RS232

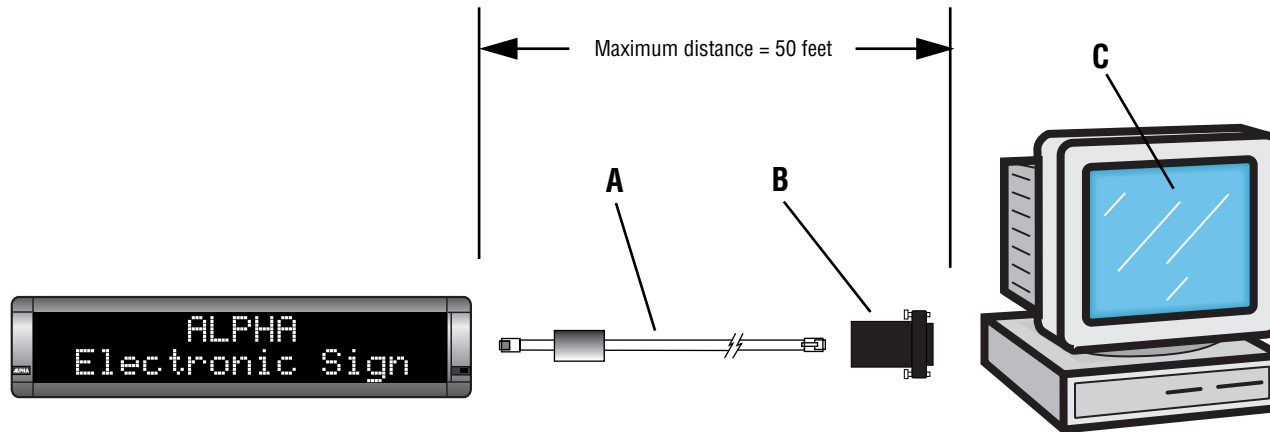## *Single sign networks with AlphaNET plus, Alpha Messaging, or Smart Alec software*

Use this setup when a simple serial (RS232) connection to a <u>single sign</u> is needed.
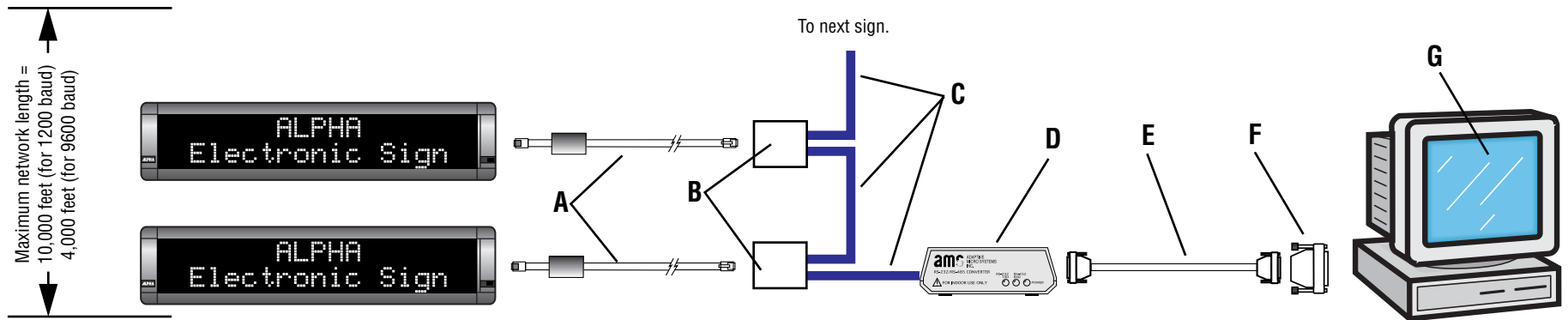
Maximum distance = 50 feet

C

A   **B**

ALPHA
Electronic Sign

Item	Part #	Description	Notes
A	1088-8625	25-foot RS232 cable	Plugs into the sign's RS232 or TTL jack.
	1088-9627	50-foot RS232 cable	
B	4370-0001C	RJ11-to-DB25 adapter	For a PC with a 25-pin RS232 port.
	1088-9108	RJ11-to-DB9 adapter	For a PC with a 9-pin RS232 port.
C	1092-7802A	AlphaNET plus for Windows v1.2 software	
	Contact Adaptive.	Smart Alec software	

