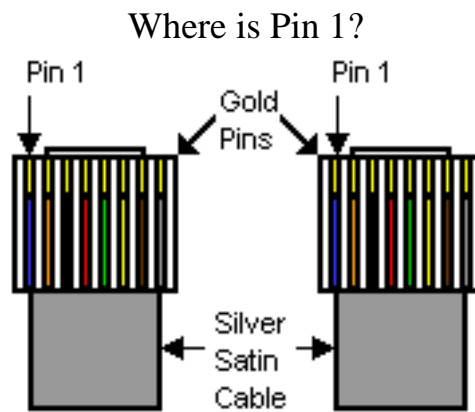


Loopback Adapters and Crossover Cables for T1 and DDS Circuits

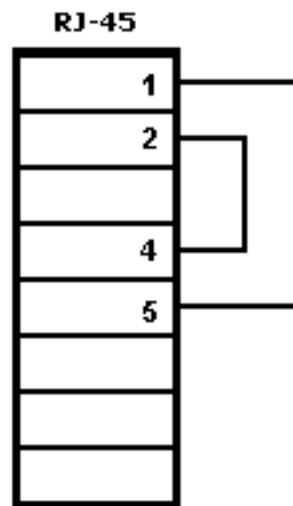
Introduction

Loopback adapters and crossover cables are useful tools for troubleshooting both DDS & T1 circuits. This document shows the necessary pinout for building them as well as the uses for each. A T1 circuit is a dedicated line that consists of 24 channels that can run at 56Kbps or 64Kbps for a total of up to 1.544Mbps. A DDS circuit is a dedicated line that consists of only one channel that can run at either 56Kbps or 64Kbps. If you do not know what type of router you are using, consult the documentation for that router. If you do not know what kind of circuit you are working with, contact the phone company that is providing it.



The diagram above shows a how to orient a standard RJ-45 to RJ-45 flat satin cable to determine pin 1. There are eight pins total in a RJ-45 connector. In this diagram both tabs are facing down and the gold pins are facing up.

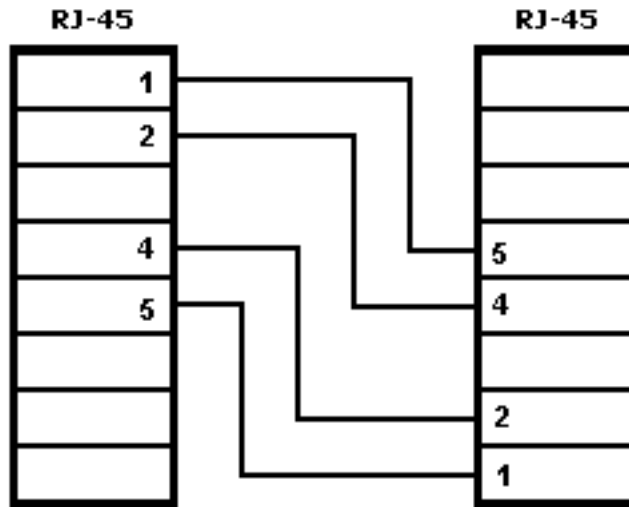
T1 Loopback Adapter



The diagram above shows the pinout for building a T1 loopback adapter. This loopback adapter is used when performing a physical loopback test on a T1 Circuit. The purpose

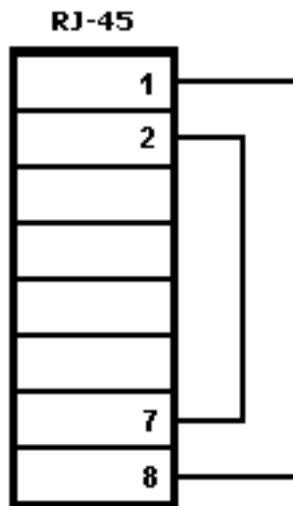
of this test is for the phone company to check their equipment. A physical loopback test must be initiated by the phone company.

T1 Crossover Cable



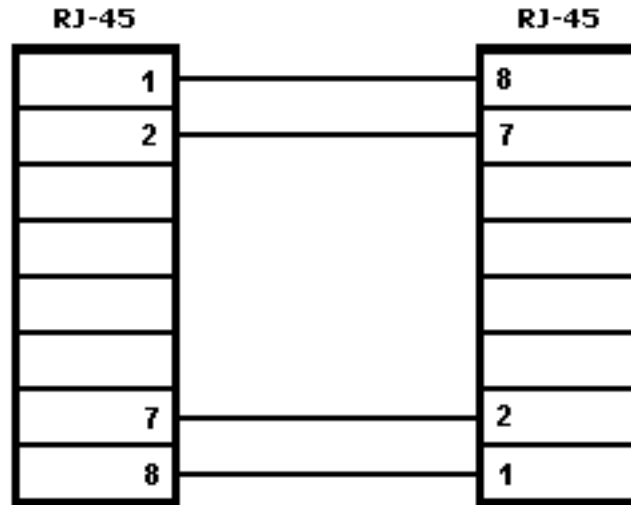
The diagram above shows the pinout for building a T1 crossover cable. This cable can be used to connect two T1 CSU/DSU (i.e.,TSU) products in a back-to-back configuration. This is useful when verifying our equipment and proving to a phone company that our routers are functional. This cable can only be used to connect two T1 routers together. It **can not** be used to connect a T1 to a 64k or a 64k to another 64k. It is **not possible** to test a T1 router with a 64k router back to back.

DDS Loopback Adapter



The diagram below shows the pinout for building a DDS loopback adapter. This loopback adapter is used when performing a physical loopback test on a DDS circuit. The purpose of this test is for the phone company to check their equipment. A physical loopback test must be initiated by the phone company.

DDS Crossover Cable



The diagram above shows the pinout for building a DDS crossover cable. This cable can be used to connect two DDS CSU/DSU (i.e.,DSU) products in a back-to-back configuration. This is useful when verifying our equipment and proving to a phone company that our routers are functional. This cable can only be used to connect two 64k routers together. It **can not** be used to connect a T1 to a 64k or a T1 to another T1. It is **not possible** to test a T1 router with a 64k router back to back.