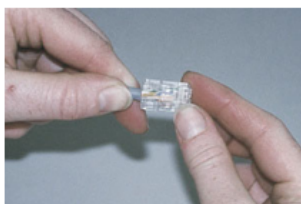


FOA Reference Guide



Virtual Hands-On Premises Cabling - UTP Plug Termination



FOA Reference For Fiber Optics
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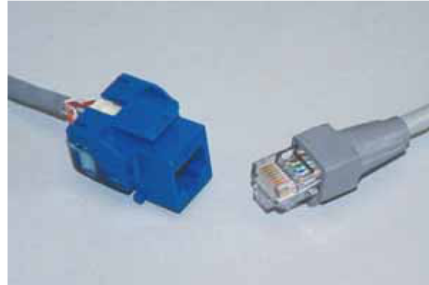
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This FOA virtual hands-on (VHO) tutorial on fiber optics is intended to help understand the process of terminating UTP cable in a modular 8-pin plug.

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Terminating Cables With Plugs

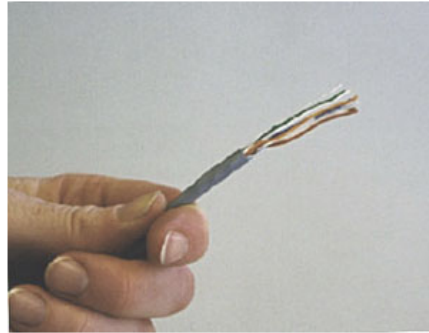
- Plugs are used on patchcords
- Hard to make - difficult to get wires in order and into plug
- Plugs are different for solid and stranded cables - get the correct ones
- Buy patchcords if you can



The modular jack mates to a plug to complete the connection. The plug is generally called a "RJ-45" but that is technically incorrect. A true "RJ-45" is this modular 8 pin plug terminated with a USOC pinout. However, since everyone calls it a "RJ-45", it is OK to call it that! Most plugs are part of patchcords, while the installed link is terminated in jacks. Patchcords are not simple or easy to make, and it is usually much less expensive to purchase factory-terminated patchcords in specific lengths to use for interconnecting cables or connecting network hardware. Another critical difference is patchcords are made with stranded wires, not solid wires like the installed link. Solid wire will fail quickly if used for patchcords, since it is not flexible like stranded wire. If you are going to be making patchcords, get some stranded wire to do it properly

Strip Cable Jacket

- Strip to expose about 1.5" wires (37mm)



Begin the process by stripping 1 - 1/2 inches of jacket from the cable. Untwist back to the end of the jacket this time. When we crimp the plug on the cable, we want to crimp the cable in place also. As you separate and order the strands, the color codes must match the jack that will be used. This will be either 568A or B.

Arrange Wires

- Flatten the wires
- Set the wires in proper order for
 - T568A
 - T568B
- Make sure you follow the proper color codes



Hold the wires between your thumb and first finger to flatten the wires and put them in order. As you separate and order the strands, the color codes must match the jack that will be used. This will be either 568A or B. Note the wires are not in exact pair order - pair two (orange) and pair three (green) are reversed in 568A or B, so make sure you have the right order. Use the instructions in a Cat 3 jack as they have the diagram in color or print this slide in color.

Cut Wires

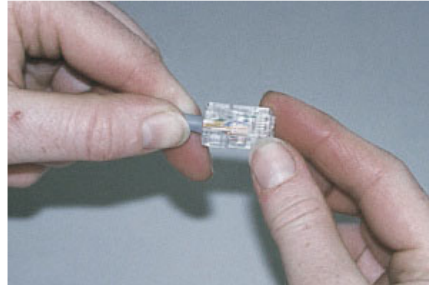
- Cut the wires straight - perpendicular to the cable
- Exposed wires should be about 1/2 inch (13 mm)
- All wires must be fully inserted into the plug to make proper contact



The wires must be laid out in order, they must be flat, and very close together. They need to be parallel for most of the exposed length to fit into the plug properly. Once they are in order and flat, cut the wires straight across so that only 1/2 inch of the strands protrude from the cable.

Insert Wires Into Plug

- Carefully insert the wires in the plug
- Make sure all wires are fully inserted
- Check color codes before crimping.



Carefully slide the cable into the plug. The wires must stay in order, and separated from each other. The wire tips have to slide all the way into the plug to connect to the contacts properly. Look for the colors of the wires to reach the end of the plug and check the color codes at the end to ensure proper wire orientation.

Crimp The Plug

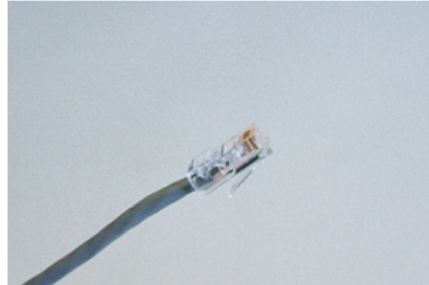
- Make a final check:
 - Wires in proper color-coded order
 - Wires fully inserted into plug
- THEN crimp



Once you are satisfied that the wires are seated fully at the plug contacts, insert the plug into the crimping tool and crimp the cable to the plug.

Plug Ready To Test

- Remove the plug from the crimper by unlatching and pulling out
- Check wires - still fully inserted?
- Test with wiremapper



Remove the plug from the crimper by unlatching the plug and pulling it out

Check the wires - are they still fully inserted?

Test with a wiremapper.

Problems? Cut it off and start over.

We told you it was much easier to buy patchcords!

FOA Guide - Virtual Hands-On

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