

Digital Interface



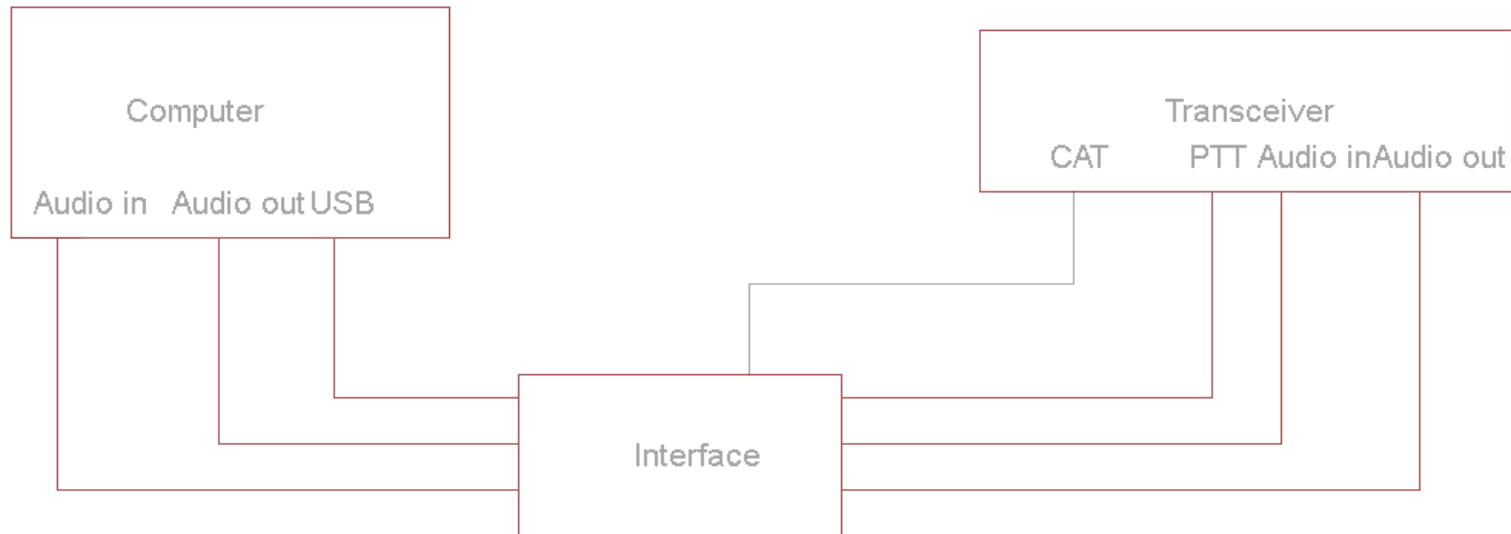
Ein digitales Interface verbindet den Computer mit dem Transceiver.

Die Sound Aus- und Eingänge werden kreuzweise verbunden und die Pegel angepasst. Das Interface sorgt für die PTT- und optional für die CAT Steuerung.

