

# Transverter Interface for the IC7300 SDR Transceiver

DB6NT 5.2018



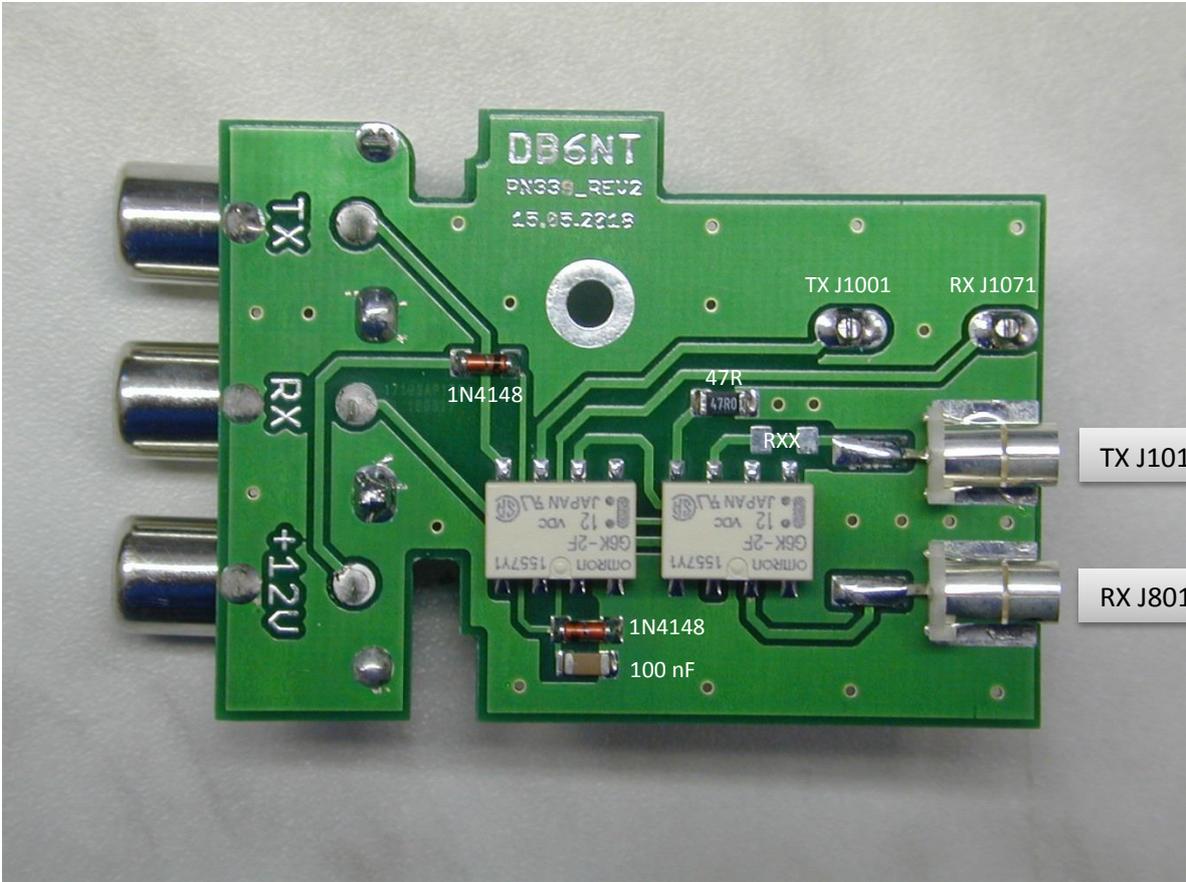
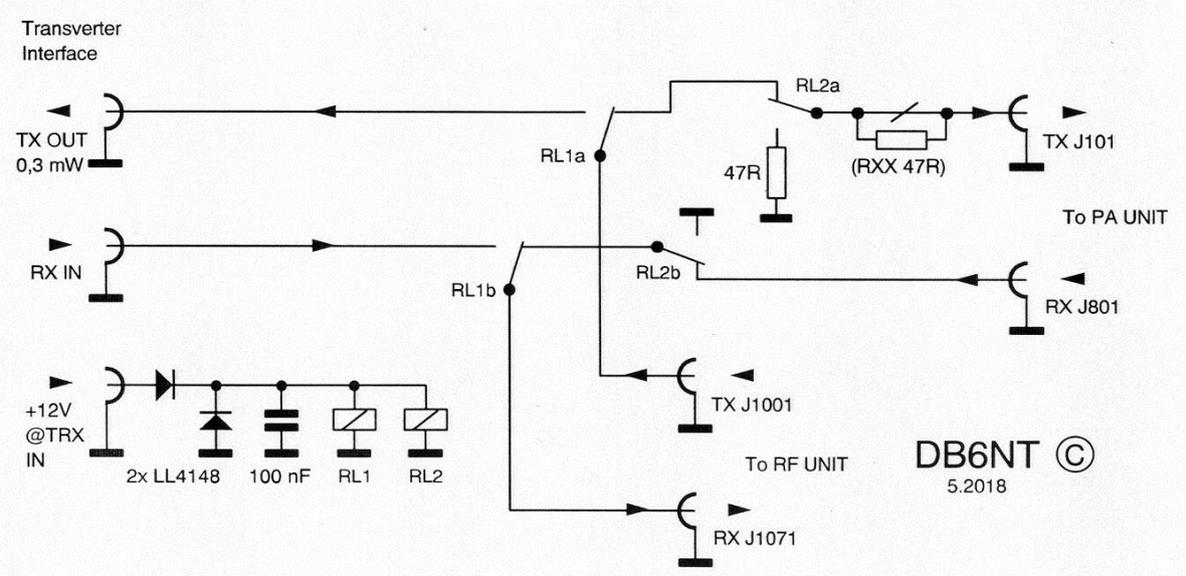
Since the transceiver IC7300 has no transverter output, a small PCB has been developed to allow the connection of a transverter.

