

# LYNX

## BROADCAST DIGITAL FM TUNER & MONITORING

(Rev. 1.2 ENG)



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# SAFETY WARNINGS / ISTRUZIONI PER LA SICUREZZA

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**SAFETY WARNINGS**

**CONSIGNES DE SÉCURITÉ IMPORTANTES**

**ISTRUZIONI IMPORTANTI PER LA SICUREZZA**

**WICHTIGE SICHERHEITSHINWEISE**

**INSTRUCCIONES IMPORTANTES DE SEGURIDAD**

(Rel. 1.6)

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## PREFACE

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



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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 authorized agents. The manufacturer cannot accept any liability whatsoever for any loss or damage caused by service, maintenance or repair by unauthorized personnel

## 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 Your 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 or 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 the 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.

## 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 spécifiée 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 éclaboussures.** 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 remplacer le fusible il faut débrancher l'appareil de la prise électrique. Pendant son usage, l'appareil doit être branché à la prise de terre.**



**Utiliser le fusible principal AC avec la 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, débrancher le cordon d'alimentation. Parce que la prise du réseau de alimentation est utilisée comme dispositif de déconnexion, ce dispositif doit demeurer aisément accessible.**

## 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 gocciolamenti 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.

## 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 irgendeine Weise beschädigt wurde, z.B. wenn das Netzkabel oder der Netzstecker beschädigt wurden, wenn Flüssigkeiten in das Gerät verschüttet wurden oder Fremdkörper hineinfließen, 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.

## 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 esponga** 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 alimentación de voltaje o de cambiar el fusible, desconecte el cable de alimentación. Para reducir el riesgo de descargas eléctricas, 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 línea de alimentación 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 conexión a red sirve por la desconexión de la unidad, la clavija debe ser ubicada en proximidad de la unidad.**

## UNPACKING AND INSPECTION

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 the 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 unit (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 is 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.

## FIRST INSTALLATION RECOMMENDATIONS

### POWER SUPPLY CABLE

A power supply cable of approx. 2 m lengths are 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 existing plug with the new one:

<b>Earth</b>	Green, or green and yellow
<b>Neutral (N)</b>	Blue
<b>Live (L)</b>	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.

### PROTECTION AGAINST LIGHTNING



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 a 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.

## 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.

## DEVICE INSTALLATION

### Best setup location

The device 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 of the indicators on the device and ensures 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.

Power Supply	Please make sure that the device is compatible with 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 Screen will then turn on.
Network configuration	For delivery, the device is configured with default settings for the first connection via the IP interface.
Connect to network	Connect a network patch cable to the one of <b>two Ethernet LAN</b> “10/100-Base-T” connector on the rear side of the device and your existing IP
Web interface	The device can be fully monitored with an internet browser via the integrated web interface. Use a computer that is connected to the same IP network that the 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: <b>LAN-1: 192.168.0.185</b> <b>LAN-2: 10.42.43.185</b>
Ready!	These first steps are only intended for a quick first start and do not cover all device functions. Please read carefully the entire manual to be able to use all functions of the device.

## DEVICE GENERAL DESCRIPTION

**Lynx** is an evolved Broadcast **Digital FM Tuner**, designed for receiving, monitoring, visualize and listen the **FM** radio signals. The built-in **web interface** allows multiple users to visualize all the parameters and details of the incoming signal. The tuned frequency's audio is available on the analogue balanced output (**XLR**), on the digital output **AES/EBU** (XLR), on the headphone output and via streaming. At the same time. The quality and accuracy of the built-in tuner allow a very strict analysis of the tuned frequency, the modulation and the **RDS** data decoding.

### FRONT PANEL

#### LYNX



- Mechanical Steel, 1U - 19 " rack standard.
- LCD Display 80x18.
- Jog Shuttle.
- 6 Led Alarms.
- Headphone Jack 6.3mm Female Connector.

The Lynx's display always shows the tuned frequency and, cyclically, all the following parameters:

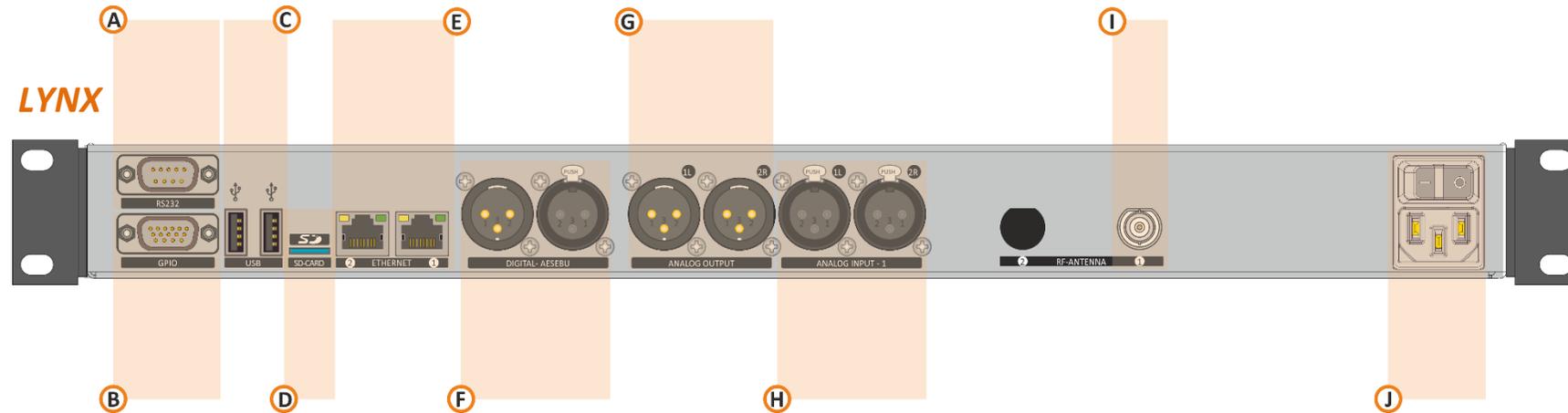
**Receiving** (RF Level incoming, Multipath, Carrier Offset).

