

GE

Intelligent Platforms

GFK-2225M

PACSystems* TCP/IP Ethernet Communications Station Manager User Manual

September 2015



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Document Updates

Rev/Date	Description
M / Sept-2015	Added information for support of CPE330
L / Sept-2014	<ul style="list-style-type: none">• Support for Ethernet Global Data (EGD) and Simple Network Time Protocol (SNTP) provided in CPE305/310 firmware version 8.2 or later.• Support for DNP3 Outstation Module (IC695EDS001).
K / Jun-2013	<ul style="list-style-type: none">• New features in the RX3i embedded Ethernet interface provided by CPU models CPE305 and CPE310.<ul style="list-style-type: none">- TCP/IP communication services using SRTP- SRTP Client (Channels)- Modbus/TCP Server, supporting Modbus Conformance classes 0, 1, and 2.- - Modbus/TCP Client, supporting Modbus Conformance classes 0, 1, and Function Codes 15, 22, 23, and 24 for Conformance class 2.• Ability to display Local Time Correction and Daylight Saving Time for all modes of SNTP communications (STAT N command)• SNTP time synchronization using Unicast mode

Related Documents

Doc #	Title
GFK-2224,	<i>TCP/IP Ethernet Communications for PACSystems User Manual</i>
GFK-2950	<i>PACSystems CPU Programmer's Ref Manual</i>

Acronyms and Abbreviations

AUP	Advanced User Parameters
CT	Current Transformer
EGD	Ethernet Global Data
LAN	Local Area Network
OS	Operating System
SMI	Shared Memory Interface
SNTP	Simple Network Time Protocol
SRTP	Service Request Transfer Protocol

Safety Symbol Legend



Warning

Indicates a procedure, condition, or statement that, if not strictly observed, could result in personal injury or death.



Caution

Indicates a procedure, condition, or statement that, if not strictly observed, could result in damage to or destruction of equipment.



Attention

Indicates a procedure, condition, or statement that should be strictly followed to improve these applications.

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1 Introduction

This manual describes how to access and use the Station Manager features of PACSystems Ethernet Interface modules.

Chapter 1, [Introduction](#), is an overview of the Station Manager.

Chapter 2, [Getting Started](#), explains how to use the Station Manager and describes how the Station Manager can provide diagnostic information when setting up the Ethernet interface.

Chapter 3, [Station Manager Commands](#), is a reference to all of the Station Manager commands.

Appendix A, [Tallies of Ethernet Tasks](#), lists the types of information that may be displayed using the TALLY command.

Appendix B, [Exception Log Events](#), describes the information that can be displayed using the LOG and LOG Z commands.

For general information about Ethernet communications for PACSystems, please refer to GFK-2224, *TCP/IP Ethernet Communications for PACSystems User Manual*.

1.1 Station Manager Overview

The Station Manager is a built-in function of an Ethernet interface. The Station Manager function can be used to monitor the Ethernet interface itself and check its operation on the network. If a problem occurs, the Station Manager may be used to pinpoint the source.

The Station Manager provides:

- An interactive set of commands that can be used to interrogate and control the Ethernet interface.
- The ability to observe and modify internal statistics, an exception log, and advanced user parameters.
- Password security for commands that change the Ethernet interface parameters or states.

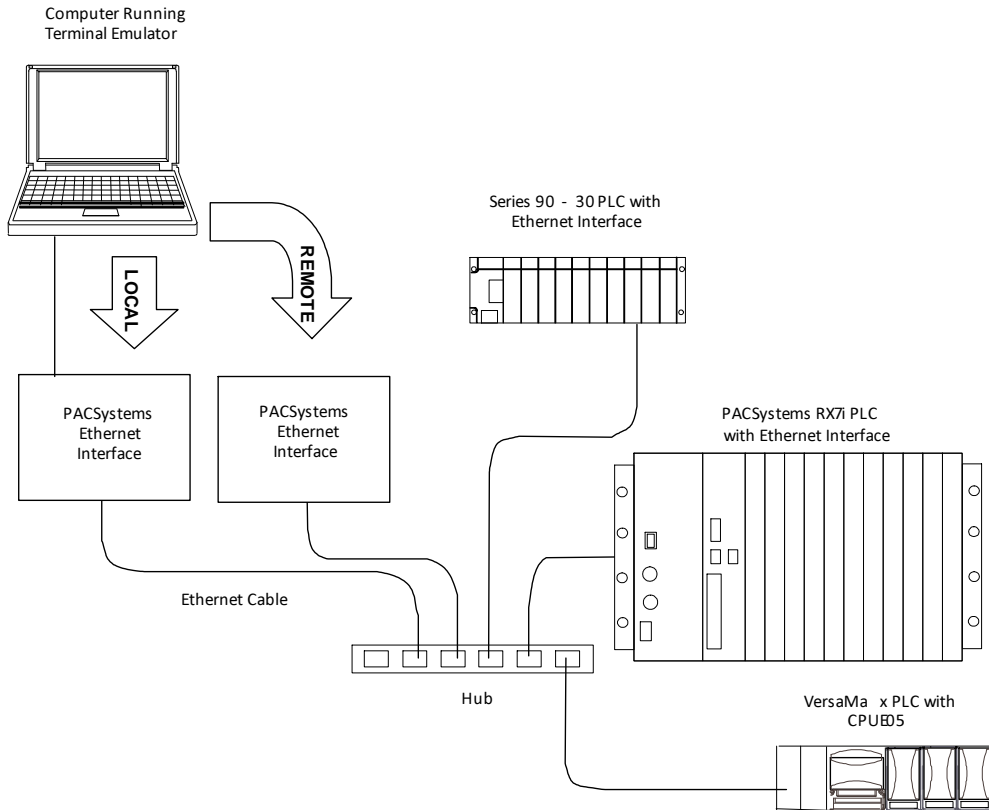
The Station Manager function operates in background mode when the Ethernet interface is in its Operational state. It cannot be accessed during Power-up Diagnostics or when performing a firmware update. Station Manager functionality may also be unavailable during very heavy communications load.

1.1.1 Using the Station Manager

The operator interface to the Station Manager function is a computer running a terminal emulator such as the Hyper Terminal application provided with Windows® operating system software. An ASCII terminal can also be used.

The computer or terminal can connect to the RX3i embedded Ethernet interface in the CPE305, CPE310, and CPE330 through an Ethernet network using the UDP network protocol. The RX3i embedded Ethernet interface does not support serial connection.

For all other PACSystems Ethernet interfaces (RX3i/RX7i rack-based and RX7i embedded), the computer or terminal can be connected locally at the Station Manager serial port, or it can be connected remotely at another device on the network using the UDP network protocol.

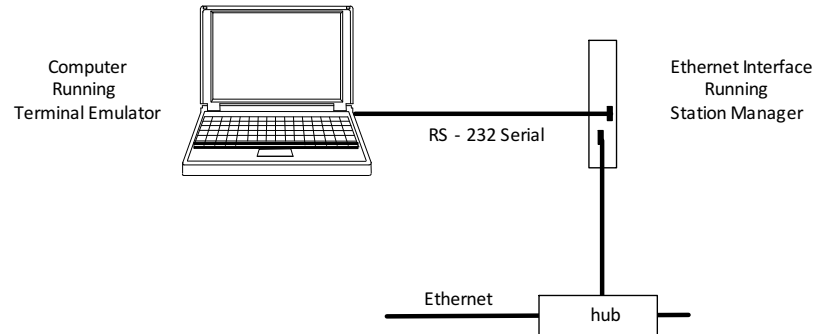


System Diagram Showing Station Manager on Ethernet

1.2 Making a Local Connection to the Station Manager

Note The RX3i embedded Ethernet interface and CPE330 do not support Station Manager operation through a serial connection.

For local operation, connect the computer or terminal to the RS-232 Station Manager port on the PACSystems Ethernet interface, using a standard straight-through nine-pin RS-232 serial cable.

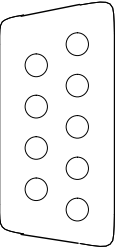


Station Manager Connected through RS-232 Serial Port

Connect the cable to a standard AT-style RS-232 port on the computer or terminal. The following cable is available:
IC200CBL001 Cable, CPU Programming

1.2.1 Station Manager Port Pin Assignments

The Station Manager port pin assignments are shown below. For more information about this port, refer to GFK-2224, *TCP/IP Ethernet Communications for PACSystems User Manual*.

	Pin Number	Signal	Direction	Description
	1†	DCD	IN	Data Carrier Detect
	2	TX	OUT	Transmit Data
	3	RX	IN	Receive Data
	4	DSR	IN	Data Set Ready
	5	GND		Signal Ground
	6	DTR	OUT	Data Terminal Ready
	7	CTS	IN	Clear to Send
	8	RTS	OUT	Ready to Send
	9	RI	IN	Ring Indicator

† Pin 1 is located at the bottom right of the serial port connector as viewed from the front of the module.

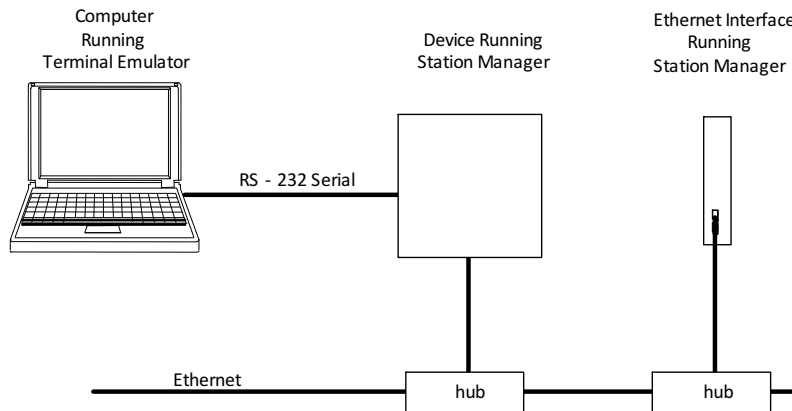
1.2.2 Matching the Port Settings

The serial port of the computer or ASCII terminal and the Station Manager port must use the same communications parameters. If you need to configure the Ethernet interface Station Manager port, refer to GFK-2224, *TCP/IP Ethernet Communications for PACSystems User Manual* for configuration instructions.

1.3 Making a Remote Connection to the Station Manager

Note The RX3i embedded Ethernet interface and CPE330 do not support Station Manager operation through a remote serial connection.

The Station Manager function within the PACSystems Ethernet interface module can be accessed from a terminal that is connected to another device running the Station Manager.



Station Manager Operating through a Remote Serial Connection

1.3.1 Communicating with the Station Manager Remotely

To communicate with the Station Manager from a terminal connected to another node on the network, use the Station Manager REM(ote) command to establish communications with the PACSystems Ethernet interface, then enter the command to be executed by the Ethernet interface. When invoked remotely, the Station Manager software processes the command as if it had been entered locally. The Station Manager then automatically directs output from the command over the network to the station that issued the request. If another terminal is also connected to the Ethernet interface and running the Station Manager locally, there is no indication at the local Station Manager terminal that a remote command is being processed.

Both the local and remote access share the same security level. See the LOGIN and LOGOUT command descriptions.

Note PACSystems Ethernet interfaces support Remote Station Manager operation using UDP network protocol. They do not support IEEE 802.3 Remote Station manager operation using a MAC address. They cannot be accessed remotely from CNC OSI-Ethernet Interfaces.

1.3.2 Remote Station Manager Operation in a Redundant IP System

The remote Station Manager responds to the direct IP address regardless of whether the unit is active or backup, or whether or not Redundant IP is configured. Only the active unit of a redundant pair responds to remote Station Manager commands at the Redundant IP address. The backup unit does not respond to the Redundant IP address. (Station Manager responses from the Redundant IP address can be misleading because it is difficult to determine which Ethernet interface is actually responding.)

Note The CPE330 does not support Redundant IP.

Notes

2 Getting Started

This chapter explains how to use the Station Manager and describes how the Station Manager can provide diagnostic information when setting up the Ethernet interface.

- [Types of Station Manager Commands](#)
 - Monitor Commands
 - Modify Commands
 - Station Manager Commands for Monitor or Modify Mode
- [Entering Commands and Reading the Display](#)
 - Entering Command Parameters
 - Station Manager Display Format
- [Checking IP Addresses](#)
 - Checking the IP Address of the Ethernet Interface
 - Verifying that the IP Address of the Ethernet Interface is Unique
- [Changing the Backup Parameters of the Ethernet Interface](#)
 - Changing the Backup Configuration Parameters
 - Changing the Backup Advanced User Parameters
- [Testing Communications on the Network](#)
- [Using the Station Manager for Network Troubleshooting](#)
 - Displaying Information about a Node
 - Viewing the Exception Log
 - Checking the Network Connection

2.1 Types of Station Manager Commands

Note Station manager support for the CPE330 is the same as the ICRXICTL000 RXi Controller.

There are two types of Station Manager commands, Monitor commands and Modify commands. Both types can be used either locally or remotely.

2.1.1 Monitor Commands

Monitor commands are available to anyone using the Station Manager. These commands provide information about the Ethernet interface and the network. Executing the Monitor commands does not affect the operation of the Ethernet interface or the network.

Accessing Monitor Mode

Press the Enter key on the computer or ASCII terminal. The Station Manager responds with the Station Manager Monitor mode prompt:

>

You can enter any Monitor commands from this prompt.

2.1.2 Modify Commands

Modify commands perform functions that may change the operation of the Ethernet interface. Access to Modify commands is password-protected. Password protection helps prevent inadvertent misuse of the Modify commands. For the greatest protection, restrict the number of people who know the password, restrict access to the Station Manager terminal, and always log off when you leave the Station Manager terminal.

At the Modify level, if no commands are executed within a configurable timeout period, the Modify login expires and you will have to log in again. By default, the timeout period is 10 minutes. It can be changed as needed using the CHLTIME command.

Accessing Modify Mode

To log in to Modify mode, type from the Monitor-level “>” prompt:

login <RET>

The password prompt displays:

Password:

Type in the password and press the Enter key. The password is case-sensitive and can include special characters. The default password is “system” (lower case).

If the entered password is correct, the Modify prompt displays.

=

If you want to change the password or if you have forgotten the password, refer to the instructions in Chapter 3, [Commands](#), for using the CHPARM STPASSWD command.

You can execute all Monitor and Modify commands from the Modify prompt.

2.1.3 Station Manager Commands for Monitor or Modify Mode

The following table lists the Station Manager commands, and shows whether they are Monitor-level (always available) or Modify-level commands. Enter help command to see a list of commands supported by the firmware version in your device.

Note CPE305/310 release 8.65 no longer supports the *login* command. Therefore, these CPUs no longer support *Modify* commands. CPE330 also does not support the *login* command.

Note The RX3i CPE305/CPE310/CPE330 embedded Ethernet interface does not support all commands listed. Commands that can be used with CPE305/CPE310/CPE330 are indicated by a footnote. Unless noted otherwise, other PACSystems Ethernet interfaces support the use of all commands listed in the following table. For a list of commands supported by the RX3i embedded Ethernet interface, refer to Chapter 3, [Commands](#).

Note Effective with RX3i CPE310/CPE305 Firmware Release 8.30, the CPU itself also supports EGD1 Class 1. Prior to that firmware release, EGD was only available in the RX3i via the RX3i Ethernet Module (ETM001).

Note Effective with RX3i Firmware Release 8.60, the CPE330 supports EGD Class 1.

Command	Function Performed	Available in this Mode
bootp	Temporarily assign TCP/IP parameters	Monitor and Modify
cd	Change file system working directory	Monitor and Modify
channel ^{2, 11}	Display individual communication channel information	Monitor and Modify
chist ^{2, 11}	Display a history of events for each channel	Monitor and Modify
chltime	Change login inactivity timeout	Modify
chparm	Change backup Advanced User Parameters	Modify
chsosw	Change backup Ethernet configuration	Modify
chtime	Change internal Ethernet clock	Modify
clear	Clear selected items	Modify
dbgdata	Retrieves a compilation of diagnostic data	Modify
del	Delete file from file system current working directory	Modify
dir	Display file system directory contents	Monitor and Modify
egdcmd	Send an EGD command to remote node	Modify
egdread ^{4, 12}	Display Ethernet Global Data exchange data	Monitor and Modify
egdwrite	Modify Ethernet Global Data exchange data	Modify
events	Retrieve information on event control blocks and timer records	Modify
exs ^{2, 11}	Display Extended Status for COMMREQs from controller logic	Monitor and Modify

Command	Function Performed	Available in this Mode
fatalinfo ^{4, 11}	Clear or display fatal fault information	Monitor and Modify
formats	Display Web server reference formats (RX7i embedded only)	Monitor and Modify
?, help ^{2, 11}	Display Station Manager command set	Monitor and Modify
killms	Delete a Modbus/TCP server connection	Modify
killss	Delete an SRTP server connection	Modify
log ^{2, 11}	Display current exception log	Monitor and Modify
login ¹³	Enter Modify access level	Monitor and Modify
logout	Exit Modify access level	Modify
ltime ^{2, 11}	Display login inactivity timeout	Monitor and Modify
mirror	Echo port traffic from one external Ethernet port to the other	Modify
mkdir	Create new file system directory	Modify
net	Force network offline/online	Modify
node ^{2, 11}	Display basic identification	Monitor and Modify
ok	Reset STAT (or LOG EMPTY) LED (log isn't cleared)	Modify
parm ⁵	Display the Advanced User Parameters	Monitor and Modify
ping	Send ICMP Echo requests	Modify
plcread ^{2, 11}	Display CPU memory	Monitor and Modify
plcwrite	Modify CPU memory	Modify
pluginapp	Manage optional Ethernet plug-in applications	Modify
rem	Send command to remote node	Modify
rename	Rename a file in the current working directory	Modify
repp	Display latest ping results	Modify
restart	Restart Ethernet firmware	Modify
rmdir	Remove file system directory	Modify
sosw ^{2, 11}	Display Ethernet configuration	Monitor and Modify
stat ^{3, 6, 7, 11}	Display various operating status	Monitor and Modify
stopp	Stop ping in progress	Modify
tally ^{3, 8, 9, 11}	Display various operating counters	Monitor and Modify
time ^{2, 11}	Display internal Ethernet clock	Monitor and Modify
trace	Display activity for debug	Modify

Command	Function Performed	Available in this Mode
xchange ⁴	Display individual EGD exchange information	Monitor and Modify
<p>¹ Proficiency Machine Edition Release 8.50 SIM 6 is required for EGD / SNTP on CPE305/CPE310.</p> <p>² Supported by CPE305/CPE310 embedded Ethernet interface (Monitor only).</p> <p>³ CPE305/CPE310 embedded Ethernet interface does not support all tasks available for this command. Refer to Chapter 3 for details.</p> <p>⁴ Support for this command was added in CPE305/CPE310 firmware release 8.30 and with release 8.65 Modify is no longer supported.</p> <p>⁵ Support for parm n and parm g was added in CPE305/CPE310 firmware release 8.30, except for “g_accel” and with release 8.65 Modify is no longer supported.</p> <p>⁶ Support for stat n and stat g was added in CPE305/CPE310 firmware release 8.30 and with release 8.65 Modify is no longer supported.</p> <p>⁷ Stat a is a command unique to the DNP3 Outstation Module EDS001. Refer to the <i>PACSystems RX3i DNP3 Outstation Module User Manual</i> (GFK-2911) for details.</p> <p>⁸ Support for tally n and tally g was added in CPE305/CPE310 firmware release 8.30 and with release 8.65 Modify is no longer supported.</p> <p>⁹ Tally a is a command unique to the DNP3 Outstation Module EDS001. Refer to the <i>PACSystems RX3i DNP3 Outstation Module User Manual</i> (GFK-2911) for details.</p> <p>¹¹ Supported by CPE305/310/330 – monitor only.</p> <p>¹² Support for Monitor only functions of this command was added in CPE330 firmware release 8.60.</p> <p>¹³ Support for login command was removed in CPE305/CPE310 firmware release 8.65. Modify commands are no longer supported by the embedded Ethernet interfaces in these CPUs. CPE330 also does not support the login command.</p>		

2.2 Entering Commands and Reading the Display

2.2.1 Entering Command Parameters

In the command descriptions in Chapter 3, [Commands](#), brackets and braces are used to show optional or alternative parameters for a command. These brackets and braces are NOT part of a command; do not include them when entering a command.

Bracket Type	Indicates	Example Command	Example Entry
< >	Symbolic parameter name	tally <tasks>	tally c
[]	Optional parameter	log [z]	log
{ }	Alternative parameters	net { on off }	net on

Enter the rest of the command exactly as it is shown. Do not include extra spaces or tab characters within commands. All data entered for the command is converted to lower case unless it is enclosed in double quotes (“ ”).

Note The Station Manager is a low-priority task. The command response time depends on the communication load of the Ethernet interface. Extremely high load conditions may cause the loss of input or output characters. The Station Manager may not be able to process commands until the load is decreased.

2.2.2 Entering Numeric Values

Numeric values may be entered in decimal or hexadecimal format. For a hexadecimal value, enter a trailing “H” (either upper or lower case) as its last character.

2.2.3 Entering Control Characters

The Station Manager accepts the ASCII control characters listed below. Other control characters are ignored.

Control Character	Usual Keyboard Function	Function
BS	CTRL-H (Backspace)	Delete previous character
DEL	Delete	Delete previous character
DC1	CTRL-Q	Resume output to the display
DC2	CTRL-R	Recall previous command line(s)
DC3	CTRL-S	Stop output to the display
CAN	CTRL-X	Cancel the current input line
CR	Return (Enter)	Terminate line and execute command

2.2.4 Entering a Multi-line Command

Use the character pair \<CR> to continue a command on the next line. The \ (backslash) character is not part of any command.

2.2.5 Repeating a Prior Command Entry

The Station Manager stores the prior ten command lines. This stored list is cleared at restart or power-up. If you want to repeat a command, press CTRL-R. This displays the most recent of the ten stored commands first, then the command before that and so on, in reverse chronological order. Once the command you wish to repeat is being displayed in the Command window, press Enter to activate it.

Press CTRL-X to clear the current Station Manager command line.

2.2.6 Station Manager Display Format

The Station Manager display format depends on the type of data being displayed. The various formats are described below.

Numeric Values

Most numeric values are displayed in decimal format. A few values are displayed in hexadecimal format. Some values are displayed in both decimal and hexadecimal. Hexadecimal values are displayed with an “H” as their last character. An example of numeric output is shown below:

ifrag_tmr = 64 (40H)

Byte String Values

Byte strings represent each successive byte as a pair of hexadecimal digits enclosed in double angle brackets (<<...>>).

MAC Address = <<080019010842>>

IP Addresses

IP addresses are displayed and entered in dotted decimal format:

IP Address = 10.0.0.2

2.3 Checking IP Addresses

When setting up the system, you can check the IP address of the Ethernet interface using the Local Station Manager, and also verify that it is unique by accessing it from another device on the network. It is very important not to duplicate IP addresses.

2.3.1 Checking the IP Address of the Ethernet interface

With the terminal connected directly to the Station Manager port on the Ethernet interface, issue the NODE command:

```
> node
IC698 Embedded Ethernet Interface
Copyright (c) 2003. All rights reserved.
Version 1.00 (21A1) TCP/IP
Version 1.00 (21A1) Loader
IP Address = 10.0.0.2      Subnet Mask = 255.255.0.0
Gateway = 0.0.0.0
MAC Address = <<080019010203>>
SNTP Not Configured

Station Manager Port:
Data Rate = 9600, Parity = NONE, Flow Control = NONE

Source of Soft Switches: PLC Configuration |
Source of IP Address: Configuration

Apr 28, 2003 0:11:19.2
Date/time initialized from PACSystems CPU
```

2.3.2 Verifying that the IP Address of the Ethernet Interface is Unique

Make sure the Ethernet interface does not have the same IP address as another node.

1. Disconnect the LAN cable from the Ethernet interface.
2. Log on to another device on the network.
3. From the other device, ping the IP address assigned to the Ethernet interface.

If you get an answer to the ping, it means the chosen IP address is already in use by another node. You *must* correct this situation by assigning unique IP addresses.

2.4 Changing Backup Parameters of the Ethernet Interface

When the Ethernet interface is restarted, it runs power-up diagnostics. For rack-based and RX7i embedded interfaces, the OK (or ETHERNET OK) LED blinks rapidly, while the other LEDs remain off. The Station Manager is not available during power-up. It is also not available during a software load.

After successful diagnostics, the Ethernet interface receives its configuration data from the CPU. The Ethernet interface may also receive an Advanced User Parameters file, if one has been set up for the application.

If configuration data is not received, the Ethernet interface uses its backup configuration. (Each Ethernet interface is shipped from the factory with a valid set of default backup configuration data.)

Note The Factory default configuration data contains default addressing data that does not permit proper Ethernet network operation. IP addressing data (IP address, subnet mask, and optional gateway IP address) must be set up prior to normal operation. Once set up, the Ethernet Interface will save the IP addressing data in its backup configuration for future use. On rack-based and RX7i embedded interfaces, the default IP addressing data is valid only when the actual IP addressing data will subsequently be received from a BOOTP server on the user's network.

If necessary, the Station Manager can be used to change the backup configuration or advanced parameters for rack-based and RX7i embedded interfaces. These changes are only in effect until a valid configuration is received. Changing the backup configuration or advanced parameters requires access to the Modify-level commands: CHPARM and CHSOSW. Both commands are described in Chapter 3, [Commands](#). The RX3i CPE305/CPE310 embedded Ethernet interfaces do not support these commands.

2.4.1 Changing Backup Configuration Parameters

Use the CHSOSW command to change the following backup parameters for the Ethernet interface:

- IP address
- Subnet mask
- Gateway IP address
- SNTP timestamp synchronization for Ethernet global data
- Maximum simultaneous Web server connections (RX7i embedded Ethernet interface only).
- Maximum number of simultaneous FTP connections.
- Station Manager port data rate (4800, 9600, 19200, 38400, 57600, 115200)
- Station Manager port parity (NONE, ODD, EVEN)
- Station Manager port flow control (NONE, HARDWARE)

Note The RX3i CPE305/CPE310/CPE330 embedded Ethernet interfaces do not support the CHSOSW command.

2.4.2 Changing Backup Advanced User Parameters

Use the CHPARM command to change the backup Advanced User Parameters for the Ethernet interface. A complete list of the Advanced User Parameters for the Ethernet interface is included with the description of the PARM command in Chapter 3, [Commands](#). For the most part, changes to these parameters are NOT recommended. However, CHPARM might be used to temporarily change:

- The Station Manager password used to access the Modify-level commands
- The FTP password used to store Web page files to the Ethernet interface.

Note The RX3i CPE305/CPE310/CPE330 embedded Ethernet interfaces do not support the CHPARM command.

2.5 Testing Communications on the Network

During system setup, use the Station Manager to test each installed Ethernet interface to be sure that each is operational and configured with proper TCP/IP parameters. To do that:

1. Enter the LOGIN command:

login

The password prompt displays:

Password:

2. The factory default password is:

system (lower case)

Enter the default password, or other password if it has been changed.

3. If the password matches the current password for the Modify level, the Modify prompt displays:

=

4. Use the *PING* command to test the ability to reach individual nodes. The test works by sending an ICMP echo request message to a specific destination and waiting for a reply. Most nodes on TCP/IP networks implement *ping*.

PING can reach remote IP networks through gateways.

Enter the *PING* command using the IP address for the destination to be tested. A typical *PING* command is as follows:

```
= ping 10.0.0.2 10
```

```
Ping initiated
```

```
<<< Ping Results >>>
```

```
Command: ping 10.0.0.2 10 100 64
```

```
Sent = 10, Received = 10, No Timely Response = 0
```

```
Late/Stray Responses = 0
```

```
Round-trip (ms) min/avg/max 0/1/10
```

For more information about using *PING* and other Station Manager commands, refer to Chapter 3, [Commands](#).

2.6 Using the Station Manager for Network Troubleshooting

The Controller Fault Table provide useful troubleshooting information, as described in GFK-2224, *TCP/IP Ethernet Communications for PACSystems User Manual*. In addition, the Station Manager commands can be used to identify and correct problems.

Three Station Manager commands frequently used for troubleshooting are NODE, LOG and TALLY.

2.6.1 Displaying Information about a Node

Use the Monitor-mode NODE command to display identifying information about the Ethernet interface or a remote node. For example:

```
> node
IC698 Embedded Ethernet Interface
Copyright (c) 2003. All rights reserved.
Version 1.00 (21A1) TCP/IP
Version 1.00 (21A1) Loader
IP Address = 10.0.0.2      Subnet Mask = 255.255.0.0
Gateway = 0.0.0.0
MAC Address = <<080019010203>>
SNTP Not Configured
Station Manager Port:
  Data Rate = 9600, Parity = NONE, Flow Control = NONE
Source of Soft Switches: PLC Configuration
Source of IP Address: Configuration
Apr 28, 2003 0:11:19.2
Date/time initialized from PLC CPU
```

2.6.2 Viewing the Exception Log

When the Ethernet interface software detects an unusual condition, it records information about the condition in its exception log. The exception log can be viewed using the Station Manager LOG command. For example:

```
> log
<<< Exception Log >>>
IC698 Embedded Ethernet Interface version 1.00 (21A1)
Log displayed 04-APR-2003 11:25:28.3
Log initialized using valid RAM information
Log last cleared 31-MAR-2003 09:33:46.9
Date          Time          Event Count  Entry 2 through Entry 6
03-APR-2003   09:33:47.0   1H  1H  0000H 0001H 0000H 0000H 0000H
03-APR-2003   09:33:47.0   0H  1H  MII/PHY Fail
03-APR-2003   14:01:22.2   20H 1H  0001H 8080H 0000H 0001H 0117H
->03-APR-2003  09:33:47.2   2aH 1H  0004H 0000H 0000H 0004H
0192H
```

Each new (not repeating) log event is also sent to the Controller Fault Table, where it can be viewed using the Programmer or a Web browser. Appendix B, [Exception Log Event Descriptions](#), lists the log events, and shows how to interpret the fault entries that are displayed.

2.6.3 Checking the Network Connection

If the Ethernet interface is not able to send or receive communications on the network, the usual cause is some type of hardware problem. If this occurs, use the following procedure.

1. Check to be sure that the network cables are securely fastened to the Ethernet interface connector and to the network connection device (hub, switch, and so forth.).
2. Use the Station Manager to check the Network Interface task using a TALLY L command. The TALLY L command displays a list of tallies for all network interface tasks, and will identify specific communications errors that may be occurring.

If this station is the only one experiencing problems:

1. Verify that the network cable is properly connected to the Ethernet interface and to the network connection device.
2. Verify that the network connection device is operating properly on the network. (Are other devices operating on the same network segment?)
3. Make sure the module is seated and secured properly.
4. Replace the network cable with a known good cable.
5. Verify that the system power supply is properly grounded.

If all stations are experiencing the problem, the network is probably at fault. Contact the network administrator.

2.6.4 When the STAT LED is ON (Rack-based and RX7i Embedded Interfaces)

Sometimes problems can occur even when the STAT (or LOG EMPTY) LED is on, indicating normal operation. In that case, check if the LAN (LAN OK) LED is steadily on, indicating that the Interface is successfully attached to the Ethernet network, but there is no network activity.

To find out whether the Ethernet interface can access the CPU, issue successive TALLY C commands. If any of the following tallies: BpdAbort or PlcTmout are incrementing, there may be a hardware problem with the backplane interface. Check the Controller Fault Table entries for the Ethernet interface.

2.6.5 What to do if you Cannot Solve the Problem

If you are not able to solve the problem, contact Technical Support. Please have the following information ready.

- The name and catalog number marked on the module
- Description of symptoms of problem. Depending on the problem—you may also need the following information:
 - The application program and the controller sweep time at the time the problem occurred.
 - A list of the configuration parameters for the Ethernet interface that failed.
 - A list of reported errors. This can be the contents of the Ethernet exception log, the contents of the Controller Fault Table, or both.
 - A description of the network configuration. This should include the following:
 - ◆ The number of systems accessing the network
 - ◆ The type of network cable used (for example, twisted pair, fiber optic, Cat5 and so for the)
 - ◆ The length of network cable
 - ◆ The manufacturer and quantity of hubs, and network switches used between this controller and the operational portions of the network.

3 The Station Manager Commands

This chapter presents an alphabetic reference to Station Manager commands available for use with PACSystems Ethernet interface modules.

Note The RX3i CPE305/CPE310/CPE330 embedded Ethernet interface does not support all commands listed. Commands that can be used with CPE305/CPE310/CPE330 are indicated by a reference note. For a list of commands supported by the RX3i embedded Ethernet interface, refer to the section [Commands Supported by the RX3i Embedded Ethernet Interface](#).

Other PACSystems Ethernet interfaces support the use of all commands listed in the following table.

bootp	exs ^{2, 11}	plcread ^{2, 11}
cd	events	ping ²
channel ^{2, 11}	fatalinfo ^{4, 11}	plcwrite ²
chist ^{2, 11}	?, help ^{2, 11}	pluginapp
chlname ²	killms ²	rem
chparm	killss ²	rename
chsosw	log ^{2, 11}	repp ²
chtime ²	login ^{2, 13}	restart
clear ³	logout ²	rmdir
dbgdata	ltime ^{2, 11}	sosw ^{2, 11}
del	mirror	stat ^{3, 6, 7, 11}
dir	mkdir	stop ²
egdcmd	net	tally ^{3, 8, 9, 11}
egdread ⁴	node ^{2, 11}	time ^{2, 11}
egdwrite	ok	trace ^{3, 10}
exception ²	parm ⁵	xchange ⁴

³ CPE305/CPE310 embedded Ethernet interface does not support all tasks available for this command. Refer to chapter 3 for details.

⁴ Support for this command was added in CPE305/CPE310 firmware release 8.30.

⁵ Support for parm n and parm g was added in CPE305/CPE310 firmware release 8.30, except for "g_accel".

⁶ Support for stat n and stat g was added in CPE305/CPE310 firmware release 8.30.

⁷ Stat a is a command unique to the DNP3 Outstation Module EDS001. See GFK-2911 for details.

⁸ Support for tally n and tally g was added in CPE305/CPE310 firmware release 8.30.

⁹ Tally a is a command unique to the DNP3 Outstation Module EDS001. See GFK-2911 for details.

¹⁰ Support for trace n and trace g was added in CPE305/CPE310 firmware release 8.30.

¹¹ Supported by CPE305/310/330 – monitor only.

¹³ CPE305/310 release 8.65 no longer supports the login command. Therefore, these CPUs no longer support Modify commands. CPE330 also does not support the login command.

3.1 BOOTP

Available in *Modify* mode.

Interfaces: All RX7i Rack-based RX3i

Use the BOOTP command to simulate a BOOT Reply from a BOOTP server on the network. Like an actual response from a BOOTP server, the simulated BOOT Reply temporarily assigns an IP address and other TCP/IP parameters to an Ethernet Interface. Once an actual or simulated BOOT Reply is processed, further BOOTP commands are rejected.

The BOOTP-supplied parameters remain in effect only until the Ethernet Interface receives a proper configuration or the Ethernet Interface is restarted.

BOOTP Command Format

BOOTP < IP address > [< subnet mask > [< gateway >]]

<IP address>	Dotted–decimal IP address
<subnet mask>	Dotted–decimal subnet mask
<gateway>	Dotted–decimal default gateway IP address

BOOTP Command Examples

= bootp 10.0.0.1 255.255.0.0 0.0.0.0

Note BOOTP data will not be saved over restart or power cycle.

3.2 CD

Available in *Monitor* or *Modify* mode.

Interfaces: All RX7i Rack-based RX3i

Use the CD command to set a new working directory for file system access.

This command changes the working directory to the path specified. When the directory is successfully changed, the new working directory is displayed.

CD Command Format

CD < path >

<path>	Use a forward slash ('/') to separate directories. The path dot('.') refers to the current directory. The path '..' refers to the directory immediately up in the hierarchy. Using the CD command with no path displays the current working directory (last example below).
--------	--

CD Command Examples

= cd /pages

/pages

= cd images

/pages/images

= cd

/pages/images

3.3 CHANNEL

Available in *Monitor* or *Modify* mode.

Interfaces: All RX7i Rack-based RX3i Embedded RX3i

Use the CHANNEL command to show detailed information about a specified communication channel that was activated by a Channel COMMREQ command originating within the local PACSystems controller. The channel number specified by the user in the Channel COMMREQ command block identifies each communication channel.

CHANNEL Command Format

CHANNEL < channel number >

<channel number>	Number assigned during channel activation via a Channel COMMREQ command.
------------------	--

The channel number for all active SRTP or Modbus/TCP channels can be displayed with the STAT H or STAT M commands, respectively.

CHANNEL Command Example 1: SRTP Channel

In this example, the user's application logic has initiated an SRTP Establish Read Channel command (2003) for channel number 4. The Station Manager command *channel 4* displays information for channel 4:

```
> channel 4
<<< Individual Channel Information >>> 13-Dec-2004 14:12:49.0
Protocol: SRTP
State: AWAIT_PERIOD
DCSD Status: 0001H
DCSD Flags: 0001H
Transfers Completed: 17
Number of Channel Errors: 0
Channel COMMREQ Details:
  Type: READ
  CRSW Reference Address (zero-based): 00008:00000
  Command Code: 2003
  Channel Number: 1
  Repetitions: 0
  Period Time Unit Code: 3, Number of Period Units: 1
  Transfer Timeout: 50 10ms tics
  Local Reference Address: 00008:00500
  Remote Reference Address: 00008:00100
  Number of Remote References to Access: 10
  Remote Network Address Type: 1
  Remote Network Address Length: 4
  Remote Network Address: 10.10.0.4
```

CHANNEL Command Example 2: Modbus/TCP Channel

In this example, the user's application logic has initiated an Open Modbus/TCP Client Connection command (3000) for channel number 1; there have been no data transfers as yet on this connection. The Station Manager command *channel 1* displays information for channel 1:

```
> channel 1
<<< Individual Channel Information >>> 29-Aug-2005 10:13:02.2
Protocol: Modbus/TCP
Channel Number: 1
State: EST_IDLE
Remote Network Address: 10.10.0.20
Requests Sent: 0
Requests Succeeded: 0
Requests Errored: 0
COMMREQs Issued: 1
COMMREQs Processed: 1
Last Modbus Error/Exception: 0H: 0H
Channel COMMREQ Details:
  Type: OPEN
  CRSW Reference Address (zero-based): 8:398
  Command Code: 3000
  Channel Number: 1
  Active COMMREQ Reported CRSW: 1H
  Active COMMREQ Current CRSW: 1H
```

CHANNEL Command Example 3: Inactive Channel

In this next example, the Station Manager command “channel 2” has been issued, but channel 2 is closed: there is no channel open on channel 2.

```
> channel 2
<<< Individual Channel Information >>> 07-APR-2005 14:14:33.0
Channel 2 does not exist
```

3.4 CHIST

Available in *Monitor* or *Modify* mode.

Interfaces: All RX7i Rack-based RX3i Embedded RX3i

Use the CHIST command to display a history of events retained for each channel. It is intended as a diagnostic tool. The interpretation of the output of this command requires detailed knowledge of the channels implementation and thus must be done by Technical Support. The output provides details that allow a better understanding of channel internal behavior.

Note The channels event history covers only the communication channels. The channels event history is maintained only until the Ethernet interface is restarted or power is turned off, and may not be cleared from the Station Manager.

CHIST Command Format

CHIST [channel number]

<channel number>	Number assigned during channel activation via a Channel COMMREQ command.
------------------	--

The channel number for all active SRTP or Modbus/TCP channels can be displayed with the STAT H or STAT M commands, respectively.

Execute the CHIST command without specifying a channel number to see the channel history of all 32 possible channels.

CHIST Command Example

```
> chist 1
<<< Channel History >>> 09-JAN-20050 02:52:03.0
===== CHANNEL HISTORY - Channel: 01 =====
      EVENT DESCRIPTION      DATA1      DATA2
-----
```

3.5 **CHLTIME**

Available in *Modify* mode.

Interfaces: All RX7i Rack-based RX3i Embedded RX3i

Use the *CHLTIME* command to change the inactivity timeout period for the present session of *Modify* mode. The default timeout is 10 minutes. If no commands are entered during the timeout period, the Station Manager automatically switches back to *Monitor* mode. It is necessary to re-enter the password to access *Modify* mode again.

The change is temporary; the new timeout period is used only until the specified time passes, until the timeout period is changed during the same *Modify* mode session, or until the *LOGOUT* command is used. Timeout reverts to the default of 10 minutes the next time *Modify* mode is entered.

The login inactivity timeout clock is suspended during execution of a *TRACE* or *PING* command.

CHLTIME Command Format

CHLTIME <minutes>

<minutes>	Is the login inactivity timeout value in minutes. The range is 0 to 32767. If the number of minutes specified is 0, the login inactivity timeout is not enforced.
-----------	---

CHLTIME Command Example

= chitime 5

Login timeout = 5 min

3.6 CHPARM

Available in *Modify* mode.

Interfaces: All RX7i Rack-based RX3i

Before a CPU configuration has been stored into the CPU, you can use the *CHPARM* command to change the value of a specific Advanced User Parameter. However, it is not recommended that you change any Advanced User Parameter other than *stpasswd*. Be careful when setting any Advanced User Parameter. Poor choice of settings may result in degraded Ethernet interface operation. If you change these parameters, record the original values for future reference.

Changes do not take effect until the Ethernet interface is restarted or power is cycled. Advanced User Parameters are saved in non-volatile memory. Changes made by the *CHPARM* command are retained over restart and power cycles, until changed again by the *CHPARM* command.

After the CPU configuration has been stored into the CPU, the *CHPARM* command is prohibited and any previous changes made with it are no longer effective. Permanent changes to the default Advanced User Parameter values must be made in the Advanced User Parameter file. Refer to GFK-2224, *TCP/IP Communications for PACSystems User's Manual* for details.

CHPARM Command Format

chparm < parm name > { < value > | def }

or

CHPARM all def

<parm name>	The name of an Advanced User Parameter (these are listed in the PARM command description later in this chapter).
<value>	The new value for the specified parameter.
"def"	May be entered instead of an actual value to set the specified parameter to its factory default value.

CHPARM Command Example: Changing the Station Manager Password = **chparm stpasswd newpass**

The default Station Manager password is "system". The normal way to change the password is via the "stpasswd" parameter in the Advanced User Parameter file.

If a CPU configuration has not been stored into the CPU, the Station Manager password can be changed by the CHPARM command; the parameter name is *stpasswd*. In order to use the CHPARM command, the current password is required to access the *Modify* level of the Station Manager. Note that the Station Manager new password parameter value will be converted to lowercase unless you enclose the value within double quotes.

What to Do if You Have Forgotten Your Password

If the Station Manager password has been set to a non-default value and you have forgotten the current password, you will not be able to enter *Modify* mode or use the *modify* level CHPARM command. In that case, you must either examine the *stpasswd* parameter in the Advanced User Parameter file for this CPU to determine the actual password, or store another Advanced User Parameter file with a known password to the CPU.



The IEEE 802.3 standard strongly discourages the manual configuration of duplex mode for an Ethernet network port (as would be possible using Advanced User Parameters). Before manually configuring duplex mode for a port using AUP, be sure that you know the characteristics of the link partner and are aware of the consequences of your selection. In the words of the IEEE standard: “Connecting incompatible DTE/MAU combinations such as full duplex mode DTE to a half-duplex mode MAU, or a full-duplex station (DTE or MAU) to a repeater or other half duplex network, can lead to severe network performance degradation, increased collisions, late collisions, CRC errors, and undetected data corruption.”

Note If both speed and duplex mode of an Ethernet interface port are forced using Advanced User Parameters, that port will no longer perform automatic cable detection. This means that if you have the Ethernet interface port connected to an external switch or hub port you must use a crossover cable. If you have the Ethernet interface port connected to the uplink port on an external switch or hub, or if you have the Ethernet interface port directly connected to another Ethernet device, you must use a normal cable.

3.7 CHSOSW

Available in *Modify* mode.

Interfaces: All RX7i Rack-based RX3i

Before a configuration has been received from the CPU, you can use the CHSOSW command to change the backup configuration parameters of the Ethernet interface. Changes made by the CHSOSW command do not take effect until the Ethernet interface is restarted or power-cycled. The changes remain in effect only until a configuration is supplied by the CPU.

After the Ethernet interface receives a configuration from the CPU, the CHSOSW command is prohibited and any previous changes made with it are no longer effective.

