IMPORTANT PRODUCT INFORMATION

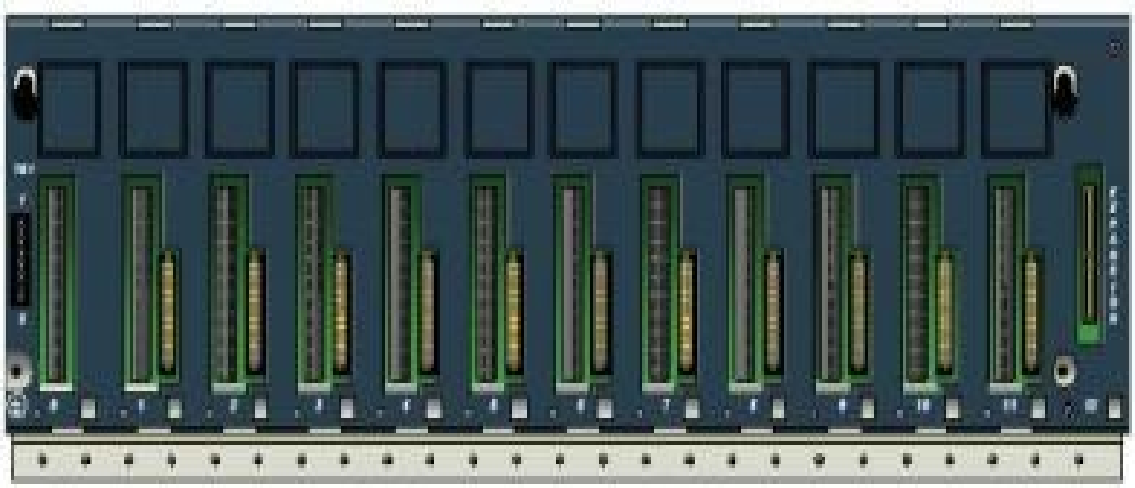
GFK-2554G

June 2023

PACSystems™ RX3i

BACKPLANE

(IC695CHS012 & IC695CHS016)



EMERSON

Introduction

Dual-Bus Backplane

The PACSystems RX3i Universal Backplanes provide a dual-bus backplane that supports PCI-based (IC695) and serial (IC693 and IC694) I/O and option modules.

The 16-slot Universal Backplane (IC695CHS016), and the 12-slot Universal Backplane (IC695CHS012) include the following features:

- Terminal Strip on the left end for Isolated +24V input
- Backplane grounding point
- Integral grounding bar for connecting module/shield grounds
- Serial Expansion connector for connection to Serial Expansion and Remote Backplanes
- Slot numbers printed on the backplane that can be used as a reference for configuration.

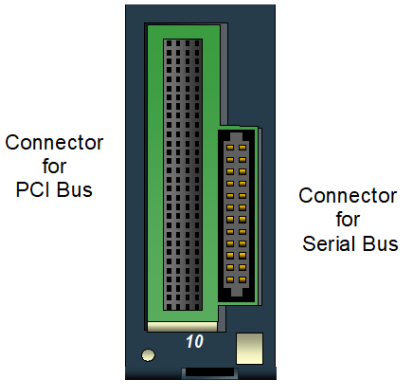
Refer to the *PACSystems RX3i System Manual*, GFK-2314, for mounting and connection information, and for lists of supported modules.

PCI-Only Backplane

The PACSystems RX3i 12-slot and 16-slot Universal Backplanes are also available as PCI-exclusive variations (IC695CHS012PCIONLY and IC695CHS016PCIONLY). The PCI-exclusive version of this backplane supports only IC695 modules. Visually, customers can identify the difference between the two models by the absence of the Serial Bus connector, which is located next to the PCI Bus connector on the dual-purpose backplane (Figure 1).

Note: For system designs that require IC694 modules, The rightmost slot in all Universal Backplanes have a different connector than the other slots. It can only be used for an RX3i Serial Expansion Module, IC695LRE001. This slot is also supported on the PCI-exclusive variation.

