Glimmerglass Intelligent Optical System Release 8.0 Release Note

Part Number 901-0100
Revision A

Last Updated: July 30, 2013

This release note describes the enhancements and defect corrections contained in Software Release 8.0 for Glimmerglass Intelligent Optical Systems.

Release Notice

Glimmerglass has released the following versions of the GGN Release 8.0 Software and associated Release Notes:

Release Date	Glimmerglass Intelligent Optical System Software Release	901-0100 Manual Revision
July 2013	R08.00p000	A

Author and Copy Requests:
Glimmerglass Networks, Inc.
26142 Eden Landing Road
Hayward, CA 94545
Tel +1 510 723 1900
Fax +1 510 780 9851

Contents

1 Release 8.0 Overview

Release 8.0 of the Glimmerglass IOS software fulfills two primary requirements: providing alarm management functionality on the IOS system as well as supporting interoperability with the CyberSweep™ Path Manager 2 platform. The Path Manager 2 platform is a management system (EMS) for Release 8 Glimmerglass Intelligent Optical Systems (IOS).

This chapter presents a summary of the new features and enhancements introduced in Release 8.

1.1 New Features/Enhancements

CyberSweep™ Path Manager 2 Interoperability – New Feature
Path Manager 2 is a server-based application supporting management and monitoring of multiple Glimmerglass Intelligent Optical Systems (IOS) running Release 8 software. Systems are placed under Path Manager 2 management from the Path Manager 2 browser interface. After added, the systems provide real-time notifications of all system activity (alarms, configuration, and events) and may be configured from Path Manager 2.

Path Manager 2 can be used exclusively to manage and monitor Release 8 IOS systems. Path Manager 2 also supports a blended environment where the IOS systems are directly accessed by switch users (e.g. via ClickFlow or TL1) as well as by users on the Path Manager 2 server.

Path Manager 2 replaces the earlier Glimmerglass Console Server (GGC). Systems running Release 8 software cannot be managed from a Glimmerglass Console Server.

Alarm Management – New Feature
Alarm management has been added to the core software to facilitate remote management of systems from a network operating center as well as by local personnel.

Systems now provide an active alarm table for quick identification of all active alarms as well as an alarm log for viewing recent alarm history. In addition, changes have been made to allow users to configure the alarm threshold conditions and alarm severities for selected optical alarms.

The active alarm table and alarm log may be viewed from both the ClickFlow and TL1 user interfaces. Alarm acknowledgement capabilities are included to support managing active alarms.

Log File Enhancements
The system provides three logs files that may be viewed from both the ClickFlow and TL1 user interfaces. Each log retains the 1000 most recent entries (FIFO). All log activity is issued (GGNMSG notification) to Path Manager 2 servers on a real-time basis. This provides the ability to store logs over longer timeframes as well as assuring that the full record of system activity is secured.

The log files are described below.

- Secu Log: Records for security-related database changes and session activity
  - System Access (Login/Logout), User and Privilege Configuration (add/delete/modify), Security Policy Configuration
- Alarm Log: Records for changes in the alarm status of the system
  - Alarm Detection, Alarm Acknowledgement, Alarm Clear

- Auto Log: Records for all other system/port changes and maintenance activities
    - System/Port/Connection configuration, system detected events, requests for reboot, restore, upgrade, etc

All log entries are stored in the GGNMSG format. The GGNMSG structure is documented in Appendix B of the Release 8 TL1 Manual (p/n: 901-0103).

Notification Enhancements
Syslog and TL1 Autonomous Message notifications are standardized. The payload of each notification is in the GGNMSG format (same as the log files). This standardization allows simpler algorithms for parsing and acting upon the message contents.

Customers with existing Syslog filters or using TL1 Autonomous messages will need to review Appendix B of the Release 8 TL1 Manual (p/n: 901-0103) to ascertain if any post-upgrade changes are required to existing filters/scripts.

Waveband Assignment Enhancement
Prior to Release 8, the waveband of an incoming signal was defined in a Signal Type record. The Signal Type record also contained the optical min/max thresholds for alarm reporting.

In Release 8, Signal Type records are no longer used. The waveband of the incoming signal is directly assigned to the input ports in the system.

Signal Threshold Configuration/Assignment Enhancement
Prior to Release 8, the optical power min/max alarm thresholds for an incoming signal were specified in the Signal Type assigned to the input port. Thus, the optical power min/max alarm thresholds were the same at the input and output port of a connection. In Release 8, Signal Type records are no longer used.