Digital Interface

INTERFACE Version 1

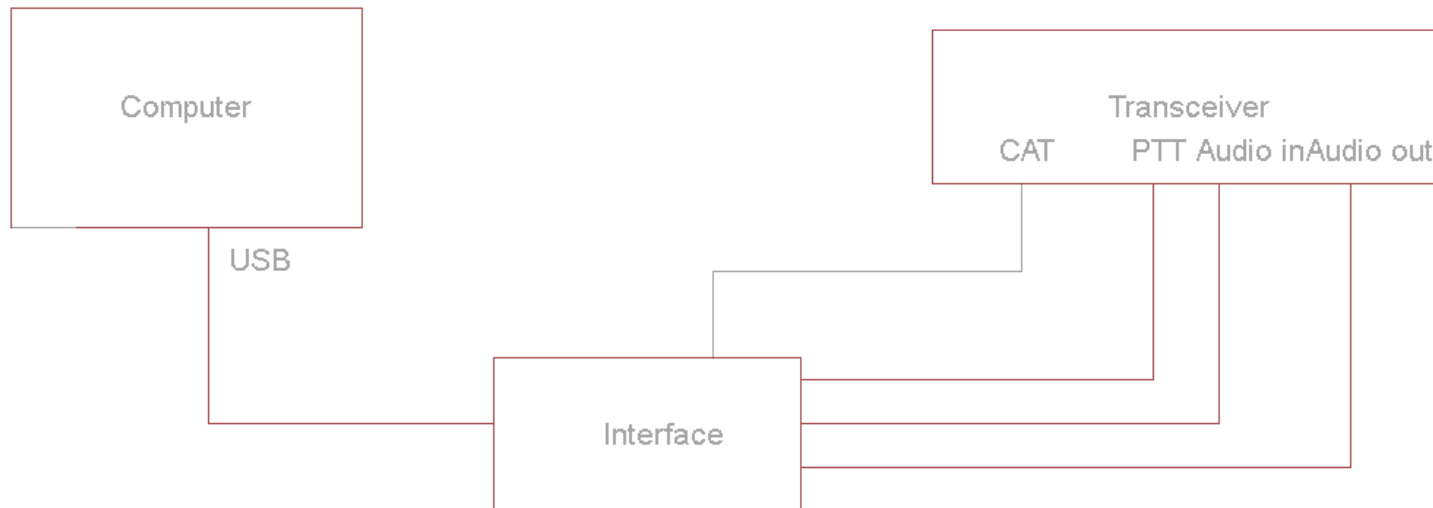
Version1



Digital Interface

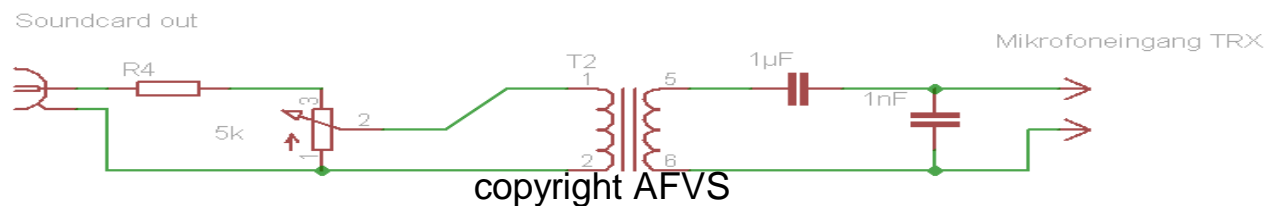
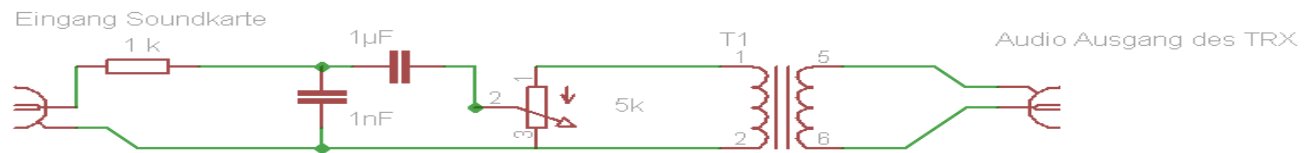
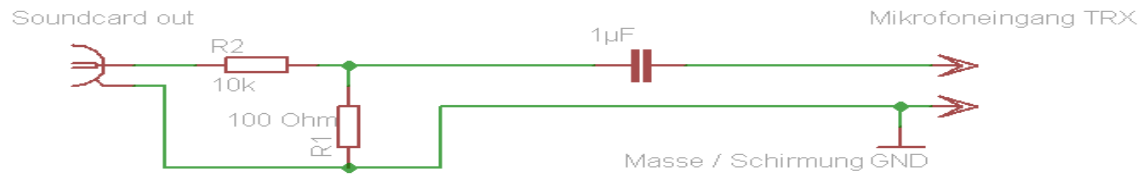
INTERFACE mit integrierter Soundkarte

