1)	r m. Wolf 2MS, tuner i Module, tun i KosScanData, tun i KosScan	Data Taole. Tun 1 Kuss canDataEntry. 1 Tun	IDataScanOdaRtpStatus. I
Name: Value:	.iso.org.dod.internet.private.enterprises.axelTech.monitors [OctetString] Tun1 Rds Oda RTP Trap 1	sFm.wolf2MS.tuner1Module.tun1Rds.tun1RdsTable.tun1Rds	Entry.aTun1RdsSettingsOdaRtpTrapLat	bel 1
Name: Value:	.iso.org.dod internet.private.enterprises.axelTech.monitors [Integer] unmasked (0)	sFm.wolf2MS.tuner1Module.tun1Rds.tun1RdsTable.tun1Rds	Entry.iTun1RdsSettingsOdaRtpMask.1	
Name: Value:	.iso.org.dod.internet.private.enterprises.axelTech.monitors [OctetString] 2013-11-26 15:59:11	Fm.wolf2MS.wolf2msTraps.aTrapDateTime.0		
Name: Value:	.iso.org.dod.internet.private.enterprises.axelTech.monitors [Integer] 2	sFm.wolf2MS.wolf2msTraps.iTrapCounter.0		
Name: Value:	.iso.org.dod.internet.private.enterprises.axelTech.monitors [Integer] 1	Fm.wolf2MS.tuner1Module.tun1Data.tun1DataTable.tun1Da	taEntry.tun1DataIndex.1	
Description:	"iTun1DataScanOdaRtpStatus Notification Trap "			

The traps will be sent in the instant the alarm rises up, but RT+ and the time in the var-binds will be related to a time antecedent trap signal.

Under the alarm condition the RDS alarm led on the panel must be on (flashing if the alarms are more than one on the channel list) and clicking on the channel number of the correspondent tuner the RDS error will be displayed ("RDS DATA").

In case of more errors on the related channel, they will rotate for about 30 seconds in a sequence carousel.

REPLAY ENABLED TRAPS

The Rds RT+ alarm trap are replayed with its original status, time and value. Trap Counter is normally incremented. All data and parameters are available in the MIB L3-5 to set and test this configuration.



16.11.24 RDS ODA-1 ODA-2 (Tuner-1 Tuner-2)

This test checks alarms and traps on ODA services of a Radio tuned on frequency 100.5MHz. The test was carried out on both tuners and performed on each ODA service.

The system can monitor either two user specific registered ODA services on tuned radio. Control parameters are similar to those one of TMC and RT+. In addition we found an input mask for the Application ID (AID) related to each ODA service (a four digit hexadecimal field).

Alarm conditions raise up as we've seen in TMC and RT+ tests. Moreover, like as for TMC and RT+, data prints (e.g. "NO DATA", "NO REG", etc.) follow the same rules.

For the test in Static Mode we have tuned on 100.5 MHz a radio that broadcast an ODA1 service with AID=5A14. We set Data Timeout=20 sec. Group Timeout=30 sec. and Hold Time=40 sec.

Monitoring Tuner-1 Data Tuner-2 Data							Settings Setup Admin Tuner-1 Tuner-2 Audio Lo									Logout	
GLO	DBAL RF	2	RFu	RF _{H1}	RF _{H2}	C	DEV	PILC)T _l	PILO	г	RDSL	RDS	AUDIO) _{DEV}	AUDIO	AUDIO _R
В	LER PI		PS	TP	TA		ст	R	r	AF		EON	IH	ТМ	C	RT+	ODA ₁
OI	DAz																
TUN	TUNER1 - RDS GENERIC ODA 1																
		Preset															
	Chan1 Label		100.50 MHz	10 sec	unmasked	5A14	30 s	ec	20	sec	40 sec	unmasked	disable	enable	Tu	ın1 Rds Oda G	Gen1 Trap 1
2	Chan2 Label		95.30 MHz	10 sec	unmasked	ABCD	60 s	ec	60	sec	10 sec	masked	disable	disable	Tu	un1 Rds Oda G	en1 Trap 2

Tested in Scan mode with 3 frequencies:

F1: 100.5 MHz

F2: 95.3 MHz

F3: 96.7 MHz

AID=5A14 - Data Timeout=20 sec. - Reg. Timeout=30 sec. - Hold Time=40 sec. as depicted below.

	Monitoring Tuner-1 Data Tuner-2 Data						Settings Setu	Settings Setup Admin Tuner-1 Tuner-2 Audio							dio	Logout
GLC	OBAL RF	12	RF	RF _{H1}	RF _{HZ}		DEV	PILOT	PILO	т	RDSL	RDS	AUDIO	D _{DEV}	AUDIOL	AUDIO _R
BI	LER P		PS	ТР	ТА		ст	RT	AF		EON	ІН	ТМ	с	RT.	ODA ₁
οι	DA 2															
TUN	ER1 - RDS (GENERI	IC ODA 1													
Chan		Preset	Frequency	Scan Time	Chan Mask	AID		g. Timer	out Data		Mask	Email				
1	1 Chan1 Label 100.50 MHz 10 sec unmas		unmasked	5A14	30 sec	20	sec	40 sec	unmasked	disable	enable	Tu	ın1 Rds Oda (Sen1 Trap 1		
2	Chan2 Label		95.30 MHz	10 sec	unmasked	0000	60 sec	60	sec	10 sec	masked	disable	disable	Tu	ın1 Rds Oda (Gen1 Trap 2
3	Chan3 Label		96.70 MHz	10 sec	unmasked	0000	60 sec	60) sec	10 sec	masked	disable	disable	Tu	ın1 Rds Oda (Sen1 Trap 3

Tested in SmartScan with the same setup depicted above for 'normal' Scan Mode.

If an alarm condition is found on a channel, instead of state an alarm condition, system stops on channel for a period (depending on tested service that cause alarm condition) collecting more data. In this state no alarm or Trap was reported. The Channel Memory index reports the cause(s) of the stop (see below: "1 of 3 (ODA1)").

