



# Connecting Modems to Console Ports

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CCIE Routing & Switching



# Video Overview

- 4.8 Use a modem to connect to Cisco console port and phone line
- 4.9 Configure the correct DIP switch settings on the modem (or other appropriate settings)

# Modems

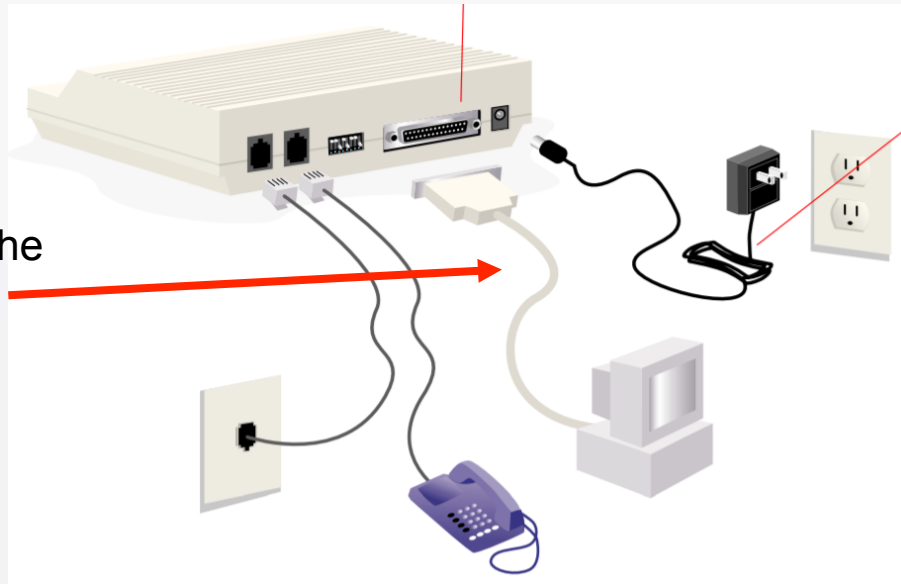
- ▷ What are they?
- ▷ How do I get one?



# Connecting Modems to PCs

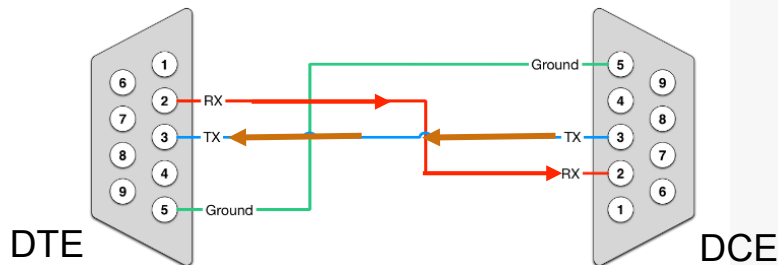
- ▶ Modems must be given “Initialization Strings” so they can communicate correctly to the console port.
- ▶ This must be preconfigured by connecting modem to your PC.

