

Suggested Connectors for Electronic Prototyping

If possible, use these connectors for your prototyping. Sources: Digi-Key, Mouser, Jameco. Jameco is lowest cost, but Digi-Key is in MN and has fast shipping.

Even better, design board with PCB-style connectors mounted to the board with their business end sticking out a matching hole in the enclosure. This eliminates running cables from the enclosure to the board and is how most modern products are designed. (Take a close look at your laptop, desktop, cell phone, TV,). The disadvantage is that the enclosure is more complex because now everything must align with the business end of the connector poking through the matching hole in the enclosure. Not much of a problem for just a few connectors all mounted on one edge of the board (e.g. see your laptop). For more complex set ups, in some cases can print a custom plastic enclosure on a 3-D printer.

What	Description	Purpose	Picture	Sample part number and source
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Mini-DIN	4 contact mini-DIN	For interfacing external devices to enclosure. Low cost. Can hack a low cost S-video cable for the mate.		Digi-Key CP-2540-ND
DIN	5 contact DIN	For interfacing external devices to enclosure, for example, a load cell. Low cost. Can hack a low cost AT cable for the mate.		Digi-Key CP-1250-ND
DIN	5 contact	Mates with above. Cable mount.		Digi-Key CP-1050-ND

DB9F, DB9M	9 pin D connectors	For interfacing external devices to an enclosure. Use for cables with 5-9 connectors. Inexpensive.		Jameco 15747 (male), 15771 (female)
DSUB IDC	9 pin D, IDC	Like above but connects to a ribbon cable. Handy if there are more than four signal wires because it saves having to solder to lots of small solder cups.		Jameco 12503
BNC ISO	Isolated BNC	Panel mount. One signal with its ground. Excellent for analog signals. BNC cables are common. Isolated version means you don't have to worry whether case is grounded.		Digi-Key ARFX1063-ND or Jameco 111561

A4M	4-pin mic	Very rugged. Snaps in place. Large. Use for high current or where user is connecting and disconnecting repeatedly. Left-hand screw releases housing. A3F/A3M are standard pro-style mic connectors.		Jameco 281594
D4F	4-pin mic	Mates to above A4M. Mount to panel		Jameco 281666
Header	10 pin shrouded header	Mount on PC board. For getting signals off board to a panel. Use for 5 to 10 signal wires		Digi-Key MHC10E-ND or Mouser 517-D2510-6002-AR or Jameco 67811

IDC socket	10 pin	Mate to above. Accepts ribbon cable. Has a nifty cable clamp. Crimps to ribbon cable. Close gently in a vise until both sides click. Then fold cable back over the top and click on the strain relief. Arrow marks pin 1		Mouser 517-8910 or Jameco 32491
RCA	Audio jack	Mounts to PC board. Can also get panel mount versions. Single audio channel. Use standard, shielded audio cord for mate. Good for low-level noisy signals. Single channel. Case is ground.		Jameco 220556
1/8 audio	1/8 inch (3.5 mm) stereo plug	Very common. This is your earbud connector. Good for 2 signals plus ground. Can use for a compact RS-232 serial line. Mating jacks, PC mount and panel mount are widely available. (Note that telephone headset jacks look the same but are a different size, 2.5 mm.)		Jameco 231175

1/8 audio	1/8 inch stereo jack	Mates with above. Panel mount		Digi-Key CP5-43502PM-ND
Male header	PC mount, .100" spacing	For getting signals off PC board to panel. Comes in 2 to 10 contacts. For more than 5 contacts, use 10 pin shrouded header and IDC socket		Jameco 153699
Housing	.100" spacing	Mates with above. Purchase female crimp pins (Jameco 100765) separately. Requires crimp tool, e.g. Jameco 159265. Pins crimp to wire then are slid into housing snapping in place.		Jameco 103211

Header	.100" spacing, PC mount	For a PICkit 3 programming port, and other uses		Digi-Key WM4003-ND
Molex KK Header	.100" spacing, PC mount	For getting power signals off PC board to panel. Locking. Good for 2 to 4 signals. Also comes in 0.156" series for higher current.	 The photo represents 5-position version	Digi-Key WM4200-ND or Jameco 232282
Molex KK Housing	.100" spacing	Mates with above. Purchase female crimp pins separately.	 The photo represents 3-position version	WM2000-ND or Jameco 234819
Contacts		Contacts for use with the above. For 22-30 awg wires. Crimp connection.		Digi-Key WM1114-ND

DiPower jack, 2.1 mm	Panel mount	DC power jack. Panel mount. Use for mate to "wall wart" small DC power supplies. Or use for a battery supply. Check that mate is also 2.1 mm. Can also get PCB mount versions		Digi-Key CP-011A-ND
Power jack, 2.1 mm	Panel mount	Alternate to above		Digi-Key SC1049-ND or Jameco 281851
Power plug, 2.1 mm	Female, cable mount	Mate to above.		Digi-Key CP3-1000-ND or Jameco 28760
RJ11 plug	6P4C (6 position 4 contacts)	RJ11 is standard telephone cable. Means you can use pre-made phone cables, or make your own cables. Very inexpensive. Easy to crimp on. Excellent for 2-4 signals. Also comes in 6P6C version, but need to make your own cables.		Jameco 79290

RJ11 jack	6P4C	Mate to above. PCB mount. Or can use hardware store phone products. Look around.		Jameco 151765
RJ45 plug	8P8C	RJ45 is standard for networking cable. Using RJ45 means you can use inexpensive network cable for interconnects. Excellent for 2-8 signals. Cat5e cable comes as 4 twisted pairs which is good for noise shielding. Can crimp up your own, but sometimes just as cheap to purchase premade cable. Look at a computer accessories catalog or in the networking section of your favorite computer parts store for more options.		Jameco 201734
RJ45 jack	8P8C	Mates with above. PC mount.		Jameco 115844

Terminal block	Board mount	For wire to board connection. Screw down terminal. Convenient and easy to use. 3.81 mm (0.150") spacing series. FCI brand. Digi-Key 609-39xx-ND. xx codes number of positions xx=18 (2 pos) thru xx=26 (10 pos). \$0.73 thru \$2.41.		Digi-Key