RS485

Multiple sign networks with AlphaNET plus or Smart Alec software

Use this setup when <u>multiple signs</u> need to be connected to a serial (RS485) network. This network requires the installation of RS485 wiring. Up to 255 signs can be connected and individually addressed in this type of network.
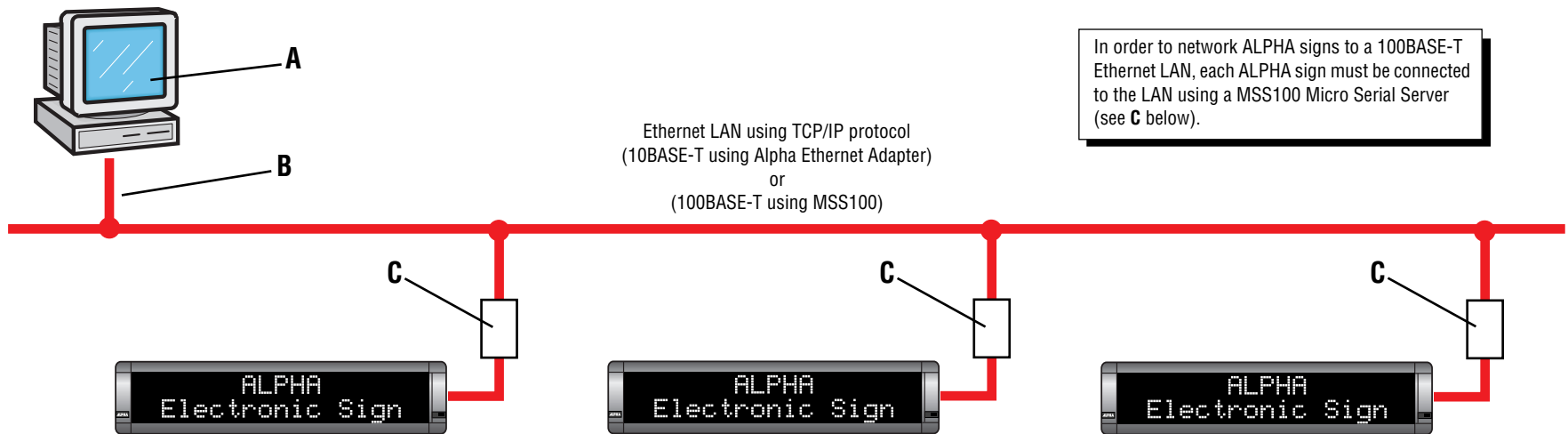

Maximum network length = 10,000 feet (for 1200 baud) 4,000 feet (for 9600 baud)

To next sign.

ALPHA
Electronic Sign

ALPHA
Electronic Sign

Item	Part #	Description	Notes
A	1088-8624	8-foot RS485 cable	Plugs into the sign's RS485 jack. (The last sign on the network must have an End-Of-Line terminator in the sign's RS232 jack.)
	1088-8636	1-foot RS485 cable (recommended)	
B	4331-0602	Modular Network Adapter	Used to interconnect signs.
C	1088-8000	RS485 cable (1000 foot spool)	Used to interconnect signs.
D	1088-1111	Converter Box III	Converts RS232 signals to RS485 signals.
E	1088-8634	Type "A9" RS232 cable	Connects Converter Box III to PC RS232 port.
F	—	DB9-to-DB25 adapter	Required if PC has a 25-pin RS232 port.
G	1092-7802A	AlphaNET plus for Windows v1.2 software	
	Contact Adaptive.	Smart Alec software	
For more information on RS485 networking, see the document **Network Configurations** (9708-8046).			

