

MANUFACTURER DOCUMENT PACKAGE

Manufacturer's Manual

Reference package for procurement and maintenance review

GE PACSYSTEMS RX3I

IC695CPU310-GV

RX3I CENTRAL PROCESSING UNIT

Used with the applicable PACSystems RX3i controllers configuration.

REFERENCE PACKAGE

OFFICIAL DOCUMENT

Selected official manufacturer pages follow this cover.

Source: GE official manufacturer documentation

PACSystems™ RX3i

IC695CPU310-ER

Central Processing Unit

GFK-2329T

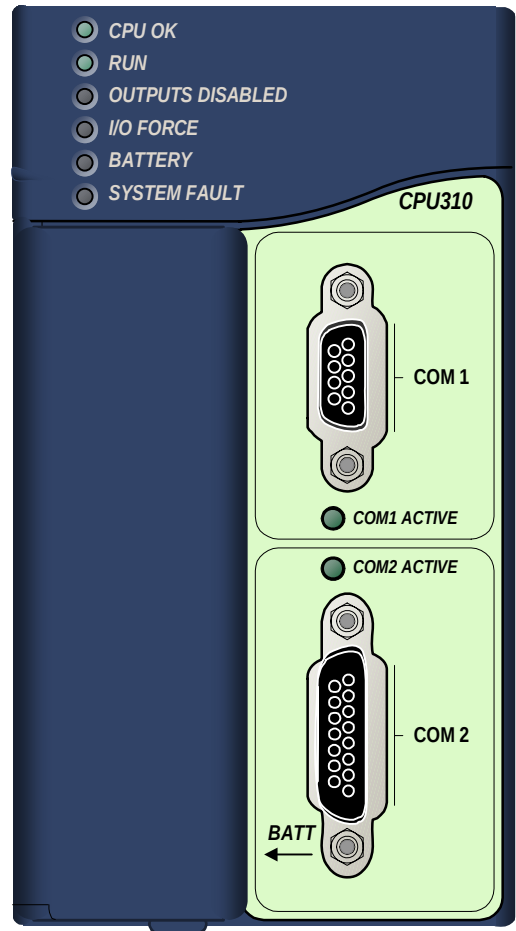
December 18, 2007

The RX3i CPU can be used to perform real time control of machines, processes, and material handling systems. The CPU communicates with the programmer and HMI devices via a serial port using SNP Slave protocol. It communicates with I/O and Intelligent Option modules over a dual backplane bus that provides:

- High-speed, PCI backplane for fast throughput of new advanced I/O.
- Serial backplane for easy migration of existing Series 90-30 I/O

Features

- Contains 10 Mbytes of battery-backed user memory and 10 Mbytes of non-volatile flash user memory.
- Provides access to bulk memory using reference table %W.
- Configurable data and program memory.
- Programming in Ladder Diagram, Structured Text, Function Block Diagram, and C.
- Supports auto-located Symbolic Variables that can use any amount of user memory.
- Reference table sizes include 32Kbits for discrete %I and %Q and up to 32Kwords each for analog %AI and %AQ.
- Supports most Series 90-30 modules and expansion racks. For a list of supported I/O, Communications, Motion, and Intelligent modules, see the *PACSystems RX3i Hardware and Installation Manual*, GFK-2314.
- Supports up to 512 program blocks. Maximum size for a block is 128KB.
- Bit-in-word referencing allows you to specify individual bits in a WORD reference in retentive memory as inputs and outputs of Boolean expressions, function blocks, and calls that accept bit parameters.
- In-system upgradeable firmware.
- Two serial ports: an RS-485 serial port and an RS-232 serial port.
- Ethernet communications via the rack-based Ethernet Interface module (IC695ETM001). For details on Ethernet capabilities, refer to *TCP/IP Ethernet Communications for PACSystems User's Manual*, GFK-2224.
- PLC time synchronization to SNTP Time Server on Ethernet network when used with Ethernet Release 5.0 or later module.



Ordering Information

Description	Catalog Number
RX3i VME 300Mhz CPU	IC695CPU310
Lithium Battery Pack	IC698ACC701
Auxiliary Battery Module (optional)	IC693ACC302
RX3i Power Supplies 40 Watt High Capacity Universal AC 40 Watt High Capacity 24 VDC For additional power supplies, see the PACSystems RX3i System Manual, GFK-2314.	IC695PSA040 IC695PSD040
[Optional] RS-232 Cable	IC200CBL001
Rx3i Standard 12 Slot Rack	IC695CHS012
Rx3i Standard 16 Slot Rack	IC695CHS016

Note: For Conformal Coat option, please consult the factory for price and availability.

