Fte®
maximal

CH 808
User's manual

Rev 1.0

Index

1 Installation

1.1 Safety rules

1.- Never place the device next to hot sources.

2.- Never undergo the device to temperatures that exceed its level of operation.

3.- Never expose the device to leakings nor spatterings.

4.- Never place objects that contain liquids over the device.

5.- Respect the ventilation slots of the device, do not cover them with any kind of object.

6.- Make sure there is a minimum space

- at wall mounting 50 cm above and below
- at mounting in a 19" cabinet 20 cm above and below, as well as 10 cm behind.

7.- Avoid locations with possibilities of spilling liquids on the inside of the device, and with important changes of temperature. Keep an ambient temperature of 0 °C to +50 °C.

8.- Install the equipment on a vibration-free wall or floor construction.

9.- Never open the device by yourself due to electric risk. In case of problems, go always to qualified technicians.

10.- Never, under no circumstances, open the device when connected to the electrical net.

11.- During the handling disconnect the device from the electrical net.

12.- Obey the electricity security rules during the assembling. Use materials that obey the current law.

13.- The connecting plug must be accessible in a fast and simple way to have a fast disconnection.

14.- Never touch the plug with wet hands. Also, disconnect always the device before handling the connections.

15.- Never put any heavy object over the device, since it could get damaged.

16.- If the device is going to remain some time without use, it is recommendable to disconnect it from the electrical net.

17.- Do not perform installation and service work during thunderstorms.

18.- The service and the maintenance of the device must be done by TV and radio specialised technicians.

1.2 Box content

User's manual

CH 808

Power cord

Strain relief for power cord

Ferrite sleeve

1.3 General description

The headend has a modular structure and can hold up to 8 Standard modules.

Two integrated SAT IF input distributors has in total four SAT IF inputs. You can use them to distribute the reception levels each over 4 or 6 outputs. Using the loop-through output enables you to distribute reception level 1 over the 10 outputs for each SAT IF input distributor. The F sockets of both reception levels are coloured. Unused loop-through outputs must be terminated with the resistors supplied.

The power supply in the headend is designed to supply power to components (e.g. LNBs) connected upstream.

The cassettes' RF output signals are accumulated in a programmable RF output collector and then directed to the RF output and to the test output via the downstream hybrid amplifier.

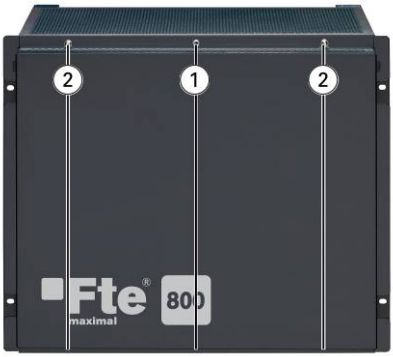
The software version of the control unit appears on the two-line LCD display after switching on the headend.

If the inner temperature of the head-end station exceeds the permissible temperature of 65 °C when operating, a message appears in the display instead of the standby menu.

The RS 232 interface of the control unit enables you to use a PC or a notebook and to update the operating software of the control unit.

