

DIY599.com

RF linear power amplifier with build-in antenna tuner (ATU)

PA500

Advance settings

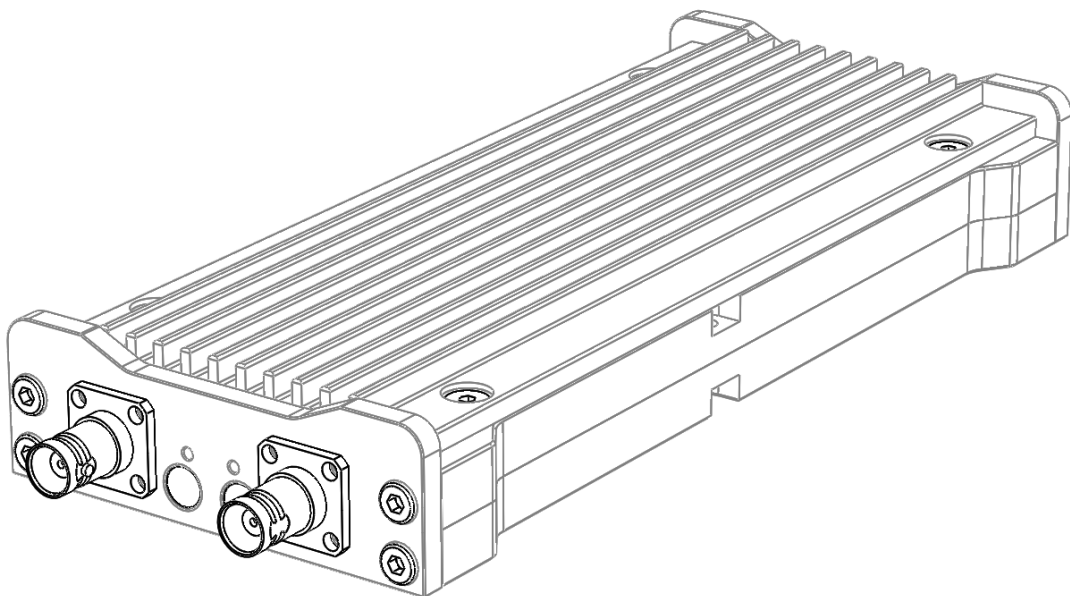
PCB Version 2.9/3.0

operating frequency range between 3.5MHz-30MHz

The device requires an amateur radio transceiver to operate.