Version 2



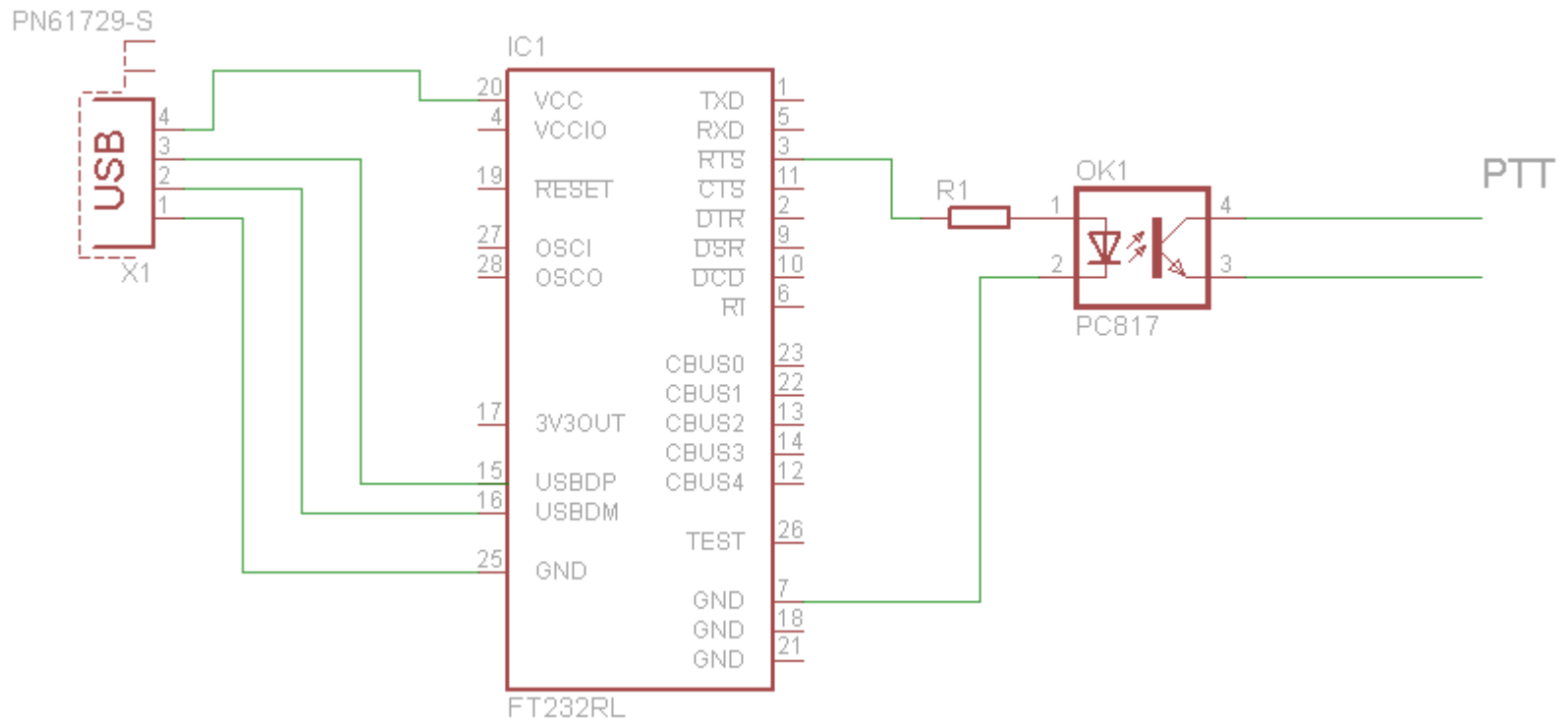
Digital Interface

GRUNDSCHALTUNGEN



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Mögliche Varianten des digitalen Interfaces

- Sound Interface mit integrierter VOX Schaltung für PTT
- Sound Interface mit PTT Steuerung über USB Anschluss
- Sound Interface mit PTT und CAT Steuerung über USB
- Interface mit integrierter Sound Karte sowie PTT und CAT Steuerung über USB Anschluss