**Deviation** (MPX, Audio, Pilot and RDS).

**Decoding RDS** (PS, PI, BLER, TA, TP, MS, DI, PTY / PTYN, AF Presence, RT / RT+, TMC).

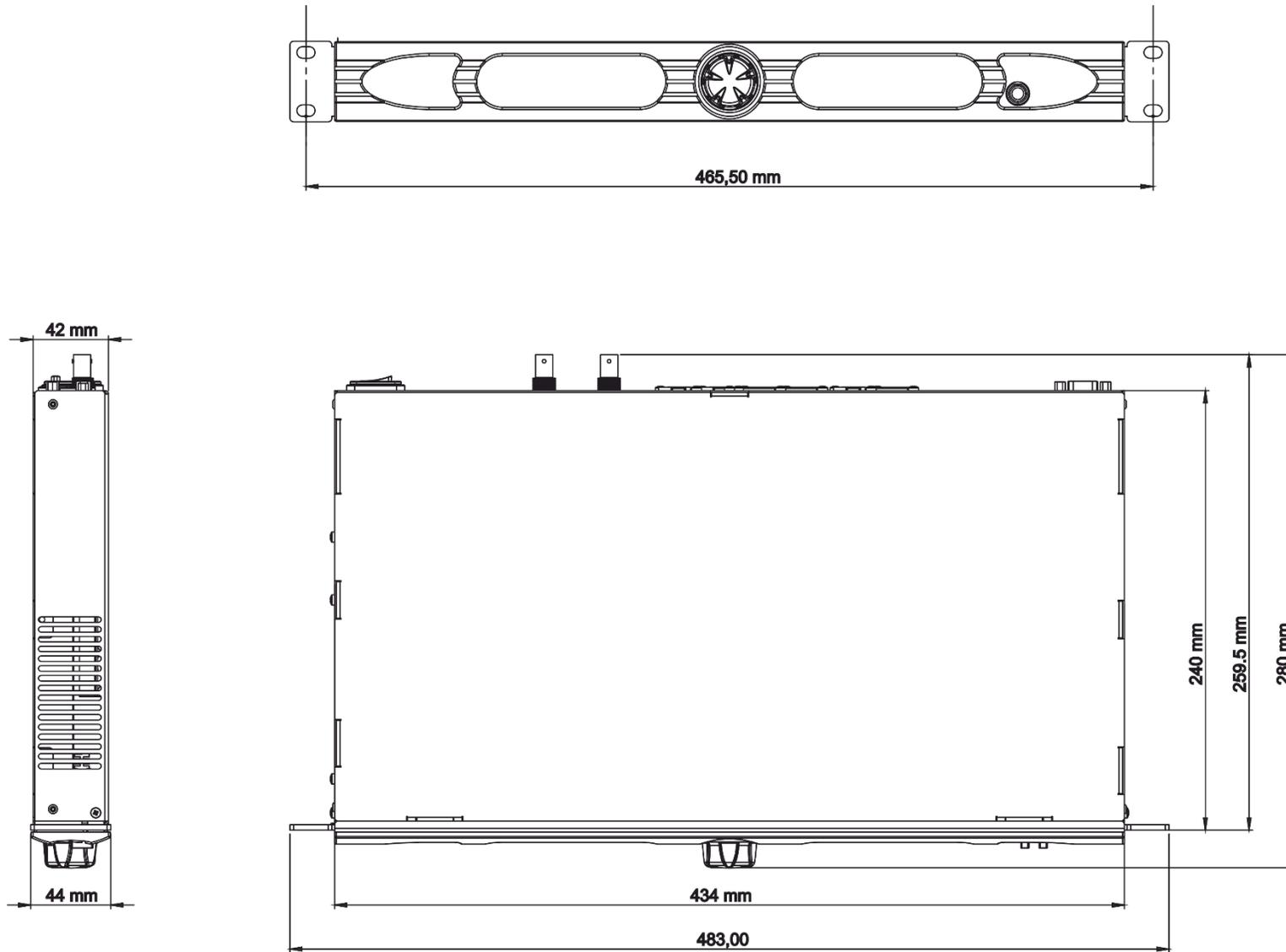
The display allows you also to finetune and adjust all the setting of Lynx as (IP Ethernet port, Digital and Analog level output, Time and threshold alarm, Headphone level)

## REAR PANEL



- A.** 1 serial port RS232 on DB9.
- B.** GPIO Port with 4 optocouplers and 4 relays on DB15 PIN Female connector.
- C.** 2 USB port - Type A.
- D.** SD Card Slot.
- E.** 2 Ethernet port over Rj45 connectors.
- F.** XLR Digital stereo input/output.
- G.** 2 XLR male analogue balanced stereo connector output.
- H.** 2 XLR female analogue balanced connector input.
- I.** BNC unbalanced 50Ω RF antenna input.
- J.** Universal Power Supply 90Vac - 240Vac 50/60Hz.

## LYNX DIMENSIONS



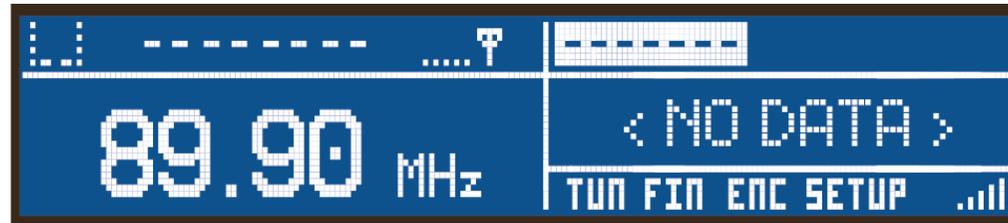
# 1. MENU

After important setting changes, we suggest you always to reboot the device (For example: after a device upgrade, or changes on IP address).

## DISPLAY AND LED PANEL



When the signal is lost, no channel at this frequency or no antenna connected to the device the LCD display will appear like this figure in below:



This section explains the front panel main display features. Divided by the orange zone are indicated below:

At this part of LCD display shows the frequency connected.  
The frequency set (in MHz)



**AUDIO LEVEL:** Here it shows up the peak of audio level and LED meter of the left and right channels.



**RDS RADIO DATA SYSTEM:** In this part, it displays the PS (Program Services Name) of the channel tuned.



**RF LEVEL:** Here is the antenna RF level and status.



**SERVICE INDICATOR:** This section shows up all the active services (RF DATA, TUNED, MPX DATA, STEREO, RDS DATA, TP, TA, M/S).

The information will scroll across the LCD display every 25 seconds.



**INFO DISPLAY:** here shows up all the signal information decoded like (Carrier, MPath, MPX, Audio, Pilot, RDS, PI, BLER, RT, DI, TMC, RT+, PTY, PTYN, RT, AF, RF).



**MENU:** From here can navigate and set all the device functions like (**TUNER**, **FINE**, **ENCODER**, **SETUP**, **HEADPHONE**).



**TUN:** by rotating the jog shuttle go to **TUN** (TUNER). When it starts blinking press the jog shuttle and rotate it again to change the **FM** frequency parameter. The **FM** frequency set (in MHz).

The **TUNER** scans the FM frequency range from **87.50 MHz** to **108.00 MHz**.

The step of the jog shuttle with **TUN** is **0.05 MHz**.

**FIN:** the difference here is the jog shuttle steps of frequency adjustment. The step of the jog shuttle with **FIN** is **0.01 MHz**.

**ENC:** from **Encoder** setting, you can change the parameters audio streaming via **IceCast** server in **VORBIS** format.

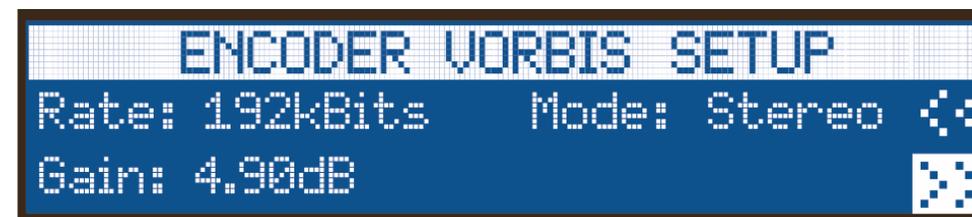


Here can change the audio BitRate, Mode and Gain.

