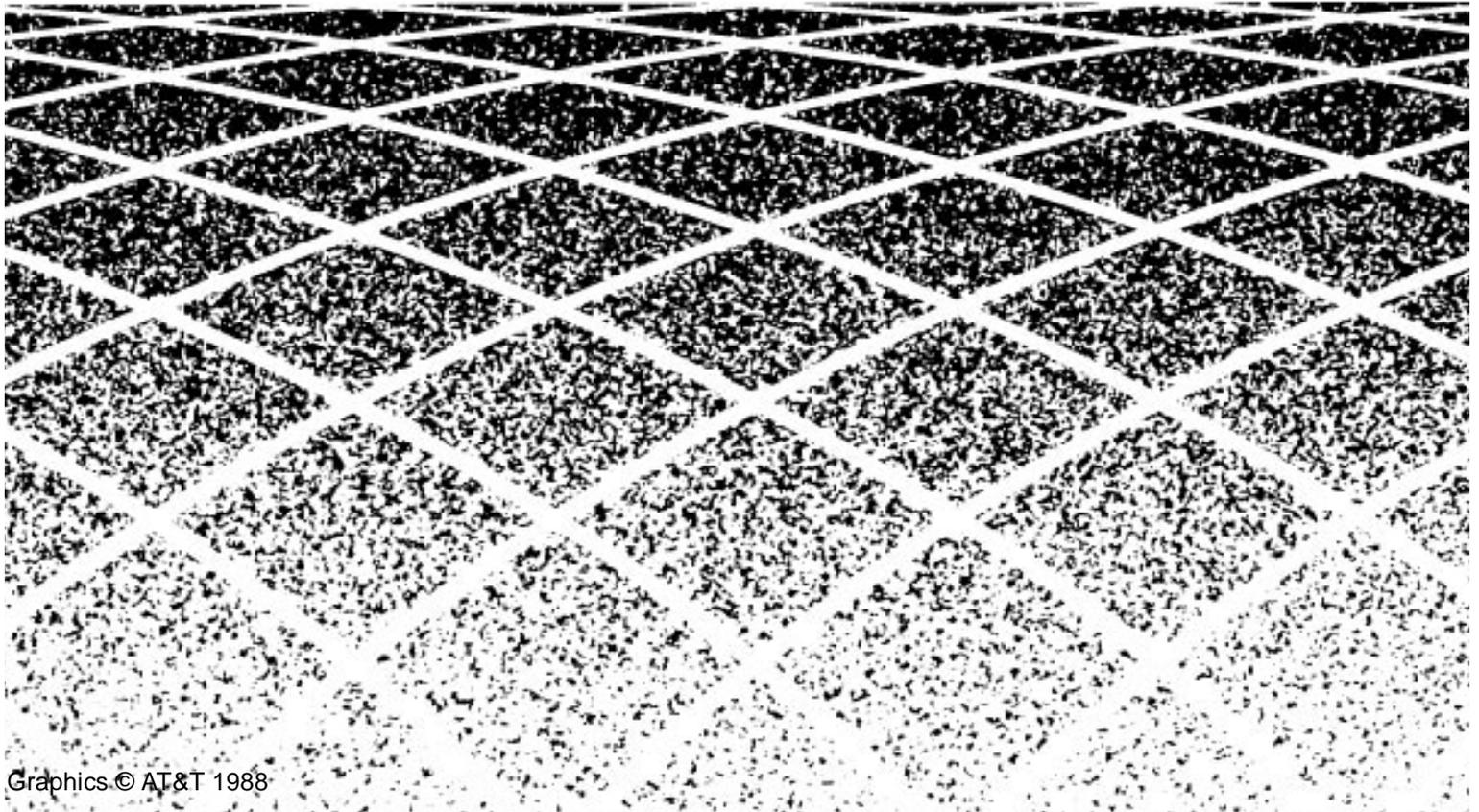




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April, 1996

**OneVision Network  
Management Solutions  
DEFINITY® G3  
Fault Management  
User Guide**



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## About This Book

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The purpose of this document is to help private branch exchange (PBX) administrators and managers use DEFINITY® G3 Fault Management. This user's guide provides a description of the screens, fields, access methods, reports, and other features that are part of the application.

## Intended Audience

This guide is intended for DEFINITY G3 and network managers who are managing DEFINITY G3 PBXs as nodes on a network management system (NMS). Because Fault Management provides information about fault conditions on a PBX, it is aimed primarily toward people who are concerned with the health of a PBX. That person may be responsible for the PBX, the NMS, or both.

## Associated Documents

Documents associated with this online guide are:

- *OneVision DEFINITY G3 Fault Management Installation and Integration*

This guide explains how to install and set up Fault Management software, how to set up PBXs and Proxy Agents as nodes on the NMS, how to change Fault Management's polling intervals and default colors, and how to verify that the Proxy Agent is connected to a PBX.

- *OneVision Network Management Solutions DEFINITY G3 Proxy Agent Installation and Connectivity*

This guide explains how to install, set up, and customize Proxy Agent software. It also contains basic hardware and software requirements, information for connecting the Proxy Agent to a LAN, and troubleshooting guidelines.

- BCS Products Security Handbook (555-025-600)
- The appropriate maintenance manual for each DEFINITY G3 PBX that you are managing on your NMS.

## Conventions

---

This guide uses the following text conventions:

Text format	Type of information
<b>Bold</b>	Command names and parameters, information you type, and file names
<i>italic</i>	Emphasized key words
<b>[bold and bracketed]</b>	Variables Example: Enter <b>aruser -e [macro-name]</b> means to substitute the name of the macro for <b>[macro-name]</b> .
<code>constant width</code>	System messages and responses
small type	Keyboard keys Example: Press Return.
→	Menu selections Example: Select <b>Options</b> → <b>Close</b> , means to select <b>Options</b> , then select <b>Close</b> from the pull-down menu.

Throughout this document, toll fraud security hazards are indicated by an exclamation point inside a triangle and the word Caution.

 **CAUTION:**  
*A security alert may indicate the presence of a toll fraud security hazard. Toll fraud is the unauthorized use of your telecommunications system by an unauthorized party. Examples of unauthorized parties are persons other than your company's employees, agents, subcontractors, or persons working on your company's behalf. Additional security information is included in Security Considerations later in this preface.*

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## **Security Considerations**

---

Your NMS provides the security for your network. As a part of that network, Fault Management neither adds to nor detracts from the level of security your NMS provides.

Fault Management is a display-only application; you can view the data from your PBX, but not change it.

## **Reader Comments**

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If you have any comments or suggestions about this document, please send them to AT&T at the following address.

AT&T  
Product Documentation Development Department  
Room 22-2C11  
11900 North Pecos Street  
Denver, CO 80234

FAX: (303) 538-1741

Please include the following information:

- The name of this document: *OneVision Network Management Solutions DEFINITY G3 Fault Management*
- Your NMS: HP OpenView™ or IBM NetView™
- Your platform: SunOS™, HP-UX™, or AIX

## **Credentials**

---

DEFINITY G3 Fault Management is ISO 9001 certified.

AT&T BCS is also an HP OpenView Solution Partner; and Fault Management is listed in the HP OpenView Solutions catalog.

This chapter provides an overview of the DEFINITY G3 Fault Management software, and includes:

- Fault Management Features
- System Integration
- Supported PBXs
- Fault Management's User Interface
- Data Refresh

This chapter lays the groundwork for subsequent chapters which cover the application in greater detail.

### **Fault Management Features**

DEFINITY G3 Fault Management (referred to as Fault Management throughout this guide) provides a PBX manager with a graphical tool for monitoring the status of a DEFINITY G3 PBX.

Fault Management displays DEFINITY G3 PBX fault and configuration data in a graphical format. It resides on an industry-standard network management system (NMS).

Fault Management consists of the following features:

- Configuration Map
- Fault Manager
- Configuration Manager

## **Configuration Map**

---

The configuration map provides a graphical user interface (GUI) that displays information about a DEFINITY G3 PBX managed by your NMS.

You display this information by clicking on a pictorial representation of the PBX's hardware. Each time you click, you peel away the layers of the PBX and uncover more specific data.

The configuration map allows you to uncover the following PBX hardware layers. The most general layer is shown first; the most specific layer is shown last.

<b>This layer ...</b>	<b>Includes data for ...</b>
Switch	The entire PBX
Cabinet	One cabinet in the PBX
Circuit Pack	One circuit pack in the cabinet
Port	One port on the circuit pack

The configuration map also has the following layers for external devices:

<b>This layer ...</b>	<b>Includes data for ...</b>
External Devices	Each external device administered on the PBX
Individual External Device	A specific external device on the PBX

## **Fault Manager**

---

The fault manager provides information about active (non-resolved) alarm conditions that exist within a PBX. The information is in a color-coded graphical format so that you can find faults quickly and easily.

Fault manager alerts you to fault conditions by:

- Highlighting the graphic depiction of the PBX hardware that has an alarm. The color of the highlight corresponds to the highest severity alarm. This highlighting allows you to see the following items at a glance:
  - Where alarm conditions exist
  - How severe the alarms are
  - The quantity of each alarm type
- Displaying alarm counts that are sorted by:
  - The location of the alarm

- The severity of the alarm (major, minor, or warning)

## **Configuration Manager**

---

The configuration manager provides, in a graphical and report format, information about your PBX, cabinet, and external device configurations. This information consists of a PBX's hardware and software versions and an inventory of circuit packs and their locations.

## **System Integration**

---

The Fault Management application is closely integrated with, and relies heavily on, two other applications:

- DEFINITY G3 Proxy Agent
- Your network management system (NMS)

## **DEFINITY G3 Proxy Agent**

---

Fault Management receives data from the PBX via AT&T's DEFINITY G3 Proxy Agent, release 1.2 (referred to as the Proxy Agent throughout this guide). The Proxy Agent and Fault Management are installed on two separate computers.

The purpose of the Proxy Agent is to receive status information from the PBX and then translate that information into a format that your NMS can understand. That format is SNMP (Simple Network Management System).

## **Your Network Management System**

---

Fault Management is an add-on to your network management system (NMS). Fault Management integrates with your NMS in such a way that Fault Management must be executed from the NMS.

Both the NMS and Fault Management receive data from the Proxy Agent. The NMS can display within various views the data that it receives from the Proxy Agent.

Fault Management can only manage the PBXs that are set up on your NMS. To have status information available to you via Fault Management, the PBX must be a node on Fault Management's host NMS platform.

Refer to your *OneVision Network Management Solutions DEFINITY G3 Fault Management Installation and Integration* guide and your NMS user guide for instructions on adding a node.

## Supported PBXs

Fault Management supports the following DEFINITY GENERIC 3 PBXs:

G3vs	G3s	G3i	G3r
V1.1-ABP/PBP	V1.1-ABP/PBP	V1.1-286	V1.1
V2-ABP/PBP	V2-ABP/PBP	V2-386	V2
V3-ABP/PBP	V3-ABP/PBP	V3 (386)	V3
V4-ABP/PBP	V4-ABP/PBP	V4 (386)	V4

## Fault Management's User Interface

This section describes the following elements included in the Fault Management's user interface:

- Accelerator Keys
- Alarms Display
- Color
- Close Button
- Hotspots
- Menu Bar
- Scroll Bars

When the information is best explained in the context of completing a Fault Management task, this section refers you to another chapter for details.

## Color

Fault manager highlights the affected hardware with the color of the highest severity fault.

For example, if a cabinet has four warnings and one minor alarm, the cabinet is highlighted with the color of the minor alarm.

### NOTE:

You can change these color settings on the Setup menu. See Table 3-6 for instructions.

To learn more about color and ...	Go to this chapter ...
Default settings	Chapter 3, Customizing Fault Management
Configuration management	Chapter 6, The Configuration Manager

## Alarms Display

---

An alarms display, similar to the one shown below, is located on the right side of any configuration screen.

---

Alarms	
Cabinet	Pack
MAJOR: 0	0
MINOR: 0	4
WARNING: 0	4

---

**Figure 1-1. Alarms Display**

## Menu Bar

---

Fault Management uses a standard menu bar with the following pull-down menus. The actual list of commands that you see is determined by the active screen.

Menu	Description
Option	Allows you to perform application-wide commands. For example, opening Fault Management features, saving data, and closing screens.
Fault	Allows you to see lists or reports of current errors and alarms. These lists display in new windows.
Configuration	Allows you to get information about the configuration for the current PBX. This menu is available only at the following screens: <ul style="list-style-type: none"><li>■ Switch View</li><li>■ Cabinet View</li><li>■ External Devices</li></ul>
Help	The Help menu opens a window that contains context-sensitive help (help specific to the active window.)

To learn more about the menu bar for a specific screen, go to the Menu Bar section for that screen.

## Hotspots

---

When you click the mouse on an area of the screen designated as a hotspot, the system performs a predetermined function.

**⇒ NOTE:**

This guide refers to hotspots in Fault Management, not DynaText®. The Fault Management screens and windows that display when you double click on the camera icon in this guide do not have functioning hotspots. However, you can try out the hotspots when you return to the Fault Management application.

Fault Management hotspots open up a screen at the next hardware layer.

For example:

<b>If you are at this layer ...</b>	<b>And you click on this hotspot ...</b>	<b>Then this layer displays...</b>
Switch	Cabinet icon	Cabinet
	External devices icon	External Devices
Cabinet	Circuit pack code	Circuit pack
Circuit pack	Port number	Port
External Devices	External device icon	Individual External Device

The port and individual external device layers do not have hotspots because they are the last layers.

Each window that a hotspot opens is specific to the hotspot itself. For example, if you click on the Cabinet 1 icon in the Switch View, the system opens a window containing only Cabinet 1 data, as shown in the following figure:

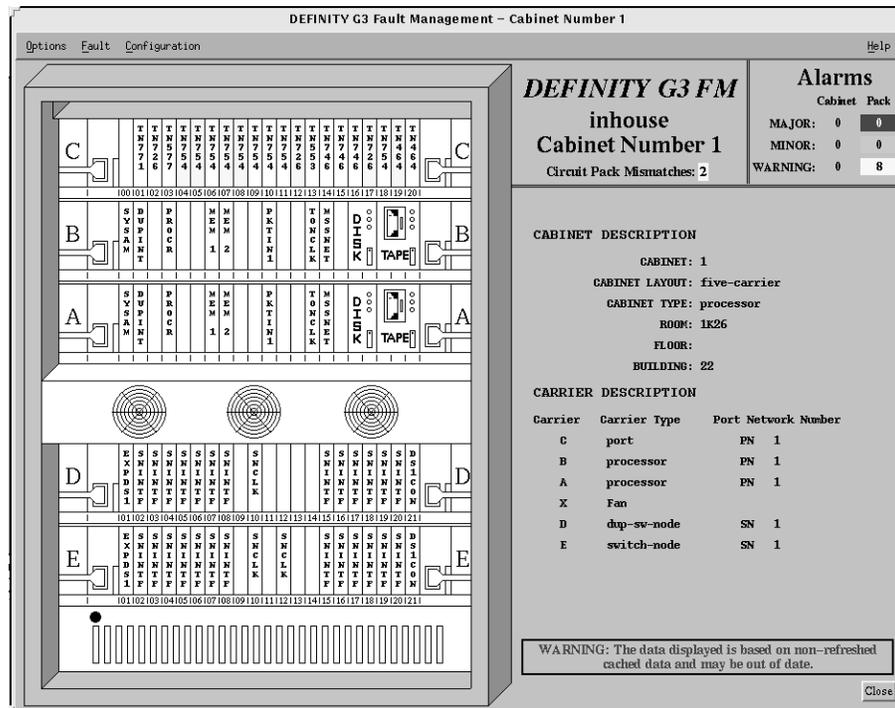


Figure 1-2. Cabinet View

### Scroll Bars

Fault Management uses standard scroll bars. The scroll bars appear only when there is more information than can appear in the window, such as more cabinets or more report items. If the window does not include scroll bars, all the relevant information or data is visible in the window.

### Close Button

When you click on the close button, the system closes the current window and all open "child" windows.

A child window is a window associated with a lower level or with a report for the current or lower level. For example, the circuit pack display is the child window of a specific cabinet level display window.

## Exit Button

---

The exit button ends your Fault Management session. This button is available on the Startup and Switch View screens.

## Accelerator Keys

---

Accelerator keys allow you to use the keyboard to execute a menu command (instead of pointing and clicking with a mouse). Each menu command in Fault Management has one letter underlined.

To use accelerator keys:

- For top level menus, simultaneously press the meta key on your keyboard and the underlined letter of the menu option.
- For a submenu, press the underlined letter of the menu item.

## How to Enter Data

---

You can enter data into Fault Management screens in the following ways:

- Data typed into fields
- Pull-down lists
- Check boxes
- Radio buttons

## Data Typed into Fields

---

You type data into some fields. You can also copy the data from one screen or report and paste it into a field on another screen.

## Pull-down Lists

---

Many fields have pull-down lists that allow you to select the valid values for that field.

Fields that have pull-down lists look like this:



## **Check Boxes**

---

Check boxes allow you to turn an option on or off. You can turn on as many check boxes as you want.

Check boxes look like this:



In this example, all the check boxes are turned off.

## **Radio Buttons**

---

Radio buttons allow you to select one option from a list of options.

Radio buttons look like this:



In this example, the Ascending radio button is turned on.

## **Management Information Base**

---

The management information base (MIB) is a database of network management information. The MIB is located in the following directory:

`/usr/OV/OneVision/DG3FM/g3mib.asn1`

You can print the MIB by using your system's print command.

## **Data Refresh**

---

Data refresh is the process Fault Management uses to signal the Proxy Agent to refresh its cache, if necessary, and then to read the data. Once the Proxy Agent

has completed refreshing data from the PBX, Fault Management updates the alarm and circuit pack mismatch displays that use the data. This data includes:

- Alarm data
- Bulletin board data
- Cabinet data
- Configuration data
- DS1
- Error data
- External devices
- Trunk group
- Vintage data

Fault Management uses the following refresh categories:

- Startup Refresh
- Configuration Data Refresh
- Bulletin Board Refresh
- Alarms and Errors Data Refresh

Each refresh process differs slightly from the others. The next subsections describe these operations.

## **Startup Refresh**

---

Startup refresh can occur when you invoke the application from the NMS. By default, it occurs automatically on startup. The Fault Management Startup screen displays the following message indicating the status of the startup refresh.

```
Refresh in progress, estimated delay 250 seconds, 50
seconds elapsed.
```

Startup refresh updates the following information.

- Alarm data
- Bulletin board data
- Cabinet data
- Configuration data
- DS1
- Error data
- External devices
- Trunk group
- Vintage data

If the Proxy Agent is unable to connect to the PBX and refresh the data, the startup refresh fails. In this case, the following message appears when you invoke Fault Management from the NMS.

```
Refresh on startup failed! Continuing with cache data.
```

## **Turning Off Startup Refresh**

You can turn off the startup refresh option as follows:

1. Access the Switch View.
2. Select **Options** → **Setup**.
3. Change the value in Refresh Proxy Agent On Startup to **FALSE**.
4. Click **Apply**.
5. Select **Options** → **Save**.

For more information about the Setup screen, refer to the Chapter 3, Customizing Fault Management.

### **Configuration Data Refresh**

---

Configuration data refresh consists of updating all the circuit pack information, including the circuit pack types and locations, and port information.

The following events cause Fault Management to refresh the configuration data.

- The refresh timer for the circuit pack expires.

Fault Management includes a refresh timer which you can turn off or set for between 1 (one) hour and 1000 hours. The timer is reset before the refresh process begins.

When the refresh timer expires, Fault Management starts the data refresh.

For more information about changing the timer for the circuit pack refresh interval, see Changing Time Intervals.



**NOTE:**

For a configuration refresh, Fault Management closes any open Cabinet View and External Devices screen and their child windows.

- A user requests a refresh.

See How to Refresh Configuration Data for more information.

### **Bulletin Board Refresh**

---

Bulletin board refresh allows you to update the messages on the Bulletin Board screen. These messages originate on the PBX bulletin board and are only updated upon request.

See Bulletin Board and How to Refresh this Screen for more information.

### **Alarms and Errors Data Refresh**

---

The following events cause Fault Management to refresh the alarms and errors data:

- Fault Management receives a trap from the Proxy Agent

- The alarm and errors refresh interval has passed
- The alarm poll detected a mismatch between the number of alarms on the NMS and the number of alarms on the Proxy Agent.
- You request a refresh

**⇒ NOTE:**

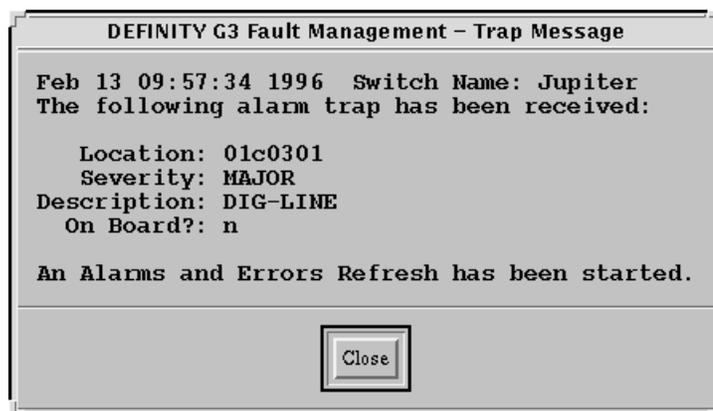
Fault Management updates cabinet information only during the startup refresh process. If you want to update cabinet information, you must close Fault Management and re-invoke it from your NMS.

