

Configuration and setting guide Serie ONE+



# ONE+

REF. 2865

# ONE+ SAT

REF. 2864





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## 1. INTRODUCTION

This document explains how to install the programmable digital amplifiers from the ONE+ family.

The document describes how to configure the amplifier. To do this, firstly, the physical installation is explained. Following this, there is a description of how to use the programming joystick and its effect on the OLED screen. Finally, all the user interface menu options are presented.

For the correct use and installation of the amplifier, the user manuals must be read along with the detailed information contained in the installation manuals for the attached equipment in their respective packaging.

### 1.1 General safety instructions

Read all of this user manual carefully before plugging in the unit.

Always have these instructions to hand during installation.

Follow all of the instructions and safety notices regarding unit handling.



#### Danger of death or injury

This safety notice indicates a possible danger for the life and health of people. Not following these instructions may lead to serious consequences to health and may even cause fatal injuries.

Do not install the unit during an electrical storm. This could lead to electrostatic discharge from lightning.

Do not open the unit. There is a risk of electrostatic discharge.



#### Risk of damage to the unit

This safety notice indicates a possible dangerous situation. Not following these instructions may lead to the unit being damaged.

The unit must be appropriately ventilated. Install the unit in a dust-free location. Do not place the unit in a location where the ventilation slots are covered or blocked. Install the unit in a location with at least 20 cm around it free of other objects.

Do not expose the unit to rain or moisture. Install the equipment in a dry location with no infiltration or condensation of water. Should a liquid enter the unit, disconnect it immediately from the mains.

Keep the unit away from flammable objects, candles and anything that may cause a fire.

Connect the unit to an easily accessible power socket. In the event of an emergency, it will then be possible to quickly unplug the unit.

Do not expose the unit to sources of heat (sun, heating, etc.).



#### Handling the inside of the unit is forbidden

This notice forbids any work that may affect the working order of the unit or its warranty



#### Do not dispose of as urban waste

This type of notice indicates that the unit must not be disposed of as unselected urban waste.



#### NOTE

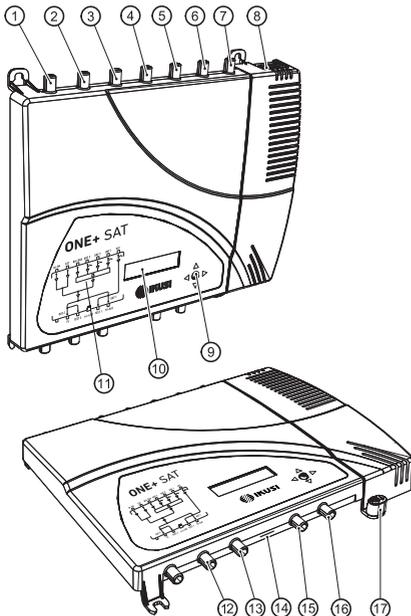
This type of notice is a note containing applicable advice and useful information for optimum use of the unit.

## 1.2 Installation environment recommendations

- The headend is for indoor use only.
- Do not plug in the headend in moist rooms.
- Never operate the headend immediately after moving it from a cold location to a hot location. When the device is exposed to such a change in temperature, moisture may condense on the crucial internal parts.
- The device must have sufficient ventilation and may not be covered.
- Protect the device against direct sunlight, heat, intense temperature fluctuations and moisture. Do not place the device in the vicinity of heaters or air conditioners.
- Do not allow liquids to enter into the device. Turn off the device and disconnect it from the main supply if liquids or foreign substances end up inside the device.
- If the device gets too hot or emits smoke, shut it down immediately and unplug the power cable. Arrange for your device to be investigated by a technical service centre.
- Under the following conditions, a layer of moisture can appear inside the device which can lead to malfunctions:
  - if the device is moved from a cold to a warm area;
  - after a cold room is heated;
  - when this device is placed in a damp room.
- The device should not be used in a very dusty or saline environment. Dust or salt particles and other foreign objects may damage the device.
- Do not expose the device to extreme vibrations. It may damage the internal components.