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TUNER-1		STER	O TUN		RDS					
			Char							
1 of 3 (OD	A1)	100.50		S-SCAN						
RFL2 L1 ALARM H1 H2										
68.00			5.75 %	-29.62 -19		-50.50				
DEVIATI	on —			ARM						
18.86		0.00		5.39		2.46				
RDS DAT	a —		ALA	ARM						
		007		R-101		ON				
MUSIC		STEREO ST	ATIC	VARIED		ок				
ок						ОК				

If a valid (no alarm) condition is found in this time, system unlocks and normal scan reprises.

If no valid condition is found, system unlocks, normal scan reprises and an alarm condition and/or a trap is reported (see above).

Note that Channel Memory reports normal index display ("1 of 3").

If alarm condition persists, after a while the system stops again on channel and the procedure restarts (note that now the alarm condition status ON persists).

TUNER-1		STER	O TUN		RDS				
			Char						
1 of 3		100.50	S-SCAN						
RF —	RF L2 L3 ALARM H1 H2								
64.00			7.00 %	-27.00 -19	. 00 dBr	-46.00			
DEVIATI	on –		ALA	ARM					
17.76		0.00		5.37		2.49			
RDS DAT	a —								
						ON	OFF		
MUSIC		STEREO ST	ATIC	VARIED		ок			
						NO SERV			



0 8	1 😼 🐐		
Description		Source	Time
trapOID: .iso.o trapOID: .iso.o	rg. dod.internet.private.enterprises.axelTech.monitorsFm.wolf2MS.wolf2msTraps.modules.tuner 1Traps.tuner 1Rds.tuner 1RdsPrefix.iTun 1DataScanOdaGen 1StatusNotify rg.dod.internet.private.enterprises.axelTech.monitorsFm.wolf2MS.wolf2msTraps.modules.tuner 1Traps.tuner 1Rds.tuner 1RdsPrefix.iTun 1DataScanOdaGen 1StatusNotify	192.168.0.141 192.168.0.141	2013-11-27 10:00:44 2013-11-27 09:59:48
Source: Trap OID: Variable Bi	192.168.0.141 Timestamp: 28 minutes 22 seconds SNMP Version: iso.org.dod.internet.private.enterprises.axelTech.monitorsFm.wolf2MS.wolf2msTraps.modules.tuner1Traps.tuner1Rds.tuner1RdsPrefix.iTun1: ndings:	DataScanOdaGen1S	2 tatusNotify
Name: Value:	.iso.org.dod.internet.mgmt.mib-2.system.sysUpTime.0 [TimeTicks] 28 minutes 22 seconds (170252)		
Name: Value:	sumpTrapOID [OID] iTun1DataScanOdaGen1StatusNotify		
Name: Value:	.iso.org.dod.internet.private.enterprises.axelTech.monitorsFm.wolf2MS.tuner1Module.tun1Data.tun1DataTable.tun1DataEntry.fTun1Freq.1 [OctetString] 100.50		
Name: Value:	.iso.org.dod.internet.private.enterprises.axelTech.monitorsFm.wolf2MS.tuner1Module.tun1RdsScanData.tun1RdsScanDataTable.tun1RdsScanI [Integer] alarm (1)	DataEntry.iTun1Data	ScanOdaGen1Status.1
Name: Value:	.iso.org.dod.internet.private.enterprises.axelTech.monitorsFm.wolf2MS.tuner1Module.tun1Rds.tun1RdsTable.tun1RdsEntry.aTun1RdsSettings [OctetString] Tun1 Rds Oda Gen1 Trap 1	DdaGen1TrapLabel.1	l
Name: Value:	.iso.org.dod.internet.private.enterprises.axelTech.monitorsFm.wolf2MS.tuner1Module.tun1Rds.tun1RdsTable.tun1RdsEntry.iTun1RdsSettingsC [Integer] unmasked (0))daGen1Mask.1	
Name: Value:	.iso.org.dod.internet.private.enterprises.axelTech.monitorsFm.wolf2MS.wolf2msTraps.aTrapDateTime.0 [OctetString] 2013-11-27 09:59:51		
Name: Value:	.iso.org.dod.internet.private.enterprises.axelTech.monitorsFm.wolf2MS.wolf2msTraps.iTrapCounter.0 [Integer] 5		
Name: Value:	.iso.org.dod.internet.private.enterprises.axelTech.monitorsFm.wolf2MS.tuner1Module.tun1Data.tun1DataTable.tun1DataEntry.tun1DataIndex.1 [Integer] 1		
Description	: "iTun1DataScanOdaGen1Status Notification Trap "		

The traps will be sent in the instant the alarm rises up, and ODA and the time in the var-binds will be related to the time the alarm rises up (this is due to a problem of implementation that will be fixed as soon as possible). Under the alarm condition the RDS alarm led on the panel must be on (flashing if the alarms are more than one on the channel list) and clicking on the channel number of the correspondent tuner the RDS error will be displayed ("RDS DATA").

In case of more errors on the related channel, they will rotate for about 30 seconds in a sequence carousel.

The same tests are performed on ODA2 with this configuration:

For the test in Static Mode we have tuned on 100.5 MHz a radio that broadcast an ODA2 service with AID=73B0. We set Data Timeout=20 sec. Group Timeout=30 sec. and Hold Time=40 sec.

	Monitoring Tuner-1 Data Tuner-2 Data				Settings Setup Admin Tuner-1 Tuner-2 Audio								36	Logout		
GL	OBAL	RF _{L2}	RFu	RF _{H1}	RF _{HZ}		DEV P	ILOT	PILO	r T	RDSL	RDS	AUDIO	DEV AUI		AUDIOR
В	LER	PI	PS	ТР	ТА		ст	RT	AF		EON	IH	тмс	R	۲.	ODA ₁
o	DAz															
TUN	TUNER1 - RDS GENERIC ODA 2															
Chan	Chan Labe	l Prese	t Frequency	Scan Time	Chan Mask	AID		Timeout	Data		Mask	Email	Trap			
1	Chan1 Lab	el	100.50 MHz	10 sec	unmasked	73B0	30 sec	20 se	ec	40 sec	unmasked	disable	enable	Tun1 Rds	s Oda (Sen2 Trap 1

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Tested in Scan mode and Smart Scan Mode with 3 frequencies:

F1: 100.5 MHz

F2: 95.3 MHz

F3: 96.7 MHz

AID=73B0 - Data Timeout=20 sec. - Reg. Timeout=30 sec. - Hold Time=40 sec. as depicted below.