Ethernet

One-to-four sign networks with AlphaNET plus or Alpha Messaging software

Use this setup when 1 to 4 signs need to be connected to an Ethernet network. The AlphaNET plus software has the ability to display a *unique message on each* of the four signs in this network. However, the Alpha Messaging software can only send messages to one sign, not four. This setup also requires the use of the Redirector software.
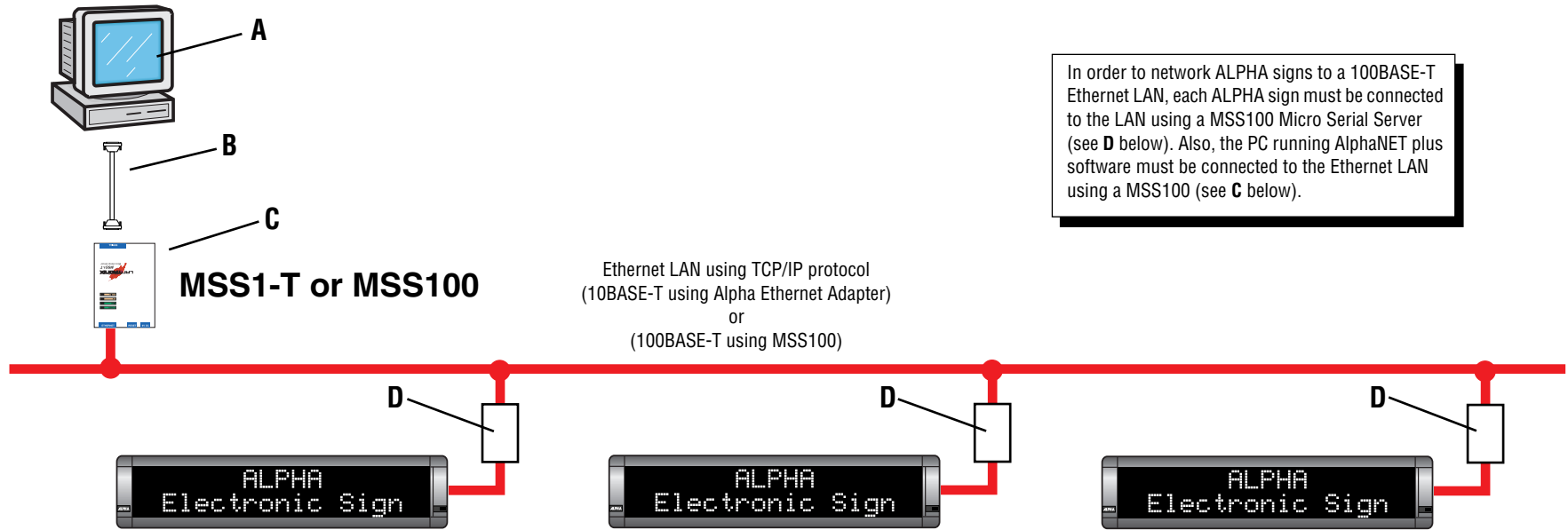
A

B

Ethernet LAN using TCP/IP protocol
(10BASE-T using Alpha Ethernet Adapter)
or
(100BASE-T using MSS100)

In order to network ALPHA signs to a 100BASE-T Ethernet LAN, each ALPHA sign must be connected to the LAN using a MSS100 Micro Serial Server (see **C** below).

C   C   C

```
   ALPHA           ALPHA           ALPHA
Electronic Sign  Electronic Sign  Electronic Sign
```

Item	Part #	Description	Notes
A	1092-7802A	AlphaNet plus for Windows v1.2 software	Redirector software must also be used. (This software is included with the Alpha Ethernet Adapter kit. See below.)
	1092-9102	Alpha Messaging v1.0 software	
B	—	The PC must be connected to the Ethernet LAN with a network card.	
C	1088-9120	Alpha Ethernet Adapter kit	Each Alpha Ethernet Adapter is mounted on the back of the sign and draws it power from the sign itself (no separate power supply is needed). Each Alpha Ethernet Adapter will need its own unique IP address. (10BASE-T only)
	1088-4113	MSS100 Micro Serial Server	Same as above, but either 10BASE-T or 100BASE-T.
For information on using Alpha Ethernet Adapters and Redirector software, see the document **Networking Alpha signs with Alpha Ethernet Adapters** (pn 9708-8093).			

Ethernet

Multiple sign networks with AlphaNET plus software

Use this setup when multiple signs need to be connected to an Ethernet network. The number of signs in this network is only limited by the number of available IP addresses. The MSS1-T (or MSS100) Micro Serial Server must be configured to operate like a modem. The AlphaNET plus software has the ability to display a *unique message on each* of the signs in this network.
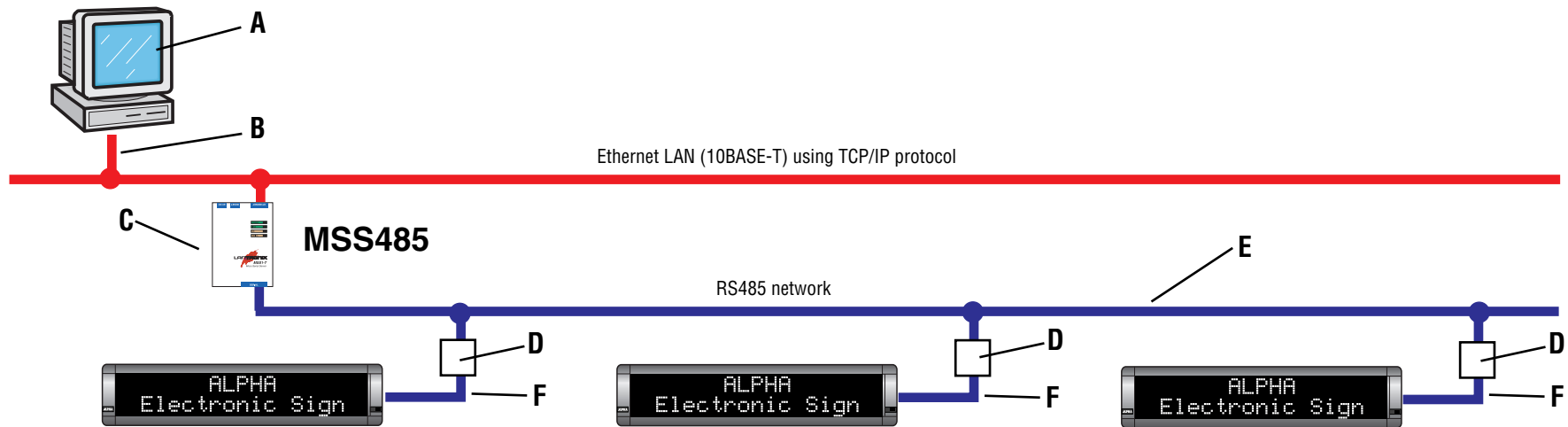