With Release 8, the thresholds for optical alarm conditions are now specified in a Signal Threshold record. Signal Thresholds may be created then assigned separately for input and output ports. The configuration operation is analogous to the old Signal Type. A named Signal Threshold record is configured defining the optical power alarm thresholds. This record is then assigned directly to the ports where the defined thresholds are required. If the Signal Threshold record is later modified, the modification is immediately applied to all ports assigned to that Signal Threshold.

This change allows the user to establish lower thresholds for input ports. This capability may be useful for the following scenarios:

- Generating an alarm for a power drop at the input port which does not cause an optical power alarm at the connected output port.
    - This could indicate tampering or degradation of the signal on the input fiber.
- Optimizing protection rule threshold operation (systems with input detection)
    - Protection switching criteria takes into account the state of the ‘protect’ input port power. If this power is too low, then an alarm would indicate the rule cannot trigger – a situation to be remedied prior to experiencing a failure on the working port.

It is not required to configure different thresholds for input and output ports.

Default User Accounts - Enhancement
All Release 8 systems will have two default administrative accounts, “admin” and “madmin”.

The “madmin” account state is defaulted to OOS (out-of-service). This account may only be enabled for use from the “admin” user account.

The “madmin” account is used by Path Manager 2. Path Manager 2 automatically activates and secures this account.

The account is OOS (by default) to preclude the need to administer password changes for this account if Path Manager 2 is not used to manage the system.

Port attribute assignment by Port List – ClickFlow Enhancement
All new port parameters (Waveband, Signal Threshold, and Alarm Severities) may be assigned using ranges of ports from the ClickFlow interface. Port range configuration is also supported for Port-to-Port Group assignment as well as for User Port Privilege assignment.

ClickFlow continues to support the existing on-screen and menu-based methods provided in earlier releases. The above changes augment those methods by allowing assignment of a single value to multiple ports in one ClickFlow operation.

1.2 Defect Corrections

The following table enumerates defects observed on prior releases that are fixed in Release 8.0.

R8.0 Patch	Affected Area	Correction
p000	SNMP	Resolved SNMP defect leading to an application restart when a system uptime get request coincides with an internal update of the uptime OID.
p000	Maint. Console	Resolved defect preventing TL1 login after a Factory Reset. Prior to this correction, the startup options needed to be saved to enable access from the Maintenance Console.

1.3 Known Issues

The following table enumerates known issues which may be encountered when using Release 8.0. These issues are under investigation.

R8.0	Affected Area	Correction
p000	ClickFlow	When SSL is enabled, Internet Explorer 10 (IE10) cannot be used to access the ClickFlow interface. IE10 may only be used when SSL (HTTPS) access to the system is disabled via Startup Options (-webSSL attribute is set to 0).

Chapters 2 and 3 more fully describe the two major changes to the software – support for Alarm Management and the introduction of Signal Threshold configuration and usage.

Chapters 4 - 6 enumerate the changes in the ClickFlow, TL1 and SNMP user interfaces.

Chapter 7 outlines the items to consider and prepare for when upgrading to Release 8 from an earlier software release

2 Alarm Management

Prior to Release 8, alarm conditions in the system were recorded in the AUTO log and notifications were issued via GGNMSGs, Syslog, TL1 Autonomous Messages, and SNMP (traps). The ClickFlow Connection Screen displayed the status of the system hardware as well as port/connection status information (color coded in the port and connection boxes in the I/O Matrix). The current optical alarm status of the system was ascertained by inspection by most users.

The Alarm Management functionality provided in Release 8 provides the user with immediate information on active alarms as well as a log file for viewing recent alarm activity. Release 8 also supports the ability to acknowledge active alarms and the ability to configure the severity for selected optical alarm conditions.

The port status and connection status indicators presented on the ClickFlow connection screen are maintained and operate the same as with earlier releases. Notifications and log entries for alarm conditions have been updated to support correlation of both acknowledgements and alarm clears with the original alarm notification.

The remainder of this section presents the key features of alarm management starting with the alarm conditions which are monitored in the system.

2.1 Alarm Conditions and Severities

The following table shows the alarm conditions reported by the system in Release 8.0. For each alarm condition, the Alarm Type (alarm name), the Alarm Object (resource in alarm) and the Alarm Severity are shown. Where the Alarm Severity is indicated as <User Defined>, the user may specify the severity to be reported when the alarm condition is detected. For these alarms, the user may establish different severities on a port-by-port basis depending on the significance of the traffic carried through the port. This may be useful, for example, in marking higher value signals as critical then ensuring that higher severity alarms are addressed first.