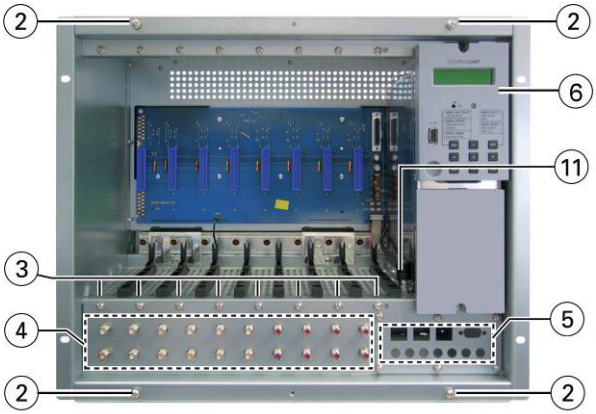
1.4 Connections

Front cover



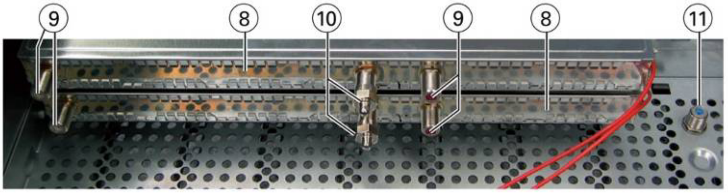
1. Locking screws
2. Mounting screws

CH 808 open front view

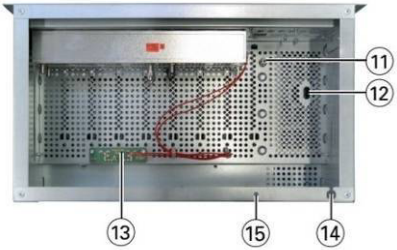


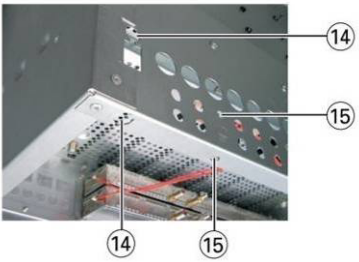
3. Slots for 8 modules
4. Outputs of the SAT IF input distributors
5. Cover with openings for cable terminals
6. Control unit

Bottom view



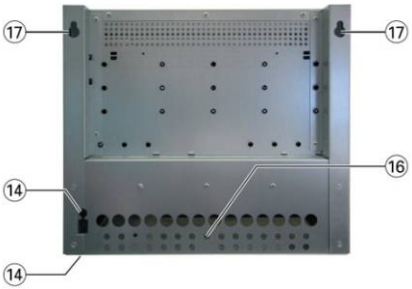
8. SAT IF input distributors
9. Inputs of the SAT IF input distributors
10. SAT IF loop-through outputs
11. RF output of the headend





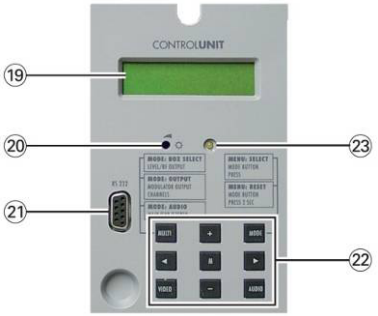
12. Mains connector
13. Distributor for LNB operating voltage
14. Openings for the strain relief of the mains connection cable
15. Openings for the earth connection screw

Rear view



16. Opening for the securing screw
17. Openings for mounting screws (wall mounting)

Control Unit



19. LCD display
20. Control to set the contrast of the LC display.
21. 9-pin D-SUB socket to update the operating software, to connect the RCM 800 management unit.
22. Control buttons (control panel)
23. Operation display

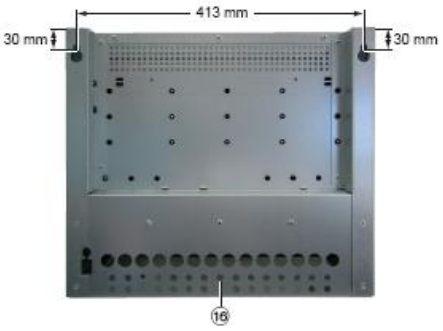
1.5 Installation

Heanend mounting

Wall mounting

⚠

- Use mounting material suitable for the wall properties.
- Position the head-end station so that the distance of free space below and above is minimum 50 cm.
- The distance between the upper holes is 413 mm and the distance between the upper holes and the upper edge of the equipment is 30mm



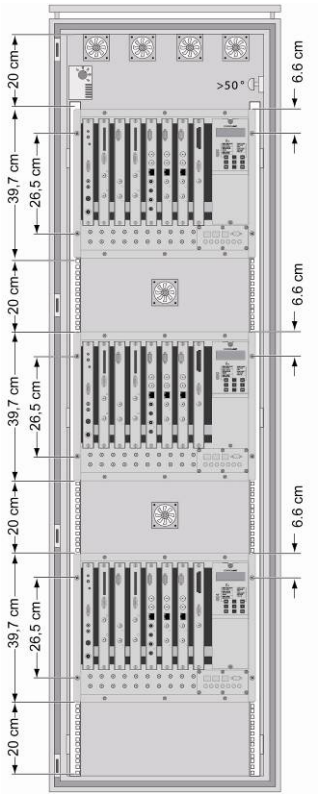
- Screw in the upper mounting screws at the position whished, mount the head-end station and mark the position for the locking screw (16).
- Remove the head-end station and attach the hole for the locking screw.
- Mount the head-end station and fix it with the locking screw.