	Monitoring Tuner-1 Data Tuner-2 Data						Settings Setup	Audio	Logout						
GLO	DBAL RF	12	RFu	RF _{H1}	RF _{H2}		DEV PIL	.OTL	PILOT	г	RDSL	RDS	AUDIO	AUDIO	AUDIO _R
В	LER P		PS	ТР	ТА		ст	RT	AF		EON	IH	тмс	C RT+	ODA ₁
OI	DA 2														
TUN	ER1 - RDS (GENERI	C ODA 2												
		Preset							Data						
1	Chan1 Label		100.50 MHz	10 sec	unmasked	73B0	30 sec	20 sec	:	40 sec	unmasked	disable	enable	Tun1 Rds Od	a Gen2 Trap 1
2	Chan2 Label 95.30 MHz 10 sec unmasked 000		0000	60 sec	60 sec	:	10 sec	masked	disable	disable	Tun1 Rds Od	a Gen2 Trap 2			
	Chan3 Label		96.70 MHz	10 sec	unmasked	0000	60 sec	60 sec	:	10 sec	masked	disable	disable	Tun1 Rds Od	a Gen2 Trap 3
									:						



SMTP 16.11.25

If an SMTP server Is specified and at least one valid email is available, the wolf2ms SMTP client will try to send a group of notification to the addresses.

All alarms enabled and with the email parameter enabled will be collected with the following logic:

After the first notification, before compiling the email the client waits from 30 to 120 seconds to get more notification possible.

After 30 seconds without any other notification or a max of 120 second with sporadic notifications it tries to send the email.

Actually only SMPT connection without authentication are supported.

To disable the service write 000.000.000.000 in the SMTP server Ip address field. Only a server with the standard default port 25 are supported.

	IP Address
SMTP SETTING	79.25.96.13
Smtp Server Ip Address	Auto Request Time
122.34.56.78	5
Smtp Server User Name	
	trapEnable
Smtp Server Password	Failure Email
	emailDisable
Smtp eMail 1 Address	
mauro.chimenti@audiodevices.com	Local Time Set
Smtp eMail 2 Address	
sebastiano.bazzano@gmail.com	Local Time Zone Definition
Smtp eMail 3 Address	paris
christian.sighinolti@axeltechnology.com	FTP SETTING
Smtp eMail 4 Address	l er file
mauro.chimenti@gmail.com	
	disable



Da WOLF2MS <wolf2ms@axeltechnology.com></wolf2ms@axeltechnology.com>	Rispondi 😡 Rispondi a tutti 🔹	🖗 Inoltra) 📓 Archivia) 실 Indesiderata) 💥 Elimina
Oggetto [Wolf2ms Alarm Notification] Name: WOLF2M5, Location: pietrasanta(lucca) 55045		11.10
A Mauro Chimenti🎝, Sebastiano Bazzano🎝, Christian Sighinolfiâ, 'mauro chimentiâ		Altre azioni 🔹

TUNER1: Notification List

TUNER1-RDS BLER	Chan=0,	Freq=100.80MHz,	Bler=, AlarmStatus=1, EventTime=2013-11-26 11:09:42
TUNER1-AUDIODEV	Chan=0,	Freq=100.80MHz,	AudioLev= kHz (Not Tuned), AlarmStatus=1, EventTime=2013-11-26 11:09:42
TUNER1-RFL2	Chan=0,	Freq=100.80MHz,	RFLevel=-5.00dBuv, AlarmStatus=1, EventTime=2013-11-26 11:09:42
TUNER1-RFL1	Chan=0,	Freq=100.80MHz,	RFLevel=-5.00dBuv, AlarmStatus=1, EventTime=2013-11-26 11:09:42
TUNER1-DEV	Chan=0,	Freq=100.80MHz,	Deviation= kHz (Not Tuned), AlarmStatus=1, EventTime=2013-11-26 11:09:42
TUNER1-PILOT	Chan=0,	Freq=100.80MHz,	PilotLevel= kHz (Not Tuned), AlarmStatus=1, EventTime=2013-11-26 11:09:42
TUNER1-LOWPILOT	Chan=0,	Freq=100.80MHz,	PilotLevel= kHz (Not Tuned), AlarmStatus=1, EventTime=2013-11-26 11:09:42
TUNER1-RDSLEV	Chan=0,	Freq=100.80MHz,	RdsLevel= kHz (Not Tuned), AlarmStatus=1, EventTime=2013-11-26 11:09:42
TUNER1-LOWRDS	Chan=0,	Freq=100.80MHz,	RdsLevel= kHz (Not Tuned), AlarmStatus=1, EventTime=2013-11-26 11:09:42

TUNER2: Notification List

TUNER2-PILOT ---- Chan=O, Freq=100.80MHz, PilotLevel= --.-- kHz (Not Tuned), AlarmStatus=1, EventTime=2013-11-26 11:09:42 TUNER2-LOWRDS ---- Chan=O, Freq=100.80MHz, RdsLevel= --.-- kHz (Not Tuned), AlarmStatus=1, EventTime=2013-11-26 11:09:42

AUDIO1: Notification List

AUDI01-LEFT SIL -- Source=Tuner1, LeftLev=-90.00dBr, AlarmStatus=1, EventTime=2013-11-26 11:09:42 AUDI01-RIGHT SIL-- Source=Tuner1, RightLev=-90.00dBr, AlarmStatus=1, EventTime=2013-11-26 11:09:42

AUDIO2: Notification List

AUDI02-LEFT SIL -- Source=Tuner2, LeftLev=-90.00dBr, AlarmStatus=1, EventTime=2013-11-26 11:09:42 AUDI02-RIGHT SIL-- Source=Tuner2, RightLev=-90.00dBr, AlarmStatus=1, EventTime=2013-11-26 11:09:42



RDS Streaming 16.11.26

Selecting a source for the RDS data stream, the RS232 serial port will start to stream all groups decoded. The RS232 serial port is configured as 9600 Baud, 8 data bit, 1 Stop Bit, no Parity.