**RATE:** in this setup, it is possible to decide the audio encoding bitRate from **20 kBits** to **192 kBits**.

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

**Gain:** is the gain that is applied to the Audio Source. The admitted values are between **-20.0 dB** and **+20.0 dB** in **0.1dB** steps.



**SETUP:** from here it can browse different pages of the setup function like LAN1, LAN2, ANALOGIC OUTPUT, DIGITAL OUTPUT, DEEMPHASIS, RF ALARM, AUDIO LEFT ALARM, AUDIO RIGHT ALARM, RDS ALARM, FREQUENCY CHANGE LOCK, FACTORY RESET, TARGET INFORMATIONS.

**LAN1:** 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.

**LAN2:** by pressing the NEXT PAGE  it is possible to change the page and go to **LAN2** setting and other pages or confirm to **REBOOT** the device to complete IP change correctly and save the new configuration.

**NOTE:**

In order to change correctly the **IP ADDRESS**, it is necessary to **REBOOT** the device and wait some minutes, the screen will come back to the main page.



**ANALOGIC OUTPUT SETUP:**

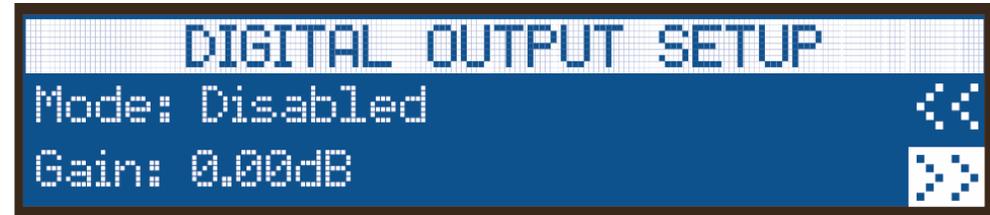
**Mode** : Disable, Enable.

**Gain**: between -20.0dB up to +20.0dB in 0.1step/dB.

**DIGITAL OUTPUT SETUP:**

**Mode** : Disable, Enable.

**Gain**: between -20.0dB up to +20.0dB in 0.1step/dB.



**DEEMPHASIS SETUP:** The Deemphasis value can be set between **50uS** or **75uS** accordingly to the country/region where the device has been installed.

**DeEmph**: 50uS - 75uS



**AF ALARM SETUP:** The **RF Signal** level under control < (Silence Thr) for a duration > Silence Time = the error is generated.(see the GPIO part)

**Thr**: range from **00.00dBuV** to **160.00dBuV**, with 1.00dBuV per step.

**Time**: range from **1sec** to **600sec**. with 1sec per step.



**AUDIO LEFT ALARM SETUP:** The **Audio Left Signal** level under control < (Silence Thr) for a duration > Silence Time = the error is generated.(see the GPIO part)

**Thr**: range from **20.00dBr** to **-50.00dBr**, with 1.00dBr per step.

**Time**: range from **1sec** to **600sec**. with 1sec per step.



**AUDIO RIGHT ALARM SETUP:** The **Audio RIGHT Signal level** under control < (Silence Thr) for a duration > Silence Time = the error is generated. (see the GPIO part)

**Thr:** range from **20.00dBr** to **-50.00dBr**, with 1.00dBr per step.

**Time:** range from **1sec** to **600sec**. with 1sec per step.



**RDS ALARM SETUP:** 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).

**Bler :** range from **0%** to **100%**, with 1.00dBr per step.

**Time:** range from **1sec** to **100sec**. with 1sec per step.



**FREQUENCY CHANGE LOCK SETUP:** here can lock the frequency, that is mean the web interface cannot change the tuner frequency from the webpage.

**Status:** Locked, Unlocked.



**FACTORY RESET:** A factory reset restores your device to the state it was when you took it out of its box, requiring you to go through the setup process again. All settings you have customized in setup will be erased we you confirm it from **[Reset Data]**.



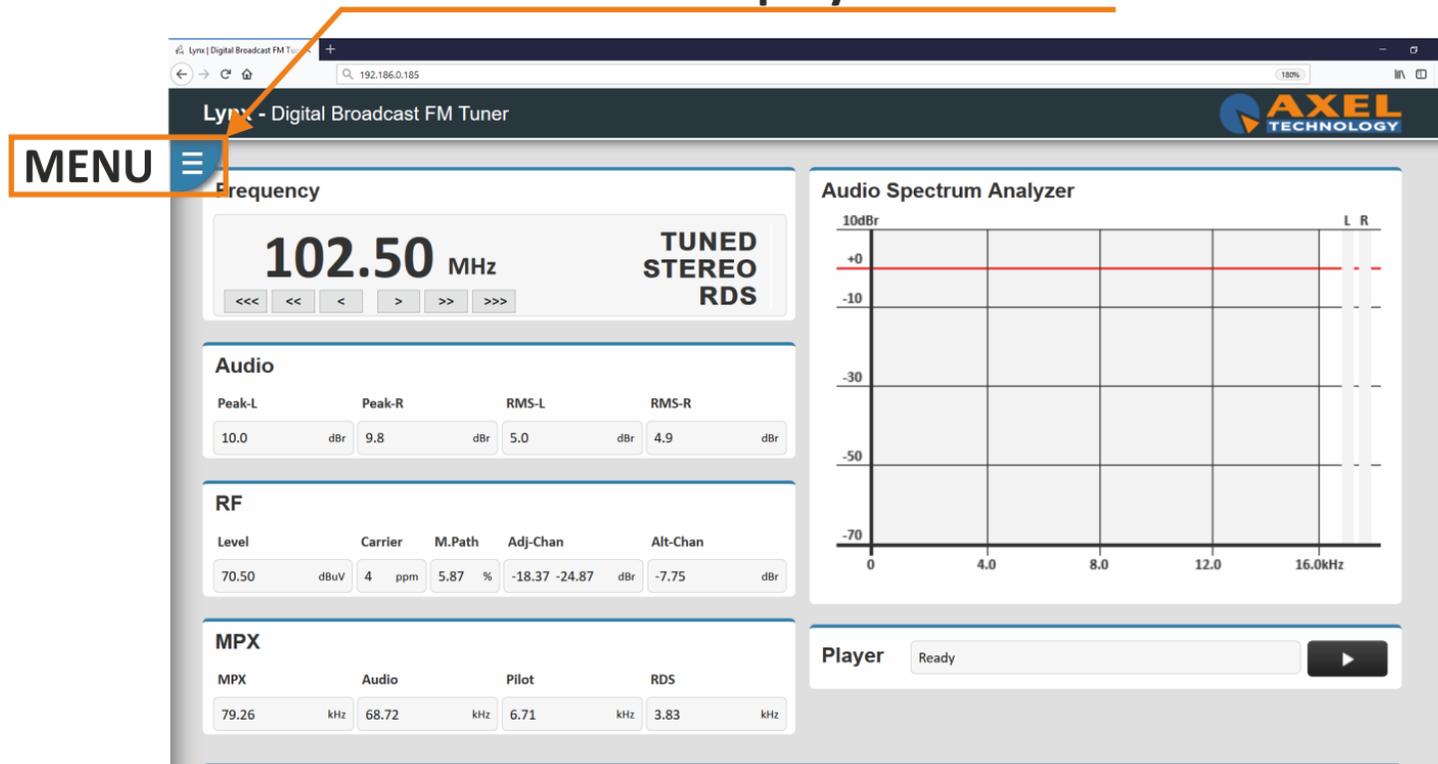
**TARGET INFORMATIONS:** In this last page of the MENU, you can find the device **Model** and the **Firmware Release**.