CHSOSW Command Format

CHSOSW { < sosw data > | def }

def	Sets all values to their defaults
ip_address	Dotted–decimal working IP address
subnet_mask	Dotted–decimal subnet work mask
gateway	Dotted–decimal default gateway IP address
p1_data_rate	Station Manager port data rate (4800, 9600, 19200, 38400, 57600, 115200)
p1_parity	Station Manager port parity (NONE, ODD, EVEN)
p1_flow_control	Station Manager port flow control (NONE, HARDWARE)
web_max_conn	<i>(For RX7i CPU embedded Ethernet Interface only)</i> Maximum simultaneous web server connections (0 to 16). The total number of web and FTP connections cannot be more than 16. Setting this parameter to 0 disables the web server.
ftp_max_conn	conn Maximum number of simultaneous FTP connections (0 to 16, in multiples of 2). Each FTP client requires two FTP connections. Setting this parameter to 0 disables the FTP server.
time_sync	Time sync option (0 = none, 1 = SNTP)

CHSOSW Command Example 1: IP Address

This example supplies the IP Address of the Ethernet interface:

= chsow ip_address 10.0.0.2

Note Parameter changes will not take effect until next power-up or restart.

CHSOSW Command Example 2: Number of Connections

(For CPU embedded Ethernet interface only)

These two commands change the number of web server (HTTP) connections and FTP connections:

= CHSOSW web_max_conn 6

= CHSOSW ftp_max_conn 4

The total number of web server connections plus FTP connections must not exceed 16. Each FTP client requires two connections.

CHSOSW Command Example 3: SNTP Time Synchronization

This example selects SNTP time synchronization:

= CHSOSW time_sync SNTP

3.8 CHTIME

Available in *Modify* mode.

Interfaces: All RX7i Rack-based RX3i Embedded RX3i

Use the *CHTIME* command to set the time and date for a rack-based or RX7i embedded Ethernet interface.

Note In the embedded RX3i Ethernet interface, this command changes the CPE's Real Time Clock. This embedded Ethernet interface does not have an independent clock feature.

When modified with the *CHTIME* command, the Ethernet interface internal clock is set to "not synchronized". This command is rejected if the Ethernet interface is synchronized to an external SNTP time server.

A time value is required; a date value is optional. Valid dates are JAN 01, 2000 – DEC 31, 2097. If an invalid date or time is entered, the internal clock is not changed. Changes remain in effect until the Ethernet interface is power-cycled or restarted. This command applies only to the Ethernet interface; it does not change the time kept in the CPU.

CHTIME Command Format

CHTIME [< MMM DD, YYYY >] < HH [: MM [: SS]] >

<MMM>	is the month (JAN . . . DEC)
<DD>	is the day of the month (1-31)
<YYYY>	is the year (2000 . . .)
<HH>	is an hour in the range 0–23
<MM>	is an optional minute in the range 0–59 which defaults to 0
<SS>	is an optional second in the range 0–59 which defaults to 0

Leading zeroes need not be entered.

CHTIME Command Example

= chtime feb 21, 2003 23:00:10

Feb 21, 2003 23:00:10.2

Date/time not synchronized

3.9 CLEAR

Available in *Modify* mode.

Interfaces: All RX7i Rack-based RX3i Embedded RX3i

Use the *CLEAR* command to set specified Ethernet interface data to its initial values, usually zeros. The desired data is specified by command arguments.

Use the *CLEAR LOG* command to clear the exception log.

Use the *CLEAR TALLY* command to clear tallies for all tasks (see *TALLY* command).

Clearing tallies in the system affects EGD operation as viewed by *STAT G* or *XCHANGE* commands. When tallies are cleared, various counters that are unique to each exchange are cleared (transfer count, errors, etc). With EGD run-mode store capability, you may want to use *CLEAR TALLY* to clear indications of past failures.

Use the *CLEAR ARP* command to immediately clear the internal ARP cache.

Use the *CLEAR EXS* command to clear the Extended Status data (see *EXS* command).

Use the *CLEAR FILES ALL* command to clear all files stored in the file system.

Note Except for the default web home page, *CLEAR FILES ALL* clears all other web pages and related files used by the web server. Those files should be saved elsewhere before using *CLEAR FILES ALL*, or they will be lost.

CLEAR Command Format

CLEAR {log | tally | arp | exs | files all}

Task	Description	Supported by
log	Discards all log entries and sets the log to an empty state. On rack-based and RX7i interfaces, also resets the STAT LED on the Ethernet interface to green.	All
tally	Sets all resettable tallies to zero.	All
arp	Clears the internal ARP cache.	RX3i Rack-based; all RX7i
exs	Sets all resettable Extended Status data to zero.	All
files all	Clears the content of the file system. Entering just <i>CLEAR FILES</i> will result in the prompt shown in Example 2 below.	RX3i Rack-based; all RX7i

CLEAR Command Example 1

= clear tally

Tallies cleared

CLEAR Command Example 2

= clear files

Enter *CLEAR FILES ALL* if you really want to delete all files.

= clear files all

Files cleared.

3.10 DBGDATA

Available in *Modify* mode.

Interfaces: Embedded RX3i4

Use the DBGDATA command to retrieve diagnostic data that would otherwise be obtained via multiple separate Station Manager commands.

DBGDATA Command Format

DBGDATA

DBGDATA Command Example

```
10.10.0.100> dbgdata
```

```
REM# IC695CPE310-ABAD Embedded Ethernet Interface
REM# Copyright (c) 2003-2014. All rights reserved.
REM# Version 8.20 (00X1) TCP/IP REM# Version 8.05 (B336) Loader
REM# Version 8.00 Hardware REM# Version 0.73 (48A2) FPGA
REM# Version C305S013 (01-DEC-2011) BIOS
REM# Serial No = K534812 Date Code = 04JUN2013
REM#
REM# <<< Ethernet LAN 1 >>>
REM# IP Address = 10.10.0.100 Subnet Mask = 255.255.255.0 REM# Gateway = 10.10.0.1
REM# MAC Address = <<<00099103B656>>
REM# SNTP Configured
REM#
REM# Source of Soft Switches: PLC Configuration
REM# Source of IP Address: Configuration
REM# Advanced User Parameters are modified; use "parm" command to display
REM#
REM# Dec 27, 1990 0:50:38.1
REM# Date/time initialized from PLC CPU; awaiting time from network
REM# <<< Extended Exception Log >>>
REM# IC695CPE310-ABAD Embedded Ethernet Interface version 8.20 (00X1)
REM# 27-DEC-1990 00:50:38.1 (+00:00)
REM# Log initialized to empty
REM# Log last cleared 01-JAN-2002 00:00:08.9 (+00:00) Remote IP Addr:Port

REM# Date Time Event Count Entry 2 through Entry 6 SCode or Producer ID:Exchg
REM# Local IP Addr:Port
REM# 01-JAN-2002 00:00:08.9 (+00:00) 1H 1H 0000H 0000H 0000H 0000H
REM# 0000H
REM# 27-DEC-1990 00:02:48.8 (+00:00) 29H 2H 001aH 0002H 0000H 0002H
REM# 074dH
REM#-> 27-DEC-1990 00:06:21.3 (+00:00) 29H 1H 0001H 0000H 0000H 0001H
REM# 01f3H
```

REM# <<< Fatal RTOS Fault Information >>>
REM# IC695CPE310-ABAD Embedded Ethernet Interface version 8.20 (00X1)
REM# Fatal Error data exists
REM# Log Size: 12288 bytes (3 pages)
Record Size: 4096 bytes
Max Records: 2
CPU Type: 0x56
Errors Missed: 0 (old) + 0 (recent)
Error count: 2
Boot count: 1
Generation count: 1

==[1/2]=====

Severity/Facility: INFO/BOOT
Boot Cycle: 1
Time: THU JAN 01 00:00:00 1970 (ticks = 0)
Task: "tRootTask" (0x0bff9d50)

System Booted - cold boot

==[2/2]=====

Severity/Facility: FATAL/KERNEL
Boot Cycle: 1
Time: THU DEC 27 00:08:29 1990 (ticks = 102250)
Task: "EGDC" (0x09964020)

fatal kernel task-level exception!

<<<<Exception Information>>>>

Page Fault
Page Dir Base: 0x09149000
Esp0 0x098faea0: 0x095924dc, 0x00000000, 0x098faeb8, 0x09194f5c
Esp0 0x098faeb0: 0xffffffff, 0x00000000, 0x00000001, 0x00000000
Program Counter: 0x0870f2d6
Code Selector: 0x00000008
Eflags Register: 0x00010246
Error Code: 0x00000000
Page Fault Addr : 0x2ebd476c
Task: 0x9964020 "EGDC"

<<<<Registers>>>>

edi = 0x095924c0 esi = 0x09592524 ebp = 0x098faec8
esp = 0x098faea0 ebx = 0x095a95b4 edx = 0x09592200
ecx = 0x09585040 eax = 0x0958bf6c eflags = 0x00000206
pc = 0x0870f2d6

<<<<Traceback>>>>

0x0824525d egd_consume +0x2dd: zbufDelete ([0x3, 0, 0x98faf70, 0x98faf98])
0x08685903 zbufDelete +0x3c: 0x086858a0 ([0x9194f5c, 0x98faf70, 0x98fafc8, 0x824525d])
0x086858bf _zbufDeleteEmpty+0x5e: ipcom_pkt_free ([0x95a9540, 0x18, 0x98faf18, 0x8685903])
0x088180d9 ipcom_pkt_free+0x94: 0x0870f185 ([0x95a9540, 0, 0x98faf18, 0x8686439])

REM#
REM# Usage: fatalinfo <param>
REM# Where <param> includes any of the following
REM# rtos - display information collected after fatal RTOS fault
REM#
REM# *** All parameters converted to lower case unless within quotes
REM# 'dpminfo' command not currently implemented by the SMI subsystem.

Table with 9 columns: REM#, Task Name, Priority, Task ID, Size, Current, Highest, and two unlabeled columns. Rows list various tasks like tJobTask, tExcTask, tLogTask, etc., with their respective metrics.

REM#	bpDeviceWdt	32	091cbc04H	4096	144:00:00	3%	660:00:00	16%
REM#	acFailHandle	5	097f4ab4H	32768	224:00:00	0%	300:00:00	0%
REM#	IDLETASK	251	095f96a0H	4096	52:00:00	1%	52:00:00	1%
REM#	HLS	96	0bff9a70H	12288	272:00:00	2%	4304:00:00	35%
REM#	CCPOLL	104	095f9920H	12288	272:00:00	2%	1572:00:00	12%
REM#	CSRP	100	095f9ba0H	20480	448:00:00	2%	3648:00:00	17%
REM#	HPCCSRP	99	0981a020H	20480	448:00:00	2%	832:00:00	4%
REM#	BpPollLocal	255	0981a2a0H	12288	272:00:00	2%	1316:00:00	10%
REM#	BpPollRemote	255	0981a630H	12288	272:00:00	2%	432:00:00	3%
REM#	BPSRPREMOTE	255	0981aa00H	20480	448:00:00	2%	832:00:00	4%
REM#	BPSRP	255	09822020H	20480	448:00:00	2%	4896:00:00	23%
REM#	NDCCESRP	101	098222a0H	20480	448:00:00	2%	832:00:00	4%
REM#	NDBPCESRP	255	09822630H	20480	448:00:00	2%	6320:00:00	30%
REM#	BG	255	098229c0H	12288	360:00:00	2%	2404:00:00	19%
REM#	POLL_CLUSTER	255	0982c020H	12288	288:00:00	2%	1200:00:00	9%
REM#	RECONFIG_MPM	255	0982c2a0H	12288	256:00:00	2%	4368:00:00	35%
REM#	RECONFIG_MCM	255	0982c5c0H	12288	320:00:00	2%	620:00:00	5%
REM#	SRPHIPRIOR	98	0982c9b0H	20480	448:00:00	2%	832:00:00	4%
REM#	CloseWindow	255	09836020H	4096	192:00:00	4%	524:00:00	12%
REM#	CloseWindowC	250	098362a0H	4096	192:00:00	4%	524:00:00	12%
REM#	TimeoutNorma	98	098365c0H	4096	288:00:00	7%	572:00:00	13%
REM#	TimeoutConst	97	09836990H	4096	288:00:00	7%	364:00:00	8%
REM#	scxProcessRe	100	0983e020H	12288	288:00:00	2%	924:00:00	7%
REM#	ReestablishC	255	0983e2a0H	12288	320:00:00	2%	604:00:00	4%
REM#	FirmwareUpda	98	0983e590H	4096	272:00:00	6%	348:00:00	8%
REM#	ImportExport	255	0983e980H	12288	1648:00:00	13%	1932:00:00	15%
REM#	BLTSRP	255	0983ed74H	12288	448:00:00	3%	832:00:00	6%
REM#	cmdp	105	09846188H	8192	2864:00:00	34%	3548:00:00	43%
REM#	rrcv	108	09846570H	4096	752:00:00	18%	932:00:00	22%
REM#	plEvtDelaySe	16	0985a020H	4096	304:00:00	7%	636:00:00	15%
REM#	CFGA	81	0985a554H	4096	336:00:00	8%	412:00:00	10%
REM#	CFGN	82	0985aa14H	4096	304:00:00	7%	1056:00:00	25%
REM#	CFGM	80	09864274H	8192	368:00:00	4%	3684:00:00	44%
REM#	CFGT	82	0986474cH	4096	384:00:00	9%	512:00:00	12%
REM#	tCrqMail	79	0986e020H	20480	384:00:00	1%	460:00:00	2%
REM#	UTL	92	0986e2a0H	4096	480:00:00	11%	1088:00:00	26%
REM#	etm_B2CT	76	0987e78cH	8192	352:00:00	4%	1056:00:00	12%
REM#	etm_BRXT	72	0987ebf0H	8192	256:00:00	3%	924:00:00	11%
REM#	etm_B2UT	75	09934260H	12288	320:00:00	2%	1264:00:00	10%
REM#	etm_BPST	73	0993480cH	8192	288:00:00	3%	868:00:00	10%
REM#	etm_BPMT	74	09945154H	8192	400:00:00	4%	528:00:00	6%
REM#	SKAL	94	09898200H	4096	384:00:00	9%	800:00:00	19%

REM#	tSrtpInit	93	0989ea0cH	4096	400:00:00	9%	1520:00:00	37%
REM#	sntpm	65	098a438cH	4096	320:00:00	7%	1424:00:00	34%
REM#	EGDT	95	098a4854H	4096	304:00:00	7%	2240:00:00	54%
REM#	tMbusKal	94	098b00f0H	4096	384:00:00	9%	800:00:00	19%
REM#	tModbusSrvr	90	098b0718H	4096	400:00:00	9%	1408:00:00	34%
REM#	usrLOGIC00	255	09846ae0H	573440	256:00:00	0%	3840:00:00	0%
REM#	DlbExecution	99	09986140H	81920	320:00:00	0%	604:00:00	0%
REM#	bp3iPcilntTa	32	09986600H	4096	304:00:00	7%	1396:00:00	34%
REM#	virtBkplntTa	32	098b8460H	4096	368:00:00	8%	1504:00:00	36%
REM#	tMbusListen	95	09a30bd0H	4096	640:00:00	15%	1152:00:00	28%
REM#	TmrIsrWatche	45	098c6110H	8192	448:00:00	5%	524:00:00	6%
REM#	WDTPERIODIC	255	098c6838H	8192	448:00:00	5%	1312:00:00	16%
REM#	RDS	255	098c6c9cH	40960	272:00:00	0%	3136:00:00	7%
REM#	AcfailSentin	9	09a951f8H	4096	224:00:00	5%	300:00:00	7%
REM#	ThreadPoolWo	45	098c65b8H	16384	576:00:00	3%	652:00:00	3%
REM#	ChannelMgrTh	113	091cf010H	20480	576:00:00	2%	652:00:00	3%
REM#	ChannelStatu	108	091cf290H	8192	592:00:00	7%	668:00:00	8%
REM#	ChConnWatchT	113	09a959ecH	20480	800:00:00	3%	1408:00:00	6%
REM#	EGDC	96	09802578H	4096	784:00:00	19%	908:00:00	22%
REM#	ECTT	98	09802868H	4096	480:00:00	11%	896:00:00	21%
REM#	tSrtpListen	95	09a81870H	4096	640:00:00	15%	880:00:00	21%
REM#	rtuSnd	94	098c0678H	4096	336:00:00	8%	412:00:00	10%
REM#	rtuRcv	94	09903c98H	4096	688:00:00	16%	956:00:00	23%
REM#	rtuSnd	94	098ced38H	4096	336:00:00	8%	412:00:00	10%
REM#	rtuRcv	94	09d01c8cH	4096	688:00:00	16%	896:00:00	21%
REM#	EP01	96	0994d890H	4096	480:00:00	11%	1392:00:00	33%
REM#	EP02	96	0994db10H	4096	480:00:00	11%	1392:00:00	33%
REM#	EP03	96	09a8d030H	4096	480:00:00	11%	1392:00:00	33%
REM#	EP04	96	09a8d2b0H	4096	480:00:00	11%	1408:00:00	34%
REM#	EP05	96	09a8d530H	4096	480:00:00	11%	1392:00:00	33%
REM#	EP06	96	09a8d8a0H	4096	480:00:00	11%	1392:00:00	33%
REM#	EP07	96	09886020H	4096	480:00:00	11%	1392:00:00	33%
REM#	EP08	96	09886358H	4096	480:00:00	11%	1392:00:00	33%
REM#	EP09	96	098868c0H	4096	480:00:00	11%	1392:00:00	33%
REM#	EPOA	96	09963020H	4096	480:00:00	11%	1392:00:00	33%
REM#	EPOB	96	09963394H	4096	480:00:00	11%	1392:00:00	33%
REM#	EPOC	96	099638f4H	4096	480:00:00	11%	1392:00:00	33%
REM#	EPOD	96	09969020H	4096	480:00:00	11%	1392:00:00	33%
REM#	EPOE	96	099693f0H	4096	480:00:00	11%	1392:00:00	33%
REM#	EPOF	96	09969950H	4096	480:00:00	11%	1392:00:00	33%
REM#	EP10	96	09978020H	4096	480:00:00	11%	1440:00:00	35%
REM#	EP11	96	0997843cH	4096	480:00:00	11%	1432:00:00	34%

REM#	EP12	96	0997899cH	4096	480:00:00	11%	1392:00:00	33%
REM#	EP13	96	098e3020H	4096	480:00:00	11%	1392:00:00	33%
REM#	EP14	96	098e3484H	4096	480:00:00	11%	1440:00:00	35%
REM#	EP15	96	098e39e4H	4096	480:00:00	11%	1392:00:00	33%
REM#	EP16	96	098f7020H	4096	480:00:00	11%	1392:00:00	33%
REM#	EP17	96	098f74b4H	4096	480:00:00	11%	1392:00:00	33%
REM#	EP18	96	098f7a14H	4096	480:00:00	11%	1440:00:00	35%
REM#	EP19	96	098fd020H	4096	480:00:00	11%	1392:00:00	33%
REM#	EP1A	96	098fd4f4H	4096	480:00:00	11%	1392:00:00	33%
REM#	EP1B	96	098fda54H	4096	480:00:00	11%	1392:00:00	33%
REM#	EP1C	96	09adb020H	4096	480:00:00	11%	1392:00:00	33%
REM#	EP1D	96	09adb550H	4096	480:00:00	11%	1392:00:00	33%
REM#	EP1E	96	09adbab0H	4096	480:00:00	11%	1392:00:00	33%
REM#	EP1F	96	09ae5044H	4096	480:00:00	11%	1392:00:00	33%
REM#	EP20	96	09ae5584H	4096	480:00:00	11%	1392:00:00	33%
REM#	EP21	96	09ae5ae4H	4096	480:00:00	11%	1408:00:00	34%
REM#	EP22	96	09af7074H	4096	480:00:00	11%	1392:00:00	33%
REM#	EP23	96	09af75c0H	4096	480:00:00	11%	1392:00:00	33%
REM#	EP24	96	09af7b20H	4096	480:00:00	11%	1392:00:00	33%
REM#	EP25	96	09b09020H	4096	480:00:00	11%	1392:00:00	33%
REM#	EP26	96	09b09610H	4096	480:00:00	11%	1896:00:00	46%
REM#	EP27	96	09b09b70H	4096	480:00:00	11%	1392:00:00	33%
REM#	EP28	96	09b15108H	4096	480:00:00	11%	1896:00:00	46%
REM#	EP29	96	09b15668H	4096	480:00:00	11%	1392:00:00	33%
REM#	EP2A	96	09b15bc8H	4096	480:00:00	11%	1392:00:00	33%
REM#	EP2B	96	09b1b140H	4096	480:00:00	11%	1392:00:00	33%
REM#	EP2C	96	09b1b6a0H	4096	480:00:00	11%	1392:00:00	33%
REM#	EP2D	96	09b1bc00H	4096	480:00:00	11%	1392:00:00	33%
REM#	EP2E	96	09b21180H	4096	480:00:00	11%	1392:00:00	33%
REM#	EP2F	96	09b216e8H	4096	480:00:00	11%	1392:00:00	33%
REM#	EP30	96	09b21c48H	4096	480:00:00	11%	1392:00:00	33%
REM#	EP31	96	09b271b8H	4096	480:00:00	11%	1392:00:00	33%
REM#	EP32	96	09b27718H	4096	480:00:00	11%	1392:00:00	33%
REM#	EP33	96	09b27c78H	4096	480:00:00	11%	1392:00:00	33%
REM#	EP34	96	09b2d1f8H	4096	480:00:00	11%	1392:00:00	33%
REM#	EP35	96	09b2d760H	4096	480:00:00	11%	1392:00:00	33%
REM#	EP36	96	09b2dcc0H	4096	480:00:00	11%	1392:00:00	33%
REM#	EP37	96	09b33260H	4096	480:00:00	11%	1392:00:00	33%
REM#	EP38	96	09b337c0H	4096	480:00:00	11%	1392:00:00	33%
REM#	EP39	96	09b33d20H	4096	480:00:00	11%	1392:00:00	33%
REM#	EP3A	96	09b392a4H	4096	480:00:00	11%	1392:00:00	33%
REM#	EP3B	96	09b39804H	4096	480:00:00	11%	1392:00:00	33%
REM#	EP3C	96	09b39d64H	4096	480:00:00	11%	1440:00:00	35%

REM#	EP3D	96	09b3f300H	4096	480:00:00	11%	1392:00:00	33%
REM#	EP3E	96	09b3f860H	4096	480:00:00	11%	1392:00:00	33%
REM#	EP3F	96	09b45020H	4096	480:00:00	11%	2184:00:00	53%
REM#	EP40	96	09b45358H	4096	480:00:00	11%	1392:00:00	33%
REM#	EP41	96	09b4589cH	4096	480:00:00	11%	1392:00:00	33%
REM#	EP42	96	09b4b020H	4096	480:00:00	11%	1392:00:00	33%
REM#	EP43	96	09b4b388H	4096	480:00:00	11%	1392:00:00	33%
REM#	EP44	96	09b4b8e8H	4096	480:00:00	11%	1392:00:00	33%
REM#	EP45	96	09b51020H	4096	480:00:00	11%	1440:00:00	35%
REM#	EP46	96	09b513c0H	4096	480:00:00	11%	1392:00:00	33%
REM#	EP47	96	09b51920H	4096	480:00:00	11%	1392:00:00	33%
REM#	EP48	96	09b57020H	4096	480:00:00	11%	1392:00:00	33%
REM#	EP49	96	09b57400H	4096	480:00:00	11%	1392:00:00	33%
REM#	EP4A	96	09b57968H	4096	480:00:00	11%	1392:00:00	33%
REM#	EP4B	96	09b5d020H	4096	480:00:00	11%	1392:00:00	33%
REM#	EP4C	96	09b5d438H	4096	480:00:00	11%	1392:00:00	33%
REM#	EP4D	96	09b5d998H	4096	480:00:00	11%	1392:00:00	33%
REM#	EP4E	96	09b63020H	4096	480:00:00	11%	1392:00:00	33%
REM#	EP4F	96	09b63478H	4096	480:00:00	11%	1896:00:00	46%
REM#	EP50	96	09b639e0H	4096	480:00:00	11%	1392:00:00	33%
REM#	EP51	96	09b69020H	4096	480:00:00	11%	1392:00:00	33%
REM#	EP52	96	09b694e0H	4096	480:00:00	11%	1392:00:00	33%
REM#	EP53	96	09b69a40H	4096	480:00:00	11%	2184:00:00	53%
REM#	EP54	96	09b6f020H	4096	480:00:00	11%	2184:00:00	53%
REM#	EP55	96	09b6f524H	4096	480:00:00	11%	1440:00:00	35%
REM#	EP56	96	09b6fa84H	4096	480:00:00	11%	1392:00:00	33%
REM#	EP57	96	09b75020H	4096	480:00:00	11%	2184:00:00	53%

```

REM# <<< Enet Exception Trace >>> 27-DEC-1990 00:50:38.0 (+00:00)
REM# SubSys
REM# EventID  ModuleID  Line Num  Status  Message
REM# =====
REM# <<< Channel History >>> 27-DEC-1990 00:50:38.0 (+00:00)
REM# ===== CHANNEL HISTORY - Channel: 01 =====
REM# EVENT DESCRIPTION      DATA1  DATA2
REM# -----
REM#
REM# ===== CHANNEL HISTORY - Channel: 02 =====
REM# EVENT DESCRIPTION      DATA1  DATA2
REM# -----
REM#
REM# ===== CHANNEL HISTORY - Channel: 03 =====
REM# EVENT DESCRIPTION      DATA1  DATA2
REM# -----
REM#

```



```

REM# ===== CHANNEL HISTORY - Channel: 04 =====
REM# EVENT DESCRIPTION      DATA1  DATA2
REM# -----
REM#
REM# ===== CHANNEL HISTORY - Channel: 05 =====
REM# EVENT DESCRIPTION      DATA1  DATA2
REM# -----
REM#
REM# ===== CHANNEL HISTORY - Channel: 06 =====
REM# EVENT DESCRIPTION      DATA1  DATA2
REM# -----
REM#
REM# ===== CHANNEL HISTORY - Channel: 07 =====
REM# EVENT DESCRIPTION      DATA1  DATA2
REM# -----
REM#
REM# ===== CHANNEL HISTORY - Channel: 08 =====
REM# EVENT DESCRIPTION      DATA1  DATA2
REM# -----
REM#
REM# ===== CHANNEL HISTORY - Channel: 09 =====
REM# EVENT DESCRIPTION      DATA1  DATA2
REM# -----
REM#
REM# ===== CHANNEL HISTORY - Channel: 10 =====
REM# EVENT DESCRIPTION      DATA1  DATA2
REM# -----
REM#
REM#
REM# ===== CHANNEL HISTORY - Channel: 11 =====
REM# EVENT DESCRIPTION      DATA1  DATA2
REM# -----
REM#
REM# ===== CHANNEL HISTORY - Channel: 12 =====
REM# EVENT DESCRIPTION      DATA1  DATA2
REM# -----
REM#
REM# ===== CHANNEL HISTORY - Channel: 13 =====
REM# EVENT DESCRIPTION      DATA1  DATA2
REM# -----
REM#
REM# ===== CHANNEL HISTORY - Channel: 14 =====
REM# EVENT DESCRIPTION      DATA1  DATA2
REM# -----
REM#
REM# ===== CHANNEL HISTORY - Channel: 15 =====
REM# EVENT DESCRIPTION      DATA1  DATA2
REM# -----
REM#
REM# ===== CHANNEL HISTORY - Channel: 16 =====
REM# EVENT DESCRIPTION      DATA1  DATA2
REM# -----

```

```

REM# <<< Network Interface Status >>> 27-DEC-1990 00:50:38.0 (+00:00)
REM# Ethernet NI state = UP
REM# Data rate 100Mbps, Full duplex
REM# Link partner auto-negotiate capabilities:
REM# Pause supported for full duplex links
REM# 100BASE-TX full duplex
REM# 100BASE-TX half duplex
REM# 10BASE-T full duplex
REM# 10BASE-T half duplex
REM#
REM# Number of free entries on receive ring: 256
REM# Number of free entries on transmit ring: 256

```

```

REM# <<< UDP Status >>> 27-DEC-1990 00:50:38.0 (+00:00)
REM# Local IP Address  Port
REM# -----
REM# 0.0.0.0 123
REM# 1.0.0.127 20059
REM# <<< IP Status >>> 27-DEC-1990 00:50:38.0 (+00:00)
REM# Forwarding = 1, Default TTL = 64

```

```

REM# <<< IP Stat Show >>>
REM# INET sockets
REM# Prot  Recv-Q Send-Q Local Address  Foreign Address State
REM#

```

```

REM# INET route table - vr: 0, table: 254
REM# Destination      Gateway      Flags  Use  If  Metric
REM# 0.0.0.0/0          10.10.0.1   UGS    0   gei0  0
REM# 10.10.0.0/24       link#2      UC     239  gei0  0
REM# 10.10.0.51         b8:ca:3a:d8:40:61 UHL   15590  gei0  2
REM# 10.10.0.100        10.10.0.100  UH    3363994 lo0  0
REM# 127.0.0.0/8        127.0.0.1   UR     0    lo0  0
REM# 127.0.0.1          127.0.0.1   UH     5    lo0  0

```

```

REM# <<< Memory Status >>> 27-DEC-1990 00:50:38.0 (+00:00)
REM# Free Bytes in Partition : 33325660
REM# Free Blocks in Partition : 212
REM# Maximum free block size : 32513808
REM# Allocated Bytes in Partition : 15640860
REM# Allocated Blocks in Partition : 9467
REM#
REM# <<< IP Memory Pool Status >>> 27-DEC-1990 00:50:38.0 (+00:00)
REM# _____
REM# MBUFS POOL TABLE
REM# _____
REM# type number
REM# -----
REM# FREE 144
REM# DATA 0
REM# HEADER 0
REM# SOCKET 0
REM# PCB 0
REM# RTABLE 0
REM# HTABLE 0
REM# ATABLE 0
REM# SONAME 0
REM# ZOMBIE 0
REM# SOOPTS 0
REM# FTABLE 0
REM# RIGHTS 0
REM# IFADDR 0
REM# CONTROL 0
REM# OOBDATA 0
REM# IPMOPTS 0
REM# IPMADDR 0
REM# IFMADDR 0
REM# MRTABLE 0
REM# TOTAL 144
REM# number of mbufs: 144
REM# number of times failed to find space: 0
REM# number of times waited for space: 0
REM# number of times drained protocols for space: 0

```

```

REM# _____
REM# CLUSTER POOL TABLE
REM# _____
REM# size  clusters  free  usage
REM# -----
REM# 128   128   128   0
REM# 128   128   128   0
REM# 128   128   128   0
REM# 128   128   128   0
REM# 256    4    4    0
REM# 512    4    4    0
REM# 1024   4    4    0
REM# 2048   4    4    0

```

```

REM#
REM# <<< EMAC Driver Memory Pool Status >>> 27-DEC-1990 00:50:38.0 (+00:00)

```

```

REM# _____
REM# MBUFS POOL TABLE
REM# _____
REM# type  number
REM# -----
REM# FREE  510
REM# DATA 258
REM# HEADER 0
REM# SOCKET 0
REM# PCB    0
REM# RTABLE 0
REM# HTABLE 0
REM# ATABLE 0
REM# SONAME 0
REM# ZOMBIE 0
REM# SOOPTS 0
REM# FTABLE 0
REM# RIGHTS 0
REM# IFADDR 0
REM# CONTROL 0
REM# OOBDATA 0
REM# IPMOPTS 0
REM# IPMADDR 0
REM# IFMADDR 0
REM# MRTABLE 0
REM# TOTAL 768
REM# number of mbufs: 768
REM# number of times failed to find space: 0
REM# number of times waited for space: 0
REM# number of times drained protocols for space: 0

```

```

REM# _____
REM# CLUSTER POOL TABLE
REM# _____
REM# size  clusters  free  usage
REM# -----
REM# 1600  768  510  1202

REM# <<< BPD Status >>> 27-DEC-1990 00:50:38.0 (+00:00)
REM# BPD state: Normal operation
REM# CPU state: Stopped (04H)
REM# CPU Ethernet daughterboard at Node ID = 20 00 01 a0
REM# LIS = 9003H
REM# User      Xfers  Xfers  BlkXfer  BlkXfer  COMMREQs
REM# ID  Status  to CPU  from CPU size  Address  discarded
REM# --  -----
REM# 0  Ready  19H  21H  0H  0H  0H

REM# 6  Ready  2H  0H  0H  0H  0H
REM# 13  Ready  4fbH  6c234H  0H  0H  0H
REM# 23  Ready  0H  0H  0H  0H  0H
REM# 24  Ready  1H  1H  0H  0H  0H
REM# 98  Ready  0H  0H  0H  0H  0H
REM# 125  Ready  0H  0H  0H  0H  0H
REM# 127  Ready  0H  0H  0H  0H  0H

REM# Comm_Req storm detection is enabled
REM# Comm_Req storm(s) since startup = 0
REM# Current Comm_Req rate = 0/sec
REM#
REM# <<< Shared Memory Status >>> 27-DEC-1990 00:50:38.0 (+00:00)
REM# Shared memory startup complete (07H)
REM# I/F version: 1.02
REM# Shared memory heap status:
REM# Heap memory size (bytes) = 2097152 (200000H)
REM# Total heap available size (bytes) = 2025728 (1ee900H)
REM# Largest available allocation (bytes) = 1042432 (fe800H)
REM# Total allocations in use (bytes) = 71424 (11700H)

REM# Invalid task: d
REM# <<< Modbus TCP Server Status >>> 27-DEC-1990 00:50:38.0 (+00:00)
REM# No active connections

REM# <<< Modbus TCP Client Status >>> 27-DEC-1990 00:50:38.0 (+00:00)
REM# Status  Transfers
REM# Ch  Type  Server Address  State  Code  Completed
REM# -  -----

REM# <<< TCP Status >>> 27-DEC-1990 00:50:38.0 (+00:00)
REM# Min Retran T/O = 500, Max Retran T/O = 60000, Retran Alg = 4,
REM# Max Conn = 1024, Current Conn = 0

```

REM# <<< ARP Cache >>> 27-DEC-1990 00:50:38.0 (+00:00)

REM# 10.10.0.51 at b8:ca:3a:d8:40:61 on gei0

REM# <<< Channel Connection References - 0 Entries >>>

REM# <<< EGD Status >>> 27-DEC-1990 00:50:38.0 (+00:00)

REM#	Ndx	Producer ID	Exchange ID	Mode	State	Xch Sts	Transfers Completed
REM#	—	-----	-----	----	-----	—	----
REM#	0H	10.10.0.1	11001	PRODUCER	STOPPED	01H	13192
REM#	1H	10.10.0.1	11002	PRODUCER	STOPPED	01H	13192
REM#	2H	10.10.0.1	11003	PRODUCER	STOPPED	01H	13193
REM#	3H	10.10.0.1	11004	PRODUCER	STOPPED	01H	13193
REM#	4H	10.10.0.1	11005	PRODUCER	STOPPED	01H	13191
REM#	5H	10.10.0.1	11006	PRODUCER	STOPPED	01H	13192
REM#	6H	10.10.0.1	11007	PRODUCER	STOPPED	01H	13192
REM#	7H	10.10.0.1	11008	PRODUCER	STOPPED	01H	13192
REM#	8H	10.10.0.1	11009	PRODUCER	STOPPED	01H	13193
REM#	9H	10.10.0.1	11010	PRODUCER	STOPPED	01H	13193
REM#	aH	10.10.0.1	11011	PRODUCER	STOPPED	01H	13192
REM#	bH	10.10.0.1	11012	PRODUCER	STOPPED	01H	13193
REM#	cH	10.10.0.1	11013	PRODUCER	STOPPED	01H	13192
REM#	dH	10.10.0.1	11014	PRODUCER	STOPPED	01H	13191
REM#	eH	10.10.0.1	11015	PRODUCER	STOPPED	01H	13192
REM#	fH	10.10.0.1	11016	PRODUCER	STOPPED	01H	13192
REM#	10H	10.10.0.1	11017	PRODUCER	STOPPED	01H	13193
REM#	11H	10.10.0.1	11018	PRODUCER	STOPPED	01H	13192
REM#	12H	10.10.0.1	11019	PRODUCER	STOPPED	01H	13192
REM#	13H	10.10.0.1	11020	PRODUCER	STOPPED	01H	13192
REM#	14H	10.10.0.1	11021	PRODUCER	STOPPED	01H	13192
REM#	15H	10.10.0.1	11022	PRODUCER	STOPPED	01H	13192
REM#	16H	10.10.0.1	11023	PRODUCER	STOPPED	01H	13192
REM#	17H	10.10.0.1	11024	PRODUCER	STOPPED	01H	13192
REM#	18H	10.10.0.1	11025	PRODUCER	STOPPED	01H	13192
REM#	19H	10.10.0.1	11026	PRODUCER	STOPPED	01H	13193
REM#	1aH	10.10.0.1	11027	PRODUCER	STOPPED	01H	13192
REM#	1bH	10.10.0.1	11028	PRODUCER	STOPPED	01H	13192
REM#	1cH	10.10.0.1	11029	PRODUCER	STOPPED	01H	13192
REM#	1dH	10.10.0.1	11030	PRODUCER	STOPPED	01H	13192
REM#	1eH	10.10.0.1	11031	PRODUCER	STOPPED	01H	13191
REM#	1fH	10.10.0.1	11032	PRODUCER	STOPPED	01H	13192
REM#	20H	10.10.0.1	11033	PRODUCER	STOPPED	01H	13192
REM#	21H	10.10.0.1	11034	PRODUCER	STOPPED	01H	13192
REM#	22H	10.10.0.1	11035	PRODUCER	STOPPED	01H	13192
REM#	23H	10.10.0.1	11036	PRODUCER	STOPPED	01H	13192

REM#	24H	10.10.0.1	11037	PRODUCER	STOPPED	01H	13192
REM#	25H	10.10.0.1	11038	PRODUCER	STOPPED	01H	13193
REM#	26H	10.10.0.1	11039	PRODUCER	STOPPED	01H	13192
REM#	27H	10.10.0.1	11040	PRODUCER	STOPPED	01H	13191
REM#	28H	10.10.0.1	11041	PRODUCER	STOPPED	01H	13193
REM#	29H	10.10.0.1	11042	PRODUCER	STOPPED	01H	13192
REM#	2aH	10.10.0.1	11043	PRODUCER	STOPPED	01H	13193
REM#	2bH	10.10.0.1	11044	PRODUCER	STOPPED	01H	13192
REM#	2cH	10.10.0.1	11045	PRODUCER	STOPPED	01H	13193
REM#	2dH	10.10.0.1	11046	PRODUCER	STOPPED	01H	13192
REM#	2eH	10.10.0.1	11047	PRODUCER	STOPPED	01H	13192
REM#	2fH	10.10.0.1	11048	PRODUCER	STOPPED	01H	13191
REM#	30H	10.10.0.1	11049	PRODUCER	STOPPED	01H	13192
REM#	31H	10.10.0.1	11050	PRODUCER	STOPPED	01H	13192
REM#	32H	10.10.0.1	11051	PRODUCER	STOPPED	01H	13192
REM#	33H	10.10.0.1	11052	PRODUCER	STOPPED	01H	13193
REM#	34H	10.10.0.1	11053	PRODUCER	STOPPED	01H	13192
REM#	35H	10.10.0.1	11054	PRODUCER	STOPPED	01H	13192
REM#	36H	10.10.0.1	11055	PRODUCER	STOPPED	01H	13192
REM#	37H	10.10.0.1	11056	PRODUCER	STOPPED	01H	13192
REM#	38H	10.10.0.1	11057	PRODUCER	STOPPED	01H	13192
REM#	39H	10.10.0.1	11058	PRODUCER	STOPPED	01H	13192
REM#	3aH	10.10.0.1	11059	PRODUCER	STOPPED	01H	13192
REM#	3bH	10.10.0.1	11060	PRODUCER	STOPPED	01H	13192
REM#	3cH	10.10.0.1	11061	PRODUCER	STOPPED	01H	13192
REM#	3dH	10.10.0.1	11062	PRODUCER	STOPPED	01H	13192
REM#	3eH	10.10.0.1	11063	PRODUCER	STOPPED	01H	13192
REM#	3fH	10.10.0.1	11064	PRODUCER	STOPPED	01H	13192
REM#	40H	10.10.0.1	11065	PRODUCER	STOPPED	01H	13191
REM#	41H	10.10.0.1	11066	PRODUCER	STOPPED	01H	13192
REM#	42H	10.10.0.1	11067	PRODUCER	STOPPED	01H	13193
REM#	43H	10.10.0.1	11068	PRODUCER	STOPPED	01H	13192
REM#	44H	10.10.0.1	11069	PRODUCER	STOPPED	01H	13192
REM#	45H	10.10.0.1	11070	PRODUCER	STOPPED	01H	13192
REM#	46H	10.10.0.1	11071	PRODUCER	STOPPED	01H	13193
REM#	47H	10.10.0.1	11072	PRODUCER	STOPPED	01H	13192
REM#	48H	10.10.0.1	11073	PRODUCER	STOPPED	01H	13192
REM#	49H	10.10.0.1	11074	PRODUCER	STOPPED	01H	13191
REM#	4aH	10.10.0.1	11075	PRODUCER	STOPPED	01H	13192
REM#	4bH	10.10.0.1	11076	PRODUCER	STOPPED	01H	13193
REM#	4cH	10.10.0.1	11077	PRODUCER	STOPPED	01H	13193
REM#	4dH	10.10.0.1	11078	PRODUCER	STOPPED	01H	13193
REM#	4eH	10.10.0.1	11079	PRODUCER	STOPPED	01H	13192

REM#	4fH	10.10.0.1	11080	PRODUCER	STOPPED	01H	13191
REM#	50H	10.10.0.1	11081	PRODUCER	STOPPED	01H	13192
REM#	51H	10.10.0.1	11082	PRODUCER	STOPPED	01H	13192
REM#	52H	10.10.0.1	11083	PRODUCER	STOPPED	01H	13192
REM#	53H	10.10.0.1	11084	PRODUCER	STOPPED	01H	13192
REM#	54H	10.10.0.1	11085	PRODUCER	STOPPED	01H	13192
REM#	55H	10.10.0.1	11086	PRODUCER	STOPPED	01H	13193
REM#	56H	10.10.0.1	11087	PRODUCER	STOPPED	01H	13192
REM#	57H	10.10.0.1	11088	PRODUCER	STOPPED	01H	13193
REM#	58H	10.10.0.1	11089	PRODUCER	STOPPED	01H	13193
REM#	59H	10.10.0.1	11090	PRODUCER	STOPPED	01H	13192
REM#	5aH	10.10.0.1	11091	PRODUCER	STOPPED	01H	13192
REM#	5bH	10.10.0.1	11092	PRODUCER	STOPPED	01H	13191
REM#	5cH	10.10.0.1	11093	PRODUCER	STOPPED	01H	13192
REM#	5dH	10.10.0.1	11094	PRODUCER	STOPPED	01H	13193
REM#	5eH	10.10.0.1	11095	PRODUCER	STOPPED	01H	13192
REM#	5fH	10.10.0.1	11096	PRODUCER	STOPPED	01H	13192
REM#	60H	10.10.0.1	11097	PRODUCER	STOPPED	01H	13192
REM#	61H	10.10.0.1	11098	PRODUCER	STOPPED	01H	13192
REM#	62H	10.10.0.1	11099	PRODUCER	STOPPED	01H	13192
REM#	63H	10.10.0.1	11100	PRODUCER	STOPPED	01H	13192
REM#	64H	10.10.0.1	11101	PRODUCER	STOPPED	01H	13192
REM#	65H	10.10.0.1	11102	PRODUCER	STOPPED	01H	13193
REM#	66H	10.10.0.1	11103	PRODUCER	STOPPED	01H	13193
REM#	67H	10.10.0.1	11104	PRODUCER	STOPPED	01H	13192
REM#	68H	10.10.0.1	11105	PRODUCER	STOPPED	01H	13193
REM#	69H	10.10.0.1	11106	PRODUCER	STOPPED	01H	13192
REM#	6aH	10.10.0.1	11107	PRODUCER	STOPPED	01H	13191
REM#	6bH	10.10.0.1	11108	PRODUCER	STOPPED	01H	13192
REM#	6cH	10.10.0.1	11109	PRODUCER	STOPPED	01H	13192
REM#	6dH	10.10.0.1	11110	PRODUCER	STOPPED	01H	13193
REM#	6eH	10.10.0.1	11111	PRODUCER	STOPPED	01H	13193
REM#	6fH	10.10.0.1	11112	PRODUCER	STOPPED	01H	13192
REM#	70H	10.10.0.1	11113	PRODUCER	STOPPED	01H	13193
REM#	71H	10.10.0.1	11114	PRODUCER	STOPPED	01H	13192
REM#	72H	10.10.0.1	11115	PRODUCER	STOPPED	01H	13192
REM#	73H	10.10.0.1	11116	PRODUCER	STOPPED	01H	13193
REM#	74H	10.10.0.1	11117	PRODUCER	STOPPED	01H	13192
REM#	75H	10.10.0.1	11118	PRODUCER	STOPPED	01H	13192
REM#	76H	10.10.0.1	11119	PRODUCER	STOPPED	01H	13192
REM#	77H	10.10.0.1	11120	PRODUCER	STOPPED	01H	13192
REM#	78H	10.10.0.1	11121	PRODUCER	STOPPED	01H	13192
REM#	79H	10.10.0.1	11122	PRODUCER	STOPPED	01H	13192

