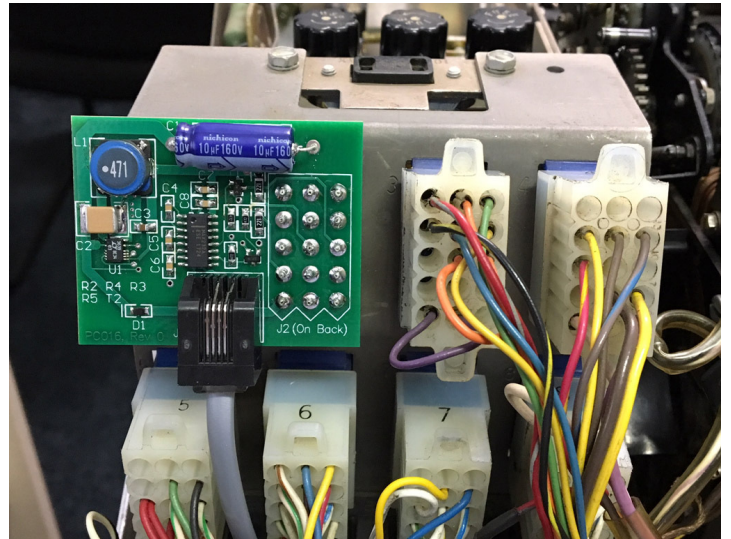


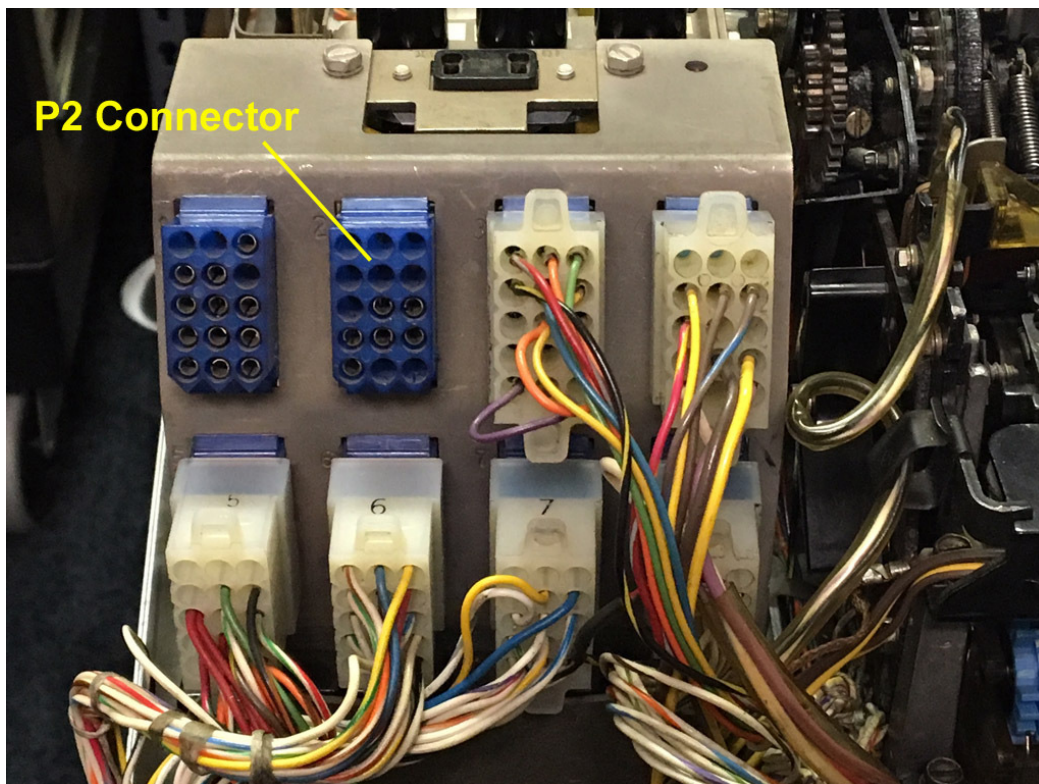
Plug and Play Model 33 Teletype RS-232 Adapter

This plug and play adapter makes it simple to connect a Model 33 Teletype to an RS-232 serial port on computer. The adapter converts the 20ma current loop interface of the Teletype to/from RS-232 levels and obtains the power it requires for operation directly from the teletype. An RJ-14 modular jack and standard flat phone wire (4 or 6 conductor) are used for connection to the Teletype. On the computer side, modular DB-25 and DB-9 connectors are readily available and easy to configure as DCE or DTE as required.