## 2. WEB INTERFACE

By connecting the device to **LAN** network with an ETHERNET CABLE, the device could be monitored by a web page on your browser. In the address field of your browser, type the device IP address **EX: 192.168.0.185**. You will see the Home Page:

**From here can display the MENU**

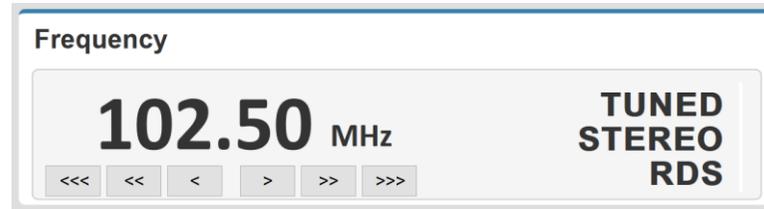


The device can be fully monitored with an internet browser via the integrated web interface. Use a computer that is connected to the same IP network that the device is connected to. Start an internet browser, Firefox/Mozilla >V2.0 Google Chrome both with JavaScript activated and enter the configured IP address in the address bar of the browser. please enter the IP address in the address bar of the browser: **192.168.XXX.XXX**. If the IP address has not been changed, please enter the default address in the address bar of the browser: [192.168.0.185](http://192.168.0.185).

## 2.1 HOME PAGE

The home page presents the most important information like the frequency, Audio level, Rf signal, MPX, and RDS Data. In the bottom that can find the General information like IP Address, GPO, Release of the WEB and Firmware.

### 2.1.1 FREQUENCY:



here appear the FM frequency that tuned at that moment. By clicking on the arrows **>** **>>** **>>>** you can change the frequency from here if that the status is unblocked from the **MENU** of [FRONT PANEL LCD > SETUP > FREQUENCY CHANGE LOCK SETUP](#).

**One arrow > or <** : change the value **00.01 MHz** per click.

**Two arrows >> or <<** : change the value **00.05 MHz** per click.

**Three arrows >>> or <<<** : change the value **01.00 MHz** per click.

### 2.1.2 AUDIO:



**Peak Left/Right:** Audio Peak Level in dBr.

**RMS Left/Right:** Audio RMS Level in dBr.

It is possible to set the level alarm in **MENU** of [FRONT PANEL LCD > SETUP > ....](#)





### 2.1.5 RDS DATA:

RDS Data						
PI	PS	BLER	CT	TP	TA	
5218	RTL102.5	000 %	OK	ON	OFF	
DI	PTY	M/S		TMC	RT+	
STEREO STATIC	VARIED	MUSIC		OK	OK	
RT	AF	EON		IH		
OK	OK	---		---		

This box displays all the information regarding the decoding of the data carrier **RDS**.

**PI:** Program Identification

**PS:** Program Service name

**BLER:** Block Error

**CT:** Clock Time and date

**TP:** Traffic Program flag

**TA:** Traffic Announcement flag

**DI:** Decoder Identification

**PTY:** Program Type

**M/S:** Music Speech switch

**TMC:** Traffic Message Channel

**RT+:** Radio Text Plus

**RT:** Radio Text

**AF:** Alternative Frequencies list

**EON:** Enhanced Other Networks information

**HI:** In-House application

It is possible to set the level alarm in **MENU** of [FRONT PANEL LCD > SETUP > RDS ALARM SETUP](#).



### 2.1.6 GENERAL INFORMATION:

General Information				
IP-Eth1	IP-Eth2	Release Firmware	Release WebApp	GPO
010.000.127.088	Disabled	1.0.0	2.4.9	0 1 2 3

In the lower side some general information is reported, as the IP Ethernet Address 1 and IP Ethernet Address 2, GPin, and the Release Firmware and web page.

**IP-Eth1:** visualised the IP address of the first ethernet port (RJ45).

It is possible to change it from **MENU** of [FRONT PANEL LCD > SETUP > LAN1](#).

**IP-Eth2:** visualised the IP address of the first ethernet port (RJ45).

It is possible to change it from **MENU** of [FRONT PANEL LCD > SETUP > LAN2](#).

#### Release Firmware, Release WebApp:

##### UPGRADE PROCEDURE

In order to upgrade a device, some software equipment is needed before the upgrade:

1. **FTP client** installed in the pc workstation.
2. OS should be **Windows**.
3. Get the file "[Update.taz.gz](#)" from Axel Technology – please contact the support dept.
4. Connect the FTP client to the device with:-
  - username:** [upgrader](#)
  - password:** [wolf2ms](#)
5. When the FTP client is connected, the destination folder appears automatically.
6. Copy the file in this folder.
7. Now a reboot is necessary and can be performed.
  - a. Manually, by REBOOT the unit from **MENU** of [FRONT PANEL LCD > PRESS AND HPLD DOWN JOG SHUTTLE 3MIN,> REBOOT > OK](#) to confirm reboot the device.



**GPO:**

The SubD **15p HD GPO** connector on the back of the device provides 4x General Purpose Inputs and 4x binary **General-Purpose outputs**. The inputs are on polarized Optocoupler 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 polarized 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 photocoupler is **20 mA**. The voltage supplied between **pin 8** and **pin 15** is **+5 Vdc** not stabilized.

**GPO-0: RF ALARM**

To set the level alarm go to **MENU** of *FRONT PANEL LCD > SETUP > RF ALARM SETUP*.

**GPO-1: AUDIO LEFT ALARM, AUDIO RIGHT ALARM**

To set the level alarm go to **MENU** of *FRONT PANEL LCD > SETUP > AUDIO LEFT ALARM SETUP*.  
And *FRONT PANEL LCD > SETUP > AUDIO RIGHT ALARM SETUP*.

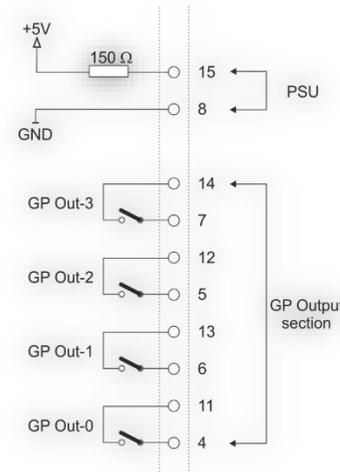
**GPO-2: RDS ALARM**

To set the level alarm go to **MENU** of *FRONT PANEL LCD > SETUP > RDS ALARM SETUP*.

