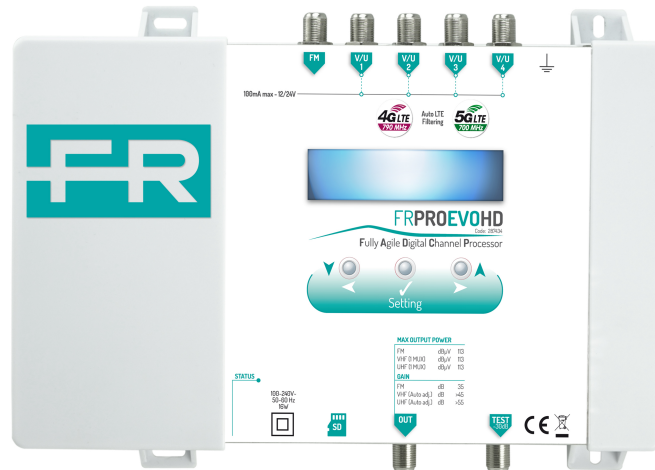# FRPRO EVO HD
Quick start guide

Product overview

The Fracarro **FRPRO EVO HD** is an high selective programmable compact headend for filter, amplify and convert the VHF/UHF Digital Terrestrial channels as well as mix the FM signal. The **FRPRO EVO HD** is a complete"Fully Agile Digital Channel Processor" that can be used on small, medium or high installation plants as well as in hospitality enviroments.
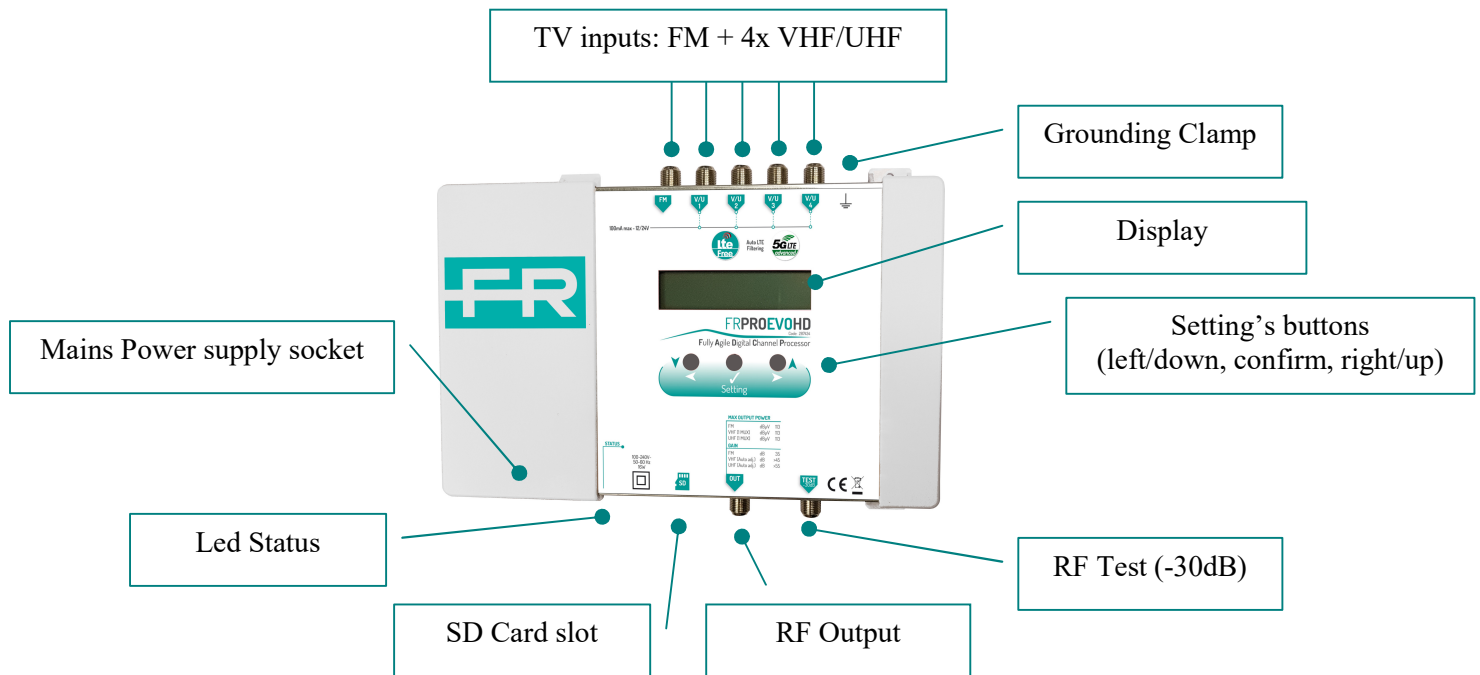
- Can process and convert more than 50 indipendent RF channels with very high selectivity on adjacent channel
- AGC automatic control circuit on all individual VHF/UHF input multiplexes
- Isofrequency or "Fully Agile" frequency conversion for every filters and from any input even from VHF to UHF frequencies.
- Security code available for avoid incidental settings
- 5 indipendents inputs: FM / 4 x VHF-UHF with selectable 12-24 V remote power on all VHF-UHF input