REM#	7aH	10.10.0.1	11123	PRODUCER	STOPPED	01H	13192
REM#	7bH	10.10.0.1	11124	PRODUCER	STOPPED	01H	13192
REM#	7cH	10.10.0.1	11125	PRODUCER	STOPPED	01H	13192
REM#	7dH	10.10.0.1	11126	PRODUCER	STOPPED	01H	13192
REM#	7eH	10.10.0.1	11127	PRODUCER	STOPPED	01H	13193
REM#	7fH	10.10.0.1	11128	PRODUCER	STOPPED	01H	13193
REM#	80H	10.10.0.1	11129	PRODUCER	STOPPED	01H	13192
REM#	81H	10.10.0.1	11130	PRODUCER	STOPPED	01H	13193
REM#	82H	10.10.0.1	11131	PRODUCER	STOPPED	01H	13192
REM#	83H	10.10.0.1	11132	PRODUCER	STOPPED	01H	13192
REM#	84H	10.10.0.1	11133	PRODUCER	STOPPED	01H	13192
REM#	85H	10.10.0.1	11134	PRODUCER	STOPPED	01H	13191
REM#	86H	10.10.0.1	11135	PRODUCER	STOPPED	01H	13193
REM#	87H	10.10.0.1	11136	PRODUCER	STOPPED	01H	13193
REM#	88H	10.10.0.1	11137	PRODUCER	STOPPED	01H	13193
REM#	89H	10.10.0.1	11138	PRODUCER	STOPPED	01H	13192
REM#	8aH	10.10.0.1	11139	PRODUCER	STOPPED	01H	13192
REM#	8bH	10.10.0.1	11140	PRODUCER	STOPPED	01H	13192
REM#	8cH	10.10.0.1	11141	PRODUCER	STOPPED	01H	13192
REM#	8dH	10.10.0.1	11142	PRODUCER	STOPPED	01H	13191
REM#	8eH	10.10.0.1	11143	PRODUCER	STOPPED	01H	13191
REM#	8fH	10.10.0.1	11144	PRODUCER	STOPPED	01H	13192
REM#	90H	10.10.0.1	11145	PRODUCER	STOPPED	01H	13192
REM#	91H	10.10.0.1	11146	PRODUCER	STOPPED	01H	13192
REM#	92H	10.10.0.1	11147	PRODUCER	STOPPED	01H	13192
REM#	93H	10.10.0.1	11148	PRODUCER	STOPPED	01H	13193
REM#	94H	10.10.0.1	11149	PRODUCER	STOPPED	01H	13191
REM#	95H	10.10.0.1	11150	PRODUCER	STOPPED	01H	13191
REM#	96H	10.10.0.1	11151	PRODUCER	STOPPED	01H	13191
REM#	97H	10.10.0.1	11152	PRODUCER	STOPPED	01H	13192
REM#	98H	10.10.0.1	11153	PRODUCER	STOPPED	01H	13193
REM#	99H	10.10.0.1	11154	PRODUCER	STOPPED	01H	13192
REM#	9aH	10.10.0.1	11155	PRODUCER	STOPPED	01H	13192
REM#	9bH	10.10.0.1	11156	PRODUCER	STOPPED	01H	13192
REM#	9cH	10.10.0.1	11157	PRODUCER	STOPPED	01H	13192
REM#	9dH	10.10.0.1	11158	PRODUCER	STOPPED	01H	13192
REM#	9eH	10.10.0.1	11159	PRODUCER	STOPPED	01H	13192
REM#	9fH	10.10.0.1	11160	PRODUCER	STOPPED	01H	13193
REM#	a0H	10.10.0.1	11161	PRODUCER	STOPPED	01H	13193
REM#	a1H	10.10.0.1	11162	PRODUCER	STOPPED	01H	13192
REM#	a2H	10.10.0.1	11163	PRODUCER	STOPPED	01H	13192
REM#	a3H	10.10.0.1	11164	PRODUCER	STOPPED	01H	13193
REM#	a4H	10.10.0.1	11165	PRODUCER	STOPPED	01H	13192

REM#	a5H	10.10.0.1	11166	PRODUCER	STOPPED	01H	13192
REM#	a6H	10.10.0.1	11167	PRODUCER	STOPPED	01H	13192
REM#	a7H	10.10.0.1	11168	PRODUCER	STOPPED	01H	13191
REM#	a8H	10.10.0.1	11169	PRODUCER	STOPPED	01H	13193
REM#	a9H	10.10.0.1	11170	PRODUCER	STOPPED	01H	13192
REM#	aaH	10.10.0.1	11171	PRODUCER	STOPPED	01H	13193
REM#	abH	10.10.0.1	11172	PRODUCER	STOPPED	01H	13193
REM#	acH	10.10.0.1	11173	PRODUCER	STOPPED	01H	13192
REM#	adH	10.10.0.1	11174	PRODUCER	STOPPED	01H	13192
REM#	aeH	10.10.0.1	11175	PRODUCER	STOPPED	01H	13192
REM#	afH	10.10.0.1	11176	PRODUCER	STOPPED	01H	13192
REM#	b0H	10.10.0.1	11177	PRODUCER	STOPPED	01H	13193
REM#	b1H	10.10.0.1	11178	PRODUCER	STOPPED	01H	13193
REM#	b2H	10.10.0.1	11179	PRODUCER	STOPPED	01H	13193
REM#	b3H	10.10.0.1	11180	PRODUCER	STOPPED	01H	13192
REM#	b4H	10.10.0.1	11181	PRODUCER	STOPPED	01H	13192
REM#	b5H	10.10.0.1	11182	PRODUCER	STOPPED	01H	13192
REM#	b6H	10.10.0.1	11183	PRODUCER	STOPPED	01H	13192
REM#	b7H	10.10.0.1	11184	PRODUCER	STOPPED	01H	13191
REM#	b8H	10.10.0.1	11185	PRODUCER	STOPPED	01H	13191
REM#	b9H	10.10.0.1	11186	PRODUCER	STOPPED	01H	13193
REM#	baH	10.10.0.1	11187	PRODUCER	STOPPED	01H	13193
REM#	bbH	10.10.0.1	11188	PRODUCER	STOPPED	01H	13193
REM#	bcH	10.10.0.1	11189	PRODUCER	STOPPED	01H	13192
REM#	bdH	10.10.0.1	11190	PRODUCER	STOPPED	01H	13193
REM#	beH	10.10.0.1	11191	PRODUCER	STOPPED	01H	13192
REM#	bfH	10.10.0.1	11192	PRODUCER	STOPPED	01H	13192
REM#	c0H	10.10.0.1	11193	PRODUCER	STOPPED	01H	13191
REM#	c1H	10.10.0.1	11194	PRODUCER	STOPPED	01H	13192
REM#	c2H	10.10.0.1	11195	PRODUCER	STOPPED	01H	13193
REM#	c3H	10.10.0.1	11196	PRODUCER	STOPPED	01H	13192
REM#	c4H	10.10.0.1	11197	PRODUCER	STOPPED	01H	13192
REM#	c5H	10.10.0.1	11198	PRODUCER	STOPPED	01H	13192
REM#	c6H	10.10.0.1	11199	PRODUCER	STOPPED	01H	13192
REM#	c7H	10.10.0.1	11200	PRODUCER	STOPPED	01H	13192
REM#	c8H	10.10.0.1	11201	PRODUCER	STOPPED	01H	13191
REM#	c9H	10.10.0.1	11202	PRODUCER	STOPPED	01H	13192
REM#	caH	10.10.0.1	11203	PRODUCER	STOPPED	01H	13193
REM#	cbH	10.10.0.1	11204	PRODUCER	STOPPED	01H	13193
REM#	ccH	10.10.0.1	11205	PRODUCER	STOPPED	01H	13192
REM#	cdH	10.10.0.1	11206	PRODUCER	STOPPED	01H	13192
REM#	ceH	10.10.0.1	11207	PRODUCER	STOPPED	01H	13192
REM#	cfH	10.10.0.1	11208	PRODUCER	STOPPED	01H	13192

REM#	d0H	10.10.0.1	11209	PRODUCER	STOPPED	01H	13192
REM#	d1H	10.10.0.1	11210	PRODUCER	STOPPED	01H	13192
REM#	d2H	10.10.0.1	11211	PRODUCER	STOPPED	01H	13192
REM#	d3H	10.10.0.1	11212	PRODUCER	STOPPED	01H	13192
REM#	d4H	10.10.0.1	11213	PRODUCER	STOPPED	01H	13192
REM#	d5H	10.10.0.1	11214	PRODUCER	STOPPED	01H	13192
REM#	d6H	10.10.0.1	11215	PRODUCER	STOPPED	01H	13192
REM#	d7H	10.10.0.1	11216	PRODUCER	STOPPED	01H	13193
REM#	d8H	10.10.0.1	11217	PRODUCER	STOPPED	01H	13192
REM#	d9H	10.10.0.1	11218	PRODUCER	STOPPED	01H	13192
REM#	daH	10.10.0.1	11219	PRODUCER	STOPPED	01H	13192
REM#	dbH	10.10.0.1	11220	PRODUCER	STOPPED	01H	13192
REM#	dcH	10.10.0.1	11221	PRODUCER	STOPPED	01H	13193
REM#	ddH	10.10.0.1	11222	PRODUCER	STOPPED	01H	13192
REM#	deH	10.10.0.1	11223	PRODUCER	STOPPED	01H	13192
REM#	dfH	10.10.0.1	11224	PRODUCER	STOPPED	01H	13192
REM#	e0H	10.10.0.1	11225	PRODUCER	STOPPED	01H	13193
REM#	e1H	10.10.0.1	11226	PRODUCER	STOPPED	01H	13192
REM#	e2H	10.10.0.1	11227	PRODUCER	STOPPED	01H	13191
REM#	e3H	10.10.0.1	11228	PRODUCER	STOPPED	01H	13193
REM#	e4H	10.10.0.1	11229	PRODUCER	STOPPED	01H	13193
REM#	e5H	10.10.0.1	11230	PRODUCER	STOPPED	01H	13192
REM#	e6H	10.10.0.1	11231	PRODUCER	STOPPED	01H	13193
REM#	e7H	10.10.0.1	11232	PRODUCER	STOPPED	01H	13192
REM#	e8H	10.10.0.1	11233	PRODUCER	STOPPED	01H	13192
REM#	e9H	10.10.0.1	11234	PRODUCER	STOPPED	01H	13192
REM#	eaH	10.10.0.1	11235	PRODUCER	STOPPED	01H	13192
REM#	ebH	10.10.0.1	11236	PRODUCER	STOPPED	01H	13192
REM#	ecH	10.10.0.1	11237	PRODUCER	STOPPED	01H	13193
REM#	edH	10.10.0.1	11238	PRODUCER	STOPPED	01H	13192
REM#	eeH	10.10.0.1	11239	PRODUCER	STOPPED	01H	13191
REM#	efH	10.10.0.1	11240	PRODUCER	STOPPED	01H	13192
REM#	f0H	10.10.0.1	11241	PRODUCER	STOPPED	01H	13192
REM#	f1H	10.10.0.1	11242	PRODUCER	STOPPED	01H	13191
REM#	f2H	10.10.0.1	11243	PRODUCER	STOPPED	01H	13192
REM#	f3H	10.10.0.1	11244	PRODUCER	STOPPED	01H	13192
REM#	f4H	10.10.0.1	11245	PRODUCER	STOPPED	01H	13193
REM#	f5H	10.10.0.1	11246	PRODUCER	STOPPED	01H	13192
REM#	f6H	10.10.0.1	11247	PRODUCER	STOPPED	01H	13192
REM#	f7H	10.10.0.1	11248	PRODUCER	STOPPED	01H	13193
REM#	f8H	10.10.0.1	11249	PRODUCER	STOPPED	01H	13192
REM#	f9H	10.10.0.1	11250	PRODUCER	STOPPED	01H	13191
REM#	faH	10.10.0.1	11251	PRODUCER	STOPPED	01H	13191

REM#	fbH	10.10.0.1	11252	PRODUCER	STOPPED	01H	13191
REM#	fcH	10.10.0.1	11253	PRODUCER	STOPPED	01H	13192
REM#	fdH	10.10.0.1	11254	PRODUCER	STOPPED	01H	13192
REM#	feH	10.10.0.1	11255	PRODUCER	STOPPED	01H	13192

REM#
 REM# Number of exchanges (current + added by RMS) = 255
 REM# Number of producer tasks = 255

REM# <<< SRTP Server Status >>> 27-DEC-1990 00:50:38.0 (+00:00)

REM# no active connections
 REM#
 REM# CPU Slot1-to-Slot2 redirection allowed.
 REM#
 REM# Rack Slot Task Default Name
 REM# --- -- -- -- --
 REM# 0 2 6 Primary CPU: Backplane Window
 REM# 0 2 25 Primary CPU: Backplane Window
 REM# 0 2 5 Y Primary CPU: Comm Window

REM# <<< SRTP Client Status >>> 27-DEC-1990 00:50:38.0 (+00:00)

REM#	Status	Transfers
Ch	Type	Server Address State Code Completed
REM#	-	-----

REM# <<< Network Interface Tallies >>> 27-DEC-1990 00:50:38.0 (+00:00)

REM# RcvUniPkt=00000040H RcvMcPkt=00000370H DiscPkt =00000000H RcvError=00000000H
 REM# UnkProto=00000000H SndUniPkt=00003c30H SndMcPkt=000004b1H SndError=00000000H
 REM# SndDscd =00000000H
 REM#

REM# <<< Detailed Network Interface Tallies >>> 27-DEC-1990 00:50:38.0 (+00:00)

REM# RxCRCEr =00000000H RxAlign =00000000H RxSymErr=00000000H RxError =00000000H
 REM# RxMisPkt=00000000H RxLenErr=00000000H RxXon =00000000H RxXoff =00000000H
 REM# RxFcUnSp=00000000H RxNoBuf =00000000H RxRntPkt=00000000H RxFrag =00000000H
 REM# RxGiant =00000000H RxJabber=00000000H RxMgt =00000000H RxMgtDrp=00000000H
 REM# TxSngCol=00000000H TxExsCol=00000000H TxMulCol=00000000H TxLatCol=00000000H
 REM# TxColl =00000000H TxExsDef=00000000H TxLosCar=00000000H TxSeqErr=00000000H
 REM# TxCarErr=00000000H TxXon =00000000H TxXoff =00000000H TxMgmt =00000000H
 REM# TxTcpSeg=00000000H TxTcpFal=00000000H

REM# <<< UDP Tallies >>> 27-DEC-1990 00:50:38.0 (+00:00)

REM# InDatagm=000001e7H NoPorts =00000001H InErrors=00000000H OtDatagm=003391caH

REM# <<< IP Tallies >>> 27-DEC-1990 00:50:38.0 (+00:00)

REM# InRecv =003356aaH InHdrErr=00000000H InAdrErr=00000027H ForwDgms=00000000H
 REM# InUnkPro=00000000H InDiscds=00000000H InDelivs=0066ab1dH OutReq =0066e66fH
 REM# OutDiscd=00000000H OutNoRts=00000000H ReasmTO =0000003cH ReasmReq=00000000H
 REM# ReasmOKs=00000000H ReasmFai=00000000H FragOKs =00000000H FragFail=00000000H
 REM# FragCrea=00000000H Filtered=00000000H

```

REM# <<< EGD Tallies >>> 27-DEC-1990 00:50:38.0 (+00:00)
REM# EstConRq=000002fdH EstConRp=000002fdH ConnRdy =000002fdH EnabOut =00000001H
REM# DisabOut=00000001H TermRq =000001feH TermRp =000001feH DataRx =00000000H
REM# DataTx =0033549aH RefrErr =00000000H SemaErr =00000000H UnRecID =00000000H
REM# SigErr =00000000H UnscnC =00000000H Stale =00000f93H DataRxE =00000000H
REM# EstMCnRq=00000000H MrkTrmRq=00000000H ActvDel =00000000H ActvAdd =00000000H
REM# Cleanup =00000000H RmsCmdRp=00000000H SuspDel =00000000H SuspAdd =00000000H

```

```

REM# <<< EGD COMMAND Tallies >>> 27-DEC-1990 00:50:38.0 (+00:00)
REM# RdRqRcv =00000000H RdRpSnt =00000000H WrRqRcv =00000000H WrRpSnt =00000000H
REM# RdRqSnt =00000000H RdRpRcv =00000000H WrRqSnt =00000000H WrRpRcv =00000000H
REM# CfRqRcv =00000000H CfRpSnt =00000000H SmRqRcv =00000000H SmRpSnt =00000000H
REM# CpRqRcv =00000000H CpRpSnt =00000000H StRqRcv =00000000H StRpSnt =00000000H
REM# AlinErr =00000000H ExchErr =00000000H SigErr =00000000H LenErr =00000000H
REM# OffErr =00000000H TooLong =00000000H PduErrm =00000000H RejRcv =00000000H
REM# RejSnt =00000000H Timeout =00000000H

```

```

REM# <<< SRTP Server Tallies >>> 27-DEC-1990 00:50:38.0 (+00:00)
REM# InPDU =00000000H OutPDU =00000000H BadPDU =00000000H InConRq =00000000H
REM# OutConRp=00000000H InDatRq =00000000H OutDatRp=00000000H InUncRq =00000000H
REM# OutUncRq=00000000H InErrRq =00000000H OutErrRq=00000000H InDisRq =00000000H
REM# OutDisRq=00000000H InSesRq =00000000H InDstRq =00000000H OutDstRp=00000000H
REM# InPrvRq =00000000H OutPrvRp=00000000H InIToRq =00000000H OutIToRp=00000000H
REM# OpenTO =00000000H InactTO =00000000H
REM#

```

```

REM# <<< SRTP Channels Tallies >>> 27-DEC-1990 00:50:38.0 (+00:00)
REM# InPDU =00000000H OutPDU =00000000H BadPDU =00000000H OutConRq=00000000H
REM# InConRp =00000000H OutDstRq=00000000H InDstRp =00000000H OutSesRq=00000000H
REM# InSesRp =00000000H OutDatRq=00000000H InDatRp =00000000H OutErrRq=00000000H
REM# InErrRq =00000000H OutUncRq=00000000H OutDisRq=00000000H InDisRq =00000000H
REM# InCmd =00000000H BadCmd =00000000H OutBpdEr=00000000H InBpdEr =00000000H
REM#

```

```

REM# <<< TCP Tallies >>> 27-DEC-1990 00:50:38.0 (+00:00)
REM# ActOpens=00000000H PasOpens=00000000H AtmptFai=00000000H EstabRes=00000000H
REM# CurEstab=00000000H InSegs =00000000H OutSegs =00000000H RtranSeg=00000000H
REM# InErrs =00000000H SndRsts =00000000H

```

```

REM# <<< PLC Driver Tallies >>> 27-DEC-1990 00:50:38.0 (+00:00)
REM#  UsrReq =0000000dH  UsrRsp =0000000dH  UsrMsg =000004feH  UnsolMsg=0006c23dH
REM#  PlcReq =0000000cH  PlcRsp =0000000cH  Cmrq =00000000H  CmrqDscd=00000000H
REM#  PlcSweep=0006ba39H  PktToPlc=00000517H  PktFmPlc=0006c256H  PktUnreg=00000000H
REM#  BsyRetry=00000000H  BpdAbort=00000000H  PlcTmout=00000000H  UsrTmout=00000000H
REM#  BadMbQlf=00000000H  CmrqStrm=00000000H
REM#
REM# <<< Shared Memory Interface Tallies >>> 27-DEC-1990 00:50:38.0 (+00:00)
REM#  IntRcv =0006c252H  IntSent =000004feH  CmdRSRst=00000000H  CmdRHMsg=0006c234H
REM#  CmdRLMsg=0000001dH  CmdRTest=00000001H  CmdRUnsp=00000000H  CmdSHRst=00000000H
REM#  CmdSSRst=00000000H  CmdSHMsg=000004fdH  CmdSLMsg=00000000H  CmdSTest=00000001H
REM#  IoScans=0006ba3aH  IoInSet =00000009H  IoTimSet=00070c0aH  SmhAlloc=00000309H
REM#  SmhFree =0000050cH  SmhDbfFr=00000000H  MtMbSend=00000517H  vMtMbRsnd=00000000H
REM#  MtSndAbt=00000000H  MtMbRcv =0006c257H

REM#  Invalid task: d

REM# <<< Modbus TCP Server Tallies >>> 27-DEC-1990 00:50:38.0 (+00:00)
REM#  InPDU =00000000H  OutPDU =00000000H  BadPDU =00000000H  InConRq =00000000H
REM#  OutConRp=00000000H  InDatRq =00000000H  OutDatRp=00000000H  OutErrRp=00000000H
REM#  InDisRq =00000000H  OutDisRq=00000000H  FC01 =00000000H  FC02 =00000000H
REM#  FC03 =00000000H  FC04 =00000000H  FC05 =00000000H  FC06 =00000000H
REM#  FC07 =00000000H  FC08 =00000000H  FC15 =00000000H  FC16 =00000000H
REM#  FC20 =00000000H  FC21 =00000000H  FC22 =00000000H  FC23 =00000000H
REM#

REM# <<< Modbus Channels Tallies >>> 27-DEC-1990 00:50:38.0 (+00:00)
REM#  InPDU =00000000H  OutPDU =00000000H  BadPDU =00000000H  OutDatRq=00000000H
REM#  InDatRp =00000000H  InErrRp =00000000H  OutDisRq=00000000H  InDisRq =00000000H
REM#  InCmd =00000000H  BadCmd =00000000H  InOpen =00000000H  InClose =00000000H
REM#  InRdData=00000000H  InWrData=00000000H  InRdWr =00000000H  InMaskWr=00000000H
REM#  OutBpdEr=00000000H  InBpdEr =00000000H  OutConRq=00000000H  InConRp =00000000H
REM#
REM#

```

3.11 DEL

Available in *Modify* mode.

Interfaces: All RX7i Rack-based RX3i

Use the DEL command to delete a specified file from the current working directory in the file system. Only one file may be deleted per command, using the exact name of the file. Wildcards and regular expressions cannot be used.

After the file is deleted, a confirmation is displayed. If the file does not exist, the command returns an error message instead.

The DEL command cannot delete a directory. Use the RMDIR command to delete a directory.

DEL Command Format

DEL <file name>

DEL Command Example

= del myfile

myfile deleted.

3.12 DIR

Available in *Monitor* or *Modify* mode.

Interfaces: All RX7i Rack-based RX3i

Use the DIR command to display the list of files from the current working directory or the specified path in the file system.

DIR Command Format

DIR [<path>]

<path>	Use a forward slash ('/') to separate directories. The path dot('.') refers to the current directory. The path '..' refers to the directory immediately up in the hierarchy. Using the DIR command with no path displays the current working directory, as shown in the example below.
--------	---

DIR Command Example

= dir

-rwxrwxrwx 1 0 0 8666 Jan 1 02:38 file1.htm

-rwxrwxrwx 1 0 0 8666 Jan 1 02:38 file2.htm

drwxrwxrwx 1 0 0 8666 Jan 1 2003 images/

3.13 EGDCMD

Available in *Monitor* or *Modify* mode.

Interfaces: All RX7i Rack-based RX3i

Use the EGDCMD command to send one of several Ethernet Global Data commands to a remote device.

The EGDCMD command displays an error message if the specified remote device cannot be reached in the network, or if the specified exchange does not exist at the remote device.

EGDCMD Command Format

The EGDCMD command performs several types of EGD commands; the desired EGD command must be specified. The general format of EGDCMD is:

EGDCMD <cmd> <target IP address> <parameter(s)>

The following four types of EGD commands are supported:

Cmd Type	Description
CO	Retrieve Configuration data for a specified EGD exchange at a remote device.
SU	Retrieve Summaries of all EGD exchanges configured at a remote device, starting at a specified exchange index. The number of exchange summaries in the response may be truncated to fit within a single EGD message. If the response does not contain all summaries, the remaining exchange summaries may be retrieved by subsequent Summary commands with larger exchange index.
CA	Retrieve EGD Capabilities data from a remote device.
ST	Retrieve Statistics data for a specified EGD exchange at a remote device.

EGDCMD Command Formats

The specific formats of each command type are:

EGDCMD CO <ip address> <producer ID> <exchange ID>

EGDCMD SU <ip address> [<exchange IDx>]

EGDCMD CA <ip address>

EGDCMD ST <ip address> <producer ID> <exchange ID>

<IP address>	The IP address of the remote target device.
<producer ID>	The Producer ID of the Ethernet Global Data exchange, expressed in dotted decimal format.
<exchange ID>	The Exchange ID of the Ethernet Global Data exchange, expressed as a number.
<exchange idx>	Optional zero-based starting index for exchanges in the Summary command. A value of zero indicates the first configured exchange. If this parameter is not entered, the starting index defaults to zero. Exchange index values are identified in the Summary output display. For remote devices, exchange index values are also displayed as in the STAT G output from that remote device.

EGDCMD Command Example

This example reads the ST(atistics) of EGD Exchange 2 from Producer ID 10.0.0.1:
(The remote target device uses IP Address 10.0.0.1)

```
> egdcmd st 10.10.0.1 10.10.0.1 2
Statistics for 0x0a0a0001(10.10.0.1):2
Configuration time = 0
Sample due time = FRI MAY 21 10:32:09 2004
Exchange state = 1 (PRODUCING/HEALTHY)
Exchange length = 100
Sample count = 491182
Missed sample count = 0
Refresh error count = 0
```

3.14 EGDREAD

Available in Monitor or *Modify* mode.

Interfaces: All RX7i Rack-based RX3i Embedded RX3i4

Use the EGDREAD command to display the data for a specified Ethernet Global Data exchange as it currently exists in the shared memory interface to the CPU. Each line of up to 16 bytes returned by this command is displayed in hexadecimal format, followed by its ASCII representation. Non-printable ASCII characters are shown as dots. Note that this command is not the same as the Read EGD Exchange command described in GFK-2224, *TCP/IP Communications for PACSystems™ User Manual*. The Read EGD Exchange command reads from the internal memory of a Class 2 producer or consumer device, not from the EGD shared memory location.

The Ethernet Global Data in the Ethernet interface may not to be scanned into the reference tables used by the application - for example, if the CPU is not in Run mode.

The EGDREAD command displays an error message if the node does not have an exchange with the specified producerID and exchangeID, or if the beginning offset is not contained within the exchange, or if the offset plus the length exceeds the size of the exchange.

EGDREAD Command Format

EGDREAD <producerID> <exchangeID> [<offset> [<len>]]

<producerID>	This producer of the Ethernet Global Data, expressed in dotted decimal format.
<exchangeID>	The exchange ID of the Ethernet Global Data, expressed as a number.
<offset>	The optional offset and length can be used to display only a part of the exchange. By default the entire exchange is displayed. If an offset is specified without a length, a length of one (1) is used.
<len>	

EGDREAD Command Example

This example reads the entire Ethernet Global Data exchange with Producer ID 10.10.10.1 and Exchange ID 1:

```
= egdread 10.10.10.1 1
Produced exchange 10.10.10.1 1 offset 0 length 32:
aa aa aa aa aa aa aa aa aa aa aa aa aa aa aa .....
aa aa aa aa aa aa aa aa aa aa aa aa aa aa aa .....
```

3.15 EGDWRITE

Available in *Modify* mode.

Interfaces: All RX7i Rack-based RX3i Embedded RX3i⁴

Note This command is intended solely for use with consumed exchanges and is not the same as the Write EGD Exchange command described in tGFK-2382, *TCP/IP Ethernet Communications for Series 90-30 CPU372 and CPU374 PLUS User Manual*. (While not forbidden for produced exchanges, the specified data will be overwritten at the next sample production.)

Use the EGDWRITE command to write up to 16 data values into the memory of a specified local Ethernet Global Data consumed exchange. Updating memory within the local Class 2 device, the values will persist until subsequent sample consumption on this exchange from the network overwrites the specified values.

The data values are placed into consecutive bytes of the exchange starting at the specified offset. If a data value is larger than 255 (ffH), only the least significant byte of the data value is used. An error is displayed if the producer ID, exchange ID, or offset is not valid, or if the data specified would cause writing beyond the boundaries of the exchange, or if the new data values are not valid numeric values.

EGDWRITE Command Format

**EGDWRITE <producerID> <exchangeID> <offset> <new data value>
[<new data value>...]**

<producerID>	The exchange ID of the Ethernet Global Data, expressed as a number.
<exchangeID>	The exchange ID of the Ethernet Global Data, expressed as a number.
<offset>	The offset within the EGD exchange to write the new data.
<new data value>	The byte value to be placed in Ethernet Global Data memory in the Ethernet interface.

EGDWRITE Command Example

This example writes the two data values 2 and 3 into byte offsets 100 and 101 within the shared memory use by the EGD consumed exchange identified by Producer ID 10.10.0.1, and Exchange ID 1:

```
= egdwrite 10.10.10.1 1 100 2 3  
written
```

3.16 EVENTS

Available in *Modify* mode.

Interfaces: Embedded RX3i

Use the EVENTS command to retrieve information on event control blocks and timer records.

EVENTS Command Format

EVENTS

EVENTS Command Example

10.10.0.100> events

REM#	Task Name	Task ID	ID	Mutex Sema4	Block Sema4	Recv St	Recv Flags	Wait	Pending
REM#	CFGA	0985a554H	0	0985a924	0985a99c	1	0	0	0
REM#	CFGN	0985aa14H	1	0985ade4	0985ae5c	1	0	0	0
REM#	CFGM	09864274H	2	0986465c	098646d4	1	0	0	0
REM#	CFGT	0986474cH	3	09864b34	09864bac	0	3	000007ff	0
REM#	UTL	0986e2a0H	4	0986e520	0986e598	0	3	11300060	0
REM#	EPAD	09c35020H	5	09c2ff20	09c352a0	0	3	0000000f	0
REM#	etm_BRXT	0987ebf0H	6	9934154	099341cc	1	0	0	0
REM#	etm_BPMT	09945154H	7	09934f80	099453d4	0	3	182000d8	0
REM#	tSrtplnit	0989ea0cH	8	0989edf8	0989ee70	0	3	7d200000	0
REM#	tModbusSrvr	098b0718H	9	098b0b04	098b0b7c	0	3	7d200000	0
REM#	SKAL	09898200H	10	098469d0	09846a48	0	3	3	0
REM#	tMbusKal	098b00f0H	11	09986d20	09986d98	0	3	3	0
REM#	tMbusListen	09a30bd0H	12	098c6020	098c6098	1	2	0000001c	0
REM#	EGDC	09802578H	13	09802c38	9.99E+04	1	0	0	0
REM#	ECTT	09802868H	14	9985280	099852f8	0	5	1	0
REM#	cmdp	09846188H	15	09985d38	09985db0	1	4	10000000	0
REM#	rrcv	09846570H	16	09985f48	098d6cc0	1	4	10000000	0
REM#	tSrtplisten	09a81870H	17	09a30744	0980246c	1	0	0	4
REM#	EPAE	09c35400H	18	09c35790	09c35808	0	3	0000000f	0
REM#	EPAF	09c35968H	19	09c35c88	09c35d00	0	3	0000000f	0
REM#	EPB0	09c3b020H	20	09c35f68	09c3b2a0	0	3	0000000f	0
REM#	EPB1	09c3b438H	21	09c3b758	09c3b7d0	0	3	0000000f	0
REM#	EPB2	09c3b998H	22	09c3bcb8	09c3bd30	0	3	0000000f	0
REM#	EPB3	09c41020H	23	09c412a0	09c41318	0	3	0000000f	0
REM#	EPB4	09c41478H	24	09c41808	09c41880	0	3	0000000f	0
REM#	EPB5	09c419e0H	25	09c41d00	09c41d78	0	3	0000000f	0
REM#	EPB6	09c47020H	26	09c472a0	09c47318	0	3	0000000f	0
REM#	EPB7	09c474e0H	27	09c47800	09c47878	0	3	0000000f	0
REM#	EPB8	09c47a40H	28	09c47d60	09c47dd8	0	3	0000000f	0
REM#	EPB9	09c4d020H	29	09c4d310	09c4d388	0	3	0000000f	0

REM#	EPBA	09c4d524H	30	09c4d844	09c4d8bc	0	3	000000f	0
REM#	EPBB	09c4da84H	31	09c4dda4	09c4de1c	0	3	000000f	0
REM#	EPBC	09c53020H	32	09c53340	09c533b8	0	3	000000f	0
REM#	EPBD	09c53580H	33	09c538a0	09c53918	0	3	000000f	0
REM#	EPBE	09c53ae0H	34	09c53e00	09c53e78	0	3	000000f	0
REM#	EPBF	09c65074H	35	09c65364	09c653dc	0	3	000000f	0
REM#	EPC0	09c655c0H	36	09c658e0	09c65958	0	3	000000f	0
REM#	EPC1	09c65b20H	37	09c65e40	09c65eb8	0	3	000000f	0
REM#	EPC2	09c77020H	38	09c773f0	09c77468	0	3	000000f	0
REM#	EPC3	09c77610H	39	09c77930	09c779a8	0	3	000000f	0
REM#	EPC4	09c77b70H	40	09c77e90	09c77f08	0	3	000000f	0
REM#	EPC5	09c83108H	41	09c83428	09c834a0	0	3	000000f	0
REM#	EPC6	09c83668H	42	09c83988	09c83a00	0	3	000000f	0
REM#	EPC7	09c83bc8H	43	09c83ee8	09c83f60	0	3	000000f	0
REM#	EPC8	09c89140H	44	09c89460	09c894d8	0	3	000000f	0
REM#	EPC9	09c896a0H	45	09c899c0	09c89a38	0	3	000000f	0
REM#	EPCA	09c89c00H	46	09c89f20	09c8f020	0	3	000000f	0
REM#	EPCB	09c8f180H	47	09c8f510	09c8f588	0	3	000000f	0
REM#	EPCC	09c8f6e8H	48	09c8fa08	09c8fa80	0	3	000000f	0
REM#	EPCD	09c8fc48H	49	09c8ff68	09c95020	0	3	000000f	0
REM#	EPCE	09c951b8H	50	09c954d8	09c95550	0	3	000000f	0
REM#	EPCF	09c95718H	51	09c95a38	09c95ab0	0	3	000000f	0
REM#	EPD0	09c95c78H	52	09c9b020	09c9b098	0	3	000000f	0
REM#	EPD1	09c9b1f8H	53	09c9b588	09c9b600	0	3	000000f	0
REM#	EPD2	09c9b760H	54	09c9ba80	09c9baf8	0	3	000000f	0
REM#	EPD3	09c9bcc0H	55	09ca1020	09ca1098	0	3	000000f	0
REM#	EPD4	09ca1260H	56	09ca1580	09ca15f8	0	3	000000f	0
REM#	EPD5	09ca17c0H	57	09ca1ae0	09ca1b58	0	3	000000f	0
REM#	EPD6	09ca1d20H	58	09ca7090	09ca7108	0	3	000000f	0
REM#	EPD7	09ca72a4H	59	09ca75c4	09ca763c	0	3	000000f	0
REM#	EPD8	09ca7804H	60	09ca7b24	09ca7b9c	0	3	000000f	0
REM#	EPD9	09ca7d64H	61	09cad0c0	09cad138	0	3	000000f	0
REM#	EPDA	09cad300H	62	09cad620	09cad698	0	3	000000f	0
REM#	EPDB	09cad860H	63	09cadb80	09cadbf8	0	3	000000f	0
REM#	EPDC	09cb3020H	64	09cade60	09caded8	0	3	000000f	0
REM#	EPDD	09cb3358H	65	09cb36e8	09cb3760	0	3	000000f	0
REM#	EPDE	09cb389cH	66	09cb3c2c	09cb3ca4	0	3	000000f	0
REM#	EPDF	09cb9020H	67	09cb3ea4	09cb3f1c	0	3	000000f	0
REM#	EPE0	09cb9388H	68	09cb96a8	09cb9720	0	3	000000f	0
REM#	EPE1	09cb98e8H	69	09cb9c08	09cb9c80	0	3	000000f	0
REM#	EPE2	09cbf020H	70	09cb9ee8	09cb9f60	0	3	000000f	0

REM#	EPE3	09cbf3c0H	71	09cbf6e0	09cbf758	0	3	0000000f	0
REM#	EPE4	09cbf920H	72	09cbfc40	09cbfcb8	0	3	0000000f	0
REM#	EPE5	09cc5020H	73	09cbff20	09cc52a0	0	3	0000000f	0
REM#	EPE6	09cc5400H	74	09cc5790	09cc5808	0	3	0000000f	0
REM#	EPE7	09cc5968H	75	09cc5c88	09cc5d00	0	3	0000000f	0
REM#	EPE8	09ccb020H	76	09cc5f68	09ccb2a0	0	3	0000000f	0
REM#	EPE9	09ccb438H	77	09ccb758	09ccb7d0	0	3	0000000f	0
REM#	EPEA	09ccb998H	78	09ccbc8	09ccbd30	0	3	0000000f	0
REM#	EPEB	09cd1020H	79	09cd12a0	09cd1318	0	3	0000000f	0
REM#	EPEC	09cd1478H	80	09cd1808	09cd1880	0	3	0000000f	0
REM#	EPEd	09cd19e0H	81	09cd1d00	09cd1d78	0	3	0000000f	0
REM#	EPEE	09cd7020H	82	09cd72a0	09cd7318	0	3	0000000f	0
REM#	EPEF	09cd74e0H	83	09cd7800	09cd7878	0	3	0000000f	0
REM#	EPF0	09cd7a40H	84	09cd7d60	09cd7dd8	0	3	0000000f	0
REM#	EPF1	09cdd020H	85	09cdd310	09cdd388	0	3	0000000f	0
REM#	EPF2	09cdd524H	86	09cdd844	09cdd8bc	0	3	0000000f	0
REM#	EPF3	09cdda84H	87	09cdda4	09cdde1c	0	3	0000000f	0
REM#	EPF4	09ce3020H	88	09ce3340	09ce33b8	0	3	0000000f	0
REM#	EPF5	09ce3580H	89	09ce38a0	09ce3918	0	3	0000000f	0
REM#	EPF6	09ce3ae0H	90	09ce3e00	09ce3e78	0	3	0000000f	0
REM#	EPF7	09b87074H	91	09b87364	09b873dc	0	3	0000000f	0
REM#	EPF8	09b875c0H	92	09b878e0	09b87958	0	3	0000000f	0
REM#	EPF9	09b87b20H	93	09b87e40	09b87eb8	0	3	0000000f	0
REM#	EPFA	09cf5020H	94	09cf53f0	09cf5468	0	3	0000000f	0
REM#	EPFB	09cf5610H	95	09cf5930	09cf59a8	0	3	0000000f	0
REM#	EPFC	09cf5b70H	96	09cf5e90	09cf5f08	0	3	0000000f	0
REM#	EPFD	09d15108H	97	09d15428	09d154a0	0	3	0000000f	0
REM#	EPFE	09d15668H	98	09d15988	09d15a00	0	3	0000000f	0
REM#	EPFF	09d15bc8H	99	09d15ee8	09d15f60	0	3	0000000f	0
REM#	EP01	0994d890H	528	0992af50	09a17f50	0	3	0000000f	0
REM#	EP02	0994db10H	529	09954f50	09ad5f50	0	3	0000000f	0
REM#	EP03	09a8d030H	530	09a9ef50	09ab4f50	0	3	0000000f	0
REM#	EP04	09a8d2b0H	531	0994dd90	0994de08	0	3	0000000f	0
REM#	EP05	09a8d530H	532	09a8d7b0	09a8d828	0	3	0000000f	0
REM#	EP06	09a8d8a0H	533	09a8dbc0	09a8dc38	0	3	0000000f	0
REM#	EP07	09886020H	534	09a8de74	09a8deec	0	3	0000000f	0
REM#	EP08	09886358H	535	9.89E+12	9886760	0	3	0000000f	0
REM#	EP09	098868c0H	536	09886be0	09886c58	0	3	0000000f	0
REM#	EP0A	09963020H	537	09886ec0	09886f38	0	3	0000000f	0
REM#	EP0B	09963394H	538	099636b4	0996372c	0	3	0000000f	0
REM#	EP0C	099638f4H	539	09963c14	09963c8c	0	3	0000000f	0

REM#	EP0D	09969020H	540	09963ef4	09963f6c	0	3	0000000f	0
REM#	EP0E	099693f0H	541	9969710	9969788	0	3	0000000f	0
REM#	EP0F	09969950H	542	09969c70	09969ce8	0	3	0000000f	0
REM#	EP10	09978020H	543	09969f50	099782a0	0	3	0000000f	0
REM#	EP11	0997843cH	544	0997875c	099787d4	0	3	0000000f	0
REM#	EP12	0997899cH	545	09978cbc	09978d34	0	3	0000000f	0
REM#	EP13	098e3020H	546	098e32a0	098e3318	0	3	0000000f	0
REM#	EP14	098e3484H	547	098e37a4	098e381c	0	3	0000000f	0
REM#	EP15	098e39e4H	548	098e3d04	098e3d7c	0	3	0000000f	0
REM#	EP16	098f7020H	549	098f72a0	098f7318	0	3	0000000f	0
REM#	EP17	098f74b4H	550	098f77d4	098f784c	0	3	0000000f	0
REM#	EP18	098f7a14H	551	098f7d34	098f7dac	0	3	0000000f	0
REM#	EP19	098fd020H	552	098fd310	098fd388	0	3	0000000f	0
REM#	EP1A	098fd4f4H	553	098fd814	098fd88c	0	3	0000000f	0
REM#	EP1B	098fda54H	554	098fdd74	098fddec	0	3	0000000f	0
REM#	EP1C	09adb020H	555	09adb310	09adb388	0	3	0000000f	0
REM#	EP1D	09adb550H	556	09adb870	09adb8e8	0	3	0000000f	0
REM#	EP1E	09adbab0H	557	09adbdd0	09adbe48	0	3	0000000f	0
REM#	EP1F	09ae5044H	558	09ae5364	09ae53dc	0	3	0000000f	0
REM#	EP20	09ae5584H	559	09ae58a4	09ae591c	0	3	0000000f	0
REM#	EP21	09ae5ae4H	560	09ae5e04	09ae5e7c	0	3	0000000f	0
REM#	EP22	09af7074H	561	09af7364	09af73dc	0	3	0000000f	0
REM#	EP23	09af75c0H	562	09af78e0	09af7958	0	3	0000000f	0
REM#	EP24	09af7b20H	563	09af7e40	09af7eb8	0	3	0000000f	0
REM#	EP25	09b09020H	564	09b093f0	09b09468	0	3	0000000f	0
REM#	EP26	09b09610H	565	09b09930	09b099a8	0	3	0000000f	0
REM#	EP27	09b09b70H	566	09b09e90	09b09f08	0	3	0000000f	0
REM#	EP28	09b15108H	567	09b15428	09b154a0	0	3	0000000f	0
REM#	EP29	09b15668H	568	09b15988	09b15a00	0	3	0000000f	0
REM#	EP2A	09b15bc8H	569	09b15ee8	09b15f60	0	3	0000000f	0
REM#	EP2B	09b1b140H	570	09b1b460	09b1b4d8	0	3	0000000f	0
REM#	EP2C	09b1b6a0H	571	09b1b9c0	09b1ba38	0	3	0000000f	0
REM#	EP2D	09b1bc00H	572	09b1bf20	09b21020	0	3	0000000f	0
REM#	EP2E	09b21180H	573	09b21510	09b21588	0	3	0000000f	0
REM#	EP2F	09b216e8H	574	09b21a08	09b21a80	0	3	0000000f	0
REM#	EP30	09b21c48H	575	09b21f68	09b27020	0	3	0000000f	0
REM#	EP31	09b271b8H	576	09b274d8	09b27550	0	3	0000000f	0
REM#	EP32	09b27718H	577	09b27a38	09b27ab0	0	3	0000000f	0
REM#	EP33	09b27c78H	578	09b2d020	09b2d098	0	3	0000000f	0
REM#	EP34	09b2d1f8H	579	09b2d588	09b2d600	0	3	0000000f	0
REM#	EP35	09b2d760H	580	09b2da80	09b2daf8	0	3	0000000f	0