## 1.3 Description of the module

### 1.3.1 General description



#### KEY

- 1 BI-FM input
- 2 BIII-DAB input
- 3 VHF-UHF/EXT input \*
- 4 UHF3 input
- 5 UHF2 input
- 6 UHF1 input
- 7 SAT-IF1 input \*
- 8 Mains connector
- 9 Control button
- 10 OLED Screen
- 11 Front panel with cluster map
- 12 TV output \*
- 13 Output test 2 \*
- 14 microSD output
- 15 Output test 1
- 16 Output TV+SAT \*\*
- 17 Earthing

\* ONE+ SAT model only

\*\* TV only in ONE+ model

### 1.3.2 Main characteristics

The ONE+ and ONE+ SAT are programmable digital amplifiers, designed to selectively filter TV channels. Suitable for both household requirements and for collective housing, they are the perfect solution for managing signals of different frequencies and amplitudes.

In addition to UHF signals, FM and VHF signals are also amplified. The ONE+SAT model also amplifies FI satellite signals, as well as signals from an extension input. The individual adjustment of each filter allows them to be adapted to the specific situations of each TV channel in question, in addition to offering the possibility of being able to work in converter mode, transferring the TV channel to different frequency from the original one. The reading system for the input power allows the levels of the output channels to be automatically equalised.

The most relevant characteristics of the ONE+ and ONE+ SAT equipment are the following:

- No external programmer is required; programming can be carried out using the equipment itself
- Automatic installation in less than 10 seconds.
- 32 tunable UHF filters with processing capacity from 1 to 4 channels each, with capacity to convert frequencies.
- High output power (>130 dBμV).
- Superselective (>35 dB).
- Automatic gain control.
- Cloning of the internal configuration with uploading onto a microSD card.
- Equipment locking using a security code.

## 2. OLED INTERFACE

The amplifier is configured through the user interface that is integrated into the equipment itself, formed by a joystick and an OLED screen. In the following sections the operation of the user interface, the map of menus and the details on each of them are described.

### 2.1 General use of the equipment

A description is given below of how to interact with the equipment using the joystick and to interpret the visual indications shown on the OLED screen. The programme is made up of a main menu that includes sub-menus that can be selected to modify the equipment operating adjustments.

#### Visual indications on the OLED screen

- ▶ This symbol is used to indicate which of the menu options is going to be acted on. If it appears at the end of the line, it indicates that there is more hidden text to the right and the joystick must be moved in this direction to be able to see it.
- ◀ If this symbol appears at the beginning of the line, it indicates that there is more hidden text to the left and the joystick must be moved in this direction to be able to see it.
- ⊕ This symbol appears at the end of the line in the manual definition of each filter. When pressed, it allows access to the advanced options for filter definition.
- ❖ This symbol appears at the beginning of each filter on the status report screen. It allows the filters from the same antenna input to be visually grouped together.

## Vertical button movement



In the menus and submenus, move the button up or down to browse upwards and downwards position by position.

In the settings, move the button up or down to modify values position by position.



### NOTE

Keep the button pressed up or down to browse or to modify values more quickly.

## Horizontal button movement



In the menus, move the button to the left or the right to select and go back position by position.

In the settings, move the button to the left or the right to browse, select and go back position by position.



### NOTE

Keep the button pressed to the left or to the right to browse more quickly.