Quick Mounting Instructions

- Connect the device to the grounding electrode of the antenna system and fix the **FRPRO EVO HD** in vertical position for guarantee the correct ventilation and heat dissipation;
- Connect the power cord to the power supply socket. Check the status LED for DC power presence;
- Connect the VHF/UHF and/or FM aerial's coaxial cables to the **FRPRO EVO HD**;
- Connect the RF output coaxial cable to the RF coaxial distribution network;
- If necessary, connect a field meter to the -30dB test port to check the quality signal
- Configure the device using the three settings buttons available on the top of the **FRPRO EVO HD** (NOTE: press the **"confirm button"** for two seconds to to access the main menù and use the **left-down** or **right-up** arrows to scroll the sub-menù. Refer to the Quick Settings Guide chapter).
- Optionally: insert an SD card in the SD slot to upload/download the configurations from/to another **FRPRO EVO HD**;

NOTE. If necessary, the power adapter can easily be replaced without unmount the product by open the top left plastic cover. *Please refer to the Safety and Installation Warning chapter before proceed.*

Main connections and indications

TV inputs: FM + 4x VHF/UHF

Grounding Clamp

Display

Setting's buttons
(left/down, confirm, right/up)

Mains Power supply socket

Led Status

SD Card slot

RF Output

RF Test (-30dB)

Quick Settings Guide

Preliminary indication

IMPORTANT: Before starting the configuration, it is advised to set the AREA or COUNTRY in order to select the correct VHF-UHF frequency plan.
- Power off the device,
- Push the "confirm button" and keep it pushing while you turn-on the **FRPRO EVO HD**.
- Release the button when "RESET FINISHED" message is shown on display.
- To activate the correct frequency plan select the COUNTRY where the **FRPRO EVO HD** is situated and save with the "confirm button". Europe is the default setting.

For detailed instruction, please download the full user's manual from the relative product's page on www.fracarro.com.
- Power up the **FRPRO EVO HD** by using the 220V power cord included in the package. The **FRPRO EVO HD** will need approximately 5 secs to initialize itself. The **FRPRO EVO HD** configuration can be performed by using the three settings buttons and the display available on the top front (see block diagram above).
- Press the **"confirm"** button for two seconds to access the different menù or for confirm the selection. Scroll all the menu by using **left-down** or **right-up** arrows for move through the different menù.

Input settings
- Select "*INPUT FM*" to setup the desired FM input signal gain.
- Select "*INPUT 1…4*" to enter the VHF/UHF input settings (NOTE: the first TV channel selected determine if the INPUT becames a VHF or UHF input only).
- Turn ON the "*PRE-AMPLI*" section in order to enable the pre-amplifier stage if the RF input level are very critical.
- Turn ON the "*DC*" if is necessary to insert the power supply to the external must amplifiers (max 100mA for the 4 VHF/UHF inputs)
- Select "*ADD CHANNEL*" to add the RF channel on the list of the filetered/converted channels managed from the relative input (NOTE: to delete the unwanted RF channel, move on the position of the channel by using left/down ot right/up arrows buttons and press the "confirm" button for 3 seconds until "Channel Deleted" message is shown on display).
  NOTE: There are 2 different modes to add channels to each input:
  - *ADD 1 CHANNEL:* this is the standard mode where you add channels one by one to an input;
  - *ADD 2 CHANNELS:* In this mode you can add two adjacent channels to an input. This enables you to process more than 50 channels. The channels are processed together as one cluster.

For best performances it's recommended to only add and process single channels (i.e. ADD 1 CHANNEL mode), unless you need to process a lot of channels.

Output settings

- By selecting "*OUTPUT*", is possible to define the total RF output level from 93dBuV to 113dBuV maximum output depending from the total amount multiplexes managed from the **FRPRO EVO HD** (default output level is 103dBuV)
- By selecting "*SLOPE*", is possible to set a -9dB slope between the VHF and latest UHF frequencies managed from the **FRPRO EVO HD**.

Advanced and Miscellaneous settings

- Select "*ADVANCED*" menù if is necessary to modify the *LANGUAGE* (English or Italian), the remote *DC VOLTAGE* (12V or 24V available only in VHF/UHF inputs), for *UPGRADE* the FIRMWARE or for the SD card management (Format, download/upload the configuration).
- Select "*EXIT*" menù for lock/unlock the **FRPRO EVO HD** and for decide the "*LOCK CODE*" or decide for NO LOCK condition.

