

MANUFACTURER DOCUMENT PACKAGE

Manufacturer's Manual

Reference package for procurement and maintenance review

GE PACSYSTEMS RX3i

IC694CHS392A

10-SLOT EXPANSION BACKPLANE

Used with the applicable PACSystems RX3i backplanes configuration.

REFERENCE PACKAGE

OFFICIAL DOCUMENT

Selected official manufacturer pages follow this cover.

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1.4.3 Backplanes Available for the RX3i System

Universal and Expansion Backplanes that are compatible with RX3i systems are listed below. Refer to Chapter 3 of this manual for descriptions and specifications of the RX3i Backplanes. For information about Series 90-30 Expansion Backplanes, refer to the *Series 90-30 I/O Modules Specifications Manual*, GFK-0898.

Backplanes	
RX3i 16-Slot Universal Backplane	IC695CHS016
RX3i 12-Slot Universal Backplane	IC695CHS012
RX3i 7-Slot Universal Backplane	IC695CHS007
RX3i 10-Slot Serial Expansion Backplane	IC694CHS392
RX3i 5-Slot Serial Expansion Backplane	IC694CHS398
Series 90-30 10-Slot Expansion Backplane	IC693CHS392
Series 90-30 5-Slot Expansion Backplane	IC693CHS398
Series 90-30 10-Slot Remote Expansion Backplane	IC693CHS393
Series 90-30 5-Slot Remote Expansion Backplane	IC693CHS399

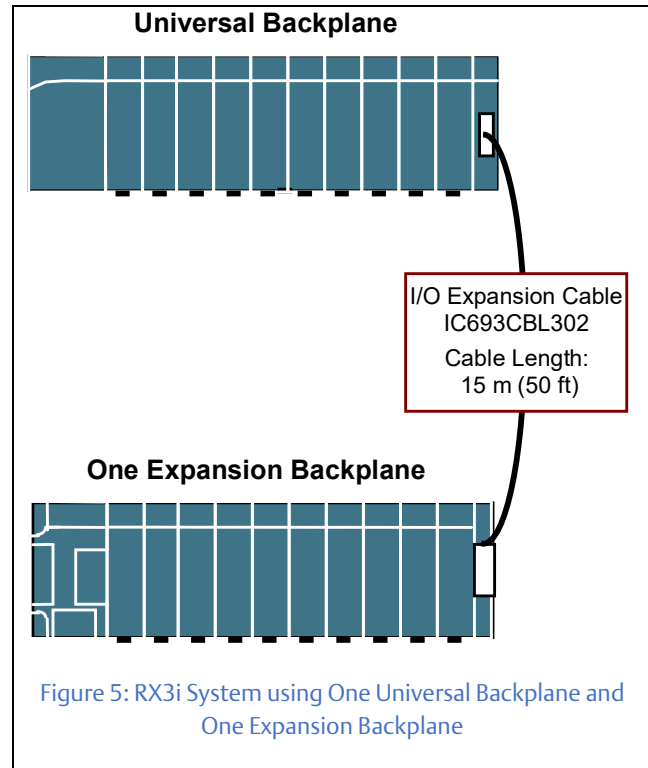
1.5.1 Expansion System with One Expansion or Remote Backplane

An Expansion system can consist of a Universal Backplane with just one Expansion or Remote Backplane.

This example includes one Universal Backplane IC695CHS012 and one Expansion Backplane, IC694CHS392. Each Backplane in this example has a DC Power Supply. Together, they accommodate 19 discrete, analog, and special-function modules.

These backplanes are located 15m (50 ft) apart. They are connected via an Expansion Cable IC693CBL302, which has a built-in terminating resistor.

If it were necessary to locate the second backplane more than 15m (50 ft) from the Universal Backplane, a Series 90-30 Remote Backplane could be used with a custom-length cable and external terminating resistor.



1.5.2 Using Multiple Expansion and Remote Backplanes

The next two example systems are similar to each other except for the distance between the backplanes. The example on the left includes two RX3i Expansion Backplanes and a Series 90-30 Expansion Backplane. The Expansion Backplanes can be any combination of RX3i (IC694) and Series 90-30 (IC693) Expansion Backplanes. I/O modules in the system can be any combination of RX3i and Series 90-30 modules.

In the example on the right, two of the backplanes must be installed beyond the 15 m (50-ft) limit of an Expansion system. Two Series 90-30 Remote Backplanes are used in those locations. All other features of the two example systems are the same, including their I/O modules.