Alarm Condition	Alarm Type	Alarm Object	Severity
Hardware Alarms			
No DC Input Power	48VFLT	A-FEED | B-FEED	Major (MJ)
No DC Fuse	FUSEFLT	A-FEED | B-FEED	Major (MJ)
Single Fan Failure	FANFLT	<Fan Name>	Minor (MI)
Multiple Fan Failure	FANFLT	MULTIPLE-FANS	Major (MJ)
Engine Temperature	TEMPHI	ENGINE	Critical (CR)
MPS – Vbb too low	VBBLO	MPS	Critical (CR)
MPS – Vbb too high	VBBHI	MPS	Critical (CR)

Alarm Condition	Alarm Type	Alarm Object	Severity
MPS – Vfb too low	VFBLO	MPS	Critical (CR)
MPS – Vfb too high	VFBHI	MPS	Critical (CR)
Software Alarms			
Intrusion Detected	INTRUSION	USER | CHANNEL	Minor (MI)
NTP Sync. Loss	NTPFLT	CLOCK	Minor (MI)
Optical Alarms			
Below Min Pwr Threshold	STMIN	<Port #>	<User Defined> Default =Disable
Above Max Pwr Threshold	STMAX	<Port #>	<User Defined> Default =Disable
Connection Fault	CSFLT	<Output Port#>	<User Defined> Default =Disable
Reverse Light	LGTRVRS	<Output Port#>	Critical (CR)
Above Max. System Power	PWRMAX	<Port #>	Major (MJ)

The next section discusses the <User Defined> alarm types and severity settings. Alarm severities are reflected in all alarm reporting and are used to set the visual alarm indicators on the system.

2.2 Configurable Alarms

Users may configure the severity to be reported for three of the optical alarm types in the system. These are the STMIN, STMAX, and CSFLT alarms. The alarm severity is configured on a per-port basis.

The STMIN and STMAX alarms are presented when the optical power at the port either falls below or rises above the optical power thresholds specified in the Signal Threshold assigned to the port. Signal Thresholds may be created and then assigned to both input and output ports to set the power levels in the switch required to meet the downstream power requirements. An alarm will be generated when the optical power moves outside this range.

Thus, for the threshold alarms, users are able to configure both the alarm condition (when the alarm is reported) as well as the severity used when reporting the alarm.

The CSFLT alarm condition is reported when the system can no longer optimize the output power for the connection. This condition occurs when the optical power at the output is too low and is reported irrespective of the STMIN alarm condition.

For the CSFLT alarm, only the severity may be configured.

Five severity levels are available for assignment. These are shown in the table below.

Severity	Comments
Critical	Normally used when the alarm condition is service affecting and requires immediate attention
Major	Normally used when the alarm condition is not service affecting but presents a failure that requires attention as if unaddressed, a service affecting failure may result if second failure condition is encountered.
Minor	Normally used for non service affecting, non-urgent alarm conditions
Notice	Normally not used. When set to notice, no external notifications are issued for the alarm condition. The alarm is logged and placed in the active alarm table.
Disable	Inhibits all reporting of the alarm condition. No log entry, no active alarm, no notification

Once an alarm is reported, changing the severity of the alarm to any value other than Disable will not change the severity in the existing alarm record. If the value is set to Disable, the alarm will be cleared from the table even though the alarm condition remains in effect. The Disable setting is a method to tell the system to 'turn off' alarm reporting for this condition on the port.

2.3 Visual Alarm Indicators/Alarm Acknowledgement

Alarm indicators (visual) are provided by on System Status Panel (front panel LEDs) as well as on the Alarm Panel presented on the ClickFlow Connection Screen.

The System Status panel provides two alarm LEDs. Critical and Major alarms share one LED and a separate LED is provided for Minor Alarms.

These indicators (colors) will reflect the severity of the highest unacknowledged alarm in the system. When an alarm is acknowledged, the indicators are updated to reflect the most severe unacknowledged alarm in the Active Alarm table.

For the LED panel, the normal state is for both LEDs to be Green. The ClickFlow Alarm Panel provides additional information and is discussed below.

The ClickFlow Connection Screen presents an Alarm Panel in the upper right-hand corner of the screen. This panel is shown in the figures on the next page.