GENERAL SETUP	
RDS DATA STREAM	SNMP SE
RDS Stream Setup	Read Comm
serialTun1	public
ACTIVITY HEART SIGNAL	Write Comm

🌯 dddd - HyperTerminal								
<u>File M</u> odifica <u>V</u> isualizza <u>C</u> hiama	<u>T</u> rasferimento	2						
🎦 🖆 🖏 🐨 🌋 👘 🎬								
$ \begin{array}{c} 5101 \ 2011 \ 554D \ 45\\ 5101 \ E001 \ 3030 \ 80\\ 5101 \ 0012 \ F510 \ 69\\ 5101 \ 1000 \ 9034 \ 51\\ 5101 \ 2012 \ 4F20 \ 33\\ 5101 \ E002 \ 3320 \ 80\\ 5101 \ 0013 \ 1210 \ 20\\ 5101 \ 1000 \ ADE3 \ 51\\ 5101 \ 2013 \ 2D20 \ 33\\ 5101 \ E003 \ 2020 \ 80\\ 5101 \ 0010 \ 1088 \ 70\\ 5101 \ 0010 \ 1088 \ 70\\ 5101 \ 0010 \ 1088 \ 70\\ 5101 \ 1000 \ CDE4 \ 51\\ 5101 \ 2014 \ 3333 \ 33\\ 5101 \ E00C \ 0000 \ 80\\ 5101 \ 0011 \ 8A10 \ 6C\\ 5101 \ 1000 \ E0F2 \ 51\\ 5101 \ 2015 \ 3333 \ 33\\ 5101 \ E00D \ 1800 \ 80\\ 5101 \ 0012 \ 9C10 \ 69\\ 5101 \ 1000 \ F995 \ 51\\ 5101 \ 2016 \ 3333 \ 33\\ 5101 \ E00E \ 0000 \ 80\\ 5101 \ 0013 \ 9F10 \ 20\\ \end{array} $	552 1000 1200 1200 1200 1200 1200 1200 1			1				
<u> -</u>								
<]				>
Connesso a 5.29.13 Rile	lev. aut. 96	00 8-N-1	SCORR	MAIUSC	NUM	Acquisisci	Eco stampante	

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Traps and email notification with analogical or digital inputs 16.11.27

Selecting as audio source one of the inputs and programming the audio configuration will be possible to monitor and measure level of the inputs signal as well as receive traps and email notifications with the general rules already seen.

AUDIO	
AUDIO-1 GLOBAL SETUP	AUDIO-2 GLOBAL SETUP
Analogic	Digital V
	Audio2 Signal Name
Test Audio 1	Test Audio 2

ANALOG INPUT SILENCE SETUP	DIGITAL INPUT SILENCE SETUP
Audio Analog Left Silence Trap Label	
AudioTrap	AudioTrap
Audio Analog Left Silence Thr	Audio Digital Left Silence Thr
-20.00 dBr	-20.00 dBr
Audio Analog Left Silence Time	Audio Digital Left Silence Time
20 sec 💟	20 sec
Aurilia Amilia Lett Glence Hold	Auria Divita Left Silence Mald
2 sec	
Audio Analog Left Silence Mask	Audio Digital Left Silence Mask
	unmasked
Audio Analog Left Silence Email Enable	Audio Digital Left Silence Email Enable
enabled 🔍	enabled 💟
Audio Analog Left Silence Trap Enable	Audio Digital Left Silence Trap Enable
enabled 💌	disabled
Audio Analog Right Silence Trap Label	Audio Digital Right Silence Trap Label
AudioTrap	AudioTrap
Audio Analog Right Silence Thr	Audio Digital Right Silence Thr
-21.00 dBr	-20.00 dBr
Audio Analog Right Silence Time	Audio Digital Right Silence Time
19 sec 💟	20 sec 💌
Audio Analog Right Silence Hold	Audio Digital Right Silence Hold
2 sec 🔍	2 sec 🔍
Audio Analog Right Silence Mask	Audio Digital Right Silence Mask
unmasked 💙	masked 🔽
Audio Ambas Bisht Chann Emeli Emilia	Aude Bladet Blade (Barro Email Emble
dicabled	
Audio Analog Right Silence Trap Enable	Audio Digital Right Silence Trap Enable
enabled 🔽	disabled

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🚸 iReaso	ning MIB Brov	rser			
File Edit	Operations T	ools Bookmarks Help			
Address: 19	2.168.0.180	Advanced OID: .1.3	Operations: Get Next	🖌 🥞 Co	
SNMP MIB:	Result Tab	Trap Receiver ×			
P MIB Tre	Operations	Tools			
	🔘 🙆 🎽	1 🔽 🔏			
	Description		Source	Time	
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	Name:	. iso. org. dod. internet. private. enterprises.axelTech.monitorsFm.wolf2MS.audioModule.audioSettings.audio2Setup.iAudio2Source.0			
	Value:	[Integer] digital (2)			
	Description	: "AudioAnalogRightSilenceAlarmStatus Notification Trap "			
	<u> </u>				



16.11.28 Format and Import/Export configuration

Formatting Please SD. ыa rngrøc

Available in the front panel display a group of new functions to handle the SD card.

Please before starting any operation format again it. The SD card will be formatted with the EXT3 file system. This file system is not Microsoft windows compatible (so the SD card will be read only inside linux systems), but more robust respect the old FAT32.

If Wolf2ms find a FAT32 file system (or another one different from EXT3) doesn't allow to operate.

Selecting the "export" function the configuration will be exported in the SD card. Selecting the "import" function the configuration will be imported from the SD card.

Automatically Wolf2ms "export" the configuration in the SD card after about 20 minutes every parameter changes and/or after 20 minutes the startup.

That means in the SD card should be always available the a configuration, manually or automatically saved.

Inserting a different SD in a wolf2ms, will be available 20 minutes to Import the SD card configuration (after this time Wolf2ms will rewrite on it its one).





The logical status of the input/output is visible in the Home page of the WebPage



Note: The numeration displayed in the Home Page is wrong will be fixed (the right one will be 0,1,2,3)



In the MIB will be possible to read the inputs status and read or write the GPO status.



