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Ovation Error Codes

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Appendix A. Hardware Address and I/O Status Values

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Summary of Changes

This revision of “Ovation Error Codes and Messages” (R3-1145) has been updated to include information for Solaris and Microsoft Windows based systems.

The following new fault codes have been added:

- Fault Code 157 - OPC Client Mapper
- Fault Code 185 - Licensing
- Fault Code 210 - SCADA Server

New information regarding the Hart Server, Multinet, and DataLink has been added to Fault Code 66 - Controller Faults.

All sections include additional miscellaneous clarifications and corrections.

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Section 1. Introduction

1-1. Overview

The Ovation systems (Solaris and Microsoft Windows based) provide error codes and messages that can be used to diagnose drop and system problems. Different types of error messages are provided for different types of errors.

The possible types of error messages are listed below. All types apply to both Ovation systems unless otherwise noted.

- Fault Codes:
  - — Displayed by LEDs on Controller cards (only **critical** Controller errors are displayed).
  - — Displayed in the Drop Details diagram.
  - — Displayed in the Error Log Viewer for Windows based systems only (described in NT-0020 and NT-0050).
  - — Displayed in the General Message Display at the Operator Station for Solaris systems only (described in U3-1031 and NT-0055).
  - — Stored in the Controller flash memory (described in U3-1032).
- Pop-up messages that appear during operation of the User Interfaces.
- Error Messages sent to the Operator Station.
- LED displays on the Controller IOIC cards.
- Messages stored in the Controller's flash memory.
- Syslog messages stored in Workstation files (described in U3-1032).

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1-2. Contents of this Document

This document is organized as follows:

Section 1. Introduction describes the organization of this manual.

Section 2. Status Information Diagrams provides descriptions and examples of the System Status and the Drop Details Display diagrams.

Section 3. Controller Card Diagnostics describes the diagnostics that are provided by the cards in the Controller.

Section 4. Drop Fault Codes Reference lists the Fault Codes, Fault IDs, Fault Parameters, and descriptions for the Ovation systems.

Appendix A. Hardware Address and I/O Status Values lists the hardware address and I/O status values for Fault Code 66 (Fault ID B).

1-3. Additional Reference Documentation

Table 1-1 lists additional Ovation reference documentation which may be helpful while using this manual.

Table 1-1. Reference Documents

Document Number	Title	Description
NT-0020	Ovation Operator Station User Guide (For use with Microsoft Windows based Systems)	Describes the use and functions of the Operator Station that is used with Windows based Systems.
NT-0050	Ovation Operator Station User Guide (For use with Solaris Systems)	Describes the use and functions of the Windows based Operator Station that is used with Solaris Systems.
NT-0055	Ovation Controller User Guide (For use with Microsoft Windows Based Systems)	Describes the use and function of the Controller used with Windows systems.
NT-0060	Ovation Developer Studio User Guide	Provides information on drop configuration, system hierarchy, creating points, and security.
U3-1011	Ovation Engineering Station User Guide	Describes the use and functions of the Engineering Station.

Table 1-1. Reference Documents (Cont'd)

Document Number	Title	Description
U3-1012	Ovation Historian User Guide	Describes the use and functions of the Historian.
U3-1031	Ovation Operator Station User Guide	Describes the use and functions of the Operator Station that is used with Solaris systems.
U3-1032	Ovation Controller User Guide	Describes the use and functions of the Controller used with Solaris systems.
U3-1042	Ovation Log Server (Report Builder) User Guide	Describes the use and functions of the Log Server (Report Builder) and Report Generator.
R3-1105	Using the Ovation Init and Admin Tools	Describes using the Init and Admin Tools to define and configure Ovation Workstations and Controllers for Solaris systems.
R3-1140	Ovation Record Types Reference Manual	Lists and describes Ovation Record Types.

In addition to the documents listed in Table 1-1, this manual may refer to "applicable vendor documentation," which is defined on a project basis. These documents may include:

- Operating system manuals.
- Window manager documentation.
- Vendor hardware documentation.
- Peripheral device documentation.

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Section 2. Status Information Diagrams

2-1. Section Overview

This section discusses the Ovation system- and drop-level diagrams which report alarms and provide status information for a plant.

The following topics are included in this section:

- Purpose of using diagrams (Section 2-2).
- System Status Display diagram (Section 2-3).
- Drop Details diagram (Section 2-4).

2-2. Purpose of Using Diagrams

Status diagrams give the user a graphical representation of the state of plant processes. Some diagrams provide general information on the entire system, while others show specific information for a particular drop. The diagrams monitor plant operations and allow the user to identify abnormal conditions and acknowledge alarms.

Note

Additional information concerning system alarms can be obtained from an Alarm List and an Alarm History List (see one of the Operator Station User Guides (U3-1031 for Solaris systems or NT-0020 and NT-0050 for Windows based systems) for more information on these lists).

For each diagram, an example of a typical display and a description are provided.

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2-3. System Status Display Diagram

The System Status Display diagram is a custom graphic designed for each system. A sample diagram is provided with each system.

The System Status Display diagram displays the Highway and the drop configuration on the highway. The Highway is represented by the horizontal and vertical lines on the diagram. The lines are connected to boxes which represent the drops.

The System Status Display diagram provides status information by showing a color-coded representation of each drop. The colors can be changed if desired. However, the recommended colors are listed in Table 2-1.

Table 2-1. System Status Display Diagram Color Code for Drop Box

Color	Status Indicated
Gray	No **update** (drop is not on the highway).
Green	Drop is in **normal** mode.
Cyan	Drop is in **standby** mode.
Red	Drop is in **alarm** or fault
Magenta	Operator **attention** is required.
Yellow	Drop is in **backup** mode.
White	Drop is in **offline** mode.
Orange	Drop is in **failed** mode.

2-3.1. Accessing the Ovation System Status Display Diagram (Solaris and Windows Based Systems)

The System Status Display diagram is used for Ovation systems. A typical diagram is shown in Figure 2-1. The diagram is similar for both Solaris and Windows based systems.

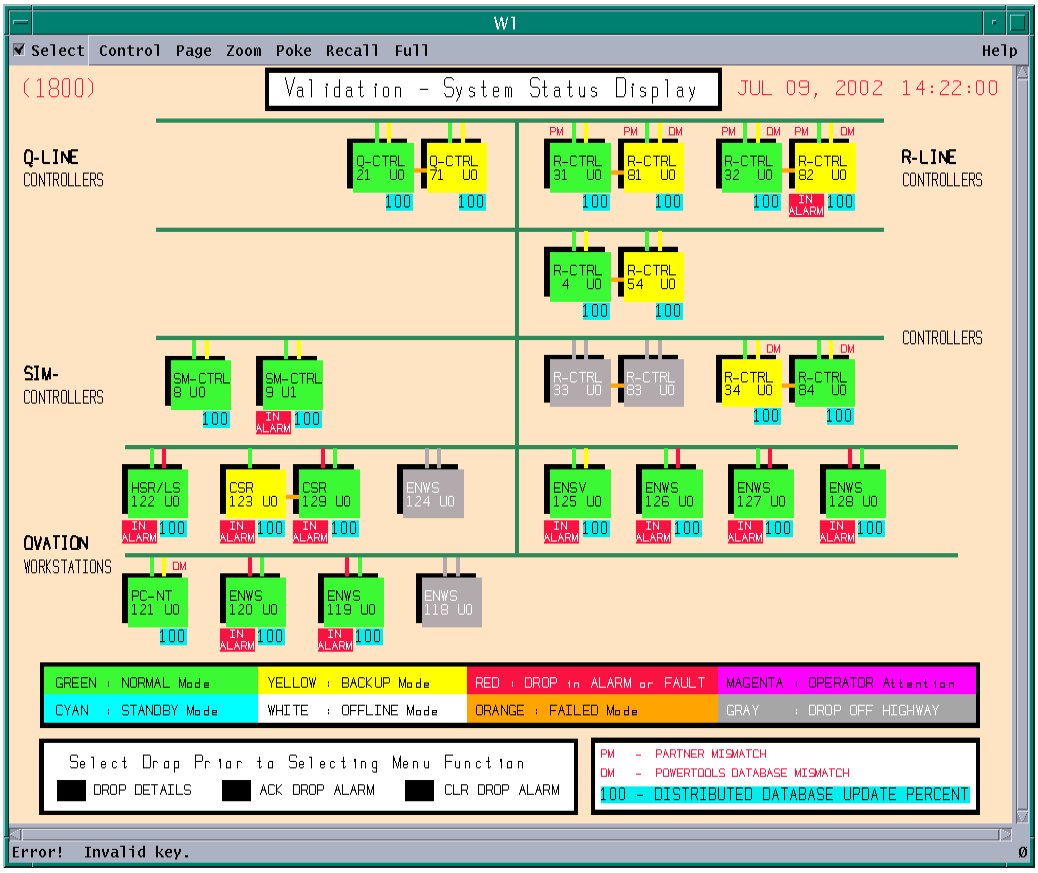


Figure 2-1. System Status Display Diagram (Sample from a Solaris System)

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Accessing the Solaris Systems

To access the System Status Display diagram for Solaris systems, follow the steps below:

Note

The menus discussed below are supplied in the standard release CDROM. However, menus are user-configurable and can be changed to meet customer needs. For more information on the Menu system, see "Ovation Engineering Station User Guide" (U3-1011).

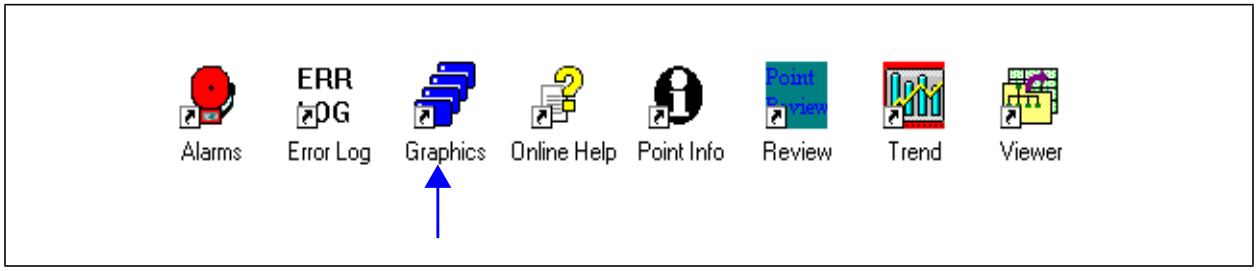
1. Open the **Data Analysis and Maintenance** icon on the main screen.
2. From the **Data Analysis and Maintenance** menu, select **Highway Utilities**.
3. From the **Highway Utilities** menu, select **System Status**.

   The System Status Display diagram appears (see Figure 2-1).

Accessing the Windows Based Systems

To access the System Status Display diagram for Windows based systems, follow the steps below:

1. Go to the **Graphics** icon at the Operator Station and double click on it.



   The **Process Diagram** window appears. Depending on the Operator Station configuration, each **Process Diagram** window can initially display a custom diagram. If no diagram number was defined during configuration, the **Process Diagram** window is blank when first accessed.

2. To display the System Status Display diagram in the window, select diagram number **"1800"** from one of the following sources:

   - Load Diagram icon on the toolbar.

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- Ovation Keyboard (Custom Key).
- Favorites menu.

For more information on using the Process Diagram window, refer to one of the Windows based Operator Station manuals (NT-0020 or NT-0050).

2-3.2. System Status Display Functions

The System Status Display diagram allows the user to acknowledge and clear alarms and display other informative diagrams. The appropriate drop must be selected (by using the mouse to position the pointer and left clicking) before selecting the desired menu option. Table 2-2 lists the functions:

Table 2-2. System Status Display Functions

Function	Description
DROP DETAILS	Selecting this option displays the Drop Details Display diagram (see Section 2-4 for information on this diagram).
SYSTEM OVERVIEW	Selecting this option displays a customized project-specific System Overview diagram. This diagram enables the user to quickly select a page from a multi-page System Status Display diagram by using poke fields incorporated into the Overview diagram for this purpose.
ACK DROP ALARM	Selecting this option acknowledges a drop alarm. The user selects the desired drop (in alarm) from the drops displayed in the System Status Display diagram (the alarm condition is not cleared).
CLR DROP ALARM	Selecting this option will clear the designated drop alarm. The alarm will be reset if the fault continues to be broadcast by the drop.

2-4. Drop Details Diagram

The Drop Details diagram is a comprehensive display which provides detailed information on a particular drop. Alarm information, drop fault information, and highway information are displayed together so the user can get an overall understanding of the state of a drop.

The Drop Details diagram is used for both Ovation systems. A typical diagram is shown in Figure 2-2. The diagram is similar for both Solaris and Windows based systems.

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2-4.1. Accessing the Drop Details Diagram for Solaris and Windows Based Systems

To access the Drop Details diagram, follow the steps below:

1. Access the System Status Display diagram according to the procedures in Section 2-3.1 (Solaris or Windows based systems).
2. Select the desired drop on the System Status Display diagram.
3. Select the **DROP DETAILS** poke field.

   The Drop Details diagram displays (see Figure 2-2).



Figure 2-2. Drop Details Diagram (Sample from a Solaris System)

2-4.2. Drop Details Fields

The Drop Details diagram displays many informative fields. The fields are listed in the following manner:

- Table 2-3 describes the fields that are not listed under a specific heading.
- Table 2-4 lists the fields found under the **DROP ALARM INFORMATION** heading.
- Table 2-5 lists the fields found under the **NETWORK INTERFACE INFORMATION** heading.
- Table 2-6 lists the fields found under the **DROP FAULT DETAILS** heading.
- Table 2-7 lists the options found in the **DROP FUNCTIONS MENU**.

Notes

For details about the record fields and record types referred to in the following definitions, see "Ovation Record Types User Guide" (R3-1140).

Table 2-3. Drop Details Diagram Window Fields

Field	Description
Name	Point name of the specified drop's Drop Status Record (DSR).
Drop Number	Drop number of the selected drop.
Description	Detailed description of specified drop (maximum of 30 characters).
Partner Drop Number	Drop number of the redundant partner (0 if no partner is configured).
Drop Type	Text description of the drop's functions (for example, MMI, HSR).
Data Highway Controller Status (HC)	Status word of Highway Controller. Value is taken from HC field.
Partner Mismatch	Data in selected drop does not match data in partner drop. Choices are: Yes, No, and "???" (data not available to drop).
Power Tools Database Mismatch	Data in Power Tools database does not match data in drop. Choices are: Yes, No, and "???" (data not available to drop).
Drop Mode	Indicates if selected drop is in Backup or Control mode.
Highway Mode	Highway operational mode for the drop. The choices are: Primary, Backup, Off-line, Idle, and Receive.