In order to network ALPHA signs to a 100BASE-T Ethernet LAN, each ALPHA sign must be connected to the LAN using a MSS100 Micro Serial Server (see **D** below). Also, the PC running AlphaNET plus software must be connected to the Ethernet LAN using a MSS100 (see **C** below).

MSS1-T or MSS100

Ethernet LAN using TCP/IP protocol
(10BASE-T using Alpha Ethernet Adapter)
or
(100BASE-T using MSS100)

Item	Part #	Description	Notes
A	1092-7802A	AlphaNet plus for Windows v1.2 software	
B	1088-8611	Null modem cable	Connects MSS1-T (or MSS100) to the PC's RS232 port.
C	1088-4111	MSS1-T Micro Serial Server	The MSS1-T (or MSS100) must be configured to act like a modem. Each sign on the LAN can then be addressed by using the IP address of the Alpha Ethernet Adapter attached to the sign. This IP address is sent to the MSS1-T (or MSS100) as part of a standard modem "ATDT" command.
	1088-4113	MSS100 Micro Serial Server	
D	1088-9120	Alpha Ethernet Adapter kit	Each Alpha Ethernet Adapter will need its own IP address. These will probably have to be assigned by a network administrator.
	For information on using Alpha Ethernet Adapters, see the document **Networking Alpha signs with Alpha Ethernet Adapters** (pn 9708-8093).		

Ethernet / RS485

Multiple sign networks with AlphaNET plus software

Use this setup when <u>multiple signs</u> need to be connected to an Ethernet network and an RS485 network. Using the Redirector software, up to four MSS485 Micro Serial Servers can be used, and up to 255 signs can be connected to *each* of these serial servers. The AlphaNET plus software has the ability to display a *unique message on each* of the signs in this network.
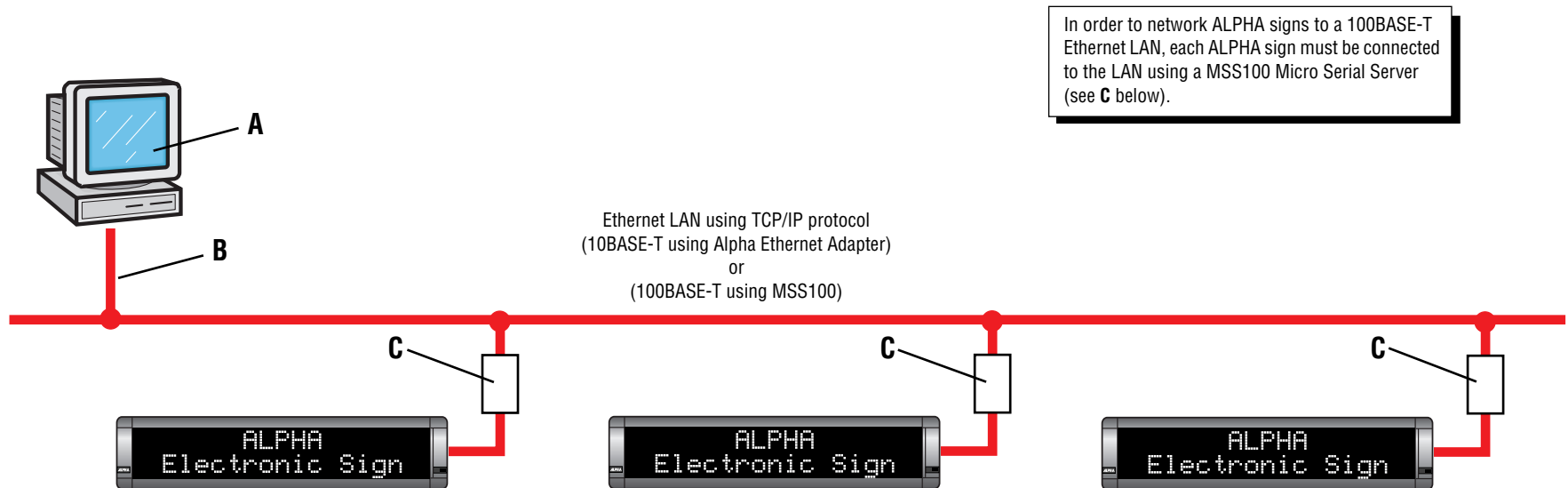