REM#	EP36	09b2dcc0H	581	09b33020	09b33098	0	3	0000000f	0
REM#	EP37	09b33260H	582	09b33580	09b335f8	0	3	0000000f	0
REM#	EP38	09b337c0H	583	09b33ae0	09b33b58	0	3	0000000f	0
REM#	EP39	09b33d20H	584	09b39090	09b39108	0	3	0000000f	0
REM#	EP3A	09b392a4H	585	09b395c4	09b3963c	0	3	0000000f	0
REM#	EP3B	09b39804H	586	09b39b24	09b39b9c	0	3	0000000f	0
REM#	EP3C	09b39d64H	587	09b3f0c0	09b3f138	0	3	0000000f	0
REM#	EP3D	09b3f300H	588	09b3f620	09b3f698	0	3	0000000f	0
REM#	EP3E	09b3f860H	589	09b3fb80	09b3fbf8	0	3	0000000f	0
REM#	EP3F	09b45020H	590	09b3fe60	09b3fed8	0	3	0000000f	0
REM#	EP40	09b45358H	591	09b456e8	09b45760	0	3	0000000f	0
REM#	EP41	09b4589cH	592	09b45c2c	09b45ca4	0	3	0000000f	0
REM#	EP42	09b4b020H	593	09b45ea4	09b45f1c	0	3	0000000f	0
REM#	EP43	09b4b388H	594	09b4b6a8	09b4b720	0	3	0000000f	0
REM#	EP44	09b4b8e8H	595	09b4bc08	09b4bc80	0	3	0000000f	0
REM#	EP45	09b51020H	596	09b4bee8	09b4bf60	0	3	0000000f	0
REM#	EP46	09b513c0H	597	09b516e0	09b51758	0	3	0000000f	0
REM#	EP47	09b51920H	598	09b51c40	09b51cb8	0	3	0000000f	0
REM#	EP48	09b57020H	599	09b51f20	09b572a0	0	3	0000000f	0
REM#	EP49	09b57400H	600	09b57790	09b57808	0	3	0000000f	0
REM#	EP4A	09b57968H	601	09b57c88	09b57d00	0	3	0000000f	0
REM#	EP4B	09b5d020H	602	09b57f68	09b5d2a0	0	3	0000000f	0
REM#	EP4C	09b5d438H	603	09b5d758	09b5d7d0	0	3	0000000f	0
REM#	EP4D	09b5d998H	604	09b5dcb8	09b5dd30	0	3	0000000f	0
REM#	EP4E	09b63020H	605	09b632a0	09b63318	0	3	0000000f	0
REM#	EP4F	09b63478H	606	09b63808	09b63880	0	3	0000000f	0
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REM#	EP51	09b69020H	608	09b692a0	09b69318	0	3	0000000f	0
REM#	EP52	09b694e0H	609	09b69800	09b69878	0	3	0000000f	0
REM#	EP53	09b69a40H	610	09b69d60	09b69dd8	0	3	0000000f	0
REM#	EP54	09b6f020H	611	09b6f310	09b6f388	0	3	0000000f	0
REM#	EP55	09b6f524H	612	09b6f844	09b6f8bc	0	3	0000000f	0
REM#	EP56	09b6fa84H	613	09b6fda4	09b6fe1c	0	3	0000000f	0
REM#	EP57	09b75020H	614	09b75340	09b753b8	0	3	0000000f	0
REM#	EP58	09b75580H	615	09b758a0	09b75918	0	3	0000000f	0
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REM#	EP5B	09b8d5c0H	618	09b8d8e0	09b8d958	0	3	0000000f	0
REM#	EP5C	09b8db20H	619	09b8de40	09b8deb8	0	3	0000000f	0
REM#	EP5D	09cfb020H	620	09b93020	09b93098	0	3	0000000f	0
REM#	EP5E	09b931c8H	621	09b934e8	09b93560	0	3	0000000f	0

REM#	EP5F	09b93728H	622	09b93a48	09b93ac0	0	3	0000000f	0
REM#	EP60	09b93c88H	623	09aeb020	09aeb098	0	3	0000000f	0
REM#	EP61	09aeb204H	624	09aeb524	09aeb59c	0	3	0000000f	0
REM#	EP62	09aeb764H	625	09aeba84	09aebafc	0	3	0000000f	0
REM#	EP63	09aebcc4H	626	09af1020	09af1098	0	3	0000000f	0
REM#	EP64	09af1260H	627	09af1580	09af15f8	0	3	0000000f	0
REM#	EP65	09af17c0H	628	09af1ae0	09af1b58	0	3	0000000f	0
REM#	EP66	09af1d20H	629	09b99090	09b99108	0	3	0000000f	0
REM#	EP67	09b992a4H	630	09b995c4	09b9963c	0	3	0000000f	0
REM#	EP68	09b99804H	631	09b99b24	09b99b9c	0	3	0000000f	0
REM#	EP69	09b99d64H	632	09b9f0c0	09b9f138	0	3	0000000f	0
REM#	EP6A	09b9f300H	633	09b9f620	09b9f698	0	3	0000000f	0
REM#	EP6B	09b9f860H	634	09b9fb80	09b9fbf8	0	3	0000000f	0
REM#	EP6C	09ba5020H	635	09b9fe60	09b9fed8	0	3	0000000f	0
REM#	EP6D	09ba5358H	636	09ba56e8	09ba5760	0	3	0000000f	0
REM#	EP6E	09ba589cH	637	09ba5c2c	09ba5ca4	0	3	0000000f	0
REM#	EP6F	09afd020H	638	09ba5ea4	09ba5f1c	0	3	0000000f	0
REM#	EP70	09afd388H	639	09afd6a8	09afd720	0	3	0000000f	0
REM#	EP71	09afd8e8H	640	09afdc08	09afdc80	0	3	0000000f	0
REM#	EP72	09b03020H	641	09afdee8	09afdf60	0	3	0000000f	0
REM#	EP73	09b033c0H	642	09b036e0	09b03758	0	3	0000000f	0
REM#	EP74	09b03920H	643	09b03c40	09b03cb8	0	3	0000000f	0
REM#	EP75	09bab020H	644	09b03f20	09bab2a0	0	3	0000000f	0
REM#	EP76	09bab400H	645	09bab790	09bab808	0	3	0000000f	0
REM#	EP77	09bab968H	646	09babcb8	09babd00	0	3	0000000f	0
REM#	EP78	09bb1020H	647	09babf68	09bb12a0	0	3	0000000f	0
REM#	EP79	09bb1438H	648	09bb1758	09bb17d0	0	3	0000000f	0
REM#	EP7A	09bb1998H	649	09bb1cb8	09bb1d30	0	3	0000000f	0
REM#	EP7B	09bb7020H	650	09bb72a0	09bb7318	0	3	0000000f	0
REM#	EP7C	09bb7478H	651	09bb7808	09bb7880	0	3	0000000f	0
REM#	EP7D	09bb79e0H	652	09bb7d00	09bb7d78	0	3	0000000f	0
REM#	EP7E	09b0f020H	653	09b0f2a0	09b0f318	0	3	0000000f	0
REM#	EP7F	09b0f4e0H	654	09b0f800	09b0f878	0	3	0000000f	0
REM#	EP80	09b0fa40H	655	09b0fd60	09b0fdd8	0	3	0000000f	0
REM#	EP81	09bbd020H	656	09bbd310	09bbd388	0	3	0000000f	0
REM#	EP82	09bbd524H	657	09bbd844	09bbd8bc	0	3	0000000f	0
REM#	EP83	09bbda84H	658	09bbdda4	09bbde1c	0	3	0000000f	0
REM#	EP84	09bc3020H	659	09bc3340	09bc33b8	0	3	0000000f	0
REM#	EP85	09bc3580H	660	09bc38a0	09bc3918	0	3	0000000f	0
REM#	EP86	09bc3ae0H	661	09bc3e00	09bc3e78	0	3	0000000f	0
REM#	EP87	09bd5074H	662	09bd5364	09bd53dc	0	3	0000000f	0

REM#	EP88	09bd55c0H	663	09bd58e0	09bd5958	0	3	0000000f	0
REM#	EP89	09bd5b20H	664	09bd5e40	09bd5eb8	0	3	0000000f	0
REM#	EP8A	09be7020H	665	09be73f0	09be7468	0	3	0000000f	0
REM#	EP8B	09be7610H	666	09be7930	09be79a8	0	3	0000000f	0
REM#	EP8C	09be7b70H	667	09be7e90	09be7f08	0	3	0000000f	0
REM#	EP8D	09bf3108H	668	09bf3428	09bf34a0	0	3	0000000f	0
REM#	EP8E	09bf3668H	669	09bf3988	09bf3a00	0	3	0000000f	0
REM#	EP8F	09bf3bc8H	670	09bf3ee8	09bf3f60	0	3	0000000f	0
REM#	EP90	09bf9140H	671	09bf9460	09bf94d8	0	3	0000000f	0
REM#	EP91	09bf96a0H	672	09bf99c0	09bf9a38	0	3	0000000f	0
REM#	EP92	09bf9c00H	673	09bf9f20	09bff020	0	3	0000000f	0
REM#	EP93	09bff180H	674	09bff510	09bff588	0	3	0000000f	0
REM#	EP94	09bff6e8H	675	09bffa08	09bffa80	0	3	0000000f	0
REM#	EP95	09bffc48H	676	09bfff68	09c05020	0	3	0000000f	0
REM#	EP96	09c051b8H	677	09c054d8	09c05550	0	3	0000000f	0
REM#	EP97	09c05718H	678	09c05a38	09c05ab0	0	3	0000000f	0
REM#	EP98	09c05c78H	679	09c0b020	09c0b098	0	3	0000000f	0
REM#	EP99	09c0b1f8H	680	09c0b588	09c0b600	0	3	0000000f	0
REM#	EP9A	09c0b760H	681	09c0ba80	09c0baf8	0	3	0000000f	0
REM#	EP9B	09c0bcc0H	682	09c11020	09c11098	0	3	0000000f	0
REM#	EP9C	09c11260H	683	09c11580	09c115f8	0	3	0000000f	0
REM#	EP9D	09c117c0H	684	09c11ae0	09c11b58	0	3	0000000f	0
REM#	EP9E	09c11d20H	685	09c17090	09c17108	0	3	0000000f	0
REM#	EP9F	09c172a4H	686	09c175c4	09c1763c	0	3	0000000f	0
REM#	EPA0	09c17804H	687	09c17b24	09c17b9c	0	3	0000000f	0
REM#	EPA1	09c17d64H	688	09c1d0c0	09c1d138	0	3	0000000f	0
REM#	EPA2	09c1d300H	689	09c1d620	09c1d698	0	3	0000000f	0
REM#	EPA3	09c1d860H	690	09c1db80	09c1dbf8	0	3	0000000f	0
REM#	EPA4	09c23020H	691	09c1de60	09c1ded8	0	3	0000000f	0
REM#	EPA5	09c23358H	692	09c236e8	09c23760	0	3	0000000f	0
REM#	EPA6	09c2389cH	693	09c23c2c	09c23ca4	0	3	0000000f	0
REM#	EPA7	09c29020H	694	09c23ea4	09c23f1c	0	3	0000000f	0
REM#	EPA8	09c29388H	695	09c296a8	09c29720	0	3	0000000f	0
REM#	EPA9	09c298e8H	696	09c29c08	09c29c80	0	3	0000000f	0
REM#	EPAA	09c2f020H	697	09c29ee8	09c29f60	0	3	0000000f	0
REM#	EPAB	09c2f3c0H	698	09c2f6e0	09c2f758	0	3	0000000f	0
REM#	EPAC	09c2f920H	699	09c2fc40	09c2fcb8	0	3	0000000f	0

REM#

REM# 272 of 700 total events currently used.

REM#

REM#

REM# Index state ED Events Interval

REM#	Index	state	ED	Events	Interval
REM#	0	2	15	00000004	0seconds 0nanos
REM#	1	1	4	00000040	0seconds 500000000nanos
REM#	2	1	528	00000004	0seconds 990000000nanos
REM#	3	1	14	00000001	0seconds 100000000nanos
REM#	4	1	7	00000040	1seconds 0nanos
REM#	5	1	529	00000004	0seconds 990000000nanos
REM#	6	1	530	00000004	0seconds 990000000nanos
REM#	7	1	531	00000004	0seconds 990000000nanos
REM#	8	1	532	00000004	0seconds 990000000nanos
REM#	9	1	533	00000004	0seconds 990000000nanos
REM#	10	1	534	00000004	0seconds 990000000nanos
REM#	11	1	535	00000004	0seconds 990000000nanos
REM#	12	1	536	00000004	0seconds 990000000nanos
REM#	13	1	537	00000004	0seconds 990000000nanos
REM#	14	1	538	00000004	0seconds 990000000nanos
REM#	15	1	539	00000004	0seconds 990000000nanos
REM#	16	1	540	00000004	0seconds 990000000nanos
REM#	17	1	541	00000004	0seconds 990000000nanos
REM#	18	1	542	00000004	0seconds 990000000nanos
REM#	19	1	543	00000004	0seconds 990000000nanos
REM#	20	1	544	00000004	0seconds 990000000nanos
REM#	21	1	545	00000004	0seconds 990000000nanos
REM#	22	1	546	00000004	0seconds 990000000nanos
REM#	23	1	547	00000004	0seconds 990000000nanos
REM#	24	1	v548	00000004	0seconds 990000000nanos
REM#	25	1	549	v00000004	0seconds 990000000nanos
REM#	26	1	550	00000004	0seconds 990000000nanos
REM#	27	1	551	00000004	0seconds 990000000nanos
REM#	28	1	552	00000004	0seconds 990000000nanos
REM#	29	1	553	00000004	0seconds 990000000nanos
REM#	30	1	554	00000004	0seconds 990000000nanos
REM#	31	1	555	00000004	0seconds 990000000nanos
REM#	32	1	556	00000004	0seconds 990000000nanos
REM#	33	1	557	00000004	0seconds 990000000nanos
REM#	34	1	558	00000004	0seconds 990000000nanos

REM#	35	1	559	00000004	0seconds	99000000	nanos
REM#	36	1	560	00000004	0seconds	99000000	nanos
REM#	37	1	561	00000004	0seconds	99000000	nanos
REM#	38	1	562	00000004	0seconds	99000000	nanos
REM#	39	1	563	00000004	0seconds	99000000	nanos
REM#	40	1	564	00000004	0seconds	99000000	nanos
REM#	41	1	565	00000004	0seconds	99000000	nanos
REM#	42	1	566	00000004	0seconds	99000000	nanos
REM#	43	1	567	00000004	0seconds	99000000	nanos
REM#	44	1	568	00000004	0seconds	99000000	nanos
REM#	45	1	569	00000004	0seconds	99000000	nanos
REM#	46	1	570	00000004	0seconds	99000000	nanos
REM#	47	1	571	00000004	0seconds	99000000	nanos
REM#	48	1	572	00000004	0seconds	99000000	nanos
REM#	49	1	573	00000004	0seconds	99000000	nanos
REM#	50	1	574	00000004	0seconds	99000000	nanos
REM#	51	1	575	00000004	0seconds	99000000	nanos
REM#	52	1	576	00000004	0seconds	99000000	nanos
REM#	53	1	577	00000004	0seconds	99000000	nanos
REM#	54	1	578	00000004	0seconds	99000000	nanos
REM#	55	1	579	00000004	0seconds	99000000	nanos
REM#	56	1	580	00000004	0seconds	99000000	nanos
REM#	57	1	581	00000004	0seconds	99000000	nanos
REM#	58	1	582	00000004	0seconds	99000000	nanos
REM#	59	1	583	00000004	0seconds	99000000	nanos
REM#	60	1	584	00000004	0seconds	99000000	nanos

REM#	61	1	585	00000004	0seconds	99000000	nanos
REM#	62	1	586	00000004	0seconds	99000000	nanos
REM#	63	1	587	00000004	0seconds	99000000	nanos
REM#	64	1	588	00000004	0seconds	99000000	nanos
REM#	65	1	589	00000004	0seconds	99000000	nanos
REM#	66	1	590	00000004	0seconds	99000000	nanos
REM#	67	1	591	00000004	0seconds	99000000	nanos
REM#	68	1	592	00000004	0seconds	99000000	nanos
REM#	69	1	593	00000004	0seconds	99000000	nanos
REM#	70	1	594	00000004	0seconds	99000000	nanos
REM#	71	1	595	00000004	0seconds	99000000	nanos
REM#	72	1	596	00000004	0seconds	99000000	nanos
REM#	73	1	597	00000004	0seconds	99000000	nanos
REM#	74	1	598	00000004	0seconds	99000000	nanos
REM#	75	1	599	00000004	0seconds	99000000	nanos
REM#	76	1	600	00000004	0seconds	99000000	nanos
REM#	77	1	601	00000004	0seconds	99000000	nanos
REM#	78	1	602	00000004	0seconds	99000000	nanos
REM#	79	1	603	00000004	0seconds	99000000	nanos
REM#	80	1	604	00000004	0seconds	99000000	nanos
REM#	81	1	605	00000004	0seconds	99000000	nanos
REM#	82	1	606	00000004	0seconds	99000000	nanos
REM#	83	1	607	00000004	0seconds	99000000	nanos
REM#	84	1	608	00000004	0seconds	99000000	nanos
REM#	85	1	609	00000004	0seconds	99000000	nanos
REM#	86	1	610	00000004	0seconds	99000000	nanos
REM#	87	1	611	00000004	0seconds	99000000	nanos
REM#	88	1	612	00000004	0seconds	99000000	nanos
REM#	89	1	613	00000004	0seconds	99000000	nanos
REM#	90	1	614	00000004	0seconds	99000000	nanos
REM#	91	1	615	00000004	0seconds	99000000	nanos
REM#	92	1	616	00000004	0seconds	99000000	nanos
REM#	93	1	617	00000004	0seconds	99000000	nanos
REM#	94	1	618	00000004	0seconds	99000000	nanos
REM#	95	1	619	00000004	0seconds	99000000	nanos
REM#	96	1	620	00000004	0seconds	99000000	nanos
REM#	97	1	621	00000004	0seconds	99000000	nanos
REM#	98	1	622	00000004	0seconds	99000000	nanos
REM#	99	1	623	00000004	0seconds	99000000	nanos
REM#	100	1	624	00000004	0seconds	99000000	nanos

REM#	101	1	625	00000004	0seconds	99000000nanos
REM#	102	1	626	00000004	0seconds	99000000nanos
REM#	103	1	627	00000004	0seconds	99000000nanos
REM#	104	1	628	00000004	0seconds	99000000nanos
REM#	105	1	629	00000004	0seconds	99000000nanos
REM#	106	1	630	00000004	0seconds	99000000nanos
REM#	107	1	631	00000004	0seconds	99000000nanos
REM#	108	1	632	00000004	0seconds	99000000nanos
REM#	109	1	633	00000004	0seconds	99000000nanos
REM#	110	1	634	00000004	0seconds	99000000nanos
REM#	111	1	635	00000004	0seconds	99000000nanos
REM#	112	1	636	00000004	0seconds	99000000nanos
REM#	113	1	637	00000004	0seconds	99000000nanos
REM#	114	1	638	00000004	0seconds	99000000nanos
REM#	115	1	639	00000004	0seconds	99000000nanos
REM#	116	1	640	00000004	0seconds	99000000nanos
REM#	117	1	641	00000004	0seconds	99000000nanos
REM#	118	1	642	00000004	0seconds	99000000nanos
REM#	119	1	643	00000004	0seconds	99000000nanos
REM#	120	1	644	00000004	0seconds	99000000nanos
REM#	121	1	645	00000004	0seconds	99000000nanos
REM#	122	1	646	00000004	0seconds	99000000nanos
REM#	123	1	647	00000004	0seconds	99000000nanos
REM#	124	1	648	00000004	0seconds	99000000nanos
REM#	125	1	649	00000004	0seconds	99000000nanos
REM#	126	1	650	00000004	0seconds	99000000nanos
REM#	127	1	651	00000004	0seconds	99000000nanos
REM#	128	1	652	00000004	0seconds	99000000nanos
REM#	129	1	653	00000004	0seconds	99000000nanos
REM#	130	1	654	00000004	0seconds	99000000nanos
REM#	131	1	655	00000004	0seconds	99000000nanos
REM#	132	1	656	00000004	0seconds	99000000nanos
REM#	133	1	657	00000004	0seconds	99000000nanos
REM#	134	1	658	00000004	0seconds	99000000nanos
REM#	135	1	659	00000004	0seconds	99000000nanos
REM#	136	1	660	00000004	0seconds	99000000nanos
REM#	137	1	661	00000004	0seconds	99000000nanos
REM#	138	1	662	00000004	0seconds	99000000nanos
REM#	139	1	663	00000004	0seconds	99000000nanos
REM#	140	1	664	00000004	0seconds	99000000nanos
REM#	141	1	665	00000004	0seconds	99000000nanos
REM#	142	1	666	00000004	0seconds	99000000nanos
REM#	143	1	667	00000004	0seconds	99000000nanos
REM#	144	1	668	00000004	0seconds	99000000nanos
REM#	145	1	669	00000004	0seconds	99000000nanos
REM#	146	1	670	00000004	0seconds	99000000nanos

REM# 147 1 671 00000004 0seconds 99000000nanos
REM# 148 1 672 00000004 0seconds 99000000nanos
REM# 149 1 673 00000004 0seconds 99000000nanos
REM# 150 1 674 00000004 0seconds 99000000nanos
REM# 151 1 675 00000004 0seconds 99000000nanos
REM# 152 1 676 00000004 0seconds 99000000nanos
REM# 153 1 677 00000004 0seconds 99000000nanos
REM# 154 1 678 00000004 0seconds 99000000nanos
REM# 155 1 679 00000004 0seconds 99000000nanos
REM# 156 1 680 00000004 0seconds 99000000nanos
REM# 157 1 681 00000004 0seconds 99000000nanos
REM# 158 1 682 00000004 0seconds 99000000nanos
REM# 159 1 683 00000004 0seconds 99000000nanos
REM# 160 1 684 00000004 0seconds 99000000nanos
REM# 161 1 685 00000004 0seconds 99000000nanos
REM# 162 1 686 00000004 0seconds 99000000nanos
REM# 163 1 687 00000004 0seconds 99000000nanos
REM# 164 1 688 00000004 0seconds 99000000nanos
REM# 165 1 689 00000004 0seconds 99000000nanos
REM# 166 1 690 00000004 0seconds 99000000nanos
REM# 167 1 691 00000004 0seconds 99000000nanos
REM# 168 1 692 00000004 0seconds 99000000nanos
REM# 169 1 693 00000004 0seconds 99000000nanos
REM# 170 1 694 00000004 0seconds 99000000nanos
REM# 171 1 695 00000004 0seconds 99000000nanos
REM# 172 1 696 00000004 0seconds 99000000nanos
REM# 173 1 697 00000004 0seconds 99000000nanos
REM# 174 1 698 00000004 0seconds 99000000nanos
REM# 175 1 699 00000004 0seconds 99000000nanos
REM# 176 1 5 00000004 0seconds 99000000nanos
REM# 177 1 18 00000004 0seconds 99000000nanos
REM# 178 1 19 00000004 0seconds 99000000nanos
REM# 179 1 20 00000004 0seconds 99000000nanos

REM# 180 1 21 00000004 0seconds 99000000nanos
REM# 181 1 22 00000004 0seconds 99000000nanos
REM# 182 1 23 00000004 0seconds 99000000nanos
REM# 183 1 24 00000004 0seconds 99000000nanos
REM# 184 1 25 00000004 0seconds 99000000nanos
REM# 185 1 26 00000004 0seconds 99000000nanos
REM# 186 1 27 00000004 0seconds 99000000nanos
REM# 187 1 28 00000004 0seconds 99000000nanos
REM# 188 1 29 00000004 0seconds 99000000nanos
REM# 189 1 30 00000004 0seconds 99000000nanos
REM# 190 1 31 00000004 0seconds 99000000nanos
REM# 191 1 32 00000004 0seconds 99000000nanos
REM# 192 1 33 00000004 0seconds 99000000nanos
REM# 193 1 34 00000004 0seconds 99000000nanos
REM# 194 1 35 00000004 0seconds 99000000nanos

REM# 195 1 36 00000004 0seconds 99000000nanos
REM# 196 1 37 00000004 0seconds 99000000nanos
REM# 197 1 38 00000004 0seconds 99000000nanos
REM# 198 1 39 00000004 0seconds 99000000nanos
REM# 199 1 40 00000004 0seconds 99000000nanos
REM# 200 1 41 00000004 0seconds 99000000nanos
REM# 201 1 42 00000004 0seconds 99000000nanos
REM# 202 1 43 00000004 0seconds 99000000nanos
REM# 203 1 44 00000004 0seconds 99000000nanos
REM# 204 1 45 00000004 0seconds 99000000nanos
REM# 205 1 46 00000004 0seconds 99000000nanos
REM# 206 1 47 00000004 0seconds 99000000nanos
REM# 207 1 48 00000004 0seconds 99000000nanos
REM# 208 1 49 00000004 0seconds 99000000nanos
REM# 209 1 50 00000004 0seconds 99000000nanos
REM# 210 1 51 00000004 0seconds 99000000nanos
REM# 211 1 52 00000004 0seconds 99000000nanos
REM# 212 1 53 00000004 0seconds 99000000nanos
REM# 213 1 54 00000004 0seconds 99000000nanos
REM# 214 1 55 00000004 0seconds 99000000nanos
REM# 215 1 56 00000004 0seconds 99000000nanos
REM# 216 1 57 00000004 0seconds 99000000nanos
REM# 217 1 58 00000004 0seconds 99000000nanos
REM# 218 1 59 00000004 0seconds 99000000nanos
REM# 219 1 60 00000004 0seconds 99000000nanos
REM# 220 1 61 00000004 0seconds 99000000nanos
REM# 221 1 62 00000004 0seconds 99000000nanos
REM# 222 1 63 00000004 0seconds 99000000nanos
REM# 223 1 64 00000004 0seconds 99000000nanos
REM# 224 1 65 00000004 0seconds 99000000nanos

REM# 225 1 66 00000004 0seconds 99000000nanos
REM# 226 1 67 00000004 0seconds 99000000nanos
REM# 227 1 68 00000004 0seconds 99000000nanos
REM# 228 1 69 00000004 0seconds 99000000nanos
REM# 229 1 70 00000004 0seconds 99000000nanos
REM# 230 1 71 00000004 0seconds 99000000nanos
REM# 231 1 72 00000004 0seconds 99000000nanos
REM# 232 1 73 00000004 0seconds 99000000nanos
REM# 233 1 74 00000004 0seconds 99000000nanos
REM# 234 1 75 00000004 0seconds 99000000nanos
REM# 235 1 76 00000004 0seconds 99000000nanos
REM# 236 1 77 00000004 0seconds 99000000nanos
REM# 237 1 78 00000004 0seconds 99000000nanos
REM# 238 1 79 00000004 0seconds 99000000nanos
REM# 239 1 80 00000004 0seconds 99000000nanos
REM# 240 1 81 00000004 0seconds 99000000nanos
REM# 241 1 82 00000004 0seconds 99000000nanos
REM# 242 1 83 00000004 0seconds 99000000nanos
REM# 243 1 84 00000004 0seconds 99000000nanos
REM# 244 1 85 00000004 0seconds 99000000nanos
REM# 245 1 86 00000004 0seconds 99000000nanos
REM# 246 1 87 00000004 0seconds 99000000nanos
REM# 247 1 88 00000004 0seconds 99000000nanos
REM# 248 1 89 00000004 0seconds 99000000nanos
REM# 249 1 90 00000004 0seconds 99000000nanos
REM# 250 1 91 00000004 0seconds 99000000nanos
REM# 251 1 92 00000004 0seconds 99000000nanos
REM# 252 1 93 00000004 0seconds 99000000nanos
REM# 253 1 94 00000004 0seconds 99000000nanos
REM# 254 1 95 00000004 0seconds 99000000nanos
REM# 255 1 96 00000004 0seconds 99000000nanos
REM# 256 1 97 00000004 0seconds 99000000nanos
REM# 257 1 98 00000004 0seconds 99000000nanos
REM# 258 1 99 00000004 0seconds 99000000nanos
REM#
REM# There are also 1141 inactive timers currently available

3.17 EXCEPTION

Available in *Modify* mode.

Interfaces: All RX7i Rack-based RX3i Embedded RX3i

Use the EXCEPTION command to display a history of internal channels exceptions that have occurred since the Ethernet module has been powered on or restarted. It is intended as a diagnostic tool. The interpretation of the output of this command requires detailed knowledge of the channels implementation and can only be done by Technical Support. The output provides details that allow a better understanding of channel behavior.

Note The channels exception history, displayed by the EXCEPTION command, is different from and independent of the Ethernet exception log, which is displayed via the LOG command. The channels exception history covers only the communication channels. Unlike the Ethernet exception log, the channels exception history is maintained only until the Ethernet interface is restarted or power is turned off, and may not be cleared from the Station Manager.

EXCEPTION Command Format

EXCEPTION

EXCEPTION Command Example

> exception

<<< Enet Exception Trace >>> 09-JAN-2000 03:35:05.0

SubSys EventID ModuleID Line Num Status Message

=====

3.18 EXS

Available in *Monitor* or *Modify* mode.

Interfaces: All RX7i Rack-based RX3i Embedded RX3i

Use the EXS command to display Extended Status for COMMREQs initiated by the local controller logic program. This command is usually used during troubleshooting.

EXS Command Format

EXS

EXS Command Example

> exs

<<< Extended Status >>> 05-MAY-2004 21:18:33.0

Software version 251

Last command 4000 (0fa0HH)

Last error code 0 (0000H)

Last COMM_REQ in error 0000H 0000H 0000H 0000H 0000H 0000H
0000H 0000H

0000H 0000H 0000H 0000H 0000H 0000H 0000H 0000H

The EXS output displays the most recent COMMREQ command sent to this Ethernet interface, together with additional data on the most recent COMMREQ that generated an error. The error codes displayed in the EXS output are the same error codes returned to the controller logic program in the COMMREQ Status (CRS) word. If a non-zero error code is displayed, the EXS output also displays the first 16 words of the COMMREQ Command Block.

The EXS output data is retained until the Ethernet interface is restarted or power is cycled. The EXS data may be cleared by using the CLEAR EXS command.

3.19 FATALINFO

Available in *Monitor* or *Modify* mode.

Interfaces: All RX7i Rack-based RX3i Embedded RX3i⁴

Use the FATALINFO CLEAR command to clear all fatal fault information from memory.

Use FATALINFO DIAG to display information collected after a fatal diagnostic fault.

Use FATALINFO RTOS to display information collected after a fatal run-time fault.

This command is useful in most cases where an unrecoverable hardware or runtime failure has occurred on the Ethernet module. Use of this command and its output requires a detailed understanding of the hardware and internal operation of the Ethernet interface. This command should only be used in conjunction with detailed guidance from Technical Support.

Note Fatal fault information is maintained over power cycles and Ethernet interface restarts. The fatal fault information may be cleared only via the FATALINFO CLEAR command.

FATALINFO Command Format

FATALINFO {clear | diag | rtos}

clear	Clears all fatal fault information from memory.
diag	Displays diagnostic fatal fault information.
rtos	Displays run-time fatal fault information.

FATALINFO Command Example

= fatalinfo clear

Fatal fault information cleared.

3.20 HELP

Available in *Monitor* or *Modify* mode.

Interfaces: All RX7i Rack-based RX3i Embedded RX3i

Use the HELP command (or enter the single character command “?”) to display a list of the Station Manager commands that can be accessed in the present mode.

HELP Command Format

HELP

or

?

HELP Command Example 1: Monitor Mode

If you are not logged in, you will see only the Monitor-level commands.

= help

<<< Monitor Commands >>>

?	cd	channel	chist	dir	egdcmd
egdread	exs	fatalinfo	help	log	login
ltime	node	parm	plcread	sosw	stat
tally	time	xchange			

HELP Command Example 2: Modify Mode

If you are logged in to use Modify commands, you will also see all Monitor-level commands in the command list.

= help

<<< Monitor Commands >>>

?	cd	channel	chist	dir	egdcmd
egdread	exs	fatalinfo	help	log	login
ltime	node	parm	plcread	sosw	stat
tally	time	xchange			

<<< Modify Commands >>>

bootp	chltime	chparm	chsosw	chtime	clear
del	egdwrite	exception	logout	mkdir	net
ok	ping	plcwrite	pluginapp	rem	rename
repp	restart	rmdir	stopp	trace	killss
killms					

3.21 KILLMS

Available in *Modify* mode.

Interfaces: All RX7i Rack-based RX3i Embedded RX3i

Use the KILLMS command to delete an established Modbus/TCP server connection. This command disrupts the communication on a Modbus/TCP server connection. It should be used for diagnostics and maintenance only.

An endpoint number, as listed in the leftmost column of the STAT o output, identifies a connection. See the description of STAT later in this chapter for examples of Modbus/TCP endpoints.

KILLMS Command Format

KILLMS { all | <Modbus Server Endpoint> [<Modbus Server Endpoint> [...]] }

<Modbus/TCP Server Endpoint>	Endpoint number of the connection to be terminated.
All	Terminates all established Modbus Server endpoints.

KILLMS Command Example

= killms 4 5 15

Modbus Server connection 4 shutdown initiated.

Modbus Server connection 5 shutdown initiated.

Modbus Server connection 15 shutdown initiated.

3.22 KILLSS

Available in *Modify* mode.

Interfaces: All RX7i Rack-based RX3i Embedded RX3i

Use the KILLSS command to delete an established SRTP server connection. This command does not delete connections that are not in the established state. This command disrupts the communication on an STRP server connection. It should be used only for diagnostics and maintenance.

A connection is identified by an endpoint number, as listed in the leftmost column of the STAT v command output. See the description of STAT later in this chapter for examples of SRTP endpoints.

KILLSS Command Format

KILLSS { all | <SRTP Server Endpoint> [<SRTP Server Endpoint> [...]] }

<SRTP Server Endpoint>	Endpoint number of the connection to be terminated.
All	Terminates all established SRTP Server endpoints.

KILLSS Command Example

= killss 2 3 6

SRTP Server endpoint 2 shut down initiated

SRTP Server endpoint 3 shut down initiated

SRTP Server endpoint 6 shut down initiated

3.23 LOG

Available in *Monitor* or *Modify* mode.

Interfaces: All RX7i Rack-based RX3i Embedded RX3i

Use the LOG command to display the exception log without any internal status code data. Use the LOG Z command to display the exception log including the additional status code data. The LOG Z command requires a 132-column display format. See the example below for the data displayed by the two forms of the LOG command.

Note Beginning with PACSystems Release 2.00, the additional exception log status data is always displayed by the basic LOG command. This provides complete exception log data each time the exception log is displayed without use of the optional “z” parameter.

The exception log is a circular list; a new event overwrites the oldest event in the list. An arrow points to the most recent event. Events stay in the log until they are cleared with the CLEAR LOG command or until they are overwritten. For rack-based and RX7i embedded interfaces, the exception log is maintained in non-volatile memory; the exception log contents are retained over normal power outage. In RX3i embedded interfaces (CPE305/CPE310), the log is maintained in volatile memory, which is not maintained when power is lost, unless memory is preserved by the use of an Energy Pack.

Refer to appendix B, [Exception Events](#) for detailed information about the information returned by the LOG command.

LOG Command Format

LOG [z]

Z	Display additional status and addressing data
---	---

LOG Command Example

The LOG (prior to Release 2.00) command lists the current exceptions by time and date. Exceptions are identified by an "event" code, and a count is given for each type. The information on the right describes the event, as explained in appendix B.

```
> log
<<< Exception Log >>>
IC698 Embedded Ethernet Interface version 1.00 (21A1)
Log displayed 04-APR-2003 11:25:28.3
Log initialized using valid RAM information
Log last cleared 31-MAR-2003 09:33:46.9
Date           Time           Event Count  Entry 2 through Entry 6
03-APR-2003    09:33:47.0      1H      1H    0000H 0001H 0000H 0000H 0000H
03-APR-2003    09:33:47.0      0H      1H    MII/PHY Fail
03-APR-2003    14:01:22.2     20H     1H    0001H 0000H 0000H 0001H 0117H
->03-APR-2003  09:33:47.2     2aH     1H    0004H 0000H 0000H 0004H 0192H
```

LOG Z Command Example

For LOG Z (and LOG for Release 2.00 and higher), the information on the left is the same as for LOG, as shown above. Extra status data for some types of events appears on the right.

```
> log z
<<< Exception Log >>>
IC698 Embedded Ethernet Interface version 1.00 (21A1)
Log displayed 04-APR-2003 11:25:28.3
Log initialized using valid RAM information
Log last cleared 31-MAR-2003 09:33:46.9
Date          Time          Event Count  Entry 2 through Entry 6      SCode          Remote IP Addr:Port
or Producer ID:Exchg  Local IP Addr:Port
03-APR-2003  09:33:47.0    1H    1H    0000H 0001H 0000H 0000H 0000H
03-APR-2003  09:33:47.0    0H    1H    MII/PHY Fail                    80010605H
03-APR-2003  14:01:22.2    20H   1H    0001H 0000H 0000H 0001H 0117H
->03-APR-2003 09:33:47.2    2aH   1H    0004H 0000H 0000H 0004H 0192H
```

3.24 LOGIN

Note CPE305/310 release 8.65 no longer supports the *login* command. Therefore, these CPUs no longer support *Modify* commands. CPE330 also does not support the *login* command.

Available in *Monitor* or *Modify* mode.

Interfaces: All RX7i Rack-based RX3i Embedded RX3i

Use the *LOGIN* command to access the Modify commands of the Station Manager.

LOGIN Command Format

LOGIN

The *LOGIN* command is followed by the password prompt:

Password:

Enter the password (it is not echoed). Except for the Enter key, all keys pressed after the prompt are considered part of the password. The delete and backspace characters are interpreted as part of the password. The password may not include tabs or spaces. Passwords are limited to 8 characters and all characters after the eighth are ignored.

If the password matches the current password for the Modify level, a confirmation message appears and you can access the Modify commands. If the password does not match, an error message appears and the security level does not change.

Entering a Password at the Local Station Manager

When using the Local Station Manager terminal, the password does NOT need to be enclosed in double quotes to be case-sensitive.

Entering a Password via a Remote Station Manager

Note As a security safeguard, the PACSystems Ethernet interfaces do not permit the LOGIN command from a remote network location unless the Station Manager password has been set to a non-default value. The Station Manager password can be configured via an AUP file (see GFK-2224, Appendix A: “Configuring Advanced User Parameters”).

When using the REM command to send a LOGIN command to log into a remote system, you must enter the password value along with the LOGIN command:

REM <node> LOGIN <password>

If the password contains any uppercase letters, place it in double quotes; passwords are case sensitive.

LOGIN Command Example (Local)

```
> login
Password: system
Logged in
=
```

The Default Password

The factory default password is: **system** (lower case)

The password is normally changed using the Advanced User Parameters. It can be changed temporarily with the CHPARM command.

3.25 LOGOUT

Available in *Modify* mode.

Interfaces: All RX7i Rack-based RX3i Embedded RX3i

Use the LOGOUT command to exit Modify mode and return to Monitor mode. Modify commands entered after the logout receive an error message. If the inactivity timeout period was changed during the current session of Modify mode, logging out causes the timeout period to return to the default of 10 minutes for the next login.

LOGOUT Command Format

LOGOUT

LOGOUT Command Example

```
= logout
Logged out
>
```

3.26 LTIME

Available in *Monitor* or *Modify* mode.

Interfaces: All RX7i Rack-based RX3i Embedded RX3i

Use the LTIME command to display the current login inactivity timeout value. The login inactivity timeout value can be changed using the CHLTIME command.

LTIME Command Format

LTIME

LTIME Command Example

```
> ltime
Login timeout = 10 min
```

3.27 MIRROR

Available in *Modify* mode.

Interfaces: All RX7i Rack-based RX3i

Use the MIRROR command to echo port traffic from one external Ethernet port to the other. This is useful for monitoring network traffic with an Ethernet network analyzer connected to the mirror output port. The MIRROR command argument specifies the mirror output port.

Note that the port being used for mirror output traffic is also used normal network communications. In a heavily loaded system, the extra mirror output traffic could exceed the port's capacity and result in dropped packets.

MIRROR Command Format

MIRROR [{top | bot | off}]

top	Network traffic on the bottom Ethernet port (1B) on the interface will be echoed at the top port (1A).
bot	Network traffic on the top Ethernet port (1A) on the interface will be echoed at the bottom port (1B).
off	Turn port mirroring off.

Using the MIRROR command with no argument displays the current mirror status.

MIRROR Command Example

The following example will (in the following order) echo data from top port to the bottom port, check the mirror status, turn port mirroring off and check the status again.

= mirror bot

Top Port traffic will be echoed on the Bottom Port

= mirror

Top Port traffic will be echoed on the Bottom Port

Usage: mirror [{top | bot | off}]

ex: Typing "mirror top" will echo all data on the bottom port to the top port

= mirror off

Port mirroring cleared

= mirror

Port mirroring is disabled

Usage: mirror [{top | bot | off}]

ex: Typing "mirror top" will echo all data on the bottom port to the top port

3.28 MKDIR

Available in *Modify* mode.

Interfaces: All RX7i Rack-based RX3i

Use the MKDIR command to create a new directory in the current working directory.

MKDIR Command Format

MKDIR <directory name>

<directory name>	Name of the new directory to be created
------------------	---

MKDIR Command Example

This example creates the directory "images":

= mkdir images

"images" directory created.

3.29 NET

Available in *Modify* mode.

Interfaces: All RX7i Rack-based RX3i

Use the *NET* command to cause the Ethernet interface to either ignore incoming and outgoing Ethernet frames (NET OFF) or to accept incoming and outgoing Ethernet frames (NET ON). This command can be used to remove an Ethernet interface from the network without disconnecting or restarting the module.

NET Command Format

NET { ON | OFF }

off	Take the Ethernet interface off the network
on	Attempt to put the Ethernet Interface on the network

NET Command Example

= net off

Interface off network

3.30 NODE

Available in *Monitor* or *Modify* mode.

Interfaces: All RX7i Rack-based RX3i Embedded RX3i

Use the NODE command to display the Ethernet interface sign-on message. The NODE command shows the SNTP time synchronization status and source of the IP address being used in the node. Possible sources of the IP address are: Configuration, Backup configuration, EEPROM, Default, Network, and BOOTP. The status of any loaded Ethernet plug-in applications will also appear in the NODE display.

NODE Command Format

NODE

NODE Command Example

> node

IC698 Embedded Ethernet Interface

Copyright (c) 2003-2005. All rights reserved.

Version 1.00 (21A1) TCP/IP

Version 1.00 (21A1) Loader

Version 1.00 Hardware

IP Address = 10.0.0.2 Subnet Mask = 255.255.0.0

Gateway = 0.0.0.0

MAC Address = <<080019010203>>

SNTP Configured

Station Manager Port:

Data Rate = 9600, Parity = NONE, Flow Control = NONE

Source of Soft Switches: PLC Configuration

Source of IP Address: Configuration

Ethernet Plug-in Applications:

1.ExProtocol (Running)

Apr 28, 2003 0:11:19.2

Date/time not synchronized

3.31 OK

Available in *Modify* mode.

Interfaces: All RX7i Rack-based RX3i

The STAT (or LOG EMPTY) LED is turned off when an entry is placed into the exception log. You can use the OK command to turn this LED on again. This command has no effect on the contents of the exception log.

If you want to turn on the STAT (or LOG EMPTY) LED and also clear the exception log, use the CLEAR LOG command instead.

OK Command Format

OK

OK Command Example

= ok

STAT LED modified

3.32 PARM

Available in *Monitor* or *Modify* mode.