The current status of the GPI/GPO is available even in the display panel



17 TECHNICAL SPECIFICATION WOLF 2MS

PARAMETER	DESCRIPTION
Main Power	100 Vac – 240 Vac 50/60 Hz internal, universal power supply
Power consumption	25 W
Power connector	IEC plug filter with internal fuse 2.0 AT
Headphone	Stereo Jack 6.3 mm
Safety and EMC	Compliant to CE laws
Working temperature	0° to 50° C (storage -5 to + 50 °C)
Housing Dimensions	19 inch x 1u x 240 mm (depth)
Weight	3.5 kg
RFTUNERS	
Tuner frequency	87.5 MHz - 108.0 MHz
Tuner step	10 kHz
RF tuning stability	+/- 500 Hz
RF input sensitivity	20 to 120 dBµV
RF input nominal level	80 to 100 dBµV
RF inputs main	2x BNC, with 50 Ohm unbalanced
Max frequency deviation	125 kHz
IF Filter bandwidth	34 kHz to 138 kHz – Manual or Automatic
Input RF level	30 dBµV – 120 dBµV with Internal attenuator
Bandscan carrier number	32 Channels
Bandscan time	Static Mode, Scan 1s to 10s and Smart Mode*
Selectivity at ± 120 kHz	>-3 dB
Selectivity at ± 200 kHz	>-40 dB
Selectivity at ± 300 kHz	>-50 dB
Selectivity at ± 400 kHz	>-65 dB
Image Rejection @ 22.5 KHz	70 dB
Adjacent channel rejection	63 - 65 dB
Alternate channel rejection	65 - 72 dB
	0.05 - 0.1%
	75 db typ - 66 db min (NO A-weighting 30 Hz - 15 kHz)
Stereo (S+N)/N	70 dB typ $- 64$ dB min (No A-Weighting 30 Hz $- 15$ kHz)
	 40 dBuV – 61 dB Stereo/61 dB Mono
	 50 dBµV – 69 dB Stereo/72 dB Mono
	 60 dBµV – 78 dB Stereo/78 dB Mono
	 70 dBµV – 83 dB Stereo/85 dB Mono
Pilot 19kHz suppression	55 dB (Stereo modulation L = 1, R = 0, Deviation=67.5 kHz, pilot
	deviation=6.75 kHz)
Stereo THD+N	0.1 % - 0.2 % (Stereo modulation L = 1, R = 0, Deviation=67.5 kHz, pilot
	deviation=6.75 kHz)
	Moocuroe @ 70 dBuV/ with 75 kHz
	• 1 kHz - 0.061 %
	• 5 kHz - 0.10 %
	• 10 kHz - 0.46 %
Stereo separation	45 dB (Stereo modulation L = 1, R = 0.Deviation=67.5 kHz, pilot
	deviation=6.75 kHz)
	• 400 Hz – 48 dB
	• 1 kHz – 48 dB
	• 5 kHz – 48 dB
	 10 kHz – 38 dB
	• 14.7 kHz – 38 dB

| TECHNICAL SPECIFICATION WOLF 2MS 234



RDS DECODER	
RDS Sensitivity	20 dBµV (dev f = 2 kHz, RDS BLER < 5%)
RDS Synchronization time	80 ms (dev f = 2 kHz RF input = 60 dB μ V)
RDS PI Lock time	100 ms (dev f = 2 kHz RF input = 60 dBuV)
RDS data decoding and Streaming	RDS Level indication and deviation (voltage kHz and dBr)
RDS Data decoding services	PS PL M/S DL TP TA AF AF List Presence A/B Method Scrolling PS
NDO Data decoding services	AF FON RadioText RadioText Plus CT PTV PIN IH TMC FWS TDC
	ODA generic services RDS error detection with three shold adjustable
	. ODA generic services. RDS error detection with timee shou aujustable
RF MEASUREMENT MODULE	Ranges – Resolution - Precision
RF Level	$0 - 80 \text{ dB}\mu\text{V}$ (Resolution 1 dB μV , precision 2 dB μV)
	$82 - 120 \text{ dB}\mu \text{V}$ (Resolution 2 dB μV , precision 5 dB μV)
Deviation	0-125 kHz (Resolution 1 kHz, precision 2 kHz)
Tuned Carrier Frequency Offset	0-250 ppm (Resolution 2 ppm, precision 5 ppm)
Multipath	0-100 %
Adjacent Channel RF Level	0 – 80 dBµV (Resolution 1 dBµV, precision 2 dBµV) (+-200kHz)
MPX MEASUREMENT MODULE	Ranges – Resolution - Precision
Pilot Level	0-20 kHz (Resolution 0.1 kHz, precision 0.2 kHz)
Rds Level	0-20 kHz (Resolution 0.1 kHz, precision 0.2 kHz)
Mpx Power ITU-R-BS412	-20 dBr to \pm 12dBr (Resolution 0.1 dBr, precision 0.2 dBr)
Stereo	Valid Stereo signal detector
	Dennes Desclution Dresision
AUDIO MEASUREMENT MODULE	Ranges – Resolution – Precision
Left Quasi Peak	Programmable Attack Time from 0 mS to 2mS (Resolution 0.1 dB)
Right Quasi Peak	Programmable Attack Time from 0 mS to 2mS (Resolution 0.1 dB)
Audio Silence	Threshold -80 dB to 0 dB, Time: 1-120 Sec
Unbalanced Stereo Signal	Threshold -80 dB to 0 dB, Time: 1-120 Sec
AUDIO OUTPUT	
Available output on XLR	Tuner-1 or Tuner-2, definable via web page. Same audio on Analog and
	AES/EBU
Audio frequency response	30 Hz—15 kHz, ± 0,3 dB
Phones (Front Panel)	Stereo jack 6.3 mm, 150 Ohm, 0.8 W
ANALOG OUTPUT MODULE	
D/A Conversion	24bit Sigma-Delta Conversion – 32 kHz Sample rate
Connectors	2x XI R male - Electronically balanced
Output Level	$_{-12}$ 0 dBu to $_{\pm}14$ 0 dBu (0.1 dBu Step) $_{-}$ Max ($_{\pm}20$ dBu)
	47.0
	47 52
Distorcion	
Distorsion	
Dynamic range	108 dB (110 dB A-weighted, 20Hz – 15kHz)
Sources	Streamer1_Source, Streamer2_Source
DIGITAL OUTPUT MODULE	
Connectors:	XLR, Male – Electronically balanced
Format	AES3/EBU
Sample rates	32 kHz
Resolution	24 bits
Operative Nominal level:	From 0.0 dBFs to -24dBFs (0.1 dBu step)
Dynamic Range:	125 dB (Typ), 122 dB (Min)
Distortion	less than 0.01% TDH+NOISE (-20dBFs @ 1Khz)
Freq response	20Hz-15kHz
Dynamic range	108 dB
Sources	Streamer1 Source Streamer2 Source
AUDIO INPUT	
Encoder Streaming Input source	User selectable between Tuner-1, Tuner-2, External Input Analog,
Encoder Streaming Input source	User selectable between Tuner-1, Tuner-2, External Input Analog, External Input AES/EBU
Encoder Streaming Input source	User selectable between Tuner-1, Tuner-2, External Input Analog, External Input AES/EBU
Encoder Streaming Input source DIGITAL INPUT MODULE	User selectable between Tuner-1, Tuner-2, External Input Analog, External Input AES/EBU
Encoder Streaming Input source DIGITAL INPUT MODULE Connectors:	User selectable between Tuner-1, Tuner-2, External Input Analog, External Input AES/EBU XLR, female – Electronically balanced
Encoder Streaming Input source DIGITAL INPUT MODULE Connectors: Format	User selectable between Tuner-1, Tuner-2, External Input Analog, External Input AES/EBU XLR, female – Electronically balanced AES3/EBU