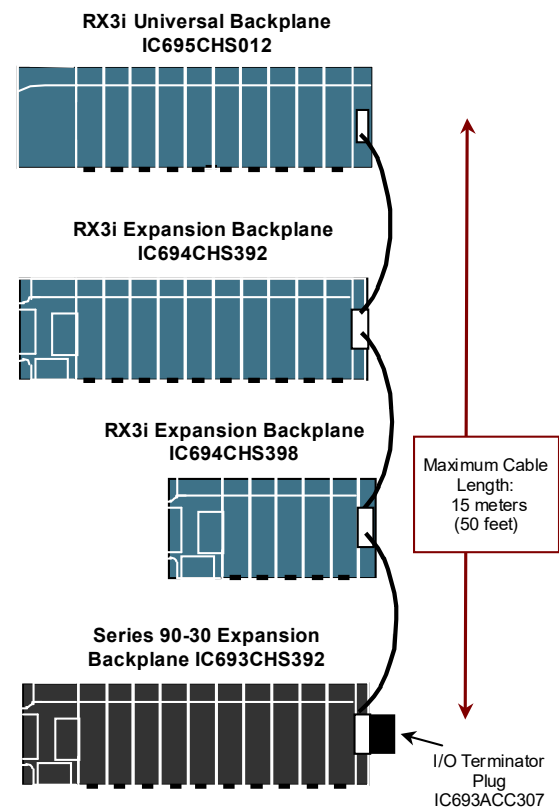


Figure 6: RX3i System using Multiple Expansion Backplanes

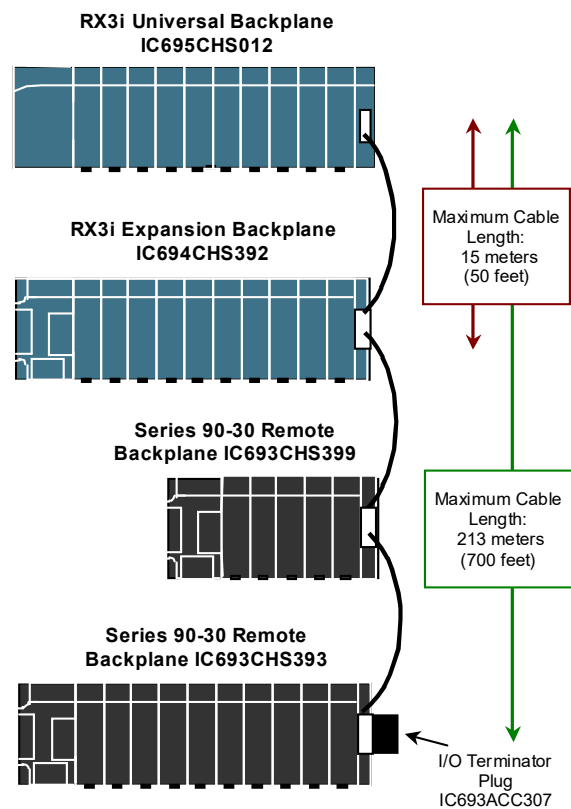


Figure 7: Rx3i System using Expansion and Remote Backplanes

2.6.3 Mounting a Backplane in a 19-Inch Rack

The **IC693ACC308 Front Mount Adapter Bracket** (Figure 21) can be used to mount a 10-Slot Expansion Backplane, IC694CHS392, to the front face of a 19-inch rack. Install the adapter bracket by inserting the tabs at the top and bottom of the adapter bracket into the corresponding slots at the top and bottom of the plastic backplane cover. It is not necessary to remove the cover to install the bracket. With the bracket in place, insert and tighten the two screws (included with the bracket) through the back of the backplane holes into the threaded holes in the bracket. With the bracket in place, insert and tighten the two screws (included with the bracket) through the back of the backplane holes into the threaded holes in the bracket.