Interfaces: All RX7i Rack-based RX3i Embedded RX3i^s

Use the PARM command to display the current value of the Advanced User Parameters (listed on the following pages) for specified tasks. All Advanced User Parameters for the selected tasks are displayed. Pending changes may cause data to scroll off some screens. Soft switch configuration parameters for the specified tasks are not displayed; use the SOSW command to display those parameters.

The AUP values returned as currently active are part of the configuration that is currently downloaded to the controller. If a currently active AUP is invalid, an e/3 event (Failure storing / setting AUPs in the Station Manager subsystem) may be logged. For more information on exception log events, refer to [Appendix B](#).

Note This command only displays AUP parameters; it does not modify them. To modify a parameter, use the CHPARM11 command.

PARM Command Format

PARM { < tasks > | all }

All	Displays all advanced user parameters for the following tasks. Tasks not listed below do not have advanced user parameters.	
<tasks>	Applications	
	g	Ethernet Global Data (EGD)
	h	SRTP Client (Channels)
	t	FTP Server
	v	SRTP Server
	Internal Operation	
	b	System Memory
	c	PACSystems Controller Driver (BPD)
	f	ARP
	l	IP
	n	SNTP (all RX7i and rack-based RX3i only)
	w	TCP
	l	Network Interface
	q	Ethernet Redundancy

PARM Command Example

This example displays the IP parameters (task i):

= parm i

<<< IP Parameters >>>

	Default Value	User-Set Value
ittl	= 64	(40H)*
ifrag_tmr	= 3	(0003H)*

* An asterisk identifies the currently active value.

Pending local changes (must power-up or restart to activate):

ifrag_tmr	= 4	(0004H)
-----------	-----	---------

Advanced User Parameters

Note The RX3i CPE305/CPE310 embedded Ethernet interface does not support all AUPs listed. AUPs that can be used with CPE305/CPE310 are indicated by a footnote. Other PACSystems Ethernet interfaces support the use of all AUPs listed in the following table.

System Memory Parameters (task b)		Default	Range
staudp ²	Remote command UDP port	18245 (4745H)	1 – 65535 (ffffH) Only the gdata_port and gXX_udp parameters may share the same UDP port number. All other UDP port number parameters in the AUP file must use unique port numbers.
stpasswd ²	Station Manager password (only visible from MODIFY prompt)	“system”	0 – 8 characters, case sensitive, no spaces
Backplane Driver Parameters (task c)		Default	Range
crsp_tout ²	CPU response timeout. Amount of time to wait for the CPU to respond to a request sent through the PLC Driver.	60 seconds	10 – 3600 (E10H)
chct_comp ²	HCT compatibility option. (Rel 2.57 and later) Allows Ethernet interface to ignore SRTP header errors (typically generated by remote HCT devices) that were not detected in previous Series 90 products. 0 = HCT compatibility disabled (= report all errors) 1 = HCT compatibility enabled (= ignore some errors)	0 (0H)	0, 1
cstorm ²	COMMREQ storm onset threshold. Establishes a number of COMMREQs per second at or above which the PLC application is considered to be sending COMMREQs so rapidly that the Ethernet interface cannot continue normal operation. Setting this parameter to 0 disables COMMREQ storm error detection.	500 (01F4H)	0 – 10,000 (2710H)

cno storm ²	COMMREQ storm end threshold. Establishes the number of COMMREQs per second at or below which the COMMREQ storm condition (see above) is considered to have ended. If the cstorm parameter is not set to 0, this parameter should always be less than cstorm. If cstorm is set to 0, this parameter is ignored.	100 (0064H)	0 – 10,000 (2710H)
RDS Parameters (task d)		None	None
ARP Parameters (task f)		Default	Range
fflush	Interval in seconds at which to flush the ARP cache	600 (10 mins)	0 – 604800 (93A80H)
Ethernet Global Data Parameters (task g)⁵		Default	Range
gctl_port	UDP port for EGD control messages	7937 (1f01H)	1 – 65535 (ffffH) Only the gdata_port and gXX_udp parameters may share the same UDP port number. All other UDP port number parameters in the AUP file must use unique port numbers.
gdata_port	UDP port for point-to-point (unicast) EGD messages	18246 (4746H)	1 – 65535 (ffffH) Only the gdata_port and gXX_udp parameters may share the same UDP port number. All other UDP port number parameters in the AUP file must use unique port numbers.
gbcast_ttl	IP time-to-live for global broadcast messages (hop count)	1 (1H)	0 – 255 (00ffH)
gucast_ttl	IP time-to-live for point-to-point (unicast) messages (hop count)	16 (10H)	0 – 255 (00ffH)
gp_phase	Startup delay time in ms for successive produced exchanges	0 (0H)	0 – 65535 (ffffH)
gcmd_pri	EGD command processing priority relative to data production. 0 = EGD commands have lower priority. 1 = EGD commands have equal priority. 2 = EGD commands have higher priority.	0 (0H)	0, 1, 2
gc_accel	Enable consumed exchange acceleration. 0= Acceleration disabled; 1= Acceleration enabled.	1 (1H)	0, 1

gnostale	When bit zero in the "Production Status" field of the PDU of a consumed sample is set, sample is stale. 0 = allow status to be sent to the application when exchange status indicates stale data. 1 = prevent the new status from being sent to the application if exchange status indicates stale data.	0 (0H)	0, 1
<i>EGD provides a UDP port parameter and host group IP address parameter for each of 32 possible host groups (1-32). The parameter formats for each host group are shown below. XX specifies host group 1-32.</i>			
gXX_udp	UDP port for host group XX	18246 (4746H)	1 – 65535 (ffffH) Only the gdata_port and gXX_udp parameters may share the same UDP port number. All other UDP port number parameters in the AUP file must use unique port numbers.
gXX_addr	Multicast host group IP Address (must be Class D address)	224.0.7.XX	224.0.0.2 – 239.255.255.255
gXX_addr2	Multicast group IP address for LAN 2.	224.0.7.XX	224.0.0.2 – 239.255.255.255
gXX_ttl	deprecated		
gmcast_ttl	IP time-to-live for LAN1 host group (multicast) messages (hop count) New parameter that replaces the gXX_ttl for each multicast group on LAN 1.	1 (1H)	0 – 255 (00ffH)
gmcast_ttl2	IP time-to-live for LAN2 host group (multicast) messages (hop count). New parameter.	1 (1H)	0 – 255 (00ffH)
<p>Note If you configure different values for EGD exchanges with Unicast and Broadcast destination types, the largest value will be used for all Unicast and Broadcast exchanges.</p> <p>If you configure multiple gXX_ttl values for different Multicast exchanges, the smallest value among the configured parameters will be considered used for all exchanges.</p> <p>This applies only to PACS Ethernet Interface modules.</p>			
SRTP Client (Channels) Parameters (task h)			
		Default	Range
hconn_tout	TCP Connect timeout (in milliseconds)	75000 (124F8H)	10 – 75000 (124F8H)
IP Parameters (task i)			
		Default	Range
Ittl ²	IP header default time-to-live (hop count)	64 (0040H)	0 – 255 (00ffH)
ifrag_tmr	IP fragment timeout interval in seconds	3 (0003H)	0 – 65535 (ffffH)
ICMP/IGMP Parameters (task j)			
		None	None

Network Interface Parameters (task l)		Default	Range
lduplex0	Ethernet duplex for Controller 0(auto-detect, 1 = half, 2= full)	0	0,1,2
lduplex1a ²	Ethernet duplex for Port 1A (0=auto-detect, 1=half, 2=full)	0	0,1,2
lduplex1b	Ethernet duplex for Port 1B (0=auto-detect, 1=half, 2=full)	0	0,1,2
lspeed0	Ethernet speed for Controller (0=auto-detect, 1=10Mbit, 2=100Mbit)	0	0,1,2
lspeed1a ²	Ethernet speed for Port 1A (0=auto-detect, 1=10Mbit, 2=100Mbit)	0	0,1,2
lspeed1b	Ethernet speed for Port 1B (0=auto-detect, 1=10Mbit, 2=100Mbit)	0	0,1,2
Modbus TCP/IP Server Parameters (task m)		None	None
SNTP Time Transfer to CPU Parameters (task n) ⁵		Default	Range
ncpu_sync	Configures this Ethernet interface to support CPU TOD clock synchronization with network timeserver. (0=Not supported; 1=Supported)	0	0, 1
Unicast SNTP AUP Parameters(task n)		Default	Range
nmode	SNTP Mode of operation 0 = Multicast and Broadcast mode 1 = Unicast mode This parameter is required when unicast mode is used.	0	0-1.
nprimary	IP address of the primary time server in dotted decimal format. (xxx.xxx.xxx.xxx) This parameter is required when unicast mode is used.	None	Any valid unicast IPv4 address
nsecondary	IP address of the secondary time server in dotted decimal format. (xxx.xxx.xxx.xxx) This parameter is optional.	None	Any valid unicast IPv4 address
npoll_interval	Poll interval of Unicast Period, in seconds, at which new time requests are sent to the server. The specified period will be rounded to the nearest power of 2. This parameter is optional.	32	16 - 1,024
npoll_count	Number of retransmissions that will be sent when no timely response is received from the server. This parameter is optional.	3	1 – 100
npoll_timeout	The time, in seconds, that the module will wait for a response from the server. This parameter is optional.	2	1 – 100.
SNTP Local Time Corrections (LTC) and Daylight Savings Time (DST) Parameters (task n)		Default	Range

nltc_offset	This signed value indicates the hours and minutes of the offset of local time from UTC. The minutes must be specified by one of four values, 0, 15, 30, or 45.	0:00	-12:45 to +14:45
ndst_offset	The offset between DST and standard time in hours and minutes, where the minutes are limited to the values 0, 15, 30, and 45.	None	0:15 to 1:00
ndst_start_month	The month when DST begins.	None	1 – 12
ndst_start_day	The day of the week when DST begins. 1 = Sunday 7 = Saturday	None	1 – 7
ndst_start_week	The number of the occurrence of ndst_start_day in the month. (1 is the first occurrence.)	None	1 – 4
ndst_start_time	The time, in hours and minutes, when DST begins.	None	0:00 – 23:59
ndst_ref_zone	Indicates the time zone of reference for ndst_start_time and ndst_end_time. L = Local Time U = UTC	None	L or U
ndst_end_month	The month when DST ends. Note that in the southern hemisphere, this value will be smaller than the start value.	None	1 – 12
ndst_end_day	The day of the week when DST ends. 1 = Sunday 7 = Saturday	None	1 – 7
ndst_end_week	The number of the occurrence of ndst_end_day in the month. (1 is the first occurrence.)	None	1 – 4
ndst_end_time	The time, in hours and minutes, when DST ends.	None	0:00 – 23:59
Modbus TCP/IP Client Parameters (task o)		None	None
Ethernet Redundancy Parameters (task q)		Default	Range
rdipckival	Interval between additional checks for Redundant IP address in use (in milliseconds). When activating the Redundant IP address, the ETM sends a burst of three ARP requests at 20ms intervals. If the ETM receives an SRP response, it delays for the interval specified by rdipckival, plus an additional 20ms. After the specified interval has passed, the ETM tries again, repeating the cycle of three ARP requests. The ETM repeats the request cycle after each SRP response; however the delay interval after a response is received doubles each cycle, to a maximum of 2.0 seconds.	100 (0064H)	1 – 1000ms
rdiparpivl	Interval between gratuitous ARP requests sent by the backup unit on behalf of the new active unit (in ms).	100 (0064H)	1 – 1000ms
rdipnumarp	Number of gratuitous ARP requests to send out during Redundant IP activation process.	1 (0001H)	1 – 25

rdiparplog	Number of gratuitous ARP requests to send by backup unit before a “Redundant IP not available” exception is logged. (The backup unit continues to send ARP requests as long as it receives network packets addressed to the Redundant IP Address.)	5 (0005H)	1 – 25
FTP Parameters (task t)		Default	Range
tpassword	Password for login for FTP access.	“system”	0 to 8 characters
UDP Parameters (task u)		None	None
SRTP Parameters (task v)		Default	Range
vconn_tout ²	SRTP inactivity timeout (in seconds). Amount of time to wait before cleaning up an abandoned privileged SRTP server connection. Any non-zero value is rounded up to the next multiple of 5 seconds. Refer to SRTP Inactivity Timeout in Chapter 1 for details. All privileged connections initially use the SRTP inactivity timeout specified by this AUP parameter. Inactivity timeouts established by an SRTP Client on an individual connection will override any AUP specified inactivity timeout on that connection. 0 = SRTP Inactivity Timeout disabled.		
TCP Parameters (task w)		Default	Range
wndelay ²	TCP nodelay option (0= inactive; 1 = active)	1 (1H)	0, 1
wkal_idle ²	TCP keepalive timer value (in seconds)	2	0 – 65535 (ffffH)
wkal_intvl ²	TCP keepalive probe interval (in seconds)	60 seconds	1 – 65535 (ffffH)
wsnd_buf ²	TCP send buffer size (in bytes)	65535 (ffffH)	0 – 65535 (ffffH)
wrcv_buf ²	TCP receive buffer size (in bytes)	4096 (1000H)	0 – 32767 (7fffH)
<p>¹ Proficy Machine Edition Release 8.50 SIM 6 is required for EGD / SNTF on CPE305/CPE310.</p> <p>² Supported by CPE305/CPE310 embedded Ethernet interface.</p> <p>³ CPE305/CPE310 embedded Ethernet interface does not support all tasks available for this command. Refer to chapter 3 for details.</p> <p>⁴ Support for this command was added in CPE305/CPE310 firmware release 8.30.</p> <p>⁵ Support for parm n and parm g was added in CPE305/CPE310 firmware release 8.30, except for “g_accel”.</p>			

3.33 PING

Available in *Modify* mode.

Interfaces: All RX7i Rack-based RX3i Embedded RX3i

Use the *PING* command to generate ICMP Echo requests to validate network connectivity.

The *PING* command is refused if the Ethernet interface on which you are issuing the *PING* command has not been configured with a valid IP address.

Login is maintained (automatic inactivity logout is inhibited) until the *PING* sequence has ended.

The results of the last *PING* command are maintained until the Modify-level login is exited. Use the REPP command to display the results of the most recent *PING* command.

Only one *PING* command can be active at a time.

PING Command Format

PING <node> [<cnt> [<sch> [<len>]]]

<node>	The IP address of the remote node to be "pinged" (to be sent ICMP Echo Request messages). Enter in standard IP dotted-decimal form.
<cnt>	The number of times the ping is to be repeated. Default is 1. Range is 1 through ffffffffH.
<sch>	The maximum amount of time to wait for a reply to each ping. The timeout interval is expressed in 10 millisecond units. Default is 100 (1 second). Range is 0 through 7fffH. If you enter 0, a delay of 100 (1 second) is used.
<len>	The number of data bytes in the Echo Request message. The actual data pattern cannot be changed. Default length is 64 bytes. Range is 8 through 32747 but is limited by system buffer memory.

PING Command Example

This example pings the node with IP address 10.0.0.2 ten times.

```
= ping 10.0.0.2 10
```

```
Ping initiated
```

```
<<< Ping Results >>>
```

```
Command: ping 10.0.0.2 10 100 64
```

```
Sent = 10, Received = 10, No Timely Response = 0
```

```
Late/Stray Responses = 0
```

```
Round-trip (ms) min/avg/max 0/1/10
```

See also the REPP command for detailed explanation of PING results.

3.34 PLCREAD

Available in *Monitor* or *Modify* mode.

Interfaces: All RX7i Rack-based RX3i Embedded RX3i

Use the PLCREAD command to display data from a specified address in CPU memory, program data block memory, or local data block memory.

The data is displayed in bytes. Each line of up to 16 bytes shows the data in hexadecimal format, followed by its ASCII representation. Dots are used for non-printable ASCII characters. For discrete tables such as %I and %Q, the entire byte containing the requested address is displayed. For example, specifying %I1, %I4 or %I8 in the command would all display the same data.

An error message is displayed if the address is not valid, or if address plus the length specified exceeds the memory of the CPU.

PLCREAD Command Format

To read CPU memory, enter the address and optional length:

PLCREAD <address> [<len>]

To read program block or local data block memory, enter the address, pathname, and optional length:

PLCREAD <%P address> <programe> [<len>]

PLCREAD <%L address> <programe> <blockname> [<len>]

<address>	The address is %<selector><offset> The selector is AI, AQ, I, G, L, M, P, Q, R, S, SA, SB, SC, T, or W. The offset is a numeric value in the range of 1 to the size of the reference table being displayed. Example addresses are %R1, %AI003 and %AQ1000.
<len>	The length is words for word oriented tables such as the %R, %AI, %AQ, %P. %L, and %W tables. The length is bytes for the other tables. Length defaults to 1 (byte or word).
<programe> <blockname>	If the address selector type is %L (local data block memory) or %P (program data block memory), a program name is required. For %L, the block name is also required.

PLCREAD Command Example 1

This example reads two words of %R (register) memory beginning at register 1:

```
> plcread %R1 2
01 00 02 00 ....
```

PLCREAD Command Example 2: %W

This example reads eight words of %W memory beginning at word 2000:

```
> plcread %W2000 8
01 00 02 00 03 00 04 00 05 00 06 00 07 00 08 00 .....
```

PLCREAD Command Example 3: Program Block Memory

This example reads four words of %P (program block) memory from the program block prog01. The data to be read starts at word 128:

```
> plcread %P128 prog01 4
01 00 02 00 03 00 04 00 .....
```

PLCREAD Command Example 4, Local Data Block Memory

This example reads six words of %L (local data block) memory from the local data block located at: prog01\blk001. The data to be read starts at word 88:

```
> plcread %L88 prog01\blk001 6
05 00 06 00 07 00 08 00 09 00 0a 00 .....
```

3.35 PLCWRITE

Available in *Modify* mode.

Interfaces: All RX7i Rack-based RX3i Embedded RX3i

Use the PLCWRITE command to write up to 16 byte or word values into a specified location in CPU memory, program block memory, or local data block memory. An error is displayed and the data from the command is not written if the address is not valid for the CPU, or if the new data is not a valid numeric value.

PLCWRITE Command Format

To write data to CPU memory, enter the address and new data values:

PLCWRITE <address> <new data> [<new data> ...]

To write data to program block or local data block memory, enter the address, program name, block name for %L and new data values:

PLCWRITE <%Paddress> <programe> <new data> [<new data> ...]

PLCWRITE <%Laddress> <programe> <blockname> <new data> [<new data> ...]

<address>	The address is %<selector><offset> The selector is AI, AQ, I, G, L, M, P, Q, R, S, SA, SB, SC, T, or W. The offset is a numeric value in the range of 1 to the size of the reference table being written. Example addresses are %R1, %AI003 and %AQ1000.
<new data value>	A byte or word of data to be written.
<programe> <blockname>	If the address selector type is %L (local data block memory) or %P (program data block memory), a program name is required. For %L, the block name is also required.

PLCWRITE Command Example 1: %W Memory

This example writes the five words of data to %W memory beginning at word 2000.

```
= plcwrite %W2000 1 2 4098 64000 4444H
written
```

PLCWRITE Command Example 2: Program Block Memory

This example writes four words of data to %P (program block) memory in program block prog01. The location to receive the data starts at word 128

```
= plcwrite %P128 prog01 01 02 03 04
written
```

PLCWRITE Command Example 3, Local Data Block Memory

This example writes two words to %L (local data block) memory in the local data block located at: prog01\blk001. The location to receive the data starts at word 88:

```
= plcwrite %L88 prog01\blk001 100 256
written
```

3.36 PLUGINAPP

Available in *Modify* mode.

Interfaces: All RX7i Rack-based RX3i

Use the *PLUGINAPP* command to manage optional Ethernet plug-in applications. This command may be used to display a list of the active plug-in applications, enable or disable automatic startup of individual plug-in applications, start any plug-in applications that were not already started, or delete any plug-in application images from non-volatile storage. This command is typically used during Ethernet plug-in application development. There are four forms of the *PLUGINAPP* command:

The *PLUGINAPP LIST* command displays a list of all plug-in applications that have been loaded into this Ethernet interface.

PLUGINAPP LIST Command Format PLUGINAPP LIST

PLUGINAPP LIST Command Example

A typical PLUGINAPP LIST command and its output are shown below:

= pluginapp list

<<< Ethernet Plug-in Applications >>>

Num	Name	Type	Startup	Status	Text Start	Data Start	BSS Start
....
1	PluginApp1	Rel	Auto	Running	0x01234567	0x00604320	0x00024680

The *PLUGINAPP STARTUP* command enables or disables a specified plug-in application for automatic startup when the Ethernet interface is restarted. (If not automatically started, the plug-in application can be started later via the PLUGINAPP RUN command.) The plug-in application startup setting is only used when the Ethernet interface is restarted via pressing the restart pushbutton or issuing a Station Manager reset command. This setting defaults to AUTO after a power-cycle.

PLUGINAPP STARTUP Command Format PLUGINAPP STARTUP <> {AUTO | OFF}

<app num>	Ethernet plug-in application number (1, 2 or 3).
{AUTO OFF}	AUTO enables automatic startup. OFF disables automatic startup.

PLUGINAPP STARTUP Command Example

A typical PLUGINAPP STARTUP command and its output are shown below:

= pluginapp startup 1 off

Application 1 will not be run at startup

The *PLUGINAPP RUN* command manually starts a specified plug-in application that was not previously started.

PLUGINAPP RUN Command Format PLUGINAPP RUN <app num>

<app num>	Ethernet plug-in application number (1, 2 or 3).
-----------	--

PLUGINAPP RUN Command Example

A typical PLUGINAPP RUN command and its output are shown below:

= pluginapp run 1

Application 1 started successfully

The *PLUGINAPP DELETE* command removes a specified plug-in application image from non-volatile storage. Once deleted, the plug-in application will not be available the next time that the Ethernet interface is started or restarted.

PLUGINAPP DELETE Command Format

PLUGINAPP DELETE <app num>

<app num>	Ethernet plug-in application number (1, 2 or 3).
-----------	--

PLUGINAPP DELETE Command Example

A typical PLUGINAPP DELETE command and its output are shown below:

= pluginapp delete 1

Application 1 was successfully deleted from FLASH

Restart the Ethernet module to unload the active instance from RAM

3.37 REM

Available in *Modify* mode.

Interfaces: All RX7i Rack-based RX3i

Use the *REM* command to send a Station Manager command to a remote Ethernet interface for processing. The Station Manager on the remote node acts on the command as if it had been entered locally, but directs all output from processing the command back over the network to the station where the *REM* command originated.

The results are displayed at the local station with the notation “REM” along with the prompt from the remote station. An Ethernet interface cannot use the *REM* command to send any command to itself.

REM Command Format

REM <node> <cmd> [<cmd parms>]

<node>	The IP address of the remote Ethernet interface
<cmd>	Any Station Manager command except REM
<cmd parms>	A list of any parameters required by <cmd>

Do NOT send the REM command itself to an Ethernet interface:

= rem <node> rem <node> <commandd>

REM Command Example

This example sends a NODE command to the node with IP Address 10.0.0.2:

= rem 10.10.0.5 node

REM> IC695 Peripheral Ethernet Interface

REM> Copyright (c) 2003-2005. All rights reserved.

REM> Version 3.00 (15A1) TCP/IP

REM> Version 2.51 (20A1) Loader

REM> Version 6.00 Hardware

REM> IP Address = 10.10.0.5 Subnet Mask = 255.255.255.0

REM> Gateway = 0.0.0.0

REM> MAC Address = <<000991408C31>>

REM> SNTP Not Configured

REM>

REM> Station Manager Port:

REM> Data Rate = 9600, Parity = NONE, Flow Control = NONE

REM>

REM> Source of Soft Switches: Backup

REM> Source of IP Address: Configuration

REM> Jan 5, 2000 4:59:40.5

REM> Date/time initialized from CPU

Logging into a Remote System

To send a Modify-level command to a remote Station Manager, you must first log into the remote Station Manager. Use the REM command to send a LOGIN command to log into a remote system. You must also enter the password for the remote station:

REM <node> LOGIN <password>

If the password contains any uppercase letters, place it in double quotes; passwords are case-sensitive.

3.38 **RENAME**

Available in *Modify* mode.

Interfaces: All RX7i Rack-based RX3i

Use the RENAME command to rename a file in the current working directory.

RENAME Command Format

RENAME <old file name> <new file name>

<old file name>	The filename to be changed.
<new file name>	The new name for the file.

RENAME Command Example

This example renames the file "index.html" to be "old_index.html":

```
= rename index.html old_index.html
```

```
-rwxrwxrwx 1 0 0 8666 Jan 1 02:38 old_index.html
```

3.39 REPP

Available in *Modify* mode.

Interfaces: All RX7i Rack-based RX3i Embedded RX3i

Use the *REPP* command to report the results of the *PING* command. The results may be for a currently-running *PING* or the most recent *PING* command. Note that the most recent *PING* results are not preserved when Station Manager exits Modify-level login.

REPP Command Format

REPP

REPP Command Example

= repp

<<< Ping Results >>> Command: ping 10.0.0.2 10 100 64

Sent = 1, Received = 1, No Timely Response = 0

Late/Stray Responses = 0

Round-trip (ms) min/avg/max 0/1/10

Note: The ping is still active

In the response:

Command	Identifies the actual PING command parameters used (including default values for any optional parameters not specified on the command line) to generate the results
Sent	Shows the number of Echo Request messages sent.
Received	Shows the number of Echo Reply messages received within the expected response schedule of a corresponding Echo Request. The response schedule begins when an Echo Request is sent and ends when the schedule time specified in the <sch> parameter of the PING command elapses.
No Timely Response	Shows the number of times that no Echo Response message arrived within the response schedule of the corresponding Echo Request; that is, when the response schedule time elapses before the corresponding Echo Response arrives.
Late/Stray Responses	Indicates the number of times an Echo Response arrived outside of the response schedule of its corresponding Echo Request or when a stray Echo Response, not corresponding to any recent Echo Request, arrives.
Round-trip	Indicates the minimum, average, and maximum delay (in units of milliseconds) measured between sending an Echo Request and receiving the corresponding Echo Response. These times use 1 millisecond increments.

3.40 RESTART

Available in *Modify* mode.

Interfaces: All RX7i Rack-based RX3i

Use the *RESTART* command to restart the Ethernet interface without reloading the software. Using this command has the same effect as pressing the Restart pushbutton. Any data transfer between the CPU and the network at the time the *RESTART* command is entered is lost.

RESTART Command Format

RESTART

RESTART Command Example

= restart
Restarting Module

3.41 RMDIR

Available in *Modify* mode.

Interfaces: All RX7i Rack-based RX3i

Use the RMDIR command to remove a directory in the current file system working directory. If the directory is not empty, the directory contents will also be cleared.

RMDIR Command Format

RMDIR <path>

<path>	Use a forward slash ('/') to separate directories. The path dot('.') refers to the current directory. The path '..' refers to the directory immediately up in the hierarchy. Using the RMDIR command with no path deletes the current working directory.
--------	---

RMDIR Command Example

= rmdir images
"images" directory deleted

3.42 SOSW

Available in *Monitor* or *Modify* mode.

Interfaces: All RX7i Rack-based RX3i Embedded RX3i

Use the SOSW command to show the current setting of the Ethernet configuration data (“Soft Switches”) and to indicate their source.

SOSW Command Format

SOSW

SOSW Command Example

> **sosw**

<<< Soft Switch Data >>>

IP Address = 10.0.0.2 (TCP/IP values from Soft Switches)

Subnet Mask = 255.255.0.0

Gateway = 0.0.0.0

Max Web connections = 4

Max FTP connections = 6

SNTP Not Configured

Station Manager Port:

Data Rate = 9600

Parity = NONE

Flow Control = NONE

Source of Soft Switches: PLC Configuration

Source of IP Address: Configuration

Pending local changes (must power-up or restart to activate):

p1_data_rate = 38400

Sources for the Soft Switches are:

PLC Configuration	Settings received in the configuration from the PACSystems controller.
Backup	Settings retrieved from the Ethernet interface’s internal backup. This is expected when configuration has not been received from the PACSystems controller.
Factory Default	Settings are factory defaults. This is expected when no current configuration or previously backed up configuration exists.

Sources for IP address are:

Configuration	IP address from Ethernet configuration (PACSystems controller or Backup)
EEPROM	IP address from EEPROM (Backup configuration is invalid)
Network	Temporary IP address set over network via SetIP utility.
BOOTP	Temporary IP address set over network from BOOTP server.
Factory Default	IP address is zero. (Backup configuration and EEPROM are invalid.)

3.43 STAT

Available in *Monitor* or *Modify* mode.

Interfaces: All RX7i Rack-based RX3i Embedded RX3i

Use the STAT command to show the current status of the specified task(s). The STAT output display format varies according to the task being displayed.

STAT Command Format

The RX3i CPE305/CPE310/CPE330 embedded Ethernet interface does not support all STAT tasks listed. Tasks that can be used with CPE305/CPE310/CPE330 are indicated by a footnote. Other PACSystems Ethernet interfaces support the use of all the tasks listed in the following table.

STAT <task(s)>

<task(s)> may be one or more of the following task identifiers.

Task	Description	Supported by
a	Display Module Settings and Status	RX3i DNP3 Outstation Module ⁷
b ⁸	System Memory	All
c ⁸	Backplane Driver (BPD)	All
d	RDS	RX3i Rack-based; all RX7i
e	Web Server	RX7i Embedded
f	ARP	All
g	Ethernet Global Data (EGD)	All ⁶
h ⁸	SRTP Client (Channels)	All
l ⁸	IP	All
j	ICMP, IGMP (for multicast)	RX3i Rack-based; all RX7i
l ^{2,8}	Network Interface	All
m ⁸	Modbus/TCP Client (Channels)	All
n	SNTP	All ⁶
o ⁸	Modbus/TCP Server	All
q	Ethernet Redundancy	RX3i Rack-based; all RX7i
s	Flash File System	RX3i Rack-based; all RX7i
t	FTP Server	RX3i Rack-based; all RX7i
u ⁸	UDP	All
v ⁸	SRTP Server	All
w ⁸	TCP	All

² Supported by CPE305/CPE310 embedded Ethernet interface.
⁶ Support for stat n and stat g was added in CPE305/CPE310 firmware release 8.30.
⁷ Stat a is a command unique to the DNP3 Outstation Module EDS001. See GFK-2911 for details.
⁸ Supported by CPE 330

Note that STAT command output data cannot be manually reset during operation.

STAT G Command Example

This example displays the status of the Ethernet Global Data task (g).

Exchanges that have Produce in backup mode enabled are identified by a '+' character immediately after the mode display, as shown in the following sample report.

> stat g

<<< EGD Status >>> 01-JAN-2000 00:14:46.0

<u>Ndx</u>	<u>Producer ID</u>	<u>Exchange ID</u>	<u>Mode</u>	<u>State</u>	<u>Xch Sts</u>	<u>Transfers Completed</u>
0H	10.10.0.1	1	PRODUCER	ACTIVE	01H	78
1H	10.10.0.1	2	PRODUCER+	ACTIVE	01H	78

Plus (+) indicates exchange configured as 'Produce in backup mode'
 Number of exchanges (current + added by RMS) = 2
 Number of producer tasks = 2

Note When a produced or consumed exchange has been updated in an RMS so that it is incompatible, it is normal to see exchange status values of 0xE or 14 until the RMS is completed and the exchanges are again compatible. Once this has occurred, STAT G will indicate that SMI transfer errors (mismatched lengths, etc) have occurred by displaying an asterisk for that exchange. The only way to clear this indication in a newly updated system without restarting the module is a CLEAR TALLY command.

STAT V Command Example

This example displays the status of the SRTP Server task (v):

> stat v

<<< SRTP Server Status >>> 03-JAN-2003 16:10:22.0

<u>Endpoint</u>	<u>Task</u>	<u>State</u>	<u>Num Requests</u>	<u>Client IP Address:Port</u>	<u>Timeout</u>
0*	32	ESTABLISHED	10906	10.0.0.4:1659	30 sec
1*	33	ESTABLISHED	10916	10.0.0.4:1660	30 sec
2	34	ESTABLISHED	10931	10.0.0.4:1661	
3	35	ESTABLISHED	10911	10.0.0.4:1662	

Total connections used by SRTP = 4
 Asterisk (*) indicates privileged SRTP Server connection.
 Sharp (#) indicates CPU slot1-to-slot2 translation enabled.
 CPU Slot1-to-Slot2 redirection allowed.

Note An SRTP Inactivity Timeout interval is displayed if the Inactivity Timeout is enabled for a connection.

STAT N Command Example

This example displays the current time of the Ethernet interface and identifies which SNTP Server it is synchronized with. It displays Local time correction value (LTC) time and Day Light Savings Time (DST) applied to the system.

```
10.10.21.130> stat n
```

```
<<< SNTP Status >>> 25-APR-2013 15:01:48.0 (+6:00) DST  
Current POSIX clock time: 25-APR-2013 15:01:48.6 (+6:00) DST
```

```
Status:UNSYNCHRONIZED
```

```
<<< SNTP TRACKING TABLE >>>
```

```
Time Since
```

<u>Server</u> <u>Address</u>	<u>Stratum</u>	<u>Update</u>	<u>Consistent</u>
---------------------------------	----------------	---------------	-------------------

10.10.21.100	4	9 seconds	YES
--------------	---	-----------	-----

```
1 tracked SNTP server(s)
```


3.44 STOPP

Available in *Modify* mode.

Interfaces: All RX7i Rack-based RX3i Embedded RX3i

Use the STOPP command to immediately stop an active PING and view the results. This command is used to terminate a long-running PING sequence.

STOPP Command Format

STOPP

STOPP Command Example

= stopp

<<< Ping Results >>>

Command: ping 10.0.0.2 10 100 64

Sent = 8, Received = 8, No Timely Response = 0

Late/Stray Responses = 0

Round-trip (ms) min/avg/max 0/1/10

Note: The ping was aborted.

3.45 TALLY

Available in *Monitor* or *Modify* mode.

Interfaces: All RX7i Rack-based RX3i Embedded RX3i

Use the TALLY command to show the current value of the tallies for the specified tasks. Some tallies indicate load and performance information. Others can show whether there are local or network problems. Refer to Appendix A, [Tallies of Ethernet Tasks](#), for a list of the tallies and their meanings. All tallies are displayed as 32-bit hexadecimal numbers.

TALLY Command Format

Note The RX3i CPE305/CPE310/CPE330 embedded Ethernet interface does not support all TALLY tasks listed. Tasks that can be used with CPE305/CPE310 are indicated by a footnote. Other PACSystems Ethernet interfaces support the use of all the tasks listed in the following table.

TALLY <task(s)>

<task(s)> May be one or more of the following task identifiers.

Task	Description	Supported by
a	Retrieve & Display Engineering Diagnostics	DNP3 Outstation Module (EDS001) only ⁹
c	Backplane Driver (BPD)	All
d	Reliable Datagram Service (RDS)	RX3i Rack-based; all RX7i
e	Web Server	RX7i Embedded
f	ARP	All
g	Ethernet Global Data (EGD)	All ³
h	SRTP Client (Channels)	All
l	IP	All
j	ICMP, IGMP (for multicast)	All
l	Network Interface	All
m	Modbus/TCP Client (Channels)	All
n	SNTP	All ⁸
o	Modbus/TCP Server	All
p	OS Events	All
q	Ethernet Redundancy	RX3i Rack-based; all RX7i
s	Flash File System	RX3i Rack-based; all RX7i
t	FTP Server	RX3i Rack-based; all RX7i
u	UDP	All
v	SRTP Server	All
w	TCP	All

TALLY Command Example

> tally v

```
<<< SRTP Server Tallies >>> 03-JAN-2003 16:07:38.0
InPDU =00000000H OutPDU =00000000H BadPDU =00000000H InConRq =00000000H
OutConRp=00000000H InDatRq =00000000H OutDatRp=00000000H InUncRq =00000000H
OutUncRq=00000000H InErrRq =00000000H OutErrRq=00000000H InDisRq =00000000H
OutDisRq=00000000H InSesRq =00000000H InDstRq =00000000H OutDstRp=00000000H
InPrvRq =00000000H OutPrvRp=00000000H InItoRq =00000000H OutItoRp=00000000H
OpenTO =00000000H InactTo =00000000H
```

3.46 TIME

Available in *Monitor* or *Modify* mode.

Interfaces: All RX7i Rack-based RX3i Embedded RX3i

Use the TIME command to display the current system time. This time is used in generating time stamps for messages that require them. It is also used as a time stamp for events in the exception log displayed by the LOG command. The initial value of the time on restart, power up, or load is read from the local CPU. If this is not available, it is set to 00:00:00.0 (midnight). Time values are based on a 24 hour clock.

TIME Command Format

TIME

TIME Command Example

> time

Time = 15:46:02.3

Note The command CHTIME can be used to change the date/time value.

3.47 TRACE

Available in *Modify* mode.

Interfaces: All RX7i Rack-based RX3i Embedded RX3i

Use the TRACE command to display a diagnostic trace of certain Ethernet tasks. Login is maintained (automatic inactivity logout is inhibited) until the TRACE has ended.

Enabling trace output has severe performance penalties for the communications software; tracing should only be used in debugging problems. TRACE should never be left on in operational nodes. Only one TRACE command can be active at a time. Each new TRACE command automatically stops any existing traces. The TRACE command can be used either locally or remotely. The TRACE command issued last, either locally or remotely, determines where the display takes place. If a trace is initiated from a remote Station Manager, trace output continues to be sent to that remote Station Manager until terminated, even if the remote Station Manager is disconnected or logged into another station. Be sure to stop your traces.

TRACE Command Format

To display a trace:

TRACE <task> [(<qual>)] [<task(s)>] [<mins>[<max_len>]]

To disable all tracing:

TRACE !

Using the command TRACE with no arguments displays the tasks that are currently being traced, the time remaining for an active trace, and the active length value for PDU data.

!	Disables all tracing . It should only be used by itself.
<task>	<p>A letter specifies the task type:</p> <ul style="list-style-type: none"> g Ethernet Global Data10 o Modbus/TCP Server m Modbus/TCP Client (Channels) d RDS (RX7i and rack-based RX3i only) v SRTP Server c PLC Driver (BPD) n SNTP10 h SRTP Client (Channels) e Web Server (RX7i embedded only) z Enables Protocol Data Unit (PDU) tracing for selected traces <p>Up to eight tasks may be specified; each task may contain an optional qualifier described below. All tasks/qualifiers are entered as one parameter without spaces.</p>
<qual>	<p>Optional number that restricts tracing to a specified entry within a task. The qualifier must be enclosed in parentheses and immediately follow the task letter. The qualifiers for the above tasks are:</p> <ul style="list-style-type: none"> g (Ethernet Global Data): Exchange index (0) - (255) (RX7i & rack-based RX3i only) o (Modbus/TCP Server): Connection ID (0) - (15) (RX7i and rack-based RX3i only) v (SRTP Server): Connection ID (0) - (47) c (PLC Driver): Mailbox task ID (0) - (127) e (Web server): Connection index (0) - (max web connections) (RX7i embedded) <p>Multiple trace qualifiers of the same task can be specified. See example above.</p>
<mins>	Optional timeout period from 0 (no timeout) to 32767 min. Default is 10 min.
<max_len>	For task z (PDU) only, this is an optional maximum length of data to be displayed. The range is 1 byte to 32767 bytes. Default is the first 48 bytes of the PDU.

TRACE Command Example

This command displays a trace of SRTP server tasks (task v) for connection IDs 2 and 5, for 15 minutes, with up to 64 bytes of data:

```
= trace v(2)v(5)z 15 64
```

```
Trace enabled for: v(2)v(5)z
```

```
Minutes remaining = 15
```

```
max data displayed = 64
```

TRACE Outputs for Ethernet Global Data (Task g)

Typical TRACE command outputs for EGD are shown below. The “ndx” value identifies a particular Ethernet Global Data exchange. You can display information about this exchange (such as remote IP address and local UDP port) with the STAT G command.

```
egd <- ndx=1
```

```
egd -> ndx=1
```

Optional Protocol Data Unit data is also displayed if PDU trace is enabled.

TRACE Outputs for SRTP Server (Task v)

Typical TRACE command outputs for the SRTP Server task are shown below. The “conn” value identifies a particular SRTP Server connection. You can display information about this connection (such as remote IP address and local TCP endpoint) with the STAT V command.

```
srtp svr <- conn=2
```

```
srtp svr -> conn=2
```

Optional Protocol Data Unit data is also displayed if PDU trace is enabled.

Trace Outputs for CPU Driver (Task c)

Typical TRACE command outputs for the CPU backplane driver are shown below. The “task” value identifies a particular CPU mailbox message address within the LAN interface. You can display information about this mailbox address task with the STAT C command.

```
CPU <- task=13
```

```
CPU -> task=0
```

Optional Protocol Data Unit data is also displayed if PDU trace is enabled.

3.48 XCHANGE

Available in *Monitor* or *Modify* mode.

Interfaces: All RX7i Rack-based RX3i Embedded RX3i4

Use the XCHANGE command to show detailed information about the configuration of a specified Ethernet Global Data exchange. Every exchange is uniquely identified by its producer ID and exchange ID.

XCHANGE Command Format

XCHANGE <producer ID> <exchange ID>

<producer ID>	The ID of the device that produced the exchange
<exchange ID>	The ID of the exchange

The producer ID and exchange ID values for all defined exchanges can be displayed with the STAT G command.

Note that XCHANGE counters cannot be manually reset during operation.

Note When a produced or consumed exchange has been updated in an RMS so that it is incompatible, it is normal to see exchange status values of 0xE or 14 until the RMS is completed and the exchanges are again compatible. The only way to clear this indication in a newly updated system without restarting the module is a CLEAR TALLY command.

XCHANGE Command Example

This example displays information about EGD exchange 1 for the device with address: 1.2.3.4:

```
> xchange 1.2.3.4 1
<<< Individual Exchange Information >>>
Exch Mode:   PRODUCER
Producer ID: 1.2.3.4
Exchange ID: 1
Exchange State: ACTIVE
Exchange Status: 01
Current DP Status: 01
RMS State:   NORM_OP
RMS Scan Flag: 01
Exchange Signature: 0.0
Producer State: STARTED
Period:      1000 ms
Dest UDP Port: 18246
Xfer Bytes:  0
Exch Type:   STATIC
Dest IP:     224.0.7.2
Transfer Cnt: 83651
Refresh Errs: 0
SMI Xfer Errors: 0
```

3.49 Commands Supported by the RX3i Embedded Ethernet Interface

The following table lists, in alphabetical order, the Station Manager commands that can be used with the RX3i CPE305/CPE310 embedded Ethernet interface. A note is provided by each of those supported by CPE330. Enter help to see a list of commands supported by the firmware version in your device.

Note CPE305/310 release 8.65 no longer supports the *login* command. Therefore, these CPUs no longer support Modify commands. CPE330 also does not support the *login* command.

Command	Mode	
chist ¹¹	Monitor	
channel ¹¹	Monitor	
chltime	Modify	
chtime	Modify	Note: Changes the Real Time Clock at the CPU. The CPE305/CPE310/CPE330 embedded Ethernet interface does not, itself, have a clock.
clear	Modify	
dbgdata	Modify	
egdread	Monitor	
egdwrite	Modify	
events	Modify	
exception	Modify	
exs ¹¹	Monitor	
fatalinfo ^{4, 11}	Monitor	
help, ? ¹¹	Monitor	
killms	Modify	
killss	Modify	
log ¹¹	Monitor	
login	Monitor	
logout	Modify	
ltime ¹¹	Monitor	
node ¹¹	Monitor	
Parm g ⁵ , n ⁵	Monitor	
ping	Modify	
plcread ¹¹	Monitor	
plcwrite	Modify	
repp	Modify	
sosw ¹¹	Monitor	

Command	Mode
stat ¹¹ b, c, g ⁶ , i, l, n ⁶ , u, v, w	Monitor
stopp	Modify
tally ¹¹ c, g ⁸ , i, j, l, n ⁸ , u, v, w	Monitor
time ¹¹	Monitor
trace c, d, g, h, m, n, o, v	Modify
xchange ⁴	Monitor

⁴ Support for this command was added in CPE305/CPE310 firmware release 8.30.

⁵ Support for parm n and parm g was added in CPE305/CPE310 firmware release 8.30, except for "g_accel".

⁶ Support for stat n and stat g was added in CPE305/CPE310 firmware release 8.30.

