



# Basic Data Training Module



CHANNEL VISION™

- In this module you will learn:
  - Basic networking terminology
  - The parts needed to design a LAN
  - How to connect a LAN to a WAN
  - How to expand a network



# Network Terminology

- LAN – Local Area Network.
  - A network consisting of several computers (or other devices) that are confined to a limited geographic area.



# Network Terminology

- Wan – Wide Area Network.
  - This term refers to the internet, or several LANs connected together.

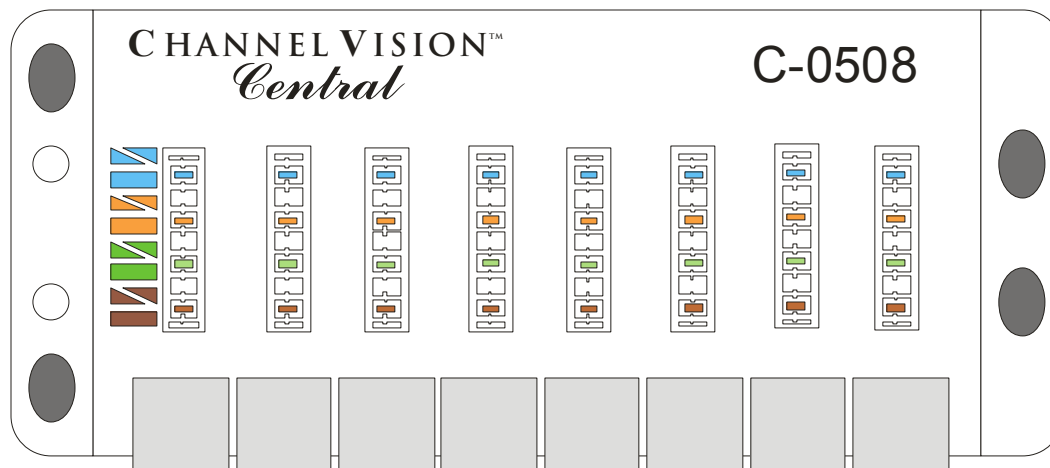


# Network Terminology

- SOHO – Small Office Home Office.
  - Many manufacturers refer to their products as SOHO products because they are intended to be used in small office or home office environment.

# Network Terminology

- Data Termination Hub – A passive device that provides a punch down block for easy termination of Cat 5 and a RJ45 jack to enable easy connections to a Hub, Switch, or Router.





# Network Terminology

- Hub – An active device that connects multiple Ethernet devices on one network segment (all PC's and devices see all network traffic)
- *The increased traffic results in data collisions which will slow down the network.*



# Network Terminology

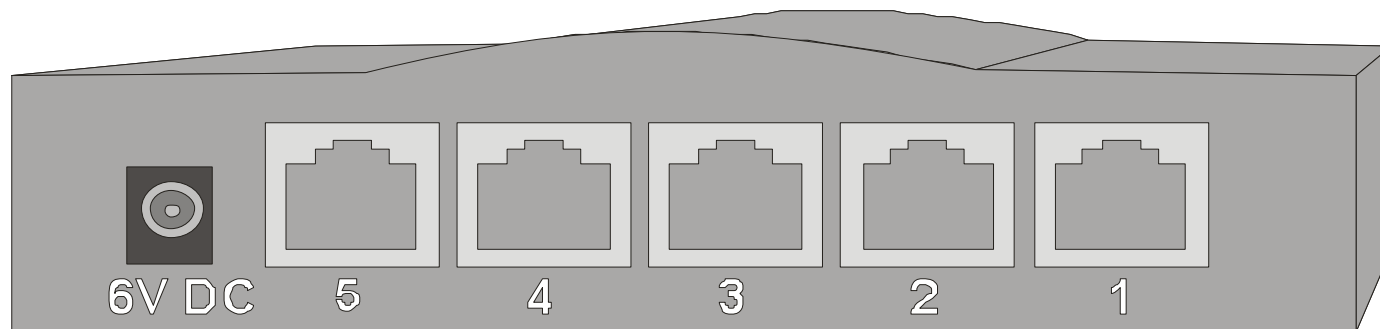
- Think of a Hub as a traffic intersection with no stop signs.
  - If more than one car is on the road at a time, there is a greater chance of a collision.
  - If a collision occurs, it will stop all traffic until the wreckage has been cleared.

