

- Errors in data transfers
- Error in the CPU Unit

**Error Log Table**

Each error is recorded as one record in an error log table. Up to 64 records can be saved. If more than 64 errors occur, the oldest errors will be deleted from the error log and the most recent error will be recorded.

The following information is recorded in the error log table.

- Main error code (See table later in this section.)
- Detailed error code (See table later in this section.)
- Time stamp (from the clock in the CPU Unit)

**Error Log Location**

When an error is detected, the error codes and time stamp are recorded in the error log in RAM inside the Ethernet Unit. Serious errors are also recorded in EEPROM. The maximum number of errors that can be saved to EEPROM is 64 for the CS Series and 32 for the CJ Series. The errors recorded in EEPROM will be saved even if the Unit is restarted or power is turned OFF. When the Ethernet Unit is started, the contents of the error log in EEPROM is copied to RAM.

When a FINS command is used to read the error log, the log held in RAM is read. When a FINS command is used to clear the error log, the logs held in both RAM and EEPROM are cleared.

**FINS Commands for Error Logs**

The following FINS commands can be used to read or clear the error log. Refer to *Section 11 FINS Commands Addressed to Ethernet Units*.

Command code		Function
MRC	SRC	
21	02	ERROR LOG READ
	03	ERROR LOG CLEAR

**10-4 Error Log Error Codes**

The error codes are described in the following table. The detailed error code will provide detailed information on an error.

Error code	Meaning	Detailed error code		Correction	EE-PROM
		1st byte	2nd byte		
0001	Watchdog timer error in CPU Unit	00	00	Replace the CPU Unit.	Saved
0002	CPU Unit service monitor error	Monitor time (ms)		Check the operating environment.	Saved
0006	Other CPU error	Bit 11: Unit not in Registered I/O Tables		Create the I/O tables.	Saved
000F	CPU Unit initialization error	00	00	Replace the CPU Unit.	Saved
0010	Insufficient System Setup Area	00	00	Reduce the number of CPU Bus Units.	Saved
0011	Event timed out	MRC	SRC	Replace the CPU Unit.	Saved
0012	CPU Unit memory error	01: Read error 02: Write error	03: Routing table 04: Setup error 05: CPU Bus Unit Words (CIO/DM)	01: Recreate the data specified by the 2nd byte of the detailed error code. 02: Clear memory using procedure in the PC operation manual.	Saved
0013	CPU Unit protected	00	00	Remove protection from CPU Unit memory.	Saved

Error code	Meaning	Detailed error code		Correction	EE-PROM
		1st byte	2nd byte		
0103	Resend count exceeded (send failed)	Commands Bit 15: OFF Bits 08 to 14: SNA Bits 00 to 07: SA1  Responses Bit 15: ON Bits 08 to 14: DNA Bits 00 to 07: DA1		Check transceiver at remote node.	---
0105	Node address setting error (send failed)			Set the IP address correctly.	---
0107	Remote node not in network (send failed)			Check the connection to the remote node.	---
0108	No Unit with specified unit address (send failed)			Check the unit address at the remote node.	---
010B	CPU Unit error (send failed)			Troubleshoot the error in the CPU Unit using the PC operation manual.	---
010D	Destination address not in routing tables (send failed)			Set the destination address in the routing tables.	---
010E	No routing table entry (send failed)			Set the local node, remote node, and relay nodes in the routing tables.	---
010F	Routing table error (send failed)			Create the routing tables correctly.	---
0110	Too many relay points (send failed)			Reconstruct the network or correct the routing tables so that commands are sent to within a 3-level network range.	---
0111	Command too long (send failed)			Check the command format and set the correct command data.	---
0112	Header error (send failed)			Check the command format and set the correct command data.	---
0117	Internal buffers full; packet discarded			Change the network so that traffic is not concentrated.	---
0118	Illegal packet discarded			Check for nodes sending illegal packets.	---
0119	Local node busy (send failed)			Change the network so that traffic is not concentrated.	---
0120	Unexpected routing error			Check the routing tables.	---
0121	No setting in IP address table; packet discarded			Set the remote node in the IP address table.	---
0122	Service not supported in current mode; packet discarded	Select the IP address table or both methods for the address conversion method.	---		
0123	Internal send buffer full; packet discarded	Change the network so that traffic is not concentrated.	---		
0124	Maximum frame size exceeded; routing failed	Reduce the size of events.	---		
021A	Logic error in setting table	00	01: Data link table 02: Network parameters 03: Routing tables 04: Setup 05: CPU Bus Unit Words (CIO/DM)	Recreate the data specified by the 2nd byte of the detailed error code.	Saved

Error code	Meaning	Detailed error code		Correction	EE-PROM
		1st byte	2nd byte		
0300	Parameter error; packet discarded	Commands Bit 15: OFF Bits 08 to 14: SNA Bits 00 to 07: SA1 Responses Bit 15: ON Bits 08 to 14: DNA Bits 00 to 07: DA1		Check the command format and set the correct command data.	---
0601	CPU Bus Unit error	Arbitrary		Restart the CPU Unit. If the problem persists, replace the Ethernet Unit.	Saved
0602	CPU Bus Unit memory error	01: Read error 02: Write error	06: Error log	Restart the CPU Unit. If the problem persists, replace the Ethernet Unit.	Saved (except for error log)

- Note**
1. The time information in the CPU Unit is used in the CPU Bus Units.
  2. If the time information cannot be read from the CPU Unit, the time stamp in the error log will be all zeros. This can occur due to CPU Unit startup error, unit number errors, CPU error, and model number errors. If the time is read out from a Programming Device, the time will be shown as all zeros in the year 2000.
  3. The battery must be installed in the CS/CJ-series CPU Unit, the power turned ON, and then the time set before the clock in the CPU Unit can be used. The time will not be set correctly in the error log unless the clock time is set correctly.
  4. An error record is not created in EEPROM when a CPU Bus Unit memory error occurs.

## 10-5 Troubleshooting Procedures

The following procedures can be used to troubleshoot various problems in system operation.

### 10-5-1 Startup Problems

Most of the initial steps in these procedures are in question form. Continue in sequence until a "True" answer tells you to jump to a specified step or until you are told to perform a specific action that corrects the problem. If performing the action does not correct the problem, return to the beginning of the procedure and start over.

- 1,2,3...**
1. RUN indicator lit?  
True ► Step 14.
  2. ERH indicator lit?  
True ► Step 12.
  3. ERC indicator lit?  
True ► Step 9.
  4. Power not supplied to CPU Unit?  
True ► Make sure that sufficient power is supplied to the CPU Unit.
  5. Ethernet Unit loose on Rack?