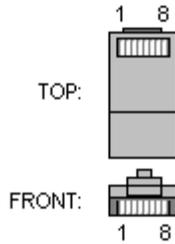
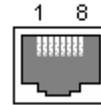


## Building Network Patch Cables

Ethernet 10Base-T and 100Base-TX UTP wiring specifies an eight position interface with two pairs reserved for the connection. The RJ-45 pin positions one and two (TX<sup>+</sup>/-) must share a cable pair, as well as positions three and six (RX<sup>+</sup>/-). A patch-cable built in the following fashion with proper CAT-5 cable and RJ-45 should meet both 10 and 100Base-TX requirements. One way to remember RJ45 pin-position identification is to look at the modular connector with the lock-tab up, as if you were going to plug it into your mouth. Pins are then ordered 1-8, left to right. Here is what the connector and interface look like:



RJ45 Connector



Receptacle

Strip about 1<sup>1</sup>/<sub>2</sub> inches of the outside PVC jacket, and then trim any excess cord that accompanies the cable pairs. Un-twist the pairs to the edge of the stripped PVC jacket. As you go, mold each pair into a parallel, flat shape, like the tines of a fork, ordering the color-pairs as necessary. Trim the un-twisted pairs into a flat straight end no longer than a <sup>1</sup>/<sub>2</sub> inch, preferably. While holding the cable firmly, insert the wires into the RJ, taking great care that the pairs remain properly ordered. The PVC jacket should pass into the RJ giving the entire assembly some stress relief once it's crimped. Double check the pair ordering. Look at the plug end of the cable assembly. The copper core of each wire should be visible and pressed tightly against the interior end of the RJ45. You should see a glint of copper from each wire clearly. Insert the cable assembly into your RJ crimper. Keep consistent pressure on the assembly forcing the cable into the RJ, insuring the cable pairs remain in their intended location. Firmly squeeze the crimp tool twice. Double check pair-ordering. Look for the glint of copper from the end of each wire again insuring they're fully inserted. Repeat at the opposite end of your cable.

<b>10/100B-T(X) Patch/Drop Cable</b> (EIA/TIA 568B spec) Twisted-Pair Color to RJ45 Pin Assignments		
Pin	Color	Signal
1	White/Orange	TX data +
2	Orange/White	TX data -
3	White/Green	RX data +
4	Blue/White	unused
5	White/Blue	unused
6	Green/White	RX data -
7	White/Brown	unused
8	Brown/White	unused

<b>10/100B-T(X) Crossover Cable</b> (Interface to Interface) Twisted-Pair Color to RJ45 Pin Assignments		
End 1 Color	Pin	End 2 Color
White/Orange	1	White/Green
Orange/White	2	Green/White
White/Green	3	White/Orange
Blue/White	4	Blue/White
White/Blue	5	White/Blue
Green/White	6	Orange/White
White/Brown	7	White/Brown
Brown/White	8	Brown/White

DIB Cable # 558370 Ends (RJ45) # 523482  
24 awg solid 4pr cable

### Patch / Drop cable is by far more common

To create Loopback Tester connect 3-6 and 4-5 on the RJ45 Conn. Plug tester into port and Telnet into port  
 Ie: 192.xx.xx.xx 30xx <cr> (30xx is port )