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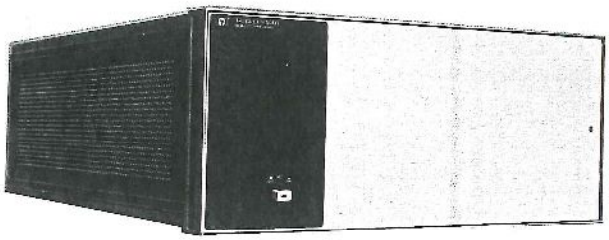
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OPTION 298



3498A Extender

INTRODUCTION

The Model 3498A Extender allows you to add additional plug-in assemblies for expansion of system capability. Each 3498A can hold up to 10 plug-in assemblies. You can add a maximum of thirteen 3498As to each 3497A for a total capability of 135 assemblies (5 in the 3497A and 10 in each 3498A).

The maximum number of analog assemblies (Options 010, 020, 030, 070 and 071) which can be added is 45. The maximum number of digital assemblies (Options 050, 060, 110, 115, 120 or 130) which can be added is 85. Thus, maximum capability is 1000 analog channels or 1360 digital channels. Use of one or more 3498As requires a 3497A for control.

Description

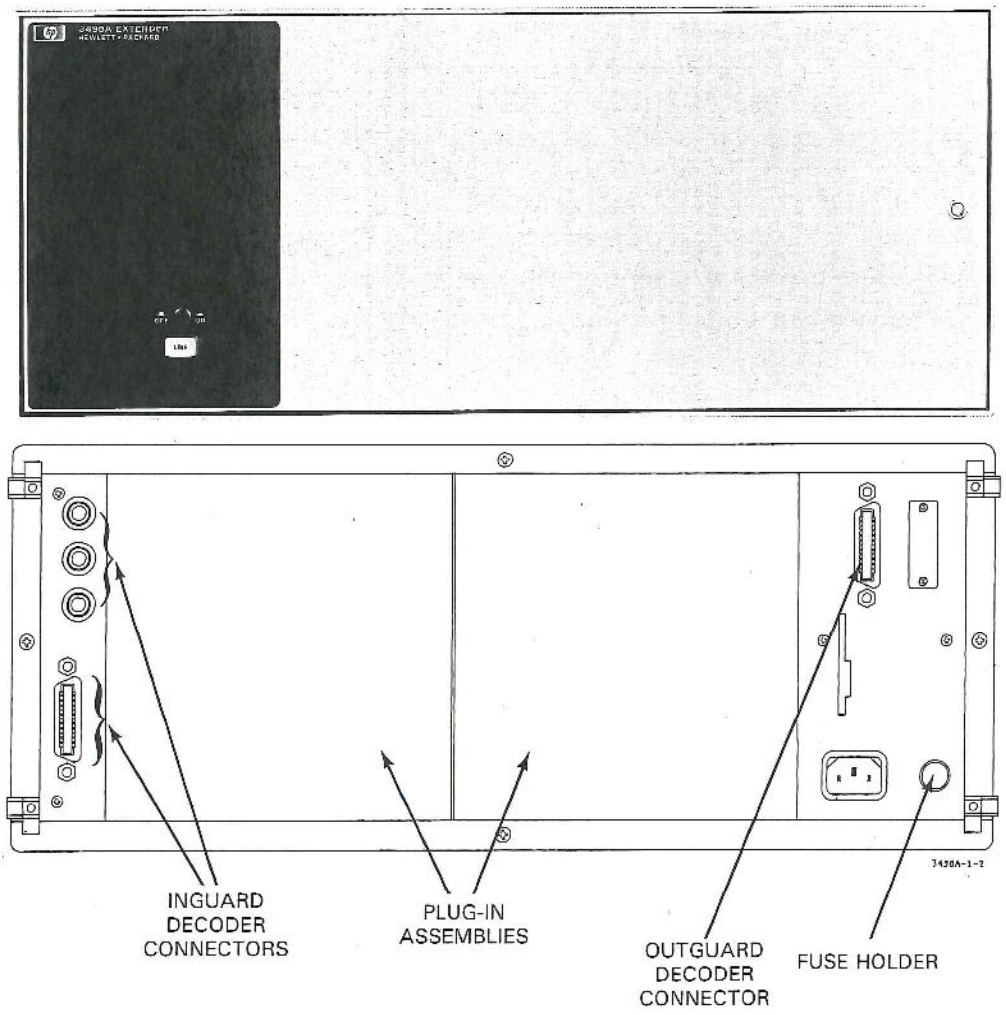
As shown in Figure 171, the 3498A Extender has a blank front panel with only a LINE switch and an indicator light for power-on conditions. The rear view shows that the extender has space for up to 10 plug-in assemblies and interconnections for analog and digital interface cables. The 3498A also includes decoding circuitry to allow the unit to operate with control signals from the 3497A and it contains power supplies for instrument devices using system ground or floating voltages.

