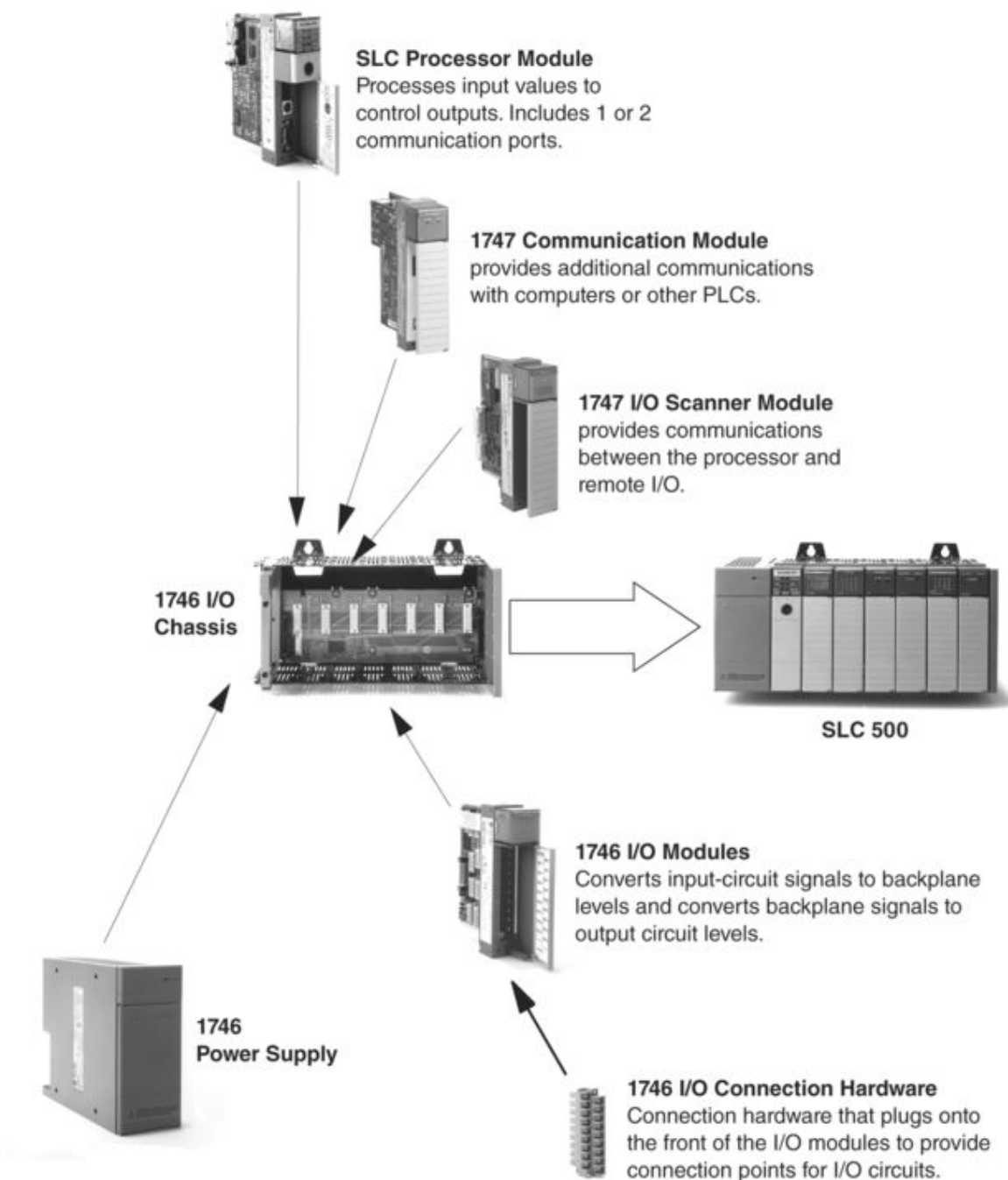


## SLC System Overview

[Product Overview](#)

### System Overview

The SLC 500 family provides a proven approach for industrial control. SLC 500 processors are available in a wide range of functional designs, and can be connected in a variety of networks for distributed processing and distributed I/O. The 1746 I/O products offer a full range of digital and analog I/O (including intelligent I/O) in a rugged modular assembly.