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The Drop Details Display diagram displays information fields in the **DROP ALARM INFORMATION** section that provide details on the possible conditions that cause a drop to be in 'alarm.'

Table 2-4. Drop Alarm Information Fields

Field	Description
Drop Status (FA) *	This value is taken from the FA record field of the DU record type.
Fault Condition *	Indicates if a fault condition exists for the specified drop (corresponds to drop displayed in red on the System Status Display diagram). The fault code and ID numbers are also displayed. Possible value display is 'Yes' or 'None.'
Operator Attention Required *	Indicates that the value in the TA record field of the DU record type specifies that the drop should be placed in 'Attention' alarm (corresponds to drop displayed in magenta on the System Status Display diagram). Possible value display is 'Yes' or 'No.'
* Message color matches the color coding scheme for the System Status Display diagram (refer to Table 2-1).	

The Drop Details Display diagram displays the following information fields in the **NETWORK INTERFACE INFORMATION** section.

Table 2-5. Network Interface Information Fields

Field	Description
Interface Type	Type of Network Interface card. This is read once at startup. The valid values are: 0 = Unknown, 1 = Single Attached FDDI, and 2 = Dual Attached FDDI.
Channel 0 State	State of Channel 0 of the Network Interface card. This is updated every second. The valid values are: 0 = Unknown, 3 = Unavailable, and 8 = Active.
Channel 1 State	State of Channel 1 of the Dual Attached FDDI card. This field is updated every second. It is not applicable for Single Attached cards. For Dual Attached cards, if both channels are working, Channel 0 will always be used (Active). Valid values are: 0 = Unknown, 3 = Unavailable (failed), 4 = Available (standby), and 8 = Active.
Input Packets	Number of input packets received. This field is updated every 10 seconds.
Input Errors	Number of input packet errors. This field is updated every 10 seconds.
Output Packets	Number of packets sent. This field is updated every 10 seconds.

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Table 2-5. Network Interface Information Fields (Cont'd)

Field	Description
Output Errors	Number of output packet errors. This field is updated every 10 seconds.
TREQ	Target Token Rotation Time (in milliseconds) requested by the drop. This field is updated every 10 seconds.
TNEG	Target Token Rotation Time (in milliseconds) negotiated on the network. The Negotiated time is the smallest of all the requested Target Token Rotation Times on the ring. This should be 50 for Ovation Networks. This field is updated every 10 seconds.

The Drop Details Display diagram displays the following information fields in the **DROP FAULT DETAILS** section:

Table 2-6. Drop Fault Details Fields

Field	Description
Fault Code (FC)	Number (in decimal format) and text description of the drop fault code (value is taken from the FC record field of the Drop Status (DU) record type).
Fault ID (FK)	Number (in hexadecimal format) and description of the fault identifier code (value is taken from the FK record field of the DU record type).
Fault Param 1 (FS)	Fault Parameter 1 (value is taken from the FS record field of the DU record type). Displayed in hexadecimal format.
Fault Param 2 (FO)	Fault Parameter 2 (value is taken from the FO record field of the DU record type). Displayed in hexadecimal format.

The Drop Details Display diagram allows the user to acknowledge and clear alarms and display other informative diagrams. The appropriate drop must be selected (by using the mouse to position the pointer and left clicking) before selecting the desired menu option. Table 2-7 lists the functions found in the **DROP FUNCTIONS MENU**:

Table 2-7. Drop Functions Menu

Function	Description
System Status	Selecting this option displays the System Status Display diagram (see Section 2-3 for information on this diagram).
Ack Drop Alarm	Selecting this option acknowledges a drop alarm, but the alarm condition is not cleared.
Clear Drop Alarm	Selecting this option will clear the designated drop alarm. The alarm will be reset if the fault continues to be broadcast by the drop.

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2-5. General Message Display

For Ovation Solaris systems, in order to see Parameters 3, 4, and 5, the Controllers must be configured through the Admin Tool to send these messages to a designated station. These Controller Error messages can then be displayed (in hexadecimal) on that station's General Message Display. An example (with descriptions) is shown below:

```
                                    (Fault Code)              (Fault ID)
Jan 21 15:12:08 drop 11 <5> Controller Error: Hardware Error :
Mode Error : 0x80004745 : 0x400015e3 : : 0x0 : 0x0
(Parameter 1)      (Parameter 2)      (Parameter 3)  (Parameter 4)  (Parameter 5)

                                          (Fault Code)                  (Fault ID)
Jan 21 15:12:10 drop 11 <5> Controller Error: Algorithm Subsystem Error:
Invalid calculated number : 0x2 : 0x31303300 : 0x4 : 0x0
      (Parameter 1)        (Parameter 2)     (Parameter 3)  (Parameter 4)  (Parameter 5)
```

For more information on the DU record, see "Ovation Record Types Reference Manual" (R3-1140).

The Fault Codes are described in Section 4-4 through Section 4-16 and are arranged numerically. A table for each Fault Code lists the applicable fault IDs along with a description of each error and a suggested user response.

Note

If a fault ID is out of sequence or missing, it is either not assigned or reserved for Westinghouse use only.

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Section 3. Controller Card Diagnostics

3-1. Section Overview

This section describes the LED diagnostics located on the edges of the Input Output Interface Controller (IOIC) cards. These cards are located in the Controller cabinet as illustrated in Figure 3-1. There can be up to two IOIC cards per Controller.

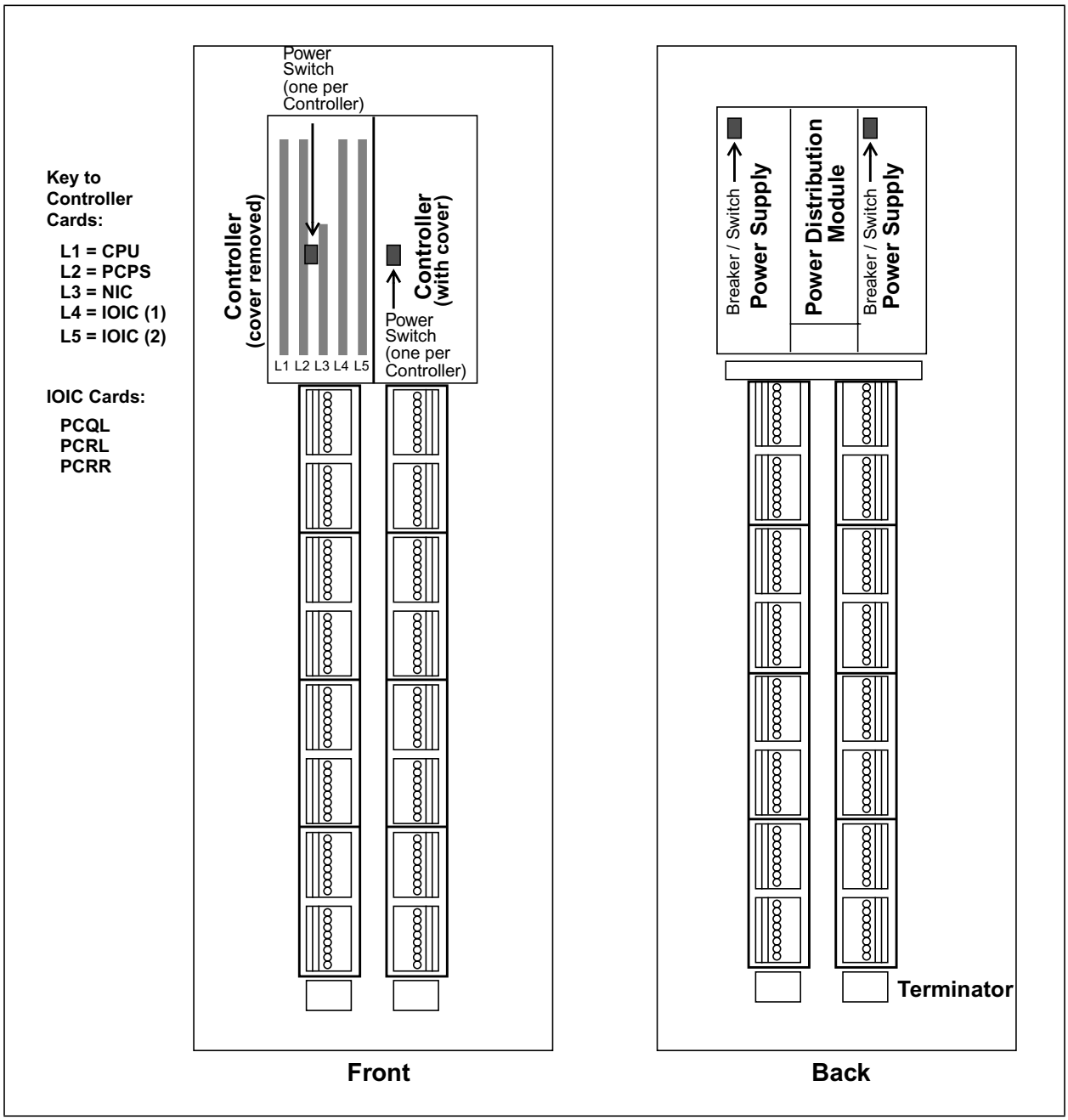


Figure 3-1. Controller Card Locations

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3-2. Controller Cards

The Fault Codes generated by the Controller are displayed in the LEDs located on the edge of each IOIC card. These Fault Codes are also displayed at the Operator Station in the Drop Details diagram (see Section 2).

Fault Codes

Fault Code information is found in the following fields of the Drop Status (DU) record type (see "Ovation Record Types Reference Manual" (R3-1140)):

- Fault Code = FC (The Fault Code for the Ovation Controller is **66**.)
- Fault ID = FK
- Fault Parameter 1 = FS
- Fault Parameter 2 = FO

Card Types

There are three possible IOIC cards:

- PCQL (used with Q-Line I/O).
- PCRL (used with Local Ovation I/O).
- PCRR (used with Remote Ovation I/O and Remote Q-Line I/O).

3-3. PCQL Controller Card

The PCQL card is used with the Q-Line I/O.

The PCQL card contains three LED lights and two LED displays. The lights indicate the status of the Controller. The LED displays indicate if there is a Controller error (Fault Code) and identifies the Fault Code ID and Parameter 1.

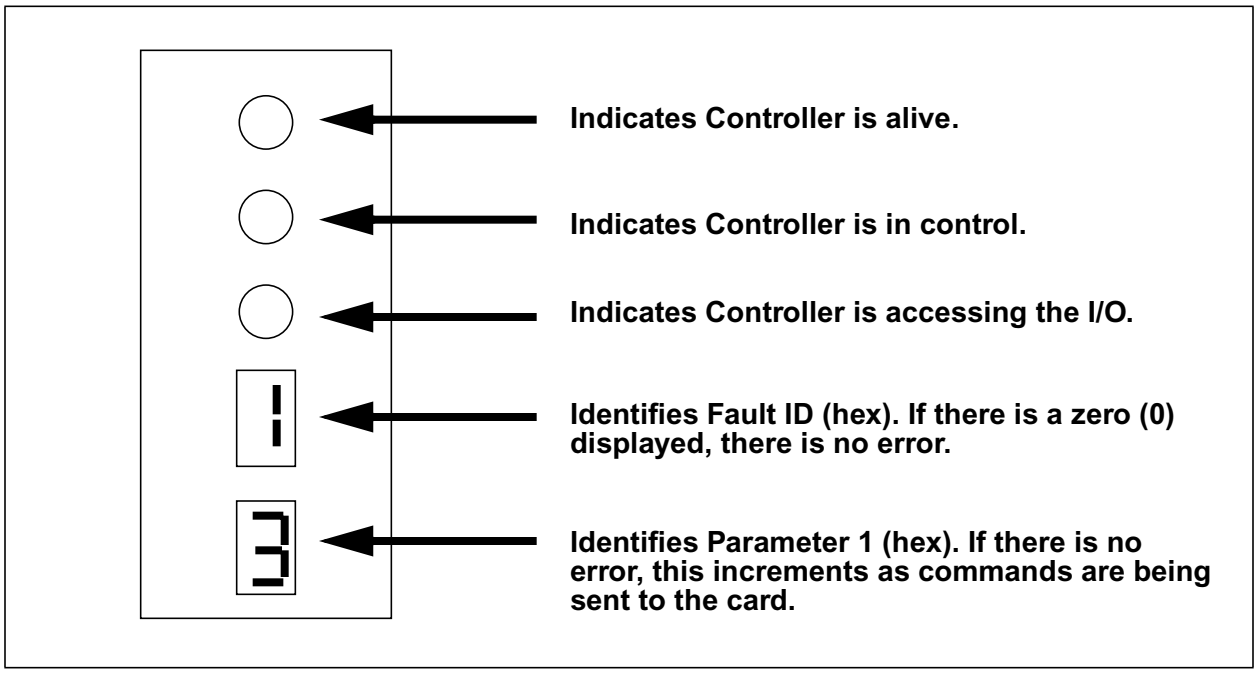


Figure 3-2. PCQL LED Indicators

3-4. PCRL Controller Card

The PCRL card is used with the Ovation Local I/O.

The PCRL card contains eight LED lights and four LED displays. The lights indicate the status of the eight branches of the Controller I/O. The LED displays indicate if there is a Controller error (Fault Code) and identifies the Fault Code ID and Parameter 1.