The circuit described here is intended for installation in the transceiver. In this case, the connector strip on the rear wall, which is intended for the connection of an external tuner, is banned in the interior and the interface circuit board is installed in its place.

The circuit separates the RF connection in the transceiver between the RF PCB and the PA PCB in transverter mode and allows the connection of a transverter. The transverter module is activated by feeding in + 12V via the TRX-IN input. Now the transmit signal (about 0.3 mW) on the TX-OUT socket and the receiver input on the RX-IN socket are available. The built-in shortwave PA of the transceiver is terminated with 47 OHM in the input. A further deactivation of the PA is not provided, since otherwise interventions in the transceiver are necessary, which exclude a possible warranty service of the manufacturer.

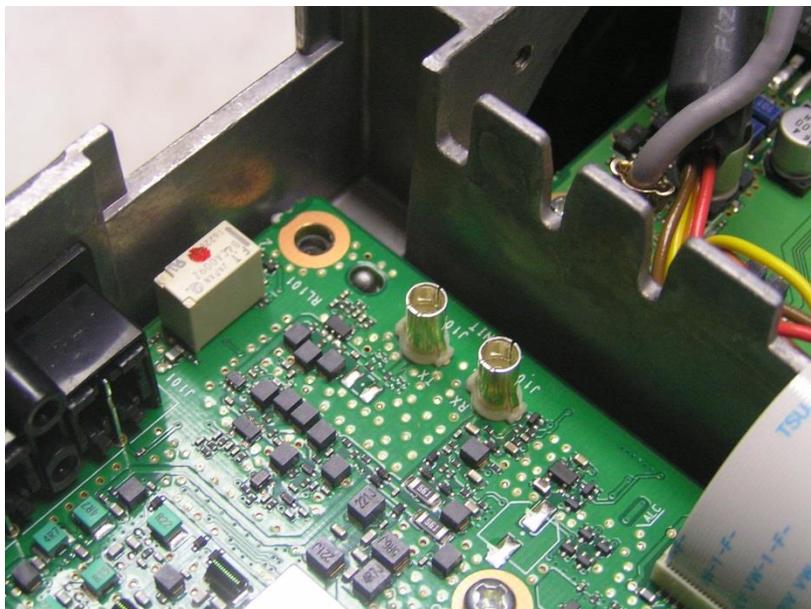
The printed circuit board is made of 1.5 mm thick epoxy material and is simply installed in the position shown in the photo. On the bottomside of the board two short pieces of 35 ohm 3.6 mm semi-rigid cables are soldered, which have the correct dimensions to fit into the sockets of the RF-UNIT of the transceiver. These short lengths of cable should be adjusted in length and orientation to the sockets. The center conductors should be sharpened with the file. This facilitates the insertion into the sockets on the circuit board.