Since the 3498A provides only POWER ON SRQ, Option 050 or Option 060 assemblies do not cause interrupt when placed in the 3498A although this capability is available when these assemblies are placed in the 3497A. Also, the DVM (Option 001) cannot be used in the 3498A.

Manual Information

This manual contains configuration and control information for the 3498A. For repair and/or service information, see 3497A Plug-In Assemblies/3498A Extender Service Manual. Instruments manufactured after the publication date of this manual may have changes incorporated. In this case, a yellow MANUAL CHANGES sheet will accompany the manual. See Appendix B for details.

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REAR VIEW SHOWN WITH SAFETY COVER REMOVED

Figure 171. Option 298 - Model 3498A Extender

Specifications

Specifications for the Model 3498A Extender follow. Specifications are performance standards or limits against which the instrument may be tested.

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OPTION 298
ADD 3498 EXTENDER

Number of Slots per 3498A: 10

Maximum Number of Added Analog Multiplexer Channels (Options 010, 020): 900 channels (45 assemblies)
(Option 030): 600 Channels

Maximum Number of Added Non-analog Acquisition Assemblies (Options 050, 060, 110, 115, 120, 140): 85 assemblies

Maximum Separation From the 3497A:
3498A with analog cards (Options 010, 020, 030, 070, 071): 100 meters
3498A with digital assemblies (all other options): 25 meters (2 meter cables are supplied standard)

Maximum number of 3498A's per 3497A: 13

Isolation:

	25°C, >85% R.H. 40°C, >60% R.H.	40°C, >95% R.H.
Hi to Lo	$>10^{10}$ Ohms	$>10^{9}$ Ohms
Lo to Guard	$>10^{8}$ Ohms	$>10^{7}$ Ohms
Guard to Chassis	$>10^{8}$ Ohms	$>10^{7}$ Ohms

Operating Considerations

Digital Interrupt is not passed between the 3498A and the parent 3497A. Digital Interrupt is found on the Option 050 Digital Input/Interrupt Assembly and on the Option 060 Counter Assembly.
The DVM assembly cannot be used in the 3498A.
Power and Environmental Information: see 3497A data.

INSTALLING THE 3498A

WARNING

There is no operator installation or configuration for the Model 3498A Extender. Only qualified, service-trained personnel should install or configure the instrument.

Initial Inspection

Whether you ordered the 3498A Extender as Option 298 to the 3497A or as a separate item, the shipping container should contain the items shown in Figure 172. If any item is missing or if there is mechanical damage or defect to the instrument, contact your nearest -hp- Sales/Service office. They will arrange for replacement or repair at -hp- option.

If there is any damage to the shipping carton, keep the carton and notify the carrier as well as -hp-. If you return a 3498A or accessory to -hp-, follow the shipping guidelines in Appendix B.

Line Voltage and Fuse Selection

The 3498A can be operated from any power source which supplies 100V, 120V, 220V or 240VAC (-10% to + 5%), 48-66 Hz, single phase. Power consumption is 150VA. The 3498A requires a 1 hour warm-up time. When you receive the 3498A, check to see that the Line Voltage Selector Switches and fuse size are proper for the power option you specified by doing the following:

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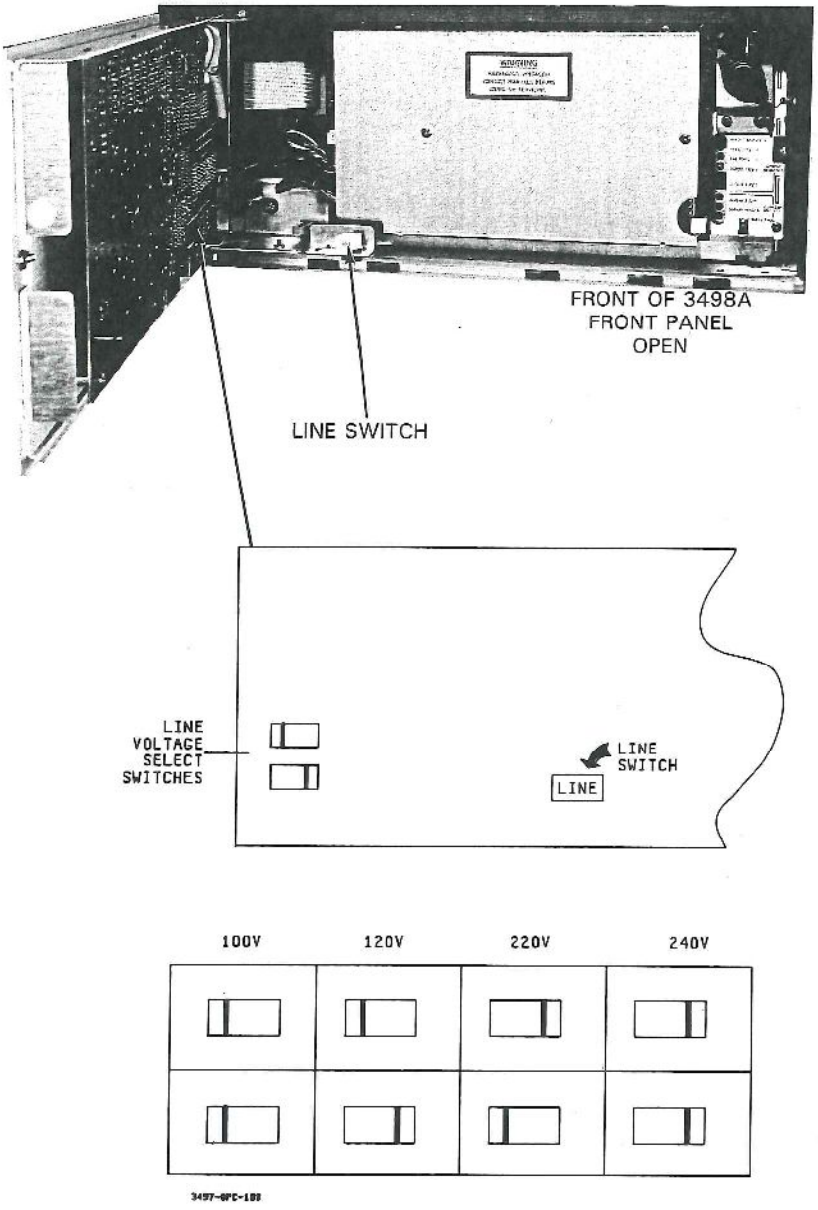


Figure 173. Option 298 - Line Voltage Switch and Fuse Locations

Power Cable and Grounding Requirements

The 3498A is equipped with a three-conductor power cord which, when plugged into an appropriate receptacle, grounds the instrument. The type of power cord shipped with the 3498A depends on the country of destination. See Figure 174 which shows the power cables available to ensure that you have the proper cord for your line voltage.