*Note: very few companies sells hubs because they are an outdated technology.*

# Network Terminology

- Switch – A smart hub. Inspects IP traffic and routes data to appropriate port (in contrast a hub sends all data to every port, creating unnecessary network traffic)
- *By lowering network traffic, switches greatly reduce the chances of a collision.*

C-0515





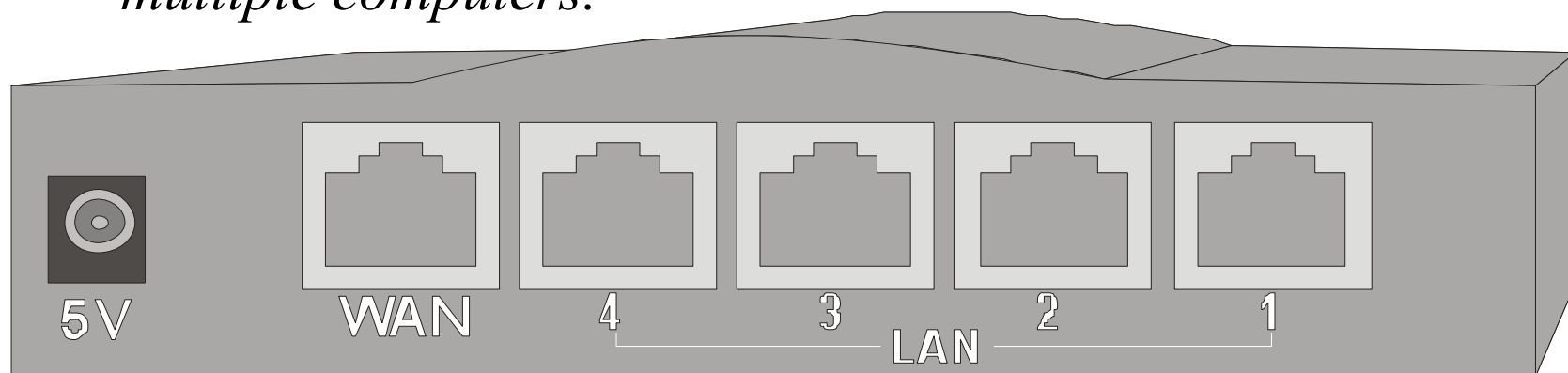
# Network Terminology

- Think of a Switch as a system in which every car has an independent road to drive on, therefore network collisions are essentially non-existent.
  - *Fewer collisions results in faster speeds.*

# Network Terminology

- Router – Connects more than one network together. Typically used to connect your LAN (Local Area Network) to a the internet or WAN (Wide Area Network).