Digital Interface



Herausforderungen für das Projekt:

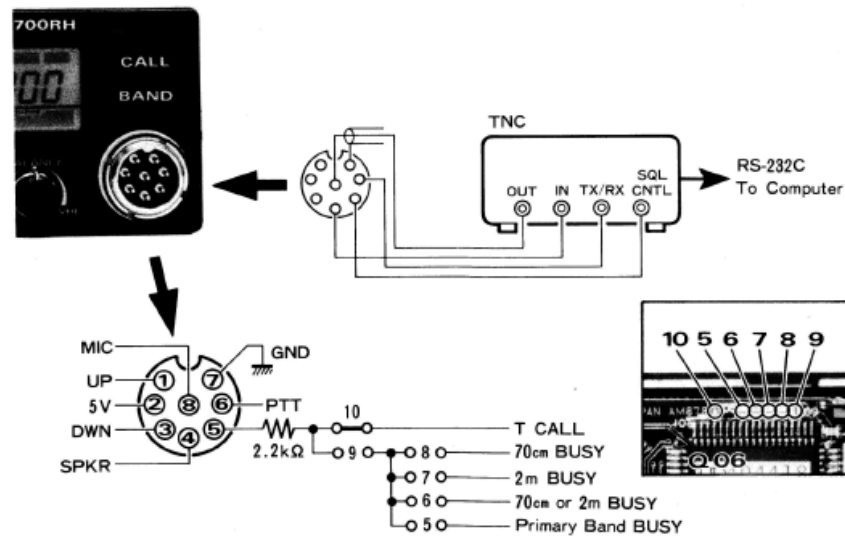
- Verschiedene Konfigurationwünsche möglich
- Unterschiedliche Anschlussmöglichkeiten beim Transceiver
- Keine einheitliche Stecker und Steckerbelegung
- Verschiedene Software beim Anwender
- Kosten möglichst gering
- Das Problem ist „immer“ die Mechanik

Digital Interface

Anschluss an FT 4700

TNC Jack to Radio	FT-4700RH MIC Jack
Receiver Audio in	pin 4 (8 ohms, de-emphasized)
PTT (gnd=tx) out	pin 6
Transmit Audio out	pin 8 (400 ohms, pre-emphasized)

Use shielded cable for the audio lines, and keep the interconnecting cable as short as possible to avoid RF pickup.



* Requires removing solder bridge jumper 10 on the inside of the front panel, and installing jumper 9 and one of jumpers 5-8.

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Anschlüsse beim Icom IC-745

ACC SOCKET CONNECTIONS




PIN No.	FUNCTION
1.	Output from the discriminator circuit. (When optional FM unit is installed).
2.	13.8 Volt DC in conjunction with the power switch operation.
3.	Connected to Push-to-talk, T/R change-over switch. When grounded, the set operates in the transmit mode.
4.	Output from the receive detector stage. Fixed output regardless of AF output or AF gain.
5.	Output from Transmitter MIC amplifier stage. (Input for MIC gain control stage.)
6.	8 Volt DC is available when transmitting. (relay can not be directly actuated. Max. 5mA).
7.	Input for external ALC voltage.
8.	Ground
9.	Input for RTTY keying (MARK: HIGH level, SPACE: LOW level).
10.	NC (No Connection)
11.	Input for TRANSVERTER control. When 8 Volt DC is applied, the set can operate with a transverter.
12.	Output reference voltage for band switching.
13.	Output for external band switching.
14.~24.	NC