This device is for use by licensed radio amateurs only

FCC-ID: 2A2IEPA500

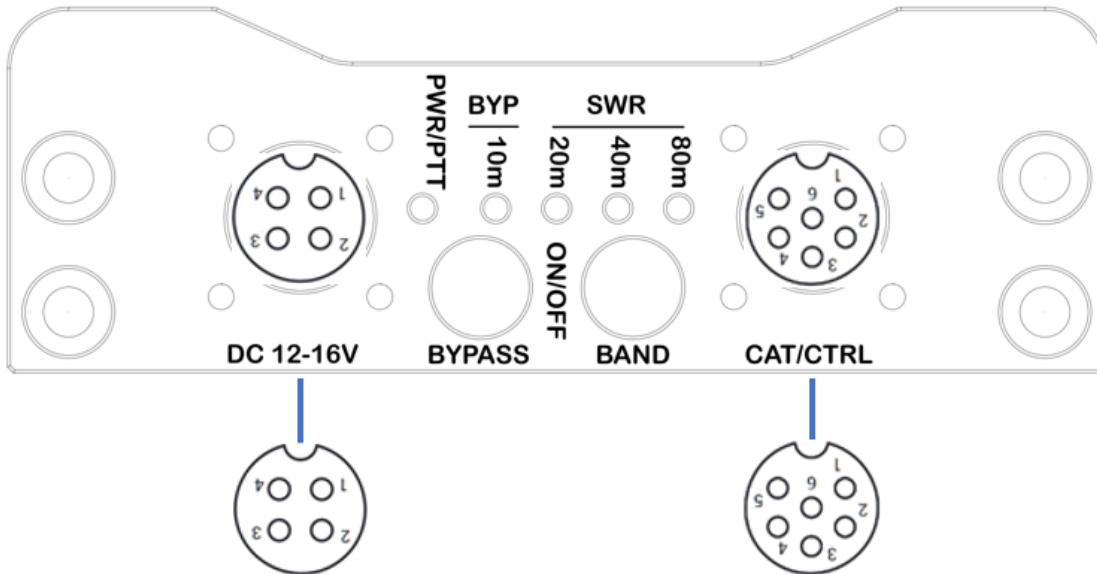


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connectors

left side



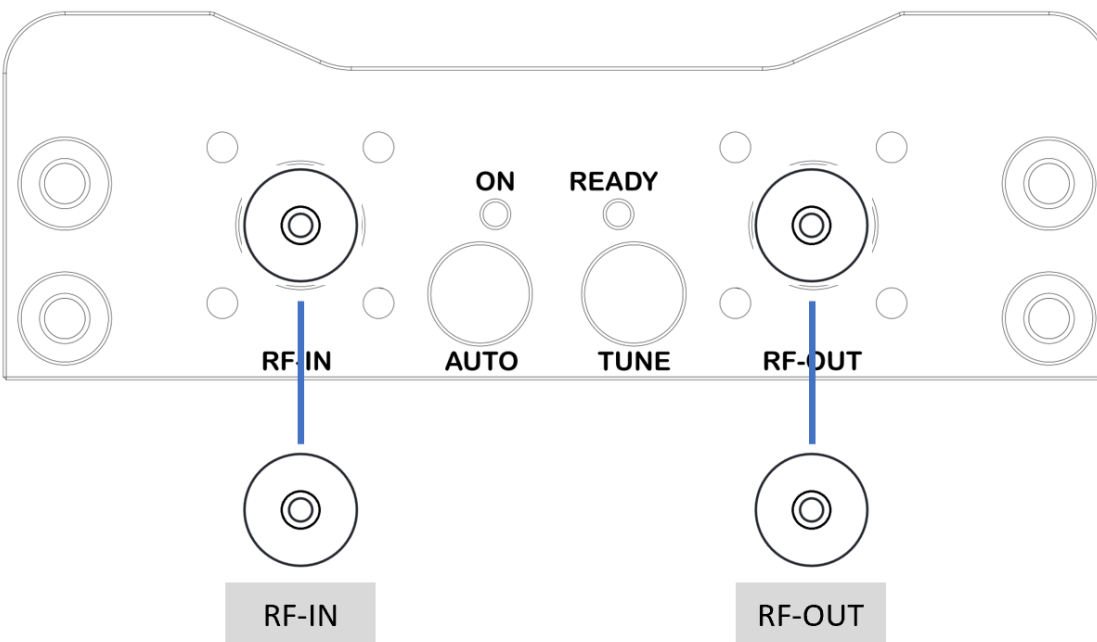
- 1 – GND
- 2 – GND
- 3 – DC IN (12-16.8V)
- 4 – DC IN (12-16.8V)

- 1 – GND
- 2 – TX DATA
- 3 – RX DATA
- 4 – PTT/KEY-IN
- 5 – fan PWM Signal (for HW > V2.8)
- 6 – 12V Source 150mA (for HW > V2.8)
(5V Source 100mA for HW < V2.8)



there is no reverse polarity protection, incorrect wiring will destroy the device.

right side



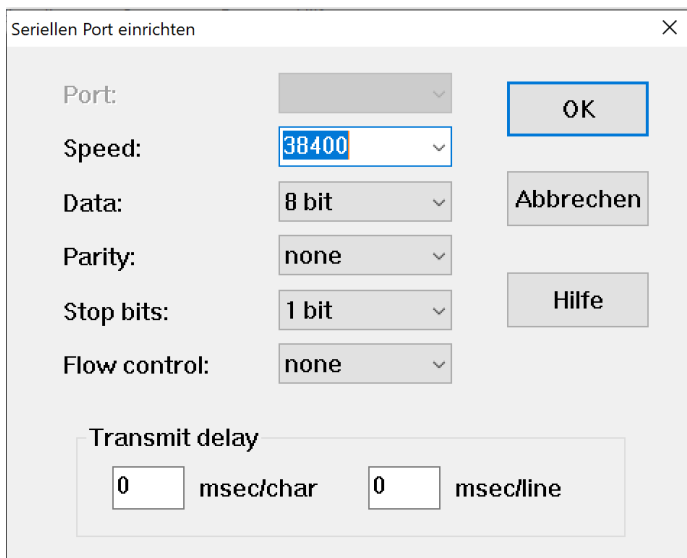
Set the unit into full-automatic mode

make sure that the device is powered-off.

1. TAP and HOLD BAND and BYPASS button for about 1 seconds
2. Release **BAND** button and CONTINUE to hold the **BYPASS** button for one more second
3. PA will be powering ON (white LED is ON)
4. Toggle through the modes by tapping the BYPASS button, to the MODE 2 (only yellow LED on)
5. Tap the BAND button to save the configuration.
6. Tap and hold BYPASS and BAND button to power-off the device

Advance settings (need a USB-UART cable)

Start TERA Term (or an alternative terminal program) on your computer. Set the COM Port to the port number of the calibration-adapter. The Baud rate need to be set to 38400.



make sure that the device is powered-off.

1. Remove the power cable from the PA500
2. Tap **BAND** and **hold the button**
3. Connect the power cord to the PA500, **still hold the BAND button**
4. PA will be powering ON (white LED is ON)
5. Follow the instruction on the computer screen
6. Follow the instruction on the computer screen to continue and finish the procedure

Terminal window:

```
start system > PA RF frequency read calibration
press BYPASS Button
*****

Code_version Version of the PA500 is: 2707

(1) Test Band-Filter Relais and LEDs
(2) change RF-VOX PTT release time, currently: 13
(3) change RF-VOX PTT restart time, currently: 8
(4) change RF-VOX PTT sensitivity treshold, currently: 100
(5) continues Heatsink temperature reading, current temperature is 22C
(6) Radio Control Mode, current Mode: Automatic Band selection, RF-Sense PTT
(7) Enable/disable 60M Band, currently the 60M Band is disabled
(8) Debug Mode ON/OFF, currently the Debug Mode is OFF
(9) Start calibration process
(ESC) Exit and restart the PA500

*****
```

Note: the calibration (9) cannot be performed by a user.

Configuration examples for CW operations

CW operators wish sometimes a faster response time of the hardware. To avoid relay clicking, it may be necessary to adjust the PTT release time, the PTT restart time and VOX-PTT-Sensitivity.

A good value may be the following setting.

- (2) PTT-release-time = 13
- (3) PTT-restart-time = 1
- (4) VOX-PTT-sensitivity = 100