The assembly work should be done very carefully and without mechanical stress on the transceiver PCB. The conductor plate is fastened by replacing the tapping screw on the edge of the RF-UNIT PCB with a longer (3 x 30mm) with a spacer roller (18mm). It also works with a M3 x 25 screw if no sheet metal screw is present. The screw can also be screwed in without prior tapping.

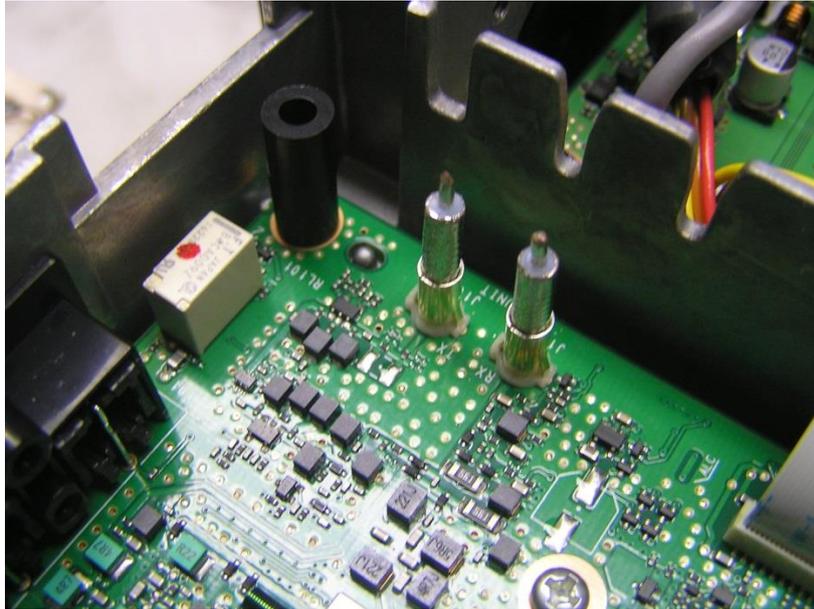


Construction order:

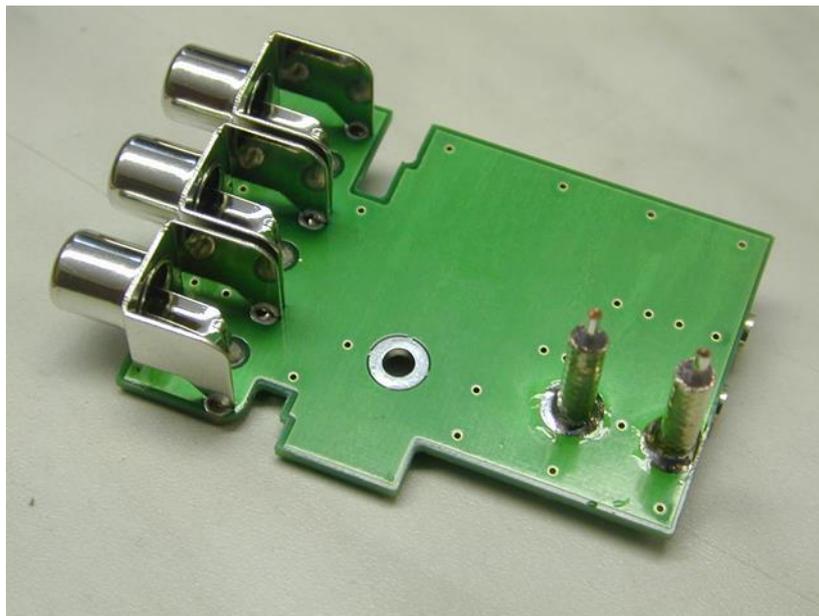
- 1.) Equip circuit board with relays, diodes, resistor and sockets.
- 2.) Strip and sharpen the coax pieces at the ends.
- 3.) Insert coaxial pieces into the sockets of the transceiver. Pull out the plug first.
- 4.) Put on the printed circuit board and solder the center conductors of the coaxial pieces.
- 5.) Pull out the PCB with the coaxial pieces again.
- 6.) Solder outer conductor of the coax pieces to the printed circuit board.
- 7.) Unscrew the mounting bracket of the transceiver PCB and put on the spacer roller.
- 8.) Replace the interface PCB and screw it on.
- 9.) Insert the coaxial cable into the sockets of the interface PCB.
- 10.) Try and then screw the transceiver back together.
- 11) Finished



The total length of the cable pieces is 21 mm. 4mm stripping on each side.  
The length of the outer conductor is thus 13.0 mm.



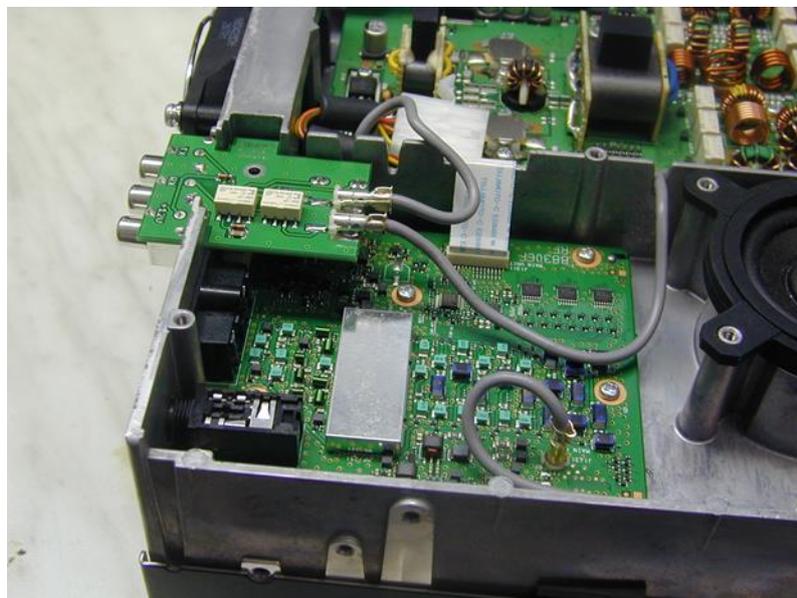
Here you can see the spacer roll and the cable pieces inserted for the test.



Here you can see the bottomside of the printed circuit board with the sockets and the soldered cable pieces.

**Note:** For some IC7300, and as far as our investigations went mainly delivered to UK with the serial numbers 03002xxx, a tendency for oscillation was noted. Full output power in SSB operation on shortwave was present ( even without a voice input signal from microphone ).

The additional installation of "RXX 47 Ohm" resistor helped eliminating this effect in most cases. To mount RXX 47 Ohm, please interrupt the conductor between the solder joints foreseen already ( please refer for position of RXX 47 Ohm to picture on page 2 ).



**Thanks:**

Many thanks to Klaus DK3HA for the revision of the circuit board.

Many thanks to Matthias DK5NJ for the translation.

**Bezugsquelle:**

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**The construction, as well as the installation of the PCB should be done with a practiced and careful hand!  
Please note: The installation is at your own risk.**