



# Identifying Interfaces on Cisco Devices

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CCIE Routing & Switching



# Video Overview

- What is an “interface”?
- Common types of interfaces.
- Port numbering conventions.

# Your Objectives (1)

- » You need to swap out a faulty PA-4T on your Cisco 7206 router. Given the image below, which of the letters identifies the correct Port Adapter that needs to be replaced?



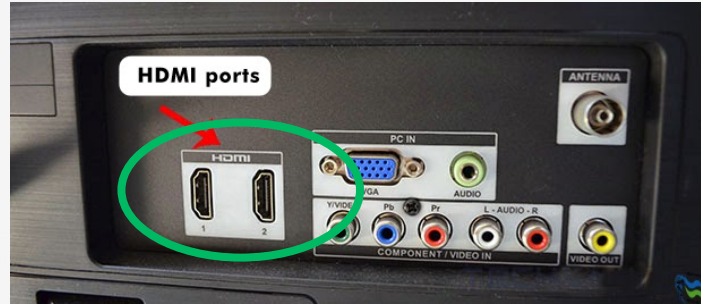
# Your Objectives (2)

- » You need to swap out the Port Adapter that contains **controller t3 0/2/0**. Given the image below, which of the letters identifies the correct Port Adapter that needs to be replaced?



# What is an “Interface”

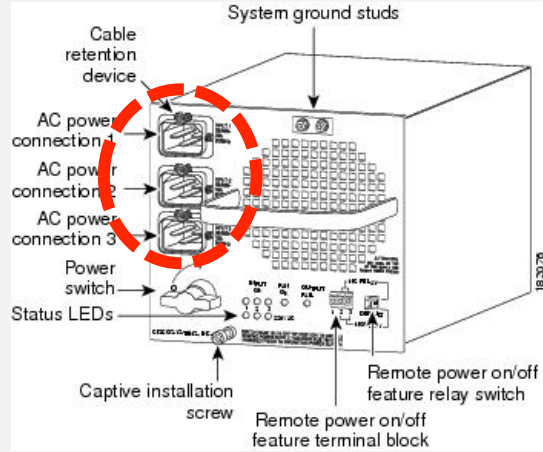
- » A connector that provides either **power**, or **signaling**, to a device.



# How are Cisco devices different?

- » Interfaces on Cisco Routers and Switches can also provide power or signaling.
- » The “signaling” that we’re concerned with doesn’t typically carry audio or video...but data.

# Cisco Interfaces...Power





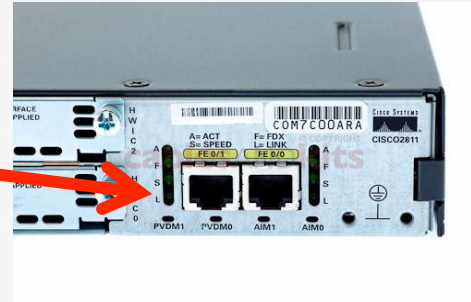
# Cisco Interfaces...Data

- » Interfaces that carry data come in a wide variety of form-factors.
- » Different criteria dictate these form-factors.
  - LAN or WAN?
  - Signaling requirements for pins
  - Light, electricity, RF?
  - Space constraints

# Where are they located?

» Cisco interfaces (sometimes called “ports”) can be located in several places:

- Built-into the chassis
- On removable media
  - ✓ Network Modules (NMs)
  - ✓ WAN Interface Cards (HWICs)
  - ✓ Port Adapters (PAs)
  - ✓ Voice WAN Interface Cards (VWICs)



# Methods of Identification

## » Visually

- Interface shape/size/quantity
- Printed part number on modules

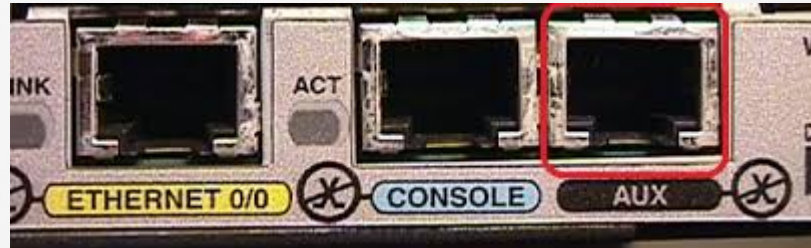
## » Platform Numbering Conventions

## » Understanding Cisco Part Numbers.

# Common Interfaces: RJ-45



= RJ45



# Common Interfaces: GBIC



Gigabit Interface Converter (GBIC)



# Common Interfaces: SFP



"Switch not included"



Switch and Fiber Optic SFP (Switch not included)