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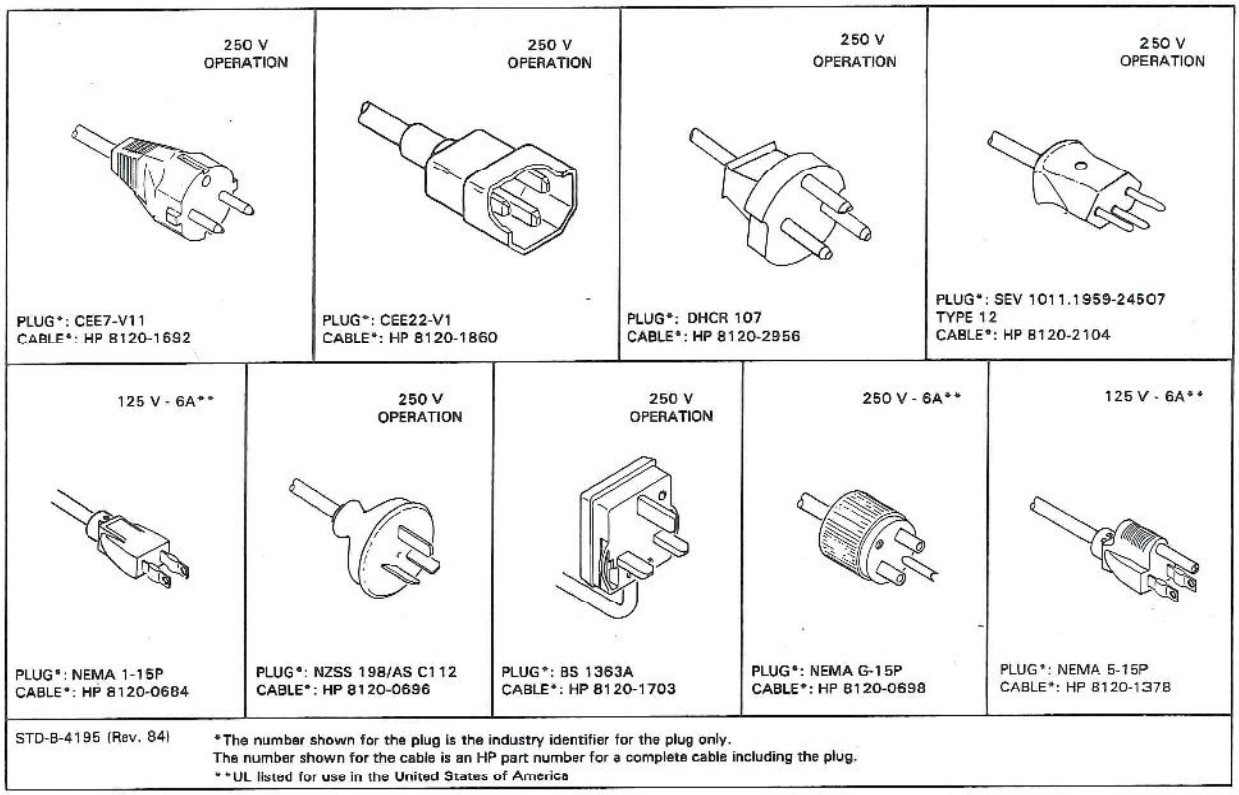


Figure 174. Option 298 - Power Cables for the 3498A

Environmental Considerations

The 3498A can be used either as a bench instrument or can be mounted in a standard 19'' rack. When the 3498A is used as a bench instrument, the plastic feet under the instrument are shaped so that the 3498A may be mounted on top of other -hp- equipment.

To meet its specifications, the 3498A should be operated within ± 5 °C (± 9 °F) of the calibration (or reference) temperature. The 3498A should be operated within an ambient temperature range of 23 °C ± 5 °C (73 °F ± 9 °F). The instrument may also be operated within an ambient temperature range of 0 °C to 55 °C (+32 °F to 131 °F), but with reduced efficiency.

WARNING

To prevent potential electrical or fire hazard, do not expose the 3498A to rain or moisture.

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3498A ENVIRONMENTAL REQUIREMENTS

Warm Up Time	1 Hour
Operating Temperature	0 °C to 55 °C
Non-Operating Temperature	-40 °C to 75 °C
Humidity	To 95% except as noted in Specifications.
Shock	30 G, 11 msec, sine wave on each of six sides.
Vibration	10 Hz to 55 Hz at .010 inch peak to peak excursion.
Operating Power	Switch selection of 110 volts, 120 volts, 220 volts, 240 volts (- 10% to +5%); 48-66 Hz, 150 VA (3497A), 150 VA (3498A).

Bench Installation

When the 3498A is used as a bench instrument, choose a location which provides at least 3 inches (8 cm) of clearance at the rear of the instrument and at least 1 inch (3 cm) on each side. If adequate clearance is not provided, excessive temperatures may be generated inside the 3498A and reduce instrument reliability. Clearances provided by the plastic feet in bench stacking allow adequate air passage across the top and bottom cabinet surfaces.

Rack Mount Installation

Options 907, 908 and 909 (Rack Mounting Kits) enable the 3498A to be mounted in a standard EIA (19'' wide) rack. Installation instructions are included with the Rack Mount Kit ordered. For further information on -hp- rack mounting kits, see -hp- SYSTEM II Rack Mounting Kits & Accessories Manual (-hp- Part Number 5952-0095) which may be ordered from your nearest -hp- Sales and Service Office.

Installing Plug-In Assemblies

To install plug-in assemblies (Options 010 through 140) in the 3498A, select the slot desired for the assembly and insert the assembly as shown in Figure 175, which shows a sample installation for the Relay Multiplexer assembly (Option 010).

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WARNING

Do not install or remove plug-in assemblies until you remove the AC power cords from the 3497A/3498A and remove ALL external voltage sources from these instruments.