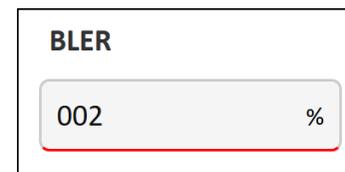
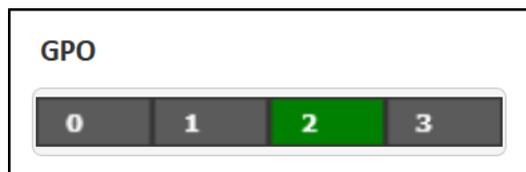
**GPO-3: -----**

All errors are indicated also in the graphic web interface

In **GPO** prat in the **HOME** page in **GREEN** colour and the value with under **RED** line:



Relay maximum absolute ratings  
Switching voltage = 220 Vac  
Switching current = 2 A



## 2.2 MAIN

This page presents all the information coming from the **LYNX**. Assuming that the has been placed in "Static" page displays information related to the frequency set in the Setup decoded by the tuner.

Here we go to explain some specific details that not already in **HOME** page.

### 2.2.1 CT:

CT		
DATE	TIME	LocalTime Offset
09/11/18	16:29	+01.00

**CT:** CLOCK TIME check the presence or absence of the service inside the group **4A**.

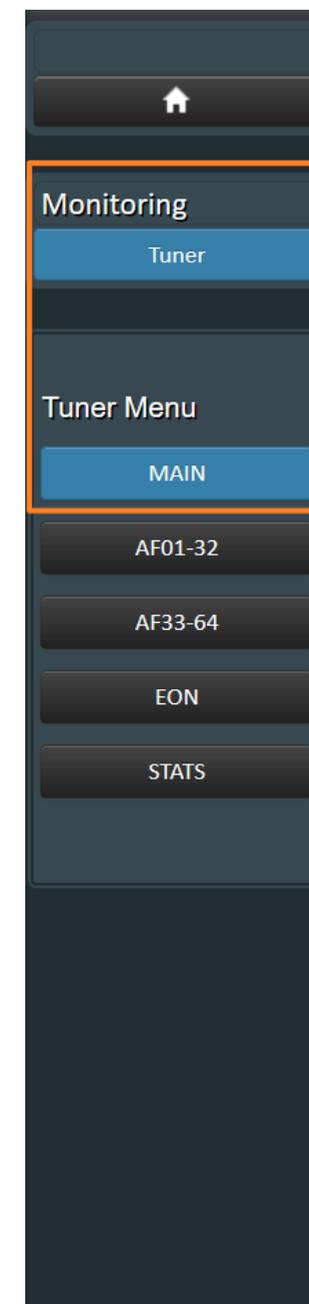
### 2.2.2 AUDIO:

AUDIO						
Imbalance	Mono	Ext. Mpx Power	Peak-L	Peak-R	RMS-L	RMS-R
0.1	7.1	7.3	10.8	11.0	6.9	7.3
dB	dBr	dB	dBr	dBr	dBr	dBr

**Imbalance:** the measurement value of the imbalance between channel Left and Channel Right threshold.

**Mono:** the measurement value of threshold for the Audio Mono inside MPX Signal.

**Ext. MPX power:** The **MPX power** is estimated using the available separate components info's 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.



### 2.2.3 RDS DATA:

DATA	A/B
RTL 102.5 - lunedì 12 novembre 2018	1
EMELI SANDE' con HEAVEN	0

This box displays all the information regarding the decoding of the data carrier **RDS**.

Here displays the double buffer. Displays the buffer is that of the **flag A** and **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.

**A/B Flag:** The A/B flag is an important part of proper radiotext transmission. This flag is used to signal the receiver when a new text message is transmitted. When the receiver detects a change in the A/B flag state, the radiotext receiver buffer will be cleared, preventing the possibility of a mixture of old and new text messages being displayed on the receiver.

SLC0-paging/ECC	SLC1-TMC	SLC2-paging	SLC3-Lang.Codes	SLC4	SLC5	SLC6-Broad.use	SLC7-EWS Ch.ID
0E5	---	---	016	---	---	DAB	---

**SLC:** *Slow Labelling Codes* used to support various features. These are specified to be carried in the type **1A** group. In this section, you can monitor **SLC** values.

RDS Dynamic Data		
AID	Group	Data
CD46	8A	03415D2E20
4BD7	12A	0C00100000

**RDS Dynamic Data:**



## 2.3 ALTERNATIVE FREQUENCY

AF 1-8								AF 9-16							
B-(09)	B-(11)	B-(13)	B-(13)	B-(09)	B-(13)	B-(10)	B-(13)	B-(13)	B-(13)	B-(13)	B-(13)	B-(12)	B-(12)	B-(13)	B-(10)
89.1	91.5	92.0	98.7	100.5	100.6	100.9	101.2	101.6	102.2	102.4	102.5	102.6	104.7	106.2	106.9
91.5	89.1	92.2	92.0	91.8	88.6	89.1	90.7	91.8	93.3	90.0	90.0	88.0	89.1	91.6	98.7
98.1	91.3	96.1	92.2	92.0	92.0	91.5	96.7	92.0	94.6	96.9	96.7	91.4	98.1	93.2	100.8
98.7	98.1	96.9	98.1	92.2	94.3	101.2	98.7	92.2	96.1	98.7	96.9	92.0	98.7	94.5	100.9
100.9	100.9	98.7	99.7	100.6	94.6	102.0	99.5	98.7	98.1	100.9	99.5	94.3	99.7	96.7	101.2
102.3	101.2	100.5	100.5	101.6	99.3	102.3	100.8	100.5	100.6	101.2	100.9	98.1	101.6	96.9	102.0
102.5	102.0	100.6	101.6	102.4	100.5	102.5	101.0	102.0	101.4	102.3	101.0	102.2	102.0	99.5	102.1
104.5	102.3	101.6	102.0	102.5	101.9	102.8	102.1	102.3	102.4	102.5	101.2	102.4	102.3	101.0	102.3
104.7	102.5	101.9	102.3	102.6	102.2	105.3	102.4	102.4	102.5	102.6	102.0	102.5	102.5	102.4	102.4
**	102.8	102.2	102.4	**	102.4	106.9	102.5	102.5	102.6	103.1	102.1	102.7	102.7	102.5	102.5
**	104.5	102.4	102.5	**	102.5	**	103.1	103.8	102.8	103.8	102.4	102.8	104.5	102.7	**
**	**	102.5	104.0	**	102.6	**	104.3	104.0	106.2	104.3	104.3	103.0	95.2	104.0	**
**	**	102.6	104.7	**	102.8	**	106.2	104.7	107.1	106.9	106.2	**	**	104.3	**
**	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**
**	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**