⁸ Support for tally n and tally g was added in CPE305/CPE310 firmware release 8.30.

¹¹ Supported by CPE330 – monitor only.

Appendix A Tallies of Ethernet Tasks

This appendix describes the types of information you can display using the TALLY command. Tallies are grouped by task.

Note The RX3i CPE305/CPE310/CPE330 embedded Ethernet interface does not support all TALLY tasks listed. Tasks that can be used with CPE305/CPE310 are indicated by a footnote. Other PACSystems Ethernet interfaces support all the tasks listed below.

- Ethernet Global Data (EGD) Tallies (task g)
- Modbus/TCP Server Tallies (task o) ^{2, 8}
- Modbus/TCP Client (Channels) (task m) ^{2, 8}
- Reliable Datagram Service (RDS) Tallies (task d)
- SRTP Client (Channels) Tallies (task h) ^{2, 8}
- SRTP Server Tallies (task v) ^{2, 8}
- Web Server Tallies (task e) – *RX7i embedded Ethernet Interface only*
- FTP Server Tallies (task t)
- Backplane Driver Tallies (task c) ²
- SMI Driver Tallies (also part of task c) ^{2, 8}
- IP Tallies (task i) ^{2, 8}
- TCP Tallies (task w) ^{2, 8}
- UDP Tallies (task u) ^{2, 8}
- Network Interface Tallies (task l) ^{2, 8}
- ICMP/IGMP Tallies (task j) ^{2, 8}
- SNTP Tallies (task n)
- Flash File System (FFS) Tallies (task s)
- Ethernet Redundancy Tallies (task q)
- OS Event Tallies (task p) ⁸

There are no ARP Tallies (task f).

² Supported by CPE305/CPE310 embedded Ethernet interface.

⁸ Supported by CPE330 embedded Ethernet interface.

Ethernet Global Data Tallies (task g)

Use the command: **> tally g**
to display the tally data for these Ethernet operations:

Tally	Description
EstConRq	Establish Global Data connection area requests received from CPU.
EstConRp	Establish Global Data connection area replies sent to CPU.
ConnRdy	Global Data connection area is ready messages received from CPU.
EnabOut	Enable production requests received from CPU.
DisabOut	Disable production requests received from CPU.
TermRq	Terminate Global Data connection area requests received from CPU.
TermRp	Terminate Global Data connection area replies sent to CPU.
DataRx	Global Data production packets received from network.
DataTx	Global Data production packets sent to network.
RdRqRcv	CMP Read requests received from network.
RdRpSnt	CMP Read replies sent to network.
WrRqRcv	CMP Write requests received from network.
WrRpSnt	CMP Write replies sent to network.
RdRqSnt	CMP Read requests sent to network.
RdRpRcv	CMP Read replies received from network.
WrRqSnt	CMP Write requests sent to network.
WrRpRcv	CMP Write replies received from network.
CfRqRcv	CMP Retrieve Configuration requests received from network.
CfRpSnt	CMP Retrieve Configuration replies sent to network.
SmRqRcv	CMP Summary requests received from network.
SmRpSnt	CMP Summary replies sent to network.
CpRqRcv	CMP Capabilities requests received from network.
CpRpSnt	CMP Capabilities replies sent to network.
StRqRcv	CMP Statistics requests received from network.
StRpSnt	CMP Statistics replies sent to network.
IdleData	Global Data production packets received while data input is disabled.
RefrErr	Refresh errors encountered.
SemaErr	Semaphore locking errors encountered.
ECRpRtry	Retries when sending Establish Connection reply to CPU.
ECRpAbrt	Establish Connection replies aborted (due to backplane communication problems).
ECRpTO	Establish Connection replies timed out (due to backplane communication problems).
TMAbort	Global Data transaction machines aborted or terminated. Each transaction machine corresponds to one EGD exchange. A transaction machine is aborted if a fatal error is encountered, and is terminated when the exchange is terminated (as when storing a new configuration).

Tally	Description
UnRecID	Consumed exchange not configured for exchange received from network.
BadPort	UDP port not setup for exchange received from network.
AlinErr	CMP error responses due to alignment error.
ExchErr	CMP error responses due to invalid exchange specified in request.
SigErr	CMP error responses due to signature error in request.
LenErr	CMP error responses due to length error in request.
OffErr	CMP error responses due to invalid data offset in request.
TooLong	CMP error responses because response is too large for UDP packet.
PduErr	CMP error responses due to PDU encoding error.
RejRcv	CMP Reject responses received from network.
RejSnt	CMP Reject responses sent to network.
Timeout	CMP application timeouts.
UnscnC	EGD samples lost due to being overwritten by fresher EGD samples before they can be scanned into the controller's reference memory. (May also occur when the controller is in the STOP/Disabled state.)
Stale	Produced exchanges sent without fresh CPU data.
StatErr	EGD samples discarded due to an invalid or unrecognized status.
DataRxE	Global Data packets received with expedited handling.

EGD Command Tallies (part of EGD Tallies)

RdRqRcv	Read requests received from network.
RdRpSnt	Read responses sent to network.
WrRqRcv	Write requests received from network
WrRpSnt	Write responses sent to network.
RdRqSnt	Read requests sent to network.
RdRpRcv	Read responses received from network
WrRqSnt	Write requests sent to network.
WrRpRcv	Write responses received from network
CfRqRcv	Configuration requests received from network.
CfRpSnt	Configuration responses sent to network.
SmRqRcv	Summary requests received from network.
SmRpSnt	Summary responses sent to network.
CpRqRcv	Capabilities requests received from network.
CpRpSnt	Capabilities responses sent to network.
StRqRcv	Statistics requests received from network.
StRpSnt	Statistics responses sent to network.
AlinErr	Number of alignment errors.

ExchErr	Number of exchange errors.
SigErr	Number of signature errors.
LenErr	Number of packet data length errors.
OffErr	Number of data offset errors.
TooLong	Number of packets exceeding max data length (1400 bytes)
PduErrm	Number of packets received containing incorrect protocol version number.
RejRcv	Number of reject packets received.
RejSnt	Number of reject packets sent.
Timeout	Number of timeouts occurred.

Modbus/TCP Server Tallies (task o)

Use the command: **> tally o**
to display the tally data for these Ethernet operations:

Description	Description
InPdu	Total Modbus/TCP PDUs received (good and bad) from network.
OutPdu	Total Modbus/TCP PDUs sent to network.
BadPdu	Bad PDUs received from network.
InConRq	Number of TCP Connection Requests received from network.
OutConRp	Number of TCP Connection Responses sent to network.
InDatRq	Number of Data Request PDUs received from network.
OutDatRp	Number of Data Response PDUs sent to network.
OutErrRp	Number of Error Response PDUs sent to network.
InDisRq	Number of Disconnect Requests received from network.
OutDisRp	Number of Disconnect Requests sent to network.
FC01	Number of Read Coils requests received from network.
FC02	Number of Read Discrete Inputs requests received from network.
FC03	Number of Read Holding Registers requests received from network.
FC04	Number of Read Input Registers requests received from network.
FC05	Number of Write Single Coil requests received from network.
FC06	Number of Write Single Register requests received from network.
FC07	Number of Read Exception Status requests received from network.
FC08	Number of Diagnostics requests received from network.
FC15	Number of Write Multiple Coils requests received from network.
FC16	Number of Write Multiple Registers requests received from network.
FC20	Number of Read File Record requests received from network.
FC21	Number of Write File Record requests received from network.
FC22	Number of Mask Write Register requests received from network.
FC23	Number of Read/Write Multiple Registers requests received from network.

Modbus/TCP Client Tallies (task m)

Use the command: **> tally**
m to display the tally data for these Ethernet operations:

Tally	Description
InPdu	Total Modbus/TCP PDUs received (good and bad) from network.
OutPdu	Total Modbus/TCP PDUs sent to network.
BadPdu	Bad PDUs received from network.
OutDatRq	Number of Data Request PDUs sent to network.
InDatRp	Number of Data Response PDUs received from network.
InErrRp	Number of Error Response PDUs received from network.
OutDisRq	Number of Disconnect Requests sent to network.
InDisRq	Number of Disconnect Requests received from network.
InCmd	Number of Channel COMMREQs received.
BadCmd	Number of unrecognized Channel COMMREQs received.
InOpen	Number of Open (3000) Channel COMMREQs received.
InClose	Number of Close (3001) Channel COMMREQs received.
InRdData	Number of Read Data (3003) Channel COMMREQs received.
InWrData	Number of Write Data (3004) Channel COMMREQs received.
InRdWr	Number of Read/Write (3005) Channel COMMREQs received.
InMskWr	Number of masked Write Data (3009) Channel COMMREQs received.
OutBpdEr	Number of BPD transfer failures while sending to local CPU.
InBpdEr	Number of BPD transfer failures while receiving from local CPU.
OutConRq	Number of TCP Connection Requests Responses sent to network.
InConRp	Number of TCP Connection Responses received from network.

RDS Tallies (task d)

Use the command: **> tally d**
to display the tally data for these Ethernet operations:

Tally	Description
RqSent	Number of requests sent.
RqRetry	Number of requests retried
RqTmOut	Number of requests timed out without response.
RpRecv	Number of replies received.
SessStrt	Number of sessions started.
SessEnd	Number of sessions terminated.
RqRecv	Number of incoming requests received.
RqFlush	Number of incoming requests flushed without processing.
RpImm	Number of immediate replies sent.
RpNonImm	Number of non-immediate replies sent.
RdDup	Number of duplicate requests received. (The reply is sent from execute-once queue.)

SRTP Client (Channels) Tallies (task h)

Use the command: **> tally h**
to display the tally data for these Ethernet operations:

Tally	Description
InPdu	Total SRTP PDUs received (good and bad) from network.
OutPdu	Total SRTP PDUs sent to network.
BadPdu	Number of Bad PDUs received from network.
OutConRq	Number of Connect Request PDUs sent to network.
InConRp	Number of Connect Response PDUs received from network.
OutDstRq	Number of Destination Request PDUs sent to network.
InDstRp	Number of Destination Response PDUs received from network.
OutSesRq	Number of Session Request PDUs sent to network.
InSesRp	Number of Session Response PDUs received from network.
OutDatRq	Number of Data Request PDUs sent to network.
InDatRp	Number of Data Response PDUs received from network.
OutErrRq	Number of Error PDUs sent to network.
InErrRp	Number of Error PDUs received from network.
OutUncRq	Number of Unconfirmed Requests sent to network.
OutDisRq	Number of Disconnect Requests sent to network.
InDisRp	Number of Disconnect Requests received from network.
InCmd	Number of channel command blocks received from CPU.
BadCmd	Number of invalid channel command blocks received from CPU.
OutBpdEr	Number of Backplane Driver Transfer failures while sending to CPU.
InBpdEr	Number of Backplane Driver Transfer failures while receiving from CPU.

SRTP Server Tallies (task v)

Use the command: **> tally v**
to display the tally data for these Ethernet operations:

Tally	Description
InPDU	Total SRTP PDUs received (good and bad) from network.
OutPDU	Total SRTP PDUs sent to network.
BadPDU	Bad PDUs received from network.
InConRq	Connect Request PDUs received from network.
OutConRp	Connect Response PDUs sent to network.
InDatRq	Data and Session Request PDUs received from network.
OutDatRp	Data Response PDUs sent to network.
InUncRq	Unconfirmed Request PDUs received from network.
OutUncRq	Unconfirmed Request PDUs sent to network.
InErrRq	Error Request PDUs received from network.
OutErrRq	Error Request PDUs sent to network.
InDisRq	Disconnect requests received from network.
OutDisRq	Disconnect requests sent to network.
InSesRq	Session Request PDUs received from network.
InDstRq	Destinations Request PDUs received from network.
OutDstRp	Destinations Response PDUs sent to network.
InPrvRq	Privileged Connection Request PDUs received from network.
OutPrvRp	Privileged Connection Response PDUs sent to network.
InlToRq	Inactivity Timeout Request PDUs received from network.
OutlToRp	Inactivity Timeout Response PDUs sent to network.
OpenTO	SRTP connections timed out in OPENING state.
InactTO	Inactive SRTP connection timeouts in ESTABLISHED state.

Web Server Tallies (task e)

Use the command: **> tally e**
to display the tally data for these Ethernet operations:

Tally	Description
UrlReq	Number of URL requests received.
UrlSrvd	Number of URL requests responded to with data.
UrlUnkn	Number of requests for an unknown URL.
WebByte	Number of bytes returned to clients.
WebRef	Number of times a URL request has been refused due to lack of a connection.

FTP Server Tallies (task t)

Use the command: **> tally t**
to display the tally data for these Ethernet operations:

Tally	Description
LgnsSucc	Number of successful logins handled by the server.
LgnsRejc	Number of logins rejected by the server.

Backplane Driver Tallies (task c)

Use the command: **> tally c**
to display the tally data for these Ethernet operations:

Tally	Description
UsrReq	Service requests from BPD (backplane driver) users to CPU.
UsrRsp	Service request responses to BPD users.
UsrMsg	Messages from BPD users to CPU.
UnsolMsg	Unsolicited transfers from CPU to BPD users.
PlcReq	Service requests from CPU to BPD users.
PlcRsp	Service request responses to CPU.
Cmrq	COMMREQs received from CPU.
CmrqDscd	COMMREQs discarded for BPD Users. (This tally indicates that the controller application is sending COMMREQs faster than the Ethernet interface can process them.)
PlcSweep	Total CPU Sweeps.
PktToPlc	Total mailbox messages sent to CPU.
PktFmPlc	Total mailbox messages received from CPU.
PktUnreg	Messages received for unregistered user.
BsyRetry	Automatic retries due to CPU busy.
BpdAbort	Transfers aborted by BPD.
PlcTmout	Timeouts awaiting response from CPU.
UsrTmout	Timeouts awaiting response from user.
BadMbQlf	Mailbox requests received from BPD Users with mailbox qualifier error (bad message type or command value).
CmrqStrm	Onset of a COMMREQ Storm. The controller application is sending COMMREQs so fast that the Ethernet interface cannot continue normal operation.

Shared Memory Interface Tallies (also part of task c)

Tally	Description
IntRcv	Number of interrupts received.
IntSent	Number of interrupts sent.
CmdRSRst	Number of soft reset interrupt commands received.
CmdRHMsg	Number of high-priority message interrupt commands received.
CmdRLMsg	Number of normal-priority message interrupt commands received.
CmdRTest	Number of test interrupt commands received.
CmdRUnsp	Number of unsupported interrupt commands received.
CmdSHRst	Number of hard reset interrupt commands sent.
CmdSSRst	Number of soft reset interrupt command sent.
CmdSHMsg	Number of high-priority message interrupt commands sent.
CmdSLMsg	Number of normal-priority message interrupt commands sent.
CmdSTest	Number of test interrupt commands sent.
IoIScans	Number of input scans detected.
IoInSet	Number of times input data has been updated in shared memory.
IoTimSet	Number of times timestamp has been updated in shared memory.
SmhAlloc	Number of shared memory heap buffers allocated.
SmhFree	Number of shared memory heap buffers freed.
SmhDbIFr	Number of shared memory heap buffers freed multiple times.
MtMbSend	Number of mailbox message sent to the PACSystems controller.
MtMbRsnd	Number of mailbox message resent to the PACSystems controller.
MtSndAbt	Number of aborted attempts to send a mailbox message to the PACSystems controller.
MtMbRcv	Number of mailbox message received from the PACSystems controller.

ARP Tallies (task f)

There are no ARP tallies.

IP Tallies (task i)

Use the command: **> tally i**
to display the tally data for these Ethernet operations:

Tally	Description
InRecv	The total number of input datagrams received from interfaces, including those received in error.
InHdrErr	The number of input datagrams discarded due to errors in their IP headers.
InAdrErr	The number of input datagrams discarded because the IP address in their IP header's destination field was not a valid address to be received at this entity.
ForwDgms	The number of input datagrams for which this entity was not their final IP destination, as a result of which an attempt was made to find a route to forward them to that final destination. (Not used)
InUnkPro	The number of locally-addressed datagrams received successfully but discarded because of an unknown or unsupported protocol.
InDiscds	The number of input IP datagrams for which no problems were encountered to prevent their continued processing, but which were discarded (e.g., for lack of buffer space).
InDelivs	The total number of input datagrams successfully delivered to IP user-protocols (including ICMP).
OutReq	The total number of IP datagrams which local IP user-protocols (including ICMP) supplied to IP in requests for transmission.
OutDiscd	The number of output IP datagrams for which no problem was encountered to prevent their transmission to their destination, but which were discarded (e.g. for lack of buffer space).
OutNoRts	The number of IP datagrams discarded because no route could be found to transmit them to their destination.
ReasmTO	The maximum number of seconds that received fragments are held while they are awaiting reassembly at this entity. (Not used)
ReasmReq	The number of IP fragments received which needed to be reassembled at this entity.
ReasmOKs	The number of IP datagrams successfully re-assembled.
ReasmFai	The number of failures detected by the IP re-assembly algorithm (for whatever reason: timed out, errors, message size too big, etc.).
FragOKs	The number of IP datagrams that have been successfully fragmented at this entity.
FragFail	The number of IP datagrams that have been discarded because they needed to be fragmented at this entity but could not be, e.g., because their "Don't Fragment" flag was set.
FragCrea	The number of IP datagrams that have been generated as a result of fragmentation at this entity.
Filtered	IP packets ignored because not addressed to this node and destination is unreachable.

TCP Tallies (task w)

Use the command: **> tally w**
to display the tally data for these Ethernet operations:

Tally	Description
ActOpens	The number of times TCP connections have made a direct transition to the SYN-SENT state from the CLOSED state.
PasOpens	The number of times TCP connections have made a direct transition to the SYN-RCVD state from the LISTEN state.
AtmptFai	The number of times TCP connections have made a direct transition to the CLOSED state from either the SYN-SENT state or the SYN-RCVD state, plus the number of times TCP connections have made a direct transition to the LISTEN state from the SYN-RCVD state.
EstabRes	The number of times TCP connections have made a direct transition to the CLOSED state from either the ESTABLISHED state or the CLOSE-WAIT state.
CurEstab	The number of internal TCP data structures currently in use. This value corresponds to the number of entries displayed via the "STAT W" command (including the LISTEN entry).
InSegs	The total number of segments received, including those received in error. This count includes segments received on currently established connections.
OutSegs	The total number of segments sent, including those on current connections but excluding those containing only retransmitted bytes.
RtranSeg	The total number of segments retransmitted – that is, the number of TCP segments transmitted containing one or more previously transmitted bytes.
InErrs	TCP segments received in error.
SndRsts	TCP segments sent with RST flag.

UDP Tallies (task u)

Use the command: **> tally u**
to display the tally data for these Ethernet operations:

Tally	Description
InDatagm	Number of incoming datagrams validated and accepted by the UDP stack.
NoPorts	Number of incoming datagrams discarded by the UDP stack because the destination UDP ports were not initialized for reception.
InErrors	Number of incoming datagrams discarded by the UDP stack because they are invalid datagrams, e.g., invalid checksums, etc.
OtDatagm	Number of outgoing UDP datagrams sent by the UDP stack to remote hosts.

Network Interface Tallies (task I)

Note The TALLY L command provides statistics about operation and performance of the Ethernet Interface and the embedded Ethernet network switch.

PACSystems Rack-Based and RX7i Embedded Ethernet Interface

The command: `> tally I`
displays the tally data for the following Ethernet operations.

Tally	Description
RcvUniPk	Unicast packets received from network.
RcvMcPkt	Multicast packets received from network.
DiscPkt	Received packets discarded by Network Interface.
RcvError	Error packets received from network.
UnkProto	Received packets discarded due to unknown protocol.
SndUniPk	Unicast packets sent to network.
SndMcPkt	Multicast packets sent to network.
SndError	Outbound packets discarded due to errors.
SndDscd	Outbound packets discarded.
<i>The following are Detailed Network Interface Tallies</i>	
MalErr	Number of MAL system errors detected (restarts EMAC).
EmacRst	Number of times EMAC restarted (for error recovery).
RxOvr	Number of times RECEIVE failed due to an overrun condition.
RxPause	Number of times a PAUSE frame was received.
RxBadPkt	Number of times a bad packet was received.
RxRntPkt	Number of packets received that were less than 64 bytes.
RxPhyDv	Number of times the PHY receive DV signal was too short.
RxAlign	Number of packets received with a non-integral number of bytes.
RxFCS	Number of packets received with a checksum error.
Rx2Long	Number of packets received that were greater than 1537 bytes.
RxLong	Number of packets received with an out-of-range error.
RxShrt	Number of packets received with an in-range error.
TxDead0	Number of transmit packets failed due to transmit or SQE errors.
TxSqe0	Number of transmit packets failed due to an SQE error.
TxErr0	Number of transmit packets failed due to a transmit error.
TxNoDsc	Number of times unable to transmit a packet due to a lack of transmit ring descriptors.
TxExsDef	Number of packets that were not transferred due to excessive deferrals.

Tally	Description
TxExsCol	Number of packets that were not transferred due to excessive collisions.
TxLatCol	Number of packets that experienced a late collision.
TxMulCol	Number of transmitted packets that saw multiple collisions.
TxSngCol	Number of transmitted packets that saw exactly one collision.
TxLosCar	Number of times detected a loss of carrier.
TxUnr	Number of transmitter under-run conditions detected (restarts EMAC).
The following are tallies associated with each switch port	
TxUniPkt	Unicast packets sent to network.
TxMcPkt	Multicast packets sent to network.
TxBcPkt	Broadcast packets sent to network.
TxDrop	Number of transmit packets dropped for lack of resources.
TxTotCol	Number of collisions seen by the port.
TxSngCol	Number of transmitted packets that saw exactly one collision.
TxMulCol	Number of transmitted packets that saw multiple collisions. TxDefer Number of packets whose transmission was delayed due to the
TxLatCol	Number of packets that experienced a late collision (more than 512 bit times into the transmission).
TxExcCol	Number of packets that were not transferred due to excessive collisions.
TxFrmDsc	Number of packets that were discarded due to lack of output space within the switch.
TxPause	Number of PAUSE frames transmitted by the port.
RxUniPkt	Unicast packets received from network.
RxMcPkt	Multicast packets received from network.
RxBcPkt	Broadcast packets received from network.
RxShort	Number of packets received that were less than 64 bytes.
RxPause	Number of times a PAUSE frame was received by the port.
RxLong	Number of packets received whose length was greater than 1522 bytes.
RxJabber	Number of times a jabber condition was detected by the receiver.
RxAlign	Number of packets received with a non-integral number of bytes.
RxFcsErr	Number of packets received with a checksum error.
RxDrop	Number of packets dropped in the receiver due to lack of space in the switch.
RxSaChng	Number of times the source address of packets changed.
RxFrgmnt	Number of packets received that were less than 64 bytes.
RxExcSiz	Number of packets received that were greater than 1537 bytes.
RxSymErr	Number of times an invalid symbol was encountered in the data stream.

PACSystems RX3i (CPE305/CPE310/CPE330) Embedded Ethernet Interface

The command: **> tally I**
displays the tally data for the following Ethernet operations.

Tally	Description
RcvUniPk	Unicast packets received from network.
RcvMcPkt	Multicast packets received from network.
DiscPkt	Received packets discarded by Network Interface.
RcvError	Error packets received from network.
UnkProto	Received packets discarded due to unknown protocol.
SndUniPk	Unicast packets sent to network.
SndMcPkt	Multicast packets sent to network.
SndError	Outbound packets discarded due to errors.
SndDscd	Outbound packets discarded.
The following are Detailed Network Interface Tallies	
RxCRCr	RX CRC error count
RxAlign	RX frame alignment error
RxSymErr	RX symbol error count
RxError	RX error count
RxMisPkt	RX missed packet count
RxLenErr	RX length error count
RxXon	RX XON received count
RxXoff	RX XOFF received count
RxFcUnSp	RX FC received unsupported count
RxNoBuf	RX frames drop due to no buffers
RxRntPkt	RX runts
RxFrag	RX fragments
RxGiant	RX giants
RxJabber	RX jabber errors
RxMgt	RX mgmt frame count
RxMgtDrp	RX mgmt frames dropped
TxSngCol	TX single collision count
TxExsCol	TX excessive collisions count
TxMulCol	TX multiple collisions count
TxLatCol	TX late collision count
TxColl	TX collision count
TxExsDef	TX defer count
TxLosCar	TX carrier sense lost

Tally	Description
TxSeqErr	TX sequence error count
TxCarrErr	TX carrier extension error count
TxXon	TX XON transmitted count
TxXoff	TX XOFF transmitted count
TxMgmt	TX mgmt frames sent
TxTcpSeg	TX TCP segmentation context sent count
TxTcpFal	TX TCP segmentation context failed count

ICMP/IGMP Tallies (task j)

Use the command: **> tally j**
to display the tally data for these Ethernet operations:

Tally	Description
InMsgs	The total number of ICMP messages received.
InErrors	The number of ICMP messages received that have errors (bad checksums, etc.).
InDstUnr	The number of ICMP Destination Unreachable messages received.
InTimeEx	The number of ICMP Time Exceeded messages received.
InParmPr	The number of ICMP Parameter Problem messages received.
InSrcQch	The number of ICMP Source Quench messages received.
InRedir	The number ICMP Redirect messages received.
InEchos	The number of ICMP Echo (requests) messages received.
InEchoRp	The number of ICMP Echo Reply messages received.
InTmSp	The number of ICMP Timestamp (request) messages received.
InTmSpRp	The number of ICMP Timestamp Reply messages received.
InAdrM	The number of ICMP Address Mask Request messages received.
InAdrMRp	The number of ICMP Address Mask Reply messages received.
OtMsgs	The total number of ICMP messages attempted to send.
OtErrors	The number of ICMP messages not sent due to problems discovered within ICMP.
OtDstUnr	The number of ICMP Destination Unreachable messages sent.
OtTimeEx	The number of ICMP Time Exceeded messages sent.
OtParmPr	The number of ICMP Parameter Problem messages sent.
OtSrcQch	The number of ICMP Source Quench messages sent.
OtRedir	The number of ICMP Redirect messages sent.
OtEchos	The number of ICMP Echo (request) messages sent.
OtEchoRp	The number of ICMP Echo Reply messages sent.
OtTmSp	The number of ICMP Timestamp (request) messages sent.
OtTmSpRp	The number of ICMP Timestamp Reply messages sent.
OtAdrM	The number of ICMP Address Mask Request messages sent.
OtAdrMRp	The number of ICMP Address Mask Reply messages sent.

SNTP Tallies (task n)

Use the command: **> tally n**
to display the tally data for these Ethernet operations:

Tally	Description
Ntppkt	Number of SNTP packets received (from any server).
Nstrater	Number of SNTP packets received with an invalid stratum number (outside the range 0-15).
Nverold	Number of SNTP packets received with an old version (1 or 2).
Nver3	Number of SNTP packets received with version 3.
Nver4	Number of SNTP packets received with version 4.
Nverbad	Number of SNTP packets received with an invalid version.
Nlenbad	Number of SNTP packets received with an invalid length.
Nincons	Number of SNTP packets discarded due to an inconsistent time.
Ntimeout	Number of times an SNTP server timed out by not sending a packet within 150 seconds.
Nsvrchng	Number of times the locked on SNTP server was changed.
Nloktot	Number of SNTP packets received from the locked-on server.
Nlokcons	Number of SNTP packets received with the locked-on server that were consistent.
Nrqpkt	Number of requests sent to Primary and Secondary Servers.

Flash File System Tallies (task s)

Use the command: **> tally s**
to display the tally data for these Ethernet operations:

Tally	Description
FfsWrite	Number of bytes written by the flash file system
FfsReadS	Number of bytes read by the flash file system.
FfsErase	Number of sector erases done by the flash file system.
FfsErrWr	Number of writes that returned an error status.
FfsErrRd	Number of read requests that returned an error status.

Ethernet Redundancy Tallies (task q)

If Redundant IP is configured, use the command: **> tally q**
to display the Redundant IP tallies. These tally values are retained through role switches.
They MUST be explicitly cleared.

Tally	Description
ActvReq	Number of requests received to activate the Redundant IP address.
ActvRsp	Number of times the Redundant IP address has been successfully activated.
DeactReq	Number of requests received to deactivate the Redundant IP address.
RecatRsp	Number of times the Redundant IP address has been successfully deactivated.
BadActv	Number of times the Redundant IP address activation failed.
CpuErr	Number of times a failure has been detected with the CPU resulting in an attempt to deactivate the Redundant IP address.
ArpRtry	Number of ARP retries required to verify that Redundant IP is not in use.
RcvPkFwd	Number of packets that were received (and forwarded) on the Redundant IP address when the Redundant IP address was deactivated.

OS Events Tallies (task p)

Use the command: **> tally p**
to display the tally data for internal OS Events operations:

Tally	Description
OpenEvt	Request to use events. Creates an entry in the event control block.
ClosEvt	Request to stop using events. Removes event control block & timer record list entry.
ClosEcb	Removed an event control block entry.
ClosTmr	Removed a timer record list entry.
CnclEvt	Request to remove an entry from the timer record list.
RxEvt	Request to receive operating system events.
SndEvt	Send an operating system event.
SndEvAft	Send an operating system event after a specified timeout. Creates an entry in the timer record list.
SndEvEvr	Send an operating system event on a periodic schedule. Creates an entry in the timer record list.
RxEvTmot	Receive an event with a timeout. Creates an entry in the timer record list.

Notes

Appendix B Exception Log Events

This section describes the Exception Log events that can be displayed using the LOG and LOG Z commands. Additional status information displayed by LOG Z only is defined in the next section.

- Viewing the Exception Log
- Descriptions of Event Types

Viewing the Exception Log

Events stay in the exception log until they are cleared with the CLEAR LOG command, or until they are overwritten by more recent data.

In rack-based and RX7i embedded interfaces, the exception log is maintained in non-volatile memory; the exception log contents are retained over normal power outage.

RX3i embedded interfaces maintain the exception log in volatile memory.

Use the Station Manager LOG command to view the current contents of the exception log. (Prior to Release 2.00, the LOG command only displayed basic information; use the LOG Z command to display the internal status information.) In addition to being accessible to the Station Manager, most exception log events also cause a fault message to be placed in the Controller Fault Table.

LOG Command Example

```
> log
<<< Exception Log >>>
IC698 Embedded Ethernet Interface version 1.00 (21A1)
Log displayed 04-APR-2003 11:25:28.3
Log initialized using valid RAM information
Log last cleared 31-MAR-2003 09:33:46.9
  Date           Time           Event Count   Entry 2 through Entry 6
  03-AUG-2000    09:33:47.0     1H    1H    0000H 0001H 0000H 0000H 0000H
  03-AUG-2000    09:33:47.0     0H    1H    MII/PHY Fail
  03-AUG-2000    14:01:22.2    20H    1H    0001H 0000H 0000H 0001H 0117H
->03-AUG-2000    09:33:47.2    2aH    1H    0004H 0000H 0000H 0004H 0192H
```

Log Command Example

Event Date and Time

The exception log is a circular list; a new event overwrites the oldest event in the list. An arrow points to the most recent event. Each entry is identified by Date and Time.

Event Count

The Count column shows how many errors of that type have occurred. Instead of recording each repeated event in detail, the log keeps the time of the latest event and a count of the number of repetitions of that event type.

At most 65536 (= 10000H) repetitions are counted in each entry. When the count reaches 65536, the displayed count will be shown as 0. A subsequent repetition will cause a new entry to be created in the log with a count of 1.

Types of Exception Events

In the LOG, the type of event that has occurred is indicated by a hexadecimal value:

Event Type	Event Group
0H	Power up diagnostics events
1H	System startup event
2H	Configuration (CFG) event
3H	Operating system (RTOS) event
8H	PLC Driver (BPD) event
dH	Error handler (ERR) event
eH	Station Manager (STA) event
fH	Common Utility (UTL) event
1bH	SRTP Server (SRTP) event
1cH	SRTP Client (Channels) event
20H	Network Interface event
28H	Ethernet Global Data (EGD) event
29H	SNTP event
2aH	Run-time Diagnostics (DIAG) event
2bH	Reliable Datagram Service (RDS) event
2cH	Web Server event
2dH	FTP Server event
2eH	Flash File System (FFS) event
2fH	Modbus/TCP Server event
30H	Shared Memory Interface event
31H	Common SRTP (Client and Server) event
32H	Channel Framework event (used by all channel protocols)
33H	OS Abstraction event
34H	General Ethernet System event
35H	Modbus/TCP Client (Channels) event

Additional Fault Information in Entries 2 through 6

Entries 2 - 6 provide detailed information about the exception. The tables that follow in this section describe this additional information for each event type.

Additional Internal Status Information

In addition to Entries 2 – 6, many exceptions also contain an internal Status Code (SCode) value. Some exceptions contain additional information, such as identification of individual network connections or exchanges.

Descriptions of Event Types

Event Type 0: Power-Up Diagnostics Events

Event Type 0 is a power-up diagnostic error. Power-up diagnostic errors are reported as short text messages.

LOG Command Display for Event Type 0

Unlike all other exception log events, Power-up Diagnostics events are displayed as text strings instead of numeric codes in Entries 2-6. The LOG or LOG Z command display for Event Type 0 is shown below.

Powerup Diagnostics

Date	Time	Event	Count	Entry
12-APR-2003	00:00:00.0	0H	1H	Text description of error

The following table shows the Power-up Diagnostic events. All Power-up Diagnostic events generate the Controller Fault Table entry “Module hardware fault”.

Text Descriptions of Power-up Diagnostic Events

Text Description	Exception Event that has Occurred
“Undefined Fail”	General hardware diagnostic failure.
“Enet HW Fail”	Non-specific hardware failure.
“Enet RAM Fail”	RAM memory test has failed.
“SMI Init Fail”	Shared memory initialization has failed.
“SMI Diag Fail”	Controller-CPU interaction test has failed.
“Enet CRC Fail”	Ethernet Controller self-test has failed.
“MAC Addr Fail (CRC)”	The unique MAC address is corrupted.
“Bad MAC Addr”	The unique MAC address is invalid.
“MII/PHY Fail”	Error communicating to internal PHY.
“PHY T/O Fail”	PHY did not respond to command.
“Serial Failure”	UART serial port test has failed.
“Ethernet Fail”	Ethernet Controller test has failed.
“Runtime Fail”	Runtime diagnostic failure.

Event Type 1: Power-up Events

Event Type 1 is logged at every initialization of the Ethernet interface. Checking the count for Event Type 1 shows how many restarts have occurred. Restarts may not indicate error conditions; power-up events do not change the STAT (or LOG EMPTY) LED on rack-based or RX7i embedded interfaces.

No Fault Table Reporting for Power-up Events

Power-up events are not reported to the Controller Fault Table. The CPU may generate a Controller Fault Table entry when the Ethernet interface is restarted.

LOG Command Display for Event Type 1

Power-up events do not use a Status Code (SCode) value, so the LOG Z command does not show additional information for these events. The LOG or LOG Z command display for Event Type 1 is shown below.

Date	Time	Event	Count	Entry 2	Entry 3	Entry 4	Entry 5	Entry 6
12-APR-2003	00:00:00.0	1H	1H	0000H	0000H	0000H	0000H	0000H

1H = Powerup Event
Entry 2 is always 0.

The following table shows the Power-up events. For Power-up events, there are no Controller Fault Table entries. Entry 2 is always zero (see below). Entry 3 contains a restart reason code for the event. Entry 4 is only used when restarting after using the firmware loader. Entries 5 and 6 are not used.

Entry 3	Description
0	Normal power-up.
1	Restart via Ethernet Restart pushbutton.
2	Pre-emptive restart via Ethernet Restart pushbutton when a previous restart attempt did not complete.
3	Station Manager restart request.
4	Automatic restart after changing MAC address.
5	Automatic restart due to system error (see preceding exception log event).
7	Automatic restart after firmware update completion. Entry 4: b Firmware load due to corrupted Primary Ethernet firmware. 10 Firmware load requested by user via CPU serial port.
8	Automatic restart due to ACFAIL glitch or brown-out.
c	Automatic restart due to Ethernet watchdog timer expiration.
e	Automatic restart due to restart command from CPU firmware. This code may also be displayed on power-up after a very brief power outage.
10	Restart via Ethernet Restart pushbutton while in Software Load mode.
ff	Restart due to unknown reason.

Event Type 2: Configuration (CFG) Events

Event Type 2 indicates a configuration exception event.

LOG Command Display for Event Type 2

Most Configuration events contain an optional Status Code (SCode) value. The LOG or LOG Z command display for Event Type 2 is shown below.

└── 2H = Configuration Event

Date	Time	Event	Count	Entry 2	Entry 3	Entry 4	Entry 5	Entry 6	SCode
12-APR-2000	00:00:00.0	2H	1H	0000H	0000H	0000H	0000H	0000H	00000000H

Configuration Events and Corresponding Controller Fault Table Entries

The following table shows the Configuration events and corresponding Controller Fault Table entries. Entry 2 identifies the particular Configuration event. Entries 3 and 4 may vary according to each particular event. Entries 5 and 6 contain an internal location identification code.

Entry 2	Description
0	<i>LAN system-software fault; resuming</i> A failure occurred during primary firmware initialization. Entry 3: Internal error code indicating the subsystem that failed.
1	<i>LAN system-software fault; resuming</i> Configuration subsystem task 0 failed to properly register with the PACSystems controller Driver subsystem. There is no communication with the CPU.
2	<i>LAN system-software fault; resuming</i> A failure occurred attempting to send a logon request to the CPU. The CFG subsystem will no longer receive change notification mail. This will cause the LEDs to not properly display a configuration store or clear.
3	<i>LAN system-software fault; resuming</i> The CPU sent an unrecognized request to the Configuration subsystem. Entry 3: May contain an internal error code indicating the type of the request.
4	<i>LAN system-software fault; resuming</i> The CPU sent an unrecognized message to the Configuration subsystem. Entry 3: Internal code indicating the type of mail message for an unrecognized unsolicited mail message, or the sequence number for an unrecognized response message.
5	<i>LAN system-software fault; resuming</i> The Configuration subsystem failed attempting to respond to a CPU request. Entry 3: Response message type. Entry 4: Response message sequence number.
6	<i>LAN system-software fault; resuming</i> A failure occurred processing the Ethernet configuration. This error is due to an invalid configuration being stored. The Configuration processing stops at the first error detected. If processing a configuration received from CPU, the Ethernet interface will process the backup configuration. Entry 3: For Advanced User Parameter errors, the line number within the Advanced User Parameter file where the error occurred.

Entry 2	Description
7	<p><i>LAN system-software fault; resuming</i></p> <p>A failure occurred in configuration timeout processing. If no Status Code value exists, the configuration was not received from the CPU in a timely manner. Otherwise, an operating system error occurred attempting to send a message or event to perform the timeout processing. The last configuration stored will be retrieved from backup memory. If no configuration exists in backup, the default configuration will be used.</p>
8	<p><i>LAN system-software fault; resuming</i></p> <p>Failure attempting to retrieve backup configuration data from non-volatile memory. The backup configuration data has been corrupted. The default configuration will be used.</p>
9	<p><i>LAN system-software fault; resuming</i></p> <p>Failure attempting to store backup configuration data into non-volatile memory.</p>
a	<p><i>LAN system-software fault; resuming</i></p> <p>An unknown system event confirmation was received. Entry 3: Confirmation type received.</p>
b	<p><i>LAN system-software fault; resuming</i></p> <p>A failure was returned by the Driver while attempting to send a request to the CPU to retrieve the CPU date/time.</p>
c	<p><i>LAN system-software fault; resuming</i></p> <p>A failure occurred attempting to remove a Task from the event notification list.</p>
d	<p><i>LAN system-software fault; resuming</i></p> <p>An unrecognized event was received by the timeout task. Entry 3: Event code.</p>
f	<p><i>LAN system-software fault; resuming</i></p> <p>An unidentified subsystem attempted to vote on the module OK status.</p>
10	<p><i>LAN system-software fault; resuming</i></p> <p>Failure attempting to process a station manager command. Details are found in the Status Code. If no Status Code value exists, an invalid station manager command was attempted. Entry 3: Internal error code.</p>
11	<p><i>LAN system-software fault; resuming</i></p> <p>A failure was encountered when attempting to retrieve the internal system time from the DIAG subsystem. On rack-based and RX7i imbedded interfaces, this will cause unreliable operation of the Ethernet Restart pushbutton and the STAT/LOG EMPTY LED.</p>
12	<p><i>LAN system-software fault; resuming</i></p> <p>An internal operating system error occurred while retrieving or updating the current time value in shared memory. This may cause unreliable timestamp values in produced EGD exchanges. Entry 3: May contain an internal error code, which indicates a failure occurred while converting to POSIX time.</p>
13	<p><i>LAN system-software fault; resuming</i></p> <p>A failure occurred while receiving confirmation from one or more subsystems during the restart sequence. The restart will still occur. Entry 3: May contain an internal error code.</p>
14	<p><i>LAN system-software fault; resuming</i></p> <p>A failure occurred receiving confirmation from one or more subsystems during enter sequence into factory diagnostics. Factory diagnostics will still occur. Entry 3: May contain an internal error code.</p>
15	<p><i>LAN system-software fault; resuming</i></p> <p>A failure occurred attempting to allocate space to insert a Task into the notification list for system events. Entry 3: Internal error code indicating system events.</p>

Entry 2	Description
16	<i>LAN system-software fault; resuming</i> A failure occurred while allocating memory for the Advanced User Parameters file received from the PACSystems controller.
17	<i>LAN system-software fault; resuming</i> A failure occurred attempting to register a subsystem for system event notification. Entry 3: Internal error code indicating system events being registered.
18	<i>LAN system-software fault; resuming</i> A failure occurred attempting to de-register a subsystem for system event notification. Entry 3: Internal error code that indicates the system events being deregistered.
19	<i>LAN system-software fault; resuming</i> A system event notification error occurred. The notification could not be sent due to an operating system error, or the notification occurred before the event notification user list was created. Entry 3: May contain an internal system event code (USB) Entry 4: May contain an internal system event code (LSB)
1a	<i>LAN system-software fault; resuming</i> An operating system error occurred while the CFG main task was receiving messages from other tasks.
1d	<i>LAN system-software fault; resuming</i> Unable to update Advanced User Parameters File during station manager CHPARM command processing. A failure occurred while allocating space for the new parameter, or while retrieving the current Advanced User Parameter file from non-volatile memory.
1e	<i>LAN system-software fault; resuming</i> An error response message was returned from the CPU for a Logon request. Entry 3: Response message type. Entry 4: Response message sequence number.
1f	<i>LAN system-software fault; resuming</i> An error response was returned from the CPU for a Get Date/Time request. Entry 3: Response message type. Entry 4: Response message sequence number.
21	<i>LAN system-software fault; resuming</i> An error response was returned from the CPU for a Get Program Name request. Entry 3: Response message type. Entry 4: Response message sequence number.
23	<i>LAN system-software fault; resuming</i> An invalid value was used for the Data Rate, Parity or Flow Control configuration parameters for the Station Manager serial port. Entry 3: Internal error code. Entry 4: The invalid value.
24	<i>“LAN system-software fault; resuming”</i> An internal system error occurred while a Task was attempting to enter or exit a critical region.
26	<i>LAN system-software fault; resuming</i> An internal system error occurred attempting to initiate a Restart sequence. The restart will not occur.
27	<i>LAN system-software fault; resuming</i> An unrecognized Restart sequence command was received. Entry 3: Internal error code.

