MANUFACTURER DOCUMENT PACKAGE

# Manufacturer's Manual

Reference package for procurement and maintenance review

GE PACSYSTEMS RX7I

## IC698CRE030

**RX7I REDUNDANCY CPU MODULE**

Used with the applicable PACSystems RX7i controllers configuration.

REFERENCE PACKAGE

OFFICIAL DOCUMENT

Selected official manufacturer pages follow this cover.

Source: GE official manufacturer documentation

## PACSystems CPU Models

| Family | Catalog Number | Description |
|---|---|---|
| RX3i CPUs | IC695CPU310 | 300MHz Celeron CPU, 10 MB user memory |
| | IC695CPU320 | 1 GHz Celeron-M CPU, 64 MB user memory |
| | IC695NIU001 | 300MHz Celeron NIU. For information, see the *PACSystems RX3i Ethernet NIU User's Manual,* GFK-2439 |
| RX7i CPUs with embedded Ethernet Interface | IC698CPE010 | 300MHz, Celeron CPU, 10MB user memory |
| | IC698CPE020 | 700MHz, Pentium CPU, 10 MB user memory, |
| | IC698CPE030 | 600MHz, Pentium-M CPU, 64MB user memory |
| | IC698CPE040 | 1800MHz, Pentium-M CPU, 64MB user memory |
| RX7i Redundancy CPUs with embedded Ethernet Interface | IC698CRE020 | 700MHz, Pentium CPU, 10 MB user memory |
| | IC698CRE030 | 600MHz, Pentium-M CPU, 64MB user memory |
| | IC698CRE040 | 1800MHz, Pentium-M CPU, 64MB user memory |

PACSystems CPU models have the following features in common:

- Programming in Ladder Diagram, Function Block Diagram, Structured Text and C.
- Floating point (real) data functions.
- Configurable data and program memory.
- Battery-backed RAM for user data (program, configuration, register data, and symbolic variable) storage
- Non-volatile built-in flash memory for user data (program, configuration, register data, and symbolic variable) storage. Use of this flash memory is optional.
- Battery backup for program, data, and time of day clock.
- Configurable Run/Stop mode switch.
- Embedded RS-232 and RS-485 communications.
- Up to 512 program blocks. Maximum size for a block is 128KB.
- Auto Located Symbolic Variables, which allows you to create a variable without specifying a reference address.
- Bulk memory area accessed via reference table %W. The upper limit of this memory area can be configured to the maximum available user RAM.
- Larger reference table sizes, compared to Series 90 CPUs: 32Kbits for discrete %I and %Q and up to 32K words each for analog %AI and %AQ.
- Online Editing mode that allows you to easily test modifications to a running program. (For details on using this feature, refer to the programming software online help and *Proficy™ Logic Developer Getting Started,* GFK-1918.)
- Bit in word referencing that 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.

| *Ethernet Interface Specifications* | |
|---|---|
| Web-based data monitoring | Up to 16 web server and FTP connections (combined) |
| Ethernet data rate | 10Mb/sec and 100Mb/sec |
| Physical interface | 10BaseT RJ45 |
| WinLoader support | Yes |
| Number of EGD configuration-based pages | 255 |
| Time synchronization | SNTP |
| Selective consumption of EGD | Yes |
| Load EGD configuration from PLC to programmer | Yes |
| Remote Station Manager over UDP | Yes |
| Local Station Manager (RS-232) | Dedicated RS-232 port |
| Configurable Advanced User Parameters | Yes |

## *Battery Life Estimates for IC698CPE030/CRE030 and IC698CPE040/CRE040*

To avoid loss of RAM memory contents, routine maintenance procedures should include scheduled replacement of the IC693ACC302 battery pack. The following table lists estimates of battery life that can be used to develop a battery replacement schedule.

***Nominal Battery Life with Applied Power OFF (100% Usage)***

| ***0ºC**** | ***20ºC*** | ***60ºC**** |
|---|---|---|
| 20 days | 30 days | 35 days |

* The nominal backup values are estimated at 20ºC. Backup time increases approximately 17% at 60ºC and decreases approximately 32% at 0ºC.

## *Error Checking and Correction, IC698CRE030 and IC698CRE040*

Redundancy CPUs are shipped with error checking and correction (ECC) enabled. Enabling ECC results in slightly slower system performance, primarily during power-up, because it uses an extra 8 bits that must be initialized. If you upgrade the firmware on a non-redundancy CPU model to support redundancy, you must set the ECC jumper to the enabled state as described in the installation instructions provided with the upgrade kit.

For details on ECC, refer to the *PACSystems Hot Standby CPU Redundancy User's Guide,* GFK-2308.

***Note:*** Multiple Recoverable Memory Error faults may be generated when a single-bit ECC error is detected. When a single-bit ECC error is detected, the value presented to the microprocessor is corrected. However, the value stored in RAM is not corrected until the next time the microprocessor writes to that RAM location.

# Appendix B User Memory Allocation

User Memory Size is the number of bytes of memory available to the user for PLC applications.

| *Model* | *User Memory Size* | *Bytes* |
|---|---|---|
| IC695CPU310, IC698CPE010, IC698CPE020, IC698CRE020 | 10MB | 10,485,760 |
| IC695CPU320 | 64MB | 67,108,834 |
| IC698CPE030, IC698CRE030 IC698CPE040, IC698CRE040 | 64MB | 67,108,834 |

For a list of items that count against user memory, refer to page B-2.