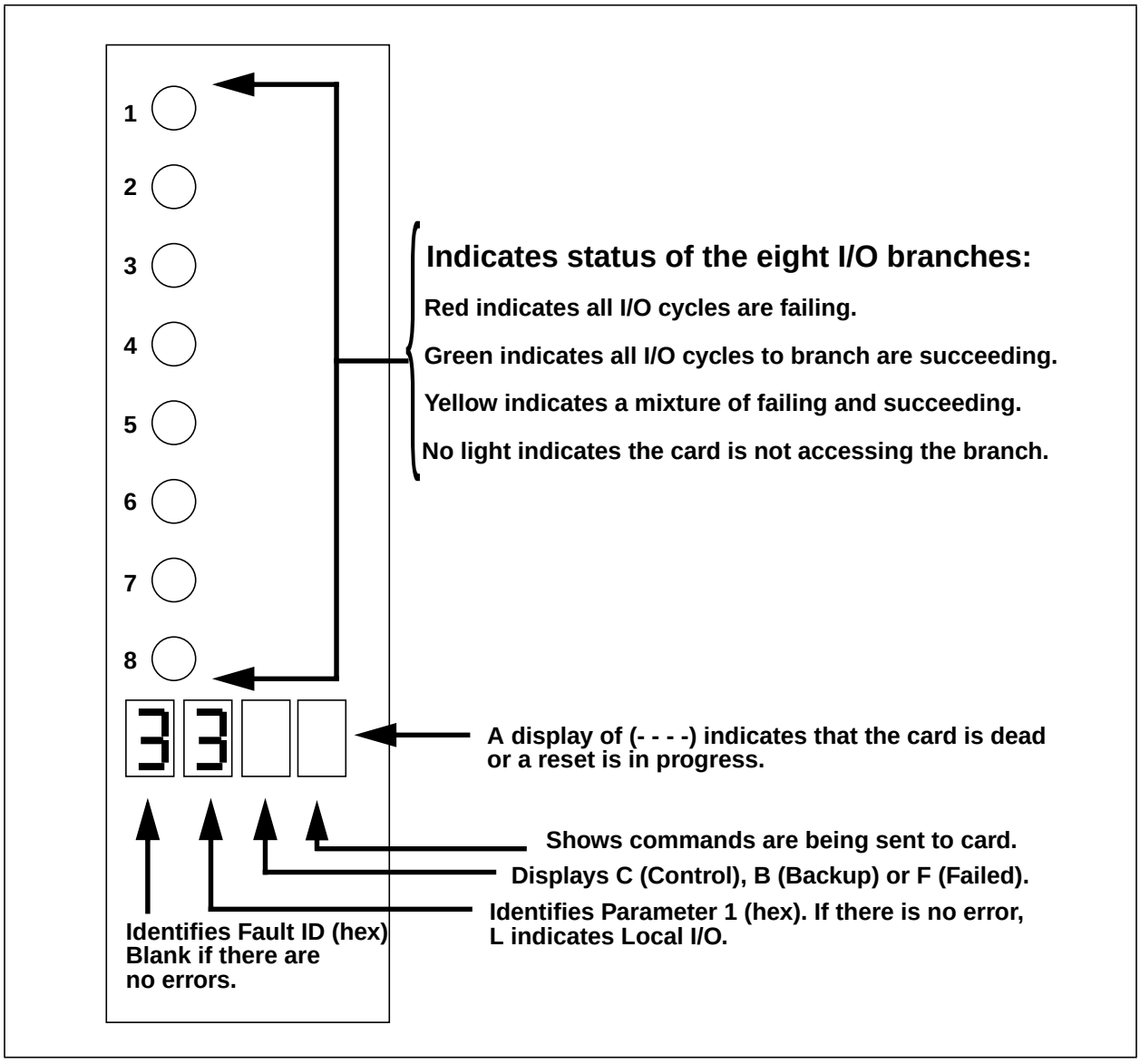


Figure 3-3. PCRL LED Indicators

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3-5. PCRR Controller Card

The PCRR card is used with the Ovation Remote I/O and Remote Q-Line I/O.

The PCRR card contains eight LED lights and four LED displays. The lights indicate the status of the eight nodes of the Controller Remote I/O. The LED displays indicate if there is a Controller error (Fault Code) and identifies the Fault Code ID and Parameter 1.

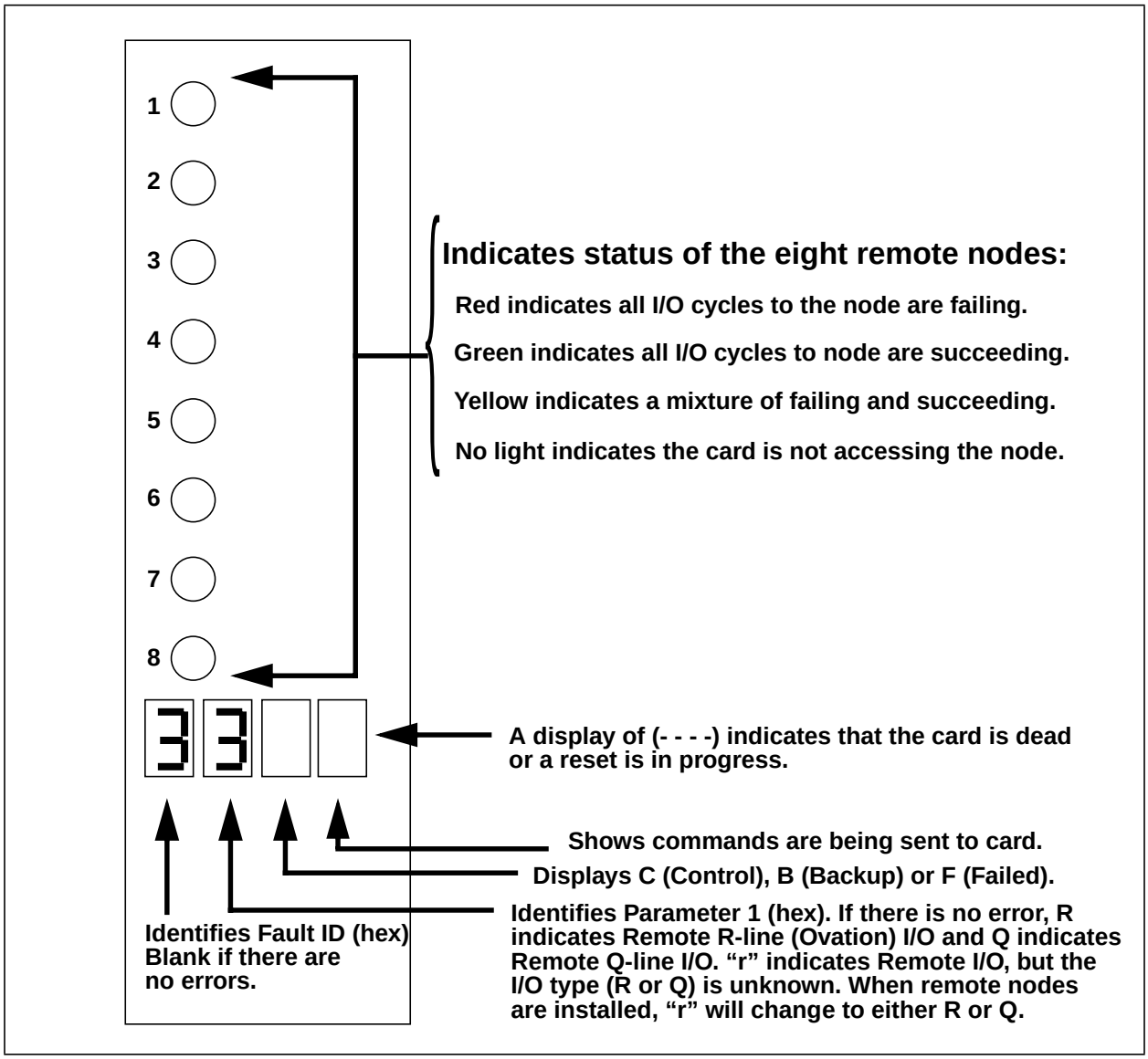


Figure 3-4. Controller Card for Q-Line or Ovation Remote I/O

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Section 4. Drop Fault Codes Reference

4-1. Section Overview

This section lists the drop Fault Codes for the Ovation Solaris based and Ovation Windows based systems. Fault information is found on the System Status diagram and the Drop Details diagram (see Section 2 for more information on these diagrams). Drop Fault Code information is found in the following record fields of the Drop Status (DU) record or in a designated station's General Message Display (GMD, see Section 2-5) (for Solaris only) or Error Log Viewer (Windows based systems only):

- Fault Code = FC (displayed in decimal in the Drop Details diagram).
- Fault ID = FK (displayed in hexadecimal in the Drop Details diagram).
- Fault Parameter 1 = FS (displayed in hexadecimal in the Drop Details diagram).
- Fault Parameter 2 = FO (displayed in hexadecimal in the Drop Details diagram).
- Fault Parameters 3, 4, and 5 (displayed in hexadecimal in the Solaris GMD or in the Windows based Error Log Viewer).

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4-2. Resolving Errors

When a fault occurs, **only knowledgeable personnel** should attempt to resolve the error. Discuss the fault with the plant System Administrator/Engineer before any actions are taken. Follow the steps below:

1. Record the error and any actions prior to the occurrence of the error. This includes the Fault Code, Fault ID, fault parameters, and any descriptions.

2. Refer to the "Suggested User Response" column for the Fault Code and Fault ID. Take the recommended action.

3. If the fault persists, or if unsure of the recommended procedures, call a Westinghouse service representative.

4. When calling Westinghouse, **state the nature of the problem in clear, explicit terms**. Provide as much detail as possible. The following information will help to resolve the problem in a timely manner.

   - Type of drop experiencing the fault (Operator Station, Engineer Station, and so forth).
   - Software level of the system (Solaris or Windows based system).
   - Configuration parameter settings for the drop or application.
   - If the fault can be reproduced, indicate what steps were taken to recreate the problem (such as what keystrokes were used prior to the fault).
   - Fault code, fault ID, fault parameters, and descriptions. (This information is found on the Drop Details diagram.)
   - Exact wording of any error messages.
   - All of the functions that are running on the drop.
   - State of the functional processor lights after the error occurred (this includes PCQL, PCRL, and PCRR LEDs; see Section 3 for more information).
   - Status of the printer, if one is connected to the drop (on-line, has paper, and so forth).
   - Alarm History List from before and after the fault occurred.
   - Screen copy of the Drop Details diagram (see Section 2 for more information on this diagram).
   - Diagram or sketch of the plant highway layout.

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4-3. Fault Code Reference

Table 4-1 provides a quick Fault Code reference by listing each code along with a short description (for detailed information, see the applicable Drop Fault Code reference page).

Table 4-1. Fault Code Summary

Fault Code (Displayed in Decimal)	Description
35	Alarm Subsystem Printer fault.
66	Controller fault.
129	QLC or Ovation LC Failure fault.
157	OPC Client Mapper fault.
170	SHC (Highway) failure fault.
171	SHC (Highway) initialization fault.
175	Server fault.
176	Operation Station fault (Membrane Keyboard).
177	Historian fault.
180	Log Server fault.
185	Licensing Fault
190	Data Link Server fault.
210	SCADA Server fault.

The following conventions are used in this section:

- The Fault Code is shown in decimal.
- The Fault ID is shown in hexadecimal.
- Parameter 1 is shown in hexadecimal.
- Parameter 2 is shown in hexadecimal.
- Parameters 3, 4, 5 are displayed in hexadecimal in the General Message Display (Solaris systems) or the Error Log Viewer (Microsoft Windows based systems).

4-4. Fault Code 35 — Alarm Subsystem Printer Fault

Refer to one of the Operator Station manuals (U3-1031 for Solaris systems or NT-0020 and NT-0050 for Microsoft Windows based systems) for additional information about alarms.

Fault ID	Fault ID Description	Suggested User Response
1	Printer No. 1 failed. The Fault Parameter gives the number of printers available.	Check printer status, and test serial port.
2	Printer No. 2 failed. The Fault Parameter gives the number of printers available.	Check printer status, and test serial port.
3	Printer No. 3 failed. The Fault Parameter gives the number of printers available.	Check printer status, and test serial port.
4	Printer No. 4 failed. The Fault Parameter gives the number of printers available.	Check printer status, and test serial port.

Note

In Windows based Ovation systems, only one alarm printer can be attached to the Ovation station. Therefore, only Fault ID 1 is valid for Windows based systems.

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4-5. Fault Code 66 — Controller Faults

The Ovation Controller Fault Codes are displayed on the LEDs of the IOIC cards, as well as in the System Drop Status diagram. Refer to "Ovation Controller User Guide" (U3-1032) or "Ovation Windows based Controller User Guide" (NT-0055) for additional information about the Controller.

Table 4-2. Coordinator Subsystem Error

Fault ID (Hex)	Fault Param 1 (Hex)	Fault Param 2 (Hex)	Definition	Suggested User Response
1	0 Processing Task Error	1	Error initializing control processing information.	Check processing task configuration. Call Westinghouse service.
	0 Processing Task Error	2	Error downloading control sheets.	Check IDE cable to flash. Call Westinghouse service.
	0 Processing Task Error	3	Error updating processing task status.	Call Westinghouse service.
	0 Processing Task Error	4	Error starting processing tasks.	Call Westinghouse service.
	1 Edit Task Error	1	Error initializing edit task.	Call Westinghouse service.
	1 Edit Task Error	2	Error starting edit task.	Call Westinghouse service.
	2 Exit Error	1	Error in exit handler.	Call Westinghouse service.
	3 Main Error	3	Error processing edit signal.	Call Westinghouse service.
	3 Main Error	4	Error initializing coordinator task.	Call Westinghouse service.
	3 Main Error	5	Error in main coordinator routine.	Call Westinghouse service.
	4 PCL Error	1	Error initializing IO tables.	Check IDE cable to flash. Call Westinghouse service.

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Table 4-2. Coordinator Subsystem Error (Cont'd)

Fault ID (Hex)	Fault Param 1 (Hex)	Fault Param 2 (Hex)	Definition	Suggested User Response
1 (Cont'd)	5 Point Edit Error	2	Error checking for point edit messages.	Call Westinghouse service.
	5 Point Edit Error	3	Error processing point edit message.	Call Westinghouse service.
	5 Point Edit Error	4	Error adding I/O point.	Check I/O point in database. Call Westinghouse service.
	5 Point Edit Error	5	Error deleting I/O point.	Call Westinghouse service.
	5 Point Edit Error	6	Error clearing I/O points.	Call Westinghouse service.
	6 Support Error	0	Device table initialization failed.	Call Westinghouse service.
	6 Support Error	1	I/O data file: Error opening.	Call Westinghouse service.
	6 Support Error	2	I/O data file: Error closing.	Call Westinghouse service.
	6 Support Error	3	I/O data file: Error reading header.	Call Westinghouse service.
	6 Support Error	4	I/O data file: Error reading I/O information.	Call Westinghouse service.
	6 Support Error	5	I/O data file: Error reading DDB table.	Call Westinghouse service.
	6 Support Error	6	I/O data file: Error reading DPRAM tables.	Call Westinghouse service.
	6 Support Error	7	I/O data file: Error writing header.	Call Westinghouse service.
	6 Support Error	8	I/O data file: Error writing I/O information.	Call Westinghouse service.
	6 Support Error	9	I/O data file: Error writing DDB table.	Call Westinghouse service.
	6 Support Error	A	I/O data file: Error writing DPRAM tables.	Call Westinghouse service.