*Enables the sharing of one high-speed connection to multiple computers.*



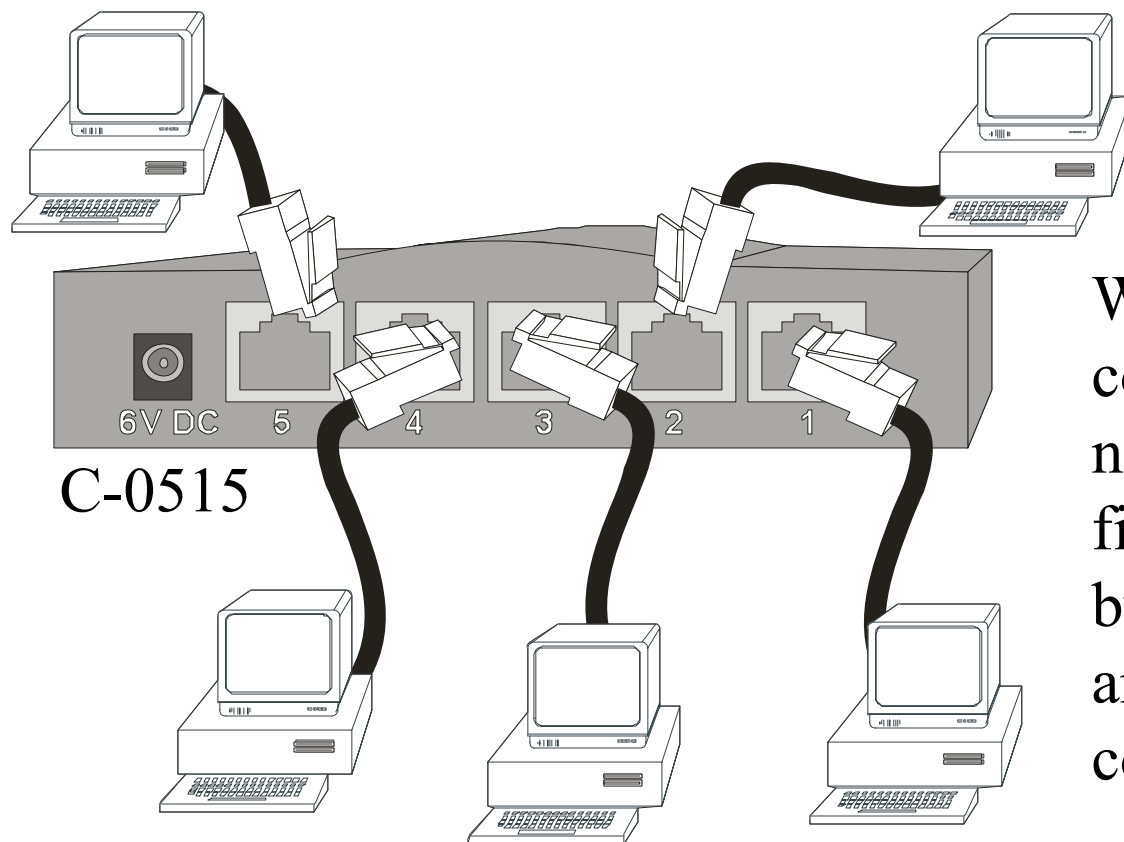


# Network Terminology

- Think of a router as the mail room in a large office building.
  - *Messages that go out*, are sent to the mailroom and then forwarded on to the outside world.
  - *Messages that come in*, first go to the mailroom and are forwarded on to the correct office.

# Basic System Design

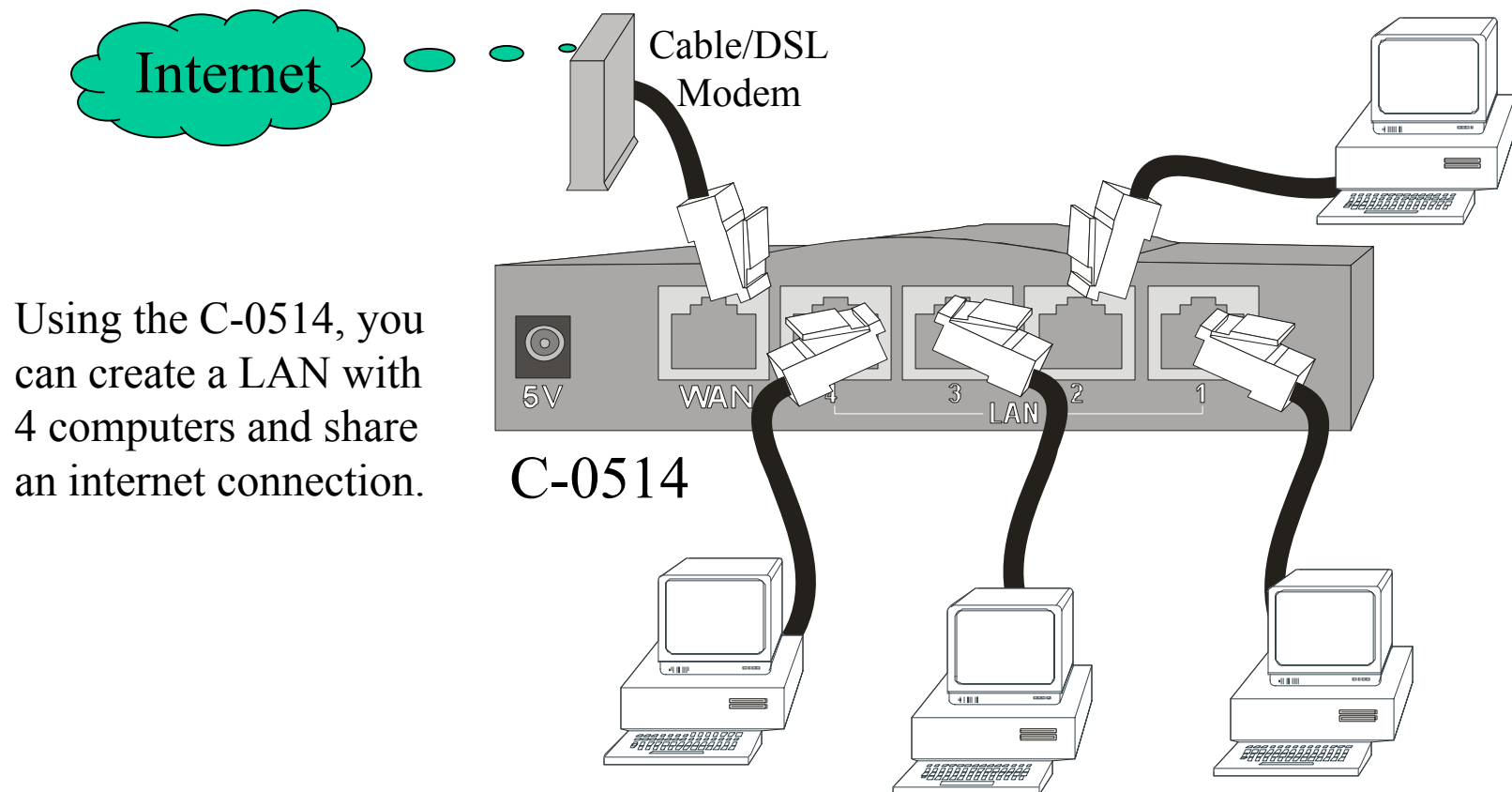
- Making a Local Area Network



With this design, computers in the network can share files with each other, but they cannot share an internet connection.