CAUTION

Most assemblies require clean handling techniques to avoid degraded performance.

NOTE

Some assemblies require that a shield or cover be removed if the assembly is to be installed in slot 14 or 19.

INSTALLATION IN 3498A

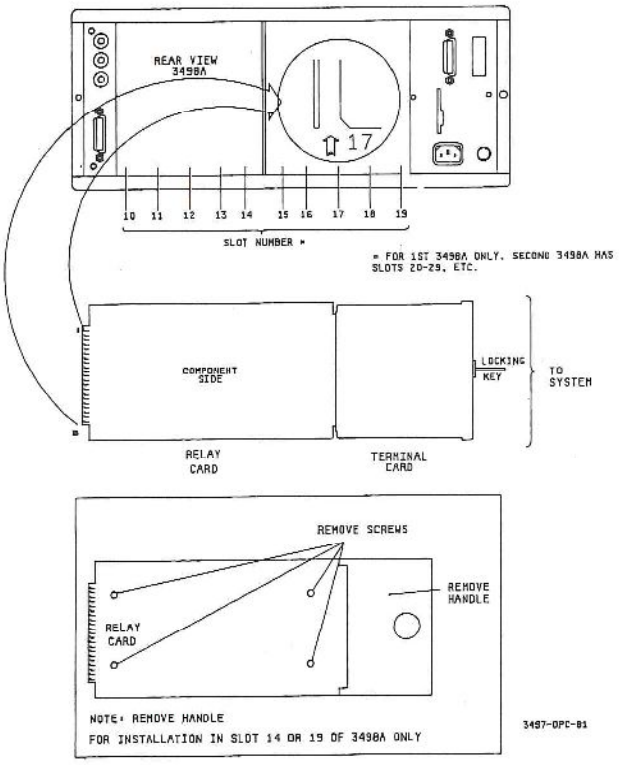


Figure 175. Option 298 - Installing Plug-In Assemblies

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Interfacing the 3498A with the 3497A

As noted, you can use up to 13 3498As per 3497A. If you ordered the 3498A as Option 298, you can directly connect the three cables supplied with the 3498A (see Figure 172) to interface the 3498A with the 3497A, as shown in Figure 176.

WARNING

Do not connect two extender cables together as a means of increasing the distance between a 3497A and a 3498A or between 3498As. The exposed metal connector plug housings are at GUARD potential (up to 170V) and thus present a lethal shock hazard.

NOTE

To avoid interference effects between 3497A systems and their installation environment, due regard should be paid to considerations of Electromagnetic Compatibility. Wiring should follow good RF practice, such as ensuring that all interconnections are enclosed by shields connected or bypassed to local earth grounds via low impedance paths.

The 3497A and 3498A outer frames should be interconnected either via heavy metallic braid or by installation in the same rack. Between the 3497A and 3498A(s), the (small white) High-Low-Guard signal cable should be arranged adjacent to the blue extender cable.

If You Ordered 3498A(s) Separately

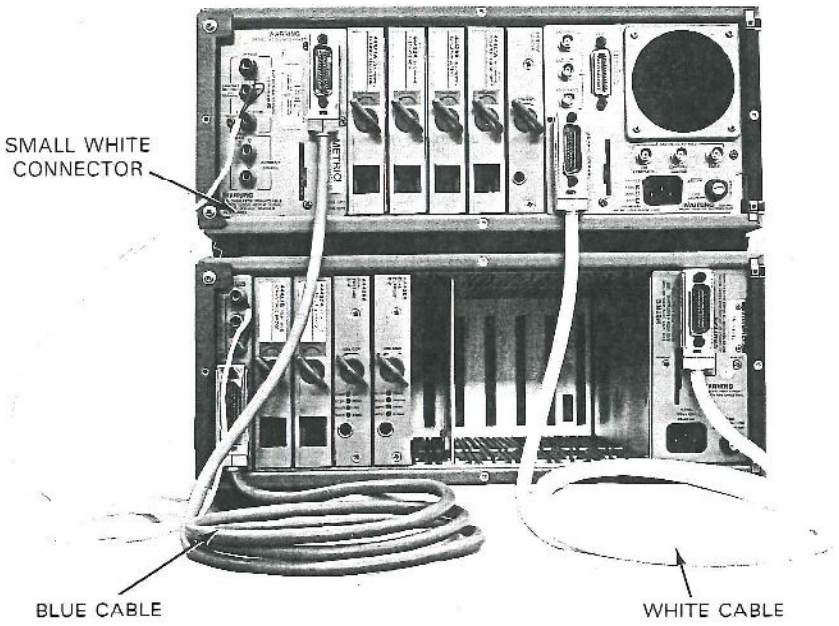
If you ordered the 3498A as a separate instrument AND did not order the 3497A with Option 298, you will need to install the two interfacing plugs shipped with the 3498A (see Figure 172) into the 3497A before you can follow the interconnection sequence shown previously.