Table 4-2. Coordinator Subsystem Error (Cont'd)

Fault ID (Hex)	Fault Param 1 (Hex)	Fault Param 2 (Hex)	Definition	Suggested User Response
1 (Cont'd)	6 Support Error	B	I/O data file invalid. **Fault Parameter 3:** 0: Error getting maximum points. 1: Invalid revision. 2: Wrong number of control tasks. 3: Wrong number of devices. 4: Wrong number of LIDs.	**When Fault Parameter 3 = 0**, call Westinghouse service. **When Fault Parameter 3 = 1, 2, 3, or 4**, clear and reload.
	6 Support Error	C	I/O data file: PCL table error.	Call Westinghouse service.
	6 Support Error	D	I/O data file: Error reading PCL tables.	Call Westinghouse service.
	6 Support Error	E	I/O data file: Scan table error.	Call Westinghouse service.
	6 Support Error	F	I/O data file: Error reading scan tables.	Call Westinghouse service.
	7 SOE Subsystem Error	1	Error adding SOE point to table.	Check SOE point configuration. Call Westinghouse service.
	7 SOE Subsystem Error	2	Error deleting SOE point to table.	Call Westinghouse service.
	7 SOE Subsystem Error	3	Error allocating memory for SOE subsystem.	Call Westinghouse service.
	7 SOE Subsystem Error	4	Error initializing SOE scan task.	Call Westinghouse service.
	7 SOE Subsystem Error	5	Error initializing SOE report task.	Call Westinghouse service.
	7 SOE Subsystem Error	6	Error initializing SOE tasks.	Call Westinghouse service.

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Table 4-2. Coordinator Subsystem Error (Cont'd)

Fault ID (Hex)	Fault Param 1 (Hex)	Fault Param 2 (Hex)	Definition	Suggested User Response
1 (Cont'd)	7 SOE Subsystem Error	7	Error starting SOE scan task.	Call Westinghouse service.
	7 SOE Subsystem Error	8	Error starting SOE report task.	Call Westinghouse service.
	7 SOE Subsystem Error	9	Error starting SOE tasks.	Call Westinghouse service.
	8 SSV Subsystem Error	1	Error allocating memory for SSV subsystem.	Call Westinghouse service.
	8 SSV Subsystem Error	2	Error staring SSV task.	Call Westinghouse service.
	9 Coordinator Warning	0	Suspended sheet error. **Fault Parameter 3** = 1 or 0 **Fault Parameter 4** = Control sheet number. **Fault Parameter 5** = Sheet number.	Call Westinghouse service.
	9 Coordinator Warning	1	Operating system error	Call Westinghouse service.
	A HWY Watchdog Error	None	Highway Watchdog error.	Call Westinghouse service.
	B Monitor Task Error	0	Coordinator monitor task error. Exit handler registration failed.	Call Westinghouse service.
	B Monitor Task Error	1	Coordinator monitor task error. Signal term handler installation failed.	Call Westinghouse service.
	B Monitor Task Error	2	Coordinator monitor task error. Signal alarm handler installation failed.	Call Westinghouse service.
	B Monitor Task Error	3	Coordinator monitor task error. Signal mask clear failed.	Call Westinghouse service.

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Table 4-2. Coordinator Subsystem Error (Cont'd)

Fault ID (Hex)	Fault Param 1 (Hex)	Fault Param 2 (Hex)	Definition	Suggested User Response
1 (Cont'd)	B Monitor Task Error	4	Coordinator monitor task error. Signal mask add failed.	Call Westinghouse service.
	B Monitor Task Error	5	Coordinator monitor task error. Timer create failed.	Call Westinghouse service.
	B Monitor Task Error	6	Coordinator monitor task error. Timer destroy failed.	Call Westinghouse service.
	B Monitor Task Error	7	Coordinator monitor task error. Control task timed out. **Fault Parameter 3** = Control Task Number (0 based).	Check rates of control tasks. Check assignment of control between tasks. Call Westinghouse service.
	B Monitor Task Error	8	Coordinator monitor task error. Error getting drop SID.	Call Westinghouse service.
	B Monitor Task Error	9	Coordinator monitor task error. Error setting FF field.	Call Westinghouse service.
	B Monitor Task Error	A	Coordinator monitor task error. Error registering with simulator command task.	Call Westinghouse service.
	B Monitor Task Error	B	Coordinator monitor task error. Error attaching to local memory.	Call Westinghouse service.
	B Monitor Task Error	C	Coordinator monitor task error. Simulator procedures not found.	Verify simulator configuration. Call Westinghouse service.
	B Monitor Task Error	D	Coordinator monitor task error. I/O initialization failed.	Call Westinghouse service.
	B Monitor Task Error	E	Coordinator monitor task error. Error resuming tasks.	Call Westinghouse service.
	B Monitor Task Error	F	Third-party link task alive. Check failed.	Call Westinghouse service.

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Table 4-2. Coordinator Subsystem Error (Cont'd)

Fault ID (Hex)	Fault Param 1 (Hex)	Fault Param 2 (Hex)	Definition	Suggested User Response
1 (Cont'd)	B Monitor Task Error	10	Error setting up secondary ide drive.	Call Westinghouse service.
	C Monitor Task Warning	0	Coordinator monitor task warning. Simulator unregister failed.	Call Westinghouse service.
	C Monitor Task Warning	1	Coordinator monitor task warning. Local memory detach failed.	Call Westinghouse service.
	C Monitor Task Warning	2	Coordinator monitor task warning. Simulator get command failed.	Call Westinghouse service.
	C Monitor Task Warning	3	Coordinator monitor task warning. Invalid simulator command received.	Call Westinghouse service.
	C Monitor Task Warning	4	Coordinator monitor task warning. Simulator send response failed.	Call Westinghouse service.
	C Monitor Task Warning	5	Coordinator monitor task warning. Simulator command received before the previous sim freeze command was completed.	Call Westinghouse service.
	C Monitor Task Warning	6	Coordinator monitor task warning. Failed giving control tasks simulator freeze semaphore.	Call Westinghouse service.
	C Monitor Task Warning	7	Coordinator monitor task warning. Simulator file open failed.	Check the file name. Call Westinghouse service.
	C Monitor Task Warning	8	Coordinator monitor task warning. Simulator file close failed.	Call Westinghouse service.
	C Monitor Task Warning	9	Coordinator monitor task warning. Simulator save failed.	Call Westinghouse service.

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Table 4-2. Coordinator Subsystem Error (Cont'd)

Fault ID (Hex)	Fault Param 1 (Hex)	Fault Param 2 (Hex)	Definition	Suggested User Response
1 (Cont'd)	C Monitor Task Warning	A	Coordinator monitor task warning. Simulator load failed.	Call Westinghouse service.
	C Monitor Task Warning	B	Coordinator monitor task warning. Simulator file delete failed.	Call Westinghouse service.
	C Monitor Task Warning	C	Coordinator monitor task warning. I/O clean-up failed.	Call Westinghouse service.
	C Monitor Task Warning	D	Coordinator monitor task warning. Failed setting SOE masks before resuming tasks.	Verify that all SOE cards are installed and configured. Verify SOE point configuration.
	C Monitor Task Warning	E	Coordinator monitor task warning. Failed cancelling timer.	Call Westinghouse service.
	C Monitor Task Warning	F	Coordinator monitor task warning. Failed re-arming timer.	Call Westinghouse service.
	C Monitor Task Warning	10	Simulator configuration error.	Make sure SIMDPU.SimSaveDrive is defined in config.sim.
	C Monitor Task Warning	11	Coordinator monitor: missed loop check: error getting timer overruns.	Call Westinghouse service.
	C Monitor Task Warning	12	Coordinator monitor: missed loop check: illegal error.	Call Westinghouse service.
	C Monitor Task Warning	13	Coordinator monitor missed loops. **Fault Parameter 3** = number of loops that were missed.	Call Westinghouse service.
	C Monitor Task Warning	14	Operating system error	Call Westinghouse service.

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Table 4-2. Coordinator Subsystem Error (Cont'd)

Fault ID (Hex)	Fault Param 1 (Hex)	Fault Param 2 (Hex)	Definition	Suggested User Response
1 (Cont'd)	D Holding Register Error	1	Error initializing holding registers.	Call Westinghouse service.
	D Holding Register Error	2	File error: hr.dat: error opening.	Call Westinghouse service.
	D Holding Register Error	3	File error: hr.dat error closing.	Call Westinghouse service.
	D Holding Register Error	4	File error: hr.dat: error reading.	Call Westinghouse service.
	D Holding Register Error	5	File error: hr.dat: error writing.	Call Westinghouse service.
	D Holding Register Error	6	File error: hr.dat: wrong version.	Call Westinghouse service.

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Table 4-3. Edit Task Subsystem Error

Fault ID (Hex)	Fault Param 1 (Hex)	Fault Param 2 (Hex)	Definition	Suggested User Response
2	0 Communication with Coordinator Error	0	Error initializing communication with coordinator task.	Call Westinghouse service and report Fault Code.
	0 Communication with Coordinator Error	1	Error communicating with coordinator task.	Call Westinghouse service and report Fault Code.
	0 Communication with Coordinator Error	2	Error terminating communication with coordinator task.	Call Westinghouse service and report Fault Code.
	0 Communication with Coordinator Error	3	Error signaling coordinator task.	Call Westinghouse service and report Fault Code.
	0 Communication with Coordinator Error	4	Error terminating coordinator signal communication.	Call Westinghouse service and report Fault Code.
	1 Startup Error	Reserved	Startup failure has occurred.	Call Westinghouse service and report Fault ID 2.
	2 Communication Error	0	Error setting up communication port.	Check Highway cables. Call Westinghouse service and report Fault Codes.
	2 Communication Error	1	Error accepting connection to power tools.	Check Highway cables. Call Westinghouse service and report Fault Codes.
	2 Communication Error	2	Error closing port.	Check Highway cables. Call Westinghouse service and report Fault Codes.
	3 Flash Memory Error	None	Flash memory error.	Check IDE cable to flash. Call Westinghouse service.
	3 Flash Memory Error	0	Error retrieving sheet set status.	Check IDE cable to flash. Call Westinghouse service.

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Table 4-3. Edit Task Subsystem Error (Cont'd)

Fault ID (Hex)	Fault Param 1 (Hex)	Fault Param 2 (Hex)	Definition	Suggested User Response
2 (Cont'd)	3 Flash Memory Error	1	Error retrieving sheet set period.	Check IDE cable to flash. Call Westinghouse service.
	3 Flash Memory Error	2	Error finding sheet in flash memory.	Check IDE cable to flash. Call Westinghouse service.
	3 Flash Memory Error	3	Error deleting sheet in flash memory.	Check IDE cable to flash. Call Westinghouse service.
	3 Flash Memory Error	4	Error adding sheet in flash memory.	Check IDE cable to flash. Call Westinghouse service.
	3 Flash Memory Error	5	Error retrieving sheet status.	Check IDE cable to flash. Call Westinghouse service.
	3 Flash Memory Error	6	Error moving sheet in flash memory.	Check IDE cable to flash. Call Westinghouse service.
	3 Flash Memory Error	7	Error opening flash memory.	Check IDE cable to flash. Call Westinghouse service.
	3 Flash Memory Error	8	Error closing flash memory.	Check IDE cable to flash. Call Westinghouse service.
	4 Control Edit Task Error	None	Runtime exit error.	Call Westinghouse service.
	5 Invalid Control	Reserved	Integrity of application program in flash memory has been compromised.	Clear drop and reload. If problem persists, call Westinghouse service and report Fault Parameters.

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Table 4-4. Algorithm Subsystem Error

Fault ID (Hex)	Fault Param 1 (Hex)	Fault Param 2 (Hex)	Definition	Suggested User Response
3	0 Local Memory Error	Sheet Number	Get Local Memory Error. **Fault Parameter 3** = algorithm SID.	Try reloading.
	1 Local Memory Size Error	Sheet Number	Local Memory Size Error.	Call Westinghouse service.
	2 Invalid Calculated Number	Control Task number	Invalid Float Number Detected. **Fault Parameter 3** = Sheet # containing the algorithm. **Fault Parameter 4** = Algorithm execution order for that sheet.	Use fault parameters to determine which algorithm is causing error. Correct tuning parameters to prevent generation of invalid number.
	3 Invalid sheet to skip	None	Reserved.	Call Westinghouse service.
	4 Atrend Algorithm Error	None	Reserved.	Call Westinghouse service.
	5 No Communication with IO Card	Control Task Number	Error reading or writing data to card. **Fault Parameter 3** = Sheet # containing the algorithm. **Fault Parameter 4** = Algorithm execution order for that sheet. **Fault Parameter 5** = I/O error.	Check IOIC card for malfunctions and call Westinghouse.

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Table 4-5. Processing Task Subsystem Error Codes

Fault ID (Hex)	Fault Param 1 (Hex)	Fault Param 2 (Hex)	Definition	Suggested User Response
4	0 Startup Error	Control Task ID (zero based)	Startup failure has occurred. **Fault Parameter 3** = Operation ID. **Fault Parameter 4** = Operation Status.	Call Westinghouse service and report Fault Parameter.
	1 Loop Error	Control Task ID (zero based)	Control Loop Error. **Fault Parameter 3** = Control Task ID. **Fault Parameter 4** = Operation Status.	Check for algorithm fault.
	3 Missed Loop	None	Control task ID (zero based) processing task missed loop.	Remove point or sheets from control area OR increase control area loop time.
	4 Shutting Down	Control Task ID (zero based)	Exit handler has been called.	Call Westinghouse service and report Fault Parameters.
	5 Sheet Suspended	Control Task ID (zero based)	Reserved.	Call Westinghouse service.
	6 Warning	1	Failed detaching from semaphore. **Fault Parameter 4** = Control task ID (zero based)	Call Westinghouse service.

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Table 4-6. Point Conversion Library (PCL) Subsystem

Fault ID (Hex)	Fault Param 1 (Hex)	Fault Param 2 (Hex)	Definition	Suggested User Response
5	0 Local Memory Error	SID	Get Local Memory Error.	Call Westinghouse service.
	1 Local Memory Size Error	SID	Local Memory Size Error.	Call Westinghouse service.
	2 Get Mode Error	N/A	Get Highway Mode Error.	Call Westinghouse service.
	3 Get Dynamic Data Error	SID	Get Dynamic Error.	Call Westinghouse service.
	4 Put Dynamic Data Error	SID	Put Dynamic Error.	Call Westinghouse service.
	5 Get Address Error	SID	Get Address Error.	Call Westinghouse service.
	6 Bad Record Type Error	SID	Record Type Error.	Call Westinghouse service.
	7 IO Error	1	Error writing module configuration.	Check IOIC for malfunctions and call Westinghouse service.
	7 IO Error	2	Error reading module configuration.	Check IOIC for malfunctions and call Westinghouse service.
	7 IO Error	3	Error reading module serial number.	Check IOIC for malfunctions and call Westinghouse service.
	7 IO Error	4	Error reading module index number.	Check IOIC for malfunctions and call Westinghouse service.
	7 IO Error	5	Error transferring configuration file to module.	Call Westinghouse service.
	7 IO Error	6	Error reading node diagnostics.	Check IOIC for malfunctions and call Westinghouse service.
	7 IO Error	7	Node reconfiguration:Error reading control status	Call Westinghouse service.

