

## Product description

Multiband amplifiers MA044M, MA045M are intended to amplify FM radio and TV signals in VHF+FM, VHFIII and UHF bands.

There is a possibility to adjust the gain of the amplifier in every sub-band. The gain increases up to 10 dB by fine turning regulators (6) clockwise in every sub-band and an additional 10 dB by switching switches (7) in VHF and UHF bands.

The amplifiers can provide power (+12 V) to external equipment through one UHF input connector (3) by a switch ON/OFF (10). Power feed for external equipment has short circuit and overload protection. In normal conditions indicator (5) glows green. If short circuit and overload conditions are detected - glows red.

The amplifiers are intended for indoor use only.

## Safety instructions

Installation of the amplifiers must be done according IEC60728-11 and national safety standards.

The amplifier is powered from mains 230 V~. This voltage is dangerous to life.

Any repairs must be done by a skilled personnel.

The amplifier is double isolated from the mains 230 V~.

Do not remove the cover of the power supply section, without disconnecting the unit from the mains supply.

Do not plug the amplifier into the mains supply if the power cord or plug is damaged.

Do not plug the amplifier into the mains supply until all cables have been connected correctly.

The mains socket must be easily accessible.

The amplifier shall not be exposed to dripping or splashing water.

Avoid placing amplifier next to central heating components and in areas of high humidity.

If the amplifier has been kept in cold conditions for a long time, keep it in a warm room no less than 2 hours before plugging into the mains.

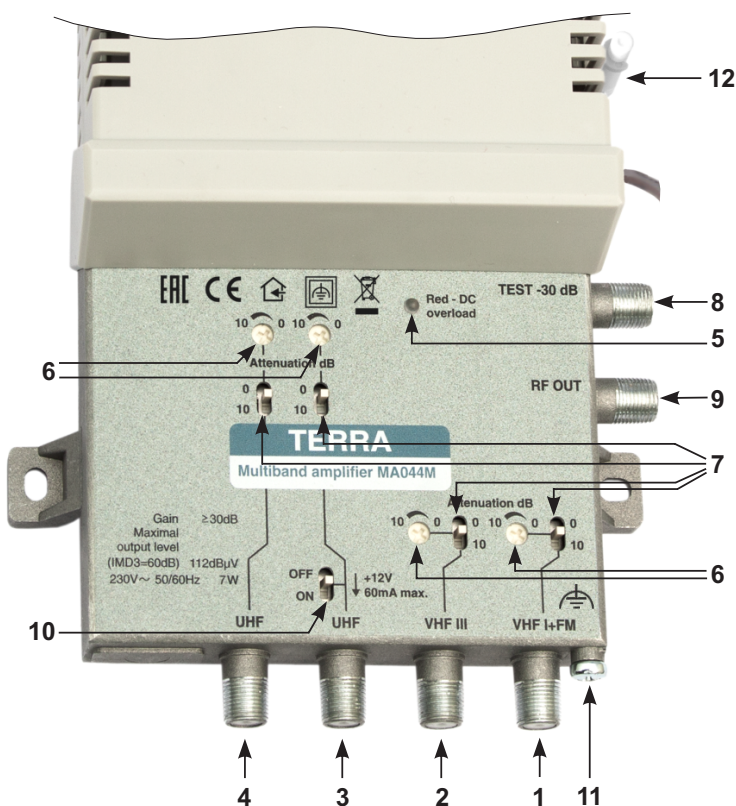
Do not insert any objects into ventilation openings.

The ventilation should not be impeded by covering the ventilation openings with items, such as newspapers, table-cloths, curtains.

Mount the amplifier in vertical position with RF input connectors underneath. The amplifier must be fixed with steel screws  $\varnothing$  4-5 mm. The screws are not included in a package. Mount in locations where children not likely to be present. Shields of cables must be connected to main potential equalization bus.

From top, front and bottom of installed amplifier must be at least 10 cm free space.