## Press button



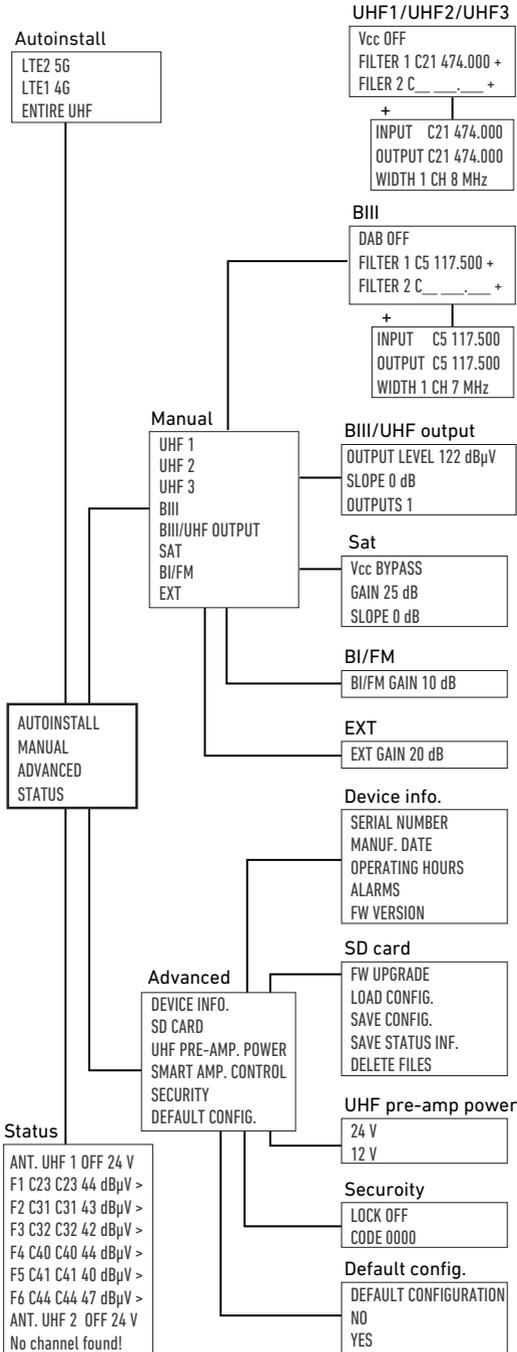
In the menus, this selects the submenu.

In the submenus, this selects the setting.

In the settings, this selects the parameter value.

In the filter definition menu, a long press removes the filter.

2.2 Quick menu guide



## 2.3 Regional adjustments

The first time the equipment is turned on, or after deleting the configuration to restore the factory settings, the first screen shown allows the values related to a specific country to be adjusted.

España:	ES-BG-24V
France:	FR-LL-24V
Italia:	IT-BG-12V

Select the country that adapts best to the installation requirements. The selection of a specific country predefines the following parameters:

- User interface language
- RF frequency plan
- Voltage used to power the pre-amplifiers

For example, if Australia is selected, the interface language will be English; the RF channelling will be BB and 24 V will be used for pre-amplifier power.



### NOTE

If the user interface language or the RF frequency plan need subsequently to be changed, the default configuration must be loaded from the ADVANCED menu.

## 2.4 Automatic installation

The menu option AUTOINSTALL allows the automatic installation process to be launched. During this process, the equipment will scan the BIII input and each of the UHF inputs. If it finds a useful signal in these inputs, it will assign a filter to each RF channel detected and it will amplify it to the maximum amount possible without the signal becoming distorted. This process is performed in less than 10 seconds. The end result will consist of an output spectrum with all the BIII and UHF channels with useful signals being amplified and equalised.

To launch the automatic installation, select the AUTOINSTALL menu option on the main screen.

▶AUTOINSTALL
MANUAL
ADVANCED

A screen will appear to indicate which part of the spectrum is to be processed:

▶LTE 2 5G
LTE 1 4G
ENTIRE UHF

Select the desired option from among the three options shown:

- LTE 2 5G: the BIII and the UHF band will be scanned up to channel 48.
- LTE 1 4G: the BIII and the UHF band will be scanned up to channel 60
- ENTIRE UHF: the BIII and UHF band will be scanned up to channel 69.

Once the reception band has been chosen, the equipment will activate a filter to eliminate the channels that exceed the selected band and it will launch a scanning process that will last less than 10 seconds. During this process, it will automatically enable the power for the pre-amplifiers if necessary; it will detect which channels with useful signal are present in the inputs; it will filter them individually and amplify them.

As a result, a summary screen will be shown with the number of channels detected in each input:

▶Detected channels  
 UHF 1: 7    UHF 2: 1  
 UHF 3: 1    BIII: 0

## 2.5 Manual installation

Using the manual installation, the headend may be completely configured, including the inputs and outputs that are not configured during an automatic installation or the result of a previous automatic installation may be modified.