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Table 4-6. Point Conversion Library (PCL) Subsystem (Cont'd)

Fault ID (Hex)	Fault Param 1 (Hex)	Fault Param 2 (Hex)	Definition	Suggested User Response
5 (Cont'd)	7 IO Error	8	Error accessing device tables.	Call Westinghouse service.
	8 Node Error	1	Bad node status error.	Check cables and reset attachment units and remote node controller. Refer to NC Drop Status record field in the "Ovation Record Types Reference Manual" (R3-1140).
	8 Node Error	2	Error reading node configurations.	Check cables and reset attachment units and remote node controller. Refer to NC Drop Status record field in R3-1140.
	8 Node Error	3	Error passing node configuration read back test.	Reseat remote node controller Refer to NC Drop Status record field in R3-1140.
	8 Node Error	4	Error reading node serial number.	Reseat remote node controller Refer to NC Drop Status record field in R3-1140.
	8 Node Error	5	Error reading node index number.	Reseat remote node controller Refer to NC Drop Status record field in R3-1140.
	8 Node Error	6	Error writing node configuration.	Reseat remote node controller Refer to NC Drop Status record field in R3-1140.
	8 Node Error	7	Error monitoring node diagnostics.	Reseat remote node controller Refer to NC Drop Status record field in R3-1140.
	9 Get Drop Mode Error	None	Drop Mode Error.	Call Westinghouse service.

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Table 4-6. Point Conversion Library (PCL) Subsystem (Cont'd)

Fault ID (Hex)	Fault Param 1 (Hex)	Fault Param 2 (Hex)	Definition	Suggested User Response
5 (Cont'd)	A Node Diagnostic Error	None	Diagnostic Error. **Fault Parameter 3** = Bits 0 - 15: Node Number 0: IOIC Board 1 - 8: Remote Node Number Bits 16 - 31: Device Number (0 based). **Fault Parameter 4** = Diagnostic Status. **Fault Parameter 5** = Diagnostic Information.	Check IOIC or Remote Node Controller.
	B Point Conversion Error	1	Error writing serial number to module record.	Call Westinghouse service.

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Table 4-7. Flash Memory Subsystem

Fault ID (Hex)	Fault Param 1 (Hex)	Fault Param 2 (Hex)	Definition	Suggested User Response
6	0 Flash Memory Error	1	Error in checking for a drop control storage file.	Check IDE cable to flash. Call Westinghouse service.
	0 Flash Memory Error	2	Error initializing storage media for control.	Call Westinghouse service.
	0 Flash Memory Error	3	Error creating storage file for control.	Call Westinghouse service.
	0 Flash Memory Error	4	Error opening storage file for control.	Call Westinghouse service.
	0 Flash Memory Error	5	Error closing storage file for control.	Call Westinghouse service.
	0 Flash Memory Error	6	Error reading storage file for control	Call Westinghouse service.
	0 Flash Memory Error	7	Error writing to storage file for control.	Call Westinghouse service.
	1 Memory Error	1	Error allocating memory for control.	Check control memory configuration. If Non-Expanded configuration, ensure that the sum of all enabled control task's memory is less than 512K byte. If Extended configuration, ensure that the sum of all enabled control task's memory is less than 1.5M byte. Also, ensure that the Controller has 32M byte RAM (Extended only).
	1 Memory Error	2	Error deallocating memory for control.	Call Westinghouse service.

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Table 4-7. Flash Memory Subsystem (Cont'd)

Fault ID (Hex)	Fault Param 1 (Hex)	Fault Param 2 (Hex)	Definition	Suggested User Response
6 (Cont'd)	1 Memory Error	3	Error uploading control from storage media to memory.	Check control memory configuration. If Non-Expanded configuration, ensure that the sum of all enabled control task's memory is less than 512K byte. If Extended configuration, ensure that the sum of all enabled control task's memory is less than 1.5M byte. Also, ensure that the Controller has 32M byte RAM (Extended only).
	1 Memory Error	4	Error deleting control from memory.	Call Westinghouse service.
	1 Memory Error	5	Error replacing control in memory.	Call Westinghouse service.
	2 Memory Header Error	1	Error initializing flash header.	Call Westinghouse service.
	2 Memory Header Error	2	Error retrieving flash header from storage media.	Call Westinghouse service.
	2 Memory Header Error	3	Error saving flash header to storage media.	Call Westinghouse service.
	3 Memory Sheet Set Error	1	No more control memory for added sheet set.	Increase sheet set memory in processing task configuration.
	3 Memory Sheet Set Error	2	Error adding sheet set to control data.	Check processing task configuration and assignment of total control memory allocated
	3 Memory Sheet Set Error	3	Error clearing sheet set from control data.	Call Westinghouse service.
	3 Memory Sheet Set Error	4	Error deleting sheet set from control data.	Call Westinghouse service.

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Table 4-7. Flash Memory Subsystem (Cont'd)

Fault ID (Hex)	Fault Param 1 (Hex)	Fault Param 2 (Hex)	Definition	Suggested User Response
6 (Cont'd)	3 Memory Sheet Set Error	5	Error changing sheet set status.	Call Westinghouse service.
	3 Memory Sheet Set Error	6	Error changing sheet set period.	Call Westinghouse service.
	3 Memory Sheet Set Error	7	Error getting sheet set period.	Call Westinghouse service.
	3 Memory Sheet Set Error	8	Error getting sheet set status.	Call Westinghouse service.
	4 Memory Sheet Error	1	Error in getting next sheet index.	Call Westinghouse service.
	4 Memory Sheet Error	2	Error in adding sheet to sheet set.	Check amount of sheet set memory in processing task configuration. Increase if needed.
	4 Memory Sheet Error	3	Error in moving sheet in a sheet set.	Call Westinghouse service.
	4 Memory Sheet Error	4	Error in deleting a sheet from a sheet set.	Call Westinghouse service.
	4 Memory Sheet Error	5	Error in getting first index in a sheet set.	Call Westinghouse service.
	4 Memory Sheet Error	6	Error in finding sheet in a sheet set.	Check if sheet exists in database.
	4 Memory Sheet Error	7	Error in changing sheet status.	Call Westinghouse service.
	4 Memory Sheet Error	8	Error in getting sheet information.	Call Westinghouse service.
	5 Memory Sheet Table Error	1	Error in initializing sheet table.	Call Westinghouse service.

Table 4-7. Flash Memory Subsystem (Cont'd)

Fault ID (Hex)	Fault Param 1 (Hex)	Fault Param 2 (Hex)	Definition	Suggested User Response
6 (Cont'd)	5 Memory Sheet Table Error	2	Error in saving sheet table to storage media.	Call Westinghouse service.
	5 Memory Sheet Table Error	3	Error in retrieving sheet table from storage media.	Call Westinghouse service.

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Table 4-8. OPP Subsystem Error

Fault ID (Hex)	Fault Param 1 (Hex)	Fault Param 2 (Hex)	Definition	Suggested User Response
7	0 Fatal Error	1	Task Error. **Fault Parameter 3** = Error return.	Call Westinghouse service.
	0 Fatal Error	2	**Fault Parameter 3** 1 - Could not open SHC memory. 2 - Could not get highway mode. 3 - Could not get DSR SID.	Call Westinghouse service.
	0 Fatal Error	5	Timer Error. **Fault Parameter 3** = Error return.	Call Westinghouse service.
	0 Fatal Error	6	Semaphore Error. **Fault Parameter 3** = Error code. **Fault Parameter 4** = Semaphore ID.	Call Westinghouse service.
	0 Fatal Error	7	Shared Memory Error. **Fault Parameter 3** = Error return. **Fault Parameter 4** = Shared Memory Key.	Check memory configuration.
	0 Fatal Error	8	Flash File Error. **Fault Parameter 3** = Error return.	Call Westinghouse service.
	0 Fatal Error	9	Child Process did not complete in required time (3 loop times). **Fault Parameter 3** = Task ID of failed child. **Fault Parameter 4** 1 = 1 second task. 2 = 0.1 second task. 3 = User defined task.	User cannot add, modify, or delete points. The only way to recover is to clear and reload the controller.

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Table 4-8. OPP Subsystem Error (Cont'd)

Fault ID (Hex)	Fault Param 1 (Hex)	Fault Param 2 (Hex)	Definition	Suggested User Response
7 (Cont'd)	0 Fatal Error	A	Local Memory Error. **Fault Parameter 3** = Local memory error. **Fault Parameter 4** = SID	Call Westinghouse service.
	0 Fatal Error	C	I/O Error. **Fault Parameter 3** = Error return from DROPGet-Mode.	Call Westinghouse service.
	0 Fatal Error	12	Process Error. **Fault Parameter 3** = Error returned from GetpointData Addresses. **Fault Parameter 4** = point SID.	Usually means that the point is being processed by OPP but is not in the SHC. At start-up, fatal error and OPP will not run. Call Westinghouse service.
	0 Fatal Error	16	OppList data file does not match the software version.	Drop must be cleared of points and reloaded.
	1 Notice Error	3	Error Reading Configuration File.	Check configuration file. OPP will run with the information it has.
	1 Notice Error	4	Port Error. **Fault Parameter 3** = Error return. **Fault Parameter 4** = Socket ID.	Check network. OPP will run with the information it has.
	1 Notice Error	A	Bad Command. **Fault Parameter 3** = Command received. **Fault Parameter 4** = Point SID.	Check command, and retry. OPP will run with the information it has.
	1 Notice Error	B	Limit Translation Error. **Fault Parameter 3** = Error return. **Fault Parameter 4** = Point SID.	Check calculated limits. OPP will run with the information it has.

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Table 4-8. OPP Subsystem Error (Cont'd)

Fault ID (Hex)	Fault Param 1 (Hex)	Fault Param 2 (Hex)	Definition	Suggested User Response
7 (Cont'd)	1 Notice Error	E	Error putting dynamic data. **Fault Parameter 3** = Error returned from putting data into static memory. **Fault Parameter 4** = Drop ID.	Check the DU record for that drop.
	1 Notice Error	F	Error getting dynamic data. **Fault Parameter 3** = Error returned from DPU_get_dynamic_data. **Fault Parameter 4** = point SID.	Verify the dynamic data for that SID.
	1 Notice Error	10	Local Memory Error. **Fault Parameter 3** = Error return from Local Memory, if this param is = 0, then the error was a size error. **Fault Parameter 4** = Point SID.	Locate point. Delete point, then add point.
	1 Notice Error	12	Process Error. **Fault Parameter 3** = error returned from GetpointData Addresses. **Fault Parameter 4** = point SID.	Usually means that the point is being processed by OPP but is not in the SHC. While running, drop will run without that point. Call Westinghouse service.
	2 Point Edit Error	11	Point Edit Interface. **Fault Parameter 3** = Error return from Point Edit.	1. Retry. 2. If that does not work, delete and re-add point to database and then reload Controller.
	2 Point Edit Error	13	Tried to add too many points.	Delete some points.

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Table 4-8. OPP Subsystem Error (Cont'd)

Fault ID (Hex)	Fault Param 1 (Hex)	Fault Param 2 (Hex)	Definition	Suggested User Response
7 (Cont'd)	4 Ran Late	1	1 second OPP Task ran late.	If this constantly occurs, drop may be overloaded. Remove some points from this area. Reset power. If problem persists, call Westinghouse.
	4 Ran Late	2	0.1 second OPP Task ran late.	
	4 Ran Late	3	User-defined OPP Task ran late.	
	5 HWY Watchdog Error	None	Watchdog timer. Main OPP did not run for 1 minute.	

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Table 4-9. SOE Subsystem Error

Fault ID (Hex)	Fault Param 1 (Hex)	Fault Param 2 (Hex)	Definition	Suggested User Response
8	0 Initialization Error	None	Error initializing SOE Report Task.	Query download Controller
	1 Could Not Find SID to Match Event	1	Error reporting an SOE event. **Fault Parameter 3** = Hardware Address **Fault Parameter 4** = Device Number **Fault Parameter 5** = Bit	Call Westinghouse service.
	2 Period Error - Can't ensure times	None	Error determining time of an SOE event.	Call Westinghouse service.
	3 Could not send message to logger	None	Error sending SOE message(s) to Event Logger(s).	Check HSR status.
	4 Event FIFO error	None	SOE FIFO error.	Call Westinghouse service.
	5 Event FIFO Full	None	SOE FIFO is full.	Check HSR status or call Westinghouse service.
	6 Scan Task Error	None	SOE Scan Tasks error.	Call Westinghouse service.
	7 Table Module Error	None	SOE Table Module error.	Call Westinghouse service.
	8 Mask Table Module Error	None	SOE Mask Table module error.	Call Westinghouse service.
	9 Scan Task Warning	1	SOE scan task: Error reading SOE buffers	Call Westinghouse service.
	9 Scan Task Warning	2	SOE scan task: Failed detaching from semaphore.	Call Westinghouse service.
	A Report Task Warning	1	SOE report task: Failed detaching from semaphore.	Call Westinghouse service.

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Table 4-10. SSV Subsystem Error

Fault ID (Hex)	Fault Param 1 (Hex)	Fault Param 2 (Hex)	Definition	Suggested User Response
9	0 Flash Disk Error	1	Error saving variable information to storage media.	Check IDE cable to flash. Call Westinghouse service.
	1 Saved Point Table Error	1	Error initializing SSV table.	Call Westinghouse service.
	1 Saved Point Table Error	2	Error adding entry to SSV table. Max = 100 pts.	Call Westinghouse service.
	1 Saved Point Table Error	3	Error deleting entry to SSV table.	Call Westinghouse service.
	2 Task Error	1	Error initializing saved point on highway.	Check if point exists in database. Call Westinghouse service.
	2 Task Error	2	Error saving variables.	Check IDE cable connections. Call Westinghouse service.
	2 Task Error	3	Error in SSV main task.	Call Westinghouse service.

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Table 4-11. Miscellaneous Subsystem Error

Fault ID (Hex)	Fault Param 1 (Hex)	Fault Param 2 (Hex)	Definition	Suggested User Response
A	0 Redund: Network Connection Lost	Reserved	Controller is off Highway.	Check Highway connections.
	1 Redund: IO Control Lost	0	I/O Connection lost.	Check I/O connections.
	2 Redund: Net Task Error	None	Net Task Error.	Call Westinghouse service.
	5 Hart Server Warning	None	Hart Server Warning	Call Westinghouse service.
	5 Hart Server Warning	0	Initialization error. **Fault Parameter 3** = **0** I/O init failed. **Fault Parameter 3 = 1** Could not get device type. **Fault Parameter 3 = 2** Could not create socket.	Call Westinghouse service.
	5 Hart Server Warning	1	Shutdown error. **Fault Parameter 3 = 0** I/O done failed. **Fault Parameter 3 = 1** Could not destroy socket.	Call Westinghouse service.