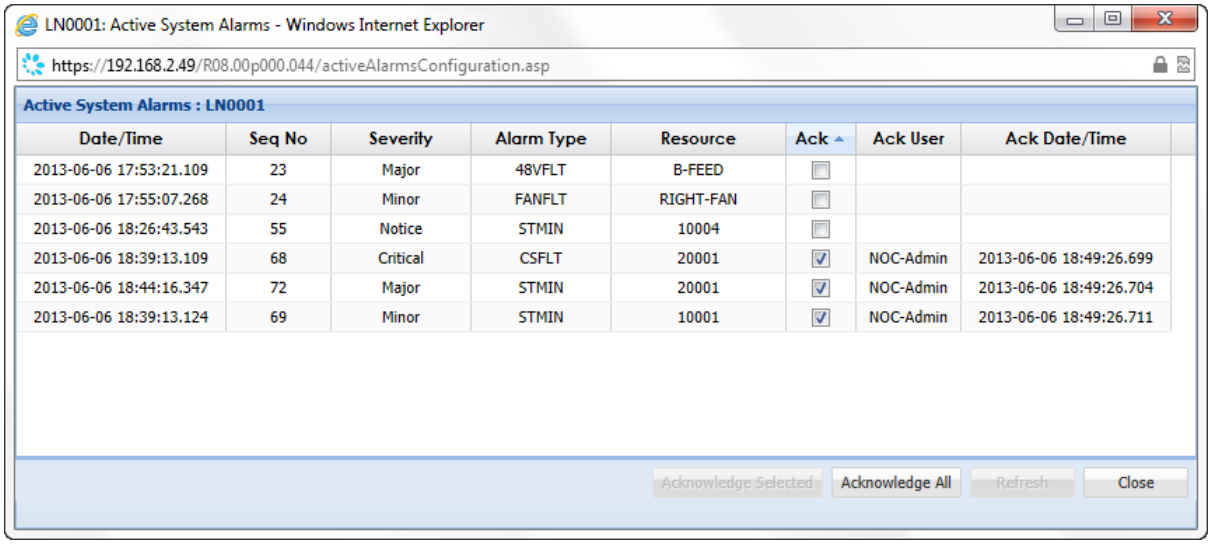
The upper section of the panel will display the system name and is colored to indicate the highest severity (unacknowledged) active alarm in the system. The text in the lower section will indicate if any active alarms are present in the system ("No Alarms" or "Alarms").

Active Alarms – All Acknowledged

Active alarms in the alarm table may be acknowledged by users with the required privileges. When acknowledged, the alarm record will be updated with the date/time of the acknowledgement and information regarding the user acknowledging the alarm. The color of the upper section in the panel will change as indicated previously. If all active alarms are acknowledged, the lower section will continue to show "Alarms" to indicate that active alarms are still present. If a new alarm occurs, the upper section will change color to reflect the severity of this new, unacknowledged alarm.