Select the MANUAL menu option on the main screen to access the manual installation.

AUTOINSTALL  
 ▶MANUAL  
 ADVANCED

A screen will appear with the following sub-menus:

- UHF 1: this allows the configuration of the filters associated with the UHF 1 input
- UHF 2: this allows the configuration of the filters associated with the UHF2 input.
- UHF 3: this allows the configuration of the filters associated with the UHF 3 input.
- BIII: this allows the configuration of the filters associated with the BIII input.
- SALIDA BIII/UHF: this allows the output parameters of the BIII and UHF signals to be configured.
- SAT: this allows the parameters associated with the SAT input satellite signals to be configured (only available for ONE+ SAT).
- BI/FM: this allows the parameters associated with the BI/FM input signals to be configured
- EXT: this allows the parameters associated with the EXT input signals to be configured (only available for ONE+ SAT).

In the following sections each sub-menu is described in detail.

### 2.5.1 UHF 1 / UHF 2 / UHF 3

Each of these sub-menus allows the power for pre-amplifiers to be enabled or disabled at the selected input, in addition to configuring the filters associated with the aforementioned input. To access these parameters, select the menu option related to the corresponding input (UHF 1, UHF 2 or UHF 3). The following screen will appear:

▶Vcc OFF  
 FILTER 1 C23 486.000 +  
 FILTER 2 C-- ---,--- +

The first line shows the status of the power to the pre-amplifiers. To modify the power to the pre-amplifiers, select the Vcc line and move the joystick up or down to switch between OFF (power disabled) and ON (power enabled). Save the changes by pressing the joystick or moving it to the left.

The remaining lines show the filters that are being applied to the selected input, up to a maximum of 32 filters, distributed between the UHF 1, UHF 2, UHF 3 and BIII inputs. To modify a pre-existing filter, select the line corresponding to this filter and move the cursor towards the channel value or the frequency value. Select the digit that you want to modify and move it to the desired value by moving the joystick up or down. Save the changes by pressing the joystick or moving it to the left. If you wish to eliminate a specific filter, place the cursor on the line corresponding to the aforementioned filter and press and hold (approximately 2 seconds).

The filters work by default in processing mode (output frequency the same as the input frequency), but they also can work in converter mode; that is to say, moving the input signal to a different output channel. By default, each filter handles a single channel, but the processing of up to 4 channels can be configured using advanced parameters. To modify the advanced parameters of a specific filter, press the + icon. The following screen will be shown:

```

▶INPUT C21 474.000
  OUTPUT C21 474.000
  WIDTH 1 CH 8 MHz

```

The parameters that may be modified are:

- INPUT: input channel that is to be filtered
- OUTPUT: output channel on which the signal will be sent
- BANDWIDTH: number of channels (1, 2, 3 or 4) that this filter will process

Make the changes required and save them by moving the joystick to the left.

### 2.5.2 BIII

This sub-menu allows the filters associated with the BIII input to be configured. To access these filters, select the BIII menu option. The following screen will be shown:

```

▶DAB OFF
  FILTER 10 C-- ---,--- ⊕

```

You may choose between two options:

- DAB signal processing: this allows DAB audio signals to be filtered and amplified. The amplifier will use a single filter for all the BIII to process the DAB signal. To enable it, select DAB ON.
- TV channels processing: this allows the BIII TV signals to be filtered and amplified. The configuration of these filters is performed in a similar way to that described for the UHF filters. To be able to act on these filters, the DAB signal processing must be turned off (DAB OFF).

### 2.5.3 BIII/UHF Output

This sub-menu allows the output parameters of the BIII and UHF signals to be configured. To access these parameters, select the BIII/UHF OUTPUT menu option. The following screen will be shown:

```

▶OUTPUT LEV. 114 dB $\mu$ V
  SLOPE 0 dB
  OUTPUTS 1

```

The adjustable parameters are:

- OUTPUT LEV.: modify this parameter to adjust the output level of the BIII and UHF signals. By default, the equipment proposes an output level that is the same as the maximum level that can be guaranteed without any distortion.
- SLOPE: this allows the level difference between the beginning of the UHF and the end of the UHF band to be adjusted. This value can be adjusted between 0 dB and -9 dB, in steps of 1 dB. The BIII will have the same level as the first UHF channel.
- OUTPUTS (only ONE+ SAT): this allows you to choose between sending the BIII and UHF signals on the OUT 1 output alone (1 output) or also sending them on the OUT 2 output (2 outputs).