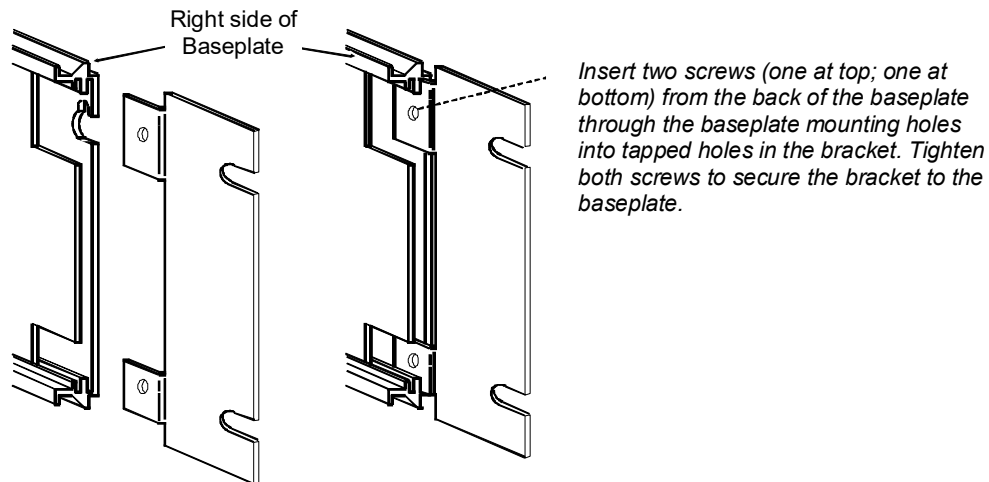


Figure 21: IC693ACC308 Front Mount Adapter Bracket

Dimensions for rack mounting a backplane with the IC693ACC308 Front Mount Adapter Bracket are displayed in Figure 22.

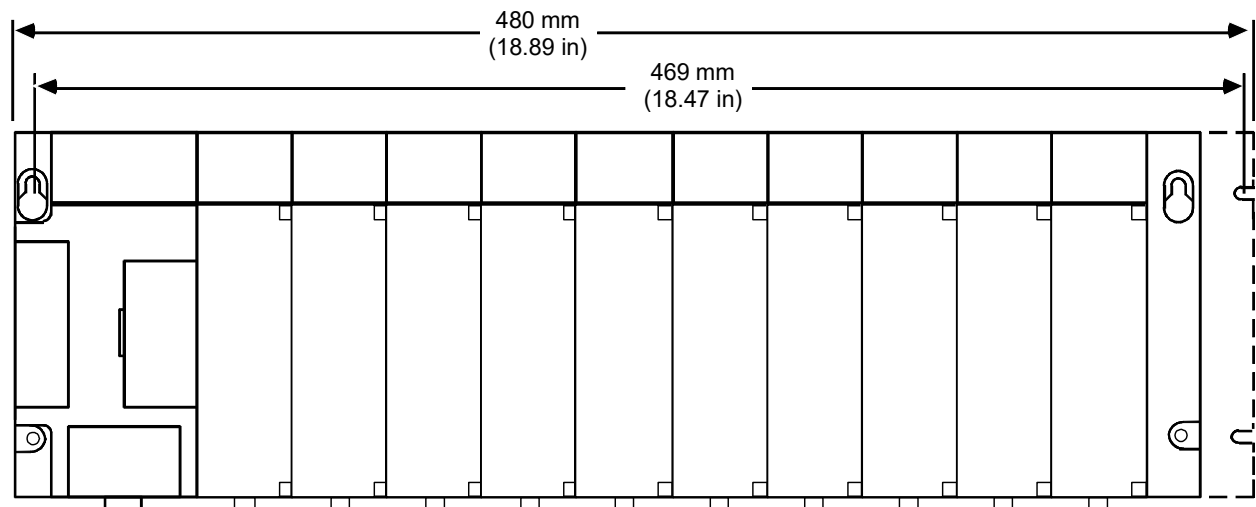


Figure 22: Dimensions for Backplane with IC693ACC308 Front Mount Adapter Bracket

The **IC693ACC313 Recessed Mount Adapter Bracket** can be used to recess-mount a 10-Slot Expansion Backplane, IC694CHS392, inside a 19" rack. This bracket cannot be used with a Universal Backplane.

An Expansion Backplane mounts on the rear panel of this adapter bracket using four 8-32 (4mm) screws, nuts, lock washers, and flat washers. The Adapter Bracket bolts through its four slotted holes to the face of the 19" rack using applicable hardware (lock washers recommended).