Ethernet LAN (10BASE-T) using TCP/IP protocol

MSS485

RS485 network

Item	Part #	Description	Notes
A	1092-7802A	AlphaNet plus for Windows v1.2 software	Redirector software must also be used. (This software is included with the MSS485 Micro Serial Server. See below.)
B	—	The PC must be connected to the Ethernet LAN with a network card.	
C	1088-4112	MSS485 Micro Serial Server	Used to connect an Ethernet and a RS485 network. The MSS485 must be assigned an IP address which the AlphaNET plus software uses to address this device. Up to four MSS485s can be used, and each can address up to 255 signs.
D	4331-0602	Modular Network Adapter	Used to interconnect signs.
E	1088-8000	RS485 cable (1000 foot spool)	Used to interconnect signs.
F	1088-8624	8-foot RS485 cable	Plugs into the sign's RS485 jack. (The last sign on the network must have an End-Of-Line terminator in the sign's RS232 jack.)
	1088-8636	1-foot RS485 cable (recommended)	
For information on using Alpha Ethernet Adapters and Redirector software, see the document **Networking Alpha signs with Alpha Ethernet Adapters** (pn 9708-8093).			

Ethernet

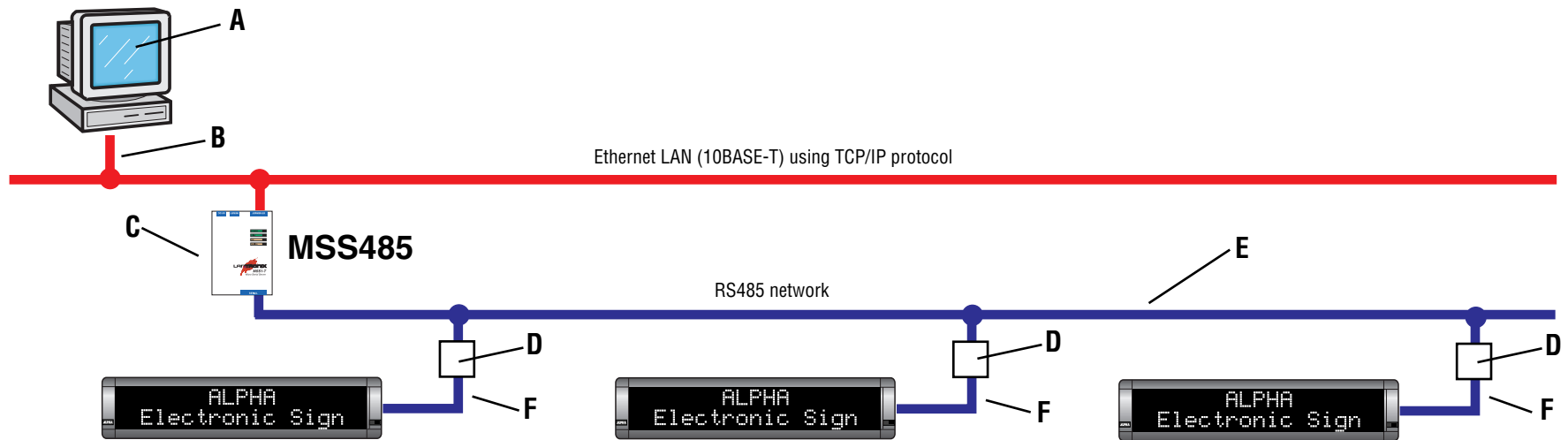## *Multiple sign networks with Smart Alec software*

Use this setup when multiple signs need to be connected to an Ethernet network and Smart Alec software is used to display messages on the signs. The number of signs in this network is only limited by the number of available IP addresses. The Smart Alec software has the ability to display a *unique message on each* of the signs in this network.