2.4 Active Alarm Table

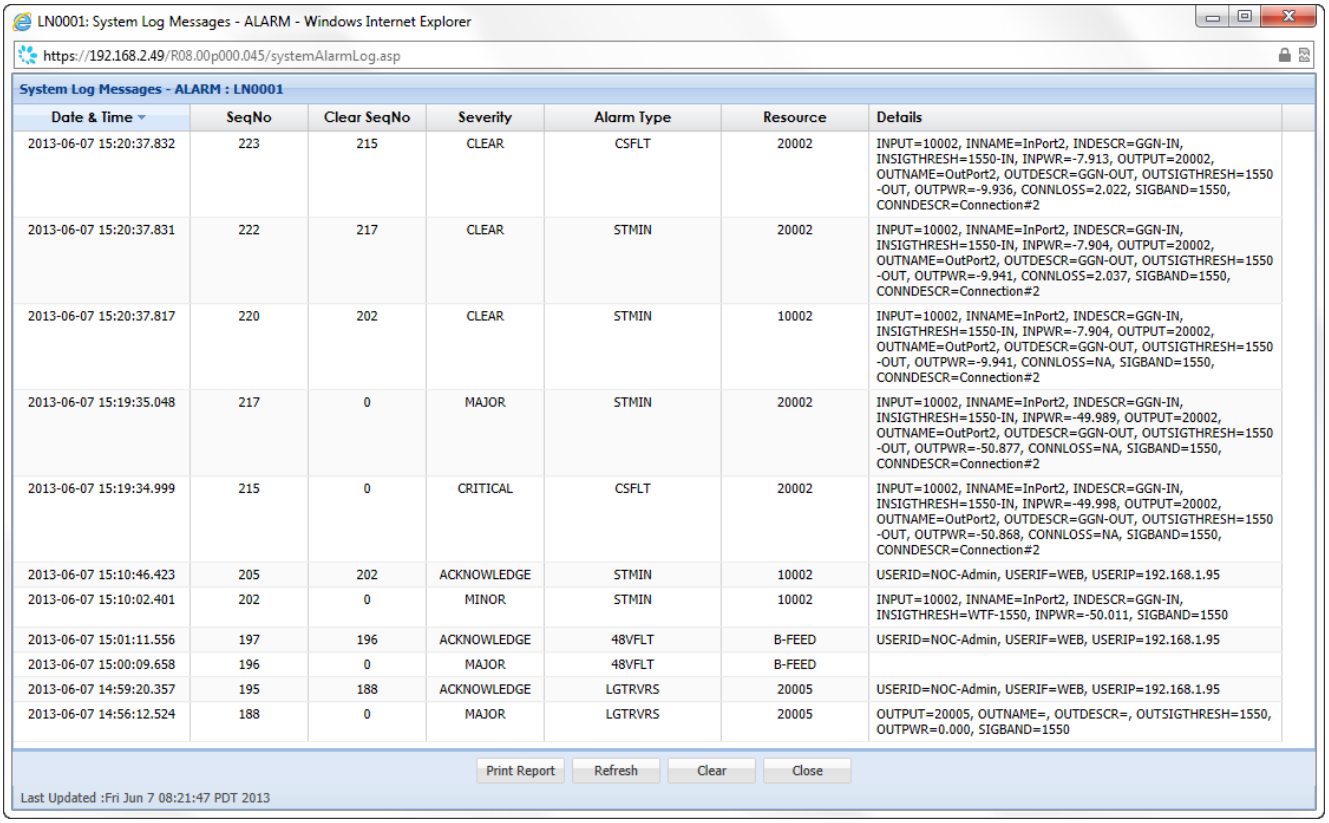
All active alarms may be viewed using both the ClickFlow and TL1 user interfaces. The figure below shows an example of the active alarm table when viewed from ClickFlow. Alarms will remain in the table until the alarm condition is cleared. Active alarms may be acknowledged. With the exception of intrusion alarms, acknowledging an alarm will not clear the alarm.



Both ClickFlow and TL1 support acknowledging alarms. When viewed through ClickFlow, the alarm table is sorted to display unacknowledged alarms at the top. Alarms are presented in order of severity and date/time of occurrence within each category (unacknowledged or acknowledged) as depicted in the figure above.

2.5 Alarm Log

All alarm activity is logged. The alarm log file retains the 1000 most-recent alarm messages/events. Viewing of the Alarm Log is supported from both the ClickFlow and TL1 user interfaces. The figure below shows an example log file (alarm log) as viewed from ClickFlow.