Small Form-Factor Pluggable (SFP) Gigabit Interface Converter



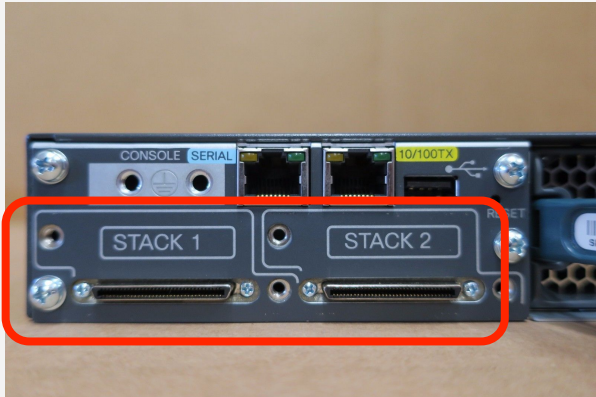
# Switches: Special-Purpose Interfaces



RPS Interface



Cisco RPS 2300



+



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# Cisco Catalyst 2960 FlexStack Module



+



=





# Serial Interfaces...why do we need them?

## » **Serial interfaces:**

- Used for WAN connectivity
- Used when protocols other than Ethernet are desired/needed.
- Primarily designed for TDM (Time-Division Multiplexing)
- Provide for many different form-factors

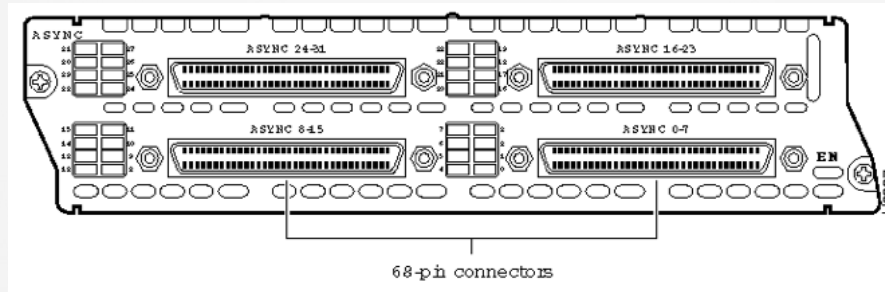
# Serial Interfaces...Common Form Factors



DB-60 "5-in-1"



Cisco Smart Serial



68-Pin Connector

# Other Specialized Interfaces (Voice)

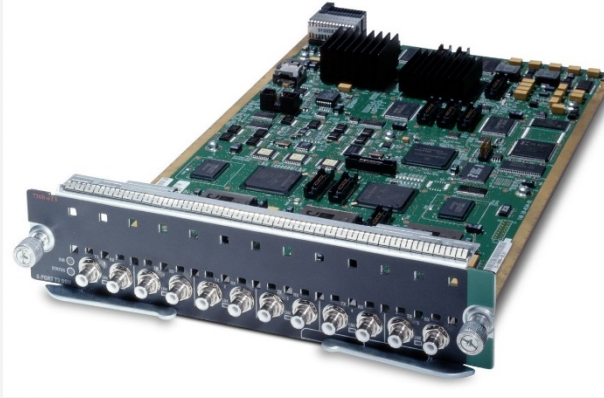


FXS Interfaces



FXO Interfaces

# Other Specialized Interfaces (Coaxial)



Cisco 7300 6-Port Clear Channel T3  
Line Card

1-Port ATM Enhanced DS3 Port Adapter  
PA-A3-T3



# And LOTS more!!

Cisco 7200 Series Routers

## Interfaces and Modules

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# Back to the first objective...

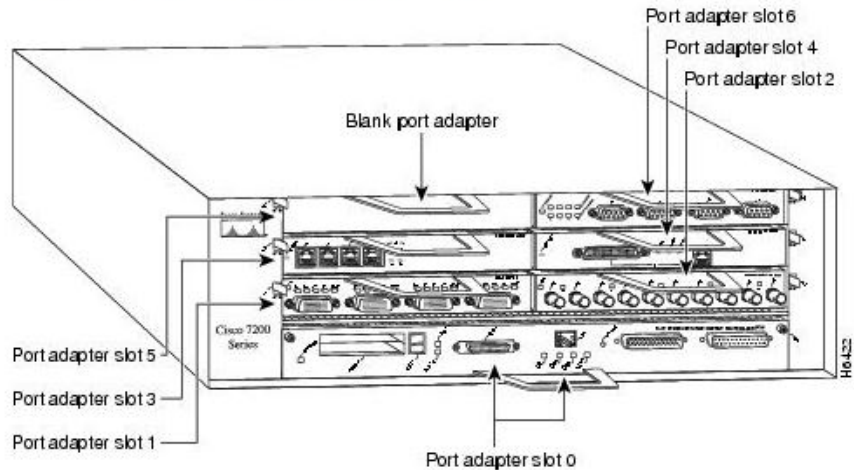
- » You need to swap out a faulty PA-4T on your Cisco 7206 router. Given the image below, which of the letters identifies the correct Port Adapter that needs to be replaced?



# Port Numbering Conventions

- » First identify your chassis (model)
- » Locate Hardware Installation Guide on Cisco.com
- » Perform search on keyword, “numbering”

Figure 1-2 Port Adapter Slot Numbering





# Back to the second objective...

- » You need to swap out the Port Adapter that contains **controllers t3 0/2/0**. Given the image below, which of the letters identifies the correct Port Adapter that needs to be replaced?