Sample rates	32 kHz / 44 1 kHz / 48 kHz / 96 kHz with src and litter correction	
Operative Nominal level:	From 0.0 dBEs to -24 dBEs (0.1 dBu step)	
Dynamic Pango:	125 dP (Tup)	
Dynamic Kange.		
Distortion	less than 0.01% [DH+Noise (-20dBFs@ 1Khz)	
Input Modes:	Stereo, Mono (Left), Mono (Right), Mono (Left+Right)	
ANALOG INPUT MODULE		
A/D Conversion	24bit Sigma-Delta Conversion – 32kHz sample rate	
Connectors:	XLR, female - Electronically balanced	
AD Clipping Point	+20.0dBu	
Operative Nominal Level:	From –12.0dBu to +12.0dBu (0.1dBu Step)	
Line Impedance	10 kΩ (Electronically balanced selectable) EMI–suppressed	
Distortion:	less than 0.02% TDH+NOISE (0.0dBu @ 1Khz)	
AD Dynamic Range:	108 dB RMS (110 dB A-weighted, 20Hz - 15kHz)	
Input Modes:	Stereo, Mono (Left), Mono (Right), Mono (Left+Right)	
AUDIO & RDS STREAMING MODULES		
Protocols	UDP/RTP, TCP/IP, Shoutcast and IceCast2	
Encoders	OGG-VORBIS	
Interface	Ethernet Port 10/100 Mb/s	
Bitrate	User select 24 kbps to 192 kbps	
Sample Rates	32Ksamples/sec	
RDS Streaming	Proprietary redundant protocol over UDP or RAW-TCP/IP	
Administration	User right management	



18 WEEE Directive – Informativa RAEE



In line with EU Directive 2012/19/UE for waste electrical and electronic equipment (WEEE), this electrical product must not be disposed of as unsorted municipal waste. Please dispose of this product by returning it to the point of sale or to your local municipal collection point for recycling.

In Übereinstimmung mit der Richtlinie 2012/19/UE des Europäischen Parlaments und des Rates über Elektro- und Elektronik-Altgeräte (WEEE) darf dieses Elektrogerät nicht im normalen Hausmüll oder dem Gelben Sack entsorgt werden. Wenn Sie dieses Produkt entsorgen möchten, bringen Sie es bitte zur Verkaufsstelle zurück oder zum Recycling-Sammelpunkt Ihrer Gemeinde.

Conformément à la Directive 2012/19/UE sur les déchets d'équipements électriques et électroniques (DEEE), ce produit électrique ne doit en aucun cas être mis au rebut sous forme de déchet municipal non trié. Veuillez vous débarrasser de ce produit en le renvoyant à son point de vente ou au point de ramassage local dans votre municipalité, à des fins de recyclage.

In navolging van richtlijn 2012/19/UE van het Europees Parlement en de Raad betreffende afgedankte elektrische en elektronische apparatuur (AEEA) mag dit elektrische product niet als ongescheiden huisvuil worden weggedaan. Breng dit product terug naar de plaats van aankoop of naar het gemeentelijke afvalinzamelingspunt voor recycling.

In ottemperanza alla Direttiva UE 2012/19/UE sui rifiuti di apparecchiature elettriche ed elettroniche (RAEE), questo prodotto elettrico non deve essere smaltito come rifiuto municipale misto. Si prega di smaltire il prodotto riportandolo al punto vendita o al punto di raccolta municipale locale per un opportuno riciclaggio.

De conformidad con la Directiva 2012/19/UE de la UE sobre residuos de aparatos eléctricos y electrónicos (RAEE), este producto eléctrico no puede desecharse con el resto de residuos no clasificados. Deshágase de este producto devolviéndolo al punto de venta o a un punto de recogida municipal para su reciclaje.

I henhold til EU-direktiv 2012/19/UE om affald af elektrisk og elektronisk udstyr (WEEE) må dette udstyr ikke bortskaffes som usorteret husholdningsaffald. Bortskaf dette produkt ved at returnere det til salgsstedet eller til det lokale indsamlingssted, så det kan genbruges.

I linje med EU-direktiv 2012/19/UE om avfall som utgörs av eller innehåller elektriska eller elektroniska produkter (WEEE) får denna elektriska produkt inte bortskaffas som osorterat kommunalt avfall. Bortskaffa den i stället genom att lämna in den på försäljningsstället eller din lokala återvinningsstation.

EU:n sähkö- ja elektroniikkalaiteromudirektiivin (2012/19/UE) mukaisesti tätä elektroniikkalaitetta ei saa laittaa lajittelemattoman yhdyskuntajätteen sekaan. Hävitä laite palauttamalla se ostopaikkaan tai viemällä se elektroniikkaromun keräyspisteeseen.

De acordo com a Directiva Europeia 2012/19/UE sobre resíduos sólidos de equipamento eléctrico e electrónico (WEEE), este produto eléctrico não pode ser deitado fora juntamente com o lixo municipal indiferenciado. Por favor, no final da vida útil deste produto, devolva-o ao estabelecimento de aquisição, ou entregueo no local de recolha apropriado para reciclagem designado pelo seu município.