### Receiving a Trap

When Fault Management receives a trap from the Proxy Agent, it refreshes the alarms and errors data. A trap can indicate that

- The PBX has generated a new major, minor, or warning alarm
- All PBX alarms have been cleared

Receiving a trap from the Proxy Agent is the primary method Fault Management uses to refresh alarm and error data. However, if the Proxy Agent fails to forward traps, Fault Management can use the methods of refreshing data described later in this chapter.



**Figure 1-3. Trap Message**

**Table 1-1. Field Descriptions for Trap Messages**

<b>Field</b>	<b>Description</b>
Heading Information	The first line of text, including: <ul style="list-style-type: none"><li>■ The date and time that the Proxy Agent received the trap</li><li>■ The name of the node on the NMS</li></ul>
Location	The location of the alarm that is related to the trap.
Severity	One of the following alarm states: <ul style="list-style-type: none"><li>■ Major</li><li>■ Minor</li><li>■ Warning</li></ul>
Description	The MO (maintenance object) name for the alarmed object.
On Board?	Indicates whether the fault is on the associated circuit pack or on an off-board element connected to the circuit pack.  Valid values are: <ul style="list-style-type: none"><li>■ y = yes</li><li>■ n = no</li></ul>



---

Figure 1-4. Trap Message for External Devices

**Table 1-2. Field Descriptions for Trap Messages for External Devices**

<b>Field</b>	<b>Description</b>
Heading Information	The first line of text, including: <ul style="list-style-type: none"><li>■ The date and time that the Proxy Agent received the trap</li><li>■ The name of the node on the NMS</li></ul>
Location	The location of the alarm that is related to the trap.
Severity	One of the following alarm states: <ul style="list-style-type: none"><li>■ Major</li><li>■ Minor</li><li>■ Warning</li></ul>
Description	The MO (maintenance object) name for the alarmed object.
On Board?	Indicates whether the fault is on the associated circuit pack or on an off-board element connected to the circuit pack. Valid values are: <ul style="list-style-type: none"><li>■ y = yes</li><li>■ n = no</li></ul>
External Device Information	A heading that identifies the fields for external devices.
Alternate Name	The name of the external device.
Description	The description of the external device.
Building	The name of the building that the external device is in.
Address	The mailing address for the building.
Product ID	The identification number for the external device.



**Figure 1-5. Trap Message for Resolved Alarms**

**Table 1-3. Field Descriptions for Trap Messages for Resolved Alarms**

Field	Description
Heading Information	The first line of text, including: <ul style="list-style-type: none"><li>■ The date and time that the Proxy Agent received the trap</li><li>■ The name of the node on the NMS</li></ul>
ALL ALARMS RESOLVED	Trap message that indicates all alarms have been cleared.

### Alarm and Error Refresh Interval

Fault Management periodically polls the PBX for alarm and error information. The interval of time specified in the Alarm and Error Refresh Interval field on the Setup screen determines how often polling occurs. When the amount of time specified in this field passes, Fault Management starts the data refresh. The cycle begins again when Fault Management completes the refresh.

Fault Management allows you to:

- Set this time interval for anytime from 5 and 1500 minutes
- Turn off polling for alarm and error data

For more information about changing the interval for the alarm and error refresh, see Changing Time Intervals.

### **Detecting a Mismatch**

Fault Management periodically polls the Proxy Agent for the following MIB objects:

- healthMajor
- healthMinor
- healthWarning
- snmpOutTraps

Mismatches in the application view of the values of these objects results in a refresh.

For the MIB-II object snmpOutTraps, Fault Management compares the number of traps in the initial startup poll plus the traps received to the number of traps in subsequent polls. Any difference between the two indicates the need for a refresh.

Fault Management allows you to:

- Set this time interval for anytime from 1 and 60 minutes. When the interval has passed, Fault Management starts polling the MIB objects from the Proxy Agent.
- Turn off polling for MIB objects.

For more information about changing the interval for alarm polling on the Proxy Agent, see Changing Time Intervals.

### **Requesting a Refresh**

Fault Management allows you to refresh alarm and error data manually, as follows:

1. Open the Switch View.
2. From the menu bar, select **Fault → Refresh Alarms and Errors**.

---

## Starting/Stopping Fault Management

# 2

---

This chapter describes:

- Starting Fault Management
- The Startup Screen and its messages
- The Startup Process (an overview)
- Stopping Fault Management

### Starting Fault Management

Fault Management is an application hosted by your NMS. Because Fault Management is integrated into your NMS, when you add a DEFINITY PBX as a node on your NMS, the system creates DEFINITY G3 Fault Management as an executable application.

You use the node icons on the NMS map to start Fault Management. Double click on the following icon for the procedure for starting Fault Management:

**Table 2-1. Starting from HP OpenView and IBM NetView**

---

Use either of the following methods of starting Fault Management:

**Method A**

1. Highlight a PBX icon.
2. Double click on the DEFINITY icon that represents the PBX for which you want to run Fault Management.

**Method B**

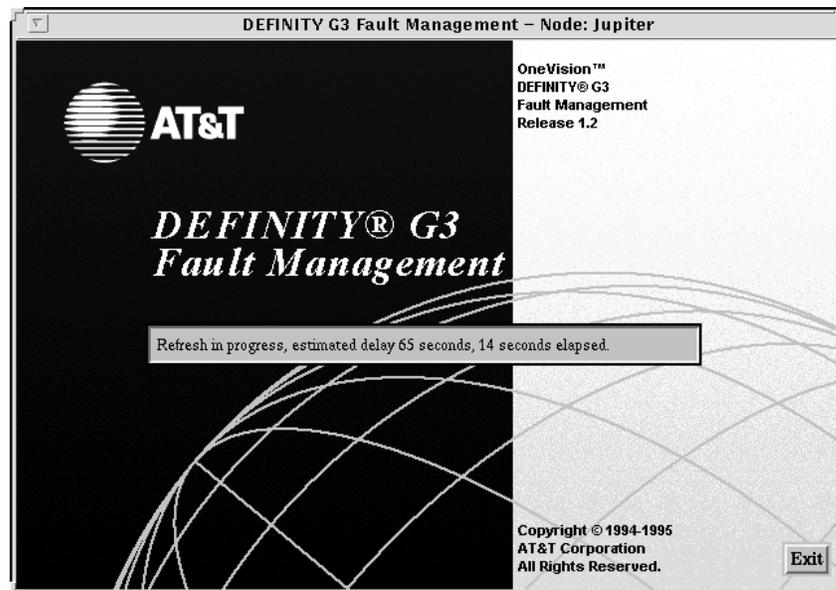
1. Highlight a PBX icon.
  2. At the menu, select **Monitor** → **DEFINITY** → **G3 Fault Management**.
- 

## **The Startup Screen**

---

When you start Fault Management from the NMS, Fault Management displays the Startup screen.

To view this screen, double click on the following icon:



**Figure 2-1. The Fault Management Startup Screen**

## **Start-Up Messages**

---

The Startup screen displays one of the following messages to describe the start-up activity:

- Refresh in progress, estimated delay nnn seconds, n seconds elapsed.

This refresh status message indicates that Fault Management has requested a full data refresh. The Proxy Agent gets new data from the PBX and forwards it to Fault Management. The message includes the

- Estimated amount of time necessary to refresh data (nnn)
- Elapsed time (n)

Fault Management requests a full refresh if the value in the Refresh on Start-up field on the Setup screen is TRUE. This value is the default setting.

Refer to Chapter 3, Customizing Fault Management, for instructions on changing the start-up settings.

- Refresh on startup failed! Continuing with cache data.

This message displays if the Proxy Agent is unable to connect to the PBX. Fault Management uses data stored in the Proxy Agent instead of data refreshed during initialization.

- Initializing...

This message indicates that Fault Management is retrieving data stored by the Proxy Agent instead of getting new data from the PBX. This startup method is quicker, but it retrieves cached data.

### **Exit Button**

---

During the startup process, you can click on the Exit button on the startup screen to stop Fault Management from refreshing and initializing.

If you click on the Exit button during the startup process, Fault Management stops initializing, closes its window, and returns you to the NMS.

## **The Startup Process**

---

During the startup process, Fault Management can:

- Retrieve data successfully
- Fail to retrieve data because your cache is empty
- Stop requesting data after a predetermined number of attempts

### **Retrieving Data**

---

Fault Management retrieves data when you first start it up. Fault Management:

1. Uses the sysObjectID object from the MIB-II to get the switch type from the Proxy Agent.
2. Compares the switch type of the sysObjectID object to the switch type of the vintage object in the G3 MIB.

<b>If the switch types ...</b>	<b>Then Fault Management ...</b>
Match	Gets all of the cabinet and external devices data and draws the appropriate icons
Mismatch	Displays an informational message that explains the mismatch and stops processing

3. Gets the alarms and errors, changes the color of cabinet borders to indicate the highest severity alarm, and adds the alarm counts to the alarms box.
4. Gets the circuit pack and DS1 information using the configuration in the G3-MIB.

5. Populates any open cabinet-level displays with the circuit pack information from step 4.
6. Indicates any alarm conditions by highlighting the circuit packs with the highest level severity for each.
7. Adds alarm counts to the alarms box for the circuit pack.

**⇒ NOTE:**

Other methods of refreshing data are discussed in the Data Refresh section in Chapter 1.

### Failing to Retrieve Data

When there is no cached data in the database, Fault Management opens the Switch View screen, but can not display any cabinet, alarm, or error information.

### Requesting Data

Fault Management requests data from the Proxy Agent a predetermined number of times. If Fault Management cannot retrieve data after the final attempt, it:

- Displays a message in the message area of the Switch View window
- Stops trying to get data

**⇒ NOTE:**

You use the Setup screen to specify the number of times Fault Management requests data before timing out. See Table 3-6 for instructions.

## Stopping Fault Management

At any time during your session, you can exit Fault Management as follows:

If you are here ...	Select or click this ...	And then do this ...
Startup screen	Exit button	
Switch View	Exit button (or <b>Options</b> → <b>Exit</b> from menu bar)	Click <b>OK</b> at the confirmation prompt.
Window Manager	Quit	Click <b>OK</b> at the confirmation prompt.

This chapter provides the information you need to customize Fault Management, including:

- Opening the Setup Screen
- The Setup Screen
- Changing Colors
- Changing Time Intervals
- Changing Other Options
- Testing Your Changes
- Saving Changes
- Reverting to Default Settings
- Exiting the Setup Screen

### **Opening the Setup Screen**

Use the following steps to access the Setup screen:

1. Open the Switch View screen.
2. Select Setup from the Options menu.

Result: The Setup screen displays.

### **The Setup Screen**

The Setup screen allows you to change the:

- Colors that indicate:
  - Alarm conditions
  - Circuit pack mismatches
  - Configurations you select for viewing
- Time intervals for how often Fault Management receives data from the Proxy Agent
- Startup and retry indicators
- The field delimiter for reports in ASCII format

These settings apply to all PBX's on your NMS.

### **Sample Setup Screen**

The following figure shows the Fault Management Setup screen.

Figure 3-1. Fault Management Setup Screen

## Menu Bar

The following table explains the menu bar for the Setup screen:

Table 3-1. Commands for the Options Menu

Command	Description
Apply	Applies the screen settings only to the current session.
Defaults	Resets all fields settings to their default values.
Grey Scale	Resets each color field to the default settings for grey scale.
Save	Saves the current settings permanently.
Close	Closes this screen and any open child screens.

## Changing Colors

---

The Setup screen allows you to change the color settings for:

- Alarm conditions
- Circuit pack information on the configuration map

You can:

- Select any color available to your monitor.
- Specify a hexadecimal RGB color value.
- Select a gray-scale instead of colors. This feature is designed for users who are color-impaired or who have monochrome monitors.

Double click on a table icon for more information:

**Table 3-2. Color Fields on the Setup Screen**

Field	Default Color	Default Grey Scale
Major Alarm Color	Red	0% Grey
Minor Alarm Color	Orange	55% Grey
Warning Alarm Color	Yellow	80% Grey
Circuit Pack Mismatch Color	Blue	0% Grey
Highlight Color	Green	0% Grey
Circuit Pack Select Color	Cyan	0% Grey

**Table 3-3. Procedure for Changing Colors**

Use the following steps to change the default color settings:

1. Enter either the color name or the hexadecimal RGB color value in the appropriate color field.

Hint: Enter the RGB color value in the #RRGGBB format.  
(RR = red, GG = green, BB = blue)

Example: #FF0000 = red

See Table 3-2 for information about default color settings.

2. Click **Apply** to test your changes.
3. Select **Options** → **Save** to save your changes for future sessions.

**Table 3-4. Procedure for Changing Grey Scale Settings**

---

Use the following steps to change the default settings for grey scale:

1. Select **Options** → **Grey Scale**.
2. Enter the following in each of the color fields that you want to change:

**greyxx**

xx = the percentage of grey. The higher this percentage, the *lighter* the grey.

3. Click **Apply** to test your changes.
  4. Select **Options** → **Save** to save your changes for future sessions.
- 

## **Changing Time Intervals**

---

The Setup screen allows you to change the time intervals for:

- Refreshing alarms and errors
- Refreshing circuit pack data
- Polling alarms

Double click on a table icon for more information:

**Table 3-5. Time Interval Fields on the Setup Screen**

Field	Default	Valid Range	Description
Alarm and Error Refresh Interval (minutes)	60 minutes	5 to 1500 minutes	The time interval between data refreshes for PBX alarms and errors.
Circuit Pack Refresh Interval (hours)	8 hours	1 to 1000 hours 0 turns the refresh off.	The time interval between data refreshes for the PBX's circuit pack and port configuration.
Alarm Polling Interval (minutes)	10 minutes	1 to 60 minutes 0 turns the polling off.	The time interval between polls for an alarm change.  If Fault Management polls the Proxy Agent and detects an alarm change, it refreshes the data. If it does not detect an alarm change, it does not refresh the data. You must balance how often you want Fault Management to check for changed alarm status and then update the data versus how much the refresh process affects your network traffic.

**Table 3-6. Procedure for Changing Time Intervals**

Use the following steps to change the default settings for time intervals:

1. If you want to turn off the timing function, type a zero in each field you want to disable. Otherwise, skip this step.
2. Type a new setting in the appropriate fields. Refer to the valid ranges shown in Table 3-5.
3. Click **Apply** to test your changes.
4. Select **Options** → **Save**.

For more information about time intervals, see Data Refresh.

## Changing Other Options

---

The Setup screen allows you to change the options for:

- Refreshing the Proxy Agent at startup
- The number of retries on an SNMP time-out
- The field delimiter for reports that you print in ASCII format

Double click on a table icon for more information:

**Table 3-7. Other Option Fields on the Setup Screen**

Field	Default	Description
Refresh Proxy Agent On Startup	TRUE	Indicates whether Fault Management prompts the Proxy Agent to refresh all its data from the PBX when you start Fault Management. <ul style="list-style-type: none"> <li>■ TRUE = Fault Management initializes with new PBX data from the Proxy Agent.</li> <li>■ FALSE = Fault Management initializes using cached (stored) data from the Proxy Agent.</li> </ul>
Number Retries on SNMP Timeout	4 (retries) The number of retries does not include the original attempt.	Indicates how many times Fault Management retries to get data from the Proxy Agent. Enter a number from 0 to 10.
Default ASCII Report Field Delimiter	(pipe)	Displays the ASCII character that separates fields in an ASCII report. Valid values are: <ul style="list-style-type: none"> <li>■ , (comma)</li> <li>■   (pipe)</li> <li>■ : (colon)</li> <li>■ ; (semicolon)</li> <li>■ tab</li> </ul> Whatever you choose becomes the default. You can change this character for a specific report on the Output Options screen. (See How to Save Reports.)

**Table 3-8. Procedure for Changing Other Options**

Use the following steps to change the default settings for the other options on the Setup screen:

1. To do this ...	Enter this ...	In this field ...
Initialize Fault Management using cache data	FALSE	Refresh Proxy Agent On Startup
Change the number of attempts at retrieving data upon an SNMP timeout	A number between 1 and 10	Number Retries on SNMP Timeout
Disable retries	0	Number Retries on SNMP Timeout
Change the ASCII field delimiter for printed reports	Select a value from the pull-down list	Default ASCII Report Field Delimiter

- Click **Apply** to test your changes.
- Select **Options** → **Save** to save your changes for future sessions.

## Testing Your Changes

---

You can test the changes you make on the Setup screen before you make them permanent. This feature allows you to see how your changes affect your system.

For example, you can:

- Change the color settings, and then test to see if they fit your needs.
- Change a time interval for getting new data, and then test to determine if the change has a negative affect on your network traffic.

To test your changes without making them permanent, do *one* of the following:

- Click on **Apply** at the lower left corner of the screen.
- Select **Options** → **Apply**.

The changes you make are in effect for the current session only and are lost when you exit Fault Management.

## Saving Changes

---

If you are satisfied with the changes you have made, use the following procedure to save them for this and future sessions.

- Select **Apply** at either of the following locations:

- The Apply button in the lower left corner of the screen
  - The Options menu
2. Select **Options** → **Save**.

Result: Fault Management saves your changes in a resource file and uses them in future startups (from any terminal and for every node).

## Reverting to Default Settings

---

Fault Management has default settings for all of the options you can customize. If you make changes to the Setup screen and then decide you want to return to the default settings, you may do so easily by selecting **Options** → **Defaults**.

For these default settings ...	Click here ...
Colors and grey scale	Table 3-2
Time intervals	Table 3-5
Other setup options	Table 3-7

## Exiting the Setup Screen

---

Use one of the following methods to exit the setup screen:

- Click on the **Close** button at the lower right corner of the screen.
- Select **Options** → **Close**.

 **NOTE:**

If you close the screen without saving or applying, any changes you have made will be lost.

---

# The Configuration Map

# 4

---

This chapter describes the configuration map and the methods used to represent your DEFINITY G3 PBX. Understanding the topics in this chapter can help you locate the fault information you need.

Topics include:

- Overview of the Configuration Map
- Switch View
- Cabinet View
- Circuit Pack Information
- Port Information
- External Devices
- Individual External Devices

## Overview of the Configuration Map

The configuration map is the graphical interface to the application. It allows you to navigate through Fault Management and quickly access PBX data. The benefit of this feature is that you can see configuration and fault information quickly and easily.

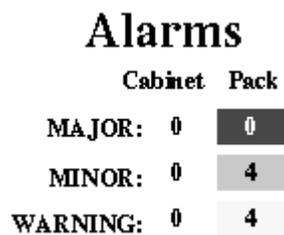
This feature consists of graphical depictions of the PBX configuration. These graphics are specific to an entire PBX, a cabinet, a circuit pack, a port, or an external device.

## Faults Displayed as Colors

---

Fault Management shows the severity of alarm conditions with color highlighting or grey-scale settings. (This manual uses the term *color* to refer to both of these settings.) However, within the context of the configuration manager, the color indicators are specific to the level you are viewing.

Figure 4-1 is an example of an alarms display. The color-coded alarm boxes show the cumulative total of active alarms. Typically, alarms display on the right-hand side of the window.



---

Figure 4-1. Alarms

---

For information about ...	Click here ...
Faults and color highlighting	Color Highlighting
The difference between cabinet and pack alarms	Types of Alarms Reports

## Screens in the Configuration View

---

The configuration map displays PBX data in layers, or views. Each view is a graphical display for one of the following hardware layers.

- Switch View
- Cabinet View
- Circuit Pack Information
- Port Information
- External Devices
- Individual External Devices

## Switch View

---

The Switch View contains a graphical depiction of all the cabinets and external devices on the PBX. When you click on an icon, information about the hardware's status and configuration displays.



**NOTE:**

The icon for external devices only displays if an external device is administered on the PBX.

The Switch View has the following components:

- Menu Bar for Switch View
- Screen Heading for Switch View
- Alarms for Switch View
- Switch View Hotspots
- Switch View Messages

### How to Open the Switch View

---

The Switch View opens automatically when you start Fault Management. It is the first screen to display after the Fault Management Startup screen.