In order to network ALPHA signs to a 100BASE-T Ethernet LAN, each ALPHA sign must be connected to the LAN using a MSS100 Micro Serial Server (see **C** below).

A

B

Ethernet LAN using TCP/IP protocol
(10BASE-T using Alpha Ethernet Adapter)
or
(100BASE-T using MSS100)

C

C

C

ALPHA
Electronic Sign

ALPHA
Electronic Sign

ALPHA
Electronic Sign

Item	Part #	Description	Notes
A	Contact Adaptive.	Smart Alec software	
B	—	The PC must be connected to the Ethernet LAN with a network card.	
C	1088-9120	Alpha Ethernet Adapter kit	Each Alpha Ethernet Adapter will need its own IP address (10BASE-T only).
	1088-4113	MSS100 Micro Serial Server	Same as above except 10BASE-T or 100BASE-T.
For information on using Alpha Ethernet Adapters, see the document **Networking Alpha signs with Alpha Ethernet Adapters** (pn 9708-8093).			

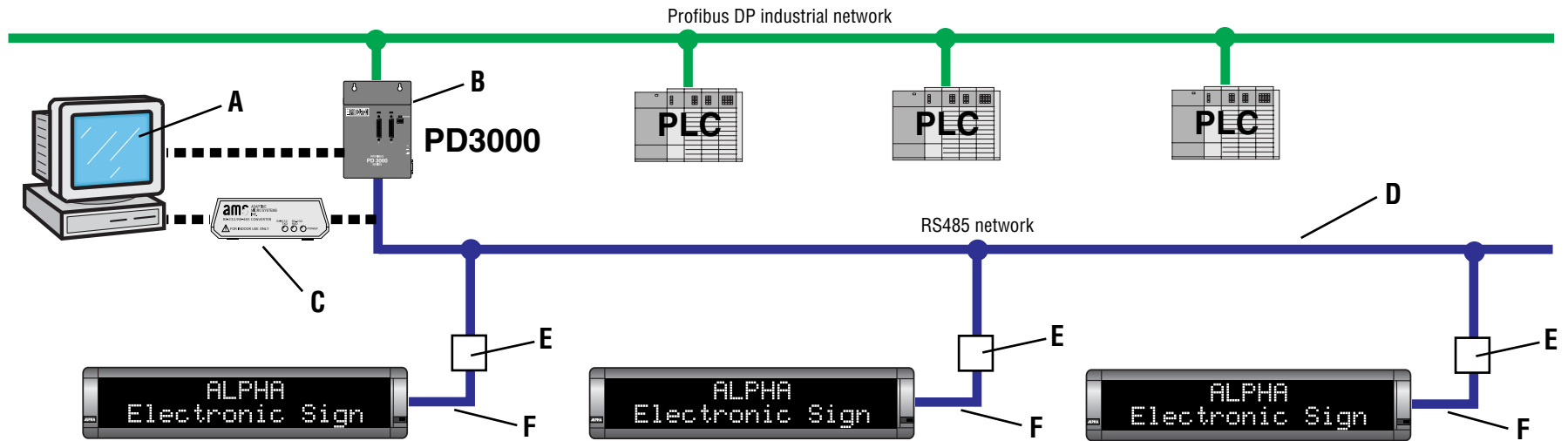## *Multiple sign networks with Smart Alec software*

Use this setup when <u>multiple signs</u> on an RS485 network need to be connected to an Ethernet network. Also, Smart Alec software is used to display messages on the signs. The number of signs in this network is only limited by the number of available IP addresses. The Smart Alec software has the ability to display a *unique message on each* of the signs in this network.

Ethernet / RS485

A

B

Ethernet LAN (10BASE-T) using TCP/IP protocol

C

MSS485

RS485 network

E

D

D

D

ALPHA
Electronic Sign

ALPHA
Electronic Sign

ALPHA
Electronic Sign

F

F

F

Item	Part #	Description	Notes
A	Contact Adaptive.	Smart Alec software	
B	—	The PC must be connected to the Ethernet LAN with a network card.	
C	1088-4112	MSS485 Micro Serial Server	Used to connect an Ethernet and a RS485 network. Each MSS485 must be assigned an IP address which the Smart Alec software uses to address each device.
D	4331-0602	Modular Network Adapter	Used to interconnect signs.
E	1088-8000	RS485 cable (1000 foot spool)	Used to interconnect signs.
F	1088-8624	8-foot RS485 cable	Plugs into the sign's RS485 jack. (The last sign on the network must have an End-Of-Line terminator in the sign's RS232 jack.)
	1088-8636	1-foot RS485 cable (recommended)	
For information on using Alpha Ethernet Adapters, see the document **Networking Alpha signs with Alpha Ethernet Adapters** (pn 9708-8093).			

