

# Assembly Instructions

English



Grundig SAT Systems

## STC 160 Head-End Station FM Amplifier

HRM 225



### Notes on the Assembly Instructions.

As well as this supplementary Assembly Instructions, the Assembly Instructions for the STC 160 apply.



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# 1 Safety regulations



Please read the safety regulations listed in the assembly instructions for the STC 160 head-end station which pertain to this module.



When working on the modules, please take measures to protect against ESD!

## 2 General information

### 2.1 Scope of delivery

- 1 FM amplifier HRM 225
- 1 Attenuator (10 dB)
- 1 HF connection cables
- 1 CD (assembly instructions)
- 1 Brief assembly instructions

### 2.2 Meaning of the symbols used



Important note

- Performing works
- > General note

## 2.3 Technical data

The requirements of the following EU directives are met:

73/23/EEC, 89/336/EEC

The product fulfils the guidelines and standards for CE labelling.

### HF input:

Frequency range:	87.5 ... 108.0 MHz
Input level:	45 ... 65 dB $\mu$ V
Input impedance:	75 $\Omega$

### HF output:

Output frequency:	87.5 ... 108.0 MHz
FM selection:	> 60 dB
Output level:	max. 100 dB $\mu$ V
Output impedance:	75 $\Omega$
Gain:	17 ... 37 dB
Noise level:	6 ... 9 dB
Traps:	Quantity: 6 Tuning range: 87.5 ... 108.0 MHz Attenuation: typ. 10 dB

### Connections:

HF input:	1 IEC socket (female)
HF output:	1 IEC socket (female)
Connection strip (20-pin):	For supply voltages and control circuits

## 2.4 Description

FM signals can be supplied to the cable network over the FM amplifier HRM 225. This involves sending the FM signals over an IEC socket to the FM amplifier. To eliminate interference, up to 6 different input frequencies can be lowered with tuneable traps. The amplified, selected HF signals are supplied to the cable network over the HF output of the FM amplifier.

If the FM amplifier is not detected by the head-end, station you can update the head-end station's operating software over the head-end station's 9-pin Sub-D socket, by using a PC or notebook and the "**BE-Flash**" software.

You can find the current operating software and the software “**BE-Flash**” on the website “[www.gss.tv](http://www.gss.tv)”.

The FM amplifier HRM 225 is designed exclusively for use in the STC 160 head-end station.

### 3 Installation



#### Caution

- Ensure the head-end station is mounted so it will not be able to vibrate. Avoid, for example, mounting the head-end station onto a lift shaft or any other wall or floor construction that vibrates in a similar way.
- Before installing or changing a module, switch off the head-end station or unplug the power cable from the mains power socket.



Take measures to protect against ESD!

#### 3.1 Installing the FM amplifier



#### Caution

- When installing a module, make sure that it is inserted in one of the long, numbered grooves in front of the contact strip on the board at the rear wall of the housing.
  - The shorter, non-numbered grooves without a contact strip on the board at the rear wall of the housing are for add-on modules only.
- Open the housing of the head-end station in accordance with the assembly instructions for the STC 160.
  - Open the locking device ① in the direction of the arrow (fig. 1).

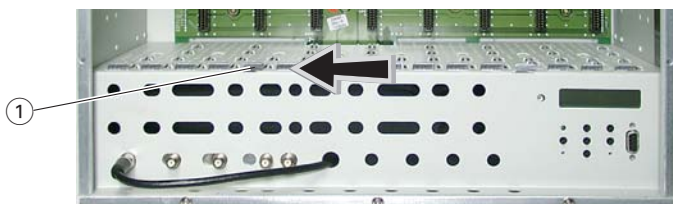


Fig. 1

- Insert the FM amplifier in grooves ① and ② of an open slot (fig. 2) and gently slide it into the head-end station until it makes contact with the board on the rear wall.

- After installing the module close the locking device ① in the direction of the arrow (fig. 2).