19" Rack mounting

The head-end has been designed for installation into 19" rack systems. The total installation height of a 19" unit is 9 HU (39.7 cm, hole spacing 26.5 cm).

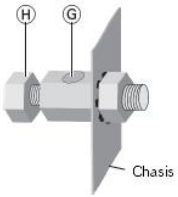
In cabinets a circular aeration (e.g. by means of ventilators) is to be ensured. If the maximum ambient temperature inside the cabinet exceeds +50 °C, a thermo switch with reclose inhibition must automatically disconnect the system from the mains power supply.

Position the head-end station in the cabinet so that there is a minimum free space of 20 cm above and below, as well as 10 cm behind.



Earth connection installation

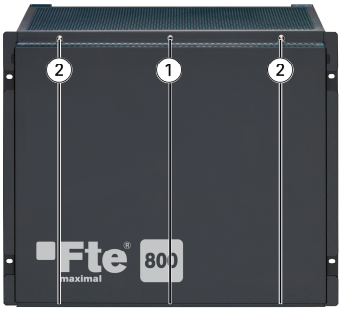
Install the earth connection in order to equalise the potential following these steps:



- Put the PE wire (Cu 4 mm^2 - 20 mm^2) into the hole (G) of the PE connection terminal and fasten the PE wire with the screw (H) securely.
- Connect the PE connection terminal to a PE rail (supplied by customer) using the PE wire.

Removing front cover

- Unscrew the locking screws (1)
- Loosen the mounting screws (2)
- Slide the front cover upwards and unhook it.



Installing a module

⚠ Before installing or changing a module unplug the power cable of the headend station from the mains power socket.

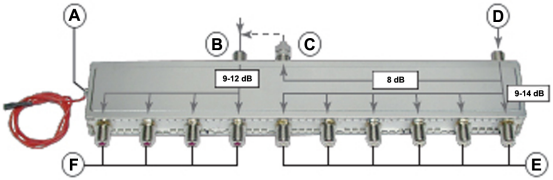
- Remove the 2 fastening screws (S) of an unoccupied slot (3) from the bracket of the headend.
- Insert the cassette in this slot and push it into the housing.
- Align the cassette according to the connections in the board and the RF collector and press it firmly into place in the headend.
- Fasten the cassette with the screws (S).

Connecting the SAT IF input distributor

⚠ The headend feeds the LNB's connected with 18V – 1 A. The total consumption of all LNB's never must exceed 1 A.

LNB's must be Quattro type for a correct behaviour of the installation.

The headend is equipped with 2 SAT IF input distributors. They have the following connections:



A. LNB power connection

B. SAT IF Input 2

C. Loop-through output of input 1 (D) with terminating resistor

D. SAT IF Input 1

E. 6 outputs of input 1

F. 4 outputs of input 2

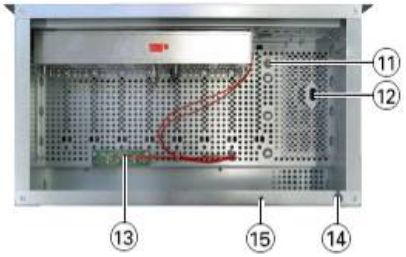
The following description refers to one of the SAT IF input distributors. The other SAT IF input distributors are connected in the same manner.

- Connect inputs (B) and (D) of the SAT IF input distributor to the LNBs.
- Terminate loop-through output (C) using the terminating resistor supplied.
- Connect outputs (E) and (F) of the input distributor on the front of the headend to the corresponding inputs on the modules, considering that in the 6 white-colored outputs (E) the signal on the input (D) is distributed and in the 4 red-colored outputs (F) the signal on the input (B) is distributed.

Note: Connecting the loop-through output (C) of the first input distributor to the input (B) of the second one, the input signal (D) on first distributor is sent the second one. This loop-through operation is not recommended because the loop-through connector adds 8 dB of losses.

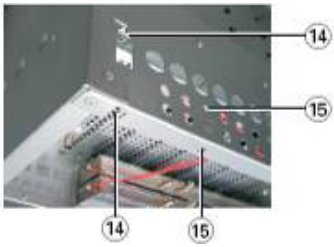
Connecting RF output of the headend

Connect the RF output of the headend (11) with an F connector in order to distribute the signal to the installation.