## External view



1. VHF I+FM input
2. VHF III input
3. UHF input, DC output
4. UHF input (MA044M)
5. Internal DC and external equipment short circuit and overload indicator
6. 10 dB fine tuning gain regulators for each sub-band
7. 10 dB gain switches (10 dB attenuation for each sub-band)
8. Test point -30 dB
9. RF OUT - RF signal output connector
10. ON/OFF switch - DC feeding for preamplifier
11. Functional ground clamp
12. Screwdriver

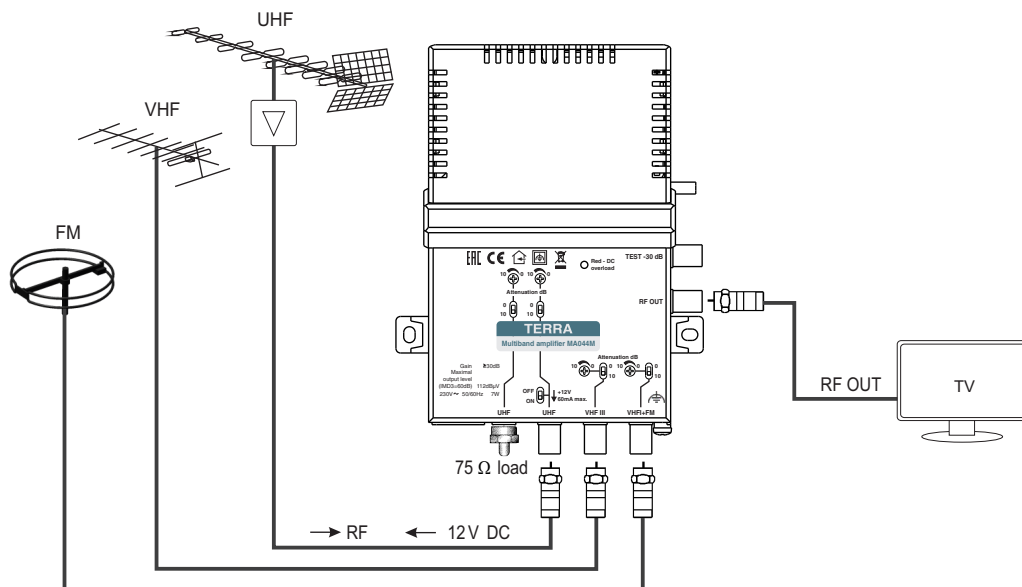
## INSTALLATION INSTRUCTIONS

Read the product description and safety instruction first.

Installation of system according standard IEC60728-11 ensures safety of personnel and prevents apparatus against damaging due to lightning or other sources of overvoltage surges.

If RF inputs connectors on the amplifier are not used, connect to them the 75  $\Omega$  loads.

# INTERCONNECTION EXAMPLE OF ASSOCIATED APPARATUS



## Technical characteristics

| Type  |                      | MA044M                      | MA045M |
|---|----------------------|-----------------------------|--------|
| Gain  | VHF+FM (47-108 MHz)  |                             | 30 dB  |
|   | VHFIII (174-230 MHz) |                             | 30 dB  |
|   | UHF (470-862 MHz)    | 2x34 dB                     | 34 dB  |
| Number of inputs                                |                      | 4                           | 3      |
| Noise figure, typical                           | VHF                  | < 6 dB                      |        |
|   | UHF                  | < 6 dB                      | < 4 dB |
| Maximal output level IMD3=60 dB (DIN45004B)     |                      | 115 dBµV                    |        |
| Gain control                                    |                      | 0 ÷ - 20 dB                 |        |
| Return loss                                     |                      | > 10 dB                     |        |
| Test point                                      |                      | - 30 dB                     |        |
| DC feeding for external                         |                      | 12 V  60 mA max.            |        |
| Supply voltage limit values, power consumption* |                      | 200 V ÷ 250 V~ 50/60 Hz 7 W |        |
| Operating temperature range                     |                      | -20° ÷ +50° C               |        |
| Dimensions/Weight (packed)                      |                      | 135x180x52 mm/0.72 kg       |        |

\* with external DC loading

- Caution.
- Risk of electric shock.
- This product complies with the relevant clauses of the European Directive 2002/96/EC. The unit must be recycled or discarded according to applicable local and national regulations.
- Equipment intended for indoor usage only.
- Equipment is double insulated from the mains, with functional earthing.
- Functional earthing. Connect to the main potential equalization.
- This product is in accordance to following norms of EU: EMC norm EN50083-2, safety norm EN IEC62368-1 and RoHS norm EN50581.
- This product is in accordance with Custom Union Technical Regulations: "Electromagnetic compatibility of technical equipment" CU TR 020/2011, "On safety of low-voltage equipment" CU TR 004/2011.