V souladu se smrnicí EU . 2012/19/UE o odpadních elektrických a elektronických zaYízeních (OEEZ) se tento elektrický výrobek nesmí likvidovat jako netYídný komunální odpad. PYi likvidaci tento výrobek vrať te prodejci nebo ho odevzdejte k recyklaci do komunálního sbrného zaYízení.

Vastavalt EL direktiivile 2012/19/UE, mis käsitleb elektri- ja elektroonikaseadmete jäätmeid (WEEE), ei või antud toodet visata majapidamisjäätmete hulka. Palun tagastage antud toode taaskasutamise eesmärgil müügipunkti või kohaliku piirkonna jäätmekogumise punkti.

V súlade so smernicou 2012/19/UE o odpade z elekrických a elektronických zariadení (OEEZ) sa toto elektrické zariadenie nesmie odstranovať ako netriedený komunálny odpad. Výrobok odstránte jeho vrátením v mieste nákupu alebo odovzdaním v miestnom zbernom zariadení na recyklovanie.





19 WARRANTY

The manufacturer offers a one year warranty ex works. Do not open the equipment. Any breaking of the seals will result in forfeiture of the same. The manufacturer is not liable for damages of any kind arising from, or in connection with, the use of the wrong product.





CE Dichiarazione di conformità

Il sottoscritto Giuseppe Vaccari

In qualità di legale rappresentante della ditta Axel Technology S.r.l.

con sede in: Via Caduti di Sabbiuno, 6/F – 40011 – Anzola Emilia (BO)

Partita IVA: IT01735031203

Dichiara

che il prodotto: Sistema di monitoring per reti FM. Tuner interno con bandscan configurabile. Misura realtime su RF, MPX, Audio e RDS con decodifica sequenza gruppi. Protocolli HTTP, SNMP, FTP e XML. Web server, audio streaming per monitor. Due LAN/USB e GPIO. Presa cuffia frontale ed alimentazione universale

Modello e/o codice: Wolf1MS

Data Fabbricazione: vedi etichetta sul prodotto Numero di serie: vedi etichetta sul prodotto

È stato costruito rispettando le seguenti direttive e norme:

- Direttiva 2014/35/UE nota come "Direttiva bassa tensione"
- Direttiva 2014/30/UE nota come "Direttiva compatibilità elettromagnetica"
- Direttiva 2011/65/CE nota come "RoHS"
- Direttiva delegata (UE) 2015/863 della commissione del 31 marzo 2015 recante modifica dell'allegato II della direttiva 2011/65/UE
- . Direttiva 2012/19/UE nota come "RAEE"
- Direttiva 2001/95/CE nota "Sicurezza generale dei prodotti"
- UNI EN ISO 7010:2021 Titolo: Segni grafici Colori e segnali di sicurezza Segnali di sicurezza registrati
- EN 62368-1:2018 relativa alla sicurezza elettrica per le apparecchiature informatiche e i prodotti audio/video
- IEC 62311:2019 Valutazione degli apparecchi elettronici ed elettrici in relazione alle restrizioni per l'esposizione umana ai campi elettromagnetici (0 Hz – 300 GHz)
- EN 55032:2015+A1:2020 Compatibilità elettromagnetica delle apparecchiature multimediali. Requisiti di emissione
- EN 55103-2:2010 Norme di famiglie di prodotto per apparecchi audio, video, audiovisivi e di comando di luci da intrattenimento per uso professionale - Parte 2: Immunità.
- EN 60065:2019 Apparecchi audio, video e apparecchi elettronici similari Requisiti di sicurezza.
- EN 61000-6-1:2016 EMC Immunità per ambienti residenziali, commerciali e industria leggera.
- EN 61000-6-3:2020 EMC Emissione per ambienti residenziali, commerciali e industria leggera.
- EN 60950-1:2014 Sicurezza degli apparati ITE (Information Technology Equipment)
- EN 55024:2017 Apparecchiature per la tecnologia dell'informazione Caratteristiche di immunità Limiti e metodi di misura.

Firma:

- EN IEC 63000:2018 Nuovo standard armonizzato per dimostrare la conformità RoHS •
- EN 55032:2015+A11:2020 Compatibilità elettromagnetica delle apparecchiature multimediali - Requisiti di emissione
- EN 55035:2017 Compatibilità elettromagnetica delle apparecchiature multimediali Requisiti di immunità

Ed è quindi conforme alle direttive e normative vigenti.

La presente dichiarazione di conformità è rilasciata sotto la responsabilità esclusiva del fabbricante.

Data: 15/6/2023

feer been

Luogo: ANZOLA DELL'EMILIA (BO) - ITALIA



CE Declaration of Conformity

The undersigned Giuseppe Vaccari

As legal representative of the company Axel Technology Srl

based in: Via Caduti di Sabbiuno, 6/F – 40011 – Anzola Emilia (BO)

VAT number: IT01735031203

declares

that the product: Monitoring system for FM networks. Internal tuner with configurable bandscan. Realtime measurement on RF, MPX, Audio and RDS with group sequence decoding. HTTP, SNMP, FTP and XML protocols. Web server, audio streaming for monitors. Two LAN/USB and GPIO. Front headphone socket and universal power supply

Model and/or code: Wolf1MS

Date of manufacture: see label on the product Serial number: see label on the product

It was built in compliance with the following directives and standards:

- Directive 2014/35/EU known as the "Low Voltage Directive"
- Directive 2014/30/EU known as the "Electromagnetic Compatibility Directive"
- Directive 2011/65/EC known as "RoHS"
- Commission Delegated Directive (EU) 2015/863 of 31 March 2015 amending Annex II of Directive 2011/65/EU
- Directive 2012/19/EU known as "WEEE"
- Directive 2001/95/EC known as "General product safety"
- UNI EN ISO 7010:2021 Title: Graphic signs Colors and safety signs Registered safety signs
- EN 62368-1:2018 relating to electrical safety for computer equipment and audio/video products
- IEC 62311:2019 Evaluation of electronic and electrical equipment with regard to restrictions on human exposure to electromagnetic fields (0 Hz - 300 GHz)
- EN 55032:2015+A1:2020 Electromagnetic compatibility of multimedia equipment. Issue requirements
- EN 55103-2:2010 Product family standard for audio, video, audio-visual and entertainment lighting control apparatus for professional use - Part 2: Immunity.
- EN 60065:2019 Audio, video and similar electronic equipment Safety requirements.
- EN 61000-6-1:2016 EMC Immunity for residential, commercial and light industry environments.
- EN 61000-6-3:2020 EMC Emission for residential, commercial and light industry environments.
- EN 60950-1:2014 Safety of ITE (Information Technology Equipment)
- EN 55024:2017 Information technology equipment Immunity characteristics Limits and methods of measurement.
- EN IEC 63000:2018 New harmonized standard to demonstrate RoHS compliance
- EN 55032:2015+A11:2020 Electromagnetic compatibility of multimedia equipment Emission requirements
- EN 55035:2017 Electromagnetic compatibility of multimedia equipment Immunity requirements

And it is therefore compliant with current directives and regulations.