\*\*Ensure you have the appropriate RS-232 “Modem” cable. \*\*



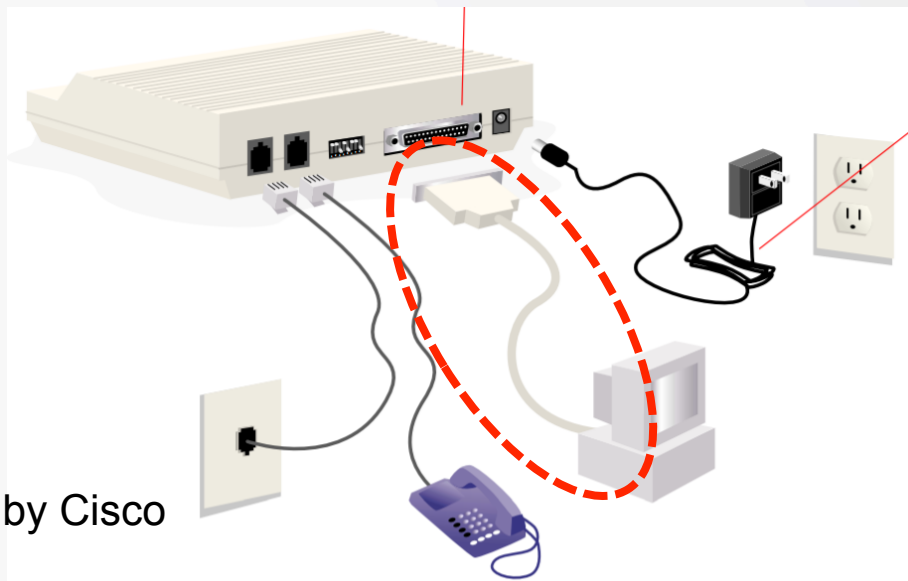
# Modem Cabling

Simple Straight Through Cable



## Cisco's recommendation:

1. Utilize the flat-satin blue rolled cable provided by Cisco (RJ-45 ends on both sides).
2. Connect DB-9 to RJ-45 "Terminal" adapter to PC-end of cable.
3. Connect DB-25 to RJ-45 "Modem" adapter to Modem-end of cable.



# Modem Cabling (2)

**Modem**



Or...



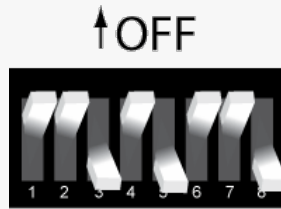
**CAB-5MODCM=**

**DB9 to USB Adapte**



# DIP Switches

▶ Set DIP switches to set modem to factory default



Switch	Default	Function
1 - Data Terminal Ready (DTR) Override	OFF	OFF : <div></div> ON : Modem ignores DTR (Override).
2 - Verbal/Numeric Result Codes	OFF	OFF : Verbal (word) results. ON : Numeric results.
3 -Result Code Display	ON	OFF : Suppresses result codes. ON : Enables result codes.
4 - Command Mode Local Echo Suppression	OFF	OFF : Displays keyboard commands. ON : Suppresses echo.
5 - Auto Answer Suppression	ON	OFF : Modem answers on first ring, or higher if specified in NVRAM. ON : Disables auto answer.
6 - Carrier Detect (CD) Override	OFF	OFF : Modem sends CD signal when it connects with another modem, drops CD on disconnect. ON : CD always ON (Override).
7 - Power-on and ATZ Reset Software Defaults	OFF	OFF : Loads Y0-Y4 configuration from user-defined nonvolatile memory (NVRAM). ON : Loads &F0 Generic template from Read Only Memory (ROM).
8 - AT Command Set Recognition	ON	OFF : Disables command recognition (dumb mode). ON : Enables recognition (smart mode).



# Initialization Strings

- ▶ Reverse Telnet to Modem from your Terminal Emulation software
- ▶ Provide Initialization String

```
at&f0qle0s0=1&b0&n6&u6&m4&k0&w
```

- ▶ Look for “OK” from modem.
- ▶ Turn off modem and connect to Console port.

# Initialization Strings (2)

AT command	Description
<b>&amp;f0</b>	Set to Factory Defaults (no Flow Control)
<b>q1</b>	Eliminates result codes
<b>e0</b>	Disable echoing commands
<b>s0=1</b>	Auto Answer on first ring
<b>&amp;b0</b>	Floating DTE Speed
<b>&amp;n6</b>	Highest Link Speed (DCE rate) is 9600bps
<b>&amp;u6</b>	DTE speed maximum is 9600 (DTE follows DCE speed)
<b>&amp;m4</b>	ARQ/Normal Mode
<b>&amp;k0</b>	Disable Data Compression
<b>&amp;w</b>	Store configuration to nvram

# Last Steps

- ▶ Connect second modem to your laptop/PC and telephone jack.
- ▶ Open Terminal Emulator and connect to modem.
- ▶ Issue correct Hayes command to place outgoing call to remote modem.

eg. ATDT15551234