### 2.5.4 Sat

This sub-menu allows the parameters associated with the satellite signals of the SAT input to be configured. To access these parameters, select the SAT menu option. The following screen will be shown:

```

▶Vcc BYPASS
  GAIN OFF
  SLOPE 0 dB

```

The adjustable parameters are:

- **Vcc:** this allows the voltage and tone that will be injected on the SAT input cable to be defined, aimed at powering/switching the LNB. Select **BYPASS** if you do not want to feed the LNB or if you wish to move the unicable signalling existing on the OUT 1 output to the SAT input. If you wish to feed the LNB with a specific voltage and tone, select one of the following options:
  - 13 V 0 kHz V/L to select Vertical Low polarity
  - 13 V 22 kHz V/H to select Vertical High polarity
  - 18 V 0 kHz H/L to select Horizontal Low polarity
  - 18 V 22 kHz H/H to select Horizontal High polarity
- **GAIN:** this allows the gain that will be applied to the satellite signals to be configured. Select **OFF** if you do not want to amplify the satellite signal. Otherwise, choose the desired gain value. A choice may be made from between 25 dB and 45 dB, in steps of 1 dB.
- **SLOPE:** this allows the level difference between the beginning of the FI band (950 MHz) and the end of the FI band (2400 MHz) to be adjusted. This value can be adjusted at 0 dB or at -9 dB.

### 2.5.5 BI/FM

This sub-menu allows the gain that will be applied to the BI/FM to be configured. To access this parameter, select the BI/FM menu option. The following screen will be shown:



Select **OFF** if you do not wish to amplify the BI/FM signal. Otherwise, choose the desired gain value. You may choose from between 10 dB and 35 dB, in steps of 1 dB.

### 2.5.6 Ext

This sub-menu allows the gain that will be applied to the EXT input signals to be configured (from 45 MHz to 862 MHz). To access this parameter, select the EXT menu option. The following screen will be shown:



Select **OFF** if the EXT input signals do not need to be amplified. Otherwise, choose the desired gain value. You may choose between 20 dB and 40 dB, in steps of 1 dB.

## 2.6 Advanced options

The advanced options menu allows access to non-standard operations, such as the updating of the firmware or uploading of default configurations. It also allows access to the equipment's information, such as serial number, manufacture date or alarms.

Select the **ADVANCED** menu option on the main screen to access the advanced options.



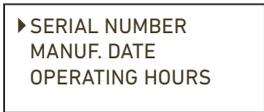
A screen will appear with the following sub-menus:

- **DEVICE INFO:** this allows constructive data from the equipment to be shown (serial No., manufacture date, firmware version), as well as information related to its current status (hours of operation, alarms).
- **SD CARD:** this allows the microSD card to be managed and the maintenance actions in which the microSD card intervenes to be performed (for example: firmware updating).
- **UHF PRE-AMP POWER:** this allows the selection of the voltage value used to power the preamplifiers to be modified.
- **SMART AMP. CONTROL :** This allows the behaviour mode of the equipment to be configured when it must amplify signals with very low power levels.
- **SECURITY:** this allows access to the user interface to be enabled using a security code.
- **DEFAULT CONFIG.:** this allows the default configuration of the equipment to be uploaded (factory settings).

In the following sections each sub-menu is described in detail.

### 2.6.1 Device info.

This sub-menu allows access to the equipment's information. This information may be related to its construction or to its status. To access this information, select the DEVICE INFO. menu option. The following screen will be shown:



► SERIAL NUMBER  
MANUF. DATE  
OPERATING HOURS

By moving the joystick downwards, the rest of the options that do not fit on the first screen are shown.