Profibus DP

Multiple sign networks with Gateway Messaging software

Use this setup to connect up to 255 signs to a Profibus DP industrial network. NOTE: The Alpha signs require special firmware to operate in this type of network.
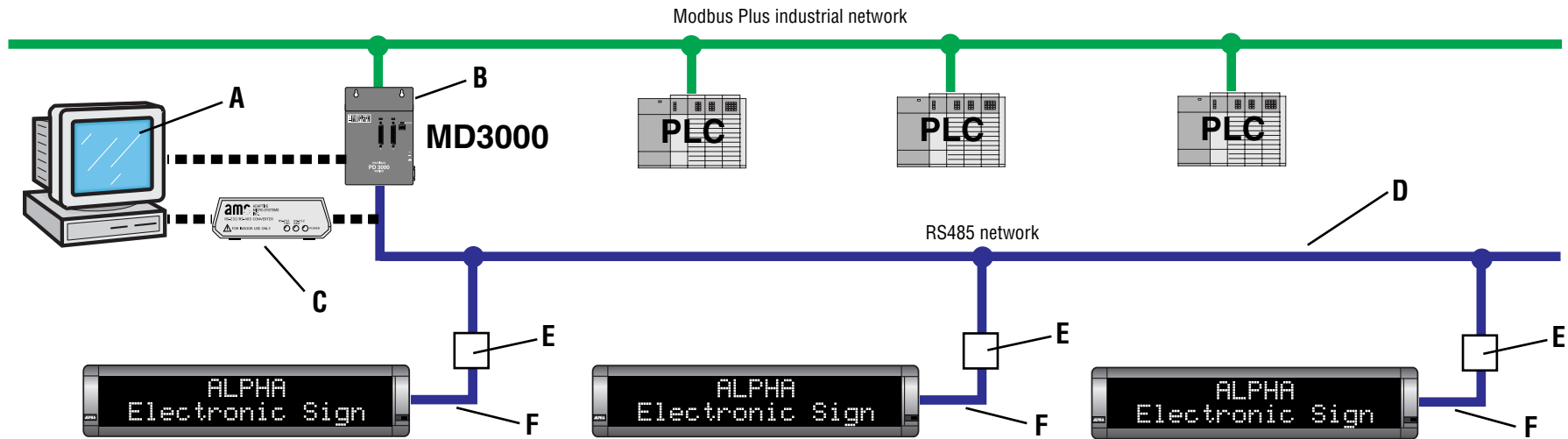

Item	Part #	Description	Notes
A	See 1188-9003	PD3000 Configuration Editor software and the Gateway Messaging software	The PC is connected to the PD3000 and the PD3000 Configuration Editor software is used to set up the PD3000. The PC is then connected to a sign and the Gateway Messaging software is used to load messages into the sign.
B	1188-9003	Profibus DP Gateway kit	The kit includes the PD3000 interface box which interfaces a Profibus and an RS485 Alpha sign network. Also included in the kit is a Converter Box III, the PD3000 Configuration Editor software, and the Gateway Messaging software (which creates the sign messages and uploads them into each sign).
C	See 1188-9003	Converter Box III	Converts RS232 signals to RS485 signals.
D	1088-8000	RS485 cable (1000 foot spool)	Used to interconnect signs.
E	4331-0602	Modular Network Adapter	Used to interconnect signs.
F	1088-8624	8-foot RS485 cable	Plugs into the sign's RS485 jack. (An End-Of-Line terminator is NOT needed in this type of network.)
	1088-8636	1-foot RS485 cable (recommended)	
For more information on RS485 networking, see the document **Network Configurations** (9708-8046).			