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Table 4-11. Miscellaneous Subsystem Error

Fault ID (Hex)	Fault Param 1 (Hex)	Fault Param 2 (Hex)	Definition	Suggested User Response
A (Cont'd)	5 Hart Server Warning	2	AMS Connection error. **Fault Parameter 3** 0 - Could not create socket. 1 - Could not close connection. 2 - Could not accept connection. 3 - Could not destroy connection. 4 - Could not close connection. 5 - Could not close connection. 6 - Error polling for activity.	Call Westinghouse service. **Fault Parameter 3 = 6** Verify integrity of AMS connection.
	5 Hart Server Warning	3	AMS Command error. **Fault Parameter 3 =** 0 - Error polling for activity 1 - Error reading header 2 - Illegal command size 3 - Error reading command 4 - Error polling for activity 5 - Select timed out 6 - Error receiving data.	Call Westinghouse Service. **Fault Parameter 3 = 0** Verify integrity of AMS connection. **Fault Parameter 3 = 4** Verify integrity of AMS connection.
	5 Hart Server Warning	4	AMS Response error. **Fault Parameter 3 =** 0 - Error sending response to AMS. 1 - Failed sending success response to AMS. 2 - Failed sending error response to AMS. 3 - Error polling for activity. 4 - Select timed out. 5 - Error sending data.	Call Westinghouse service. **Fault Parameter 3 =3** Verify integrity of AMS connection.
	5 Hart Server Warning	5	Miscellaneous error. **Fault Parameter 3 =** 0 - While connected, AMS is requesting another connection.	Call Westinghouse service. **Fault Parameter 3 = 0** Verify integrity of AMS connection.

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Table 4-11. Miscellaneous Subsystem Error

Fault ID (Hex)	Fault Param 1 (Hex)	Fault Param 2 (Hex)	Definition	Suggested User Response
A (Cont'd)	B NTP Not Within 1 MS SYNC	None	NTP not within one minute sync.	Clear the fault. If fault persists, verify that time server is running properly. Check routing (addressing, cabling, and so forth) to time server.
	C NTP Time Difference Too Big	None	NTP time difference too big (during startup, time was not within 16 minutes)	Ensure Rdate host is configured properly (via Admin Tool or the Developer Studio). Reboot the drop.
	D NTP Bad Response From Server	None	NTP bad response from server.	Clear the fault. If fault persists, verify that time server is running properly. Check routing (addressing, cabling, etc.) to time server.
	E NTP No Response From Server	None	NTP no response from server.	Verify that time server is running properly. Check routing (addressing, cabling, etc.) to time server.
	F HWY Watchdog Error	None	NTP Highway Watchdog Error (time sync task not running).	Reboot the drop.

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Table 4-12. IO Subsystem Error

Fault ID (Hex)	Fault Param 1 (Hex)	Fault Param 2 (Hex)	Definition	Suggested User Response
B	0 Module Warning	SID	Module warning. **Fault Parameter 3** = LID. Local ID in Controller. **Fault Parameter 4** = Current value (A2 Field) of the point. **Fault Parameter 5** = Alarm bit. (C9 Field) of the point.	Review module record in Point Information for details.
	1 Node Warning	SID	Node warning. **Fault Parameter 3** = LID. Local ID in Controller. **Fault Parameter 4** = Current value (A2 Field) of the point. **Fault Parameter 5** = Alarm bit. (C9 Field) of the point.	Check all connections and remote power. Call Westinghouse service.
	2 Redundant IO Error	Reserved	If the device contains hardwired I/O, then there is an error between the PCRR and the remote node Controller. If the device is a Datalink, then there is a problem with the connection. **Fault Parameter 3** = Device number (0 based). **Fault Parameter 4** = Hardware address (see Appendix A). **Fault Parameter 5** = I/O status (see Appendix A).	Decode I/O status and hardware address. Check I/O configuration and installation.
	3 GE Datalink Error	1	Operating System Error – fatal error that will cause the Controller to be placed in failed mode.	Report all parameters to Westinghouse service.
	3 GE Datalink Error	6	Internal operating system error.	Call Westinghouse Service.

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Table 4-12. IO Subsystem Error (Cont'd)

Fault ID (Hex)	Fault Param 1 (Hex)	Fault Param 2 (Hex)	Definition	Suggested User Response
B (Cont'd)	4 GE Datalink Warning	2	Subscription Error – indicates that an error occurred related to subscribing to data from the GE Speedtronic system. **Fault Parameter 3** 1 = Supported unit request timeout. 2 = Periodic data timeout. 3 = Software event subscription request timeout (Mark V only). 4 = Digital input event subscription timeout. 5 = Alarm subscription request timeout. 6 = Alarm dump request timeout. 7 = Error received event data request. 8 = Error sending output to GE. 9 = Error received from periodic data request.	First, ensure that GE equipment is able to transfer data and a valid path exists between the Ovation Controller and the GE gateway (Gnode or HMI). **If Fault Parameter 3 = 2**, Ensure that all periodic points exist on the GE System and are available **If Fault Parameter 3 = 3 or 4**, Ensure that GE gateway is configured to accept Event Data requests. **If Fault Parameter 3 = 5 or 6**, Ensure that the GE gateway is configured to accept alarm subscriptions and commands from Ovation. **If Fault Parameter 3 = 7**, Ensure that GE gateway is configured to accept Event Data requests. **If Fault Parameter 3 = 8**, Ensure that GE gateway is configured to accept outputs from Ovation. Verify GE point name(s) from output point(s). **If Fault Parameter 3 = 9**, Ensure that the GE point name is correct for all periodic points.

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Table 4-12. IO Subsystem Error (Cont'd)

Fault ID (Hex)	Fault Param 1 (Hex)	Fault Param 2 (Hex)	Definition	Suggested User Response
B (Cont'd)	4 GE Datalink Warning	3	Communication Error – general loss of communication error posted when the actual TCP/IP connection between the Controller and the GE system is lost. **Fault Parameter 3** 1 = Error connecting to GE gateway. 2 = Connection lost while subscribing to GE data list(s). 3 = Connection lost while receiving data from GE. 4 = Connection lost while requesting available units. 5 = Connection lost while sending output value(s). 6 = Connection lost while sending alarm output. 7 = Error occurred while polling GE communication port. 8 = Error occurred while reading from GE communication port. 9 = Error occurred while writing to GE communication port.	Ensure that GE equipment is able to transfer data and a valid path exists between the Ovation Controller and the GE gateway (Gnode or HMI).

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Table 4-12. IO Subsystem Error (Cont'd)

Fault ID (Hex)	Fault Param 1 (Hex)	Fault Param 2 (Hex)	Definition	Suggested User Response
B (Cont'd)	4 GE Datalink Warning	4	GSM Timeout Error – indicates that either an expected periodic data message or the response to a supported unit request message (or both) was not received by the Controller within the timeout period. The Controller sends a supported unit request message to the GE system every two seconds. If the Controller does not receive a response within the user-defined time (see Section 3), an error will be posted and the drop will attempt to fail-over. **Fault Parameter 3** 1 = Supported unit request timeout. 2 = Periodic data timeout. 3 = Software event subscription request timeout (Mark V only). 4 = Digital input event subscription request timeout. 5 = Alarm subscription request timeout. 6 = Alarm dump request timeout. 7 = Error received event data request. 8 = Error received from periodic data request.	First, ensure that GE equipment is able to transfer data and a valid path exists between the Ovation Controller and the GE gateway (Gnode or HMI). **If Fault Parameter 3 = 2**, Ensure that all periodic points exist on the GE System and are available **If Fault Parameter 3 = 3 or 4**, Ensure that GE gateway is configured to accept Event Data requests. **If Fault Parameter 3 = 5 or 6**, Ensure that the GE gateway is configured to accept alarm subscriptions and commands from Ovation. **If Fault Parameter 3 = 7**, Ensure that GE gateway is configured to accept Event Data requests. **If Fault Parameter 3 = 8**, Ensure that GE gateway is configured to accept outputs from Ovation. Verify GE point name(s) from output point(s). **If Fault Parameter 3 = 9**, Ensure that the GE point name is correct for all periodic points.
	4 GE Datalink Warning	5	Fail-Over Error.	Call Westinghouse service.

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Table 4-12. IO Subsystem Error (Cont'd)

Fault ID (Hex)	Fault Param 1 (Hex)	Fault Param 2 (Hex)	Definition	Suggested User Response
B (Cont'd)	5 Data Link Error	3	Fail over - this error will cause drop fail over. This error will only happen when there is a critical problem with the driver. **Fault Parameter 3** 1 = Data link API critical error.	Ensure that the Turbine equipment is able to transfer data and a valid path exists between the Ovation Controller and the Gateway. **If Fault Parameter 3 = 1**, a system call returned critical error and could not be recovered, the drop will fail over. Call Westinghouse service.
	5 Multinet Error	0x8001	Calloc failed.	Call Westinghouse service.
	5 Multinet Error	0x8011	API error. Failed setting link state. Fault Parameter 3 = 1 - Failed during initialization 2 - Failed after starvation	Call Westinghouse service.
	5 Multinet Error	0x8012	API error. Failed tickling device driver.	Call Westinghouse service.
	5 Multinet Error	0x8013	API error. Failed getting tables changed flag.	Call Westinghouse service.
	5 Multinet Error	0x8014	API error. Failed retrieving online edit information.	Call Westinghouse service.
	5 Multinet Error	0x8015	API error. Failed setting point value.	Call Westinghouse service.
	5 Multinet Error	0x8020	The task state was corrupted. **Fault Parameter 3 =** task state.	Call Westinghouse service.
	5 Multinet Error	0x8021	The data type was corrupted. **Fault Parameter 3 =** point index. **Fault Parameter 4 =** point sid. **Fault Parameter 5 =** data type.	Call Westinghouse service.

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Table 4-12. IO Subsystem Error (Cont'd)

Fault ID (Hex)	Fault Param 1 (Hex)	Fault Param 2 (Hex)	Definition	Suggested User Response
B (Cont'd)	5 Multinet Error	0x8022	The point state was corrupted. **Fault Parameter 3** = point index. **Fault Parameter 4** = point sid. **Fault Parameter 5** = point state.	Call Westinghouse service.

Table 4-12. IO Subsystem Error (Cont'd)

Fault ID (Hex)	Fault Param 1 (Hex)	Fault Param 2 (Hex)	Definition	Suggested User Response
B (Cont'd)	6 Data Link Warning	1	Point Error - indicated that an error occurred related to subscribing to data from the Turbine control device. **Fault Parameter 3**	First ensure that the Turbine equipment is able to transfer data and a valid path exists between the Ovation Controller and the Gateway.
			1 = Failure adding a new point.	**If Fault Parameter 3 = 1**, unable to add a point to the link. Check the tagname of the point and the IO Access path to ensure they are correct. Make sure that the tag you are trying to add exists on the turbine system.
			2 = Failure deleting an existing point.	**If Fault Parameter 3 = 2**, unable to delete a point from the link. Check to make sure that the point was defined for the link and that it was added properly.
			3 = Timeout during point add.	**If Fault Parameter 3 = 3**, did not receive an add acknowledgement from the gateway in 10 seconds. The gateway may not have been able to add the point via OPC.
			4 = Timeout during point delete.	**If Fault Parameter 3 = 4**, did not receive a delete acknowledgement from the gateway in 10 seconds. The gateway may not have been able to delete the point via OPC.
			5 = Failure updating point values.	**If Fault Parameter 3 = 5**, unable to update the point values.

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Table 4-12. IO Subsystem Error (Cont'd)

Fault ID (Hex)	Fault Param 1 (Hex)	Fault Param 2 (Hex)	Definition	Suggested User Response
B (Cont'd)	6 Data Link Warning	2	Communication Error - general loss of communication error posted when the actual TCP/IP connection between the controller and the gateway is lost. **Fault Parameter 3**	Ensure that the Turbine equipment is able to transfer data and a valid path exists between the Ovation Controller and the Gateway.
			1 = Failure connecting to the gateway.	**If Fault Parameter 3 = 1**, unable to make a connection to the gateway. Be sure that the control mapper service is running and able to accept connections.
			2 = Communication lost.	**If Fault Parameter 3 = 2**, lost communication with the gateway. The controller will try to reconnect.
			3 = No heartbeat response from the gateway.	**If Fault Parameter 3 = 3**, did not receive a heartbeat response from the gateway. Make sure the control mapper service is running.
			4 = Bad heartbeat response from the gateway.	**If Fault Parameter 3 = 4,** received a bad heartbeat response from the gateway meaning we are communicating but there is something wrong with the gateway.

Table 4-12. IO Subsystem Error (Cont'd)

Fault ID (Hex)	Fault Param 1 (Hex)	Fault Param 2 (Hex)	Definition	Suggested User Response
B (Cont'd)	6 Data Link Warning	2	**Fault Parameter 3** 5 = Close port error 6 = Drop mode error	 **If Fault Parameter 3 = 5**, unable to close the port successfully. This is a basic communication error reported by TCP/IP. Check all connections and be sure that the control mapper service is running. **If Fault Parameter 3 = 6**, an error occurred when trying to determine what mode the controller is in (primary or backup).
	6 Multinet Warning	0x8001	Invalid tag type. **Fault Parameter 3 =** point sid. **Fault Parameter 4 =** tag type.	Call Westinghouse service.
	6 Multinet Warning	0x8002	Invalid data type. **Fault Parameter 3 =** point sid. **Fault Parameter 4** = data type.	Call Westinghouse service.
	6 Multinet Warning	0x8003	Tag handle already in use. **Fault Parameter 3 =** point sid. **Fault Parameter 4 =** tag handle.	Call Westinghouse service.
	6 Multinet Warning	0x8004	SPD open failed. **Fault Parameter 3 =** error code.	Call Westinghouse service. **Fault Parameter 3 =** Verify integrity of multinet connection.
	6 Multinet Warning	0x8005	SPD close failed. **Fault Parameter 3 =** error code.	Call Westinghouse service.