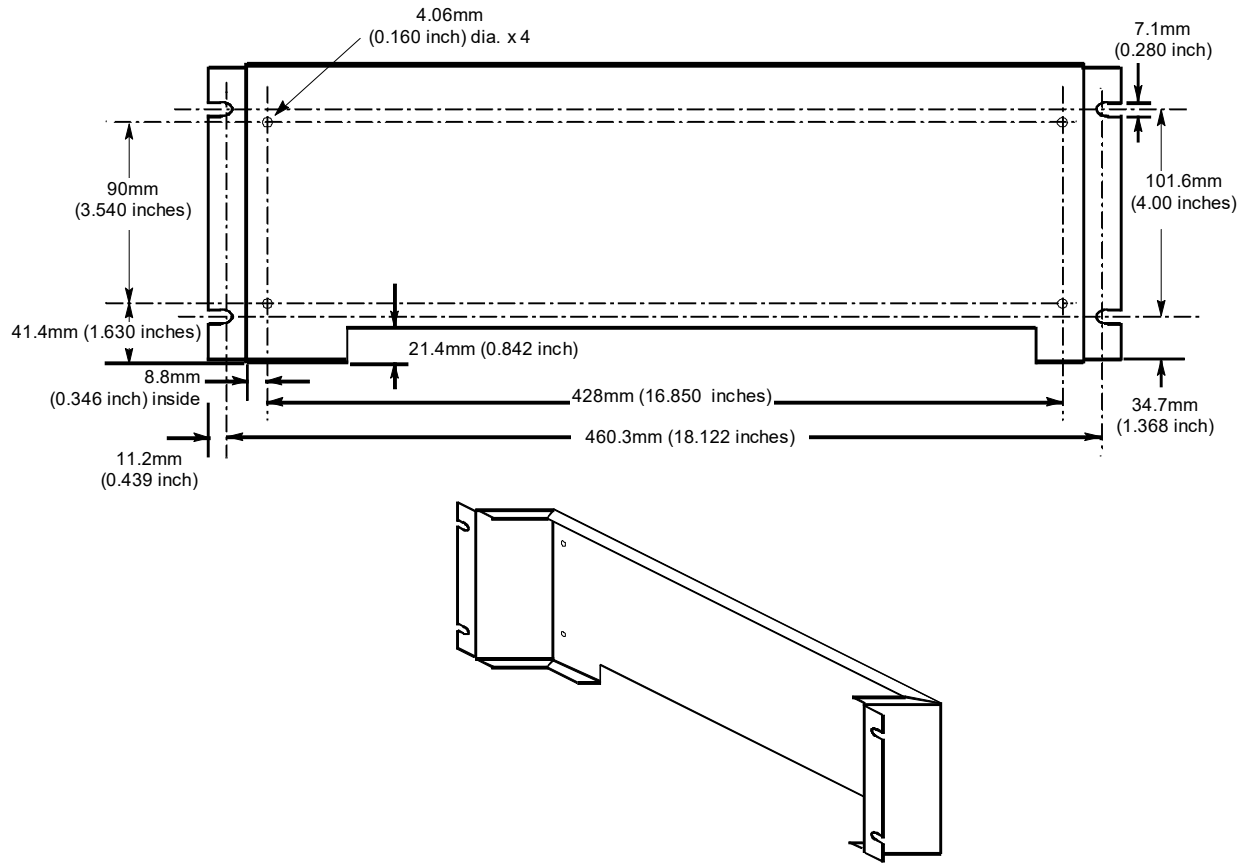


Figure 23: IC693ACC313 Recessed Mount Adapter Bracket

2.6.3.1 Grounding Rack-Mounted Expansion Backplanes

If an Expansion Backplane is mounted in a 19-inch rack using an Adapter bracket, the rack must be properly grounded as described in the section, *System Grounding Procedures*. In addition, the backplane should be grounded according to the guidelines in the section, *Backplane Safety Grounding*, using a separate ground wire from the PLC backplane.

- For a Recessed Mount Adapter Bracket (IC693ACC313), the ground wire can be installed with the ground attached to the Recessed Mount Adapter Bracket. An additional ground wire should be installed that connects the Adapter Bracket to a solid chassis ground.
- For a Surface Mount Adapter Bracket (IC693ACC308), the ground wire should be run from the backplane to a solid chassis ground on the rack.