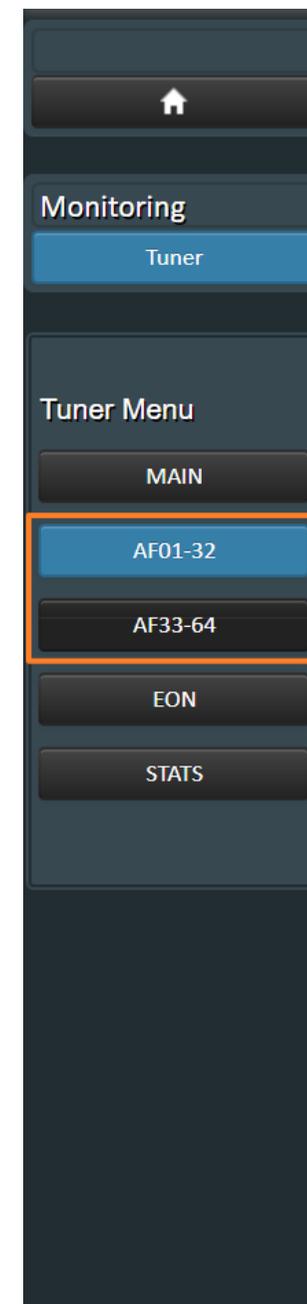
**AF 01-32, AF 33-64:** Before any explanation about how does this device decode and show **AF frequency**, some information on how does **AF Lists** are encoded by **RDS Encoders**. There are two ways to transmit lists of alternative frequencies: **Method A** and **Method B**.

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). Method B is recommended when splitting areas or when different programs are broadcast.

**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.).

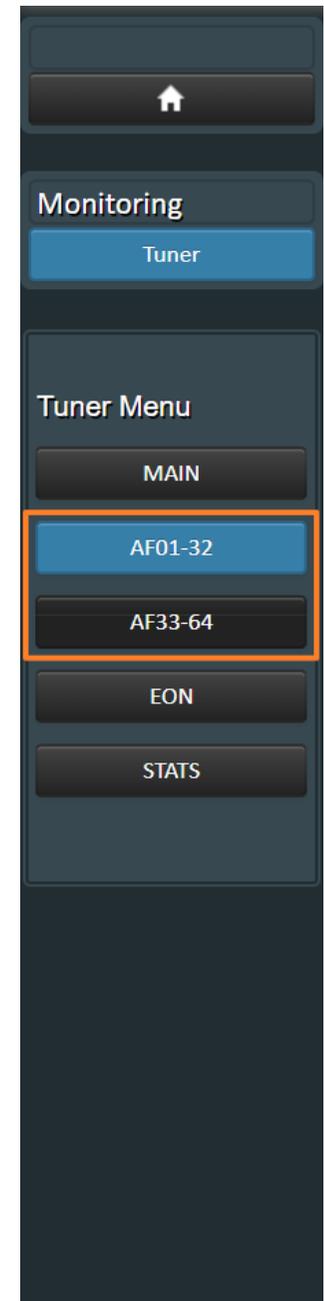
In the latter instance, the mobile receiver should check whether the **AF** is broadcasting the same content before selecting another frequency.

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 the device. The maximum number of **AF** are up to **64** with EON service.



## 2.4 EON

**EON 1**

PI	PS	PIN	DATE	HOUR	MINUTE		
----	-----	--	--	--	--		
TP	TA	LA	EG	ILS	LSN	AF	PTY
----	----	----	----	----	----	----	-----

**EON 6**

PI	PS	PIN	DATE	HOUR	MINUTE		
----	-----	--	--	--	--		
TP	TA	LA	EG	ILS	LSN	AF	PTY
----	----	----	----	----	----	----	-----

**EON 1-10:** The **EON** is sorted by **PI** increasing. Also, in this case the sorting and refreshing takes place dynamically.

## 2.5 STATS

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 data** recorded.

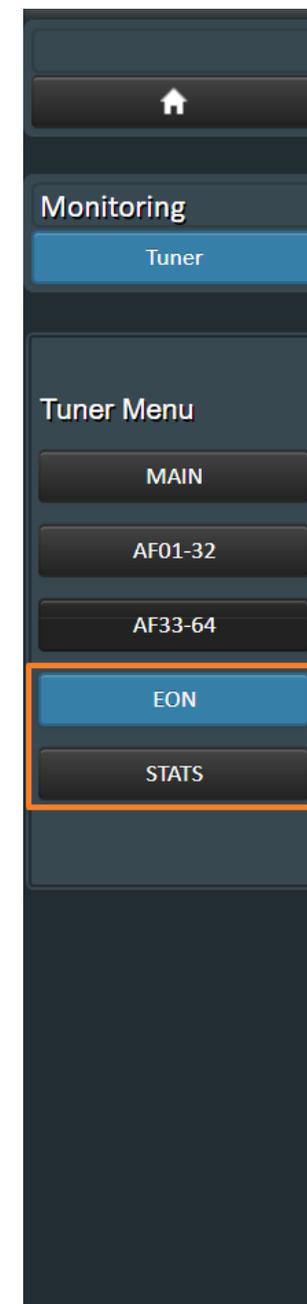
This part of **Stats page** shows the number of packets that have passed into **RDS stream**, the number and the percentage. This part of **Stats page** is viewing only.

**Group Stats**

Group	Number	%	Group	Number	%
0A	4397	52.1	0B	0	0.0
1A	267	3.2	1B	0	0.0
2A	1466	17.4	2B	0	0.0
3A	307	3.6	3B	0	0.0
4A	12	0.1	4B	0	0.0
5A	0	0.0	5B	0	0.0
6A	0	0.0	6B	0	0.0
7A	0	0.0	7B	0	0.0
8A	1600	19.0	8B	0	0.0
9A	0	0.0	9B	0	0.0
10A	0	0.0	10B	0	0.0
11A	0	0.0	11B	0	0.0
12A	393	4.7	12B	0	0.0
13A	0	0.0	13B	0	0.0
14A	0	0.0	14B	0	0.0
15A	0	0.0	15B	0	0.0

Groups Received	8442	Groups / Min	686	Group Errors / Min	0
-----------------	------	--------------	-----	--------------------	---



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



These 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 data. By using Restart and Stop it's possible to stop and reload data decoding. By pressing **Download** it is possible to **save** a **.TXT** file with Data downloaded.

