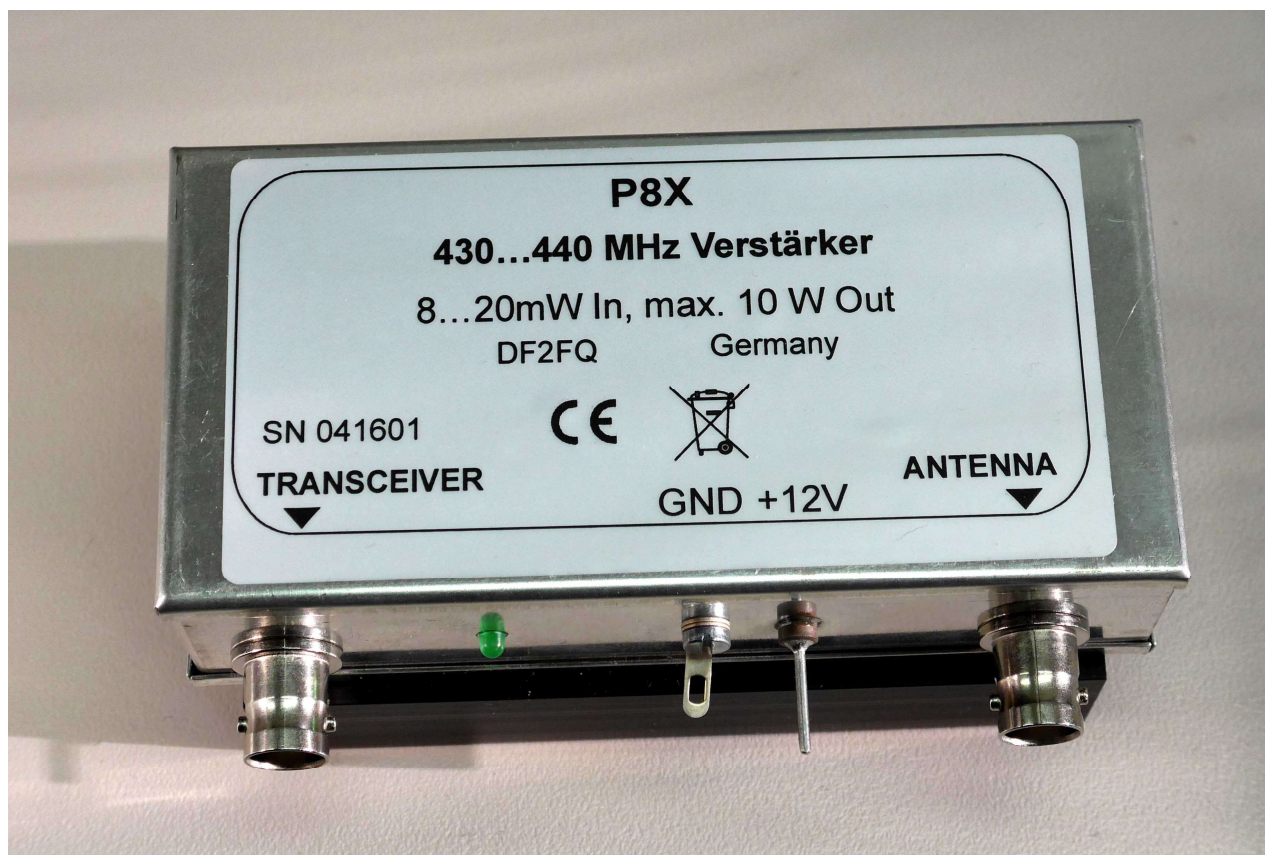


Manual to the UHF-Power Amplifier **P8X**



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Introduction

The P8X is a UHF power amplifier with solid-state receive-transmit switch with a switching time below 100 μ s. Due to the linear operation the RF envelope is reproduced precisely and no additional adjacent channel noise will be generated. The unit is suited for the amplification of low-power transceivers for FM and digital voice in particular in TDMA mode.

Technical data

Output power:	8 Watts at 13.8V and 10mW input power
Driving power:	8 – 16dBm (6.5 - 40mW)
Harmonics:	< -60dBc
Transmit-receive delay:	<100 μ s
RX loss:	< 1dB
Power supply voltage:	10.5 ... 13.8 Volts
Current consumption:	max. 2 A, Stand-by ca. 8mA
Size:	110x70x50mm with heatsink
Temperature range:	-30 ... 60°C

Excitation

With no supply voltage the RF signal passes between input and output with low loss. As soon as the input power reaches a few Milliwatt and supply voltage is attached the PA switches on indicated by the Led on the front panel.