LED Operation

The following table lists the CPU LED functions during normal operation (after initialization sequence is complete).

LED State			CPU Operating State
● On	✚ Blinking	○ Off	
●	CPU OK	On	CPU has passed its powerup diagnostics and is functioning properly.
○	CPU OK	Off	CPU problem. RUN and OUTPUTS ENABLED LEDs may be blinking in an error code pattern, which can be used by technical support for troubleshooting. This condition and any error codes should be reported to your technical support representative.
✚	CPU OK, OUTPUTS ENABLED, RUN	Blinking in unison	CPU is in boot mode and is waiting for a firmware update through serial port.
●	RUN	On	CPU is in Run mode
○	RUN	Off	CPU is in Stop mode.
●	OUTPUTS ENABLED	On	Output scan is enabled.
○	OUTPUTS ENABLED	Off	Output scan is disabled.
●	I/O FORCE	On	Override is active on a bit reference.
✚	BATTERY	Blinking	Battery is low.
●	BATTERY	On	Battery is dead or not attached.
●	SYSTEM FAULT	On	CPU is in Stop/Faulted or Stop/Halted mode.
✚	COM1 COM2	Blinking Blinking	Signal activity on port.

Specifications*

IC695CPU310	
Battery: Memory retention	For estimated battery life under various conditions, refer to the <i>PACSystems CPU Reference Manual</i> , GFK-2222.
Program storage	Up to 10 Mbytes of battery-backed RAM 10 Mbytes of non-volatile flash user memory
Power requirements	+3.3 VDC: 1.25 Amps nominal +5 VDC: 1.0 Amps nominal
Operating Temperature	0 to 60°C (32°F to 140°F)
Floating point	Yes
Boolean execution speed, typical	0.195ms per 1000 Boolean contacts/coils
Time of Day Clock accuracy	Maximum drift of 2 seconds per day
Elapsed Time Clock (internal timing) accuracy	0.01% maximum
Embedded communications	RS-232, RS-485
Serial Protocols supported	Modbus RTU Slave, SNP, Serial I/O
Backplane	Dual backplane bus support: RX3i PCI and 90-30-style serial
PCI compatibility	System designed to be electrically compliant with PCI 2.2 standard
Program blocks	Up to 512 program blocks. Maximum size for a block is 128KB.
Memory	%I and %Q: 32Kbits for discrete %AI and %AQ: configurable up to 32Kwords %W: configurable up to the maximum available user RAM Symbolic: configurable up to 10 Mbytes
* For environmental specifications and compliance to standards (for example, FCC or European Union Directives), refer to the <i>PACSystems RX3i Hardware and Installation Manual</i> , GFK-2314.	

Release Information

Firmware release 5.02 fixes an issue where Series 90-30 Intelligent Option modules in the main rack do not transition to stop mode after a "Loss of Module" fault is logged. For details, refer to "Problems Resolved by this Revision (Firmware Release 5.02)" on page 7.

Updates

IC695CPU310 can be field-upgraded to firmware version 5.02 using the firmware upgrade utility. The upgrade kit, 44A752290-G17, can be downloaded at no charge from <http://support.gefanuc.com> or purchased.

Release History

<i>Catalog Number</i>	<i>Firmware Version</i>	<i>Date</i>
IC695CPU310-ER	5.02	Dec. 07
IC695CPU310-EP	5.00	Aug. 07
IC695CPU310-EN	3.83	Nov. 06
IC695CPU310-EM	3.82	Jul. 06
IC695CPU310-EL	3.81	May 06
IC695CPU310-DK	3.52	Jan. 06
IC695CPU310-DJ	3.51	Nov. 05
IC695CPU310-DH	3.50	Sep. 05
IC695CPU310-CG	3.12	Aug. 05
IC695CPU310-CF	3.11	Jun. 05
IC695CPU310-CD	3.00	Apr. 05
IC695CPU310-CC	2.90	Dec. 04
IC695CPU310-CB	2.80	Nov. 04
IC695CPU310-CB	2.51	Nov. 04
IC695CPU310-BB	2.51	Jul. 04
IC695CPU310-AA	2.50 (initial release)	Jun. 04