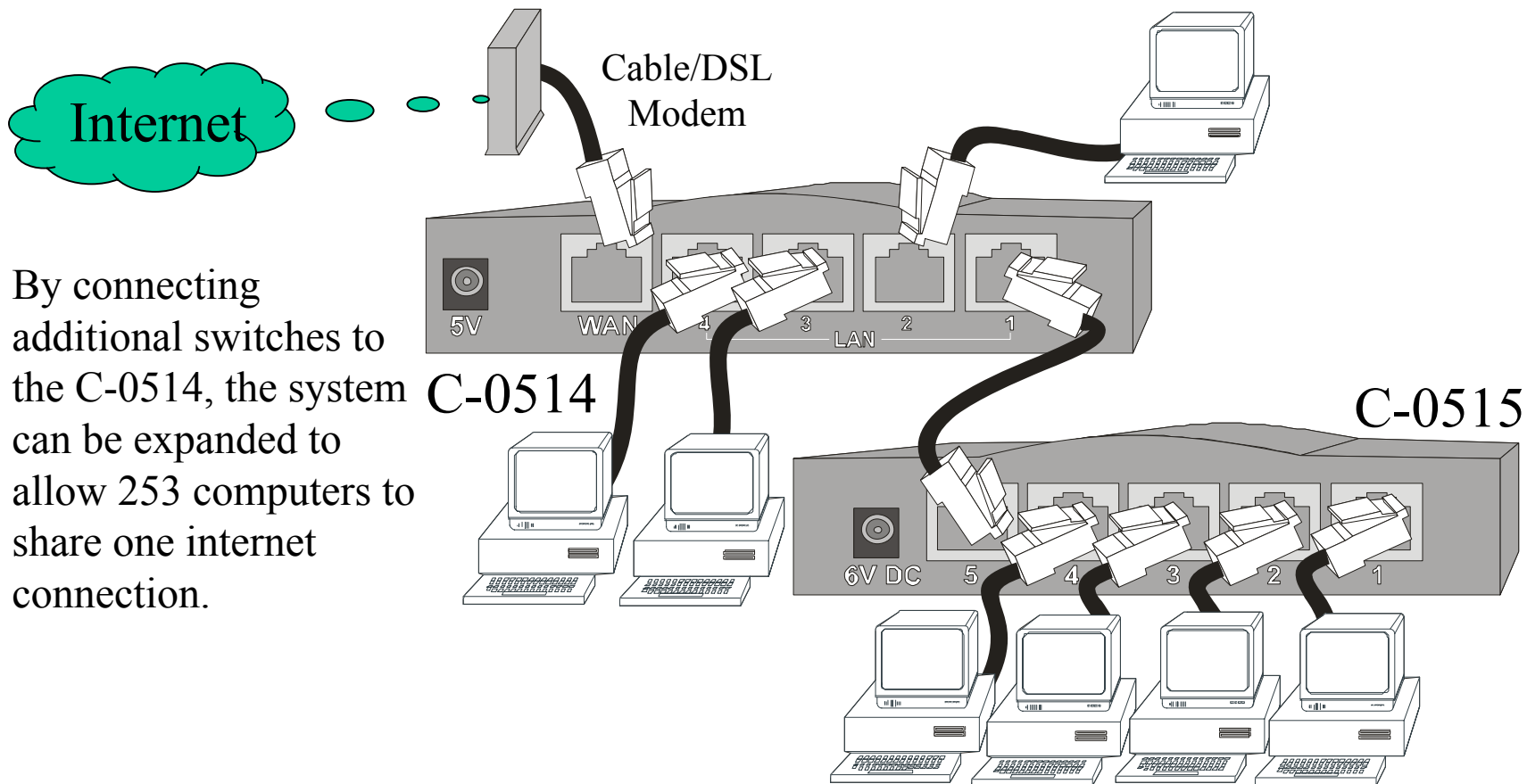
# Sharing An Internet Connection

- Use a router to connect to a WAN



# Expanding the System

- Expanding to more than 4 computers



By connecting additional switches to the C-0514, the system can be expanded to allow 253 computers to share one internet connection.



# Review

What does the term LAN refer to?

Local Area Network (LAN) refers to a small network that is confined to a limited area, such as house.

What does the term WAN refer to?

Wide Area Network (WAN) refers to several LANs that are connected together, such as the internet.

What device is needed to created a LAN?

A data switch, such as the C-0515

What device is needed to connect a LAN to a WAN?

A router, such as the C-0514