Adapter Installation

- This adapter is designed for connection to a UCC-6 Call Control Unit. It is not compatible with Teletypes configured with a Telex Call Control Unit.
- Disconnect the Teletype from power (unplug AC cord or turn off power strip). Note that even if the Line/Local knob is in the OFF position, the 48vac power supply on the UCC-6 is still powered.
- Plug the adapter onto the P2 connector as shown.
- Connect the phone cable into the modular jack (use 4 or 6 conductor phone cable).



DB-25 and DB-9 Wiring

Modular DB-x connectors make it easy to connect your Teletype to computers with different interface requirements because you can easily swap between DB-x connectors at the computer end of the phone cable. Custom wiring of the DB-x connector requires no soldering – just push the pre-wired pins into the DB-x positions your application requires.



Do a search for RJ-11, 12 or 14 to DB-9 or DB-25. Don't get the RJ-45 versions. The 11, 12 and 14 designations are used interchangeably, though technically in error.

Because **pin numbering and wire colors are not consistent with modular jacks** and cables, use the picture below as a guide for determining how to wire the DB-x connector.

The view shown is looking into a DB-25 modular connector with the RJ-14 **hook down**. Again, **ignore wire colors** as your connector may be different than pictured here – instead determine function by each wire's position. For reference, the "I" and "O" signals are the center two positions.

- N – No Connect
- G – Ground
- O – Data out from the Teletype, into the computer
- I – Data into the Teletype, out from the computer

DB-25 DCE: If your computer works with a standard terminal **without** needing a crossover (null modem) cable, your computer is wired as DCE.

- G – DB-25 pin 7 (use either ground wire)
- I – DB-25 pin 3
- O – DB-25 pin 2

DB-25 DTE: If your computer works with a standard terminal but requires a crossover (null modem) cable, then your computer is wired as DTE.

- G – DB-25 pin 7 (use either ground wire)
- I – DB-25 pin 2
- O – DB-25 pin 3

DB-9 DTE: If connecting the Teletype to a serial port on the PC, then the connector is DB-9 DTE (and yes, pins 2 and 3 have opposite meaning on the DB-25 and DB-9).

- G – DB-9 pin 5 (use either ground wire)
- I – DB-9 pin 3
- O – DB-9 pin 2

Notes

- Cut back the unused ground wire so it does not accidentally short against anything.
- Insert the unused "N" pins somewhere into unused position to increase pin friction and help with connector retention.
- If you are soldering wires directly to a DB-x connector and not using a modular DB-x, refer to the pin assignment diagram for the modular jack shown at the bottom of the schematic.
- Your serial port must be configured for "three wire" operation such that any handshake signals required by the serial port UART are permanently asserted (not required on a PC serial port).



Revision B

Revision B of the Teletype RS-232 Adapter makes a few changes to the original version of the adapter:

- 1) A 12vdc supply is generated instead of 5v to provide a larger voltage drop across the distributor/keyboard/reader loop from the Teletype. This provides more voltage headroom should the keyboard, reader, or distributor contacts be dirty and higher resistance than normal.
- 2) The transmit loop to the Teletype was modified to switch current on the positive side of the loop instead of the negative side. This allows the transmit and receive loops to share a common negative connection and also allows that connection to be tied to the Teletype's electrical common.
- 3) The MAX232 transceiver was removed and replaced with discrete components since the 5v supply was eliminated. With the new circuit, the RS-232 output from the adapter swings 0v/12v instead of -12v/+12v. This works with most any RS-232 receiver including the 1489, MAX232 chips, etc., which all treat 0v the same as a negative voltage.