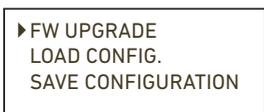
OPERATING HOURS  
ALARMS  
► FW VERSION

The possible menu options are:

- **SERIAL NUMBER.:** select this option to access the equipment's serial number.
- **MANUF. DATE:** select this option to access the equipment's manufacture date.
- **OPERATING HOURS:** select this option to access the calculation of the number of hours that the equipment has been operating.
- **ALARMS:** when this option is selected a list with the alarms that the equipment has at a specific moment is shown.
- **FW VERSION:** select this option to discover the specific equipment model (ONE+ or ONE+ SAT) and show which firmware version is being used (name and date).

### 2.6.2 SD card

This sub-menu allows the microSD card to be managed and to perform the maintenance actions in which the microSD card intervenes (for example: firmware updating). To access these options, select the SD CARD menu option. The following screen will be shown:



► FW UPGRADE  
LOAD CONFIG.  
SAVE CONFIGURATION

By moving the joystick downwards, the remaining options that do not fit on the first screen may be seen.



The different actions that may be carried out on the microSD card are:

- **FW UPGRADE:** select this option to update the amplifier’s firmware. To do this, store the firmware file with the new version on the microSD memory card in the ONE\Firmware folder beforehand. Insert the microSD memory card into the equipment and select the option FW UPGRADE. A list with the firmware files included on the microSD memory card will be shown. Select the desired file and launch the update. After a while, (approximately 20 seconds) the update will conclude and the equipment will reboot.
- **LOAD CONFIG.:** select this option to upload a configuration that has previously been stored on the microSD memory card to the equipment (the configuration file will be stored in the ONE\CFG folder). Insert the microSD memory card into the equipment and select the option LOAD CONFIG. A list with the configuration files included on the microSD memory card will be shown. Select the desired file and launch the upload. After two seconds the equipment will indicate that the upload has been successfully completed.
- **SAVE CONFIGURATION:** select this option to save the equipment’s current configuration on the microSD memory card. It will be stored in the ONE\CFG folder. To do this, insert the microSD memory card into the equipment and select the option SAVE CONFIGURATION. A list of the configuration files stored on the microSD memory card will be shown. If you wish to reuse an existing file, select it and the configuration will overwrite this file. If, on the other hand, you want to create a new file, select the option NEWFILE and insert the name you wish to give the file. After two seconds, the equipment will indicate that the configuration has been successfully saved.
- **SAVE STATUS INF.:** select this option to save the equipment’s current status report on the microSD memory card. It will be stored in the ONE\STA folder. To do this, insert the microSD memory card into the amplifier and select the option: SAVE STATUS INF. A list with the status files stored on the microSD memory card will be shown. If an existing file is to be reused, select it and the status will overwrite this file. If, on the other hand, you want to create a new file, select the option NEWFILE and insert the name that you want to give the file. After two seconds the equipment will indicate that the status report has been successfully saved.
- **DELETE FILES:** select this option to delete a specific file from the microSD memory card (the configuration file will be stored in the ONE\CFG folder). Insert the microSD memory card into the equipment and select the DELETE FILES option. A list of the configuration files included on the microSD memory card will be shown. Select the desired file and launch the delete process. After two seconds the equipment will indicate that the file has been deleted.



**NOTE**

If the microSD card was not inserted in the amplifier when performing any of these actions, an error message will appear. Make sure you insert the microSD card correctly, with the contacts facing upwards.

**NOTE**

A maximum of 8 files are shown on the screen.

### 2.6.3 UHF pre-amp power

This sub-menu allows the selection of the voltage value used to power the pre-amplifier to be modified. By default, this value depends on the regional adjustments, as is described under heading 2.3. To access this parameter, select the UHF PRE-AMP POWER menu option. The following screen will be shown:



Select 24 V or 12 V in terms of the voltage level desired to power the installation’s UHF pre-amplifiers.