Modbus Plus

Multiple sign networks with Gateway Messaging software

Use this setup to connect up to 255 signs to a Modbus Plus industrial network. NOTE: The Alpha signs require special firmware to operate in this type of network.
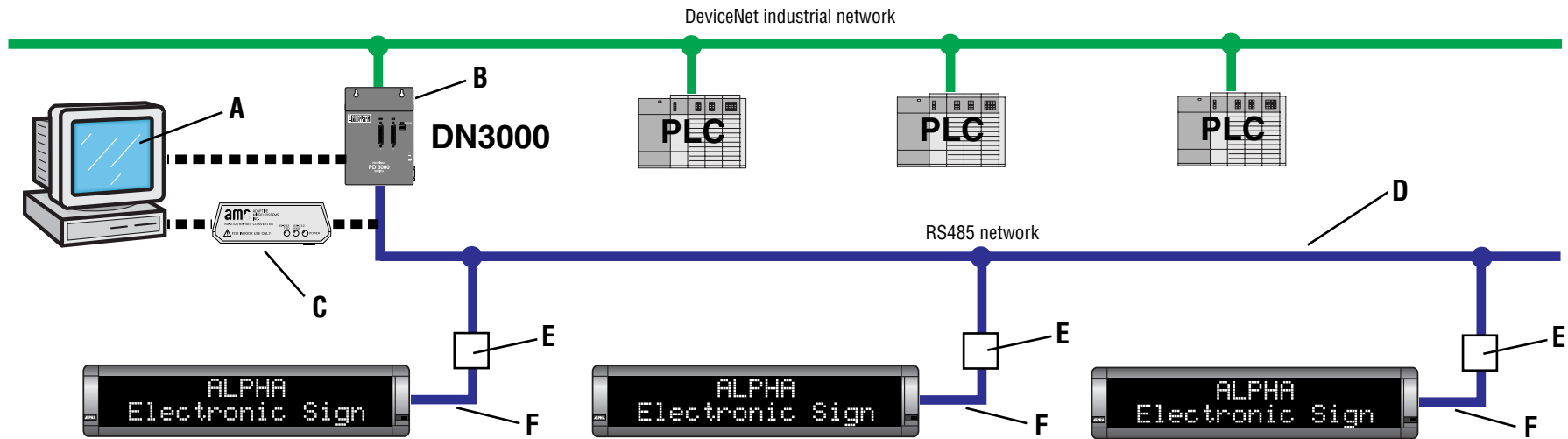

Modbus Plus industrial network

A **B** **MD3000** **PLC** **PLC** **PLC**

D

RS485 network

C

E **E** **E**

ALPHA
Electronic Sign

ALPHA
Electronic Sign

ALPHA
Electronic Sign

F **F** **F**

Item	Part #	Description	Notes
A	See 1188-9002	MD3000 Configuration Editor software and the Gateway Messaging software	The PC is connected to the MD3000 and the MD3000 Configuration Editor software is used to set up the MD3000. The PC is then connected to a sign and the Gateway Messaging software is used to load messages into the sign.
B	1188-9002	Modbus Plus Gateway kit	The kit includes the MD3000 interface box which interfaces a Modbus Plus and an RS485 Alpha sign network. Also included in the kit is a Converter Box III, the MD3000 Configuration Editor software, and the Gateway Messaging software (which creates the sign messages and uploads them into each sign).
C	See 1188-9002	Converter Box III	Converts RS232 signals to RS485 signals.
D	1088-8000	RS485 cable (1000 foot spool)	Used to interconnect signs.
E	4331-0602	Modular Network Adapter	Used to interconnect signs.
F	1088-8624	8-foot RS485 cable	Plugs into the sign's RS485 jack. (An End-Of-Line terminator is NOT needed in this type of network.)
	1088-8636	1-foot RS485 cable (recommended)	
For more information on RS485 networking, see the document **Network Configurations** (9708-8046).			

Multiple sign networks with Gateway Messaging software

Use this setup to connect up to 255 signs to a DeviceNet industrial network. NOTE: The Alpha signs require special firmware to operate in this type of network.

DeviceNet

Item	Part #	Description	Notes
A	See 1188-9001	DN3000 Configuration Editor software and the Gateway Messaging software	The PC is connected to the DN3000 and the DN3000 Configuration Editor software is used to set up the DN3000. The PC is then connected to a sign and the Gateway Messaging software is used to load messages into the sign.
B	1188-9001	DeviceNet Gateway kit	The kit includes the DN3000 interface box which interfaces a DeviceNet and an RS485 Alpha sign network. Also included in the kit is a Converter Box III, the DN3000 Configuration Editor software, and the Gateway Messaging software (which creates the sign messages and uploads them into each sign).
D	See 1188-9001	Converter Box III	Converts RS232 signals to RS485 signals.
D	1088-8000	RS485 cable (1000 foot spool)	Used to interconnect signs.
E	4331-0602	Modular Network Adapter	Used to interconnect signs.
F	1088-8624	8-foot RS485 cable	Plugs into the sign's RS485 jack. (An End-Of-Line terminator is NOT needed in this type of network.)
F	1088-8636	1-foot RS485 cable (recommended)	
For more information on RS485 networking, see the document **Network Configurations** (9708-8046).			