Entry 2	Description
2a	<p><i>“LAN system-software fault; resuming”</i></p> <p>An operating system error occurred while getting the current settings for the Station Manager serial port. This error prevents the serial port from being configured.</p>
2b	<p><i>LAN system-software fault; resuming</i></p> <p>An operating system error occurred while canceling a timer. The failure occurred during the status task shutdown while preparing to enter factory diagnostics operation.</p>
2c	<p><i>LAN system-software fault; resuming</i></p> <p>A failure occurred in shared memory while responding to a firmware update request. The restart sequence will still occur and the module will restart into software load mode.</p>
2d	<p><i>LAN system-software fault; resuming</i></p> <p>A failure occurred attempting to write to flash to place the module into software load mode. The module will not accept a firmware update.</p>
30	<p><i>LAN system-software fault; resuming</i></p> <p>A failure occurred attempting to register with the PACSystems controller for notification when the controller state changes, clear of faults occurs, and soft switch configuration changes. The Ethernet Interface will not respond to controller state changes.</p>
31	<p><i>LAN system-software fault; resuming</i></p> <p>An unrecognized notification message was received from the PACSystems controller. The message is ignored.</p>
32	<p><i>LAN system-software fault; resuming</i></p> <p>A failure occurred in attempting to write the IP address to non-volatile storage. No non-volatile IP address will be available.</p>
33	<p><i>LAN system-software fault; resuming</i></p> <p>A failure occurred trying to set the IP address from the network. The IP address of the module was not set. Entry 3 and 4: IP Address of received from the network, displayed as two hexadecimal words. (For example, 10.0.0.2 would be shown as 0A00H 0002H)</p>
34	<p><i>LAN system-software fault; resuming</i></p> <p>A failure occurred trying to process AUP information for a protocol. The protocol may not operate properly.</p>
35	<p><i>LAN system-software fault; resuming</i></p> <p>A failure occurred attempting to read controller memory. Entry 3: May contain an internal code</p>
36	<p><i>LAN system-software fault; resuming</i></p> <p>A failure occurred attempting to write controller memory. Entry 3: May contain an internal code</p>
37	<p><i>LAN system-software fault; resuming</i></p> <p>A failure occurred attempting to send a reply to the controller after receiving a request to get revision information. Communication with the controller will no longer be available. Initiate a power cycle or Ethernet restart to attempt recovery.</p>
38	<p><i>LAN system-software fault; resuming</i></p> <p>A failure occurred attempting to send a reply to the controller after receiving a request to invalidate firmware. The software load attempt will fail. Power cycle the CPU and retry the software load.</p>
39	<p><i>LAN system-software fault; resuming</i></p> <p>A failure occurred as a result of processing a response from the PACSystems controller that returns control information. Entry 3: May contain the type of the mailbox message Entry 4: May contain the sequence number of the mailbox message</p>

Entry 2	Description
3a	<i>LAN transceiver fault; OFF network until fixed</i> Network interface not running when attempting to install configuration. Configuration processing will continue without network connectivity.
3b	<i>LAN system-software fault; resuming</i> A failure occurred while processing BOOTP. Configuration from a BOOTP server may have been lost.
3c	<i>LAN system-software fault; resuming</i> A failure occurred while processing a BOOTP request or response. Configuration from a BOOTP server may have been lost.
3d	<i>LAN system-software fault; resuming</i> A failure occurred while waiting for other subsystems to confirm notification that SYSFAIL has been detected and handled. Entry 3: Internal code
3e	<i>LAN system-software fault; resuming</i> A failure occurred attempting to notify that a SYSFAIL has been detected.
3f	<i>LAN system-software fault; resuming</i> A failure occurred attempting to notify that an ACFAIL has been detected.
40	<i>LAN system-software fault; resuming</i> Attempt to send a service request to the controller failed. Entry 3: Mailbox type Entry 4: Mailbox sequence number
41	<i>LAN system-software fault; resuming</i> Unable to allocate memory for the Module Configuration file.
42	<i>LAN system-software fault; resuming</i> Error parsing the Module Configuration file. Entry 3: May contain parameter record code where error occurred Entry 4: May contain parameter record length
43	<i>LAN system-software fault; resuming</i> Error initializing the Ethernet Redundancy feature.
44	<i>LAN system-software fault; resuming</i> Generic internal Ethernet Redundancy error. Entry 3 may contain internal error code
45	<i>LAN system-software fault; resuming</i> Error attempting to activate the Redundant IP address. (This may occur if the Redundant IP address is already active.)
46	<i>LAN system-software fault; resuming</i> Error attempting to deactivate the Redundant IP address.
47	<i>LAN system-software fault; resuming</i> Error attempting to install the Redundant IP address.
48	<i>LAN system-software fault; resuming</i> Error attempting to uninstall the Redundant IP address.
49	<i>LAN system-software fault; resuming</i> Error attempting to notify the system that a Redundancy role switch has occurred. Entry 3: May contain redundancy state code
4a	<i>LAN system-software fault; resuming</i> Error registering for Redundancy role switch notification from CPU.

Entry 2	Description
4b	<p><i>LAN system-software fault; resuming</i></p> <p>One or more remote devices on the network are sending Redundant IP packets to the backup device instead of the active device. This may occur after a redundancy role switch when the ARP cache in a remote device may still contain old information prior to the role switch. This may also occur if the remote device is using a static ARP cache entry for the Redundant IP address.</p>
4c	<p><i>LAN system-software fault; resuming</i></p> <p>Configuration files were received from the CPU in incorrect sequence.</p>
4d	<p><i>LAN system-software fault; resuming</i></p> <p>Error registering for a communication channel. The channel is not available for use. Entry 3: Channel number</p>
4e	<p><i>LAN system-software fault; resuming</i></p> <p>Error deregistering for a communication channel. Entry 3: Channel number</p>
4f	<p><i>LAN system-software fault; resuming</i></p> <p>Error occurred while processing a Task 0 service request response from the CPU. Usually indicates an error updating a COMMREQ Status Word. Entry 3: Mailbox sequence number Entry 4: Mailbox type</p>
50	<p><i>LAN system-software fault; resuming</i></p> <p>The module has detected an over-temperature condition.</p>
51	<p><i>LAN system-software fault; resuming</i></p> <p>Internal error creating an error report message queue.</p>
52	<p><i>LAN system-software fault; resuming</i></p> <p>Error occurred processing a COMMREQ from the CPU. This usually indicates an unsupported COMMREQ command code, or an invalid COMMREQ Status Word address. Entry 3: (Optional) COMMREQ command number Entry 4: (Optional) Value of invalid status word segment selector</p>
53	<p><i>LAN system-software fault; resuming</i></p> <p>Internal error reading a message from the error report message queue.</p>
54	<p><i>LAN system-software fault; resuming</i></p> <p>Error occurred writing a COMMREQ Status Word to the CPU.</p>
55	<p><i>LAN system-software fault; resuming</i></p> <p>An unsupported feature was configured in the Module Config file. Entry 3: Parameter record code of unsupported feature. Entry 4: Parameter record length</p>
56	<p><i>LAN system-software fault; resuming</i></p> <p>Internal error occurred in the BPD COMMREQ flow control interface. The Ethernet interface may be unable to process further COMMREQs received from the CPU.</p>
57	<p><i>LAN system-software fault; resuming</i></p> <p>Internal error occurred in processing a COMMREQ.</p>
58	<p><i>LAN system-software fault; resuming</i></p> <p>Internal error attempting to send COMMREQ Status to the CPU. The COMMREQ Status update was not delivered to the controller application.</p>

Entry 2	Description
59	<i>LAN system-software fault; resuming</i> Internal error starting an Ethernet plug-in application. Entry 3: Index of the plug-in application (0..2)
5a	<i>LAN system-software fault; resuming</i> Internal error deleting an Ethernet plug-in application. Entry 3: Index of the plug-in application (0..2)

Event Type 3: Operating System Error Events

Event Type 3 is logged if the operating system detects an unrecoverable error. Normal operation cannot continue.

The Controller Fault Table entry for an Operating System Errors is generated after the restart has completed.

LOG Command Display for Event Type 3

Operating System Error events do not use a Status Code (SCode) value. The LOG or LOG Z command display for Event Type 3 is shown below.

Date	Time	Event	Count	Entry 2	Entry 3	Entry 4	Entry 5	Entry 6
12-APR-2000	00:00:00.0	3H	1H	0001H	0000H	0000H	0000H	0000H

The following table shows the Operating System Error events and corresponding Controller Fault Table entries. Entry 2 identifies the particular Operating System Error event. Entries 3 and 4 contain a 32-bit internal error code. Entry 3 contains the most significant 16 bits; Entry 4 contains the least significant 16 bits. Entries 5 and 6 contain an internal location identification code.

Entry 2	Description
1	<p><i>LAN system-software fault; restarted LAN IF</i></p> <p>Fatal operating system error.</p> <p>Entry 3: Internal error code. (Most significant 16 bits)</p> <p>Entry 4: Internal error code. (Least significant 16 bits)</p>

Event Type 8: PACSystems Controller Driver (BPD) Events

Event Type 8 indicates a Driver exception event.

LOG Command Display for Event Type 8

Most Driver events contain an optional Status Code (SCode) value. The LOG or LOG Z command display for Event Type 8 is shown below.

8H = Backplane Driver Event

Date	Time	Event	Count	Entry 2	Entry 3	Entry 4	Entry 5	Entry 6	SCode
12-APR-2000	00:00:00.0	8H	1H	0000H	0000H	0000H	0000H	0000H	0000000H

PACSystems Controller Driver (BPD) Events Codes and Descriptions

The following table shows the Driver events and corresponding Controller Fault Table entries. Entry 2 identifies the particular Driver event. Entries 3 and 4 may vary according to each particular event. Entries 5 and 6 contain an internal location identification code.

Entry 2	Description
1	<i>No Controller Fault Table Entry for this error.</i> PACSystems controller Driver subsystem not initialized after controller power-up or Ethernet restart. No communications with CPU.
2	<i>No Controller Fault Table entry for this error.</i> Mailbox communication was not established with CPU after a controller power-up or Ethernet restart. There is no communication with the CPU. Entry 3: Internal error code.
3	<i>Backplane communications with controller fault; lost request</i> Service Request Processor (within CPU) did not come online after a controller power-up or Ethernet restart. There is no mailbox communication with the CPU.
4	<i>Backplane communications with controller fault; lost request</i> Mailbox packets were received from CPU in wrong order. Entry 3: Task number. Entry 4: Mailbox sequence number.
5	<i>Comm-Req Bad task ID programmed</i> COMMREQ was received from CPU for unknown or unregistered BPD User task. Entry 3: Task number. Entry 4: Mailbox sequence number.
6	<i>Backplane communications with controller fault; lost request</i> A mailbox message (other than a COMMREQ) was received from the CPU for an unknown or unregistered BPD User task. Entry 3: Task number. Entry 4: Mailbox sequence number.
8	<i>Backplane communications with controller fault; lost request</i> Driver timed out waiting for an expected response from the CPU. This exception may occur when COMMREQs or other mail are sent faster than the Ethernet interface can process them. Driver timeouts may also be caused by extremely heavy EGD command traffic; this is indicated by CPU faults in Controller Fault Table preceding the timeout faults. Entry 3: Task number. Entry 4: Mailbox sequence number.

Entry 2	Description
9	<p><i>Backplane communications with controller fault; lost request</i> Driver timed out waiting for an expected response from a BPD User task to a request from the CPU. Entry 3: Task number. Entry 4: Mailbox sequence number.</p>
a	<p><i>Backplane communications with controller fault; lost request</i> Driver timed out waiting for completion of a multi-packet unsolicited transfer from the CPU. Entry 3: Task number. Entry 4: Mailbox sequence number.</p>
b	<p><i>Backplane communications with controller fault; lost request</i> Driver is unable to detect controller state changes.</p>
10	<p><i>No Controller Fault Table entry for this error.</i> Driver has stopped due to a fatal internal error.</p>
11	<p><i>LAN system-software fault; resuming</i> Error starting internal operating timers. Entry 3: Internal timer identification code.</p>
12	<p><i>LAN system-software fault; resuming</i> Error registering a new BPD User task. Entry 3: Task number. Entry 4: May contain memory allocation size.</p>
13	<p><i>LAN system-software fault; resuming</i> Error de-registering a BPD User task. Entry 3: Task number.</p>
14	<p><i>LAN system-software fault; resuming</i> Error receiving a mailbox transfer from a BPD User task. Entry 3: Task number. Entry 4: Mailbox sequence number.</p>
15	<p><i>No Controller Fault for this exception</i> Error sending a mailbox transfer to the CPU. The CPU may be in an error state or otherwise not receiving mail; look for CPU faults in the Controller Fault Table. Entry 3: Either the task number or an internal error code. Entry 4: Mailbox sequence number.</p>
16	<p><i>LAN system-software fault; resuming</i> Error receiving a mailbox transfer from the CPU. Entry 3: Task number. Entry 4: Mailbox sequence number.</p>
17	<p><i>LAN system-software fault; resuming</i> Error sending a mailbox transfer to a BPD User task. Entry 3: Either the task number or an internal error code. Entry 4: Mailbox sequence number.</p>
18	<p><i>LAN system-software fault; resuming</i> Error flushing a mailbox transfer. Entry 3: Task number. Entry 4: Mailbox sequence number.</p>
19	<p><i>LAN system-software fault; resuming</i> Error handling internal transfer timeout timers. Entry 3: Either the task number or an internal error code. Entry 4: Mailbox sequence number.</p>

Entry 2	Description
1a	<p><i>LAN system-software fault; resuming</i> Error freeing an internal transaction record. Entry 3: Task number. Entry 4: Mailbox sequence number.</p>
1b	<p><i>LAN system-software fault; resuming</i> Error generating Station Manager output data. Entry 3: Internal error code. Entry 4: Station Manager command code.</p>
1c	<p><i>LAN system-software fault; resuming</i> Unknown Station Manager command was received. Entry 3: Unknown Station Manager command code.</p>
1d	<p><i>LAN system-software fault; resuming</i> Error starting PACSystems Sweep timer task.</p>
1e	<p><i>LAN system-software fault; resuming</i> Error during Sweep or Controller State Change notification. Entry 3: Notification type code.</p>
1f	<p><i>LAN system-software fault; resuming</i> Error updating Ethernet Status Data (includes LIS word).</p>
20	<p><i>LAN system-software fault; resuming</i> Reject mail received from CPU. Entry 3: Task number. Entry 4: Mailbox sequence number.</p>
2a	<p><i>LAN system-software fault; resuming</i> General non-fatal internal error.</p>
30	<p><i>LAN system-software fault; resuming</i> Error during Driver shutdown. Entry 3: Internal error code.</p>
32	<p><i>LAN system-software fault; resuming</i> Error retrieving Advanced User Parameter data.</p>
40	<p><i>Mailbox queue full – COMMREQ aborted</i> A COMMREQ storm has occurred. The controller application is sending COMMREQs so rapidly that the Ethernet interface cannot continue normal operation. Network communication may be adversely affected. Check to make sure that the logic application is not sending COMMREQs faster than the Ethernet Interface can process them. Reduce the rate at which the application is sending COMMREQs to the Ethernet interface.</p>

Event Type d: Error Handler (ERR) Events

Event Type d indicates an Error Handler exception event.

LOG Command Display for Event Type d

Most Error Handler Events contain an optional Status Code (SCode) value. The LOG or LOG Z command display for Event Type d is shown below.

└───┬─── dH = Error Handler (ERR) Event

Date	Time	Event	Count	Entry 2	Entry 3	Entry 4	Entry 5	Entry 6	SCode
12-APR-2000	00:00:00.0	dH	1H	0000H	0000H	0000H	0000H	0000H	00000000H

Error Handler Events and Corresponding Controller Fault Table Entries

The following table shows the Error Handler events and corresponding Controller Fault Table entries. Entry 2 identifies the particular Error Handler event. Entries 3 and 4 may vary according to each particular event. Entries 5 and 6 contain an internal location identification code.

Entry 2	Description
1	<i>LAN system-software fault; resuming</i> An invalid exception index was passed to Error Handler. Entry 3: Invalid index
2	<i>LAN system-software fault; resuming</i> Registration for CFG event notification failed.
3	<i>LAN system-software fault; resuming</i> A memory allocation failed.
4	<i>LAN system-software fault; resuming</i> Corrupted data was detected in the exception log; the exception log was repaired. If Entry 3 is 0001H, the log header was corrupted, and the entire previous content of the log was discarded. If Entry 3 is 0002H, one or more exceptions were corrupted, and only the corrupted exceptions were discarded. Entry 4 contains the number of discarded exceptions.
5	<i>LAN system-software fault; resuming</i> A hardware failure was detected in battery-backed non-volatile RAM while repairing a corrupted exception log. The repaired log was moved to volatile RAM. The entire content of the exception log will be lost when the module is powered off.

Event Type e: Station Manager (STA) Events

Event Type e indicates a Station Manager exception event.

LOG Command Display for Event Type e

Most Station Manager events contain an optional Status Code (SCode) value. The LOG or LOG Z command display for Event Type e is shown below.

eH = Station Manager Event

Date	Time	Event	Count	Entry 2	Entry 3	Entry 4	Entry 5	Entry 6	SCode
12-APR-2000	00:00:00.0	eH	1H	0000H	0000H	0000H	0000H	0000H	00000000H

Station Manager Events Codes and Corresponding Controller Fault Table Entries

The following table shows the Station Manager events and corresponding Controller Fault Table entries. Entry 2 identifies the particular Station Manager event. Entries 3 and 4 may vary according to each particular event. Entries 5 and 6 contain an internal location identification code.

Entry 2	Description
1	<i>LAN system-software fault; resuming</i> Failure to initialize / start-up the Station Manager subsystem. Entry 3: internal identification code.
2	<i>LAN system-software fault; resuming</i> Failure creating / starting a Station Manager subsystem task. Entry 3: internal identification code.
3	<i>LAN system-software fault; resuming</i> Failure storing / setting Advanced User Parameters in the Station Manager subsystem. Entry 3: internal identification code.
4	<i>LAN system-software fault; resuming</i> Another network application is communicating on the same UDP port as the remote Station Manager. Entry 3: internal identification code.
5	<i>LAN system-software fault; resuming</i> An attempt to send data to remote Station Manager failed. Entry 3: internal identification code.
6	<i>LAN system-software fault; resuming</i> An error in processing a PING has caused the PING to be aborted. Entry 3: internal identification code.
7	<i>LAN system-software fault; resuming</i> Internal error generating the user prompt string.
8	<i>LAN system-software fault; resuming</i> Internal Station Manager priority timer error.
9	<i>LAN system-software fault; resuming</i> Station Manager priority has been elevated.
a	<i>LAN system-software fault; resuming</i> Internal error: Invalid Station Manager priority was requested.

Event Type f: Common Utility (UTL) Events

Event Type f indicates a Common Utility exception event.

LOG Command Display for Event Type f

Most Common Utility events contain an optional Status Code (SCode) value. The LOG or LOG Z command display for Event Type f is shown below.

fH = Common Utility (UTL) Event

Date	Time	Event	Count	Entry 2	Entry 3	Entry 4	Entry 5	Entry 6	SCode
12-APR-2000	00:00:00.0	fH	1H	0000H	0000H	0000H	0000H	0000H	00000000H

Common Utility Events and Corresponding Controller Fault Table Entries

The following table shows the Common Utility events and corresponding Controller Fault Table entries. Entry 2 identifies the particular Common Utility event. Entries 3 and 4 may vary according to each particular event. Entries 5 and 6 contain an internal location identification code.

Entry 2	Description
1	<i>LAN system-software fault; resuming</i> Error in an operating system request.
2	<i>LAN system-software fault; resuming</i> Error in memory allocation request.
3	<i>LAN system-software fault; aborted assoc. & resuming</i> Error entering or leaving a critical region.
4	<i>LAN system-software fault; resuming</i> Error generating Station Manager output data.
5	<i>LAN system-software fault; resuming</i> Unknown Station Manager command was received. Event 3: Unknown Station Manager command code
6	<i>LAN system-software fault; aborted assoc. & resuming</i> A command to the Ethernet network interface did not complete. The LAN interface status bits relating to the network are not reliable.
7	<i>LAN system-software fault; resuming</i> Error registering for event notification from CFG subsystem.
8	<i>LAN system-software fault; resuming</i> Error entering or leaving a critical region within UTL main task.
9	<i>LAN system-software fault; resuming</i> Error processing an internal event request.
a	<i>LAN system-software fault; resuming</i> Internal event processing error.
b	<i>LAN system-software fault; resuming</i> Internal software error.

Event Type 1b: SRTP Server Events

Event Type 1b indicates an SRTP Server exception event.

LOG Command Display for Event Type 1b

Most SRTP Server events contain an optional Status Code (SCode), remote end point, and local end point values. Remote and local endpoint values are displayed as IP Address: TCP port. The LOG or LOG Z command display for Event Type 1b is shown below.

└─── 1b = SRTP Server Event

Date	Time	Event	Count	Entry 2	Entry 3	Entry 4	Entry 5	Entry 6	SCode
12-APR-2000	00:00:00.0	1bH	1H	0000H	0000H	0000H	0000H	0000H	00000000H

SRTP Server Events and Corresponding Controller Fault Table Entries

The following table shows the SRTP Server events and corresponding Controller Fault Table entries. Entry 2 identifies the particular SRTP Server event. Entries 3 and 4 may vary according to each particular event. Entries 5 and 6 contain an internal location identification code.

Entry 2	Description
1	<i>LAN I/F can't init-check parms; running soft Sw Utl</i> SRTP Server was not initialized after controller power-up or Ethernet restart. Servicing SRTP communication requests will fail. Entry 3: Internal error code
2	<i>LAN system-software fault; resuming</i> Error requesting an operating system service.
3	<i>LAN system-software fault; resuming</i> SRTP Server was not able to close the listen socket when the maximum number of SRTP Server connections was established. Subsequent attempts to establish an SRTP Server connection will fail until the controller is restarted.
4	<i>LAN system-software fault; resuming</i> SRTP Server was not able to re-open a listen port upon termination of an SRTP connection. Subsequent attempts to establish an SRTP Server connection will fail until the controller is restarted.
5	<i>LAN system-software fault; resuming</i> SRTP Server lost the internal mechanism necessary to handle changes in module configuration and to process the keep-alive timer that will terminate an SRTP connection that enters a state it cannot exit.
6	<i>LAN system-software fault; resuming</i> SRTP Server lost the keep-alive timer mechanism. This timer is necessary to terminate an SRTP connection that enters a state it cannot exit.
7	<i>LAN system-software fault; resuming</i> SRTP Server detected invalid connection identifier while attempting to process event. Entry 3: Connection ID
8	<i>LAN system-software fault; resuming</i> An invalid command was received by an SRTP Server task. Entry 3: Task command code

Entry 2	Description
9	<p><i>LAN system-software fault; resuming</i> An attempt to accept an incoming TCP Connect request failed. Subsequent attempts to establish an SRTP Server connection will fail until the controller is restarted.</p>
a	<p><i>LAN system-software fault; resuming</i> An attempt to start a trace on an SRTP Server connection being established has failed.</p>
b	<p><i>LAN system-software fault; resuming</i> An attempt to receive an SRTP PDU from the remote SRTP endpoint failed. The SRTP connection has been terminated.</p>
c	<p><i>LAN system-software fault; resuming</i> An attempt to send an SRTP PDU to the remote SRTP endpoint failed. Entry 3: Backplane Driver (BPD) user task number and the transfer identification number for the SRTP PDU that failed</p>
d	<p><i>LAN system-software fault; resuming</i> An attempt to process an SRTP PDU that was received from the remote SRTP endpoint failed. Entry 3: Backplane Driver (BPD) user task number and the transfer identification number for the SRTP PDU that failed Entry 4: Code indicating the type of SRTP PDU that could not be processed</p>
e	<p><i>Backplane communications with controller fault; lost request</i> An attempt to register a connection with the Backplane Driver (BPD) failed. Communication with the CPU on the SRTP Server connection cannot occur. Entry 3: Backplane Driver (BPD) user task number that failed to register</p>
f	<p><i>Backplane communications with controller fault; lost request</i> An attempt to de-register a connection with the Backplane Driver (BPD) failed. Any subsequent attempts to establish this SRTP Server connection may fail. Entry 3: Backplane Driver (BPD) user task number that failed to be de-registered</p>
10	<p><i>Backplane communications with controller fault; lost request</i> An attempt to send a request to the Backplane Driver (BPD) failed. SRTP Server will initiate the error service that will result in termination of the SRTP connection.</p>
11	<p><i>Backplane communications with controller fault; lost request</i> An attempt to send a message to the Backplane Driver (BPD) failed. SRTP Server will initiate the error service that will result in termination of the SRTP connection.</p>
12	<p><i>Backplane communications with controller fault; lost request</i> The Backplane Driver (BPD) was not able to process a request from SRTP Server or the corresponding response. Entry 3: Backplane Driver (BPD) user task number and the transfer identification number of the request that failed</p>
13	<p><i>LAN system-software fault; resuming</i> An unexpected request was received from the CPU. Entry 3: Backplane Driver (BPD) user task number and the transfer identification number of the request that failed</p>
14	<p><i>LAN data memory exhausted-check parms; resuming</i> An attempt to allocate a resource failed. Entry 3: May contain Backplane Driver (BPD) user task number and the transfer identification number of the request that failed</p>
15	<p><i>LAN system-software fault; resuming</i> An attempt to free a resource failed. Entry 3: May contain the Backplane Driver (BPD) user identification number and the transfer task number of the request during which the failure occurred</p>

Entry 2	Description
16	<p><i>LAN system-software fault; resuming</i></p> <p>An attempt to abort a request sent to the Backplane Driver (BPD) failed.</p> <p>Entry 3: May contain the Backplane Driver (BPD) user identification number and the transfer task number for the request that failed to be aborted</p>
17	<p><i>LAN system-software fault; resuming</i></p> <p>An error was detected in SRTP Server that failed to be processed.</p> <p>Entry 3 & Entry 4 contain a code indicating the error that failed to be processed</p>
18	<p><i>LAN system-software fault; resuming</i></p> <p>An unexpected event has arrived on an SRTP Server connection. No state transition exists for the event in the connection's current state.</p> <p>Entry 3: Event code</p>
19	<p><i>LAN system-software fault; resuming</i></p> <p>An internal error occurred that prevented SRTP Server from sending an SRTP PDU. SRTP Server failed to understand the type of SRTP PDU that needed to be sent.</p> <p>Entry 3: Code indicating the reason for the send SRTP PDU request</p>
1a	<p><i>LAN system-software fault; resuming</i></p> <p>An attempt to add tracking of an open SRP session on an SRTP Server connection failed. SRTP Server will be unable to terminate the session when the connection is closed. Any subsequent attempts to open this connection will fail until the controller is power-cycled.</p> <p>Entry 3: The session's service request processor address</p>
1b	<p><i>LAN system-software fault; resuming</i></p> <p>An attempt to delete tracking of an SRP session on an SRTP Server connection failed.</p> <p>Entry 3: The session's service request processor address</p>
1c	<p><i>LAN system-software fault; resuming</i></p> <p>An attempt to automatically terminate a dangling session with the service request processor failed. Subsequent attempts to establish this SRTP Server connection may fail.</p> <p>Entry 3: The session's service request processor address</p>
1d	<p><i>LAN system-software fault; resuming</i></p> <p>SRTP Server failed to synchronize operating parameters with the configuration received from the CPU.</p>
1e	<p><i>LAN system-software fault; resuming</i></p> <p>A valid event has arrived on an SRTP Server connection that is in an invalid state.</p> <p>Entry 3: Code indicating the current state of the SRTP Server connection</p>
1f	<p><i>LAN system-software fault; resuming</i></p> <p>An internal error occurred while attempting to delete an SRTP Server task.</p>
20	<p><i>LAN system-software fault; resuming</i></p> <p>SRTP Server was unable to find a record of a transaction that was sent to the CPU when the Backplane Driver (BPD) notified SRTP Server that activity occurred on that transaction (either the response was received or an error occurred on that transaction).</p> <p>Entry 3: Backplane Driver (BPD) user task number and the transfer identification number of the request without a matching transaction record</p>

Entry 2	Description			
21	<p><i>LAN system-software fault; resuming</i> A PDU arrived in a state in which the SRTP connection cannot handle it. SRTP Server will initiate the error service that will result in termination of the SRTP connection.</p>			
Entry 3: Code indicating the PDU type.		Entry 4: Code indicating the state of the SRTP connection.		
0	Connect Request	1	IDLE	
1	Connect Response	2	OPENING	
2	Data Request	3	ESTABLISHED	
3	Data Response	4	CLOSING	
4	Unconfirmed Request	5	TERMINATE	
5	Error Request			
6	Destinations Request			
7	Destinations Response			
8	Session Request			
9	Privileged Connection Request			
a	Privileged Connection Response			
b	Inactivity Timeout Request			
c	Inactivity Timeout Response			
22	<p><i>LAN I/F capacity exceeded; discarded reqes</i> An SRTP connection could not be created due to either enforcement of a maximum limit on the number of SRTP connections or an internal error that prevents processing an establish connection request, such as system resource exhaustion.</p>			
23	<p><i>LAN system-software fault; resuming</i> An attempt to increment an SRTP Server tally failed. Entry 3: ID of the tally that failed to be incremented</p>			
24	<p><i>LAN system-software fault; resuming</i> SRTP Server dropped a keep-alive timer tick. Timing of keep-alive timer processing may be temporarily skewed.</p>			
25	<p><i>LAN system-software fault; resuming</i> An attempt to restart SRTP Server failed.</p>			
26	<p><i>Bad remote application request; discarded request</i> A PDU arrived with a version field number higher than the SRTP protocol version supported by SRTP Server. Entry 3: The version number of the PDU Entry 4: The SRTP version supported by the SRTP Server</p>			
27	<p><i>Bad remote application request; discarded request</i> A PDU arrived with an invalid pdu_type field code. Entry 3: Code indicating the PDU type as listed above for Entry 2 = 21.</p>			
28	<p><i>Bad remote application request; discarded request</i> A PDU arrived with a non-zero data_length field, but was of a class of PDU's which must have zero (0) in this field. Entry 3: Code indicating the PDU type as listed above for Entry 2 = 21 Entry 4: The lower 16 bits of the data_length field</p>			
29	<p><i>Bad remote application request; discarded request</i> An Error Request PDU arrived from a remote SRTP endpoint. The SRTP connection will be terminated. Entry 3: Error code in the Error Request PDU</p>			

Entry 2	Description
2a	<i>LAN system-software fault; resuming</i> An attempt to shutdown SRTP Server failed.
2b	<i>Bad remote application request; discarded request</i> A valid SRTP PDU arrived, but the SRTP Server does not support handling it. Entry 3: Code indicating the PDU type as listed above for Entry 2 = 21
2c	<i>LAN system-software fault; resuming</i> An error occurred in establishing internal event processing.
2d	<i>LAN system-software fault; resuming</i> An error occurred trying to terminate the Keep Alive timer for the connection.
2e	<i>LAN system-software fault; resuming</i> The SRTP connection timed out.
2f	<i>LAN system-software fault; resuming</i> An error occurred while processing the Destinations Service.
30	<i>LAN system-software fault; resuming</i> An error occurred while processing the Privileged Connection Service.
31	<i>LAN system-software fault; resuming</i> The SRTP Server was unable to process unsolicited mail from the CPU.
32	<i>LAN system-software fault; resuming</i> The SRTP Server was unable to process a service request from the CPU.
33	<i>LAN system-software fault; resuming</i> An error occurred trying to take down an SRTP Server connection that uses the Redundant IP address.
34	<i>Bad remote application request; discarded request</i> Internal error opening a pipe for use by new server connection.
35	<i>Bad remote application request; discarded request</i> Internal error creating a pipe for use by new server connection.
36	<i>Bad remote application request; discarded request</i> Internal error attempting to send a message on a pipe when reconfiguring or closing an SRTP server connection.
37	<i>Bad remote application request; discarded request</i> Internal error reading a message on a pipe.
38	<i>LAN system-software fault; resuming</i> Abandoned SRTP server connection was terminated by SRTP Inactivity Timeout.

Event Type 1c: SRTP Client (Channels) Events

Event Type 1c indicates an SRTP Client (Channels) exception event.

LOG Command Display for Event Type 1c

Most SRTP Client (Channels) events contain an optional Status Code (SCode), remote end point, and local end point values. Remote and local endpoint values are displayed as *IP Address*: TCP port. The LOG or LOG Z command display for Event Type 1c is shown below.

1c = SRTP Channels Event

Date	Time	Event	Count	Entry 2	Entry 3	Entry 4	Entry 5	Entry 6	SCode
12-APR-2000	00:00:00.0	1cH	1H	0000H	0000H	0000H	0000H	0000H	00000000H

SRTP Client (Channels) Events and Corresponding Controller Fault Table Entries

The following table shows the SRTP Client (Channels) events and corresponding Controller Fault Table entries. Entry 2 identifies the particular SRTP Client (Channels) event. Entries 3 and 4 may vary according to each particular event. Entries 5 and 6 contain an internal location identification code.

Entry 2	Description
1	<i>LAN system-software fault; resuming</i> SRTP Client was not initialized after controller power-up or Ethernet restart. SRTP Client (Channels) COMMREQs cannot be processed. Entry 4: Internal error code
2	<i>LAN system-software fault; resuming</i> An error occurred requesting an operating system service.
3	<i>LAN system-software fault; resuming</i> An error occurred processing a Station Manager command.
6	<i>LAN system-software fault; resuming</i> An error occurred freeing an internal SRTP Client (Channels) transaction record. Entry 3 optionally specifies an individual service request in the format UUSS where UU and SS specify BPD task number and sequence number, respectively.
b	<i>LAN system-software fault; resuming</i> Internal error in the SRTP Client (Channels) state machine. Invalid state entered.
27	<i>LAN system-software fault; resuming</i> An error occurred while updating the COMMREQ Status Word. The status value may not have been delivered to the controller.
28	<i>LAN system-software fault; resuming</i> An error occurred while processing SRTP Client mail received from the CPU. Entry 3: Channel number
2d	<i>LAN system-software fault; resuming</i> Internal error in the SRTP Client State Machine. An internal consistency test failed.

Entry 2	Description
41	<p><i>LAN system-software fault; resuming</i></p> <p>The SRTP Client received an unexpected service request from the CPU.</p> <p>Entry 3 specifies an individual service request in the format UUSS where UU and SS specify BPD task number and sequence number, respectively.</p>
4a	<p><i>LAN system-software fault; resuming</i></p> <p>An error occurred receiving service response mail from the CPU.</p> <p>Entry 3 specifies an individual service request in the format UUSS where UU and SS specify BPD task number and sequence number, respectively.</p>
4c	<p><i>LAN system-software fault; resuming</i></p> <p>An error occurred processing an SRTP Client COMMREQ received from the CPU.</p>
52	<p><i>LAN system-software fault; resuming</i></p> <p>An error occurred attempting to abort a service request previously sent to the CPU.</p>
54 55 56 57 58 59	<p><i>LAN system-software fault; resuming</i></p> <p>The SRTP Client (Channels) state machine detected an internal error.</p>
5a 5b	<p><i>LAN system-software fault; resuming</i></p> <p>An error occurred while in the IDLE state.</p>
5c 5d	<p><i>LAN system-software fault; resuming</i></p> <p>An error occurred while in one of the CONNECTING states.</p>
5e 5f	<p><i>LAN system-software fault; resuming</i></p> <p>An error occurred while in one of the ESTABLISHED states.</p>
60	<p><i>LAN system-software fault; resuming</i></p> <p>An error occurred in the CLOSING state while trying to adjust the Channel Status bits.</p>
61 62	<p><i>LAN system-software fault; resuming</i></p> <p>An error occurred while attempting to halt the channel.</p>
63	<p><i>LAN system-software fault; resuming</i></p> <p>An error occurred in the SRTP Client state machine while attempting to respond to or report a previous error (e.g. while setting status word or channel status error bit).</p>
64	<p><i>LAN system-software fault; resuming</i></p> <p>An error occurred processing a Station Manager command.</p>
65	<p><i>LAN system-software fault; resuming</i></p> <p>An error occurred while attempting to get the Advanced User Parameters from the configuration.</p>
66	<p><i>LAN system-software fault; resuming</i></p> <p>An SRTP <i>Destinations</i> response was received/processed that didn't include a <i>default</i> destination.</p> <p>A malfunctioning SRTP Server is the usual cause.</p>
67 68 69	<p><i>LAN system-software fault; resuming</i></p> <p>An internal error occurred.</p>
6a	<p><i>LAN system-software fault; resuming</i></p> <p>An error occurred while attempting to register an SRTP Client COMMREQ handler during startup of SRTP Client (Channels). One or more kind of SRTP Client COMMREQ cannot be processed.</p>

Entry 2	Description
6b	<i>LAN system-software fault; resuming</i> An error occurred while attempting to unregister the SRTP Client COMMREQ handlers.
6c	<i>LAN system-software fault; resuming</i> An error occurred while attempting to notify the SRTP Client (Channels) state machine that the COMMREQ Status Word was updated. This could cause that Channel to get stuck in the "SET_STATUS_OK" state until an ABORT COMMREQ is issued to the channel.
6e	<i>LAN system-software fault; resuming</i> An internal error occurred while attempting to validate the IP address in an SRTP Client (Channels) COMMREQ.
6f	<i>LAN system-software fault; resuming</i> An internal error occurred during SRTP Client (Channels) startup, while attempting to register for communications with the local PACSystems controller.
71	<i>LAN system-software fault; resuming</i> An internal error occurred while attempting to send a request to the local PACSystems controller.
72	<i>LAN system-software fault; resuming</i> An internal error was detected when a channel was being closed, while terminating communications between that channel and the local PACSystems controller. Note that the actual problem probably occurred earlier than where it was detected here.
73	<i>LAN system-software fault; resuming</i> The maximum number of requests was still outstanding to the local PACSystems controller when another request to it was initiated.
74	<i>LAN system-software fault; resuming</i> The maximum number of requests was still outstanding to a remote controller (for a single channel) when another request to it was initiated.
75	<i>LAN system-software fault; resuming</i> An SRTP <i>Destinations</i> response was received that didn't include a destination. A malfunctioning SRTP Server is the usual cause.
76	<i>LAN system-software fault; resuming</i> An internal error occurred while attempting to send a request to a remote controller. The Invoke ID on the PDU is already in use/outstanding.
77	<i>LAN system-software fault; resuming</i> An SRTP response was received that doesn't match up to an outstanding request.
78	<i>LAN system-software fault; resuming</i> An internal error occurred while attempting to send a request to the local PACSystems controller. The sequence number on the request is already in use/outstanding.
7a	<i>LAN system-software fault; resuming</i> An error occurred while attempting to stop a channel (e.g. close the SRTP connection, terminate the TCP connection, etc.).
7b	<i>LAN system-software fault; resuming</i> An internal error occurred.
7c	<i>LAN system-software fault; resuming</i> An internal error occurred while processing data received from the remote controller. This could cause an SRTP Client channel to hang until an ABORT COMMREQ is issued for the channel.
7d	<i>LAN system-software fault; resuming</i> An error occurred while attempting to close a channel (generally during internal cleanup).

Entry 2	Description
7e	<p><i>LAN system-software fault; resuming</i></p> <p>The amount of value data provided by the controller (either local or remote) doesn't match the amount that is required in order to completely perform the transfer.</p>
7f	<p><i>LAN system-software fault; resuming</i></p> <p>Internal error in the SRTP Client (Channels) state machine. An internal data length consistency check failed.</p>
80	<p><i>LAN system-software fault; resuming</i></p> <p>An internal error occurred while preparing to begin the process of establishing a connection.</p>
81	<p><i>LAN system-software fault; resuming</i></p> <p>An error occurred while attempting to update the COMMREQ Status Word for a COMMREQ that was received while the channel was in the process of being closed.</p>

Event Type 20: Network Interface Events

Event Type 20 indicates a Network interface exception event.

LOG Command Display for Event Type 20

Most Network Interface events contain an optional Status Code (SCode) value. The LOG or LOG Z command display for Event Type 20 is shown below.

20 = Network Interface Event

Date	Time	Event	Count	Entry 2	Entry 3	Entry 4	Entry 5	Entry 6	SCode
12-APR-2000	00:00:00.0	20H	1H	0000H	0000H	0000H	0000H	0000H	00000000H

Network Interface Events and Corresponding Controller Fault Table Entries

The table below shows the Network Interface events and corresponding Controller Fault Table entries. Entry 2 identifies the particular Network Interface event. Entries 3 and 4 may vary according to each particular event. Entries 5 and 6 contain an internal location identification code.

Entry 2	Description
1	<i>LAN transceiver fault; OFF network until fixed</i> Ethernet interface is offline and cannot communicate on the Ethernet network. This is usually caused by disconnection from the network. Check the network cable and the connection to the network hub or switch.
2	<i>LAN system-software fault; aborted assoc. & resuming</i> Error updating LAN Interface Status (LIS) bits (the first 16 bits of the 80-bit Ethernet Status data). Entry 3: AND mask value used to modify the LIS when the failure occurred Entry 4: OR mask value used to modify the LIS when the failure occurred
3	<i>LAN system-software fault; aborted assoc. & resuming</i> The network switch could not be accessed because it was autonegotiating. Usually a transient error caused by a disconnected cable. If the error persists, check the network cable and connection.

Event Type 28: Ethernet Global Data (EGD) Events

Event Type 28 indicates an Ethernet Global Data (EGD) exception event.

LOG Command Display for Event Type 28

Most Ethernet Global Data events contain an optional Status Code (SCode) and exchange identifier values. The EGD exchange is identified by its Producer ID and Exchange ID. The LOG or LOG Z command display for Event Type 28 is shown below.

└──────────┘ 28 = Ethernet Global Data Event

Date	Time	Event	Count	Entry 2	Entry 3	Entry 4	Entry 5	Entry 6	SCode
12-APR-2000	00:00:00.0	28H	1H	0000H	0000H	0000H	0000H	0000H	00000000H

Ethernet Global Data Events and Corresponding Controller Fault Table Entries

The following table shows the Ethernet Global Data events and corresponding Controller Fault Table entries. Entry 2 identifies the particular Ethernet Global Data event. Entries 3 and 4 may vary according to each particular event. Entries 5 and 6 contain an internal location identification code.

Entry 2	Description
1	<i>LAN system-software fault; resuming</i> Error in an operating system request. Entry 3: May contain additional internal error code. Entry 4: May contain additional internal error code. Note: This exception may also occur when attempting to produce an EGD exchange to a non-existent unicast IP address. An exception occurs when the Operating System is unable to resolve the consumer IP address for network transmission.
2	<i>LAN system-software fault; resuming</i> Error initializing EGD. No EGD exchanges will be processed until the module is power-cycled or restarted.
3	<i>LAN system-software fault; resuming</i> Error retrieving the soft switch or Advanced User Parameters data. EGD may be operating with unexpected parameter settings.
4	<i>LAN system-software fault; resuming</i> Unable to register for PACSystems controller data transfers. EGD will be inoperative until this problem is fixed.
5	<i>Backplane communications with controller fault; lost request</i> An unknown internal message was received by EGD main task. Entry 3 and 4: Initial portion of the unrecognized message.
6	<i>LAN system-software fault; resuming</i> Error in a controller request to establish an EGD exchange. The exchange with this error will not be created. This is an internal error and should be reported to Technical Support for corrective action.
7	<i>LAN data memory exhausted-check parms; resuming</i> Error in allocating memory to hold the state of an exchange. The exchange in question will not transfer any data.
8	<i>LAN I/F capacity exceeded; discarded request</i> A request to allocate shared memory to communicate the exchange data to the controller failed. The exchange in question will not transfer any data. Entry 3: Size of the connection area to be allocated

Entry 2	Description
9	<p><i>LAN system-software fault; resuming</i> Internal identifier that indicates the exchange was not valid. This is an internal error and should be reported to Technical Support for corrective action. Entry 3: Internal exchange handle Entry 4: Internal connection ID.</p>
a	<p><i>LAN system-software fault; resuming</i> The name format in the exchange is not supported. This is an internal error and should be reported to Technical Support for corrective action. Entry 3: Producer name format Entry 4: Consumer name format</p>
c	<p><i>LAN system-software fault; resuming</i> Error releasing shared memory. Entry 3: Shared memory offset</p>
d	<p><i>LAN system-software fault; resuming</i> Error freeing the state information for an exchange. Entry 3: Exchange number</p>
e	<p><i>LAN system-software fault; resuming</i> Error in accessing the semaphore for an exchange.</p>
f	<p><i>Backplane communications with controller fault; lost request</i> An unexpected controller service request has been received. This is an internal error and should be reported to Technical Support for corrective action. Entry 3: Internal identification code</p>
10	<p><i>Backplane communications with controller fault; lost request</i> Unrecognized message received from the controller. This is an internal error and should be reported to Technical Support for corrective action.</p>
11	<p><i>Backplane communications with controller fault; lost request</i> Improperly formed message received from the controller. This is an internal error and should be reported to Technical Support for corrective action. Entry 3: Contains the size of any data with this message</p>
12	<p><i>LAN data memory exhausted-check parms; resuming</i> Error in allocating memory for internal EGD communications. Entry 3: The size of the requested allocation</p>
13	<p><i>LAN system-software fault; resuming</i> Unrecognized message received from the controller. This is an internal error and should be reported to Technical Support for corrective action. Entry 3: Command code of the unrecognized message</p>
14	<p><i>LAN system-software fault; resuming</i> Error return from a request to scan EGD consumed data. Details are given in the status data. One or more samples will be lost or delayed in being transferred to the controller application. In some cases, this exception can occur during normal power down; if so, it does not indicate a problem.</p>
15	<p><i>Backplane communications with controller fault; lost request</i> Error in sending mail to the controller. Typically this will result in the CPU generating a "loss of module" fault on the Ethernet module.</p>
16	<p><i>LAN system-software fault; resuming</i> Error generating Station Manager output. Details are given in the status data. Entry 3: Additional internal error code</p>

Entry 2	Description
17	<i>LAN system-software fault; resuming</i> Error printing tally output. Details are given in the status data.
18	<i>LAN system-software fault; resuming</i> Unknown Station Manager command was received. Entry 3: The unknown Station Manager command code
19	<i>LAN system-software fault; resuming</i> Error identifying the state of a produced exchange. This is an internal error and should be reported to Technical Support for corrective action.
1a	<i>LAN system-software fault; resuming</i> Error communicating between EGD tasks. This is an internal error and should be reported to Technical Support for corrective action. Entry 3: Additional internal error code. Entry 4: Additional internal error code
1b	<i>LAN system-software fault; resuming</i> Unrecognized data received on the EGD data port. The data in the received message is ignored. Entry 3: The unrecognized command code. Entry 4: PDU version
1c	<i>LAN system-software fault; resuming</i> The signature field in a sample is invalid. This indicates that the producer and the consumer may not agree on the format of the data. The exchange having the error is identified in the extended data available using the LOG Z command. Entry 3: The signature
1d	<i>LAN system-software fault; resuming</i> The length of the sample received for a consumed exchange does not match the length configured for the exchange. This usually means that the producer and the consumer of the data don't agree on its format. The exchange having the error is identified in the extended data available using the LOG Z command. Entry 3: The received data length
1e	<i>LAN system-software fault; resuming</i> Error return from a request to scan EGD consumed data. Details are given in the status data. This error can be logged under a normal shutdown if a request occurs simultaneously with the power shutoff. One or more samples will be lost or delayed in being transferred to the controller application.
1f	<i>LAN system-software fault; resuming</i> Error retrieving information about the shared memory between the CPU and the Ethernet interface. Details are given in the status data.
20	<i>LAN system-software fault; resuming</i> Invalid adapter index encountered in an exchange. Entry 3: The adapter index
22	<i>LAN system-software fault; resuming</i> The length field in a received sample does not match with the length of the sample packet. This normally indicates an error in the producer of the data. Entry 3: The received data length
23	<i>LAN system-software fault; resuming</i> Error in a mail request received from the controller.
24	<i>LAN system-software fault; resuming</i> Internal error in the EGD subsystem.