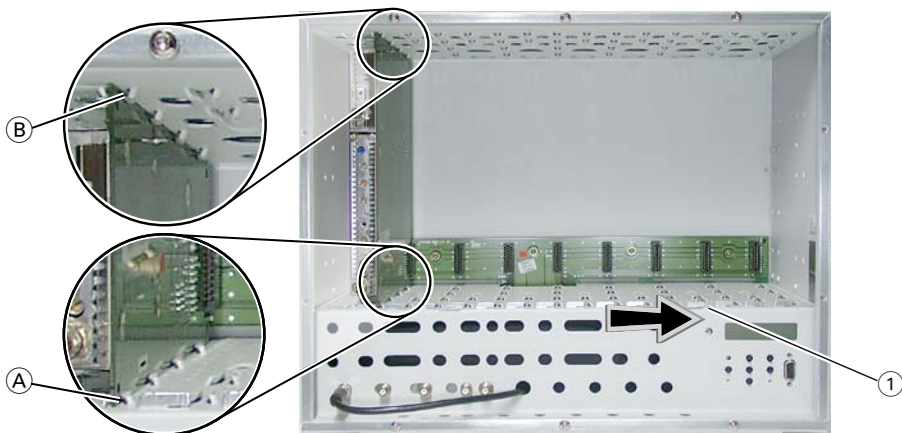


Fig. 2

### 3.2 Connecting the FM amplifier

- After setting the FM amplifier (chap. 4) connect its output ③ to one of the inputs ④ of the quad output collector using the attenuator ⑤ and the IEC / F cable supplied.
- Connect input ④ of the FM amplifier to one of the preinstalled F terminals in the rear wall via the cable inlet ⑥ using an HF cable made on-site (length approx. 80 cm).

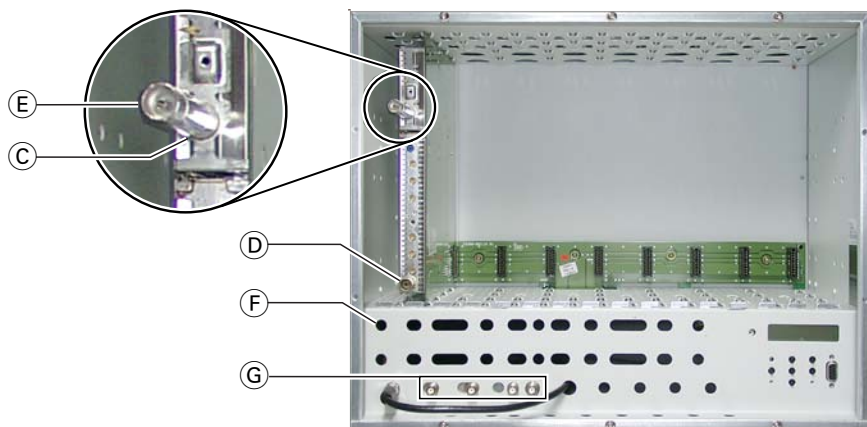


Fig. 3

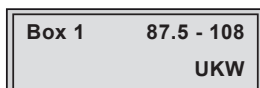


After installing the head-end station, retrofitting accessories or installing modules it is necessary to tighten all cable connections, F terminals and cover screws in order to maintain compliance with current EMC regulations and to ensure a reliable operation.

## 4 Setting the FM amplifier

In order to prevent interference, too high signal levels, e. g. of local transmitters, can be reduced by absorption circuits.

- Switch on the head-end station.  
—> The display shows the following indication for the FM amplifier.



**If the module is not indicated update the software of the control panel.**

- Connect a spectrum analyser to the output (C) of the FM amplifier.
- Set level regulator (1) to the mechanical centre.

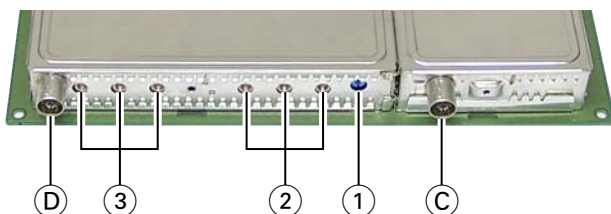


Fig. 4

- If necessary tune the absorption circuit groups (2) and (3) to the frequencies to be lowered.  
—> You can lower 3 interfering frequencies each with the absorption circuit groups (2) and (3). If the adjustment range of an absorption circuit, for example from group (2) is inadequate, you can lower the frequencies even further with an absorption circuit that is tuned to the same frequency from group (3).

## 5 Final procedures

- Connect output ③ of the FM amplifier to one of the inputs ④ of the quad output collector using the attenuator ⑤ and the IEC / F cable supplied. (fig. 3).
- Set the output level required for the cable system with level regulator ①, (Fig. 4).
- Mount the base plate and the front cover (see STC 160 assembly instructions).