### Sample Switch View

---

The following figure shows the Switch View screen:

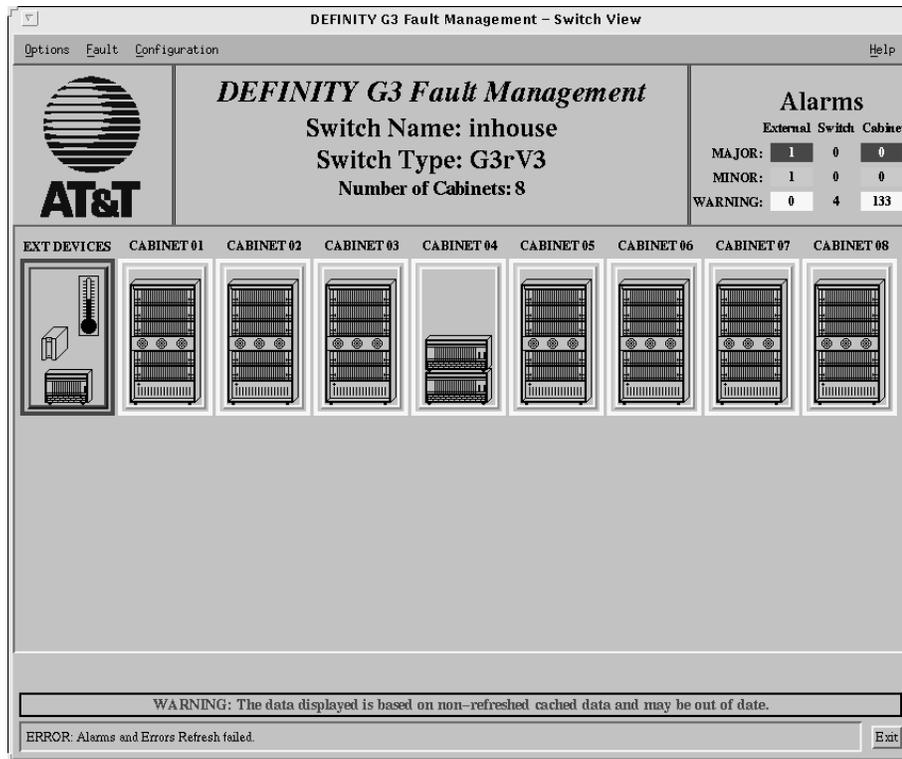


Figure 4-2. Switch View

### Menu Bar for Switch View

Double click on an icon for information about the menu commands for the Switch View.

Table 4-1. Options Commands

Command	Description
Setup	Allows you to modify certain default settings.
Report Builder	Allows you to create ad-hoc reports.
Clear Highlighting	Clears the highlighting that you selected.
Exit	Closes Fault Management and returns you to the NMS.

**Table 4-2. Fault Commands**

<b>Command</b>	<b>Description</b>
All Alarms	Displays all active alarms on the PBX.
Switch Level Alarms	Displays active alarms that are not related to a specific cabinet.
All Errors	Displays all errors associated with active alarms.
Switch Level Errors	Displays errors for active alarms that are not related to a specific cabinet.
Refresh Alarms and Errors	Updates current alarms and errors.
Refresh Bulletin Board	Updates the bulletin board.
Display Bulletin Board	Displays the bulletin board.

**Table 4-3. Configuration Commands**

<b>Command</b>	<b>Description</b>
Display Hardware/ Software Information	Displays the current vintage or release information about the PBX and Fault Management software.
Circuit Pack Inventory	Displays a summary report for the circuit packs currently installed on the PBX.
All Circuit Packs	Displays a detailed report for all the circuit packs that are administered on the PBX or that are physically present on the PBX.
Exception Circuit Packs	Displays a report for all the circuit packs that are administered on the PBX but are either mismatches or are not physically present.
DS1 Circuit Packs	Displays a report for all the digital signaling circuit packs that are on the PBX.
Refresh Configuration Data	Refreshes the information about circuit packs. You can use this command when you change the configuration of the PBX.

### **Screen Heading for Switch View**

---

Immediately below the menu bar, the Switch View displays general information about the PBX. Double click on the icon for more information:

**Table 4-4. Screen Heading**

<b>Data</b>	<b>Description</b>
Application Name	DEFINITY G3 Fault Management
Switch Name	The name of the PBX as it appears on the NMS when the PBX is administered as a node on the network. This information is passed from the NMS.
Switch Type	The type of PBX (the object ID from the Proxy Agent MIB), as it is administered on the Proxy Agent.
Number of Cabinets Found	The number of cabinets that Fault Management recognizes. Valid values are: <ul style="list-style-type: none"> <li>■ A number from 1 - 44</li> <li>■ Blank, if Fault Management cannot find any cabinets for the PBX.</li> </ul>
Circuit Pack Mismatches	The number of circuit packs with a mismatch between the type that is inserted into the cabinet slot and the type that is administered for that slot.  Fault Management displays this field only when mismatches exist.

### **Alarms for Switch View**

---

The color-coded alarms on the right side of the screen display the number of major, minor, and warning alarms as follows:

<b>Column</b>	<b>Description</b>
External	Alarms for the external devices. This column displays only if there are external devices administered on the PBX.
Switch	Alarms that are on the system but are not associated with a cabinet.
Cabinet	Alarms that are specifically associated with cabinet hardware.

## Switch View Hotspots

The central portion of the Switch View contains hotspots in the form of icons that represent external devices and cabinets.

Each cabinet icon represents a particular cabinet on the PBX and depicts the type of cabinet.

<b>If you click on this icon ...</b>	<b>Then this screen displays ...</b>
External Device	External Devices
Cabinet	The appropriate Cabinet View

See Hotspots in Chapter 1 for an overview of hotspots.

## Colored Borders

Each icon is surrounded by a border that is highlighted with the color that represents the highest level of alarm. If the icon does not have a colored border, there is no alarm.

## Icon Labels

A label displays above each icon in the hotspot area. Icon labels have the following components:

<b>Component</b>	<b>Description</b>	<b>Example</b>
Name	Identifies the external device or cabinet	
Background color	Identifies cabinets with a circuit pack mismatch.  If the cabinet does not contain any circuit packs mismatches, the background color does not display. (See example for Name.)  You can set the background color in the Circuit Pack Mismatch Color field on the Setup screen.	
Border	Identifies an external device or cabinet that Fault Management includes in a report. This border only displays if you request a report with highlighting.  You can set the color for this border in the Highlight Color field on the Setup screen.	

## Switch View Messages

---

The message area at the bottom of the Switch View displays the following types of messages:

Message Type	Description
Warning	A warning message only displays when the data that Fault Management displays is based on non-refreshed, cached data. The following situations can result in this warning: <ul style="list-style-type: none"><li>■ Fault Management cannot complete a refresh attempt.</li><li>■ The Refresh Proxy Agent On Startup field on the Setup screen is set to FALSE.</li></ul>
Message	Fault Management regularly updates status and error data. These messages describe these updates.

## Cabinet View

---

The Cabinet View displays data for a cabinet and is a graphical depiction of the the carriers and circuit packs in the cabinet.

The Cabinet View has the following components:

- Menu Bar for the Cabinet View
- Graphic Display Area
- Cabinet Data Area
- Cabinet Messages

## How to Open the Cabinet View

---

To open the Cabinet View:

1. Display the Switch View.
2. Click on a cabinet icon.

## Sample Cabinet View

---

The following figure shows the Cabinet View:

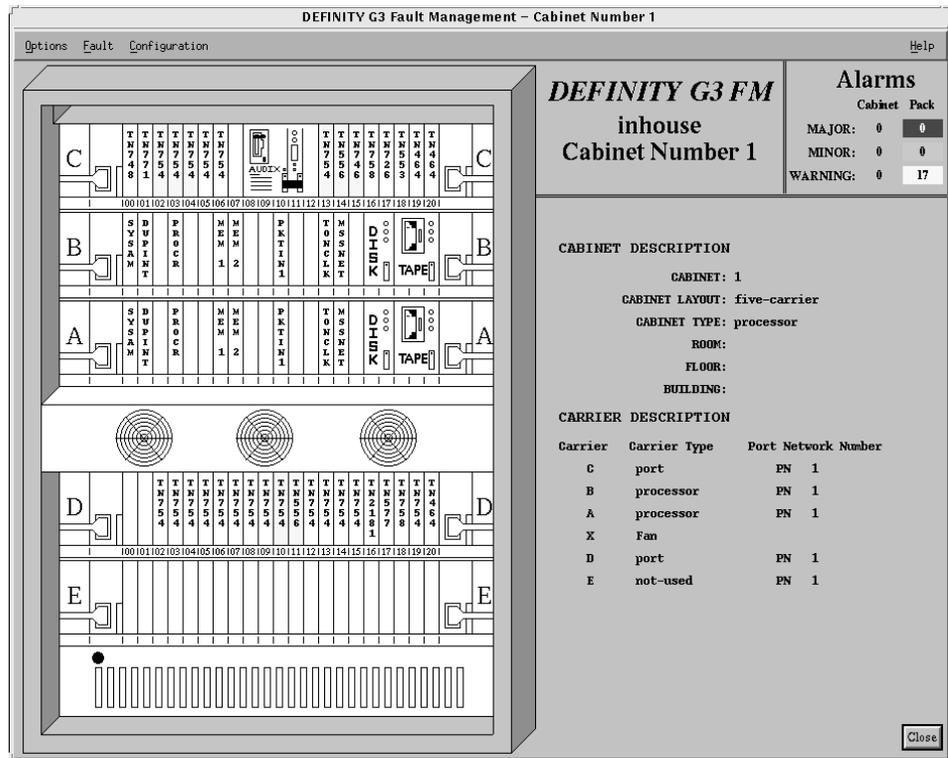


Figure 4-3. Cabinet View

**Menu Bar for the Cabinet View**

Double click on an icon for information about the menu commands for the Cabinet View.

**Table 4-5. Options Commands**

Command	Description
Report Builder	Allows you to create ad-hoc reports.
Clear Highlighting	Removes highlighting.
Close	Closes the Cabinet View and any open child windows.

**Table 4-6. Fault Commands**

<b>Command</b>	<b>Description</b>
All Alarms for Cabinet #	Displays all active alarms on the cabinet.
Cabinet Level Alarms for Cabinet #	Displays active alarms on the cabinet that are not related to a specific circuit pack.
All Errors for Cabinet #	Displays all errors for the alarms on the cabinet.
Cabinet Level Errors for Cabinet #	Displays errors for alarms on the cabinet that are not related to a specific circuit pack.

**Table 4-7. Configuration Commands**

<b>Menu Option</b>	<b>Command</b>	<b>Description</b>
Highlight Circuit Packs With	Unassigned Ports	Does the following: <ul style="list-style-type: none"> <li>■ Opens the appropriate report window.</li> <li>■ Highlights the affected circuit packs on the Cabinet View.</li> <li>■ Displays an informational message in the message area of the Switch and Cabinet views. This message explains the highlighting.</li> </ul>
	No Assigned Ports	
	No Available Ports	
	TTI Ports	
	Type Mismatch	
	Control Circuit Packs	
	Major Alarms	
	Minor Alarms	
	Warning Alarms	

The configuration reports are described in Chapter 6, The Configuration Manager.

### **Graphic Display Area**

---

The left-hand side of the Cabinet View shows a graphical display of the cabinet with the:

- Appropriate carriers.
- Slots and their appropriate slot numbers.
- Circuit pack labels for slots containing a circuit pack. The circuit pack label depicts the type of circuit pack. If the slot is administered but does not contain a circuit pack, the label is NO BRD.

- Blank slots for slots that do not contain a circuit pack.

### **Cabinet Hotspots**

Cabinet hotspots are icons of the different circuit packs. When you click on a circuit pack hotspot, Fault Management:

- Opens the corresponding circuit pack view
- Highlights the selected circuit pack on the cabinet level display
- Displays a message in the lower right corner of the screen that identifies the highlighting and color being used

#### **⇒ NOTE:**

You can open up to 23 circuit pack views. While these views are open, Fault Management highlights the corresponding circuit pack on the cabinet view with the circuit pack select color.

When you open several circuit pack views at the same time, you can bring a particular one to the front by clicking on the corresponding circuit pack in the cabinet view.

See Hotspots in Chapter 1 for an overview of hotspots.

### **Cabinet Data Area**

---

The right-hand side of the Cabinet View is divided into the following data areas:

- Screen Heading
- Alarms
- Configuration Data
  - Cabinet description
  - Carrier description

Double click on an icon for more information.

**Table 4-8. Screen Heading**

<b>Field</b>	<b>Description</b>
Application Name	DEFINITY G3 FM
Switch Name	The name of the PBX as it appears on the NMS when the PBX is administered as a node on the network. This information is passed from the NMS.
Cabinet Number	The number of the current cabinet.
Circuit Pack Mismatches	The number of circuit packs with a mismatch between the type that is inserted into the cabinet slot and the type that is administered for that slot.  A mismatch is the highest level of severity, and supersedes alarms.  You can set the background color in the Circuit Pack Mismatch Color field on the Setup screen.  Fault Management displays this field only when mismatches exist.

**Table 4-9. Alarms**

The color-coded alarms on the right side of the screen display the number of major, minor, and warning alarms as follows:

- Cabinet alarms that are on the cabinet but are not associated with a circuit pack
- Pack alarms that are specifically associated with a circuit pack

Refer to Figure 4-1 for an illustration of the alarms box.

---

**Table 4-10. Configuration Data**

<b>Data Area</b>	<b>Field</b>	<b>Description</b>
CABINET DESCRIPTION		This area of the screen includes details about the current cabinet.
	CABINET	The cabinet number.
	CABINET LAYOUT	The type of cabinet layout: <ul style="list-style-type: none"> <li>■ five-carrier</li> <li>■ single-carrier-stack</li> <li>■ enhanced-single-carrier-stack</li> <li>■ small</li> <li>■ very-small</li> </ul>
	CABINET TYPE	The type of cabinet: <ul style="list-style-type: none"> <li>■ processor</li> <li>■ expansion-port-network</li> </ul>
	ROOM	The room where the cabinet is located (taken from PBX administration.)
	FLOOR	The floor where the cabinet is located (taken from PBX administration.)
	BUILDING	The building where the cabinet is located (taken from PBX administration.)
CARRIER DESCRIPTION		This area of the screen includes details about the carrier.
	Carrier	The carrier label.
	Carrier Type	The type of carrier: <ul style="list-style-type: none"> <li>■ processor</li> <li>■ dup-sw-node</li> <li>■ switch-node</li> <li>■ port</li> <li>■ fan</li> <li>■ expansion-control</li> <li>■ not-used</li> </ul>
	Port Network Number	The number of the port network, 1 - 44

## **Cabinet Messages**

---

The message areas on the Cabinet View display the following types of messages:

<b>Message Type</b>	<b>Location</b>	<b>Description</b>
Incomplete Data Warning	Above CABINET DESCRIPTION information.	This warning message displays only if you clicked on a cabinet hotspot on the Switch View before Fault Management retrieved all the information about circuit packs. The message disappears once Fault Management completes data retrieval.
Highlight Message	Below CARRIER DESCRIPTION information.	An informational message that describes the last highlighting selection you made from the Configuration menu.
Circuit Pack Message	Below highlight message	An informational message that reminds you that you selected a circuit pack.
Cached Data Warning	Below CARRIER DESCRIPTION information.	A warning message only displays when the data that Fault Management displays is based on non-refreshed, cached data. The following situations can result in this warning: <ul style="list-style-type: none"> <li>■ Fault Management cannot complete a refresh attempt</li> <li>■ The Refresh Proxy Agent On Startup field on the Setup screen is set to FALSE</li> </ul>

## **Circuit Pack Information**

---

The Circuit Pack Information screen displays data for a circuit pack and lists the ports. This screen has the following components:

- Menu Bar for Circuit Pack Information
- Data Area for Circuit Pack Information
- Circuit Pack Hotspots

### **How to Open Circuit Pack Information**

---

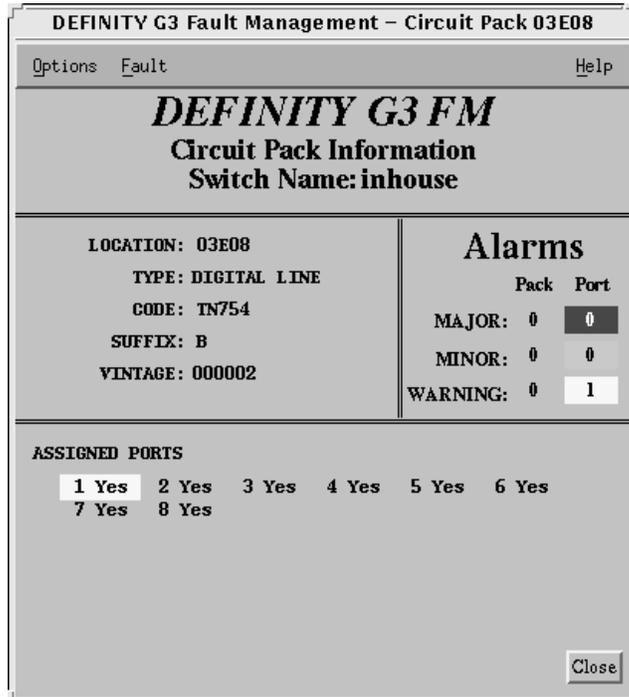
To open the Circuit Pack Information screen:

1. Display the Cabinet View.
2. Click on a slot in the cabinet's graphic display area.

### Sample Circuit Pack Information Screens

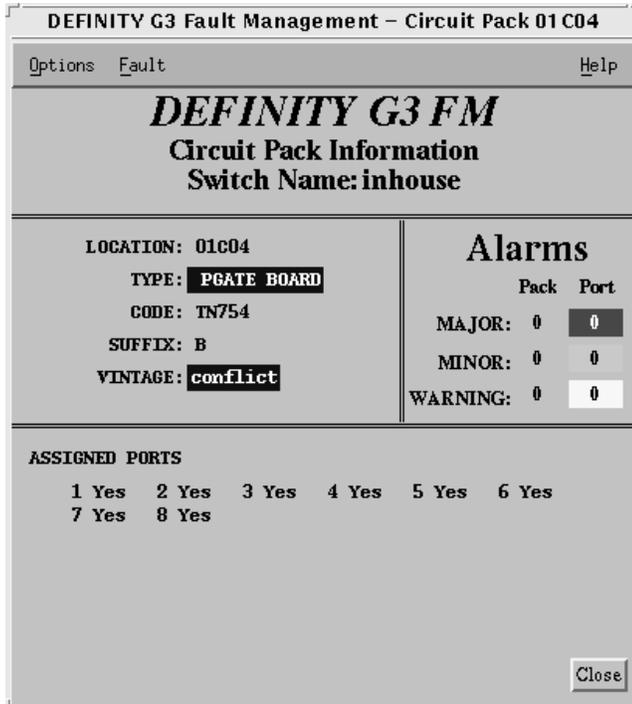
---

Double click on one of the following icons for a sample screen:



---

Figure 4-4. Circuit Pack Information Screen



---

Figure 4-5. Circuit Pack Information Screen Showing a Conflict

### **Menu Bar for Circuit Pack Information**

---

Double click on the icon for a description of the menu bar for the Circuit Pack Information screen:

**Table 4-11. Menu Commands**

<b>Menu</b>	<b>Command</b>	<b>Description</b>
Options	Close	Closes the Circuit Pack Information screen and any open child windows.
Fault	All Alarms for Circuit Pack #	Displays active alarms on the circuit pack.
	All Circuit Pack Level Alarms for Circuit Pack #	Displays active alarms on the circuit pack that are not related to a specific port.
	All Errors for Circuit Pack #	Displays errors related to active alarms on the circuit pack.
	All Circuit Pack Level Errors for Circuit Pack #	Displays errors related to active alarms on the circuit pack that are not related to a specific port.
Help		Displays a Help window.

### **Data Area for Circuit Pack Information**

---

The Circuit Pack Information screen contains the following data areas:

- Screen heading
- Alarms
- Configuration data
  - Circuit pack data
  - Assigned ports

Double click on the icon for a description of these areas.

**Table 4-12. Screen Heading**

<b>Field</b>	<b>Description</b>
Application Name	DEFINITY G3 FM
Screen Title	Circuit Pack Information
Switch Name	The name of the PBX as it appears on the NMS when the PBX is administered as a node on the network. This information is passed from the NMS.

**Table 4-13. Alarms**

The color-coded alarms on the right side of the screen displays the number of major, minor, and warning alarms as follows:

- Circuit pack alarms that are on the circuit pack but are not associated with a port
- Pack alarms that are specifically associated with a port

**Table 4-14. Configuration Data**

<b>Data Area</b>	<b>Field</b>	<b>Description</b>
Circuit Pack Data	LOCATION	The circuit pack's cabinet, carrier, and slot.
	TYPE	The type of circuit pack. A few examples are: <ul style="list-style-type: none"> <li>■ Analog line</li> <li>■ BRI line</li> <li>■ Data line</li> <li>■ Digital line</li> <li>■ DS1 interface</li> </ul>
	CODE	The product code of the circuit pack.
	SUFFIX	The suffix of the circuit pack.
	VINTAGE	One of the following: <ul style="list-style-type: none"> <li>■ The vintage of the circuit pack.</li> <li>■ The highlighted word CONFLICT; if there is a mismatch between the circuit pack's administration and type.</li> </ul>
	SIGNALING	The type of signaling. Displays only for DS1 circuit packs.
	NAME	The DS1 name. Displays only for DS1 circuit packs.
	CSU MODULE	The ID for the integrated CSU module. Displays only for DS1 circuit packs.
	BIT RATE	The speed of the channels; either 2.048 or 1.544 Mbps. Displays only for DS1 circuit packs. The Default is 2.048.
ASSIGNED PORTS	This area of the screen lists each port on the circuit pack (numbered from 1 up to as many as 32). <ul style="list-style-type: none"> <li>■ Yes = the port is assigned</li> <li>■ No = the port is not assigned</li> <li>■ TTI = the port is a TTI port</li> </ul> Each port number is a hotspot that opens the port view for that port.	