In stand-by the current consumption is low but not zero. This must be regarded if the supply comes from batteries. The output power is adjustable. If the cover is opened there is a small variable resistor (R11) by which the power can be adjusted between 1W and full power.

The input power must not go below 8dBm (6.5mW) otherwise the RF-VOX can come into an unstable condition and the transmit spectrum gets very large. The upper limit for normal operation is 16dBm (40mW). If the drive power exceeds this value it is possible to place an attenuator on the PCB.

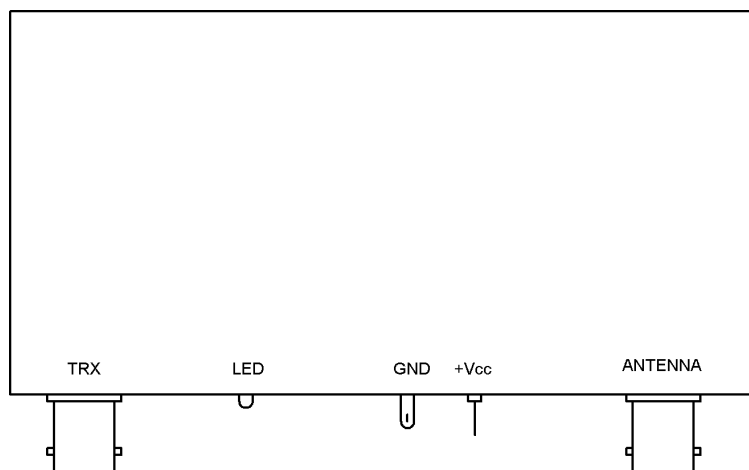


Fig. 1, Connection Diagramm

Please notice that common to all low power radios like DV4mini or RFShark which may drive the PA is that they have a poor or no RF shielding on the PCB. If you are planning your installation you should take care that due to the high gain of the P8X you will require a sufficient de-coupling between the radio module and the antenna (not the PA itself, the unit has a good shielding) otherwise you may

get unwanted oscillations. Therefore it is not recommended to use the PA e.g. with an indoor antenna. Also the VSWR should be at least better than 2. Essentially are also cables with a good shielding. All models delivered from 2017 on include a protection against wrong polarity.