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Table 4-12. IO Subsystem Error (Cont'd)

Fault ID (Hex)	Fault Param 1 (Hex)	Fault Param 2 (Hex)	Definition	Suggested User Response
B (Cont'd)	6 Multinet Warning	0x8006	SPD error. Failed getting remote sid. **Fault Parameter 3** - point sid. **If Fault Parameter 4 = 1** SHC failed getting "TT" field. **If Fault Parameter 4 = 2** - SPD failed getting remote sid. **Fault Parameter 5 =** error code.	Verify integrity of multinet connection.
	6 Multinet Warning	0x8007	SHC error getting dynamic data. **Fault Parameter 3 =** point sid. **Fault Parameter 4 =** remote point sid. **Fault Parameter 5 =** point state.	Call Westinghouse service.
	6 Multinet Warning	0x8008	Record type mismatch between local and remote points. **Fault Parameter 3 =** point sid. **Fault Parameter 4 =** remote point sid.	Verify that the points are the same record type.

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Table 4-13. IOIC Error Codes

Fault ID (Hex)	Fault Param 1 (Hex)	Fault Param 2 (Hex)	Definition	Suggested User Response
C	0	None	Warning: prioritized list full.	Call Westinghouse service.
	1	None	Warning: illegal function.	Call Westinghouse service.
	2	None	Error: command buffer full.	Call Westinghouse service.
	3	None	Error: timed out (PCQL only).	Call Westinghouse service.
	4	None	Non-maskable interrupt occurred.	Check power supplies. Call Westinghouse service.
	5	None	Error: firmware fault.	Call Westinghouse service.
	6	None	Warning: remote node LEDs not updated.	Call Westinghouse service.
	7	None	Warning: Diagnostics ran late.	Call Westinghouse service.

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4-6. Fault Code 129 — QLC or Ovation LC Failure Fault

Fault ID (Hex)	Fault ID Description	Suggested User Response
Defined by application	The Fault Parameters are defined by the QLC or Ovation LC application.	For more information, refer to the appropriate QLC or Ovation LC application documentation. Also refer to the QLCSTAT algorithm description in "Control Algorithms" (U0-0106) or the SLCSTATUS algorithm description in "Ovation Algorithms" (R3-1100).

4-7. Fault Code 157 — OPC Client Mapper Fault

Fault ID (Hex)	Fault ID Description		Suggested User Response
140	**Fault Param 1 (Hex)**	**Definition**	**Note** **If a parameter is displayed that is not explained below, call Westinghouse Service.**
	2	Invalid ProgID	Check configuration to ensure a properly installed OPC server is selected. Review DCOM parameters.
	3	CLSID not found	Check configuration to ensure a properly installed server is selected. Review DCOM parameters.
	4	Unable to connect to a local server.	Check configuration to ensure a properly installed server is selected. Review DCOM parameters.
	5	Unable to connect to a remote server.	Check configuration to ensure a proper server and node are selected. Review DCOM parameters. Ensure network is accessible.
	6	Problem disconnecting	No corrective action required.
	7	Advise sink not found	Review DCOM settings.
	9	Add group failure	Make sure name is unique. Ensure that the group name is not blank.
	A	OPC Server stopped/shutdown	Make sure that the OPC Server application is up and running.
	B	Advise sink failure	Review DCOM settings.
	E	Add item failure	Verify that the item name specified exists on the server.
	19	Get server state failure	Verify the network connection to the server. Verify that the server is running.
	20	Set group name failure	Make sure name is unique. Ensure that group name is not blank.
	21	Item property not supported	Server does not support item property. No corrective action.

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Fault ID (Hex)	Fault ID Description		Suggested User Response
140 (Cont'd)	**Fault Param 1 (Hex)**	**Definition**	
	27	No interface	Check configuration to ensure a properly installed server is selected. Review DCOM parameters.
	28	Query interface failure	Check configuration to ensure a properly installed server is selected. Review DCOM parameters.
	29	Interface attach failure	Check configuration to ensure a properly installed server is selected. Review DCOM parameters.
	28	Duplicate group name	Change the name of the group to be unique.
	2C	Unsupported group update rate	Set a supported rate.
	2D	Unknown item ID	Verify that the item name specified exists on the server.
	2E	Invalid item ID	Verify that the item name specified exists on the server.
	2F	Data advise failure	Review DCOM settings.
	30	Bad type. Server could not handle the data type passed in by the client mapper.	Configure a different data type.
	31	Unknown path. The item's access path is unknown to the server.	Configure the item with a valid access path.
	33	Bad rights. Configuration is attempting to write to a read only item or read from a read only item.	Correct the OPC client mapper file.

Fault ID (Hex)	Fault ID Description		Suggested User Response
140 (Cont'd)	34	Range error. Value that was passed to the server was out of range.	Verify that the data being passed to the server is valid.
	38	Partial success	Review all item names. Ensure that all names are valid and exist on the server.
	39	Validate item failure	Verify that a valid item name exists on the server.
	3B	Node not responsive	Verify that the remote node is running, and is network accessible.
141	2 - 3C	OPC redundancy error	Follow suggested user responses for Fault ID 140.
142	2 - 3C	OPC switchover	Follow suggested user responses for Fault ID 140.

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4-8. Fault Code 170 — SHC Failure Fault

The term “SHC” (System Highway Connections) refers to the connection to the Data Highway.

Fault ID (Hex)	Fault ID Description	Suggested User Response
FE	SHC background daemon watchdog time-out.	Check the General Message Display and the error log file for more information. Check the Highway configuration for errors. Record any errors and/or messages and any actions prior to the occurrence of the error. Call Westinghouse service.

4-9. Fault Code 171 — SHC Initialization Fault

The term “SHC” (System Highway Connections) refers to the connection to the Data Highway.

Fault ID (Hex)	Fault ID Description	Suggested User Response
FD	Invalid database initialization files detected.	Clear and reload drop.
FE	SHC background daemons failed to start.	One of the Highway programs has failed. Check the General Message Display and the error log file for more information. Check the Highway configuration for errors.

4-10. Fault Code 175 — Server Faults

Server refers to the Computation Server (CS) and the Software Server (SS).

Fault ID (Hex)	Fault ID Description	Suggested User Response
0	Internal data structure sized wrong.	Record CS software revision levels. Call Westinghouse service.
1	Environment variable not found.	Run software in expected environment (that is, reboot or restart applications). If the problem persists, call Westinghouse service.
2	Trouble with XRM configuration file.	Re-create the computation server’s configuration files on the Ovation Admin Tool, and query/download the files. Reboot or restart applications. If the problem persists, call Westinghouse service.
3	Configuration data missing.	Re-create the computation server’s configuration files on the Ovation Admin Tool, and query/download the files. Reboot or restart applications. If the problem persists, call Westinghouse service.
4	Could not open SHC (Sun Highway Connection) memory.	Check the Highway configuration.
5	Could not get/set SHC mode.	Check the Highway configuration.

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Fault ID (Hex)	Fault ID Description	Suggested User Response
6	Could not find installed SHC.	Check the Highway configuration.
7	Could not get required data from SHC.	Check the Highway configuration.
8	Problems reading event file.	Regenerate the CS events file on the Ovation Admin Tool's "Maintain Project Data" screen. Query/download and reboot or restart applications. If the problem persists, call Westinghouse service.
9	Event file tables too large.	Increase "Maximum Number of Event Triggers" on the Ovation Admin Tool. Install the configuration file, query/download and either reboot or restart applications. If the problem persists, call Westinghouse service.
A	Problems reading periodic file.	Regenerate the CS periodic file on the Ovation Admin Tool's "Maintain Project Data" screen. Query/download and reboot or restart applications. If the problem persists, call Westinghouse service.
B	Periodic file tables too large.	Increase "Maximum Number of Periodic Triggers" on the Ovation Admin Tool. Install the configuration file, query/download and either reboot or restart applications. If the problem persists, call Westinghouse service.
C	Fork system call failed.	Too many programs running. Exit some applications. If the problem persists, call Westinghouse service.
D	Execution failed.	A program is missing. Check configuration via Query/Download. If the problem persists, call Westinghouse service.
E	Could not set fault process.	The CS software has restarted too many times. Either reboot the drop or continue operation in which the CS won't detect the Highway going offline.
F	Child process died.	Look at syslog to record which task failed. Call Westinghouse service for analysis. If necessary, reboot or restart applications on the drop.
10	Ethernet bad status.	Check Ethernet connection.

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Fault ID (Hex)	Fault ID Description	Suggested User Response
11	Failed a backup drop to offline mode due to manual request.	If this occurs unexpectedly (not by operator request), call Westinghouse service.
12	Problem with shared-memory segment.	Record the error and any actions prior to the occurrence of the error. Call Westinghouse service.
13	Problem with semaphore.	Record the error and any actions prior to the occurrence of the error. Call Westinghouse service.
14	Process not found in run list.	An event occurred that was to have signalled a user process which was not found. Call Westinghouse service.
15	Unable to signal process.	If a registered user process could not be signalled, it is likely not running. If necessary, call Westinghouse service.
16	Run list overflow.	Increase the “Number of Run-List Queue Entries” on the Ovation Admin Tool. Install the configuration file, query/download and either reboot or restart applications on the drop.
17	Application program terminated via signal.	An application process exited due to a signal. If the CS Logger is running, view its log files. Ignore the fault if it is expected. The application should handle signals and exit gracefully.
18	cs_dispatcher log queue full.	Increase the “Number of Log Queue Entries” on the Ovation Admin Tool. Install the configuration file, query/download and either reboot or restart applications on the drop.
19	Problem opening log file.	Check disk space on /usr, and file/directory permissions and ownership in **/usr/wdpf/cs/adm/**
1A	Problem writing log file.	Check disk space on /usr, and file/directory permissions and ownership in **/usr/wdpf/cs/adm/**
1E	Manual drop failure of a Primary drop to Offline mode.	If this occurs unexpectedly (not by operator request), call Westinghouse service
1F	Out-of-date software on drop.	Software on drop does not match that on the Software Server. Perform a Query/Download.

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Fault ID (Hex)	Fault ID Description	Suggested User Response
29	Reported by the Computation Server Watchdog upon failure of a monitor process to check in within its prescribed period. This fault is only reported if the process requested a fault to be generated upon failure to check in. F**ault Parameter 1** = 0 **Fault Parameter 2** = 0	Determine why software startup sequence caused a critical process to not check in the prescribed time. May be due to incorrect software load on the drop or due to overloading of the drop which prevented the critical task from running in its prescribed period.
32	cs_checker 100-ms timer overrun.	CS Checker is unable to monitor its configured trigger conditions. Determine if the drop was temporarily too busy, or is configured for too much software activity.
33	cs_checker dispatch queue full.	Increase the “Number of Dispatch Queue Entries” on the Ovation Admin Tool. Install the configuration file, query/download and either reboot or restart applications on the drop.

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4-11. Fault Code 176 — Operator Station Fault

Fault ID 1 refers to the Ovation Keyboard fault. Refer to one of the Operator Station manuals (U3-1031 for Solaris systems or NT-0020 and NT-0050 for Windows based systems) for additional information about the Operator Station.

Fault ID (Hex)	Fault ID Description	Suggested User Response
1	Ovation Keyboard. **Fault Parameter 1** = 1 Cannot send data to the keyboard. There is either no electrical power or it is not connected to the serial port. **Fault Parameter 2** = N/A	Plug in Ovation keyboard and check power connections.
	Fault Parameter 1 = 2 Cannot read the keyboard status. **Fault Parameter 2** = N/A	Plug in Ovation keyboard and check power connections.
	Fault Parameter 1 = 3 Cannot write to the device. Cannot turn keys on or off. **Fault Parameter 2** = N/A	Plug in Ovation keyboard and check power connections.

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4-12. Fault Code 177 — Historian Faults

Refer to "Ovation Historian User Guide" (U3-1012) for additional information about the Historian.

Fault ID (Hex)	Fault ID Description	Suggested User Response
1	Station Manager. **Fault Parameter 1** = 1 Unexpected subsystem exit. **Fault Parameter 2** = N/A	**When Fault Parameter 1 = 1**, check the General Message Display window on the Operator Station for a description of the error. Based on the description, take appropriate action. If unsure of action to take, call Westinghouse service.
2	Main History. **Fault Parameter 1** = 1 Unexpected subsystem exit. **Fault Parameter 2** = N/A	**When Fault Parameter 1 = 1**, check the General Message Display window on the Operator Station for a description of the error. Based on the description, take appropriate action. If unsure of action to take, call Westinghouse service.
3	Long-Term History. **Fault Parameter 1** = 1 Unexpected subsystem exit. **Fault Parameter 2** = N/A	**When Fault Parameter 1 = 1**, check the General Message Display window on the Operator Station for a description of the error. Based on the description, take appropriate action. If unsure of action to take, call Westinghouse service.
4	Event History. **Fault Parameter 1** = 1 Unexpected subsystem exit. **Fault Parameter 2** = N/A	**When Fault Parameter 1 = 1**, check the General Message Display window on the Operator Station for a description of the error. Based on the description, take appropriate action. If unsure of action to take, call Westinghouse service.
5	Laboratory History. **Fault Parameter 1** = 1 Unexpected subsystem exit. **Fault Parameter 2** = N/A	**When Fault Parameter 1 = 1**, check the General Message Display window on the Operator Station for a description of the error. Based on the description, take appropriate action. If unsure of action to take, call Westinghouse service.

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Fault ID (Hex)	Fault ID Description	Suggested User Response
6	Sequence of Events History. **Fault Parameter 1** = 1 = Unexpected subsystem exit. 2 = SOE overload alarm. 3 = SOE suppression alarm. **Fault Parameter 2** = N/A	**When Fault Parameter 1 = 1**, check the General Message Display window on the Operator Station for a description of the error. Based on the description, take appropriate action. If unsure of action to take, call Westinghouse service. **When Fault Parameter 1 = 2**, the system generated more SOE messages in the past 60 minutes than is allowed by the configuration parameter HSR.SOE.OverloadLimit (see"Historian User Guide" (U3-1012) for more information on configuration). **When Fault Parameter 1 = 3**, one of the SOE points was suppressed. Clear the fault. System will unsuppress the SOE point automatically.
7	Alarm Message History. **Fault Parameter 1** = 1 = Unexpected subsystem exit.	**When Fault Parameter 1 = 1**, check the General Message Display window on the Operator Station for a description of the error. Based on the description, take appropriate action. If unsure of action to take, call Westinghouse service.
8	Operator Event Message History. **Fault Parameter 1** = 1 = Unexpected subsystem exit. **Fault Parameter 2** = N/A	**When Fault Parameter 1 = 1**, check the General Message Display window on the Operator Station for a description of the error. Based on the description, take appropriate action. If unsure of action to take, call Westinghouse service.
9	ASCII Message History. **Fault Parameter 1** = 1 = Unexpected subsystem exit. **Fault Parameter 2** = N/A	**When Fault Parameter 1 = 1**, check the General Message Display window on the Operator Station for a description of the error. Based on the description, take appropriate action. If unsure of action to take, call Westinghouse service.