### RDS Stream

Group Filter		Data Group			
Filtered	Total	Filtered	Total	Total	
<input checked="" type="checkbox"/> 0A	<input checked="" type="checkbox"/> 0B	8A	140	140	
<input checked="" type="checkbox"/> 1A	<input checked="" type="checkbox"/> 1B	0A	5218 8523 C883 8F42		
<input checked="" type="checkbox"/> 2A	<input checked="" type="checkbox"/> 2B	0A	5218 0528 5EBB 5254	RT	
<input checked="" type="checkbox"/> 3A	<input checked="" type="checkbox"/> 3B	0A	5218 0529 78BB 4C31	L1	
<input checked="" type="checkbox"/> 4A	<input checked="" type="checkbox"/> 4B	3A	5218 3530 4C80 CD46		
<input checked="" type="checkbox"/> 5A	<input checked="" type="checkbox"/> 5B	8A	5218 8523 C883 8F42		
<input checked="" type="checkbox"/> 6A	<input checked="" type="checkbox"/> 6B	0A	5218 052A 87BB 3032	02	
<input checked="" type="checkbox"/> 7A	<input checked="" type="checkbox"/> 7B	2A	5218 253D 7274 6C2E	rtl.	
<input checked="" type="checkbox"/> 8A	<input checked="" type="checkbox"/> 8B	0A	5218 052F 95BB 2E35	.5	
<input checked="" type="checkbox"/> 9A	<input checked="" type="checkbox"/> 9B	8A	5218 8523 4E95 7A00		
<input checked="" type="checkbox"/> 10A	<input checked="" type="checkbox"/> 10B	0A	5218 0528 96BB 5254	RT	
<input checked="" type="checkbox"/> 11A	<input checked="" type="checkbox"/> 11B	2A	5218 253E 6974 0D20	it	
<input checked="" type="checkbox"/> 12A	<input checked="" type="checkbox"/> 12B	0A	5218 0529 98BB 4C31	L1	
<input checked="" type="checkbox"/> 13A	<input checked="" type="checkbox"/> 13B	8A	5218 8523 4E95 7A00		
<input checked="" type="checkbox"/> 14A	<input checked="" type="checkbox"/> 14B	0A	5218 052A A5BB 3032	02	
<input checked="" type="checkbox"/> 15A	<input checked="" type="checkbox"/> 15B	2A	5218 253F 2020 2020		
		0A	5218 052F A8BB 2E35	.5	
		8A	5218 8523 4E95 7A00		
		0A	5218 0528 F797 5254	RT	
		2A	5218 2530 7365 7276	serv	

DOWNLOAD
STOP
START

↑

### Monitoring

Tuner

### Tuner Menu

MAIN

AF01-32

AF33-64

EON

STATS

## 2.6 HOW TO SHUT DOWN LYNX

**LYNX** is an Operative System-based equipment (as a PC) so a particular procedure to shut **LYNX** down is:

1. Holding for 3 seconds the encoder button.



It will appear an operations message in LCD, then can select **Shutdown**, **Reboot** or back to **MENU** by selected  as a next figure.



2. it will tack 10 seconds then will display a blank screen will be displayed. Now it is possible to **turn off** the device.
3. Remember that before each **shutdown**, it is necessary to wait some minutes before **turn it off** to store correctly all the information on the device.

### 3. TECHNICAL SPECS

PSU	
Power Supply	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)
RF TUNER	
Tuner frequency	87.5 MHz - 108.0 MHz
Tuner step	10 kHz
RF tuning stability	+/- 500 Hz
RF input sensitivity	20 to 120 dB $\mu$ V
RF input nominal level	80 to 100 dB $\mu$ V
RF inputs main	1x 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 dB $\mu$ V – 120 dB $\mu$ V
Selectivity at $\pm$ 120 kHz	> -3 dB
Selectivity at $\pm$ 200 kHz	> -40 dB
Selectivity at $\pm$ 300 kHz	> -50 dB
Selectivity at $\pm$ 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	<ul style="list-style-type: none"> <li>• 61 dB Stereo/61 dB Mono @ 40 dB<math>\mu</math>V</li> <li>• 65 dB Stereo @ 50 dB<math>\mu</math>V</li> <li>• 80 dB Stereo @ 70 dB<math>\mu</math>V</li> </ul>
Pilot 19kHz suppression	55 dB (Stereo modulation L = 1, R = 0, Deviation=67.5 kHz, pilot deviation=6.75 kHz)
Stereo THD+N	Measures @ 70 dBuV with 75 kHz deviation <ul style="list-style-type: none"> <li>• 100 Hz - 0.055 %</li> <li>• 1 kHz - 0.061 %</li> <li>• 5 kHz - 0.19 %</li> <li>• 10 kHz - 0.46 %</li> </ul>
Stereo separation	45 dB (Stereo modulation L = 1, R = 0, Deviation=67.5 kHz, pilot deviation=6.75 kHz) <ul style="list-style-type: none"> <li>• 48 dB @ 400 Hz</li> <li>• 48 dB @ 1 kHz</li> <li>• 48 dB @ 5 kHz</li> <li>• 38 dB @ 10 kHz</li> <li>• 38 dB @ 14.7 kHz</li> </ul>
<b>RDS DECODER</b>	
RDS Sensitivity	20 dB $\mu$ V (dev f = 2 kHz, RDS BLER < 5%)
RDS Synchronization time	80 ms (dev f = 2 kHz RF input = 60 dB $\mu$ V)
RDS PI Lock time	100 ms (dev f = 2 kHz RF input = 60 dB $\mu$ V)
RDS data decoding and Streaming	RDS Level indication and deviation
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 services.
<b>RF MEASUREMENT</b>	
RF Level	0 – 80 dB $\mu$ V (Resolution 1 dB $\mu$ V, precision 2 dB $\mu$ V) 82 – 120 dB $\mu$ V (Resolution 2 dB $\mu$ V, precision 5 dB $\mu$ V)
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 dB $\mu$ V (Resolution 1 dB $\mu$ V, precision 2 dB $\mu$ V) (+-200kHz)
RF Level Alarm	Threshold from – 80 dB to 0 dB Time: 1-120 sec
<b>MPX MEASUREMENT</b>	
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 (Estimated)	-20 dBr to + 12dBr (Resolution 0.1 dBr, precision 0.5 dBr)
Stereo	Valid Stereo signal detector
<b>AUDIO MEASUREMENT</b>	
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)
<b>AUDIO OUTPUT</b>	
Available output on XLR	Same audio on Analog and AES/EBU
Audio frequency response	30 Hz—15 kHz, $\pm$ 0,3 dB
Phones (Front Panel)	Stereo jack 6.3 mm, 150 Ohm, 0.8 W
<b>ANALOG OUTPUT</b>	
D/A Conversion	24bit Sigma-Delta Conversion – 32 kHz Sample rate
Connectors	2x XLR, male - Electronically balanced
Output Level	-20.0 dBu to +20.0 dBu (0.1 dBu Step)
Impedance Source	47 $\Omega$
Load Impedance	600 $\Omega$ or greater
Distorsion	Less than 0.02% TDH+Noise (0.0dBu @ 1Khz)
Dynamic range	108 dB (110 dB A-weighted, 20Hz – 15kHz)
<b>DIGITAL OUTPUT</b>	
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
<b>AUDIO &amp; RDS STREAMING</b>	
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
Administration	User right management
<b>Dimensions</b>	
<b>Housing Dimensions</b>	19 inch x 1u x 240 mm (depth)
<b>Weight</b>	< 3.5 kg

## 4. WEEE DIRECTIVE – INFORMATIVA RAEE



In line with EU Directive 2002/96/EC 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 2002/96/EG 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 2002/96/EC 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 2002/96/EG 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 2002/96/EC 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 2002/96/CE 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 2002/96/EF 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 2002/96/EG 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 (2002/96/EY) 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 2002/96/EC sobre resíduos sólidos de equipamento eléctrico e electrónico (WEEE), este produto eléctrico não pode ser deixado fora juntamente com o lixo municipal indiferenciado. Por favor, no final da vida útil deste produto, devolva-o ao estabelecimento de aquisição, ou entregue no local de recolha apropriado para reciclagem designado pelo seu município.