Entry 2	Description
25	<i>LAN system-software fault; resuming</i> Error entering or leaving a critical region. Details are given in the status data.
26	<i>LAN system-software fault; resuming</i> Error processing a consumed exchange time out. All subsequent timeout processing is suspect.
27	<i>LAN system-software fault; resuming</i> Error processing internal events within EGD. Entry 3: Additional internal error code
28	<i>LAN system-software fault; resuming</i> Error attempting to start EGD production.
29	<i>LAN system-software fault; resuming</i> Error registering for Shared Memory Interface services.
2a	<i>LAN system-software fault; resuming</i> Error executing an EGD command (client or server),
2b	<i>LAN system-software fault; resuming</i> An invalid parameter was detected in an EGD command COMMREQ.
2d	<i>LAN system-software fault; resuming</i> Error giving an EGD command reply to RDS for delivery to the remote client. Entry 3: (Optional) RDS handle for this EGD command request Entry 4: (Optional) Reply PDU size
2e	<i>LAN system-software fault; resuming</i> Local EGD command timeout waiting for response from CPU.
2f	<i>LAN system-software fault; resuming</i> EGD command client task received an unrecognized reply message from the remote server.
30	<i>LAN system-software fault; resuming</i> Unable to allocate internal hashing table.
31	<i>LAN system-software fault; resuming</i> Error inserting a key into the internal hashing table.
32	<i>LAN system-software fault; resuming</i> Error deleting a key from the internal hashing table.
33	<i>LAN system-software fault; resuming</i> Error searching for a key in the internal hashing table.
34	<i>Can't locate remote node; discarded request</i> Unable to locate the unicast produced exchange destination device on the network.
35	<i>LAN system-software fault; resuming</i> Unrecognized bit(s) in EGD exchange flags. Ethernet firmware may be out of date.
36	<i>LAN system-software fault; resuming</i> Error replacing a key in the internal hashing table.

Event Type 29: SNTP Events

Event Type 29 indicates an SNTP exception event.

LOG Command Display for Event Type 29

Most SNTP events contain an optional Status Code (SCode) value. The LOG or LOG Z command display for Event Type 29 is shown below.

└── 29 = SNTP Event

Date	Time	Event	Count	Entry 2	Entry 3	Entry 4	Entry 5	Entry 6	SCode
12-APR-2000	00:00:00.0	29H	1H	0000H	0000H	0000H	0000H	0000H	00000000H

SNTP Events and Corresponding Controller Fault Table Entries

The following table shows SNTP events and corresponding Controller Fault Table entries. Entry 2 identifies the particular SNTP event. Entries 3 and 4 are not used. Entries 5 and 6 contain an internal location identification code.

Entry 2	Description
1	<i>LAN system-software fault; resuming</i> SNTP client failed to lock onto a valid SNTP time server within the timeout.
2	<i>LAN system-software fault; resuming</i> A locked-on SNTP server was lost and the time server was changed.
6	<i>LAN system-software fault; resuming</i> An attempt to join the multicast host group failed.
9	<i>LAN system-software fault; resuming</i> An invalid timer identification value was detected. This is an internal software error.
b	<i>LAN system-software fault; resuming</i> Lock on the time server was lost. The module is no longer synchronized to any time servers
c	<i>LAN system-software fault; resuming</i> An internal time computation error was detected.
10	<i>LAN system-software fault; resuming</i> An error occurred in an operating system request. This is an internal software error.
11	<i>LAN system-software fault; resuming</i> An error occurred in registering for configuration. This is an internal software error.
12	<i>LAN system-software fault; resuming</i> An error occurred in retrieving configuration. This is an internal software error.
13	<i>LAN system-software fault; resuming</i> Internal configuration error.
14	<i>LAN system-software fault; resuming</i> Internal messaging error.
15	<i>LAN system-software fault; resuming</i> Internal error processing a station manager request.
16	<i>LAN system-software fault; resuming</i> Error producing output for a station manager command

Entry 2	Description
17	<i>LAN system-software fault; resuming</i> Error in producing station manager tally output.
18	<i>Backplane communications with controller fault; lost request</i> An attempt to register a connection with the Backplane Driver (BPD) failed. SNTP cannot receive COMMREQs from the CPU.
19	<i>Backplane communications with controller fault; lost request</i> Invalid or unexpected mail received from CPU, or error sending COMMREQ Status update mail to CPU.
1a	<i>LAN system-software fault; resuming</i> Error retrieving Advanced User Parameter (AUP) data. SNTP time transfer cannot be configured for use.
1b	<i>Backplane communications with controller fault; lost request</i> CPU f/w version does not support CPU TOD synchronization.
1c	<i>Backplane communications with controller fault; lost request</i> Error processing COMMREQ Status update. COMMREQ Status value is not returned to the controller.
1d	<i>Backplane communications with controller fault; lost request</i> Unrecognized COMMREQ command received from CPU.
1e	<i>LAN system-software fault; resuming</i> Error updating the Network Time Locked LIS bit.
1f	<i>LAN system-software fault; resuming</i> Invalid AUP Parameters specified
20	<i>LAN system-software fault; resuming</i> This is not an error but represents the change of State of Synchronization
21	<i>LAN system-software fault; resuming</i> Internal error while handling time parameters.

Event Type 2a: Runtime Diagnostic Events

Event Type 2a indicates a runtime exception event.

Log Command Display for Event Type 2a

Most Runtime Diagnostic Events contain an optional Status Code (SCode) value. The LOG or LOG Z command display for Event Type 2a is shown below.

└── 2a = Run-Time Diagnostic Event

Date	Time	Event	Count	Entry 2	Entry 3	Entry 4	Entry 5	Entry 6	SCode
12-APR-2000	00:00:00.0	2aH	1H	0000H	0000H	0000H	0000H	0000H	00000000H

Runtime Diagnostic Events and Corresponding Controller Fault Table Entries

The following table shows the Runtime Diagnostic events and corresponding Controller Fault Table entries. Entry 2 identifies the particular Runtime Diagnostic event. Entries 3 and 4 may vary according to each particular event. Entries 5 and 6 contain an internal location identification code.

Entry 2	Description
2	<i>LAN System-Software Fault; Resuming</i> Run-time diagnostic initialization failed.
3	<i>Module Software Corrupted; Requesting Reload</i> Run-time CRC verification failed. The module firmware must be reloaded.
4	<i>LAN System-Software Fault; Resuming</i> Error entering factory test mode, unable to shut down the Ethernet interface.
5	<i>LAN System-Software Fault; Resuming</i> An attempt to register with the PACSystems controller Driver (BPD) failed. Communication with the CPU cannot occur.
6	<i>LAN System-Software Fault; Resuming</i> Error attempting to register for internal event notification.
7	<i>LAN System-Software Fault; Resuming</i> Runtime diagnostic operating system service error.
8	<i>LAN System-Software Fault; Resuming</i> Error in internal event processing request.
9	<i>LAN System-Software Fault; Resuming</i> Unknown mailbox message received from the Driver (BPD). Entry 3: Mailbox message type
a	<i>LAN system-software fault; resuming</i> An unexpected request was received from the Driver (BPD).
b	<i>LAN System-Software Fault; Resuming</i> Request sent to the CPU failed. Entry 3: Sequence number of the request that failed
c	<i>LAN System-Software Fault; Resuming</i> Processing error due to invalid internal data.
d	<i>LAN System-Software Fault; Resuming</i> Error writing data to the controller.

Entry 2	Description
e	<i>LAN System-Software Fault; Resuming</i> Invalid COMMREQ type received from the controller.
f	<i>LAN System-Software Fault; Resuming</i> Error detected during conversion of data.
10	<i>LAN System-Software Fault; Resuming</i> Error writing data to the controller.
11	<i>LAN System-Software Fault; Resuming</i> Error preparing for network testing.
12	<i>LAN System-Software Fault; Resuming</i> Error assigning temporary MAC address for network testing.
13	<i>LAN System-Software Fault; Resuming</i> Checksum error on data stored in non-volatile memory.

Event Type 2b: Reliable Datagram Service (RDS) Events

Event Type 2b indicates a Reliable Datagram Service (RDS) exception event.

LOG Command Display for Event Type 2b

Most RDS events contain an optional Status Code (SCode) and exchange identifier values. The LOG or LOG Z command display for Event Type 2b is shown below.

└──────────┬──────────┘ 2b = Reliable Datagram Service (RDS) Event

Date	Time	Event	Count	Entry 2	Entry 3	Entry 4	Entry 5	Entry 6	SCode
12-APR-2000	00:00:00.0	2bH	1H	0000H	0000H	0000H	0000H	0000H	00000000H

The following table shows the Reliable Datagram Service events and corresponding Controller Fault Table entries. Entry 2 identifies the particular RDS event. Entries 3 and 4 may vary according to each particular event. Entries 5 and 6 contain an internal location identification code.

Entry 2	Description
1	<i>LAN system-software fault; resuming</i> RDS subsystem was not initialized after controller power-up or Ethernet restart. EGD command client and server (which use RDS services) will not operate.
2	<i>LAN system-software fault; resuming</i> Error attempting to send a message to the network.
3	<i>LAN system-software fault; resuming</i> Error attempting to receive a message from the network.
4	<i>LAN system-software fault; resuming</i> Error allocating internal memory or taking an internal semaphore.
5	<i>LAN system-software fault; resuming</i> Error extracting reply data from a message received from the network.
6	<i>LAN system-software fault; resuming</i> Error obtaining an event descriptor.
7	<i>LAN system-software fault; resuming</i> Error receiving system notification events.
8	<i>LAN system-software fault; resuming</i> Error setting up client or server communication.
9	<i>LAN system-software fault; resuming</i> Client error attempting to process a reply datagram.
b	<i>LAN system-software fault; resuming</i> Client error attempting to process a request retry.
c	<i>LAN system-software fault; resuming</i> Server error attempting to process a query request.
d	<i>LAN system-software fault; resuming</i> Server error attempting to process an execute-once request.

Entry 2	Description
e	<i>LAN system-software fault; resuming</i> A data callback function was not installed at RDS server.
f	<i>LAN system-software fault; resuming</i> An error reply callback function was not installed at RDS server.
10	<i>LAN system-software fault; resuming</i> Server error processing a reply datagram.
11	<i>LAN system-software fault; resuming</i> Server error processing an error reply datagram.
12	<i>LAN system-software fault; resuming</i> Reply datagram received at the client is too small.
14	<i>LAN system-software fault; resuming</i> Error using an operating system service. The service is identified in the SCode value.
15	<i>LAN system-software fault; resuming</i> Error attempting to output data to the Station Manager.
16	<i>LAN system-software fault; resuming</i> Error during the client reply callback notification.
17	<i>LAN system-software fault; resuming</i> Error starting the client request timeout timer.
18	<i>LAN system-software fault; resuming</i> Error converting an IP address into character string for Station Manager output.
19	<i>LAN system-software fault; resuming</i> Error accessing the server's pending request queue.
1a	<i>LAN system-software fault; resuming</i> Error accessing the server's execute-once request queue.
1b	<i>LAN system-software fault; resuming</i> Error obtaining a client session record.
1c	<i>LAN system-software fault; resuming</i> Invalid task priority level.
1d	<i>LAN system-software fault; resuming</i> Error registering for configuration delivery notification.
1e	<i>LAN system-software fault; resuming</i> Error retrieving AUP configuration data.
1f	<i>LAN system-software fault; resuming</i> Error terminating an RDS client session. Entry 3: RDS session ID

Event Type 2c: Web Server Events

Event Type 2c indicates a Web Server exception event.

LOG Command Display for Event Type 2c

Most Web Server events contain an optional Status Code (SCode), remote end point, and local end point values. The LOG or LOG Z command display for Event Type 2c is shown below.

2c = Web Server Event

Date	Time	Event	Count	Entry 2	Entry 3	Entry 4	Entry 5	Entry 6	SCode
12-APR-2000	00:00:00.0	2cH	1H	0000H	0000H	0000H	0000H	0000H	00000000H

Web Server Events and Corresponding Controller Fault Table Entries

The following table shows the Web Server events and corresponding Controller Fault Table entries. Entry 2 identifies the particular Web Server event. Entries 3 and 4 may vary according to each particular event. Entries 5 and 6 contain an internal location identification code.

Entry 2	Description
1	<i>LAN System-Software Fault; Resuming</i> Web server subsystem was not initialized after controller power-up or Ethernet restart. Servicing web requests will fail.
2	<i>LAN System-Software Fault; Resuming</i> Error requesting an operating system service.
3	<i>LAN System-Software Fault; Resuming</i> Unable to read a file from the file system required to service a web request.
4	<i>LAN System-Software Fault; Resuming</i> An attempt to allocate a resource failed.
5	<i>LAN System-Software Fault; Resuming</i> An attempt to free a resource failed. Entry 3: Internal code to help identify the resource that failed
6	<i>LAN System-Software Fault; Resuming</i> Unable to send response data to web client. This fault should be considered informational, as this event could be logged under normal operation if the user clicks multiple times on any link in the web pages.
7	<i>LAN System-Software Fault; Resuming</i> Unable to process an HTTP request received from a web client.
8	<i>LAN System-Software Fault; Resuming</i> Unable to register an HTTP transaction with the web server connection manager. This may be due to insufficient web server connection resources.
9	<i>LAN System-Software Fault; Resuming</i> Unable to get data from the internal HTTP server needed to process a request.
a	<i>LAN System-Software Fault; Resuming</i> Error detected while parsing a web page to identify function tags. Controller data not available in the served web page.
b	<i>LAN System-Software Fault; Resuming</i> Unable to collect data from the controller. Controller data not available in the served web page.

Entry 2	Description
c	<i>LAN System-Software Fault; Resuming</i> Invalid state of an HTTP transaction detected. Entry 3: State of the HTTP transaction
d	<i>LAN System-Software Fault; Resuming</i> Unable to flush an HTTP transaction.
e	<i>LAN System-Software Fault; Resuming</i> Unable to de-register an HTTP transaction with the web server connection manager.
f	<i>LAN System-Software Fault; Resuming</i> Loss of resource detected due to an internal processing error.
10	<i>LAN System-Software Fault; Resuming</i> Invalid handle for an HTTP transaction detected.
11	<i>LAN System-Software Fault; Resuming</i> Error while processing a response mailbox message from the controller. Entry 3: Driver (BPD) user task number of the request that failed Entry 4: Driver (BPD) transfer identification number of the request that failed.
12	<i>LAN System-Software Fault; Resuming</i> An unexpected unsolicited mailbox message was received from the controller.
13	<i>LAN System-Software Fault; Resuming</i> An unexpected request was received from the controller. Entry 3: Driver (BPD) user task number and the transfer identification number of the unexpected request
14	<i>LAN System-Software Fault; Resuming</i> Unable to flush a request that has already been sent to the controller.
15	<i>LAN System-Software Fault; Resuming</i> Unable to flush a collector used to collect data from the controller.
16	<i>LAN System-Software Fault; Resuming</i> Error detected while attempting to empty garbage in a controller data collector.
17	<i>LAN System-Software Fault; Resuming</i> Invalid type of garbage detected in a controller data collector. Entry 3: Internal value used to identify the invalid garbage
18	<i>LAN System-Software Fault; Resuming</i> Unable to close a file in the file system.
19	<i>LAN System-Software Fault; Resuming</i> Error detected while processing fault data received from the controller.
1a	<i>LAN System-Software Fault; Resuming</i> An attempt to increment a web server tally failed. Entry 3: ID of the tally that failed to be incremented
1b	<i>LAN System-Software Fault; Resuming</i> An attempt to cleanup a Service Request Processor (SRP) user failed. Entry 3: Driver (BPD) user task number of the request that failed Entry 4: Driver (BPD) transfer identification number of the request that failed.
1c	<i>LAN System-Software Fault; Resuming</i> An attempt to get soft switch configuration data failed.

Entry 2	Description
1d	<i>LAN System-Software Fault; Resuming</i> Internal error enabling trace operation for Web Server.
1e	<i>LAN System-Software Fault; Resuming</i> Internal error generating trace output for Web Server.

Event Type 2d: FTP Server Events

Event Type 2d indicates an FTP Server exception event.

LOG Command Display for Event Type 2d

Most FTP Server events contain an optional Status Code (SCode). The LOG or LOG Z command display for Event Type 2d is shown below.

2d = FTP Server Event

Date	Time	Event	Count	Entry 2	Entry 3	Entry 4	Entry 5	Entry 6	SCode
12-APR-2000	00:00:00.0	2dH	1H	0000H	0000H	0000H	0000H	0000H	00000000H

FTP Server Events and Corresponding Controller Fault Table Entries

The following table shows the FTP Server events and corresponding Controller Fault Table entries. Entry 2 identifies the particular FTP Server event. Entries 3 and 4 may vary according to each particular event. Entries 5 and 6 contain an internal location identification code.

Entry 2	Description
1	<i>LAN System-Software Fault; Resuming</i> FTP server subsystem was not initialized after controller power-up or Ethernet restart. Servicing FTP requests will fail.
2	<i>LAN System-Software Fault; Resuming</i> Error requesting an operating system service.
3	<i>LAN System-Software Fault; Resuming</i> The FTP server task that processes FTP requests failed to start.
4	<i>LAN System-Software Fault; Resuming</i> An attempt to increment an FTP server tally failed. Entry 3: ID of the tally that failed to be incremented
5	<i>LAN System-Software Fault; Resuming</i> An attempt to get Advanced User Parameters (AUP) failed.
6	<i>LAN System-Software Fault; Resuming</i> Invalid soft switch configuration data received. Entry 3: Maximum number of FTP connections in the soft switch configuration
7	<i>LAN System-Software Fault; Resuming</i> An attempt to get soft switch configuration data failed.
8	<i>LAN System-Software Fault; Resuming</i> An internal error was detected while attempting to receive an event notification.

Event Type 2e: Flash File System Events

Event Type 2e indicates a Flash File System (FFS) exception event.

LOG Command Display for Event Type 2e

Most Flash File System events contain an optional Status Code (SCode). The LOG or LOG Z command display for Event Type 2e is shown below.

2e = Flash File System Event

Date	Time	Event	Count	Entry 2	Entry 3	Entry 4	Entry 5	Entry 6	SCode
12-APR-2000	00:00:00.0	2eH	1H	0000H	0000H	0000H	0000H	0000H	00000000H

Flash File System Events and Corresponding Controller Fault Table Entries

The following table shows the Flash File System events and corresponding Controller Fault Table entries. Entry 2 identifies the particular Flash File System event. Entries 3 and 4 may vary according to each particular event. Entries 5 and 6 contain an internal location identification code.

Entry 2	Description
1	<i>LAN System-Software Fault; Resuming</i> Flash File System was not initialized after controller power-up or Ethernet restart. Servicing FTP requests will fail.
2	<i>LAN System-Software Fault; Resuming</i> Error requesting an operating system service.
3	<i>LAN System-Software Fault; Resuming</i> An attempt to increment a Flash File System tally failed. Entry 3: ID of the tally that failed to be incremented

Event Type 2f: Modbus/TCP Server Events

Event Type 2f indicates a Modbus/TCP Server exception event.

LOG Command Display for Event Type 2f

The LOG command display for Event Type 2f is shown below.

2f = Modbus/TCP Server Event

Date	Time	Event	Count	Entry 2	Entry 3	Entry 4	Entry 5	Entry 6	SCode
12-APR-2005	00:00:00.0	2fH	1H	0000H	0000H	0000H	0000H	0000H	00000000H

Modbus/TCP Server Events Codes and Descriptions

Entry 2	Description
202	<i>LAN System-Software Fault; Resuming</i> Internal error occurred while processing a message from the CPU module.
203	<i>LAN System-Software Fault; Resuming</i> Internal error occurred while processing a message from the CPU module.
204	<i>LAN System-Software Fault; Resuming</i> Internal error occurred when attempted to send a message to the CPU module.
205	<i>LAN System-Software Fault; Resuming</i> Failed to initialize communications with the CPU module. Modbus server off-line.
206	<i>LAN System-Software Fault; Resuming</i> Internal error while processing an unexpected message from the CPU module.
207	<i>LAN System-Software Fault; Resuming</i> Internal error detected by the Modbus/TCP server.
208	<i>LAN System-Software Fault; Resuming</i> TCP connection with the remote device timed-out. Entry 3: Endpoint number where timeout occurred.
209	<i>LAN System-Software Fault; Resuming</i> Internal error occurred when deleting a Modbus/TCP server task.
20a	<i>LAN System-Software Fault; Resuming</i> Internal error occurred during timer processing.
20b	<i>LAN System-Software Fault; Resuming</i> Internal error occurred while updating a Modbus/TCP tally. Tallies may not be accurate.
20c	<i>LAN System-Software Fault; Resuming</i> Internal error occurred while processing a Modbus/TCP server Station Manager command.
20d	<i>LAN System-Software Fault; Resuming</i> Internal error occurred when processing a message from the CPU module.
20e	<i>LAN System-Software Fault; Resuming</i> An error occurred while closing a TCP connection.
20f	<i>LAN System-Software Fault; Resuming</i> Internal error occurred when processing a fault on a Modbus/TCP connection.

Entry 2	Description
210	<i>LAN System-Software Fault; Resuming</i> Internal error occurred while processing configuration data stored from the programming device.
211	<i>LAN System-Software Fault; Resuming</i> Internal error occurred in a Modbus/TCP connection's state machine.
212	<i>LAN System-Software Fault; Resuming</i> Internal connection numbering error.
213	<i>LAN System-Software Fault; Resuming</i> Internal error occurred that causes a Modbus/TCP response to not be sent.
214	<i>LAN System-Software Fault; Resuming</i> Internal error occurred when starting a Modbus/TCP task. This could prevent all Modbus/TCP communications or just a failure on a single connection.
215	<i>LAN System-Software Fault; Resuming</i> An error during a Redundant CPU role-switch from active to backup prevented the closing of a connection that was using the Redundant IP address.
216	<i>LAN System-Software Fault; Resuming</i> An error prevents the Modbus/TCP server from listening for incoming TCP connection requests. The server will not respond to any connection requests.
217	<i>LAN System-Software Fault; Resuming</i> An internal error prevents the Modbus/TCP server from sending inter-task events.
218	<i>LAN System-Software Fault; Resuming</i> An error prevents a Modbus/TCP task from running.
219	<i>LAN System-Software Fault; Resuming</i> Internal error in the server's connection state machine.
21a	<i>LAN System-Software Fault; Resuming</i> Internal error occurred when starting a Modbus/TCP task.
21b	<i>LAN System-Software Fault; Resuming</i> Internal error prevented processing of requests on a particular connection.
21c	<i>LAN System-Software Fault; Resuming</i> An internal error prevents the server from receiving inter-task events.
21d	<i>LAN System-Software Fault; Resuming</i> Internal operating system error occurred.
21e	<i>LAN System-Software Fault; Resuming</i> An inconsistent condition exists that prevents a connection from processing additional Modbus/TCP requests. Entry 3: Modbus function code being processed when error was detected.
21f	<i>LAN System-Software Fault; Resuming</i> An error occurred while attempting to translate a Modbus/TCP request into a data request for the CPU module. Entry 3: Connection where the Modbus/TCP request was received. Entry 4: Modbus function code being processed when error was detected.
220	<i>LAN System-Software Fault; Resuming</i> Internal error occurred when applying new AUP configuration parameters.
221	<i>LAN System-Software Fault; Resuming</i> Internal error occurred during Modbus/TCP request processing. Entry 4: Modbus function code in the request.

Entry 2	Description
222	<i>LAN System-Software Fault; Resuming</i> An error occurred when attempting to receive inter-process events.
223	<i>LAN System-Software Fault; Resuming</i> An error occurred while attempting to read a Modbus/TCP request from the network. Entry 3: Connection endpoint where the error occurred.
224	<i>LAN System-Software Fault; Resuming</i> An internal error prevents the Modbus/TCP server from accepting connections from clients on the network.
225	<i>LAN System-Software Fault; Resuming</i> An internal error occurred that may cause the Modbus/TCP server to stop accepting connections from clients on the network.
226	<i>LAN System-Software Fault; Resuming</i> An error prevents the sending of a Modbus/TCP response and may cause the TCP connection with the client to be closed.
227	<i>LAN System-Software Fault; Resuming</i> An internal error prevented the server from shutting down a connection to a client.
228	<i>LAN System-Software Fault; Resuming</i> An error is preventing tracing of Modbus/TCP data.
229	<i>LAN System-Software Fault; Resuming</i> An internal error prevented the startup of the Modbus/TCP server or prevented the startup of a connection with a single client.
22a	<i>LAN System-Software Fault; Resuming</i> An internal error occurred during the closing of a TCP connection that prevented inter-task event notification.
22b	<i>LAN System-Software Fault; Resuming</i> The Modbus/TCP server received an unexpected message from the CPU module.
22c	<i>LAN System-Software Fault; Resuming</i> A PDU received by the Modbus/TCP server specified a non-Modbus protocol in its MBAP header's Protocol ID field. The connection with the client is closed. Entry 3: Connection number Entry 4: Protocol ID
22d	<i>LAN System-Software Fault; Resuming</i> An unexpected error type was received from the CPU module in response to a request to read or write data to service a Modbus/TCP request. Entry 3: CPU Major Error Code Entry 4: CPU Minor Error Code
22e	This value reserved for future use.
22f	This value reserved for future use.
230	<i>LAN System-Software Fault; Resuming</i> An unexpected event occurred during the store of configuration data.
231	<i>LAN System-Software Fault; Resuming</i> An unknown event occurred during the store of configuration data.
232	<i>LAN System-Software Fault; Resuming</i> An operating system error prevents network communications with a remote device.
233	<i>LAN System-Software Fault; Resuming</i> An operating system error prevents network communications with a remote device.

Entry 2	Description
234	<i>LAN System-Software Fault; Resuming</i> An unrecognized inter-process event was received.
235	<i>LAN System-Software Fault; Resuming</i> The length field in a Modbus/TCP request's MBAP header contained an illegal value. An exception response is sent to the client and the connection is closed. Entry 3: Connection number Entry 4: The data length specified in the header.

Event Type 30: Shared Memory Interface (SMI) Events

Event Type 30 indicates a Shared Memory Interface (SMI) exception event.

LOG Command Display for Event Type 30

Most Shared Memory Interface events contain an optional Status Code (SCode). The LOG or LOG Z command display for Event Type 30 is shown below.

30 = Shared Memory Interface (SMI) Event

Date	Time	Event	Count	Entry 2	Entry 3	Entry 4	Entry 5	Entry 6	SCode
12-APR-2000	00:00:00.0	30H	1H	0000H	0000H	0000H	0000H	0000H	00000000H

Shared Memory Interface Events and Corresponding Controller Fault Table Entries

The following table shows the Shared Memory Interface events and corresponding Controller Fault Table entries. Entry 2 identifies the particular SMI event. Entries 3 and 4 may vary according to each particular event. Entries 5 and 6 contain an internal location identification code.

Entry 2	Description
1	<i>LAN System-Software Fault; Resuming</i> Shared Memory Interface was not initialized after controller power-up or Ethernet restart. There is no communication with the CPU.
2	<i>No Controller Fault Table Entry for this error.</i> (RX3i only) BMI circular queue overflow. Entry 3: Number of interrupts (upper word) Entry 4: Number of interrupts (lower word)
3	<i>No Controller Fault Table Entry for this error.</i> (RX3i only) BMI count was zero.
4	<i>No Controller Fault Table Entry for this error.</i> (RX3i only) BMI queue head pointer out of range. Entry 3: Invalid pointer value (upper word) Entry 4: Invalid pointer value (lower word)

Event Type 31: Common SRTP Events

Event Type 31 indicates a Common SRTP exception event. These exception codes may be used by both the SRTP Server and the SRTP Client.

LOG Command Display for Event Type 31

Most Common SRTP events contain an optional Status Code (SCode). The LOG or LOG Z command display for Event Type 31 is shown below.

31 = Common SRTP Event

Date	Time	Event	Count	Entry 2	Entry 3	Entry 4	Entry 5	Entry 6	SCode
12-APR-2000	00:00:00.0	31H	1H	0000H	0000H	0000H	0000H	0000H	00000000H

Common SRTP Events and Corresponding Controller Fault Table Entries

The following table shows the Common SRTP events and corresponding Controller Fault Table entries. Entry 2 identifies the particular Common SRTP event. Entries 3 and 4 may vary according to each particular event. Entries 5 and 6 contain an internal location identification code.

Entry 2	Description
1	<i>LAN system-software fault; resuming</i> A PDU arrived with a version field number higher than the SRTP protocol version supported by SRTP Server Entry 3: The version number of the PDU Entry 4: The SRTP version supported by the SRTP Server
2	<i>LAN system-software fault; resuming</i> A PDU arrived with an invalid pdu_type field code. Entry 3: Code indicating the PDU type as listed above for Entry 2 = 21.
3	<i>LAN system-software fault; resuming</i> A PDU arrived with a non-zero data_length field, but was of a class of PDU's that must have zero (0) in this field. Entry 3: Code indicating the PDU type as listed above for Entry 2 = 21 Entry 4: The lower 16 bits of the data_length field
4	<i>LAN system-software fault; resuming</i> Unknown internal data or message type.
5	<i>LAN system-software fault; resuming</i> SRTP startup error. Either SRTP client, server, or both, will be unavailable.
6	<i>LAN system-software fault; resuming</i> An error occurred receiving events.
8	<i>LAN system-software fault; resuming</i> Error installing module configuration data to SRTP subsystem components.
9	<i>LAN system-software fault; resuming</i> An error occurred closing an event descriptor.
a	<i>LAN system-software fault; resuming</i> An error occurred allocating a common resource such as a transaction record.
b	<i>LAN system-software fault; resuming</i> An error occurred freeing a common resource such as a transaction record.

Entry 2	Description
c	<i>LAN system-software fault; resuming</i> An error occurred processing a Station Manager command. Entry 3: Internal code for the attempted Station Manager command
d	<i>LAN system-software fault; resuming</i> Unable to locate the appropriate transaction record. Entry 3 optionally specifies an individual service request in the format UUSS where UU and SS specify BPD task number and sequence number, respectively.
e	<i>LAN system-software fault; resuming</i> Error processing response mail received from the CPU. Entry 3 optionally specifies an individual service request in the format UUSS where UU and SS specify BPD task number and sequence number, respectively.

Event Type 32: Channel Framework Events

Event Type 32 indicates a Channel Framework exception event. These events can be generated by any channels protocol.

LOG Command Display for Event Type 32

Most Channel Framework events contain an optional Status Code (SCode). The LOG or LOG Z command display for Event Type 32 is shown below.

32 = Channel Framework Event

Date	Time	Event	Count	Entry 2	Entry 3	Entry 4	Entry 5	Entry 6	SCode
12-APR-2000	00:00:00.0	32H	1H	0000H	0000H	0000H	0000H	0000H	00000000H

Channel Framework Events and Corresponding Controller Fault Table Entries

The following table shows the Channel Framework events and corresponding Controller Fault Table entries. Entry 2 identifies the particular Channel Framework event. Entries 3 and 4 may vary according to each particular event. Entries 5 and 6 contain an internal location identification code.

Entry 2	Description
1	<i>LAN system-software fault; resuming</i> Error occurred during framework startup
2	<i>LAN system-software fault; resuming</i> Error occurred requesting an operating system service
3	<i>LAN system-software fault; resuming</i> Internal error occurred while creating an event
4	<i>LAN system-software fault; resuming</i> Internal error occurred while processing a station manager command
5	<i>LAN system-software fault; resuming</i> Runtime error occurred while processing a station manager command
6	<i>LAN system-software fault; resuming</i> Internal runtime error occurred

Entry 2	Description
7	<i>LAN system-software fault; resuming</i> Error occurred while unregistering a channel
8	<i>LAN system-software fault; resuming</i> Internal error occurred while registering for channel addition/removal notification
9	<i>LAN system-software fault; resuming</i> An error occurred while queuing an event to a channel. Generating channel events faster than they can be processed is the usual cause.
a	<i>LAN system-software fault; resuming</i> Internal error occurred while registering the local connection
b	<i>LAN system-software fault; resuming</i> Internal error occurred while registering the remote connection
c	<i>LAN system-software fault; resuming</i> Internal error while registering with the connection watcher (Duplicate registration)
d	<i>LAN system-software fault; resuming</i> Internal error while registering with the connection watcher (Other registration error)
e	<i>LAN system-software fault; resuming</i> Internal runtime error within the connection watcher
f	<i>LAN system-software fault; resuming</i> Internal initialization error within the connection watcher
10	<i>LAN system-software fault; resuming</i> Internal error due to an invalid file handle
11	<i>LAN system-software fault; resuming</i> Internal error while clearing a connection watcher entry
12	<i>LAN system-software fault; resuming</i> Internal error due to an unexpected NULL pointer
13	<i>LAN system-software fault; resuming</i> Internal error occurred while abruptly shutting down a channel
14	<i>LAN system-software fault; resuming</i> Internal error occurred while processing channel events
15	<i>LAN system-software fault; resuming</i> Internal error occurred while queuing event to channel
16	<i>LAN system-software fault; resuming</i> Internal error occurred while updating channel status bits
17	<i>LAN system-software fault; resuming</i> Internal error occurred while copying channel status bits to shared memory
18	<i>LAN system-software fault; resuming</i> Internal error occurred while unregistering from input scan notification
19	<i>LAN system-software fault; resuming</i> No mailbox sequence number available; unable to send mail to CPU.
1a	<i>LAN system-software fault; resuming</i> Unable to fetch controller state; channel cannot be established.

Event Type 33: OS Abstraction Events

Event Type 33 indicates an OS Abstraction exception event.

LOG Command Display for Event Type 33

Most OS Abstraction events contain an optional Status Code (SCode). The LOG or LOG Z command display for Event Type 33 is shown below.

33 = OS Abstraction Event

Date	Time	Event	Count	Entry 2	Entry 3	Entry 4	Entry 5	Entry 6	SCode
12-APR-2000	00:00:00.0	33H	1H	0000H	0000H	0000H	0000H	0000H	00000000H

OS Abstraction Events and Corresponding Controller Fault Table Entries

The following table shows the OS Abstraction events and corresponding Controller Fault Table entries. Entry 2 identifies the particular OS Abstraction event. Entries 3 and 4 may vary according to each particular event. Entries 5 and 6 contain an internal location identification code.

Entry 2	Description
1	<i>LAN system-software fault; resuming</i> Network error occurred
2	<i>LAN system-software fault; resuming</i> Error allocating memory
3	<i>LAN system-software fault; resuming</i> Internal error occurred due to an invalid parameter
4	<i>LAN system-software fault; resuming</i> Internal error occurred due to an unsupported operation
5	<i>LAN system-software fault; resuming</i> Internal general runtime error occurred
6	<i>LAN system-software fault; resuming</i> Internal runtime error occurred due to a bad cast exception
7	<i>LAN system-software fault; resuming</i> Internal runtime error occurred due to a NULL pointer
8	<i>LAN system-software fault; resuming</i> Internal error occurred due to a timer issue
9	<i>LAN system-software fault; resuming</i> Internal thread error
a	<i>LAN system-software fault; resuming</i> Internal error occurred while updating available connection pool information
b	<i>LAN system-software fault; resuming</i> Internal error occurred within IPC abstractions

Event Type 34: General Ethernet System Events

Event Type 34 indicates a General Ethernet System exception event.

LOG Command Display for Event Type 34

Most General Ethernet System events contain an optional Status Code (SCode). The LOG or LOG Z command display for Event Type 34 is shown below.

34 = General Ethernet System Event

Date	Time	Event	Count	Entry 2	Entry 3	Entry 4	Entry 5	Entry 6	SCode
12-APR-2000	00:00:00.0	34H	1H	0000H	0000H	0000H	0000H	0000H	00000000H

General Ethernet System Events and Corresponding Controller Fault Table Entries

The table following shows the General Ethernet System events and corresponding Controller Fault Table entries. Entry 2 identifies the particular General Ethernet System event. Entries 3 and 4 may vary according to each particular event. Entries 5 and 6 contain an internal location identification code.

Entry 2	Description
1	<i>LAN system-software fault; resuming</i> Internal error occurred while processing a station manager command
2	<i>LAN system-software fault; resuming</i> Runtime error occurred while processing a station manager command
3	<i>LAN system-software fault; resuming</i> Internal error indicating memory tracking issue
4	<i>LAN system-software fault; resuming</i> General Ethernet System not initialized after controller power-up or Ethernet restart
5	<i>LAN system-software fault; resuming</i> Internal error within mailbox abstraction
6	<i>LAN system-software fault; resuming</i> Internal error processing Modbus response at Modbus/TCP Client.
7	<i>LAN system-software fault; resuming</i> Not enough data within Modbus/TCP response or sub-response at Modbus/TCP client. Entry 3: Modbus function code Entry 4: Response or sub-response length (bytes)
8	<i>LAN system-software fault; resuming</i> Incomplete data within Modbus/TCP response or sub-response at Modbus/TCP client.
d	<i>LAN system-software fault; resuming</i> Invalid file type within Modbus/TCP response or sub-response at Modbus/TCP client. Entry 3: Modbus function code Entry 4: File type
e	<i>LAN system-software fault; resuming</i> Modbus/TCP response too long or contains too many sub-responses at Modbus/TCP client. Entry 3: Modbus function code Entry 4: Response length (bytes)

Entry 2	Description
f	<i>LAN system-software fault; resuming</i> Invalid sub-function code within Modbus/TCP response at Modbus/TCP client. Entry 3: Modbus function code Entry 4: Sub-function code
10	<i>LAN system-software fault; resuming</i> Invalid function code within Modbus/TCP response at Modbus/TCP client. Entry 3: Modbus function code

Event Type 35: Modbus/TCP Client (Channels) Events

Event Type 35 indicates a Modbus/TCP Client (Channels) exception event.

LOG Command Display for Event Type 35

Most Modbus/TCP Client (Channels) events contain an optional Status Code (SCode), remote end point, and local end point values. Remote and local endpoint values are displayed as IP Address: TCP port. The LOG or LOG Z command display for Event Type 1c is shown below.

1c = SRTP Channels Event

Date	Time	Event	Count	Entry 2	Entry 3	Entry 4	Entry 5	Entry 6	SCode
12-OCT-2005	00:00:00.0	35H	1H	0000H	0000H	0000H	0000H	0000H	00000000H

Modbus/TCP Client (Channels) Events and Corresponding Controller Fault Table Entries

The following table shows the Modbus/TCP Client (Channels) events and corresponding Controller Fault Table entries. Entry 2 identifies the particular Modbus/TCP Client (Channels) event. Entries 3 and 4 may vary according to each particular event. Entries 5 and 6 contain an internal location identification code.

Entry 2	Description
9	<i>LAN system-software fault; resuming</i> An error occurred processing a Modbus/TCP COMMREQ.
a	<i>LAN system-software fault; resuming</i> An internal error occurred processing a Station Manager command. The command was not completed. Entry 3: Internal processing identifier
c	<i>LAN system-software fault; resuming</i> Error registering to receive a Modbus/TCP COMMREQ command code. COMMREQs containing this command cannot be recognized. Entry 3: COMMREQ command code
d	<i>LAN system-software fault; resuming</i> Error deregistering a Modbus/TCP COMMREQ command code. Entry 3: COMMREQ command code
e	<i>LAN system-software fault; resuming</i> Error sending a COMMREQ Status value to the PCL CPU. The COMMREQ Status value was not delivered.

Entry 2	Description
f	<i>LAN system-software fault; resuming</i> Error registering with Backplane Driver subsystem. The Modbus/TCP client cannot transfer data to/from reference memory.
11	<i>LAN system-software fault; resuming</i> Internal error: An unexpected Null pointer was encountered.
12	<i>LAN system-software fault; resuming</i> Internal error : An unexpected exception was encountered.
13	<i>LAN system-software fault; resuming</i> Internal state machine failure. Entry 3: Zero or COMMREQ command code
14	<i>LAN system-software fault; resuming</i> Internal error: No state machine transition defined.
15	<i>LAN system-software fault; resuming</i> Internal error processing a state machine state change.
16	<i>LAN system-software fault; resuming</i> Error executing a Station Manager command. The Modbus/TCP client cannot complete the command.
17	<i>LAN system-software fault; resuming</i> Error receiving a service request response from the CPU. Entry 3: Backplane Driver transfer ID
18	<i>LAN system-software fault; resuming</i> Internal error: Attempting to close a Modbus/TCP connection when none are open.
19	<i>LAN system-software fault; resuming</i> Internal error: Service request transfer ID already in use. Entry 3: Backplane Driver transfer ID
1a	<i>LAN system-software fault; resuming</i> Error sending service request to CPU.
1b	<i>LAN system-software fault; resuming</i> Error receiving PDU from remote server. Entry 3: Function code (occurs when PDU contains too much data) or zero (= internal error)
1c	<i>LAN system-software fault; resuming</i> Error flushing pending COMMREQ Status updates when abruptly closing a Modbus/TCP channel. Entry 3: Zero or internal event type
1d	<i>LAN system-software fault; resuming</i> Unexpected mail received from CPU. Entry 3: XXYY, where XX = BPD user ID, YY = BPD transfer ID
1e	<i>LAN system-software fault; resuming</i> Unrecognized COMMREQ command code. Entry 3: COMMREQ command code
1f	<i>LAN system-software fault; resuming</i> Modbus/TCP response is too large. Entry 3: Response length
20	<i>LAN system-software fault; resuming</i> Modbus/TCP response contains invalid Protocol ID value. Entry 3: Protocol ID

Entry 2	Description
21	<i>LAN system-software fault; resuming</i> An unexpected Modbus/TCP request or response was received. }Entry 3: Function code
22	<i>LAN system-software fault; resuming</i> Error writing data to local CPU. Entry 3: COMMREQ command code, or XXYY where XX = num units and YY = response length
23	<i>LAN system-software fault; resuming</i> Invalid response length. Entry 3: XXYY where XX = num units and YY = response length



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