## Benefits

- *Modularity*—Modular processors, power supplies, I/O, memory options, and communication interfaces allow for a configurable and expandable system. You configure your system for the number of I/O, the amount of memory, and the communication networks you need. Later, when you want to expand the system, you can add I/O or communication interfaces.
- *Fast delivery of messages*—Between networks, between links within networks, and between modules across the backplane.
- *Industrially hardened product*—Designed to withstand the vibrations, thermal extremes, and electrical noise associated with harsh industrial environments.
- *Compact design*—Fits in limited panel space.
- *Many network options*—Take advantage of distributed processing by connecting processors across Ethernet, ControlNet, DeviceNet, DH+, and DH-485 networks.
- *More I/O choices*—Distributed I/O at locations remote from the processor can be connected across ControlNet, DeviceNet, and Universal Remote I/O links.

## System Components

A modular-hardware SLC / 1746 control system at minimum consists of a processor module and I/O modules in a single 1746 chassis with a power supply. The 1746 power supply connects to the left end of each 1746 chassis. You can configure a system with one, two, or three local chassis, for a total of 30 local I/O or communication modules maximum. You connect multiple local chassis together with chassis interconnect cables to extend the backplane signal lines from one chassis to another.

Choose the processor module with the on-board communication ports you need. You optionally add modules to provide additional communication ports for the processor. For I/O in locations remote from the processor, you must add an I/O scanner module for ControlNet, DeviceNet, or Universal Remote I/O port.

Depending on the communication ports available on your particular SLC control system, you can select operator interfaces that are compatible with those particular ports.

## Product Design

SLC 500 processors are available in a large range of forcible I/O (4096 inputs plus 4096 outputs maximum) and maximum user memory (1K instructions through 64K words). Several modular processors are capable of controlling remotely located I/O. By adding an I/O scanner module, you can use these processors to monitor/control these remotely located I/O across ControlNet, DeviceNet, and Universal Remote I/O links.

The 1746/1747 platform provides a modular-hardware system for maximum flexibility. SLC 500 processors are single-slot modules that you place into the left-most slot of a 1746 I/O chassis. For 1746 I/O in a location remote from the processor, the I/O adapter is a single-slot module that you place into the left-most slot of a 1746 I/O chassis.

The 1746 I/O chassis are built for back-panel mounting. The 1746 I/O chassis is available in sizes of 4, 7, 10, or 13 module slots. The 1746 I/O modules are available in densities of a maximum of 32 I/O per module.

You can configure a system with one, two, or three local chassis, for a total of 30 local I/O or communication modules maximum. You connect multiple local chassis together with chassis interconnect cables to extend the backplane signal lines from one chassis to another. This same 30-I/O-module limit applies to a chassis remote from the processor with an I/O adapter module in the first slot. Modules slide easily into chassis slots; no tools are required for module installation.

For many modules, because you wire to a removable terminal block that unplugs from the module, you do not need to disconnect wiring to replace an I/O module.

## Communication

An SLC processor communicates across the 1746 backplane to 1746 I/O modules in the chassis in which the processor resides. Various models of SLC processors have various on-board ports for communication with other processors or computers. Also, separate modules are available to provide additional communication ports for communication with other processors, computers, and remotely located I/O.

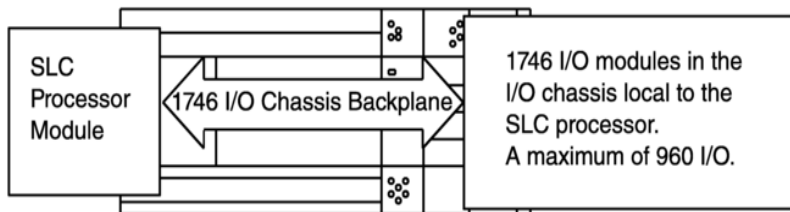
Each SLC processor has one or two built-in ports for either EtherNet/IP, DH+, DH-485, or RS-232 (DF1, ASCII, OR DH-485 protocol) communication.