V souladu se smrnici EU . 2002/96/ES o odpadních elektrických a elektronických zařízeních (OEEZ) se tento elektrický výrobek nesmí likvidovat jako netříděný komunální odpad. Při likvidaci výrobek vraťte prodejci nebo ho odevzdejte k recyklaci do komunálního sběrného zařízení.

Vastavalt EL direktiivile 2002/96/EÜ, 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 2002/96/ES o odpade z elektrických a elektronických zariadení (OEEZ) sa toto elektrické zariadenie nesmie odstranovať ako netriedený komunálny odpad. Výrobok odstráňte jeho vrátením v mieste nákupu alebo odovzdaním v miestnom zbernom zariadení na recyklovanie.

V súlade so smernicou 2002/96/ES o odpade z elektrických a elektronických zariadení (OEEZ) sa toto elektrické zariadenie nesmie odstranovať ako netriedený komunálny odpad. Výrobok odstráňte jeho vrátením v mieste nákupu alebo odovzdaním v miestnom zbernom zariadení na recyklovanie.

## 5. 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 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	
<i>declares</i>	
that the product: <b>Broadcast digital FM receiver. Balanced analog and AES/EBU digital audio output. Audio streaming. Two LAN/USB. GPIO. Front headphone socket. Universal power supply</b>	
Model and/or code: <b>lynx</b>	
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:	
<ul style="list-style-type: none"> <li>• Directive 2014/35/EU known as the "Low Voltage Directive"</li> <li>• Directive 2014/30/EU known as the "Electromagnetic Compatibility Directive"</li> <li>• Directive 2011/65/EC known as "RoHS"</li> <li>• Commission Delegated Directive (EU) 2015/863 of 31 March 2015 amending Annex II of Directive 2011/65/EU</li> <li>• Directive 2012/19/EU known as "WEEE"</li> <li>• Directive 2001/95/EC known as "General product safety"</li> <li>• UNI EN ISO 7010:2021 Title: Graphic signs - Colors and safety signs - Registered safety signs</li> <li>• EN 62368-1:2018 - relating to electrical safety for computer equipment and audio/video products</li> <li>• IEC 62311:2019 - Evaluation of electronic and electrical equipment with regard to restrictions on human exposure to electromagnetic fields (0 Hz – 300 GHz)</li> <li>• EN 55032:2015+A1:2020 - Electromagnetic compatibility of multimedia equipment. Issue requirements</li> <li>• EN 55103-2:2010 Product family standard for audio, video, audio-visual and entertainment lighting control apparatus for professional use - Part 2: Immunity.</li> <li>• EN 60065:2019 Audio, video and similar electronic equipment Safety requirements.</li> <li>• EN 61000-6-1:2016 – EMC – Immunity for residential, commercial and light industry environments.</li> <li>• EN 61000-6-3:2020 – EMC – Emission for residential, commercial and light industry environments.</li> <li>• EN 60950-1:2014 – Safety of ITE (Information Technology Equipment)</li> <li>• EN 55024:2017 Information technology equipment - Immunity characteristics Limits and methods of measurement.</li> <li>• EN IEC 63000:2018 New harmonized standard to demonstrate RoHS compliance</li> <li>• EN 55032:2015+A11:2020 Electromagnetic compatibility of multimedia equipment - Emission requirements</li> <li>• EN 55035:2017 - Electromagnetic compatibility of multimedia equipment - Immunity requirements</li> </ul>	
And it is therefore compliant with current directives and regulations.	
This declaration of conformity is issued under the sole responsibility of the manufacturer.	
Date: <u>15/6/2023</u>	Signature: 
Place: <u>ANZOLA DELL'EMILIA (BO) - ITALY</u>	



## 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	
<b>Dichiara</b>	
che il prodotto: <b>Ricevitore FM digitale broadcast. Uscita audio analogica bilanciata e digitale AES/EBU. Audio streaming. Due LAN/USB. GPIO. Presa cuffia frontale. Alimentazione universale</b>	
Modello e/o codice: <b>Lynx</b>	
Data Fabbricazione: vedi etichetta sul prodotto	Numero di serie: vedi etichetta sul prodotto
È stato costruito rispettando le seguenti direttive e norme:	
<ul style="list-style-type: none"><li>• Direttiva 2014/35/UE nota come "Direttiva bassa tensione"</li><li>• Direttiva 2014/30/UE nota come "Direttiva compatibilità elettromagnetica"</li><li>• Direttiva 2011/65/CE nota come "RoHS"</li><li>• Direttiva delegata (UE) 2015/863 della commissione del 31 marzo 2015 recante modifica dell'allegato II della direttiva 2011/65/UE</li><li>• Direttiva 2012/19/UE nota come "RAEE"</li><li>• Direttiva 2001/95/CE nota "Sicurezza generale dei prodotti"</li><li>• UNI EN ISO 7010:2021 Titolo: Segni grafici - Colori e segnali di sicurezza - Segnali di sicurezza registrati</li><li>• EN 62368-1:2018 - relativa alla sicurezza elettrica per le apparecchiature informatiche e i prodotti audio/video</li><li>• IEC 62311:2019 - Valutazione degli apparecchi elettronici ed elettrici in relazione alle restrizioni per l'esposizione umana ai campi elettromagnetici (0 Hz – 300 GHz)</li><li>• EN 55032:2015+A1:2020 - Compatibilità elettromagnetica delle apparecchiature multimediali. Requisiti di emissione</li><li>• 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.</li><li>• EN 60065:2019 Apparecchi audio, video e apparecchi elettronici similari Requisiti di sicurezza.</li><li>• EN 61000-6-1:2016 – EMC – Immunità per ambienti residenziali, commerciali e industria leggera.</li><li>• EN 61000-6-3:2020 – EMC – Emissione per ambienti residenziali, commerciali e industria leggera.</li><li>• EN 60950-1:2014 – Sicurezza degli apparati ITE (Information Technology Equipment)</li><li>• EN 55024:2017 Apparecchiature per la tecnologia dell'informazione - Caratteristiche di immunità Limiti e metodi di misura.</li><li>• EN IEC 63000:2018 Nuovo standard armonizzato per dimostrare la conformità RoHS</li><li>• EN 55032:2015+A11:2020 Compatibilità elettromagnetica delle apparecchiature multimediali - Requisiti di emissione</li><li>• EN 55035:2017 - Compatibilità elettromagnetica delle apparecchiature multimediali - Requisiti di immunità</li></ul>	
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	Firma: 
Luogo: <b>ANZOLA DELL'EMILIA (BO) - ITALIA</b>	