Section 3: Backplanes

This section describes the types of backplane that can be included in an RX3i system:

Backplane Type	Catalog Number	Section
7-Slot RX3i Universal Backplane	IC695CHS007	3.1
12-Slot RX3i Universal Backplane	IC695CHS012	3.1
16-Slot RX3i Universal Backplane	IC695CHS016	3.1
5-Slot RX3i Serial Expansion Backplane	IC694CHS398	3.2
10-Slot RX3i Serial Expansion Backplane	IC694CHS392	3.2
5-Slot Series 90-30 Expansion Backplane	IC693CHS398 ⁵	
10-Slot Series 90-30 Expansion Backplane	IC693CHS392 ⁵	
5-Slot Series 90-30 Remote Backplane	IC693CHS399 ⁵	
10-Slot Series 90-30 Remote Backplane	IC693CHS393 ⁵	

3.1 RX3i Universal Backplanes: IC695CHS007, IC695CHS012, IC695CHS016

Three Universal Backplanes are available for RX3i PACSystems:

- the 7-slot IC695CHS007,
- the 12-slot IC695CHS012, displayed in Figure 57 below, and
- the 16-slot IC695CHS016.

⁵ For information about the IC693 Series 90-30 Expansion and Remote Backplanes, refer to the *Series 90-30 PLC Installation Manual*, GFK-0356.

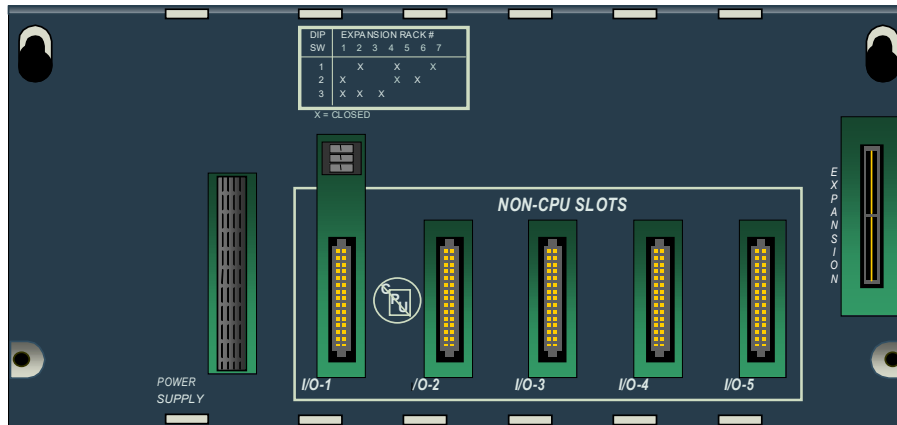


Figure 75: Serial Expansion Backplane

- The leftmost module in an RX3i Serial Expansion Backplane must be a Serial Expansion Power Supply:
 - IC694PWR321: Serial Expansion Power Supply, 120/240 Vac, 125Vdc
 - IC694PWR330: Serial Expansion Power Supply, 120/240 Vac, 125Vdc, High Capacity
 - IC694PWR331: Serial Expansion Power Supply, 24Vdc, High Capacity
- Module Hot Insertion and Removal are NOT permitted on Expansion Backplanes.
- Each Expansion Backplane has a Rack Number Selection DIP switch (Figure 18) that must be set before module installation.
- Each Expansion Backplane has a Bus Expansion connector at its right end for attaching an optional expansion cable. There can be no more than 50 feet (15 meters) of cable connecting Expansion backplanes with the Universal Backplane. If the system includes Series 90-30 Remote Backplanes, the additional requirements summarized in Section 1.3 through Section 1.5 must also be observed.

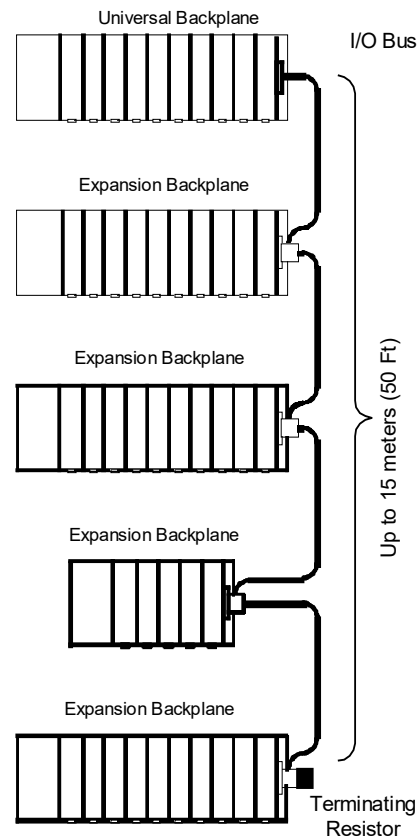


Figure 76: Example RX3i System with Expansion Backplane Racks