In addition to the on-board ports available with SLC processors, you have the option of providing additional communication ports for an SLC processor by adding communication modules.

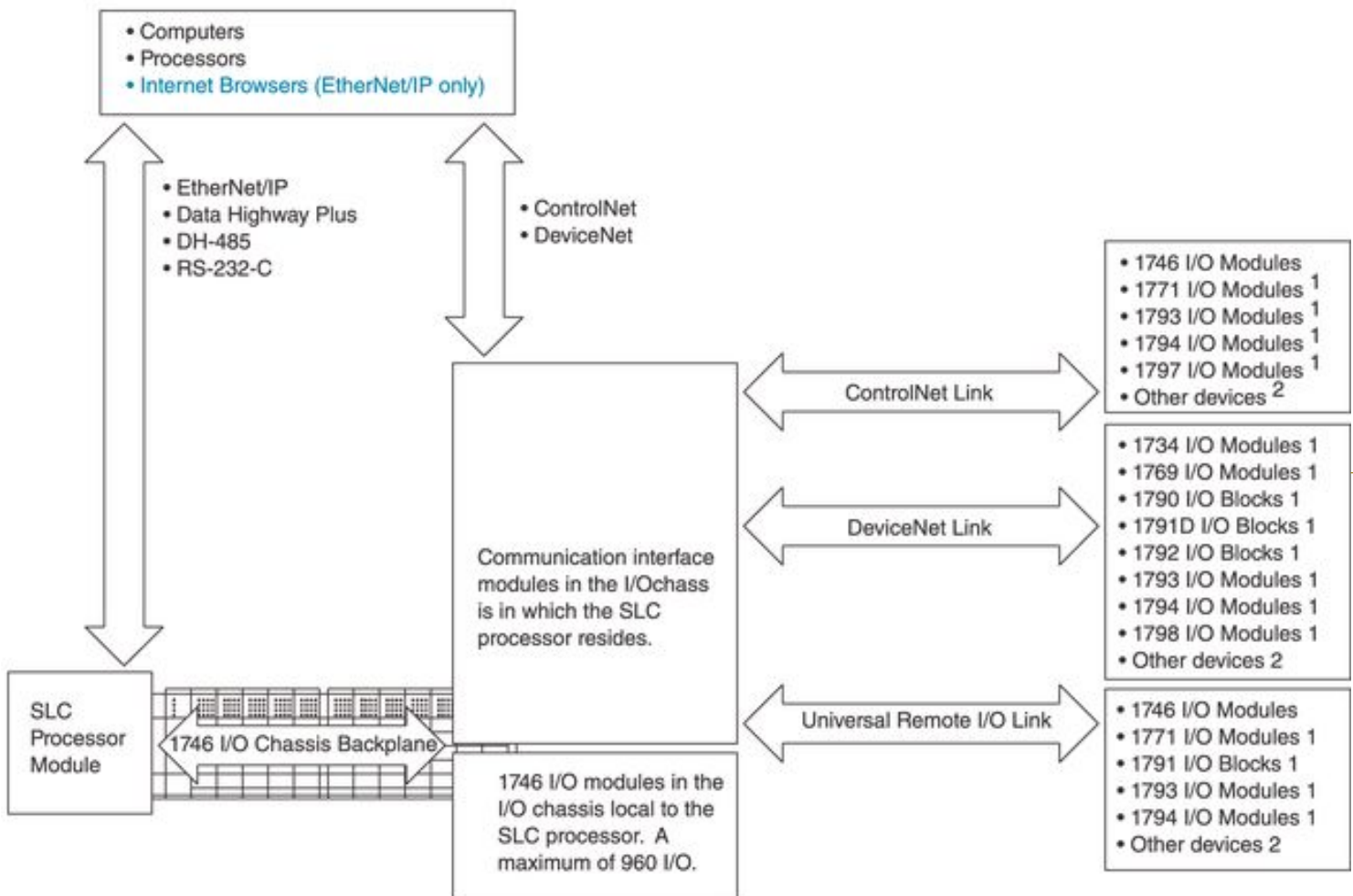
I/O adapter modules for 1746 I/O are available for ControlNet and Universal Remote I/O links. An I/O adapter module in a chassis with I/O modules interfaces the I/O modules with the I/O link for communication with a scanner port for a processor at another location.