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Fault ID (Hex)	Fault ID Description	Suggested User Response
A	File History. **Fault Parameter 1** = 1 = Unexpected subsystem exit. **Fault Parameter 2** = N/A	**When Fault Parameter 1 = 1**, check the General Message Display window on the Operator Station for a description of the error. Based on the description, take appropriate action. If unsure of action to take, call Westinghouse service.
B	Point Attribute History. **Fault Parameter 1** = 1 = Unexpected subsystem exit. **Fault Parameter 2** = N/A	**When Fault Parameter 1 = 1**, check the General Message Display window on the Operator Station for a description of the error. Based on the description, take appropriate action. If unsure of action to take, call Westinghouse service.
C	Archive Manager. **Fault Parameter 1** = 1 = Unexpected subsystem exit. 4 = Archive device failure. **Fault Parameter 2** = 1 = Volume ejection failed. 2 = Format of volume failed. 3 = Creation of new file system failed. 4 = Mount attempt failed. 5 = Unmount attempt failed. 6 = Read attempt failed. 7 = Write attempt failed. 8 = Close attempt failed. **Note** The definitions for Fault Parameter 2 discussed above are only used if Fault Parameter 1 = 4.	**When Fault Parameter 1 = 1**, check the General Message Display window on the Operator Station for a description of the error. Based on the description, take appropriate action. If unsure of action to take, call Westinghouse service. **When Fault Parameter 1 = 4**, record the error and call Westinghouse service. **Fault Parameter 2** tells the user what operation on the optical disk failed.

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4-13. Fault Code 180 — Log Server Fault

Refer to "Ovation Log Server (Report Builder) User Guide" (U3-1042) for additional information about the Report Builder or the Report Generator.

Fault ID (Hex)	Fault ID Description	Suggested User Response
1	Log Server Disk Full. **Fault Parameter 1** = % of disk usage set through the following Ovation Admin Tool choices: Function: Define Software Configuration. Filter: Log Server. Topic: LS Printer Manager Parameters. Display: Disk Limits. Item: Log Server. **Fault Parameter 2** = % of disk that is used.	To allow more disk space to be used: — Access the Ovation Admin Tool. — Make the desired changes. — Save the changes to the Software Server. — Download the changes to the appropriate drops.
2	Screen Copy Disk Full. **Fault Parameter 1** = % of disk usage (for screen copy) set through the following Ovation Admin Tool choices: Function: Define Software Configuration. Filter: Log Server. Topic: LS Printer Manager Parameters. Display: Disk Limits. Item: Screencopy. **Fault Parameter 2** = % of disk that is used.	To allow more disk space to be used: — Access the Ovation Admin Tool. — Make the desired changes. — Save the changes to the Software Server. — Download the changes to the appropriate drops.
3	Printer Out of Service (does not include screencopy printer). **Fault Parameter 1** = Number of drop whose printer is out of service. **Fault Parameter 2** = Number of the out-of-service printer.	One printer has failed (not the screencopy printer). Return printer to service (check paper, toner, power, and so forth). See the applicable printer manual (vendor documentation) for more information.

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Fault ID (Hex)	Fault ID Description	Suggested User Response
5	Log Server Disk Full on request by other than screencopy or report generation. **Fault Parameter 1** = % of disk usage set through the following Ovation Admin Tool choices: Function: Define Software Configuration. Filter: Log Server. Topic: LS Printer Manager Parameters. Display: Disk Limits. Item: Non Log Server. **Fault Parameter 2** = % of disk that is used.	To allow more disk space to be used: — Access the Ovation Admin Tool. — Make the desired changes. — Save the changes to the Software Server. — Download the changes to the appropriate drops.
6	Log Server Printers Failed.	All the drop's printers have failed. Return printers to service (check paper, toner, power, and so forth). See the applicable printer manual (vendor documentation) for more information.
7	Partner's Printers Failed.	Hot spare's printers have failed. Return printers to service (check paper, toner, power, and so forth). See the applicable printer manual (vendor documentation) for more information.
9	Partner subsystem not running or communications failure.	Check Data Highway, and check operation of Backup subsystem.
A	Configured Backup subsystem is in control for another configured Primary subsystem. (The configured Backup subsystem can take over for only one configured Primary subsystem at a time.)	Restore failed Primary subsystem to control mode so that the configured Backup subsystem is capable of taking control for the configured Primary reporting the fault.
B	Report Generator Spare RPC Failed. **Fault Parameter 1** = 1 = Mark complete error. 2 = Mark started error. 3 = Generate request error. 4 = Cancel request error. **Fault Parameter 2** = N/A	Check operation of Report Generator subsystem that is not in control.

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Fault ID (Hex)	Fault ID Description	Suggested User Response
C	Printer Manager RPC Failed. **Fault Parameter 1** = 4 = Cancel request error. 5 = Print request error. **Fault Parameter 2** = N/A	Check operation of Printer Manager subsystem that is not in control.
D	Printer Out of Service (screencopy printer only). **Fault Parameter 1** = Number of drop whose printer is out of service. **Fault Parameter 2** = Number of the out-of-service printer.	One printer has failed (screencopy printer only). Return printer to service (check paper, power, and so forth). See the applicable printer manual (vendor documentation) for more information.
E	Memory Allocation Failure. Whenever a subsystem detects a memory allocation failure in the code, it attempts to make a core file. The operation of the system may become erratic.	Stop and restart the program, or reboot the workstation. Programmer analysis may be required. More RAM or swap space may have to be added.

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Fault ID (Hex)	Fault ID Description	Suggested User Response
F	Report Generator (RG) Startup Failed. **Fault Parameter 1** =	
	1 = Error Getting Local Drop Number (from Data Highway).	Check status of Highway connection. Call Westinghouse Service.
	2 = Error initializing SSR. Problem initializing drop status information with the Station Manager.	Make sure Station Manager package (WXlssm) has been installed on the drop by the Init Tool. Then install on the Software Server and Download to applicable drop.
	3 = Invalid Config Parameter. Problem validating a configuration parameter.	Use the Ovation Admin Tool to check the configuration parameter settings: Function: Define Software Configuration Filter: Log Server Topics: LS Log Server User Configuration and LS Report Generator Parameters
	4 = Error Opening Config File. There was a problem opening the configuration file.	Use the Ovation Admin Tool to download all the required software files to the drop: Function: Download Files to Drops Filter: Log Server Drop: Applicable drop number
	5 = Bad RG Redundancy Info in Config File. Problem with RG redundancy parameter.	Use the Ovation Admin Tool to check the configuration parameter settings: Function: Define Software Configuration Filter: Log Server Topics: LS Report Generator Parameters Item: Display - Redundancy Then: Install on Software Server and Download to applicable drop.
	6 = Error Attaching to SHC Shared Memory. Problem attaching to shared memory segment.	Check status of Highway connection. Call Westinghouse Service.

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Fault ID (Hex)	Fault ID Description	Suggested User Response
F (Cont'd)	**Fault Parameter 1** = 7 = Error Obtaining SHC Info (from Data Highway).	Check status of Highway connection. Call Westinghouse Service.
	8 = Error Creating TCP Service. Problem creating TCP/IP-based RPC service transport.	Call Westinghouse Service.
	9 = Error Registering RG with RPC.	Call Westinghouse Service.
	A (Hex) = RG Not Configured to Run. Report Generator is not installed properly.	Use the Ovation Init Tool to check if Report Generator package is on drop: Access the Modify/Add/Delete Drop Types Window to check the Available Packages (Package Details). Then: Install everything on Software Server and Download to applicable drop.
10	Report Generator (RG) Startup Error - Errors that occur during RG startup, but the RG continues to run. **Fault Parameter 1** = 1 = Bad Startup Record. Bad startup or inactive record was found in startup or inactive file.	No action needed, bad record will be removed by system, but the syslog file can be reviewed for details. **Note** Please notify Westinghouse if this occurs and send the entire startup or inactive file containing the bad record. Capture the files in **/usr/wdpf/ls/rg/gens/** and send them to Westinghouse.

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Fault ID (Hex)	Fault ID Description	Suggested User Response
10 (Cont'd)	**Fault Parameter 1** = 2 = Sync Error - Getting Startup Files. Error occurred during the synchronization of the RG with its partner. Problem sending/receiving RG startup or inactive files.	Verify existence of and permissions for /usr/wdpf/ls/rg/gens/startxxx and for /usr/wdpf/ls/rg/gens/inactxxx (where xxx = drop number) files and RG partner drop in control.
	3 = Sync Error - Sending Buffered REQ. Error occurred during the synchronization of the RG with its partner. Problem de-queuing an RPC message from the RG in control to the RG just starting up.	This error should only occur when the RG partner is shutdown during the RG startup/ synchronization process. Re-start the partner RG that was trying to startup.
	4 = Sync Error - Set Partner Init Mode. Error occurred during the synchronization of the RG with its partner. Problem informing the RG just starting up to leave "Initialization" mode.	This error should only occur when the RG partner is shutdown during the RG startup/ synchronization process. Re-start the partner RG that was trying to startup.
11	Rep. Def. (report definition) File Missing on Partner. In a redundant RG configuration, the report definition file that is being generated must be installed on both the RG drop in control and the spare RG drop. This error means that the report definition file is either missing or is not installed on the spare RG drop.	Review the syslog on either RG partner drop to identify which report is missing. This should be in the form of a "generation request" error in the syslog. Download the report to the partner drop.

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4-14. Fault Code 185 — Licensing Fault

Fault ID (Hex)	Fault ID Description	Suggested User Response
195	**Fault Parameter 1** = licensing error code	Obtain a license for the OPC server.
140	**Fault Parameter 1** = licensing error code	Obtain a license for the OPC Client Mapper

4-15. Fault Code 190 — Data Link Server Fault

Fault ID (Hex)	Fault ID Description	Suggested User Response
1	Unspecified Data Link.	For each of the Fault IDs listed for Fault Code 190, the following fault parameters may apply: **Fault Parameter 1** indicates the device that failed. These devices are listed below. Device (in Hex): 0 = No fault 1 = Configuration file is missing. Check to see if file exists, and check syntax. 2 = Could not locate communication device. Check configuration. 3 = UNIX system call error. **Fault Parameter 2** defined in errno.h file. 4 = System Point Directory error. Check General Message Display. 5 = SunLink DNI error **Fault Parameter 2** defined in SunLink documentation. 6 = SHC error. Check General Message Display. 7 = HSR error. Check General Message Display. 8 = Connection to client is broken. 9 = XRM error. Check General Message Display. A = Error reading Point Group file. Check to see if file exists, and check syntax.
3	Phone Link.	
4	Data Link MET Tower.	
5	CHEM Lab Data Link.	
6	Digital Display Data Link.	
8	Data Link Unit 1/Unit 2.	
A	Data Link Station.	
B	WESgate Server.	
C	RCS Data Link.	
D	RPI Data Link.	
E	Redundancy Arbitrator.	
F	GCI Interface	
10	WESgate Client.	
11	CIU Link.	
12	PLC Type Link	
13	Highway to Highway Interface.	

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Fault ID (Hex)	Fault ID Description	Suggested User Response
14	Modbus Interface.	**Fault Parameter 1** (Cont'd) B = Serial Device error. C = Telephone modem reported an error. D = Remote Procedure Call error. Ensure RPC is running. E = Unscheduled exit. F = Reflective memory device failed. 10 = Clock Interface Unit device failed. 11 = Device driver for Allen-Bradley Data Highway Interface failed. **Fault Parameter 2** is the error code from the routine that failed. SHC library calls return error codes from SHC.err.h. System calls return error codes from errno.h.
15	SEAbus Interface.	
16	Allen-Bradley Node.	
17	Landis & Gyr RTU Node.	
18	SOC Node.	
19	GPIB Link.	
1A	Modbus Slave.	
1B	CPI Link.	
1C	Fire Detection Data Link.	
1D	Custom Data Link.	

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4-16. Fault Code 210 — Ovation SCADA Server Fault

Fault ID (Hex)	Fault ID Description	Suggested User Response
1	SCADA mapping error.	Contact Westinghouse service.
2	Event problem error.	Contact Westinghouse service.

Appendix A. Hardware Address and I/O Status Values

A-1. Overview

The following tables apply to the hardware address and I/O Status values for Fault Code 66 (Fault ID B).

Note

All fields are 0 based. This table only applies to IOIC Devices.

Table A-1. Hardware Address Decoding

Module Access (Bit 13:0)															
15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
		0	Node			Branch			Module			Offset			
Node Access (Bit 13:1, Bit 7:1))															
15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
		1	Node					1				Offset			
Group Write to Modules (Bit 13:1, Bit 7:0, bit 8:0)															
15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
		1					0	0				Offset			
Group Write to Nodes (Bit 13:1, Bit 7:0, Bit 8:1)															
15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
		1					1	0				Offset			

Table A-2. I/O Status Values

Bit	Definition
0x0000	Local: No response from module
0x0800	Remote: Echo: No response
0x0a00	Remote: Node: No response
0x0e00	Remote: Transmit collision[1]
0x2000	Local: Bad CRC
0x2800	Remote: Echo: Bad CRC[1]
0x2a00	Remote: Node: Bad CRC
0x2e00	Remote: I/O control register changed
0x4000	Local: Module in attention
0x4c00	Remote: Node in attention
0x4e00	Remote: PCRR internal error
0x6000	Success
0x6200	Remote: Echo: Wrong SRC[1]
0x6400	Remote: Node: Wrong SRC
0x6800	Remote: Echo: Wrong DST[1]
0x6a00	Remote: Node: Wrong DST
0x6c00	Remote: Node: Invalid response
0x0180	IOIC board not in control
0x0190	Q-line DIOB volts bad
0x00a0	Illegal access type
0x00b0	Illegal hardware address
0x00c0	Point not scanned yet
0x00d0	I/O cycle hung
0x00e0	Remote I/O type unknown
0x01f0	Third-party I/O Driver Error (for example, invalid GE Mark V/VI tables)
0x6010	Error checking for SOE Events
0x6020	Readback failed or Card OK Bit not set

Table A-2. I/O Status Values (Cont'd)

Bit	Definition
0x6130	DIOB test failed
[1] Consider updating PCRR (3A99190G01) Board to Revision 14 (per DEO 57211).	

Note

Bit 0x8000 could also be set in any of these codes.

Local I/O statuses indicate a problem in the local R-Line I/O bus. For local I/O, the problem is between the PCRL and the module. For remote I/O, the problem is between the remote node Controller and the module.

Remote I/O statuses indicate a problem in the remote R-Line I/O bus. The problem is between the PCRR and the remote node Controller.

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