Technical information

You can download FRPRO EVO HD's full manual from the product's page at www.fracarro.com

FRPRO EVO HD (*)		
Fracarro code		287434
Input		
N° input	N°	4x VHF/UHF + 1x FM
Frequency range	MHz	FM: 88 – 108 VHF: 174 – 240 UHF: 470 – 862
Input level	dBμV	FM: 37 – 77 VHF: 40 – 109 UHF: 40 – 109
LTE Protection	MHz	Automatic selection: 694, 790 or disabled
RF Output		
Ouput power	dBμV	FM: 113 (60dB/IM3) VHF/UHF: 120 (60dB/IM3) VHF/UHF: 113 (for 1 MUX) VHF/UHF 110 (for 6 MUX)
Gain (Adjustment)	dB	FM: 35 (20) VHF: >45 (auto AGC) UHF: >55 (auto AGC)
Output total adjustment	dB	20
Output total slope adjustment	dB	9
Selectivity	dB	35@1MHz
Typical Output MER	dB	VHF: 35 UHF: 35
General features (*)		
Power Supply	Vac, Hz	100 – 240, 50/60
Power consumptions	W	16 (typical)
Remote power supply	Vdc, mA	12 or 24, 100 total (for the 4 inputs)
Dimensions (L.× H.× W.)	mm	217x165x59
Operating temperature	°C	-5 ÷ +50
Weight	Kg	0.8

(*)Definitive specifications may change without notice.

SAFETY WARNINGS

The product must only be installed by qualified persons, according to the local safety standards and regulations. Fracarro Radioindustrie is free from all civil and criminal responsibilities due to breaches of the current legislation derived from the improper use of the product by the installer, user or third parties. The product must be used in full compliance with the instructions given in this manual in order to protect the operator against all possible injuries and the product from being damaged. Never remove the lid of the product as there are live parts inside.

INSTALLATION WARNINGS

- The product must not be exposed to any dripping or splashing and thus it should be installed indoors and in a dry location.
- Humidity and condensation could damage the product. In case of condensation, wait until the product is dry before using it.
- Handle the product carefully. Impacts can damage the product.
  Leave enough space around the product to ensure sufficient ventilation.
- Excessive temperatures and/or an overheating may affect the performance and the life of the product.
- Don't install the product above or near any heat sources, in dusty places or where it might come into contact with corrosive substances.
- In the event that the unit is fixed to the wall, use the proper screw anchors suitable to the characteristics of the fixing support. The wall and the anchoring system must be able to support at least 4 times the weight of the unit.
- Warning: to avoid injury, this appliance must be secured to the wall / floor depending on the installation instructions.
- For "PERMANENTLY INSTALLED APPLIANCES", an easily accessible cutting device must be added to the exterior of the appliance; for "APPLIANCES WITH A POWER PLUG", the socket must be installed close to the appliance and easily accessible.
- The product must be connected to the grounding electrode of the antenna system in compliance with standard EN 60728-11. The screw provided for this

  purpose is marked with the symbol ⏚ .
- We recommend that you comply with the provisions of standard EN 60728-11 and do not connect this screw to the Protective Earth of the electricity supply.

☐ Class II symbol

⏚ Earth screw/Faston connector symbol

GENERAL WARNINGS

In the event of a malfunctioning, do not try to fix the product as the guarantee would be invalidated. Only use the power supply supplied with the product. Although the information given in this manual has been prepared carefully and thoughtfully, Fracarro Radioindustrie S.r.l. reserves the right to modify it without notice and to improve and/or modify the product described in this manual. See the website www.fracarro.com to have information relevant to the technical support and product guarantee.

CONFORMITY WITH EUROPEAN DIRECTIVES

Fracarro declares that the product complies with EU Directive 2014/30/UE, 2014/35/UE and 2011/65/UE. The full text of the EU Declaration of Conformity is available on the following website: ce.fracarro.com

USER'S INFORMATION

Disposal of Old Electrical & Electronic Equipment (Applicable in the European Union and other European countries with separate collection system)

This symbol on the product or on its packaging indicates that this product shall not be treated as household waste. Instead it shall be handed over to the applicable collection point for the recycling of electrical and electronic equipment. By ensuring this product is disposed of correctly, you will help prevent potential negative consequences for the environment and human health, wich could otherwise be caused by inappropriate waste handling of this product. The recycling of materials will help to conserve natural resources. For more detailed information about recycling of this product, please contact your local city office, your household waste disposal service or the shop where you purchased the product.

Equipment intended for indoor usage only.

Fracarro Radioindustrie decline every responsability for improper use of the device or for the unauthorized distribution of sensitive content trough the coaxial distribution.

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