## **Circuit Pack Hotspots**

---

Each port number listed under Assigned Ports is a hotspot which opens the port level view for that specific port.

See Hotspots in Chapter 1 for an overview of hotspots.

## **Port Information**

---

The Port Information screen contains data for a single port. The data that displays varies, depending on the type of equipment in the port. Equipment types are:

- Stations
- Data modules
- Trunks

## **How to Open Port Information**

---

To open the Port Information screen:

1. Display the Circuit Pack Information screen.
2. Click on a port in the ASSIGNED PORTS data area.

## **Sample Port Information Screens**

---

Double click on an icon for samples of each of the different types of Port Information screens:

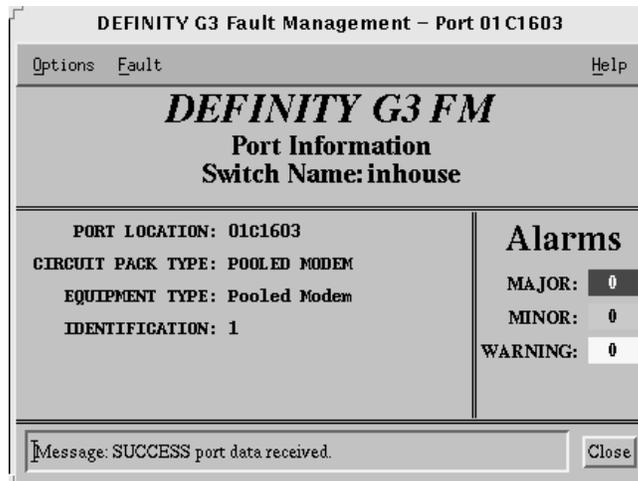


Figure 4-6. Port Information: Pooled Modem

DEFINITY G3 Fault Management - Port 01 C1102

Options Fault Help

---

**DEFINITY G3 FM**  
Port Information  
Switch Name: Denver

---

<b>PORT LOCATION:</b> 01C1102 <b>CIRCUIT PACK TYPE:</b> DIGITAL LINE <b>EQUIPMENT TYPE:</b> Station <b>IDENTIFICATION:</b> 1002	<b>Alarms</b> MAJOR: 0 MINOR: 0 WARNING: 0
--	---

---

**Station Information**

Extension: 1002  
Station Type: 7405D  
Name: Bell, Alex G.  
Building: Research  
Floor: 2  
Room: 30k15  
Cable: J234  
Jack: 1c101  
Service State: in-service/off-hook  
Maintenance Busy?  
Connected Ports: 01C1703 01C1702

SAC Activated? no  
CF Destination Ext:  
Ring Cut Off Active? no

**Station Data Module Information**

Data Extension: 1003  
Data Name: Watson  
Data Service State: in-service/idle  
Data Maintenance Busy? no  
Data Connected Ports:

Data CF Destination Ext:

Message: SUCCESS data module data received.

Figure 4-7. Port Information: Station

DEFINITY G3 Fault Management - Port 01 C1702

Options Fault Help

**DEFINITY G3 FM**  
**Port Information**  
**Switch Name: inhouse**

---

<b>PORT LOCATION:</b> 01C1702 <b>CIRCUIT PACK TYPE:</b> DATA LINE <b>EQUIPMENT TYPE:</b> System Port Data Module <b>IDENTIFICATION:</b> 20002	<b>Alarms</b> MAJOR: 0 MINOR: 0 WARNING: 0
--	---

---

**Data Module Information**

Extension: 20002  
Type: system-port  
Name: sap #2  
Service State: in-service/idle  
Maintenance Busy? no  
Connected Ports:

CF Destination Ext:

Message: SUCCESS data module data received.

---

**Figure 4-8. Port Information: Data Module**

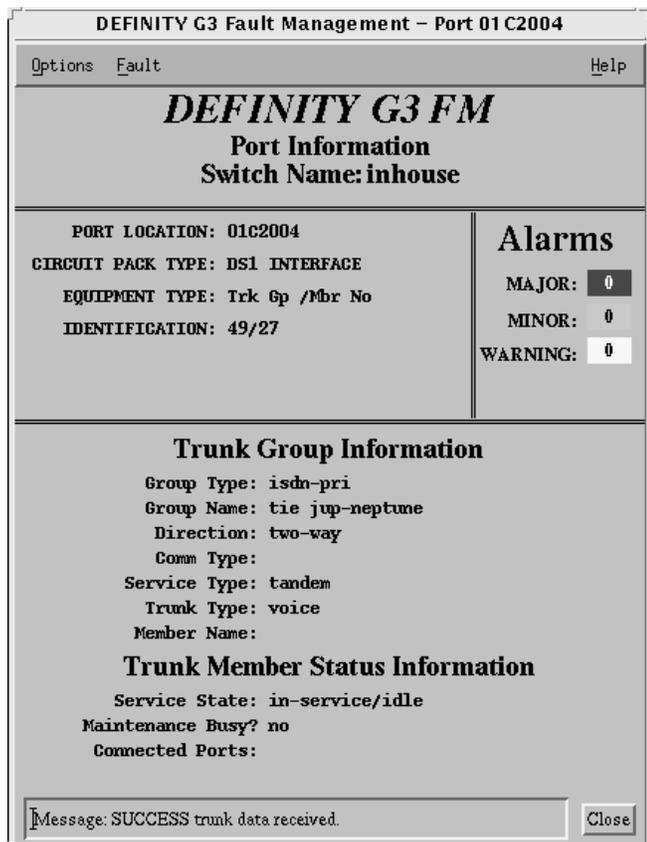


Figure 4-9. Port Information: Trunk

### Menu Bar for Port Information

The menu bar for the Port Information screen contains the following commands:

Menu	Command	Description
Options	Close	Closes the Port Information screen and any open child windows.
Fault	All Alarms for Port #	Displays all active alarms for the port specified.
	All Errors for Port #	Displays all errors for the port specified.
Help		Displays a Help window.

### **Data Area for Port Information**

---

The Port Information screen contains the following data areas:

- Screen heading
- Alarms
- Configuration data
  - Port data
  - Equipment type

Double click on the icon for a description of these data areas.

**Table 4-15. Screen Heading**

---

<b>Field</b>	<b>Description</b>
Application Name	DEFINITY G3 FM
Screen Title	Port Information
Switch Name	The name of the PBX as it appears on the NMS when the PBX is administered as a node on the network. This information is passed from the NMS.

---

**Table 4-16. Alarms**

---

The color-coded alarms on the right side of the screen display the number of major, minor, and warning alarms for the port.

---

**Table 4-17. Port Data**

<b>Field</b>	<b>Description</b>
PORT LOCATION	The port's cabinet, carrier, slot, and port. Example: 01C2004 <ul style="list-style-type: none"><li>■ 01 = Cabinet</li><li>■ C = Carrier</li><li>■ 20 = Slot</li><li>■ 04 = Port</li></ul>
CIRCUIT PACK TYPE	The type of circuit pack the port is on.
EQUIPMENT TYPE	The equipment attached to the port. For example: <ul style="list-style-type: none"><li>■ Station</li><li>■ Data Module</li><li>■ Integrated Announcement</li></ul>
IDENTIFICATION	The alternate name of the port. For example: <ul style="list-style-type: none"><li>■ A station extension</li><li>■ The trunk/group member number (Trk Gp /Mbr No)</li></ul>
EQUIPMENT TYPE	For BRI Multipoint, the equipment attached to the second port.
IDENTIFICATION	For BRI Multipoint, the alternate name of the second port.

**Table 4-18. Equipment Type: Station**

<b>Display Area</b>	<b>Field</b>	<b>Description</b>
Station Information	Extension	The extension number for the station.
	Station Type	The type of station.
	Name	The station's name, as administered on the PBX.
	Building	The building where the station is located, as administered on the PBX.
	Floor	The floor where the station is located, as administered on the PBX.
	Room	The room where the station is located, as administered on the PBX.
	Cable	The identifier of the cable, as administered on the PBX.
	Jack	The location of the jack, as administered on the PBX.
	Service State	The current service state of the station.
	Maintenance Busy?	Indicates if the station is busy for maintenance purposes.
	Connected Ports	Lists any ports that are currently connected to the station.
	SAC Activated?	Indicates if the Send All Calls feature is active.
	CF Destination Ext	Call Forwarding destination. The extension to which the PBX forwards calls.
Ring Cut Off Active?	Indicates whether the Ring Cut Off feature is active.	

**Table 4-18. Equipment Type: Station**

<b>Display Area</b>	<b>Field</b>	<b>Description</b>
Station Data Module Information	Data Extension	The extension number for the data module.
	Data Name	The name of the data module, as administered on the PBX.
	Data Service State	The current service state of the data module.
	Data Maintenance Busy?	Indicates if the data module is busy for maintenance purposes.
	Data Connected Ports	Lists any ports that are currently connected to the data module.
	Data CF Destination Ext	Call Forwarding destination for data. The extension to which the PBX forwards calls.

**Table 4-19. Equipment Type: Data Module**

<b>Field</b>	<b>Description</b>
Extension	The extension number for the station.
Type	The type of data module.
Name	The data module's name, as administered on the PBX.
Service State	The current service state of the data module.
Maintenance Busy?	Indicates if the station is busy for maintenance purposes.
Connected Ports	The ports that are connected to the data module.
CF Destination Ext	Call Forwarding destination. The extension to which the PBX forwards calls.

**Table 4-20. Equipment Type: Trunk**

<b>Display Area</b>	<b>Field</b>	<b>Description</b>
Trunk Group Information	Group Type	The type of trunk group.
	Group Name	The group name, as administered on the PBX.
	Direction	The trunk direction.  For example, a 2-way direction has incoming and outgoing calls.
	Comm Type or Service Type	Either the communications type or the service type.
	Trunk Type	The type of trunk. Some examples are: <ul style="list-style-type: none"><li>■ Voice</li><li>■ Data</li><li>■ Tie</li></ul>
	Member Name	The member name of the trunk, as administered on the PBX.
Trunk Member Status Information	Service State	The current service state of the trunk.
	Maintenance Busy?	Indicates if the station is busy for maintenance purposes.
	Connected Ports	Lists any ports that are currently connected to the trunk.
	CF Destination Ext	Call Forwarding destination for data. The extension to which the PBX forwards calls.

### **Port Hotspots**

---

The port view does not have hotspots. See Hotspots in Chapter 1 for an overview of hotspots.

### **Port Messages**

---

The message area at the bottom of the screen displays the status of the retrieval of port data.

## **External Devices**

---

An external device can be anything that is connected to a PBX. Examples of an external device are a thermostat and a voice mail system.

The External Devices View displays icons for all the administered external devices on a DEFINITY G3 PBX. You can click on an icon to display information about a device's hardware status and configuration.

 **NOTE:**

The icon for external devices only displays on the Switch View if an external device is administered on the PBX.

The External Devices View has the following components:

- Menu Bar for External Devices
- Screen Heading for External Devices
- Alarms for External Devices
- External Device Hotspots
- External Device Messages

### **How to Open External Devices**

---

To open the External Devices View:

1. Display the Switch View.
2. Click on the external devices icon.

### **Sample External Devices Screen**

---

The following figure shows the External Devices View:

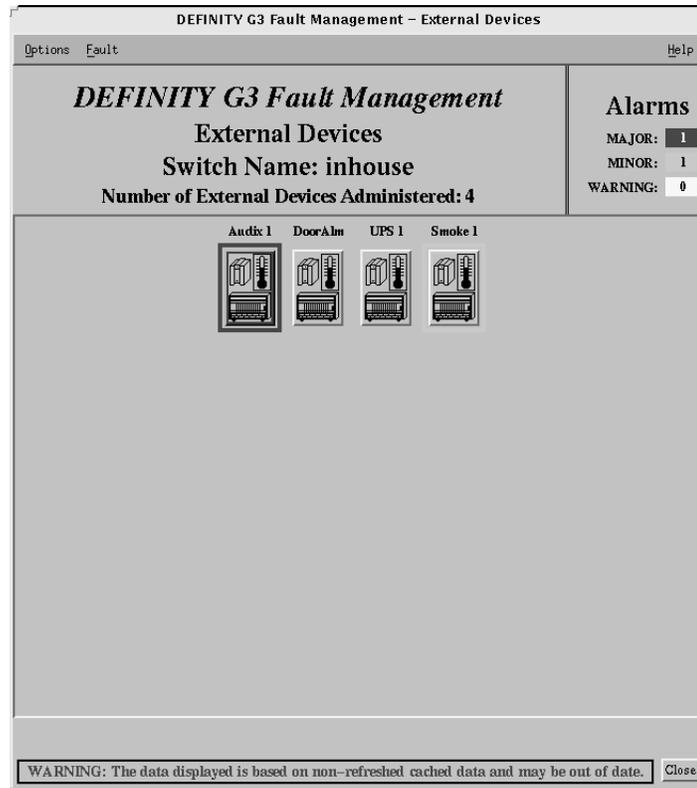


Figure 4-10. External Devices View

### **Menu Bar for External Devices**

---

Double click on the following icon for information about the menu commands for the External Devices View:

**Table 4-21. Menu Commands**

<b>Menu</b>	<b>Command</b>	<b>Description</b>
Options	Report Builder	Allows you to create ad-hoc reports.
	Clear Highlight	Clears any highlighting.
	Close	Closes this view and any open child windows.
Fault	All External Device Alarms	Displays all active alarms for the device.
	All External Device Errors	Displays all active errors for the device.
Help		Displays a Help window.

### **Screen Heading for External Devices**

---

Immediately below the menu bar, the External Devices View displays general information about the PBX. Double click on the icon for more information:

**Table 4-22. Screen Heading**

<b>Data</b>	<b>Description</b>
Application Name	DEFINITY G3 Fault Management
Switch Name	The name of the PBX as it appears on the NMS when the PBX is administered as a node on the network.
Number of External Devices Administered	The number of external devices administered on the PBX. Valid values are numbers from 1 - 90.

### **Alarms for External Devices**

---

The color-coded alarms on the right side of the screen display the number of major, minor, and warning alarms for the external devices.

## **External Device Hotspots**

---

The central portion of the External Devices View contains hotspots in the form of icons that represent external devices.

See Hotspots in Chapter 1 for an overview of hotspots.

## **Colored Borders**

Each icon is surrounded by a border that is highlighted with the color that represents the highest level of alarm. If the icon does not have a colored border, there is no alarm.

## **Icon Labels**

A label displays above each icon. This label identifies the external device by displaying the value in the ALT NAME field on the PBX.

If you requested a report with highlights, Fault Management highlights the labels for each device that it includes in the report.

## **External Device Messages**

---

The message area at the bottom of the screen displays the following types of messages:

<b>Message Type</b>	<b>Description</b>
Highlight Reason	If Fault Management highlights the label for an external device's icon, a message displays that explains the reason for the highlighting.
Cached Data Warning	A warning message only displays when the data that Fault Management displays is based on non-refreshed, cached data. The following situations can result in this warning: <ul style="list-style-type: none"><li>■ Fault Management cannot complete a refresh attempt.</li><li>■ The Refresh Proxy Agent On Startup field on the Setup screen is set to FALSE.</li></ul>

## **Individual External Devices**

---

The Individual External Devices screen displays the hardware configuration and the fault status for a specific external device.

The Individual External Devices screen has the following components:

- Menu Bar for Individual External Device

- Data Area for Individual External Device

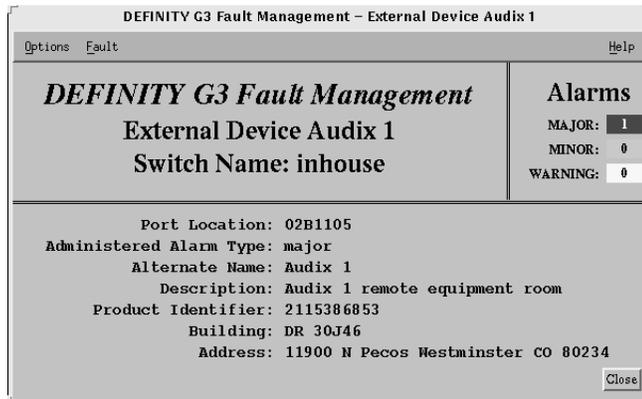
## How to Open Individual External Devices

To open the Individual External Devices screen:

1. Display the External Devices screen.
2. Click on an external device icon.

## Sample Individual External Devices Screen

The following figure shows an Individual External Device screen for a voice mail system:



**Figure 4-11. Individual External Device Screen**

**Menu Bar for Individual External Device**

---

Double click on the following icon for information about the menu commands for the Individual External Device screen:

**Table 4-23. Menu Commands**

<b>Menu</b>	<b>Command</b>	<b>Description</b>
Options	Close	Closes this view and any open child windows.
Fault	Display Alarms For External Device <name>	Displays all active alarms for the device.
	Display Errors For External Device <name>	Displays all active errors for the device.
Help		Displays a Help window.

**Data Area for Individual External Device**

---

The Individual External Devices screen has the following data areas:

- Screen heading
- Alarms
- Configuration data

Double click on an icon for more information:

**Table 4-24. Screen Heading**

<b>Data</b>	<b>Description</b>
Application Name	DEFINITY G3 Fault Management
External Device Name	The name of the external device.
Switch Name	The name of the PBX as it appears on the NMS when the PBX is administered as a node on the network.

**Table 4-25. Alarms**

---

The color-coded alarms on the right side of the screen display the number of major, minor, and warning alarms for the external device.

---

**Table 4-26. Configuration Data**

---

<b>Field</b>	<b>Description</b>
Port Location	The name of the port that connects the external device.
Administered Alarm Type	The type of alarm that the PBX generates for an active alarm. Valid values are: <ul style="list-style-type: none"><li>■ Major</li><li>■ Minor</li><li>■ Warning</li></ul>
Alternate Name	The abbreviated name for the external device.
Description	A brief description of the external device.
Product Identifier	The 10-digit product number for the external device.
Building	The building where the device is located.
Address	The address of the building where the device is located.

---

This chapter describes the Fault Manager feature that helps you locate and recognize faults within your DEFINITY G3 PBX. Topics include:

- Overview of Fault Manager
- When Fault Manager Receives Data
- How Fault Manager Displays Faults
- How to Print Reports
- How to Close Report Windows
- How to Get More Report Information
- Error Description Screen
- Bulletin Board

### **Overview of Fault Manager**

Fault manager uses a graphical format to indicate alarm conditions, including:

- Where an active (non-resolved) alarm is located on a PBX.
- The type of alarm: major, minor, or warning.  
The severity level of these alarm types are indicated by color, for easy identification.
- The number of alarms in each alarm type.  
For each alarm type, this alarm count is further divided into hardware-specific and non-hardware-specific categories.

## **When Fault Manager Receives Data**

---

Fault Manager receives PBX data from Fault Management during the following events:

- At start-up (when Fault Management is first invoked from the NMS)
- During the normal data refresh (refresh and polling intervals)
- At a user's request
- Upon receipt of a trap

### **⇒ NOTE:**

For information about how Fault Management retrieves data see The Startup Process in Chapter 2.

## **How Fault Manager Displays Faults**

---

Faults are active alarms and errors within a PBX. Fault manager uses the following methods of displaying these faults:

- Color Highlighting
- Alarms
- Alarms Reports
- Error Reports

### **Color Highlighting**

---

Fault manager highlights the affected hardware with the color of the highest severity fault.

For example, if a cabinet has four warnings and one minor alarm, the cabinet is highlighted with the color of the minor alarm.

### **⇒ NOTE:**

If your operating system allows you to change these color settings, you can do so from the Setup menu. See Table 3-2 for instructions.

### **Alarms**

---

The alarms display, shown in Figure 4-1, is located on the right side of any configuration window.

## Alarms Reports

---

Alarms reports display alarm data about faults on the PBX. They are specific to the hardware layer currently displayed on your screen and provide the following information for that layer:

- What faults exist
- Which hardware is affected

The Fault menu allows you to select a report that displays alarms for:

- All the alarms for the hardware layer that is currently displayed
- Only the alarms that are not specific to the hardware you are displaying

 **NOTE:**

These reports show alarm data that is current at the time you request the report. Fault Management does not update the data while the report window remains open. To ensure that the data is up to date, close and then re-open any open report window.

Double click on an icon for more information.

**Table 5-1. Types of Alarms Reports**

Screen	Fault Menu Command	Report Description
Switch View	All Alarms	All active alarms in the PBX
	Switch Level Alarms	All active alarms that are in the PBX but are not associated with any cabinet
Cabinet View	All Alarms for Cabinet #	All active alarms in the cabinet
	Cabinet Level Alarms for Cabinet #	All active alarms that are in the cabinet but are not associated with any circuit pack
Circuit Pack Information	All Alarms for Circuit Pack #	All active alarms on the circuit pack
	Circuit Pack Level Alarms for Circuit Pack #	All active alarms that are on the circuit pack but are not associated with a port

**Table 5-1. Types of Alarms Reports**

Screen	Fault Menu Command	Report Description
Port Information	All Alarms for Port #	All active alarms for the port
External Devices View	All External Device Alarms	All active alarms for all external devices that are connected to the PBX
Individual External Device	Display Alarms For External Device <name>	All active alarms for the external device specified.