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Anschlüsse beim ICOM IC-756

◇ ACC SOCKETS

ACC(1)	PIN NO.	PIN NAME	DESCRIPTION	SPECIFICATIONS
 <p>Rear panel view</p>	1	RTTY	Controls RTTY keying.	"HIGH" level : More than 2.4 V "LOW" level : Less than 0.6 V Output current : Less than 2 mA
	2	GND	Connects to ground.	Connected in parallel with ACC(2) pin 2.
	3	SEND	Input/output pin. Goes to ground when transmitting. When grounded, transmits.	Ground level : -0.5 V to 0.8 V Output current : Less than 20 mA Input current (Tx) : Less than 200 mA Connected in parallel with ACC(2) pin 3.
	4	MOD	Modulator input. Connects to a modulator.	Input impedance : 10 kΩ Input level : Approx. 100 mV rms
	5	AF	AF detector output. Fixed, regardless of [AF] position.	Output impedance : 4.7 kΩ Output level : 100 to 300 mV rms
	6	SQLS	Squelch output. Goes to ground when squelch opens.	Squelch open : Less than 0.3 V/5 mA Squelch closed : More than 6.0 V/100 μA
	7	13.8 V	13.8 V output when power is ON.	Output current : Max. 1 A Connected in parallel with ACC(2) pin 7.
	8	ALC	ALC voltage input.	Control voltage : -4 to 0 V Input impedance : More than 10 kΩ Connected in parallel with ACC(2) pin 5.

Digital Interface

YAESU FT-990

(1) DVS-2 DIN Jack

This 7-pin input/output jack is for connection of the DVS-2 Digital Voice Recording option, described on page 36.

(2) PACKET DIN Jack

This 5-pin input/output jack provides receiver audio and squelch signals, and accepts transmit (AFSK) audio and PTT control, from an external packet tnc. Pinout is shown on page 7. The receiver audio level at this jack is at a constant 100-mV level (@600 Ω), preset by VR3005 on the AF Unit (see *Internal Adjustments* page 11 for how to gain access to this trimmer, if necessary).

(3) RTTY DIN Jack

This 4-pin input/output jack provides connections for an RTTY terminal unit. Pinout is shown on page 7. The receiver audio level at this jack is at a constant 100-mV (@600 Ω) level, preset by VR3006 on the AF Unit (see *Internal Adjustments* page 11 for how to gain access to this trimmer).

(4) KEY 3-Contact Phone Jack

This $\frac{1}{4}$ -inch phone jack accepts a CW key or paddle manipulator. It is connected in parallel with the jack with the same name on the front panel (either or both may be used). A 2-contact plug cannot be used in this jack. Keyup voltage is

+5 V, and keydown current is 0.5 mA. Pinout is shown on page 7.

(5) AF OUT Phono Jack

This output jack provides low level receiver output, for recording or external amplification. Peak signal level is 100 mVrms at 600 Ω . The front panel AF control does *not* affect the signal at this jack, but the **DIGITAL FIL** controls do. Pinout is shown on page 7, and level adjustment is described on page 11.

(6) PATCH IN Phono Jack

This input jack accepts transmitter audio – either AFSK or voice, for transmission. This line is mixed with the microphone audio input line, so the microphone should be disconnected if using this jack and mixing is not desired. Impedance is 500 – 600 Ω , and optimum peak input level is 2 mVrms.