### 2.6.4 Smart amp. control

This sub-menu allows the behaviour mode of the equipment to be configured when it must amplify signals with very low power levels. To access this parameter, select the SMART AMP. CONTROL menu option . The following screen will be shown:

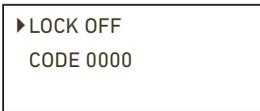


The options available are:

- ON: is the default value. When selecting this option, the amplifier will not amplify signals with power levels that are below 40 dB $\mu$ V. If the power is above 40dB $\mu$ V, the equipment will amplify the signal to the maximum level that allows an output without any distortions. In most cases, this means that the output will be equalized. However, in the case that one of the signals has over 30dB of difference in the level with respect to the channel with the highest level, the signal with the lowest level will not be amplified to the maximum level, but rather the output power will be the maximum minus the excess of the difference compared to 30 dB. This system is the one used during the automatic installation.
- OFF: when this option is selected, all the signals will be amplified to the maximum level (applying the reduction by number of channels), including the signals with very low signal level (even the noise level) and the signals with level differences over 30 dB compared to the channel with the maximum level.

### 2.6.5 Security

This sub-menu allows access to the user interface protected by a security code to be enabled or disabled. To access this configuration, select the SECURITY menu option. The following screen will be shown:



The options available are:

- LOCK: after 60 seconds without any interaction with the equipment, the OLED screen shows a screensaver message. If the LOCKED parameter is OFF, any movement of the joystick will allow access to the user interface. If the LOCKED parameter is ON, any movement of the joystick will redirect users to a screen to introduce the unlock code.
- CODE: this allows the code used to unlock the equipment to be modified. The default code is 0000.



#### NOTE

To unlock the equipment, insert the code on the unlocking screen. If this code is unknown, contact Ikusi's Customer Support Department, where the serial No. of the equipment in question will be requested (this appears on the unlocking screen).

### 2.6.6 Default config

This sub-menu deletes the amplifier's current configuration, loading the default configuration, (factory settings). Take care when using this option, since the entire previous configuration will be lost. To access this configuration, select the DEFAULT CONFIG. menu option. The following confirmation screen will be shown:



If you agree and understand the implications, select the option YES. During the restoration process, the following message will be shown:

Restoring factory settings...

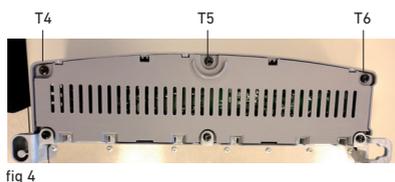
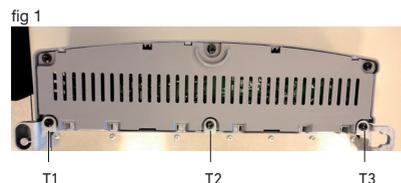
When the process has finished, the equipment will redirect the user to the regional adjustments screen.

## 2.7 Status report

The status report menu shows all the equipment's information grouped together. To access this report, select the STATUS menu option. The following may be found in this report:

- The active filters grouped together by input and their configuration.
- The signal level detected in each of the filters.
- The power value of the preamplifiers applied to each input.
- The output level of the BI and UHF channels and the pending value.
- The gain value applied to the BI input.
- The gain value applied to the EXT input.
- The gain value applied to the SAT input and the voltage and tone values injected into the SAT input cable.

## 3. REPLACING THE POWER SUPPLY



1. Disconnect from the power network
2. Loosen screws T1, T2 and T3 (fig 1).
3. Press the tabs P1 and P2 while sliding the power supply downwards, on its guides (fig 2).
4. Release the plug that joins the amplifier (fig 3).
5. Slide the new power supply over the amplifier guides.
6. Screw T1, T2 and T3.
7. Connect to the power network.

#### 4. EQUIPMENT RECYCLING



##### RECYCLING OF ELECTRICAL AND ELECTRONIC EQUIPMENT

(Applicable in the European Union and in European countries with selective waste collection systems.)

This symbol on your equipment or its packaging indicates that this product cannot be treated as general domestic waste and must be handed in at the corresponding point of collection for electric and electronic equipment. By ensuring this product is disposed of correctly you will help prevent negative consequences for the environment and human health, which could otherwise be caused by inappropriate waste handling of this product. Recycling of materials helps preserve natural resources. For more detailed information on the recycling of this product, please contact your local council, your nearest collection point or the distributor from whom you purchased the product.



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