The screenshot shows a window titled "DEFINITY G3 Fault Management - All Alarms". Inside the window, there is a sub-header "DEFINITY G3 Fault Management All Alarms" with a "Close" button. Below this, it says "Switch Name: inhouse" and "59 Alarms Found". A table lists the following data:

Port	Maintenance Name	On Board?	Alt Name	Alarm Type	Svc State	Ack?	Date Alarmed
0000000	SYNC	n		WARNING			09/27/16:29
0000000	SYNC	n		WARNING			09/27/16:29
0000000	SYNC	n		WARNING			10/07/08:10
01c0505	DIG-LINE	n	81606	WARNING	RDY		09/27/16:30
01c0703	DIG-LINE	n	20021	WARNING	RDY		09/27/16:28
01c0802	PDMODULE	n	87987	WARNING	RDY		10/16/13:30
01c0802	PDMODULE	n	87987	WARNING	RDY		10/16/13:30
01c0803	PDMODULE	n	87989	WARNING	RDY		10/16/13:30
01c0803	PDMODULE	n	87989	WARNING	RDY		10/16/13:30
01c1206	DAT-LINE	n	20006	WARNING	OUT		10/05/15:24
01c19	UDS1-BD	n		WARNING			09/27/16:33
02A0308	DIG-LINE	n	81434	WARNING	IN		10/14/06:15
02A0308	DIG-LINE	n	81434	WARNING	IN		10/14/06:15
02A0503	DIG-LINE	n	85067	WARNING	RDY		09/27/16:29
02A1102	DIG-LINE	n	84244	WARNING	RDY		09/27/16:42
02A1206	DIG-LINE	n	85865	WARNING	RDY		09/27/16:44
02A1307	DIG-LINE	n	81612	WARNING	RDY		10/05/13:18
02A1307	DIG-LINE	n	81612	WARNING	RDY		10/05/13:18
02A1308	PDMODULE	n	55793	WARNING	RDY		09/27/16:27
02A1503	ABRI-POR	n		WARNING	IN		09/27/16:33
02A1503	ASAI-ADJ	n	84498	WARNING	IN		09/27/16:32
02A1505	BRI-PORT	n		WARNING	IN		09/27/16:34
02A1505	BRI-SET	n	84710	WARNING	IN		09/27/16:42
02A1510	BRI-PORT	n		WARNING	IN		09/27/16:33
02A1510	BRI-SET	n	85094	WARNING	IN		09/27/16:41
02A1704	DIG-LINE	n	84533	WARNING	RDY		10/13/07:48

**Figure 5-1. Alarms Report for All Alarms at the Switch View**

**Table 5-2. Field Descriptions for Alarms Reports**

<b>Field</b>	<b>Description</b>
# Alarms Found	The number of active alarms
Port	<p>The alphanumeric ID (location) of the alarmed object.</p> <p>Zeros in this field indicate the alarmed object is not connected to a port (for example, a system printer.)</p> <p>Data for this report is sorted by port ID number.</p>
Maintenance Name	The logical name of the maintenance alarmed object
On Board?	<p>The location of the detected fault.</p> <ul style="list-style-type: none"> <li>■ y = The fault is on the associated circuit pack</li> <li>■ n = The fault is not associated with this circuit pack, but with on an off-board element that is connected to the circuit pack</li> </ul>
Alt Name	<p>Another way to identify the maintenance object.</p> <ul style="list-style-type: none"> <li>■ If the object is a station, this field contains the extension number.</li> <li>■ If the object is a trunk, this field contains xxx/yyy, where: <ul style="list-style-type: none"> <li>— xxx = the trunk group number</li> <li>— yyy = the member number</li> </ul> </li> <li>■ If the object is a private CO line, this field contains P/nnn, where: <ul style="list-style-type: none"> <li>— P = private</li> <li>— nnn = the line group number</li> </ul> </li> </ul>
Alarm Type	<p>The severity of the fault, as follows:</p> <ul style="list-style-type: none"> <li>■ MAJOR</li> <li>■ MINOR</li> <li>■ WARNING</li> </ul>

**Table 5-2. Field Descriptions for Alarms Reports**

<b>Field</b>	<b>Description</b>
Svc State	The current service state of the station and trunk port: <ul style="list-style-type: none"><li>■ RDY = ready for service</li><li>■ OUT = out of service</li><li>■ IN = in service</li><li>■ Blank = there is no service state associated with the port</li></ul>
Ack?	Indicates whether INADS has acknowledged the alarm. <ul style="list-style-type: none"><li>■ y = yes</li><li>■ n = no</li><li>■ Blank = the alarm has not and will not be reported to INADS</li></ul>
Date Alarmed	The month, day, hour, and minute the alarm condition occurred

You can click on the fields in an alarm report to display screens with more information about the alarm. See *How to Get More Report Information*.

### **Custom Reports**

You can create customized alarm reports on the Report Builder Screen.

### **Error Reports**

---

Error reports display error data about faults on the PBX. They are specific to the hardware layer currently displayed on your screen and provide the following information for that layer:

- What faults exist
- Which ports are affected

The Fault menu allows you to select a report that displays errors for:

- All the errors for the hardware layer that is currently displayed
- Only the errors that are not specific to the hardware you are displaying

**⇒ NOTE:**

These reports show error data that is current at the time you request the report. Fault Management does not update the data while the report window remains open. To ensure that the data is up to date, close and then re-open any open report window.

Error reports display the same information that is displayed when you execute the DEFINITY G3 command, "display errors," with the following exception:

*Exception:* The report does not include seconds in the First Occur field, since that is not normally displayed and requires user specification in the "display errors" command.

Double click on an icon for more information.

**Table 5-3. Types of Error Reports**

Screen	Fault Menu Command	Report Description
Switch View	All Errors	All errors in the PBX
	Switch Level Errors	All errors that are in the PBX but are not associated with any cabinet
Cabinet View	All Errors for Cabinet #	All errors in the cabinet
	Cabinet Level Errors for Cabinet #	All active alarms that are in the cabinet but are not associated with any circuit pack
Circuit Pack Information	All Errors for Circuit Pack #	All errors on the circuit pack
	Circuit Pack Level Errors for Circuit Pack #	All errors that are on the circuit pack but are not associated with a port
Port Information	All Errors for Port #	All errors for the port
External Devices View	All External Device Errors	All errors for all external devices
Individual External Device	Display Errors For External Device <name>	All errors for the external device specified

The screenshot shows a window titled "DEFINITY G3 Fault Management - All Errors". Inside, there is a sub-window titled "DEFINITY G3 Fault Management All Errors Switch Name: inhouse 17 Errors Found". Below the title is a table with the following columns: Port, Mtce Name, Alt Name, Err Type, Aux Data, First Occur, Last Occur, Err Cnt, Err Rt, Rt/ Hr, Alarm Status, and Ac. The table contains 17 rows of error data.

Port	Mtce Name	Alt Name	Err Type	Aux Data	First Occur	Last Occur	Err Cnt	Err Rt	Rt/ Hr	Alarm Status	Ac
01C0202	DIG-LINE	84667	513	0	09/26/16:22	09/26/16:23	3	180	0	a	n
01C0301	DIG-LINE	86098	513	0	09/26/16:22	09/26/16:23	3	180	0	a	n
01C0305	DIG-LINE	86099	513	0	09/26/16:22	09/26/16:23	3	180	0	a	n
01C1401	BRI-PORT		1		09/26/16:24	10/27/09:58	255	0	1	a	n
01C1401	BRI-SET	20009	3329		09/26/16:23	09/26/16:33	4	24	0	a	n
01C1502	ANL-16-L	88697	513		09/28/00:38	10/27/09:51	255	0	2	a	y
01C1503	ANL-16-L	87979	513		09/27/00:47	10/27/09:55	255	0	4	a	y
01C1504	ANL-16-L	88636	513		10/04/13:12	10/27/09:53	255	0	3	a	y
01C1505	ANL-16-L	88694	513		10/07/00:40	10/27/09:57	255	0	1	a	y
01C1916	SYS-LINK	PRI	13		10/26/14:14	10/27/09:52	76	3	1	a	y
01D1003	PDMODULE	29011	1	40987	10/27/09:04	10/27/09:28	17	42	6	a	n
01D1003	PDMODULE	29011	1537	40968	10/27/09:05	10/27/09:25	50	150	20	a	n
01D1003	PDMODULE	29011	513	0	10/27/09:05	10/27/09:25	17	51	6	a	n
01D1101	BRI-SET	51344	3329		09/26/16:22	09/26/16:32	4	24	0	a	n
2	ISDN-SGR		1793		10/26/14:14	10/27/09:53	255	12	19	a	y
2	ISDN-SGR		257		10/26/14:16	10/27/08:56	77	4	0	a	y
2	ISDN-SGR		769		10/26/14:17	10/27/08:55	255	13	11	a	y

Figure 5-2. Error Report for All Errors for a Cabinet

Table 5-4. Field Descriptions for Error Reports

Field	Description
Errors Found	The number of errors related to active alarms at that level
Port	The alphanumeric ID (location) of the alarmed object. Zeros in this field indicate the alarmed object is not connected to a port (for example, a system printer.)
Mtce Name	Maintenance Name. The logical name of the maintenance object.

**Table 5-4. Field Descriptions for Error Reports**

<b>Field</b>	<b>Description</b>
Alt Name	<p>Another way to identify the maintenance object.</p> <ul style="list-style-type: none"> <li>■ If the object is a station, this field contains the extension number.</li> <li>■ If the object is a trunk, this field contains xxx/yyy, where: <ul style="list-style-type: none"> <li>— xxx = the trunk group number</li> <li>— yyy = the member number</li> </ul> </li> <li>■ If the object is a private co line, this field contains P/nnn, where: <ul style="list-style-type: none"> <li>— P = private</li> <li>— nnn = the line group number</li> </ul> </li> </ul>
Err Type	<p>Error Type. The code identifying the type of problem.</p> <p>Only the error number displays because the error code is generally specific to the individual maintenance object and the total number of error codes may be extensive.</p>
Aux Data	<p>Auxiliary Data. Additional information concerning the error condition of the maintenance object.</p> <p>As with the error type, this data is specific to the maintenance object type. However, unlike the error type, only the most recent value of the auxiliary data is retained for each error type in the log.</p>
First occur	<p>First occurred. The month, day, hour, and minute that the error was first recorded.</p>
Last occur	<p>Last occurred. The month, day, hour, and minute that the most recent error was recorded.</p> <p>If the system cannot retrieve the time of day the error occurred, a dummy date in the format 00/00/00:00, displays to distinguish it from reliable data.</p>
Err Cnt	<p>Error Count. The total number of times that the error type has occurred for this maintenance object.</p> <p>255 is the maximum number allowable. If 255 displays in this field the actual error count may be higher.</p>
Err Rt	<p>Error Rate. The average rate at which the errors have occurred from the first occurrence to the present.</p> <p>255 is the maximum number allowable. If 255 displays in this field the actual error count may be higher.</p>

**Table 5-4. Field Descriptions for Error Reports**

<b>Field</b>	<b>Description</b>
Rt/Hr	Rate per Hour. An approximate rate that this error occurred in the last hour.  255 is the maximum number allowable. If 255 displays in this field the actual error count may be higher.
Alarm Status	The status of the maintenance object in the error and alarm reports.  This field indicates: <ul style="list-style-type: none"><li>■ Whether the error causes an alarm</li><li>■ What kind of alarm it causes</li></ul> a = an active alarm
Ac	Active. Indicates whether the maintenance subsystem considers this error to be active and indicative of a problem. <ul style="list-style-type: none"><li>■ n = no</li><li>■ y = yes</li></ul>

You can click on the fields in an error report to display screens with more information about the error. See *How to Get More Report Information*.

## Custom Reports

You can create customized error reports on the Report Builder Screen.

## How to open Report Windows

---

To open a report window:

1. Open the window for the hardware you want to examine.
2. Select **Fault** from the menu bar.
3. Select the report you want to display.

Result: A window for the report you selected opens.

### NOTE:

For a description of your report choices, see the *Types of Alarms Reports* and the *Types of Error Reports* tables earlier in this chapter. You can also create ad hoc reports from the Report Builder screen.

## How to Print Reports

To print an alarms or error report, see How to Display Reports.

## How to Close Report Windows

To close the report window, click on **Close**.

## How to Get More Report Information

Use the following table to get more information about a report entry that is listed in a report window:

Open this report ...	And click on this field ...	To display these screens ...	Comment
Alarms or Errors	Port	<ul style="list-style-type: none"> <li>■ Cabinet View</li> <li>■ Circuit Pack Information</li> <li>■ Port Information</li> </ul>	<p>Only the screens with information related to the port display. For example, if the port field is:</p> <ul style="list-style-type: none"> <li>■ 0000000, then the object is not connected to a port and the Switch View displays</li> <li>■ 01, then the Cabinet View displays</li> <li>■ 01c19, then the Cabinet View and Circuit Pack Information screen display. (there is no port data)</li> <li>■ 01c1903, then the Cabinet View, Circuit Pack Information, and Port Information screens display</li> </ul>
Errors	Any field <i>except</i> Port	Error Description	You must be in an error report

## Error Description Screen

The Error Description screen provides you with an English description of an error listed in an error report.

The Error Description Screen has the following components:

- Menu Bar for Error Descriptions
- Screen Heading for Error Descriptions
- Error Description Panel
- Notes Panel

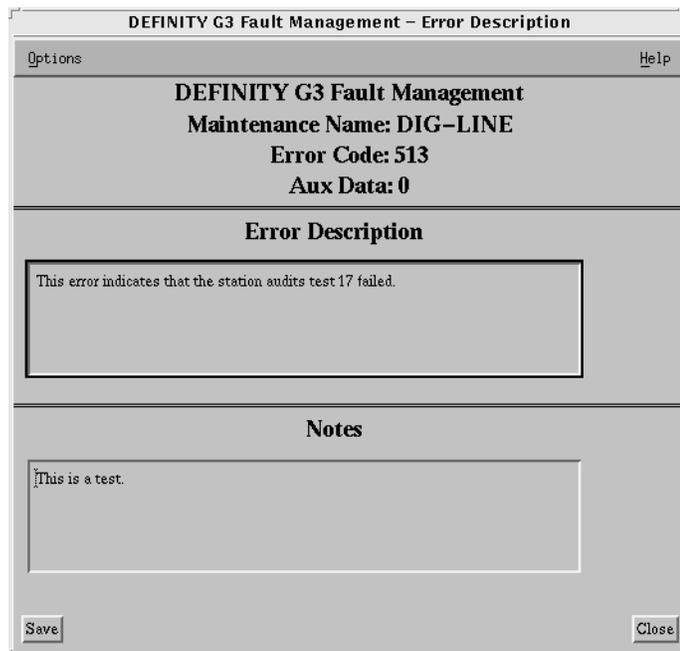
### **How to Open Error Descriptions**

To open the Error Description screen:

1. Display an error report window.
2. Click on the value in any field *except* Port.

### **Sample Error Description Screen**

The following figure shows the Error Description screen:



**Figure 5-3. Error Description Screen**

## **Menu Bar for Error Descriptions**

---

Double click on the following icon for information about the menu commands for the Error Description screen:

**Table 5-5. Menu Commands**

<b>Menu</b>	<b>Command</b>	<b>Description</b>
Options	Save	Saves your entry for the Notes panel.
	Close	Closes the Error Description screen.
Help		Displays a Help window.

---

## **Screen Heading for Error Descriptions**

---

Immediately below the menu bar, the Error Description screen displays general information about the error. Double click on the icon for more information:

**Table 5-6. Screen Heading**

<b>Data</b>	<b>Description</b>
Application Name	DEFINITY G3 Fault Management
Maintenance Name	The name of the maintenance object that contains the error
Error Code	The code for that identifies the error
Aux Data	Any auxiliary data about the error condition

---

## **Error Description Panel**

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The Error Description panel contains a brief description of the error from the database.

## **Notes Panel**

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The Notes panel provides a place for you to enter your comments about the error.

## **How to Enter a Note**

Use the following guidelines to enter a new note or edit an existing note.

- You can enter up to 5 lines of text and 255 characters.

- The Notes panel accepts all characters *except* the pipe (|).
- Click on **Save** to save your note.
- If you edit your note, be sure to click on **Save** to save your changes.

### **How to Delete a Note**

To delete a note:

1. Highlight the note and then backspace.
2. Click on **Save**.

## **Bulletin Board**

---

The PBX bulletin board allows users to post messages for other users. Technicians often use it to update network managers about their progress when fixing problems on the PBX.

Fault Management provides a screen that allows you to view the contents of the bulletin board.

### **How to Open the Bulletin Board**

---

To open the bulletin board:

1. Display the Switch View.
2. Select **Fault → Display Bulletin Board**.

### **Sample Bulletin Board**

---

The following figure shows the bulletin board:

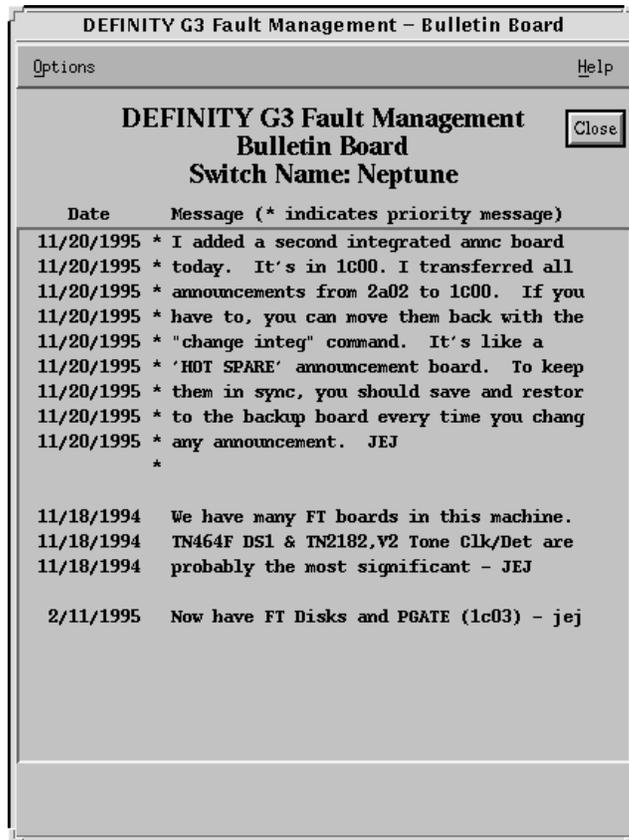


Figure 5-4. Bulletin Board

### Menu Bar for the Bulletin Board

---

Double click on the following icon for information about the menu commands for the bulletin board:

Table 5-7. Menu Commands

Menu	Command	Description
Options	Save Report	Opens a window so you can save the data to a file.
	Close	Closes the bulletin board.
Help		Displays a Help window.

### **Data Area for the Bulletin Board**

The bulletin board has the following data areas:

- Screen heading
- Bulletin board message
- Message area

Double click on an icon for more information:

**Table 5-8. Screen Heading**

<b>Data</b>	<b>Description</b>
Application Name	DEFINITY G3 Fault Management
Report Name	Bulletin Board
Switch Name	The name of the PBX as it appears on the NMS when the PBX is administered as a node on the network. This information is passed from the NMS.

**Table 5-9. Field Descriptions for Bulletin Board Messages**

<b>Field</b>	<b>Description</b>
Date	The date of the message
*	Indicates a high-priority message
Message	The message

**Table 5-10. Message Area**

The message area at the bottom of the screen can display the following message:

<b>Message</b>	<b>Description</b>
Cached Data Warning	<p>A warning message only displays when the data that Fault Management displays is based on non-refreshed, cached data. The following situations can result in this warning:</p> <ul style="list-style-type: none"> <li>■ Fault Management cannot complete a refresh attempt.</li> <li>■ The Refresh Proxy Agent On Startup field on the Setup screen is set to FALSE.</li> </ul>

---

### **How to Refresh this Screen**

Fault Management automatically refreshes bulletin board information upon startup if the Refresh Proxy Agent on Startup field on the Setup screen is set to TRUE.

You can also refresh the bulletin board anytime during a Fault Management session as follows.

1. Display the Switch View.
2. Select **Fault → Refresh Bulletin Board**.

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# The Configuration Manager

# 6

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This chapter describes the configuration manager for Fault Management. Topics include:

- Overview of Configuration Manager
- Hardware/Software Information Report
- Circuit Pack Inventory Report
- Circuit Pack Reports
- DS1 Circuit Pack Reports
- How to Open Configuration Reports
- How to Print Configuration Reports
- How to Close Configuration Reports
- Cabinet Displays
- How to Refresh Configuration Data

## **Overview of Configuration Manager**

The configuration manager provides configuration data for the PBX and the cabinet hardware layers. This data is available in the following formats:

- Online reports that you can save to an ASCII file
- A graphical display of circuit pack information

You select these formats from the Configuration menu on either the Switch View or the Cabinet View. From the Cabinet View, a variety of highlighting options allow you to graphically display the circuit packs that meet specific selection criteria.