Figure 1: Connectors on the Universal Backplane



Installation Location

This product is intended for use with the RX3i system. Its components are considered open equipment (having live electrical parts that may be accessible to users) and must be installed in an ultimate enclosure that is manufactured to provide safety. At a minimum, the enclosure shall provide a degree of protection against solid objects as small as 12mm (for example, fingers). This equates to a NEMA/UL Type 1 enclosure or an IEC60529 IP20 rating providing at least a pollution degree 2 environment. For details about installing RX3i rack systems, refer to *PACSystems RX3i System Manual*, GFK2314.

Installation in Hazardous Areas

The following information is for products bearing the UL marking for Hazardous Areas or ATEX marking for explosive atmospheres:

CLASS 1 DIVISION 2 GROUPS ABCD

- This equipment is an open-type device and is meant to be installed in an enclosure suitable for the environment that is only accessible with the use of a tool.
- Suitable for use in Class I, Division 2, Groups A, B, C and D Hazardous Locations, or nonhazardous locations only.

⚠ WARNING

- EXPLOSION HAZARD - SUBSTITUTION OF COMPONENTS MAY IMPAIR SUITABILITY FOR CLASS I, DIVISION 2.
- WHEN IN HAZARDOUS LOCATIONS, TURN OFF POWER BEFORE REPLACING OR WIRING MODULES.

ATEX Zone 2

This module must be mounted in an enclosure certified in accordance with EN60079-15 for use in Zone 2, Group IIC and rated IP54. The enclosure shall only be able to be opened with the use of a tool.

Important Product Information

Release History

Catalog Revision	Date	Description
IC695CHS012-JC IC695CHS016-JC	June 2023	Redesign of RX3i Backplanes to replace obsolete FPGA and spread spectrum clock chip.
IC695CHS012-HB IC695CHS012CA-HB IC695CHS012LT-HB IC695CHS012PCIONLY-HB IC695CHS016CA-HB IC695CHS016PCIONLY-HB	Mar 2022	The product's labels have been updated to show compliance with new certifications. For updated certifications, please refer to https://emerson-mas.my.site.com/communities/en_US/Article/Certifications-and-Agency-Approvals-Landing-Page.
IC695CHS012 / 016-GB IC695CHS012PCIONLY / 016PCIONLY-GB	Feb 2022	Manufacturing change. No change to form, fit, nor function.
IC695CHS012PCIONLY / 016PCIONLY-FA	Oct 2021	Updates to support CHS007 models with PCI-only capabilities.
IC695CHS012 / 016-FA	Sep 2018	Following Emerson's acquisition of this product, changes have been made to apply appropriate branding and registration of the product with required certification agencies. No changes to material, process, form, fit or functionality.
IC695CHS012 / 016-EA	Feb 2018	Added capacitors near the reset pin of several slots to eliminate noise spikes.
IC695CHS012 / 016-DA	Mar 2012	Mechanical enhancements for improved module-to-connector engagement with the backplane PCI connector.
IC695CHS012 / 016-CA	Apr 2009	Hardware changes for EU-RoHS compliance
IC695CHS012 / 016-BAMP	Feb 2009	Improved immunity against environmental noise
IC695CHS012 / 016-BA	Sep 2007	ATEX approval for Group 2, Category 3 applications.
IC695CHS012 / 016A	Aug 2004	Initial product release

Functional Compatibility

Subject	Description
Compatible head ends	• IC695CPE330 • IC695CPE302/305/310 • IC695PNS001-BXXX or later • IC695PNS101 Older CPUs have not been qualified and are not capable of updating BOC firmware with current version of the backplane.
CPU firmware versions compatible with BOC firmware update	• 10.85 or later for CPE330 • 10.85 or later for CPE302/305/310 • 3.40 or later for PNS001-BXXX • 3.40 or later for PNS101

Problems Resolved by this Release

Resolved Problem	Resolution
Part obsolescence	Redesigned backplane to incorporate a new FPGA and clock chip to address obsolescence.
Intermittent hotswap issue with legacy 90-30 modules	Added BOC firmware changes.
Rare power cycle issue would cause backplane BOC to improperly intialize and allow modules to boot up.	Added BOC firmware changes.

New Features

New Features	Description
Added support in FPGA for firmware update of 80W Power supply.	New IC695PSD180 power supply has field upgradable firmware that required added backplane BOC functionality.