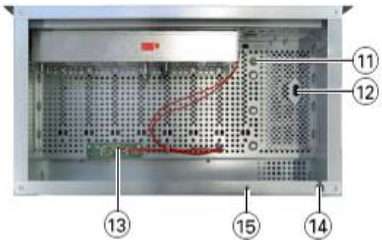
Mains connection

⚠ Use only the power cord supplied. It is part of the approval and must only be replaced by an original spare part.

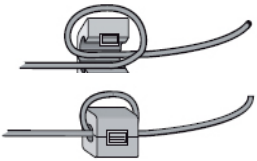


- Mount the power cord + strain relief optionally at the rear/bottom side (14) as showed in figure.

- Connect the power cord to the PSU (12)



- To maintain compliance with current EMC regulations, it is necessary to route the power cord through the supplied ferrite sleeve (24). Mount the ferrite sleeve as near as possible to the housing of the headend:
  - Open the ferrite sleeve
  - Make a loop in the power cord and lay the loop inside the ferrite sleeve
  - Close the ferrite sleeve



- Connect the power cord of the head-end station to the mains socket.

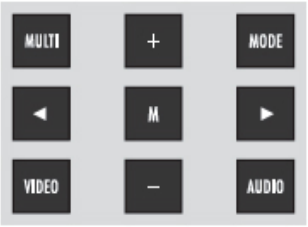
⚠ The head-end station is only completely separated from the mains voltage by pulling the power supply plug

2 Programming and configuration

2.1 Control panel description

Programme the module using the buttons on the control unit of the head-end station.

- MODE scrolls forward through the menus
- ◄ / ► select parameters in the menus
- + / - set values
- MULTI selects sub-menus
- AUDIO scrolls backward through the menus
- M saves all entries



2.2 Menu items

Use the MODE key to select the following menu items:

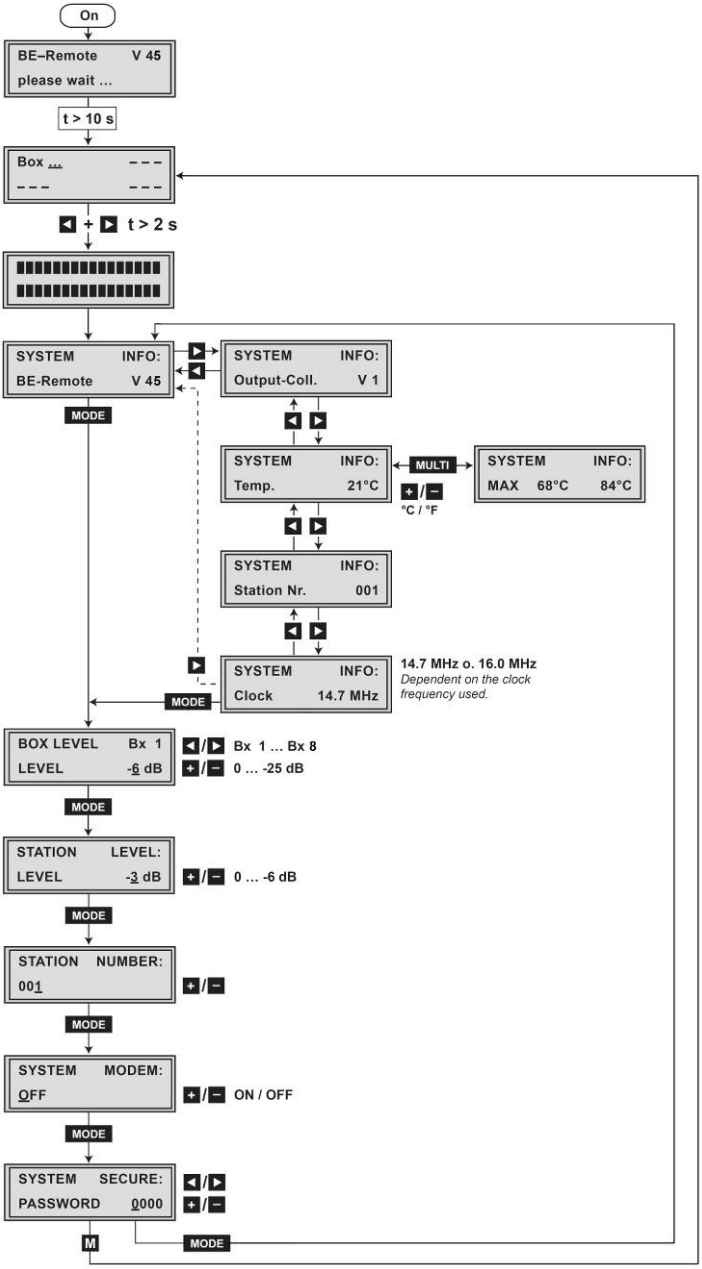
- System information
- Output level of the cassettes
- Output level of the head-end station
- Number of the head-end station
- Modem
- Password