## **Types of Configuration Data**

---

The configuration manager provides the following data:

<b>Screen</b>	<b>Type of Data</b>
Switch View	Online configuration reports for: <ul style="list-style-type: none"><li>■ Hardware/Software Information</li><li>■ Circuit Pack Inventory</li><li>■ All Circuit Packs</li><li>■ Exception Circuit Packs</li><li>■ DS1 Circuit Packs</li></ul>
Cabinet View	Graphical displays of the circuit packs that match your selection criteria.  The configuration manager uses a filtering mechanism to highlight circuit packs, depending on your selection from the Configuration menu.

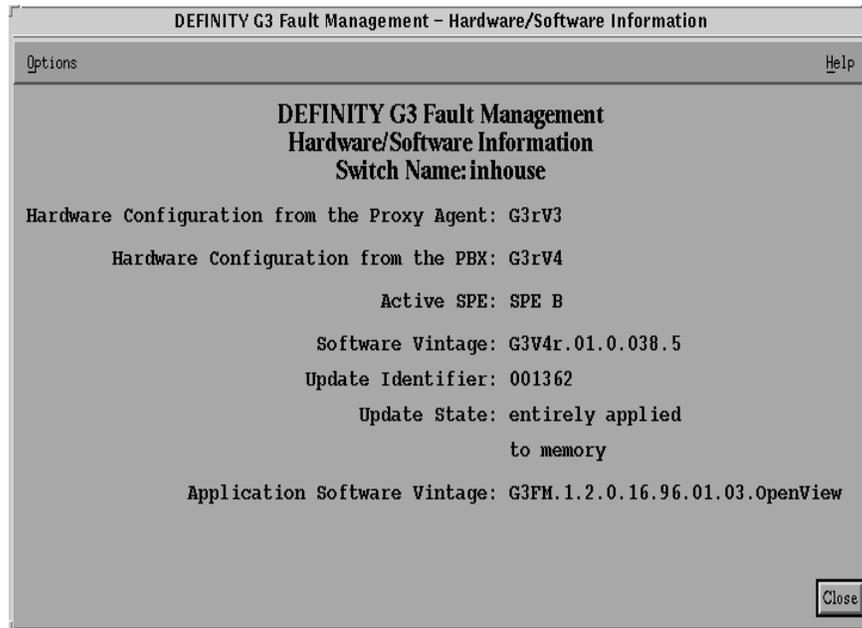
## **Hardware/Software Information Report**

---

The hardware and software configuration data includes the following information:

- The PBX's
  - Hardware type
  - Active switch processor element (SPE)
  - Software vintage
  - Update identifier
  - Update state
- The version of the current Fault Management software

Double click on an icon for more information about the Hardware/Software Information report.



**Figure 6-1. Hardware/Software Information Report**

**Table 6-1. Menu Commands**

Menu	Command	Description
Options	Save Report	Opens a window so you can save the data to a file.
	Close	Closes the report window.
Help		Displays a Help window.

**Table 6-2. Report Heading**

Data	Description
Application Name	DEFINITY G3 Fault Management
Report Title	Hardware/Software Information
Switch Name	The name of the PBX as it appears on the NMS when the PBX is administered as a node on the network.

**Table 6-3. Field Descriptions for the Hardware/Software Information Report**

<b>Field</b>	<b>Description</b>
Hardware Configuration from the Proxy Agent	The PBX's hardware configuration, taken from the Proxy Agent.  This value and the Hardware Configuration field value should be the same.
Hardware Configuration from the PBX	The PBX's hardware configuration, taken from the PBX.  <b>⇒ NOTE:</b> An error message displays if the switch type in this field does not match the one in the previous field. This message indicates that the PBX is administered as a different configuration than the hardware really is.  Fault Management's configuration validation is concerned with any difference in the r, i, s, or vs (as in "G3rV3" or "G3vsV3").
Active SPE	The name of the switch processor element (SPE) that is currently active.
Software Vintage	The release of PBX software running on the active SPE.  If the value in this field is "not available," either there is no backup processor or the backup processor is not operational.
Update Identifier	The ID for the update patch.
Update State	The state of the update, as reported by the PBX.
Application Software Vintage	The current version of the Fault Management software

## **Circuit Pack Inventory Report**

The Circuit Pack Inventory report displays information about the circuit packs currently on the PBX. The data is sorted in the following sequence:

1. Code
2. Suffix

3. Vintage

Double click on an icon for more information.

Count	Code	Suffix	Vintage	Type of Circuit Pack
4	RESER		audix	RESERVED-AUDIX-8D
1	TN464	C	000003	DS1 INTERFACE
1	TN464	E	000005	DS1 INTERFACE
1	TN464	F	000004	DS1 INTERFACE
1	TN553		000002	PDATA LINE
1	TN556		000009	BRI LINE
1	TN556	B	000003	BRI LINE
1	TN566		000001	MULTI-FUNCTION
1	TN577		000007	PGATE BOARD
1	TN726	B	000002	DATA LINE
1	TN746	B	000006	ANALOG LINE
1	TN748	D	000002	TONE DETECTOR
20	TN754	B	000003	DIGITAL LINE
2	TN758		000003	POOLED MODEM
2	TN768		000008	TONE/CLOCK
1	TN771	D	000004	MAINTENANCE/TEST
2	TN1648		000005	SYS ACCESS-MAINT
2	TN1650	B	000001	MEMORY 1
2	TN1650	B	000003	MEMORY 1
2	TN1655		000004	PACKET INTERFACE 1
2	TN1656		000002	TAPE DRIVE
2	TN1657		000005	DISK DRIVE
1	TN2181		000003	DIGITAL LINE

Figure 6-2. Circuit Pack Inventory Report

Table 6-4. Menu Commands

Menu	Command	Description
Options	Save Report	Opens a window so you can save the data to a file.
	Close	Closes the report window.
Help		Displays a Help window.

**Table 6-5. Report Heading**

<b>Data</b>	<b>Description</b>
# Circuit Packs of # Types	The total number of circuit packs and the total number of types of circuit packs
Application Name	DEFINITY G3 Fault Management
Report Title	Circuit Pack Inventory
Switch Name	The name of the PBX as it appears on the NMS when the PBX is administered as a node on the network.

**Table 6-6. Fields on the Circuit Pack Inventory Report**

<b>Field</b>	<b>Description</b>
Count	How many of that type of circuit pack are on the PBX
Code	The ID code for each circuit pack on the PBX
Suffix	The suffix for the circuit pack
Vintage	The vintage or release of the circuit pack
Type of Circuit Pack	The type of circuit pack

## **How to Save Inventory Reports**

To save an alarms or error report to a file:

1. Select **Options** → **Save Report**.  
Result: Fault Management prompts you for a file name.
2. Enter the name of the file, including the path where you want the file saved. If you do not enter a path, the system saves the file in the directory you were in when you started the NMS.
3. Click on **Save**.

## Circuit Pack Reports

Circuit pack reports display the circuit packs that are administered by the PBX or that are physically present in the PBX.

This report ...	Contains data for ...
All Circuit Packs	All circuit packs on the PBX
Exception Circuit Packs	Circuit pack mismatches and the no-board condition (circuit packs that are missing)

You can also create custom reports on the Report Builder screen.

Double click on the following icons for more information about circuit pack reports:

Location	Code	Suffix	Vintage	Type of Circuit Pack	P O R T S			
					Assigned	Unassigned	TTI	Total
01A DISK	TN1657		000005	DISK DRIVE	0	0	0	0
01A DUPIN	UN330	B	000002	DUPLICATION INTRFC	0	0	0	0
01A MEM 1	TN1650	B	000003	MEMORY 1	0	0	0	0
01A MEM 2	TN1650	B	000003	MEMORY 2	0	0	0	0
01A MSSNE	UN332		000009	MSS/NETWORK CONT	0	0	0	0
01A PKTIN	TN1655		000004	PACKET INTERFACE 1	0	0	0	0
01A PROCR	UN331	B	000005	PROCESSOR	0	0	0	0
01A SYSAM	TN1648		000005	SYS ACCESS-MAINT	0	0	0	0
01A TAPE	TN1656		000002	TAPE DRIVE	0	0	0	0
01A TONCL	TN768		000008	TONE/CLOCK	0	0	0	0
01B DISK	TN1657		000005	DISK DRIVE	0	0	0	0
01B DUPIN	UN330	B	000002	DUPLICATION INTRFC	0	0	0	0
01B MEM 1	TN1650	B	000001	MEMORY 1	0	0	0	0
01B MEM 2	TN1650	B	000001	MEMORY 2	0	0	0	0
01B MSSNE	UN332		000009	MSS/NETWORK CONT	0	0	0	0
01B PKTIN	TN1655		000004	PACKET INTERFACE 1	0	0	0	0
01B PROCR	UN331	B	000006	PROCESSOR	0	0	0	0
01B SYSAM	TN1648		000005	SYS ACCESS-MAINT	0	0	0	0
01B TAPE	TN1656		000002	TAPE DRIVE	0	0	0	0
01B TONCL	TN768		000008	TONE/CLOCK	0	0	0	0
01C00	TN748	D	000002	TONE DETECTOR	6	0	0	6
01C01	TN771	D	000004	MAINTENANCE/TEST	3	1	0	4
01C02	TN754	B	000003	DIGITAL LINE	8	0	0	8
01C03	TN754	B	000003	DIGITAL LINE	8	0	0	8
01C04	TN754	B	000003	DIGITAL LINE	7	1	0	8
01C05	TN754	B	000003	DIGITAL LINE	7	1	0	8

Figure 6-3. Circuit Pack Report

**Table 6-7. Menu Commands**

<b>Menu</b>	<b>Command</b>	<b>Description</b>
Options	Output Options	Opens the Output Options screen.
	Close	Closes the report window.
Help		Displays a Help window.

**Table 6-8. Screen Heading for Circuit Pack Reports**

<b>Field</b>	<b>Description</b>
Application Name	DEFINITY G3 Fault Management
Report Title	The name of the report, depending on your menu selection: <ul style="list-style-type: none"><li>■ All Circuit Packs</li><li>■ Exception Circuit Packs</li></ul>
Switch Name	The name of the PBX as it appears on the NMS when the PBX is administered as a node on the network.
# Circuit Packs Found	The number of circuit packs that match the criteria.

**Table 6-9. Field Descriptions for Circuit Pack Reports**

<b>Field</b>	<b>Description</b>
Location	The circuit pack's cabinet, carrier, and slot. Click on this field to display more information.
Code	The product code for the circuit pack.
Suffix	The suffix of the circuit pack.
Vintage	One of the following: <ul style="list-style-type: none"><li>■ The vintage of the circuit pack.</li><li>■ The highlighted word CONFLICT; if there is a mismatch between the circuit pack's administration and type.</li></ul>
Type of Circuit Pack	The external name of the circuit pack.
PORTS	A heading that groups the following port fields.
Assigned	The number of assigned ports on the circuit pack.
Unassigned	The number of unassigned ports on the circuit pack.
TTI	The number of TTI (Terminal Translation Initialization) ports on the circuit pack. TTI ports are initialized from the terminal instead of the administration screen.
Total	The total number of ports on the circuit pack.

You can click on the fields in an alarm report to display screens with more information about the alarm. See *How to Get More Report Information*.

## **DS1 Circuit Pack Reports**

---

DS1 circuit pack reports display all DS1 circuit packs that are administered by the PBX or that are physically present in the PBX.

You can also create custom reports on the Report Builder screen.

Double click on the following icons for more information about DS1 circuit pack reports:

Location	Code	Suffix	Vintage	Signaling	Name	ICSU Module
01c19	TN464	F	000004	isdn-pri	forum pcm	none
01c20	TN464	C	000003	isdn-pri	neptune 5a19	n/a
01d20	TN464	E	000005	isdn-pri	neptune 3d20	unknown

**Figure 6-4. DS1 Circuit Pack Report**

**Table 6-10. Screen Heading for DS1 Circuit Pack Reports**

Field	Description
Application Name	DEFINITY G3 Fault Management
Report Title	DS1 Circuit Packs
Switch Name	The name of the PBX as it appears on the NMS when the PBX is administered as a node on the network.
# DS1 Circuit Packs Found	The number of DS1 circuit packs that match the criteria.

**Table 6-11. Field Descriptions for DS1 Circuit Pack Reports**

<b>Field</b>	<b>Description</b>
Location	The circuit pack's cabinet, carrier, and slot. Click on this field to display more information.
Code	The product code for the circuit pack.
Suffix	The suffix of the circuit pack.
Vintage	One of the following: <ul style="list-style-type: none"> <li>■ The vintage of the circuit pack.</li> <li>■ The highlighted word CONFLICT; if there is a mismatch between the circuit pack's administration and type.</li> </ul>
Signaling	The type of signaling administered.
Name	The name assigned to the DS1 circuit pack as it was administered on the PBX.
ICSU Module	Identifies the ICSU (Integrated Call Service Unit) module that is attached to the circuit pack.

You can click on the fields in an alarm report to display screens with more information about the alarm. See How to Get More Report Information.

## How to Open Configuration Reports

To open configuration reports:

<b>From this screen ...</b>	<b>Select this ...</b>
Switch View	The appropriate configuration command
Cabinet View	<b>Highlight Circuit Packs With</b> → the appropriate highlight command

Result: A window displays with the report you selected.

## How to Print Configuration Reports

To print a configuration report, see How to Display Reports.

## **How to Close Configuration Reports**

---

To close a report, click on **Close**.

## **Cabinet Displays**

---

The configuration manager displays a graphic depiction of the circuit packs within the cabinet.

When you select a filter from the Configuration menu, Fault Management highlights the circuit packs that meet the filter criteria.

You can:

- Identify how the circuit packs are configured
- Clear filter highlighting

## **Circuit Pack Filters**

---

Fault Management offers several predefined configuration filters. When you select the filter type, the system:

- Highlights those circuit packs that meet the filter criteria
- Displays a circuit pack report

This feature is available only at the cabinet level, where you can see the graphic depiction of the circuit packs within the cabinet.

The predefined circuit pack filters are:

- Unassigned Ports
- No Assigned Ports
- No Available Ports
- TTI Ports
- Type Mismatch
- Control Circuit Packs
- Major Alarms
- Minor Alarms
- Warning Alarms

For a description of these filters, see Table 4-7.

The following figure shows a cabinet that highlights circuit packs with Unassigned Ports. In the lower right portion of this window, a message identifies

the filter being used. This message is enclosed in a box colored the same as the highlighted circuit packs.

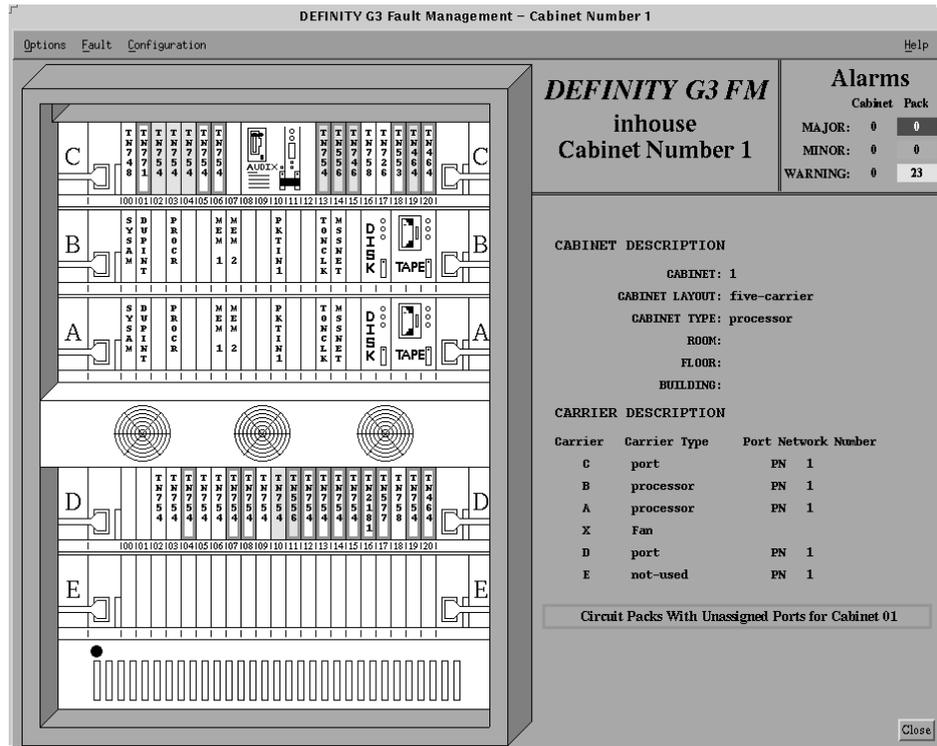


Figure 6-5. Highlighting on the Cabinet Display

### How to Identify Circuit Pack Configurations

Use the configuration filter to identify specific types of circuit packs, as follows:

1. Open the Cabinet View.
2. Select **Configuration** → **Highlight Circuit Packs With**  
Result: A submenu opens.
3. Select the type of circuit pack you want to highlight.

Result: The configuration menu highlights the circuit packs that meet the criteria you selected.

## **How to Clear Filter Highlighting**

The system leaves the filter in place until you close the window or until you manually clear the highlighting.

To clear the filter highlighting select **Configuration** → **Clear Highlighting**.

## **How to Refresh Configuration Data**

If you specified a refresh time on the Setup screen, the system automatically refreshes the configuration data when the refresh timer expires.

However, you can refresh the data manually when you:

- Want to refresh the data before the next automatic refresh
- Have disabled the automatic refresh

To refresh the configuration data:

1. Open the Switch View.
2. Select **Configuration** → **Refresh Configuration Data**.

Result: The configuration data refreshes.

## **Scheduled Refresh**

Before a scheduled refresh of circuit pack data, Fault Management prompts you for permission to start the refresh. Fault Management responds to your response as follows:

- If you click OK, or if you do not respond to the prompt within 20 seconds, Fault Management closes all open windows except the Switch View and updates the circuit pack data.
- If you click NO, Fault Management aborts the data refresh.

### **NOTE:**

For a configuration refresh, Fault Management closes any open Cabinet View and External Devices screen and their child windows.

This chapter describes the Report Builder feature. Topics include:

- Overview for Report Builder
- Report Builder Screen
- Overview for Creating Reports
- How to Name the Report
- How to Select the Table to Search
- How to Enter Search Criteria
- How to Format the Report
- How to Sort Report Data
- How to Save Report Specifications
- How to Run the Report

## **Overview for Report Builder**

Fault Management provides a variety of standard reports through the menu bar on many screens. Opening these reports is quick and convenient. However, if you need data that is specific to a particular business issue, you can use Report Builder to create ad hoc reports.

You can use Report Builder to:

- Specify up to three search criteria
- Save the report parameters for future use
- Output from the searched table or from another table

- Select up to three sorting keys
- Sort the report in ascending or descending order for each sorting key
- Send the report to the hard drive, the screen, or a printer
- Highlight objects on views

## **Types of Tables**

---

You can query the following Fault Management tables:

- Alarms
- Circuit Packs
- DS1 Circuit Packs
- Errors

## **Search Criteria**

---

You search the Fault Management tables for specific data by entering search criteria into the Report Builder screen.

A few examples of these search criteria are:

- All alarms that are more than one day old
- Only the on-board alarms
- All ports that had any errors on a particular day
- The location of all DS1 boards on the PBX

## **Report Format**

---

Reports that you create on the Report Builder screen have the same format as the standard reports.

<b>To see this information ...</b>		<b>Click here ...</b>
Sample report	Alarms	Figure 5-1
	Circuit Packs	Figure 6-3
	DS1 Circuit Packs	Figure 6-4
	Errors	Figure 5-2
Field descriptions	Alarms	Table 5-2
	Circuit Packs	Table 6-9
	DS1 Circuit Packs	Table 6-11
	Errors	Table 5-4

 **NOTE:**

These reports show data that is current at the time you request the report. Fault Management does not update the data while the report window remains open. To ensure that the data is up to date, close and then re-open any open report window.

## **Report Builder Screen**

---

The Report Builder screen allows you to create ad-hoc reports.

This section provides the following topics about the Report Builder screen:

- How to Open Report Builder
- Sample Report Builder Screen
- Menu Bar for Report Builder
- Data Area for Report Builder
- Button Line

### **How to Open Report Builder**

---

To open the Report Builder screen:

1. Display any of the following screens:
  - a. Switch View
  - b. Cabinet View
  - c. External Devices View
2. Select **Options** → **Report Builder** from the menu bar.

