



25-pin Transceiver Connector on the rear panel of RigExpert Interfaces

Pin	Pin name	Comment
1	FSK_OC	FSK open-collector output
14	FSK_PULLUP	Pullup to +5V through 4.7K resistor
2	DIT	CW paddle input (dit), shorten to ground – RigExpert Plus/TI-5 only
15	DAH	CW paddle input (dah), shorten to ground – RigExpert Plus/TI-5 only
3	VCC	+5V output (USB power line)
16	PTT5V	TTL-level PTT output (5V in transmit, 0V in receive mode)
4	CW_OC	Open-collector CW output
17	PTT_OC	Open-collector PTT output
5	DCD	DCD (squelch) input
18	12V_MAX	+12V output (generated by MAX232 chip)
6	SPK_TRCVR2	Transceiver audio output (speaker), sub receiver
19	RXD_OE	Serial input (5V levels), connect RXD5V to VCC to activate this input
7	CIV_IN	CI-V input (ICOM transceivers), pulled up to 12V_TRCVR with 4.7K
20	12V_TRCVR	Connect to VCC to power the CIV_IN input
8	CIV_OUT	CI-V open-collector output (ICOM transceivers), connect to CIV_IN
21	CO_PULLUP	Pullup to +5V through 4.7K resistor
9	TXD12V	RS-232-compatible serial output (±12V levels)
22	RXD12V	RS-232-compatible serial input (±12V levels)
10	TXD5V	Serial output (5V levels)
23	RXD5V	Serial input (5V levels)
11	GND	Digital ground



24	GND	Digital ground
12	SPK_TRCVR	Transceiver audio output (speaker)
25	MIC_TRCVR	Transceiver audio input (microphone)
13	AGND_TRCVR	Audio signal ground

Audio in/out:

1. SPK_TRCVR is connected to the transceiver speaker (or line out) output.
2. SPK_TRCVR is connected to the transceiver speaker (or line out) output for the sub receiver (if available).
3. MIC_TRCVR is connected to the transceiver microphone (or line in) input.
4. AGND_TRCVR is connected to the transceiver ground (connection point should be as close to the transceiver as possible).

RigExpert interfaces decouple audio in/out signals from computer signals using transformers, which prevents interference caused by parasitic current in grounding.

FSK output:

FSK_OC is an open-collector output, sinking 50mA maximum (using BC817 NPN transistor). Connect this pin to FSK_PULLUP to obtain the TTL-level output.

PTT and CW outputs:

PTT_OC and CW_OC are open-collector outputs, sinking 50mA maximum (using BC817 NPN transistors). PTT5V is a TTL-level PTT output (5V in transmit, 0V in receive mode), output current is 5mA maximum.

CW paddle inputs:

DIT and DAH are CW paddle inputs (single or double paddle for yambic keying), pulled up to +5V with 4.7K resistors.

Serial in/out:

RigExpert interfaces provide various methods of connecting serial in/out lines with different signal levels to the virtually any model of transceiver. This only requires shortening some pins on the RigExpert transceiver connector.

RS-232-compatible mode uses TXD12V and RXD12V lines with $\pm 12V$ signal levels, provided by MAX232 interface chip.

CI-V mode uses CIV_IN and CIV_OUT lines (should be shortened together). CIV_IN is internally pulled up with 4.7K resistor to 12V_TRCVR, which should be connected to VCC.

TTL-level (5V) mode uses TXD5V and RXD5V lines. Signal polarity is opposite to RS-232 mode.

Yet another TTL-level mode (signal polarity is the same as with RS-232 mode) uses CIV_OUT output (should be connected to CO_PULLUP) and CIV_IN input (12V_TRCVR line should be connected to the VCC output). It is better to use RXD_OE input in this mode (RXD5V should be connected to VCC to activate this input).



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