Figure 177 (a) shows how to install an interface plug on the outguard controller of the 3497A (right side of the 3497A as viewed from the rear of the instrument) and Figure 177 (b) shows how to install the other interface plug on the inguard controller (left side of the instrument).

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WARNING

Shown with safety covers removed. Safety covers must be installed on rear of 3497A and 3498A before power is applied.



NOTE

1. *For rack connection, install 3497A and 3498As in same rack.*
2. *Arrange small white connector next to blue cable.*
3. *Interconnect 3497A and 3498A outer frames via heavy metallic braided connector.*

Figure 176. Option 298 - Interconnecting 3498A and 3497A

To install the interface plugs, first verify that all power is removed from the 3497A. Then remove the protective cover, loosen the retaining screw on the outguard controller board and remove the board using the plastic pull ring.

Remove the filler plate from the rear panel of the board and install the connector plug of one of the interface plugs in its place. Then insert the pigtail DIP plug into socket J2 on the outguard controller board. Reinstall the board in the 3497A and replace the protective cover.

To install the other interface plug on the inguard controller, follow the instructions for the outguard controller, except insert the pigtail DIP plug into J7 on the inguard controller.

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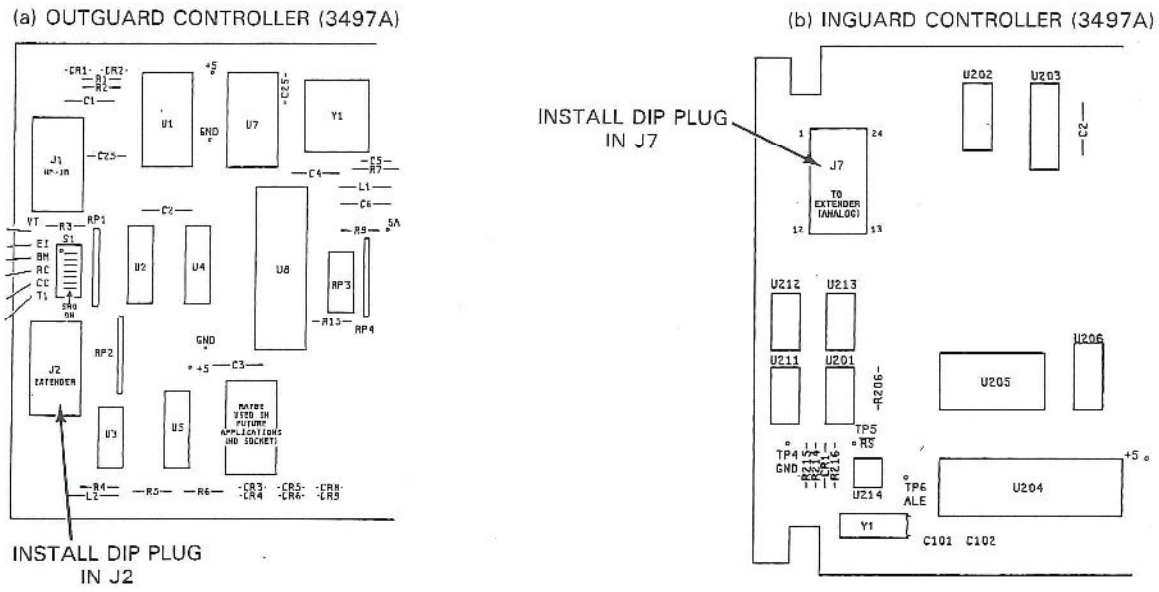


Figure 177. Option 298 - Installing Interface Connector Plugs

Installing Several 3498As

To install more than one 3498A, connections must be made from each successive extender to a previously connected extender, as shown in Figure 178. Note that the 3497A must have only one 3498A connected to it. A 3498A may have either a 3497A or two 3498As connected to it. This is necessary so that the required safety covers can be placed over the rear panels.

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