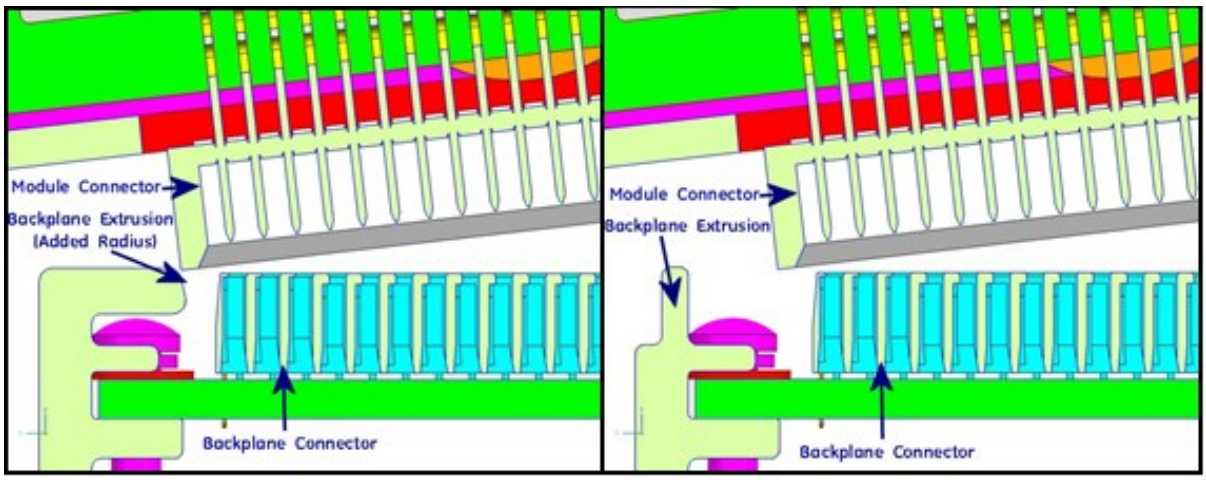
Operating Notes

Effective with IC695CHS007-BA, IC695CHS012-DA and IC695CHS016-DA, the product was enhanced with the following mechanical design changes:

1. Added an upper ledge with a radius to the backplane extrusion. For PCI-based (IC695) RX3i modules, this upper ledge helps align the module vertically as it is being inserted into the backplane. This reduces the likelihood of experiencing bent or recessed module backplane connector pins when inserting PCI-based modules into the backplane.

Note: To avoid damaging mating module pins, continue to exercise proper care and follow the installation instructions in the *PACSystems RX3i System Manual*, GFK-2314, when inserting modules into an RX3i universal backplane.

Figure 2: Backplane Connector



2. Backplane PWA and backplane connectors were moved 0.015 inch (3.81mm) closer to the front of the backplane. This increases the mechanical module-to-backplane engagement, providing for better connectivity.

Additional Information

For additional information, please refer to the manuals listed below. Manuals can be downloaded from the Support site: https://www.emerson.com/Industrial-Automation-Controls/support.

PACSystems RX3i System Manual	GFK-2314
PACSystems RX3i & RSTi-EP CPU Reference Manual	GFK-2222
PACSystems CPU Programmer's Reference Manual	GFK-2950
PACSystems RXi, RX3i, RX7i & RSTi-EP Controller Secure Deployment Guide	GFK-2830

General Contact Information

Home link: http://www.emerson.com/industrial-automation-controls

Knowledge Base: https://www.emerson.com/industrial-automation-controls/support

Technical Support

Americas

Phone: 1-888-565-4155
1-434-214-8532 (If toll-free option is unavailable)

Customer Care (Quotes/Orders/Returns): customercare.mas@emerson.com
Technical Support: support.mas@emerson.com

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+65-6955-9413 (All other Countries)

Customer Care (Quotes/Orders/Returns): customercare.cn.mas@emerson.com
Technical Support: support.mas.apac@emerson.com

Any escalation request should be sent to: mas.sfdcescalation@emerson.com

Note: If the product is purchased through an Authorized Channel Partner, please contact the seller directly for any support.

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