SLC 5/05 processors include a built-in web server that lets you use an Internet browser to view processor module information—including the data table memory map, data table monitor screen, and user provided web pages—plus TCP/IP configuration, and diagnostic information. Domain Name Server (DNS) capability lets you address the SLC 5/05 processor by a user-specified name rather than its IP address.

### A simple system can consist of only a stand-alone processor and I/O modules all in a single chassis



### Multiple processors can communicate across networks; and I/O in multiple platforms can be distributed in many locations connected over multiple I/O links

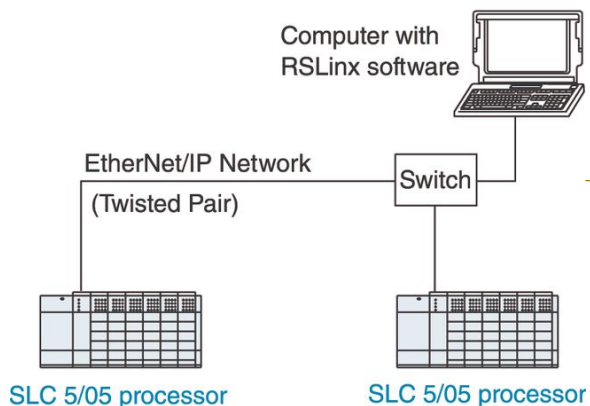


<sup>1</sup> These I/O products are covered in other sections of the catalog.