The two-line display of the control unit then shows the menus.

2.3 Keypad advanced functions

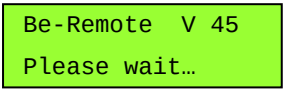
- Pressing the MODE button for longer than 2 seconds cancels the programming procedure. This takes you back to the programme item "System information" from any menu. Any entries that have not been saved are reset to the previous settings.
- Entries in the menus can be saved by pressing the M key. You are taken back to the "System information" menu item.
- The cursor position for settings is shown by "_".

2.4 Programming the headend



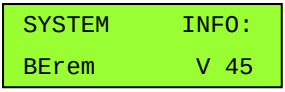
Switch on the headend and the display will show the software version of the headend.

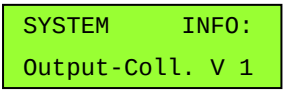
The processor reads the modules data.

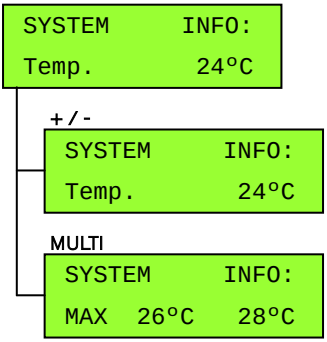


System information

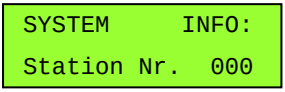
Activate the "System information" software by simultaneously holding down the buttons ◄ + ► for more than 2 seconds in the "Selecting the module" mode.. Inside this menu press the button ► (following information menus) or the button ◄ (previous information menus):

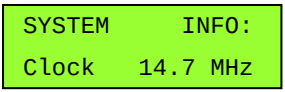






- BErem: This menu shows the software version of the control unit
- Output-Coll. : This menu shows the software version of the output collector
- Temp.: This menu shows the temperature inside the head-end station. Additionally the temperature display can be switched from degree Celsius to degree Fahrenheit and the highest inner temperatures recorded to date can be displayed:
  - Using the buttons **+** / **-** set the temperature display wished.
  - To activate the highest inner temperatures press the **MULTI** button. Press the button **MULTI** again to return to the previous menu.
- Station Nr.: This menu shows the number of the headend
- Clock: This menu shows the clock frequency of the control unit. The frequency can be 14.7 or 16.0 MHz.





Pressing the button **MODE** you return to the "System information – control unit".

Setting the RF output level of one module

```
BOX LEVEL  Bx  1
LEVEL      - 6 dB
```

This menu allows to select the modules one after the other and set their RF output levels..

Select all cassettes one after the other using the ◄ / ► buttons (**Bx 1… Bx 8**).

Equal their RF output levels to the value of the module with the lowest RF output level using the **+ / -** buttons (**0 … -25 dB**).

Press the **MODE** button to activate the next menu option.

Setting the global RF output level of the headend

```
STATION   LEVEL:
LEVEL     - 3 dB
```

This menu allows to set the RF output level of the headend to the requirements of the cable system.

Set the RF output level of the head-end station using the **+ / -** buttons (**0 … -6 dB**).

Press the **MODE** button to activate the next menu option.

Setting the number of the headend

```
STATION  NUMBER:
001
```

If several headends are used in a cable system the headends must get a consecutive number to identify them if the SW 800 software is used.

Use the **+ / -** buttons to set the consecutive number.

Press the **MODE** button to activate the next menu option.