### **Sample Report Builder Screen**

---

The following figure shows the Report Builder screen:

**DEFINITY G3 Fault Management – Report Builder**

Options Help

**DEFINITY G3 Fault Management  
Report Builder  
Switch Name: inhouse**

Report Name:

Table to Search:

#	Field Name	Comparison	Value	To Value	Partial Match?
1	<input type="text"/>	<input type="text" value="Equal"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
2	<input type="text"/>	<input type="text" value="Equal"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
3	<input type="text"/>	<input type="text" value="Equal"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>

Table to Output:

Sort Output First By:   Ascending  Descending

Then By:   Ascending  Descending

Then By:   Ascending  Descending

**Figure 7-1. Report Builder Screen**

## **Menu Bar for Report Builder**

---

Double click on the icon for a description of the menu bar for the Report Builder screen:

**Table 7-1. Menu Commands**

<b>Menu</b>	<b>Command</b>	<b>Description</b>
Options	Run Report	Produces the report based on the entries you make in the fields.
	Save Report Specs	Saves the report specifications to your hard drive.
	Delete	Deletes the report specifications for the report that is displayed in the Report Name field.
	Output Options	Opens the Output Options screen so you can select your output parameters.
	Close	Closes the Report Builder screen and any open child windows.
Help		Displays a Help window.

## **Data Area for Report Builder**

---

The Report Builder screen contains the following data areas:

- Screen heading
- Field entry

Double click on an icon for a description of these areas:

**Table 7-2. Screen Heading**

<b>Field</b>	<b>Description</b>
Application Name	DEFINITY G3 Fault Management
Screen Title	Report Builder
Switch Name	The name of the PBX as it appears on the NMS when the PBX is administered as a node on the network.

**Table 7-3. Field Entry Area**

<b>Field</b>	<b>Description</b>
Report Name	The name of the report. You can enter up to 55 characters, or you can select an existing report from the pull-down list.
Table to Search	The name of the table that you want to search. You must select one of the following values from the pull-down list: <ul style="list-style-type: none"> <li>■ Alarms (default)</li> <li>■ Circuit Packs</li> <li>■ DS1 Circuit Packs</li> <li>■ Errors</li> </ul>
Field Name	The name of the field in the database that you want to match. Valid values are: <ul style="list-style-type: none"> <li>■ Blank</li> <li>■ Any name on the pull-down list</li> </ul> <p>The names on the pull-down list vary depending on your selection in the Table to Search field.</p> <p>You can select up to three Field Names for each report.</p>
Comparison	Indicates the type of comparison between the value(s) in the Field Name field and the corresponding value field(s). Valid values that you can select from the pull-down list are: <ul style="list-style-type: none"> <li>■ Equal (default)</li> <li>■ Range</li> </ul>
Value	One of the following: <ul style="list-style-type: none"> <li>■ If you set the Comparison field to Equal, then Fault Management retrieves all values that match the value in this field.</li> <li>■ If you set the Comparison field to Range, then Fault Management retrieves all data that fall in the range created by this entry and the entry in the To Value field.</li> <li>■ If you set the Comparison field to Range, and if you leave the To Value field blank, Fault Management retrieves all data equal to or greater than the entry in this field.</li> </ul>

**Table 7-3. Field Entry Area**

To Value	<p>One of the following:</p> <ul style="list-style-type: none"> <li>■ If you set the Comparison field to Equal, then you cannot enter data into this field.</li> <li>■ If you set the Comparison field to Range, then Fault Management retrieves all data that fall in the range created by this entry and the entry in the Value field.</li> <li>■ If you set the Comparison field to Range, and if you leave the Value field blank, Fault Management retrieves all data equal to or less than the value in this field.</li> </ul>
Partial Match?	<p>Allows Fault Management to retrieve values that only partially match the contents of the Value and To Value fields.</p> <p>Hint: If you need an exact match, make sure this check box is off.</p>
Table to Output	<p>The name of the table to use for output. This field determines the table's format.</p> <p>You can select one of the following values from the pull-down list:</p> <ul style="list-style-type: none"> <li>■ Alarms (default)</li> <li>■ Circuit Packs</li> <li>■ DS1 Circuit Packs</li> <li>■ Errors</li> </ul>
Sort Output First By Then By Then By	<p>Set of three fields that allow you to enter a key for sorting the report.</p> <p>Use the pull-down lists to select up to three sorting parameters. Then select either ascending or descending sequence for each parameter.</p>

Subsequent sections in this Chapter explain how to use these fields to create reports.

## **Button Line**

---

The button line at the bottom of the screen allows you to complete the following commands.

<b>Button</b>	<b>Description</b>
Run Report	Produces the report based on the entries you make in the fields.
Save Report Specs	Saves the report specifications to your hard drive.
Output Options	Opens the Output Options screen so you can select your output parameters.
Close	Closes the Report Builder screen and any open child windows.

You can also select these commands from the Options menu.

## **Overview for Creating Reports**

---

To create a report from the Report Builder screen, follow these steps. Each of these steps are described later in this chapter.

1. Name the report
2. Select the source table
3. Enter search criteria
4. Format the report
5. Sort the report
6. Run the report
7. Save the report specifications

The following sections explain how to use the fields described in Table 7-3.

## **How to Name the Report**

---

You name the report in the Query Name field on the Report Builder screen.

<b>If you do this ...</b>	<b>Then the name you enter becomes the ...</b>
Save the report specifications to your hard drive	Key for subsequent file retrieval
Send the report to the screen or to the printer	Report heading

### **Guidelines for the Report Name Field**

---

Use the following guidelines to enter the report name into this field:

- The Report Name field is a required field.
- You can enter up to 55 characters from the keyboard.  
If you enter a report name, you must press Enter so Fault Management knows you are creating new report specifications.
- You can select a pre-existing report name from the pull-down list.  
If you select a report name from the list, Fault Management fills the other fields on the screen with data from the report specifications file on your hard drive.
- You can edit your selection from the pull-down list to create a new report name.

## **How to Select the Table to Search**

---

Report Builder can retrieve PBX information from one of the following tables in the Fault Management database:

- Alarms
- Circuit Packs
- DS1 Circuit Packs
- Errors

### **Guidelines for the Table to Search Field**

---

Use the following guidelines when you select a table:

- The Table to Search field is a required field that controls the search criteria for the report.

- You select a table from the pull-down list associated with this field.
- Your selection determines the values in the pull-down list for the Field Name field.
- If you change the contents of the Table to Search field, Fault Management initializes the Field Name field and its associated fields so you can select new search criteria.

## How to Display All Alarms

You can display the All Alarms report from the menu bar of the Switch View, or you can display it from the Report Builder screen as follows:

1. Open the Report Builder screen.
2. Enter a name in the Report Name field and press Enter.
3. Click on **Run Report**.

## How to Enter Search Criteria

After you choose a table, you can enter the search criteria for the data that you want Report Builder to retrieve.

Double click on the following icon to view the fields that allow you to select the search criteria.

---

#	Field Name	Comparison	Value	To Value	Partial match
1	<input type="text"/>	Equal	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
2	<input type="text"/>	Equal	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
3	<input type="text"/>	Equal	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>

---

**Figure 7-2. Search Fields**

## Guidelines for Data Selection Fields

Use the following guidelines when you select retrieval criteria:

- You can enter up to three sets of retrieval criteria for each report.
- You can copy field entries from an open report and paste them into the Value and To Value fields.
- The Value and To Value fields are case sensitive.

- Your entry in the Table to Search field determines your choices in the Field Name field.

### **How to Search for an Exact Match**

---

You can search for an exact match for up to three fields in any table. To search for an exact match:

1. Enter data into the following fields:

<b>Field</b>	<b>What you enter</b>
Table to Search	The name of the table in the database
Field Name	The name of the field in the table
Comparison	Equal
Value	The data that you want to match

2. Make sure the Partial Match field is turned off.
3. Click **Run Report**.

Click on an icon for examples of how to search for an exact match.

**Table 7-4. An Exact Match with One Variable**

---

#### **Exact match with one variable**

This example shows how to find all the alarms for circuit boards with a Maintenance Name of DIG-LINE.

Table to Search:		Alarms			
#	Field Name	Comparison	Value	To Value	Partial Match?
1	Maintenance Name	Equal	DIG-LINE		<input type="checkbox"/>

Comments:

- The Partial Match field is off.
-

**Table 7-5. An Exact Match with Two Variables**

**Exact match when both variables are true**

This example shows how to find all digital-line circuit packs that had an alarm on September 27 at 4:30 P.M.

Table to Search: <input type="text" value="Alarms"/>					
#	Field Name	Comparison	Value	To Value	Partial Match?
1	<input type="text" value="Maintenance Name"/>	<input type="text" value="Equal"/>	<input type="text" value="DIG-LINE"/>	<input type="text" value=""/>	<input type="checkbox"/>
2	<input type="text" value="Date Alarmed"/>	<input type="text" value="Equal"/>	<input type="text" value="09/27/16:30"/>	<input type="text" value=""/>	<input type="checkbox"/>

Comments:

- Each instance of Field Name is different (Maintenance Name and Date Alarmed.)
- Report Builder searches for Maintenance Name = DIG-LINE *and* Date alarmed = 09/27/16:30.
- The Partial Match field for both instances of Field Name is off.

**Exact match when either variable is true**

This example shows how to find all the alarms for the digital line and data module circuit packs.

Table to Search: <input type="text" value="Alarms"/>					
#	Field Name	Comparison	Value	To Value	Partial Match?
1	<input type="text" value="Maintenance Name"/>	<input type="text" value="Equal"/>	<input type="text" value="DIG-LINE"/>	<input type="text" value=""/>	<input type="checkbox"/>
2	<input type="text" value="Maintenance Name"/>	<input type="text" value="Equal"/>	<input type="text" value="PDMODULE"/>	<input type="text" value=""/>	<input type="checkbox"/>

Comments:

- Both instances of Field Name are the same (Maintenance Name.)
- Report Builder searches for Maintenance Name = DIG-LINE *or* Maintenance Name = PDMODULE.
- The Partial Match field for both instances of Field Name is off.

## How to Search for a Range

---

You can search for a range of values for up to three fields in any table. You search for a range by entering data into the following fields:

Field	What you enter
Table to Search	The name of the table in the database
Field Name	The name of the field in the table
Comparison	Range
Value	The lower end of the range. If you leave this field blank, Report Builder searches for all data equal to or less than the entry in the To Value field.
To Value	The upper end of the range. If you leave this field blank, Report Builder searches for all data equal to or greater than the entry in the Value field.

Click on an icon for examples of how to search for a range of values.

**Table 7-6. A Range Between Two Values**

---

### Range between two values

This example shows how to find all the ports that reported any errors during the last twelve hours.

Table to Search:		<input type="text" value="Errors"/>			
#	Field Name	Comparison	Value	To Value	Partial match?
1	<input type="text" value="Last Occur"/>	<input type="text" value="Range"/>	<input type="text" value="11/10/06"/>	<input type="text" value="11/10/08"/>	<input type="checkbox"/>

---

**Table 7-7. Range Without a Lower Limit**

**Range without a lower limit**

This example shows how to find all ports that reported errors before 6 P.M. on November 10.

Table to Search:		Errors			
#	Field Name	Comparison	Value	To Value	Partial Match?
1	Last Occur	Range		11/10/18	<input type="checkbox"/>

**Table 7-8. A Range Without an Upper Limit**

**Range without an upper limit**

This example shows how to find all alarms that are more than one day old.

Table to Search:		Alarms			
#	Field Name	Comparison	Value	To Value	Partial Match?
1	Date Alarmed	Equal	11/07		<input type="checkbox"/>

Comments:

Value = yesterday's date

**Table 7-9. A Range and Exact Match Combination**

**Range combined with an exact match with two variables**

This example shows how you can combine the types of matches.

#	Field Name	Comparison	Value	To Value	Partial Match?
1	Maintenance Name	Equal	DIG-LINE		<input type="checkbox"/>
2	Maintenance Name	Equal	PDMODULE		<input type="checkbox"/>
3	Date Alarmed	Range	09/27	10/13	<input type="checkbox"/>

Comments:

- Both instances of Field Name are the same (Maintenance Name.)
- Report Builder searches for
  - An exact match for Maintenance Name = DIG-LINE or Maintenance Name = PDMODULE
  - A partial match for the range of dates between 9/27 and 10/13

---

**How to Search for a Partial Match**

The Partial Match field allows you to search for a partial match on any entry in the Value or To Value fields. Searching for a partial match is similar to using UNIX wildcards.

To search for a partial match:

1. Enter the string you want to match in the Value or To Value fields.  
Hint: The more information you enter, the more specific the search.
2. Click on the partial match check box.
3. Repeat steps 1 and 2 for each partial match.
4. Click on **Run Report**.

---

**How to Format the Report**

Report Builder generates reports in one of the following table formats:

- Alarms
- Circuit Packs
- DS1 Circuit Packs

- Errors

To see this format ...	Click here ...
Alarms	Figure 5-1
Circuit Pack	Figure 6-3
DS1 Circuit Pack	Figure 6-4
Errors	Figure 5-2

You select this format in the Table to Output field.

### **Guidelines for the Table to Output Field**

---

Use the following guidelines for this field:

- The Table to Output field is a required field.
- You select the report format from a pull-down list.
- Your selection determines the values in the sort fields.
- If you change the contents of this field, Fault Management initializes the sort fields so you can select new sorting criteria.

### **How to Sort Report Data**

---

After you choose the report's format, you can select the order that you want Report Builder to display the data that you selected in the Field Name and associated fields.

Double click on the following icon to view the fields that allow you to sort the data.




---

**Figure 7-3. Sort Fields**

### **Guidelines for the Sort Fields**

---

Use the following guidelines for these fields:

- Each sort field has a pull-down list with valid values for you to select.
- You can enter up to three sets of sort criterion for each report.
- For each sort field, you can choose either ascending or descending order.
- Leave these fields blank if you do not want to sort the data.

## **How to Save Report Specifications**

---

To save the report specifications to a file:

1. Complete the fields on the Report Builder screen.
2. Click on **Save Report Specs**.

See Chapter 8, Output Options for information about printing reports.

## **How to Run the Report**

---

To run the report:

1. Complete the fields on the Report Builder screen.
2. Click on **Run Report**.

**Result:** The report displays on your screen.

Hint: If you want to highlight objects or send the output to a printer or to a file, see Chapter 8, Output Options.

## **How to Change the Report**

---

You can change the report specifications after Fault Management displays the report. But, before you do, review the report to determine whether it contains information that may be useful to save.

- If the report data is useful, (for example, if you want to compare it to another set of data) use the information in this chapter to create a second report.
- If the report's data is not useful, and if you don't want to change the Report Name field, then use the following steps to change the report:
  1. Click on **Close** to dismiss the report.
  2. Change any of the report specifications (except the report's name.)
  3. Click on **Run Report**.

This chapter describes how to use the Output Options feature. Topics include:

- Overview for Output Options
- Output Options Screen
- How to Display Reports

### **Overview for Output Options**

Output Options allow you to enter the parameters for the reports that:

- You created on the Report Builder screen.
- Display when you open a report window

You can:

- Display the report on your screen
- Highlight the report objects on the screen display
- Print the report
- Save the report as an ASCII file

You enter these parameters on the Output Options screen.

### **Output Options Screen**

This section provides the following topics about the Output Options screen:

- How to Open Output Options

- Sample Output Options Screen
- Menu Bar for Output Options
- Data Area for Output Options
- Output Options Messages
- Button Line for Output Options

### How to Open Output Options

You can open the Output Options screen as follows:

<b>If this is open ...</b>	<b>Then to open Output Options ...</b>
A report window for: <ul style="list-style-type: none"><li>■ Alarms</li><li>■ Circuit packs</li><li>■ DS1 circuit packs</li><li>■ Errors</li></ul>	From the menu bar, select <b>Options → Output Options</b> .
Report Builder screen	Use either of the following methods: <ul style="list-style-type: none"><li>■ From the menu bar, select <b>Options → Output Options</b>.</li><li>■ Click on <b>Output Options</b> at the bottom of the screen.</li></ul>

### Sample Output Options Screen

The following figure shows the Output Options screen:

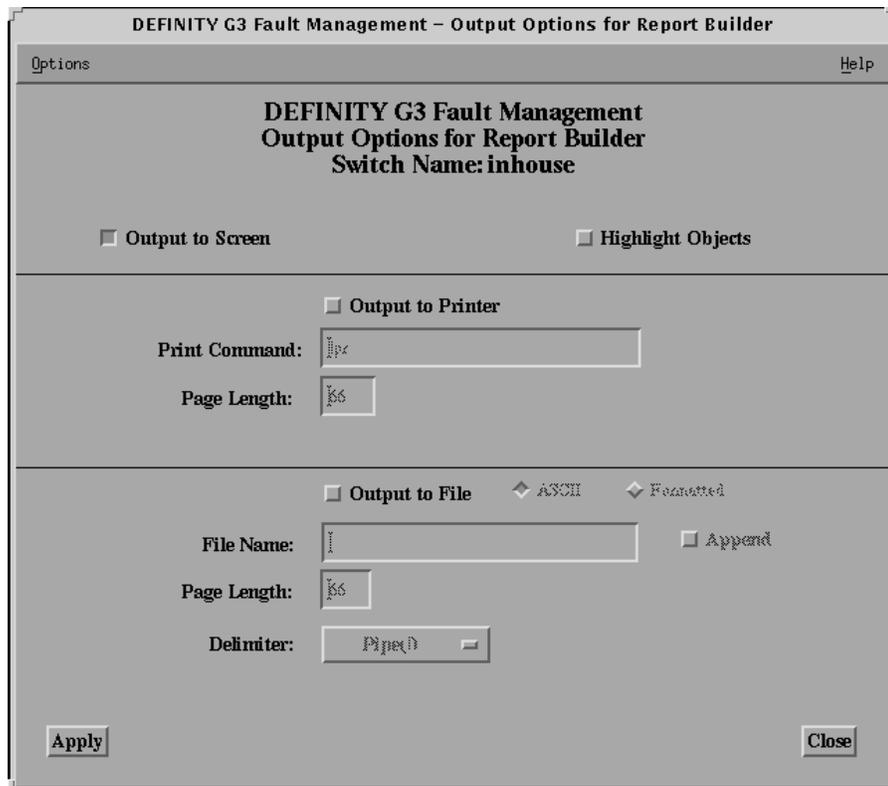


Figure 8-1. Output Options Screen

### Menu Bar for Output Options

Double click on the icon for a description of the menu bar for the Output Options screen:

Table 8-1. Menu Commands

Menu	Command	Description
Options	Apply	If you opened the Output Option screen from: <ul style="list-style-type: none"> <li>■ The Report Builder, Apply saves the current information and closes the screen.</li> <li>■ A report window, Apply sends the report to the output destination and closes the screen.</li> </ul>
	Close	Closes the Output Options screen.
Help		Displays a Help window.

### **Data Area for Output Options**

---

The Output Options screen contains the following data areas:

- Screen heading
- Field entry

Double click on an icon for a description of these areas:

**Table 8-2. Screen Heading**

<b>Field</b>	<b>Description</b>
Application Name	DEFINITY G3 Fault Management
Screen Title	Output Options for (the screen that was active when you selected Output Options.)
Switch Name	The name of the PBX as it appears on the NMS when the PBX is administered as a node on the network.

**Table 8-3. Field Entry Area**

<b>Field</b>	<b>Description</b>
Output to Screen	Sends the report to the screen. By default, this check box is turned on.
Highlight Objects	Highlights the following report objects: <ul style="list-style-type: none"><li>■ Cabinet</li><li>■ Circuit pack</li></ul>
Output to Printer	Sends the report to the printer.
Print Command	The path and the command name that sends the output to the printer. <ul style="list-style-type: none"><li>■ Default = lpr</li><li>■ Maximum = 150 characters.</li></ul> This field is required if you select Output to Printer.
Page Length	The number of lines in a printed page. <ul style="list-style-type: none"><li>■ Default = 66 lines</li><li>■ Minimum = 15 lines</li><li>■ Maximum = 999</li></ul>
Output to File	Sends the report to a file. If you select this field, then select <i>one</i> of the following report formats: <ul style="list-style-type: none"><li>■ ASCII (default) = Creates an ASCII file that you can export to another application.</li><li>■ Formatted = Prints the report with the same character and paragraph formats that you see on the screen.</li></ul>
File Name	The name of the report file, up to 150 characters. We recommend that you enter the absolute path name. This field is required if you select Output to File.

**Table 8-3. Field Entry Area**

Append	Allows you to append the report to an existing file. The default is OFF.
Delimiter	<p>Specifies the field delimiter for an ASCII file.</p> <ul style="list-style-type: none"> <li>■ The default is   (pipe.)</li> <li>■ This field is required if you selected ASCII as the report format. If you selected Formatted, you cannot access this field.</li> <li>■ You can reset the default delimiter on the Setup screen.</li> </ul>
Page Length	<p>The number of lines in a page.</p> <ul style="list-style-type: none"> <li>■ This field is required if you selected Formatted as the report format. If you selected ASCII, you cannot access this field.</li> <li>■ Default = 66 lines</li> <li>■ Minimum = 15 lines</li> <li>■ Maximum = 999</li> </ul>

**Output Options Messages**

---

The message area at the bottom of the screen displays the following types of messages:

<b>Message</b>	<b>Description</b>
Prompts	Messages that remind you to enter data into required fields. These types of messages display after you select Apply.
System Message	Messages that inform you if Fault Management fails to append or to write a file as requested. You can change your field entries and try again.

## **Button Line for Output Options**

---

The button line at the bottom of the screen allows you to complete the following commands.

<b>Button</b>	<b>Description</b>
Apply	Generates the report based on the entries you make in the fields.
Close	Closes the Output Option screen without saving your entries.