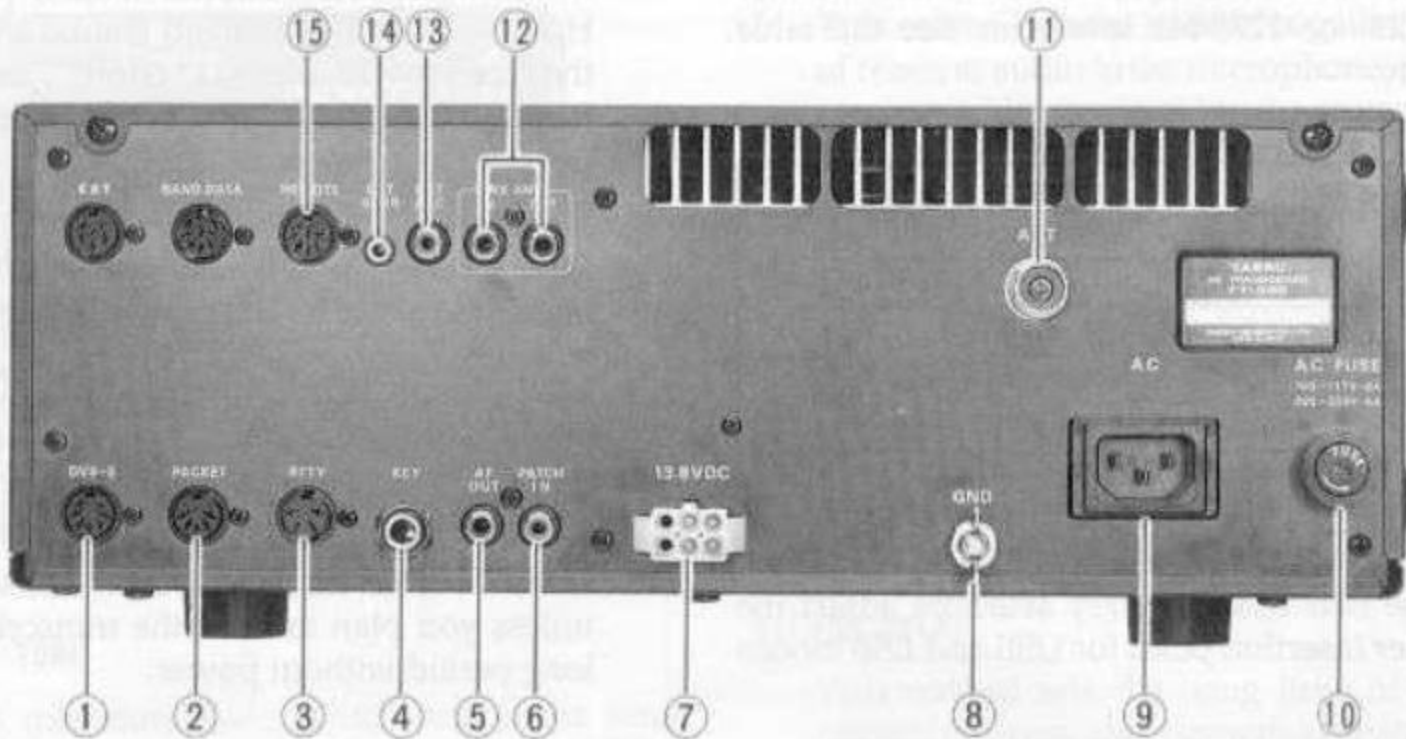
(7) 13.8 VDC Supply Jack

This 6-pin molex socket accepts DC to power the transceiver. If the FP-25 AC supply is installed, it can be used when AC is not available. See page 46 for details.

(8) GND Terminal Post

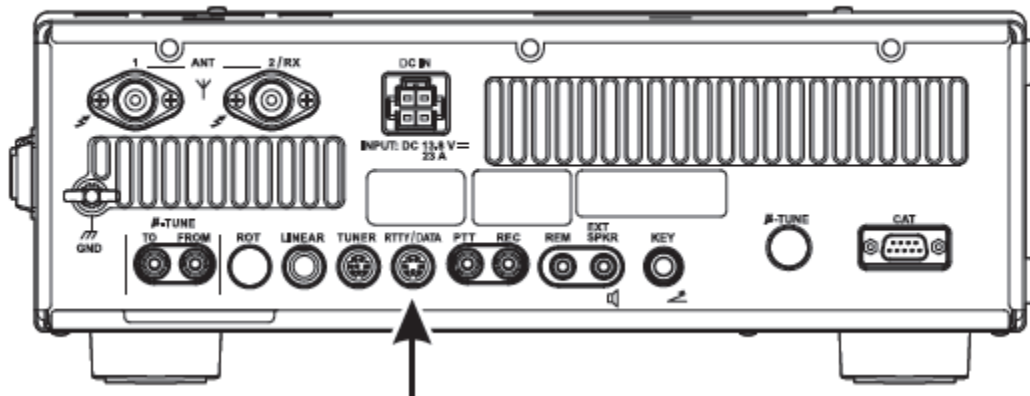
Connect this terminal to a good earth ground, for safety and optimum performance. Use a short braided cable.

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To LINE IN/MIC IN,
LINE OUT/MIC OUT,
COM port, etc.