This declaration of conformity is issued under the sole responsibility of the manufacturer.

Date: 15/6/2023	Signature:	Quer beni
Place: ANZOLA DELL'EMILIA (BO) - ITALY		



CE Dichiarazione di conformità

Il sottoscritto Giuseppe Vaccari

In qualità di legale rappresentante della ditta Axel Technology S.r.l.

con sede in: Via Caduti di Sabbiuno, 6/F – 40011 – Anzola Emilia (BO)

Partita IVA: IT01735031203

Dichiara

che il prodotto: Sistema di monitoring per reti FM duale. Doppio tuner interno con bandscan configurabile. Misura realtime su RF,MPX,Audio,RDS con decodifica sequenza gruppi. Supporta HTTP,SNMP,FTP,XML. Web server, doppio audio streaming per monitor. Due LAN/USB.GPIO. Presa cuffia frontale. Alimentazione universale

Modello e/o codice: Wolf2MS

Data Fabbricazione: vedi etichetta sul prodotto Numero di serie: vedi etichetta sul prodotto

È stato costruito rispettando le seguenti direttive e norme:

- Direttiva 2014/35/UE nota come "Direttiva bassa tensione"
- Direttiva 2014/30/UE nota come "Direttiva compatibilità elettromagnetica"
- Direttiva 2011/65/CE nota come "RoHS"
- Direttiva delegata (UE) 2015/863 della commissione del 31 marzo 2015 recante modifica dell'allegato II della direttiva 2011/65/UE
- . Direttiva 2012/19/UE nota come "RAEE"
- Direttiva 2001/95/CE nota "Sicurezza generale dei prodotti"
- UNI EN ISO 7010:2021 Titolo: Segni grafici Colori e segnali di sicurezza Segnali di sicurezza registrati
- EN 62368-1:2018 relativa alla sicurezza elettrica per le apparecchiature informatiche e i prodotti audio/video
- IEC 62311:2019 Valutazione degli apparecchi elettronici ed elettrici in relazione alle restrizioni per l'esposizione umana ai campi elettromagnetici (0 Hz – 300 GHz)
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- EN 60065:2019 Apparecchi audio, video e apparecchi elettronici similari Requisiti di sicurezza.
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- EN 61000-6-3:2020 EMC Emissione per ambienti residenziali, commerciali e industria leggera.
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- EN 55024:2017 Apparecchiature per la tecnologia dell'informazione Caratteristiche di immunità Limiti e metodi di misura.

Firma:

- EN IEC 63000:2018 Nuovo standard armonizzato per dimostrare la conformità RoHS •
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- EN 55035:2017 Compatibilità elettromagnetica delle apparecchiature multimediali Requisiti di immunità

Ed è quindi conforme alle direttive e normative vigenti.

La presente dichiarazione di conformità è rilasciata sotto la responsabilità esclusiva del fabbricante.

Data: 15/6/2023

feer been

Luogo: ANZOLA DELL'EMILIA (BO) - ITALIA



CE Declaration of Conformity

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VAT number: IT01735031203

declares

that the product: Monitoring system for dual FM networks. Internal double tuner with configurable bandscan. Realtime measurement on RF,MPX,Audio,RDS with group sequence decoding. It supports HTTP,SNMP,FTP,XML. Web server, dual audio streaming per monitor. Two LAN/USB.GPIO. Front headphone socket. Universal power supply

Model and/or code: Wolf2MS

Date of manufacture: see label on the product Serial number: see label on the product

It was built in compliance with the following directives and standards:

- Directive 2014/35/EU known as the "Low Voltage Directive"
- Directive 2014/30/EU known as the "Electromagnetic Compatibility Directive"
- Directive 2011/65/EC known as "RoHS"
- Commission Delegated Directive (EU) 2015/863 of 31 March 2015 amending Annex II of Directive 2011/65/EU
- Directive 2012/19/EU known as "WEEE"
- Directive 2001/95/EC known as "General product safety"
- UNI EN ISO 7010:2021 Title: Graphic signs Colors and safety signs Registered safety signs
- EN 62368-1:2018 relating to electrical safety for computer equipment and audio/video products
- IEC 62311:2019 Evaluation of electronic and electrical equipment with regard to restrictions on human exposure to electromagnetic fields (0 Hz - 300 GHz)
- EN 55032:2015+A1:2020 Electromagnetic compatibility of multimedia equipment. Issue requirements
- EN 55103-2:2010 Product family standard for audio, video, audio-visual and entertainment lighting control apparatus for professional use - Part 2: Immunity.
- EN 60065:2019 Audio, video and similar electronic equipment Safety requirements.
- EN 61000-6-1:2016 EMC Immunity for residential, commercial and light industry environments.
- EN 61000-6-3:2020 EMC Emission for residential, commercial and light industry environments.
- EN 60950-1:2014 Safety of ITE (Information Technology Equipment)
- EN 55024:2017 Information technology equipment Immunity characteristics Limits and methods of measurement.
- EN IEC 63000:2018 New harmonized standard to demonstrate RoHS compliance
- EN 55032:2015+A11:2020 Electromagnetic compatibility of multimedia equipment Emission requirements
- EN 55035:2017 Electromagnetic compatibility of multimedia equipment Immunity requirements

And it is therefore compliant with current directives and regulations.

This declaration of conformity is issued under the sole responsibility of the manufacturer.

Date: 15/6/2023	Signature:	Puer been
Place: ANZOLA DELL'EMILIA (BO) - ITALY		