Activating the modem conenction

```
SYSTEM    MODEM:
OFF
```

If the headend station is to be remote controlled using the SW 800 configuration software and a modem connected to the headend (without RCM 800).

Using the **+ / -** buttons switch on the modem mode "**ON**" or if necessary switch it "**OFF**".

If no modem is found "**NOT FOUND**" is displayed.

Press the **MODE** button to activate the next menu option.

Setting the password

In this menu the access to the software of the control unit and the cassettes can be refused.

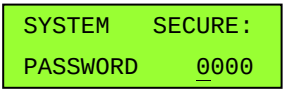
If you don't want to set any password, set this value to **0000**.

Use the ◄ / ► buttons to place the cursor under the digits to be set for the password.

Use the **+** / **-** buttons to set the digits of the password wished.

Press the **M** button in order to save all changes made on the headend.

Pressing the **MODE** button you will be returned to the menu item "System information – control unit" **without** saving the programmed data.



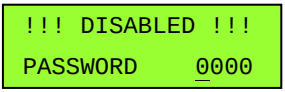
2.5 Access to programming menu using a password

If any password is set, it will appear a message asking for it in the display.

Use the ◄ / ► buttons to place the cursor under the digits of the password

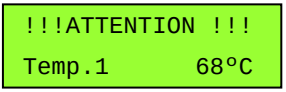
Use the **+** / **-** buttons to set the digits of the password.

Press the **MODE** button to validate the password and access the menu.



2.6 Excess temperature blocking

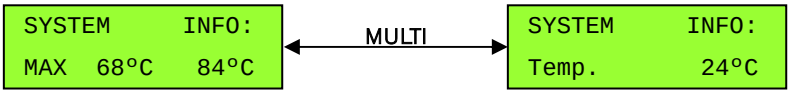
If the maximum permissible temperature for the head-end station (inner temperature) is exceeded, "ATTENTION" appears in the display.



In this operating state, the menus for the modules and operating unit are locked. To be able to access the menus for the modules and operating unit, the software needs to be unlocked.

In the "ATTENTION" menu, the number of the particular head-end station (e.g. "Temp.1") and the temperature (e.g. "68 °C") are displayed.

- Press the MODE button. In this menu, the inner temperature is displayed which activated the lock (e.g. "68 °C") and the highest inner temperature recorded to date (e.g. "84 °C"). The inner temperature which activated the lock must be deleted to reactivate the temperature monitor and the software. You can also select the current inner temperature.
- Press the MULTI button to select the current inner temperature (e.g. "24 °C").
- Press the MULTI button again to return to the previous menu.
- Press and hold down the ◄ button for at least 3 seconds to delete the activation temperature (e.g. "68 °C").
- Press the M button. The settings are saved.



3 Final procedures

After installing the headend, upgrading accessories or installing modules it is necessary to tighten all cable connections, cable terminals and cover screws.

4 Technical specifications

General	
Module slots number	8
Admissible ambient temperature	0°C ~ +50°C
Dimensions (Wide x Height x Depth)	483 x 397 (9 HU) x 302 mm
Weight (fully equipped)	Aprox. 20 Kg
LNB feeding	+18 V / ≤ 1 A total (short-circuit-proof)
RS 232 port	For software update and remote maintenance
SAT IF input distributor	2
Data of one SAT IF input distributor	
Frequency range	950 ~ 2150 MHz
SAT IF inputs	2 (F connectors)
SAT IF loop-through output	1 (F connectors)
SAT IF outputs	6 + 4 (F connectors)
Input / output impedance	75 Ω
Decoupling of the outputs	20 dB
Tap-loss 1-6	9 ~ 14 dB
Tap-loss 1-4	9 ~ 12 dB
Through-loss	8 dB
RF output	
Frequency range	45 ~ 860 MHz
Control range of each input	0 ~ -25 dB (electronically)
Control range of each output	0 ~ -6 dB (electronically)
Input / output impedance	75
Return loss	14 dB
RF output connector	F
Decoupling loss of the inputs	30 dB
Gain	13 dB
Output level with 16 channels	Maximum 100 dBµV
Power supply PS 800	
Mains voltage	220-240 Vac~, 50/60 Hz
Power consumption (fully equipped, incl. LNB)	150 W

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