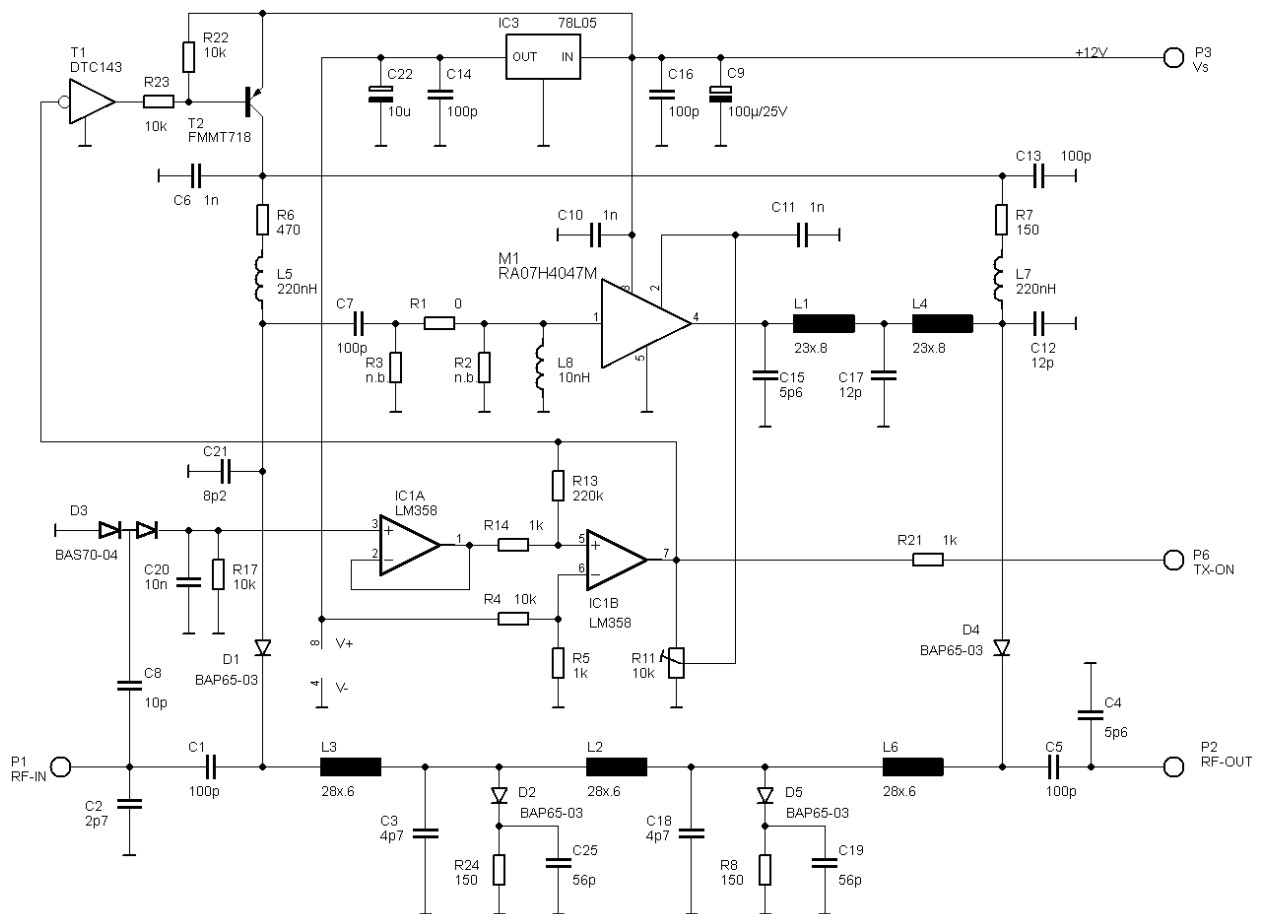


Fig. 2, Schematics

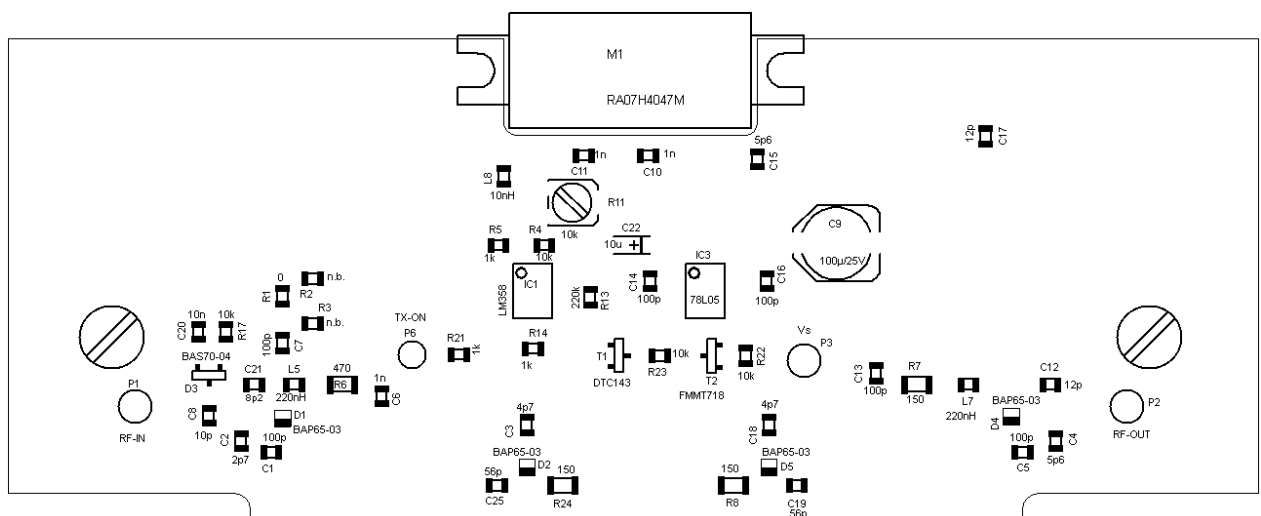


Fig. 3, Place plan