

Tugicom RF Design

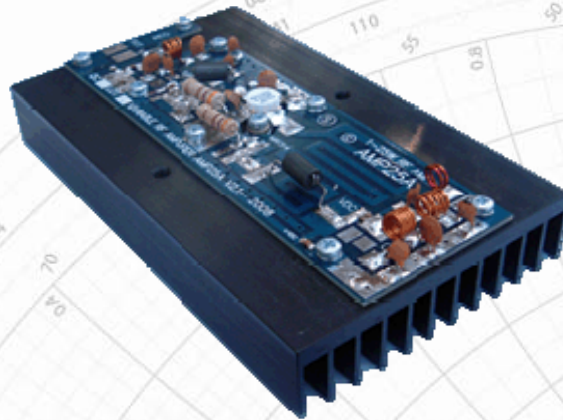
AMP25 – 25W RF Amplifier

User Manual



AMP20W 20W RF AMPLIFIER

AMP20W is a cost effective Plug & Play broadband 20W RF amplifier designed to offer excellent performance, clean spectrum and 24/7 operation for many years



Features

RF Output Power: Minimum 20Watts (25W Typical)

RF Input Power: 1 Watts

Output & Input Impedance: 50 Ohms

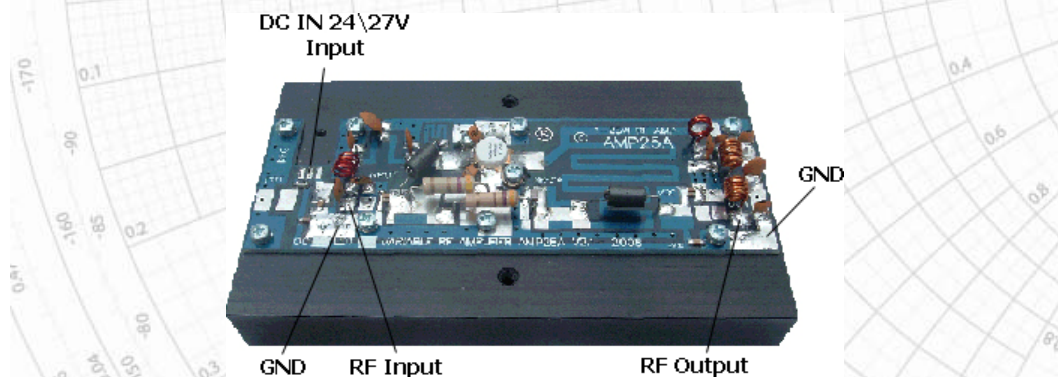
Frequency Range: 87.0MHz -108MHz

Low Pass Filter onboard for clean spectrum

Please read all manual, before operating !!

This amplifier is very easy to operate, it is powered by a DC power supply of 24V/2A and will output minimum 20W from a 1W input in the FM broadcast band (87.5-108Mhz), This manual will help you connecting, operating and understanding all information for reliable operation.

STEP 1 - CONNECTING



Connection instructions for AMP20W

1. Connect the coax cable from the 1W exciter/transmitter to the "RF INPUT" lead pad and the shield to the GND.
2. Connect the coax cable of the Antenna to the "RF OUPUT" lead pad and the shield to the GND.
3. connect the 24-28V DC Minimum power supply to the POWER SUPPLY connection marked with **DC in**

STEP 2 - OPERATING

You must verify that an antenna or a 50ohm dummy load is connected to the output, a missing antenna or mismatched antenna could damage the output transistor which is NOT included in warranty!

1. Connect the antenna or dummy load to the RF output.
2. Power up the power supply.
3. Turn on the 1W exciter.
4. In AMP20WA

In this point, a 20W should be driven to the antenna, If you have Watt meter it will be the best way to test the output power, if a watt meter is not available, you can test the Current from the power supply a consumption of 1.5A-2A is the normal current and should output 20W.

Antenna

The antenna is one of the major elements which effect on the range of your broadcast. You will need to pay attention to the coaxial cable which will be described later. The Best position for a FM broadcast antenna is the highest place which from him you have line sight as far as possible without any interference from other buildings, mountains and other high object which may interfere your broadcast signal. Always remember that the critical parameter is not whether you broadcast 1W or 5W, but whether you are 10 or 15 meters above ground. The best antenna for this transmitter will be a 50 ohm antenna which was matched exactly to the frequency you will need to use, but the price of those antennas may be high.

For a low cost antenna, we recommend standard "dipole" FM antenna from any radio equipment which looks like 2 radiators in calculate length $75/\text{freq}(\text{MHz})$, example: At frequency of 100MHz, the length of each radiator will be 0.75m.

Many antenna designs are also available on the internet.

If you need a simple temporary antenna, connect a 75 cm wire to the center of the RF output connector, not ideal but will do the job to broadcast locally. Notice: you must keep distance between the temporary antenna and audio cables & devices.

CAUTION: DO NOT TOUCH CENTER LEAD on ANTENNA OUTPUT when transmitter is turned on, it may cause SERIOUS RF BURNS!

That's all, have fun transmitting and always remember not to disturb other stations, it is against the law.

Thank you for purchasing one of our products.
Tugicom RF Design.

Come visit our website for updates and new products: www.tugicom.com

Please check the rules in your country before operating radio equipment.