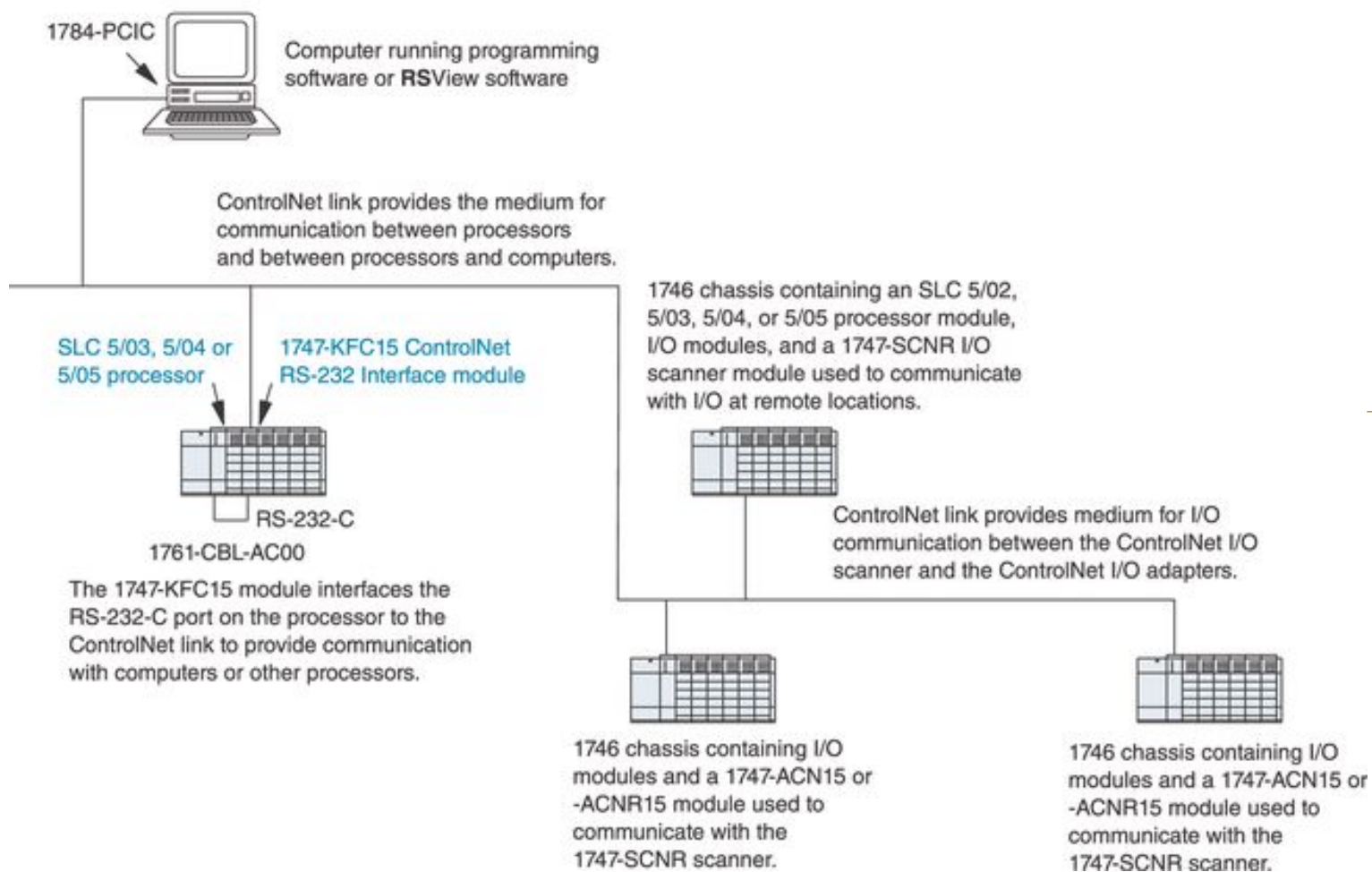
<sup>2</sup> For a current list of devices (drives, operator interfaces) with ControlNet, DeviceNet, or Universal Remote I/O interfaces that are compatible with the SLC processor, contact your local Rockwell Automation sales office or distributor.