You can also select these commands from the Options menu.

## **How to Display Reports**

---

You can display a standard report in the usual manner, by making a selection from the menu bar. You do not need to use the Output Options screen.

To use the Output Options screen to display a report that you created on the Report Builder screen:

1. Click on **Apply**.
2. Click on **Run Report**.

Result: the report displays on your screen.

## **How to Highlight Objects**

---

To highlight Fault Management objects:

1. Click on Highlight Objects.
2. Click on **Apply**.
3. Did you open the Output Options screen from the Report Builder?
  - If yes, click on **Run Report**.
  - If no, you have completed this procedure.

## **How to Print Reports**

---

To print a report:

1. Click on Output to Printer.
2. Do you want to change the print command? (The default is lpr.)
  - If yes, enter a new command in the Print Command field.

- If no, go to step 3.
- 3. Do you want to change the page length? (The default is 66 lines.)
  - If yes, enter the desired number of lines in the Page Length field.
  - If no, go to step 4.
- 4. Click on **Apply**.
- 5. Did you open the Output Options screen from the Report Builder?
  - If yes, click on **Run Report**.
  - If no, you have completed this procedure.

Result: Fault Management uses the command that you specified in the Print Command field to send the report to the printer.

## **How to Save Reports**

---

To save the report to a file:

1. Click on Output to File.
2. Click on one of the following file formats:
  - ASCII (to save the file for export to another application)
  - Formatted (to use the format that you see when you display the report)
3. Enter the file's name in the File Name field. You can enter up to 150 characters.
4. Do you want to append the report to the file in the File Name field?
  - If yes, click on Append.
  - If no, go to step 5.
5. Did you click on Formatted in step 2?
  - If yes, you can change the Page Length field. (Optional)
  - If no, go to step 6.
6. Did you click on ASCII in step 2?
  - If yes, you can change the field delimiter by selecting an item from the Delimiter field's pull-down list. (Optional)
  - If no, go to step 7.
7. Click on **Apply**.
8. Did you open the Output Options screen from the Report Builder?
  - If yes, click on **Run Report**.
  - If no, you have completed this procedure.

Result: Fault Management does one of the following:

- Creates a new file with the file name that you specified
- Overwrites an existing file with the current report data
- Appends the current report data to an existing file

This chapter helps you troubleshoot problems you may have with Fault Management. It describes the following items, and then suggests corrective actions.

- Potential problems for specific platforms
- Error messages
- Informational messages
- Warnings

Sometimes, a message or a warning only pertains to a specific platform. These topics are discussed at the end of the appropriate section.

Click on a topic for more information.

- [xnmevents Crash \(HP OpenView\)](#)
- [Switch View Messages](#)
  - [Messages Specific to HP OpenView](#)
- [Port Messages](#)
  - [Messages Specific to HP OpenView](#)
- [Pop-up Messages](#)
- [Startup Messages](#)

## **xnmevents Crash (HP OpenView)**

The following problem can occur with the current version of the Fault Management application on the HP OpenView 3.3 on the Sun SPARC platform.

**Description:** This problem only occurs with HP OpenView 3.3 on the Sun SPARC platform. The "xnmevents" process monitors SNMP events and updates the icon status. This process can crash when you have two or more map files with different sets of DEFINITY icons on them. When the map is up and OpenView receives an SNMP trap to update the status of a DEFINITY icon that is not on the current map, OpenView attempts to bring up a warning pop-up window. At this point "xnmevents" crashes. No further icon color changes will occur until you restart "xnmevents".

**Action:** Try one of the following to avoid this problem.

- Put all the DEFINITY PBXs in one map file. If you have multiple maps, make sure that all the DEFINITY PBXs appear in each of the maps.
- Get patch DFIX1216 from Hewlett Packard. This patch adds a new X-resource called "xnmevents.warnOnUnknownTrapSource". It tells OpenView not to put up the warning pop-up window that causes the crash. To use this resource, add the following line in the ".Xdefaults" of the login running OpenView:  
**xnmevents.warnOnUnknownTrapSource:False**
- Upgrade to OpenView 3.3.1. Then get patch DFIX1312 from Hewlett Packard. This fixes the problem.

## Switch View Messages

---

The following error messages appear in the message area of the Switch View.

### **ERROR: Alarms and Errors Refresh failed.**

**Description:** The Alarms and Errors Refresh has failed.

**Action:** Try the following procedure.

1. Check to see whether the connection between the Proxy Agent and the PBX is up, and that the Proxy Agent is running and communicating with the NMS.
2. Make sure that the PBX is in the Proxy Agent's clients screen.
3. Try the refresh again.

### **ERROR: Bad response from agent while requesting <data type>.**

**Description:** The application received a bad response from the Proxy Agent while requesting the specified data.

**Action:** Try the following procedure.

1. Check to see whether the connection between the Proxy Agent and the PBX is up, and that the Proxy Agent is running and communicating with the NMS.
2. Make sure that the PBX is in the Proxy Agent's clients screen.

3. Set the refresh on startup option to TRUE. This will cause the application to request the Proxy Agent to refresh all of its cached data.
4. Restart the application.

**ERROR: Circuit Pack Refresh failed.**

**Description:** The circuit pack refresh has failed.

**Action:** Try the following procedure.

1. Check to see whether the connection between the Proxy Agent and the PBX is up, and that the Proxy Agent is running and communicating with the NMS.
2. Make sure that the PBX is in the Proxy Agent's clients screen.
3. Set the refresh on startup option to TRUE. This will cause the application to request the Proxy Agent to refresh all of its cached data.
4. Restart the application.

**ERROR: Could Not Get <MIB object> from Agent**

**Description:** An error was received when the application requested the specified data from the PBX. This can occur when you request data for an unassigned port, or if the connection between the PBX and the Proxy Agent is down.

**Action:** Try the following procedure.

1. Check to see whether the connection between the Proxy Agent and the PBX is up, and that the Proxy Agent is running and communicating with the NMS.
2. Make sure that the PBX is in the Proxy Agent's clients screen.
3. Set the refresh on startup option to TRUE. This will cause the application to request the Proxy Agent to refresh all of its cached data.
4. Restart the application.

**ERROR: Incompatible switch types cannot continue.**

**Description:** The switch type indicated by the systemObjectID from the Proxy Agent's client screen and the switch vintage data are not compatible.

**Action:** Change the switch type on the Proxy Agent's clients screen to be compatible with the actual switch type.

**ERROR: No Cabinet Data Received.**

**Description:** No cabinet data was received from the Proxy Agent. The Fault Management application cannot run further.

**Action:** Try the following procedure.

1. Check to see whether the connection between the Proxy Agent and the PBX is up, and that the Proxy Agent is running and communicating with the NMS.
2. Make sure that the PBX is in the Proxy Agent's clients screen.
3. Set the refresh on startup option to TRUE. This will cause the application to request the Proxy Agent to refresh all of its cached data.
4. Restart the application.

**ERROR: Unknown switch type. Cannot continue.**

**Description:** The Fault Management application does not recognize the switch type received from the Proxy Agent and therefore cannot continue further.

**Action:** Administer a known switch type at the Proxy Agent.

**ERROR: Bad response from the Proxy Agent.**

**Description:** The Fault Management application received a bad response from the Proxy Agent while requesting data.

**Action:** Try the following procedure.

1. Check to see whether the connection between the Proxy Agent and the PBX is up, and that the Proxy Agent is running and communicating with the NMS.
2. Make sure that the PBX is in the Proxy Agent's clients screen.
3. Retry the operation.

**Warning: The data displayed is based on non-refreshed cached data and may be out of date.**

**Description:** One of the following conditions is true:

- The connection between the Proxy Agent and the PBX was not up when you started Fault Management.
- The last refresh failed.
- The Refresh Proxy Agent On Startup field on the Setup screen is set to FALSE.

**Action:** Do the following:

1. Re-establish the connection to the Proxy Agent.
2. Do one of the following, as required:
  - Restart Fault Management.
  - Refresh the alarms and errors data and the configuration data.

Check the following common causes for a disconnect:

- Can the Proxy Agent dial out?
  - Is the modem working?
  - Is the phone line connected? Do you get a dial tone?
- Does the Proxy Agent have a current, correct login and password for the DEFINITY PBX?

You can check the login and password on the Proxy Agent Communications form. For more information, see the *OneVision DEFINITY G3 Proxy Agent Installation and Connectivity* guide.

- Is a PBX management port available? Does it give a modem tone? (Call the modem from a voice station to check.)
- Can you log into the PBX management port from another terminal and modem?
- Can your NMS access the Proxy Agent? (Telnet to the Proxy Agent to find out.)
- Is the Proxy Agent running? (Telnet to the Proxy Agent and run g3-ma and display the status on the Proxy Agent.)

If the Proxy Agent is still disconnected from the PBX after you check all of these items, call the Technical Service Center for assistance.

### Messages Specific to HP OpenView

The following messages are specific to the HP OpenView platform:

**ERROR: No response from agent (requesting <data type>).**

**ERROR: No response from agent while requesting <data type>.**

**ERROR: No response from agent.**

**Description:** The Proxy Agent did not respond to a request for SNMP data on the HP OpenView platform.

**Action:** Try the following procedure.

1. Check to see whether the connection between the Proxy Agent and the PBX is up, and that the Proxy Agent is running and communicating with the NMS.
2. Make sure that the PBX is in the Proxy Agent's clients screen.
3. Retry the operation.

## Port Messages

---

The following error messages appear in the message area on the Port Information screen.

**Message: Please Try Later.**

**Description:** You requested the port data while another data request (such as an initial data request, a refresh request, or another port request) was already in progress.

**Action:** Wait for the previous data request to be executed, then request the port data again.

**ERROR: Could Not Get Port Data from Agent.**

**Description:** An error occurred when the Fault Management application requested port data from the PBX. This can happen if you request data for an unassigned port or if the connection between the PBX and the Proxy Agent is down.

**Action:** Check the connection between the Proxy Agent and the PBX.

The words “Not Available” display in the fields on the Port Information screen.

**Description:** Fault Management is not getting a response from the Proxy Agent.

**Action:** Try the following:

- Make sure the connection is up.
- Increase the value in the Number Retries on SNMP Timeout field on the Setup screen.

## Messages Specific to HP OpenView

---

The following message is specific to the HP OpenView platform:

**ERROR: No response from the agent.**

**Description:** The Proxy Agent did not respond to a request for SNMP port data.

**Action:** Try the following procedure.

1. Check to see whether the connection between the Proxy Agent and the PBX is up, and that the Proxy Agent is running and communicating with the NMS.
2. Make sure that the PBX is in the Proxy Agent's clients screen.

## Pop-up Messages

---

The following messages display in pop-up message boxes.

**WARNING: The startup refresh failed. The data displayed is based on the data cached on the Proxy Agent. This data may be out of sync with the actual switch data.**

**The most likely cause of this problem is the connection between the Proxy Agent and the DEFINITY G3 PBX being down or turned off.**

**Action:** Re-establish the connection to the Proxy Agent, and then restart Fault Management.

**ERROR: Could not open resource file to save the Setup Information. The values have not been saved.**

**Action:** Try the following procedure.

1. Make sure that DG3FMDIR is either not set or is set to a valid directory where the file resides.
2. Make sure that the appropriate resource file exists.
  - For Cabletron Spectrum:  
/usr/OneVision/DG3FM/DG3FMdefaults
  - For all other platforms:  
/usr/OV/OneVision/DG3FM/DG3FMdefaults
3. Check the permissions on the file. The Fault Management application must be able to write to the file.
4. Restart the application.

**There is already an Alarms and Errors refresh in progress. If you still want to request another refresh, please wait until the current one is complete.**

**Action:** Wait for the current refresh to complete before requesting another one.

**There is currently a data request in progress. Please try the Alarms and Errors Refresh again later.**

**Action:** Wait for the data refresh to complete before requesting the refresh.

**WARNING: The Alarms and Errors refresh has failed. The data displayed is based on the data cached on the Proxy Agent. This data may be out of sync with the actual switch data.**

The most likely cause of this problem is the connection between the Proxy Agent and the DEFINITY G3 PBX being down or turned off.

**Action:** Try the following procedure.

1. Check to see whether the connection between the Proxy Agent and the PBX is up, and that the Proxy Agent is running and communicating with the NMS.
2. Make sure that the PBX is in the Proxy Agent's clients screen.
3. Try the refresh again.

**There is already a Circuit Pack refresh in progress. If you still want to request another refresh, please wait until the current one is complete.**

**Action:** Wait for the current refresh to complete before requesting another one.

**There is currently a data request in progress, please try the Bulletin Board Refresh again later.**

**Action:** Wait for the current refresh to complete before requesting another one.

**There is currently a data request in progress. Please try the Configuration Data Refresh again later.**

**Action:** Wait for the data request to complete before requesting the refresh.

**There is already a Circuit Pack refresh in progress. Please don't press any cabinet buttons until it is done.**

**Action:** Wait for the circuit pack refresh to get to the point where it is receiving the circuit pack data before clicking on a cabinet icon.

**WARNING: The Circuit Pack refresh has failed. The data displayed is based on the data cached on the Proxy Agent. This data may be out of sync with the actual switch data.**

**The most likely cause of this problem is the connection between the Proxy Agent and the DEFINITY G3 PBX being down or turned off.**

**Action:** Try the following procedure.

1. Check to see whether the connection between the Proxy Agent and the PBX is up, and that the Proxy Agent is running and communicating with the NMS.
2. Make sure that the PBX is in the Proxy Agent's clients screen.
3. Try the refresh again.

**WARNING: The Bulletin Board refresh has failed. The data displayed is based on the data cached on the Proxy Agent. This data may be out of sync with the actual switch data.**

**The most likely cause of this problem is the connection between the Proxy Agent and the DEFINITY G3 PBX being down or turned off.**

**Action:** Try the following procedure.

1. Check to see whether the connection between the Proxy Agent and the PBX is up, and that the Proxy Agent is running and communicating with the NMS.
2. Make sure that the PBX is in the Proxy Agent's clients screen.
3. Try the refresh again.

**ERROR: The switch type administered on the Proxy Agent is incompatible with the switch type from the switch's Vintage data. The basic switch types must match for DEFINITY G3 Fault Management to continue. (The basic switch types are G3i-286, G3i-386, G3r, G3s, and G3vs.) Please change the switch type administered on the Proxy Agent to match the actual switch type.**

**Action:** Change the switch type administered on the Proxy Agent's clients screen to be compatible with the actual switch type.

**Action:** If the switch type is missing:

1. Open the Setup screen and set the Refresh Proxy Agent on Startup field to TRUE.
2. Restart Fault Management.

## **Startup Messages**

---

The following messages display during the startup process.

**Usage: dg3fm host\_name community\_name [switch\_name].**

**Description:** The Fault Management application was started up with the wrong parameters (OpenView only).

**Action:** The DEFINITY icon selection name and the name in the SNMP Configuration entry for the PBX may not match. Change the incorrect name and restart the Fault Management application.

**DEFINITY G3 Fault Management: out of memory!**

**Description:** The Fault Management application could not allocate enough memory to run.

**Action:** To free up some memory, delete some windows and close some active programs. Alternatively, you can add memory to the NMS computer.

**Refresh on Startup Failed! Continuing with Cached Data.**

**Description:** One of the following conditions is true:

- The connection between the Proxy Agent and the PBX was not up when you started Fault Management.
- The last refresh failed.

**Action:** Do the following:

1. Re-establish the connection to the Proxy Agent.
2. Do one of the following, as required:
  - Restart Fault Management.
  - Refresh the alarms and errors data and the configuration data.

Check the following common causes for a disconnect:

- Can the Proxy Agent dial out?
  - Is the modem working?
  - Is the phone line connected? Do you get a dial tone?
- Does the Proxy Agent have a current, correct login and password for the DEFINITY PBX? Are your permissions set correctly on the PBX?

You can check the login and password on the Proxy Agent Communications form. For more information, see the *OneVision DEFINITY G3 Proxy Agent Installation and Connectivity* guide.
- Is a PBX management port available? Does it give a modem tone? (Call the modem from a voice station to check.)
- Can you log into the PBX management port from another terminal and modem?
- Can your NMS access the Proxy Agent? (Telnet to the Proxy Agent to find out.)
- Is the Proxy Agent running? (Telnet to the Proxy Agent and run g3stat.)

If the Proxy Agent is still disconnected from the PBX after you check all of these items, call the Technical Service Center for assistance.

This chapter explains how to integrate DEFINITY G3 trouble tickets into the Remedy™ Action Request System™. Topics include:

- Action Request System Overview
- Integrating with HP OpenView
- Integrating with Cabletron SPECTRUM

### **Action Request System Overview**

---

The Action Request System (AR System) uses a database that allows you to collect, and then track your trouble tickets.

- Cabletron SPECTRUM

### **HP OpenView**

---

To integrate Fault Management and Remedy, you must set up a shell script on the HP OpenView platform. A shell script runs each time a DEFINITY G3 map icon changes states. You can use this script to enter trouble tickets into the AR System database. This script passes the following information:

<b>Variable</b>	<b>Description</b>
\$1	Node or selection name
\$2	Error description
\$3	New status severity
\$4	Old status severity

To set up the shell script, complete the following procedures in the sequence shown:

- Create a Schema
- Create a Macro
- Test the Macro
- Test the Script

**⇒ NOTE:**

See your Remedy documentation if you need help completing these procedures.

### **Create a Schema**

---

Use the following guidelines to create a schema that enters information about DEFINITY G3 alarm conditions into the AR System database.

- Use the AR System Administrator Tool (aradmin).
- Name the schema DEFINITY\_Alarms, or something similar.
- Include fields for the following information:
  - A map object ID
  - The current object state
  - The previous object state

The following fields are defaults; you do not have to add them:

- Submitter
- Description fields

### **Create a Macro**

---

Use the following guidelines to create a macro that submits the schema to the AR System database.

- Use the AR System User Tool.  
Hint: The following command opens this tool: **`/usr/ar/bin/aruser &`**
- Fill out the submitter information.
- Define the substitution parameters for the argument fields.  
Hint: You define substitution parameters by enclosing the field values with dollar signs. For example: `$parm$`. You use the substitution parameters with the `-p` option at the `aruser` command line.
- Name the macro DEFINITY\_Ticket, or something similar.

### **Test the Macro**

---

Test the macro by entering the following at the command line:

```
aruser -e [macro-name] -p [parm=xxx] -p [parm=yyy] -p [parm=zzz]
```

Hint: The values in brackets are variables that you provide. The string, parm, is the substitution parameter (\$parm\$) that you defined when you created the macro. For example:

```
aruser -e DEFINITY_Ticket -p object=switch1 -p current=major -p  
previous=minor -p desc="Major alarm on digital board"
```

### **Test the Script**

---

Use the following steps to see if the script records trouble tickets from OpenView:

1. Make sure that the following environment variables are set according to the Remedy documentation:
  - NSLPATH
  - ARHOME
  - ARPATH

The command line should look like:

```
aruser -e [macro-name] -p [object]=$1 -p [desc]=$2 -p [new state]=$3  
-p [old state]=$4
```

2. In OpenView, cause an alarm to force a DEFINITY map object to change states.
3. When the map object changes states, open the Remedy aruser tool and verify that the information was recorded.

Hint: See your Remedy documentation if you need help.

4. Modify the following command, substituting your values for the values in brackets:

```
aruser -e [macro-name] -p [object]=$1 -p [desc]=\'$2 $3\' -p [new  
state]=$3 -p [old state]=$4
```

## **Cabletron SPECTRUM**

---

To integrate Fault Management and Remedy on SPECTRUM, you must install the SPECTRUM ARS Gateway. This Gateway passes filtered alarm information from SpectroSERVER® to the Remedy AR System where trouble tickets are automatically generated for those alarms.

For information about SPECTRUM ARS Gateway, contact your Cabletron representative.

The configuration map provides you with the means of moving through the graphical displays of a PBX. This chapter summarizes the steps to view these displays.

### **General Comments**

---

Some general comments about graphical displays are:

- The Startup screen is the first screen that displays when you invoke Fault Management from an NMS.
- The Switch View opens automatically after the Startup screen disappears from view.
- The Fault menu opens reports about alarms and errors.
- The Configuration menu opens reports about PBX hardware.

<b>If you are here ...</b>	<b>And you want to open this screen ...</b>	<b>Then click on this ...</b>	<b>Or Select this from the menu bar ...</b>
Switch View	Cabinet View	A cabinet icon	
	External Device View	The external device icon	
	Setup		Options → Setup
	Report Builder		Options → Report Builder

<b>If you are here ...</b>	<b>And you want to open this screen ...</b>	<b>Then click on this ...</b>	<b>Or Select this from the menu bar ...</b>
Cabinet View	Circuit Pack Information	A circuit pack label	
	Report Builder		Options → Report Builder
Circuit Pack Information	Port Information	The location field	
External Devices View	Individual External Devices	An external device icon	
	Report Builder		Options → Report Builder
Report Builder	Output Options	The Output Options button	Options → Output Options
Any report window	Switch View Cabinet View Circuit Pack Information Port Information External Devices	The location field	
Any error report	Error Description	Any field <i>except</i> Port	

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NMS. See Network management system

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