Build an Ethernet Crossover Cable

Section 7, Lecture 37

**Part 2: Build an Ethernet Crossover Cable**

A crossover cable has the second and third pairs on the RJ-45 connector at one end, reversed at the other end (refer to the table in Part 1, Step 2). The cable pinouts are the 568-A standard on one end and the 568-B standard on the other end. The two following diagrams illustrate this concept.

**Step 1: Build and terminate a TIA/EIA 568-A cable end**

a. Determine the cable length required. (For this lab, we will create a cable of approximately 3' in length.)*Note: If you were making a cable in a production environment, the general guideline is to add another 12 in. (30.48 cm) to the length.*

b. Cut off a piece of cable to the desired length and using your wire stripper, remove 2 inches (5.08 cm) of the cable jacket from both ends.

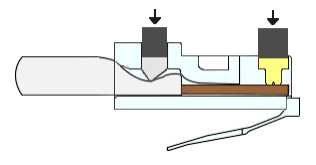
c. Hold the four pairs of twisted cables tightly where the jacket was cut away. Reorganize the cable pairs into the order of the 568-A wiring standard. Refer to the diagrams, if necessary. Take as much care as possible to maintain the twists in the cable; this provides noise cancellation.

d. Flatten, straighten, and line up the wires using your thumb and forefinger.

e. Ensure that the cable wires are still in the correct order for the 568-A standard. Using your wire cutters, trim the four pairs in a straight line to within 1/2 inches to 3/4 inches (1.25 to 1.9 cm).

f. Place an RJ-45 connector on the end of your cable, with the prong on the underside pointing downward. Firmly insert the wires into the RJ-45 connector. All wires should be seen at the end of the connector in their proper positions. If the wires are not extending to the end of the connector, take the cable out, rearrange the wires as necessary, and reinsert the wires back into the RJ-45 connector.

g. If everything is correct, insert the RJ-45 connector with cable into the crimper. Crimp down hard enough to force the contacts on the RJ-45 connector through the insulation on the wires, thus completing the conducting path. See the following diagram for an example.



**Step 2: Build and terminate a TIA/EIA 568-B cable end**

Repeat steps 1a to 1g using the 568-B color wiring scheme for the other end.