## Typical Configurations

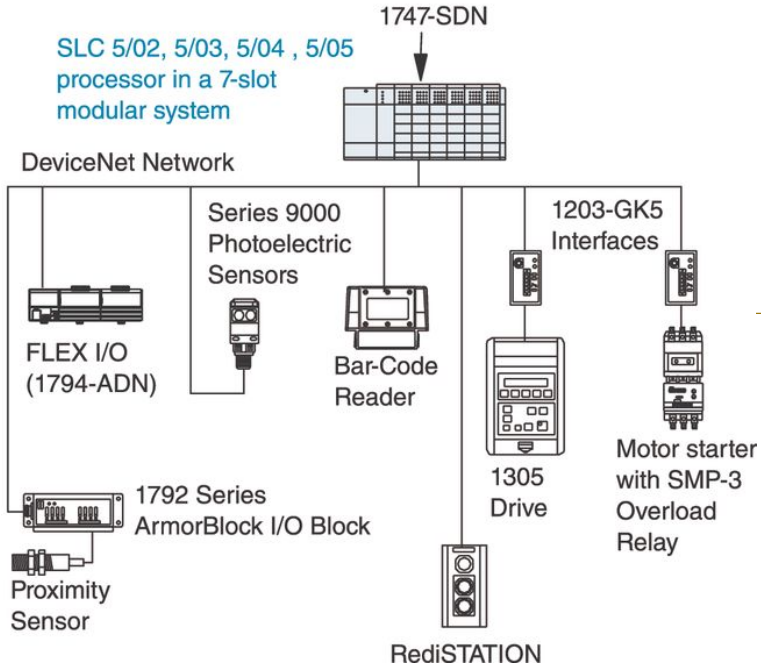
### EtherNet/IP Communication



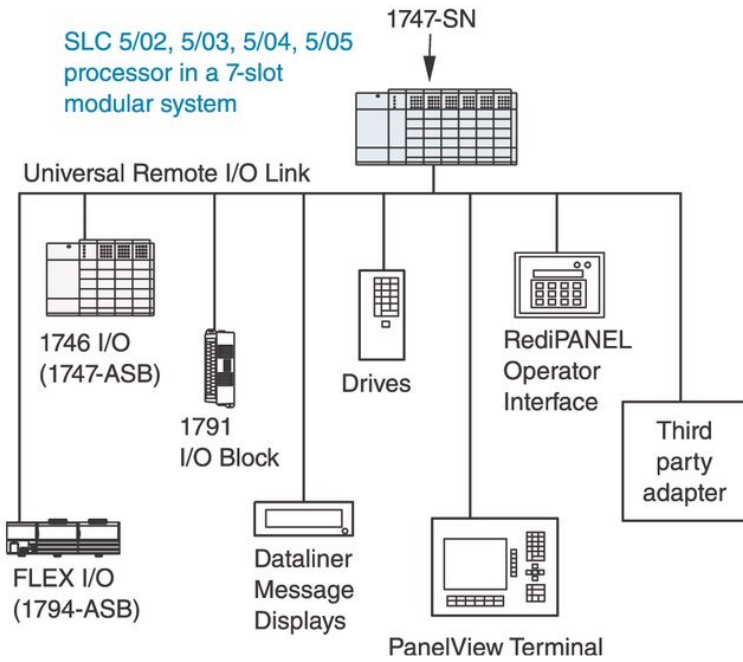
### ControlNet Communication



## DeviceNet I/O

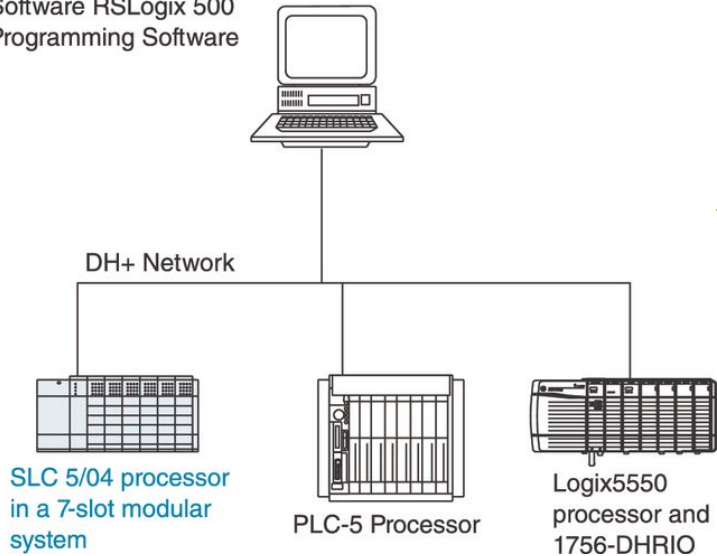


## Universal Remote I/O



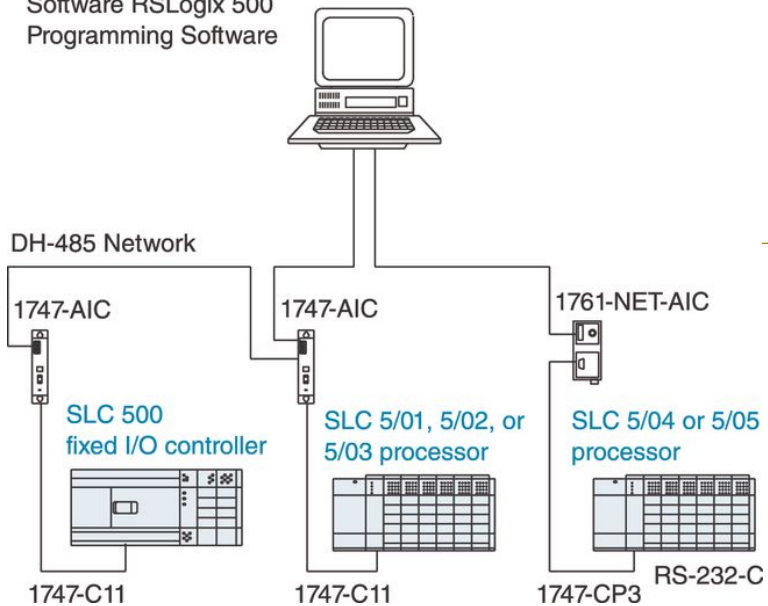
## DH+ Communication

Computer with a 1784-PKTX card  
installed and running Rockwell  
Software RSLogix 500  
Programming Software

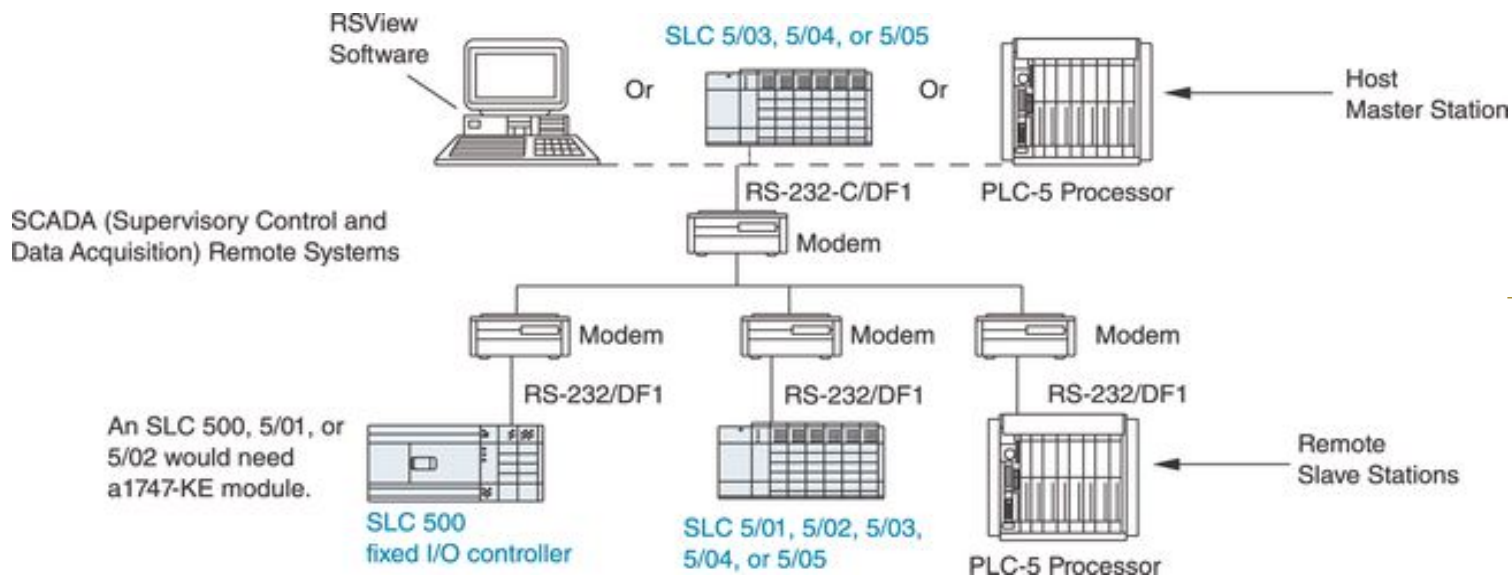


## DH-485 Communication

Computer with a 1784-PKTX card  
installed and running Rockwell  
Software RSLogix 500  
Programming Software



## SCADA Remote Systems



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