Date & Time	SeqNo	Clear SeqNo	Severity	Alarm Type	Resource	Details
2013-06-07 15:20:37.832	223	215	CLEAR	CSFLT	20002	INPUT=10002, INNAME=InPort2, INDESCR=GGN-IN, INSIGTHRESH=1550-IN, INPWR=-7.913, OUTPUT=20002, OUTNAME=OutPort2, OUTDESCR=GGN-OUT, OUTSIGTHRESH=1550-OUT, OUTPWR=-9.936, CONNLOSS=2.022, SIGBAND=1550, CONNDESCR=Connection#2
2013-06-07 15:20:37.831	222	217	CLEAR	STMIN	20002	INPUT=10002, INNAME=InPort2, INDESCR=GGN-IN, INSIGTHRESH=1550-IN, INPWR=-7.904, OUTPUT=20002, OUTNAME=OutPort2, OUTDESCR=GGN-OUT, OUTSIGTHRESH=1550-OUT, OUTPWR=-9.941, CONNLOSS=2.037, SIGBAND=1550, CONNDESCR=Connection#2
2013-06-07 15:20:37.817	220	202	CLEAR	STMIN	10002	INPUT=10002, INNAME=InPort2, INDESCR=GGN-IN, INSIGTHRESH=1550-IN, INPWR=-7.904, OUTPUT=20002, OUTNAME=OutPort2, OUTDESCR=GGN-OUT, OUTSIGTHRESH=1550-OUT, OUTPWR=-9.941, CONNLOSS=NA, SIGBAND=1550, CONNDESCR=Connection#2
2013-06-07 15:19:35.048	217	0	MAJOR	STMIN	20002	INPUT=10002, INNAME=InPort2, INDESCR=GGN-IN, INSIGTHRESH=1550-IN, INPWR=-49.989, OUTPUT=20002, OUTNAME=OutPort2, OUTDESCR=GGN-OUT, OUTSIGTHRESH=1550-OUT, OUTPWR=-50.877, CONNLOSS=NA, SIGBAND=1550, CONNDESCR=Connection#2
2013-06-07 15:19:34.999	215	0	CRITICAL	CSFLT	20002	INPUT=10002, INNAME=InPort2, INDESCR=GGN-IN, INSIGTHRESH=1550-IN, INPWR=-49.998, OUTPUT=20002, OUTNAME=OutPort2, OUTDESCR=GGN-OUT, OUTSIGTHRESH=1550-OUT, OUTPWR=-50.868, CONNLOSS=NA, SIGBAND=1550, CONNDESCR=Connection#2
2013-06-07 15:10:46.423	205	202	ACKNOWLEDGE	STMIN	10002	USERID=NOC-Admin, USERIF=WEB, USERIP=192.168.1.95
2013-06-07 15:10:02.401	202	0	MINOR	STMIN	10002	INPUT=10002, INNAME=InPort2, INDESCR=GGN-IN, INSIGTHRESH=WTF-1550, INPWR=-50.011, SIGBAND=1550
2013-06-07 15:01:11.556	197	196	ACKNOWLEDGE	48VFLT	B-FEED	USERID=NOC-Admin, USERIF=WEB, USERIP=192.168.1.95
2013-06-07 15:00:09.658	196	0	MAJOR	48VFLT	B-FEED	
2013-06-07 14:59:20.357	195	188	ACKNOWLEDGE	LGTRVRS	20005	USERID=NOC-Admin, USERIF=WEB, USERIP=192.168.1.95
2013-06-07 14:56:12.524	188	0	MAJOR	LGTRVRS	20005	OUTPUT=20005, OUTNAME=, OUTDESCR=, OUTSIGTHRESH=1550, OUTPWR=0.000, SIGBAND=1550

By default, ClickFlow presents the alarm log file with the most recent log entries at the top and supports scroll bars for viewing older records. All log entries are assigned a sequence number at the time the log entry is posted.

Alarm log records also have a “Clear SeqNo” field. This field is used to correlate a clear or acknowledge log record with the original alarm record by specifying the sequence number of the original alarm. This field will contain a 0 for records reporting an alarm.

2.6 Alarm Notifications

Unless suppressed by the user, notifications for all alarm condition changes are also issued to configured SNMP, Syslog and Path Manager 2 server targets. Autonomous Messages are issued to active TL1 sessions where the user has enabled session notification.

The notification types are summarized below.

- GGNMSG (Glimmerglass Message)
  - Proprietary UDP packets (encrypted or unencrypted)
  - Notifications for all changes in the system (alarms, events, configuration)
  - Used for real-time updates to Path Manager 2 servers
  - Configured via TL1. Maximum of three targets (one Path Manager 2 target at a time)
- Syslog
  - Supports notifications for all changes in the system
  - May be configured to exclude notifications for security-related activities (e.g. SECU log entries)
  - Configurable from all interfaces. Maximum of three Syslog server targets.
- SNMP Traps
  - Traps provided for all system alarms and events only
  - Configurable (v2 targets) from ClickFlow, TL1, and SNMP. Maximum of three trap targets.
- TL1 Autonomous Message
  - Per session notifications for system alarms and events only

With the exception of SNMP, the payload for each of the above notifications is a quoted-line carrying a "GGNMSG" (multiple keyword=value pairs defining the message type and cause).

3 Signal Threshold Configuration/Operation

Signal Thresholds configuration and assignment is introduced in Release 8 to provide additional flexibility for configuration of optical alarm threshold conditions for ports. This functionality, combined with the ability to configure the alarm severity at a port level, allows a high degree of customization for alarm management.

Prior to Release 8, the optical power threshold alarm settings were configured in Signal Types. The signal type governed threshold monitoring for both the input and output port in the connection. As a result, the optical power minimum needed to reflect the lowest valid power at the output port.

In Release 8, the Signal Types are obsolete and replaced with Signal Thresholds. As with Signal Types, Signal Thresholds allow the user to establish optical power thresholds for reporting alarm conditions when the optical power at the port crosses a threshold.

When configuring a Signal Threshold, the user specifies four items:

- The name for the Signal Threshold (used when assigning to ports)
- A minimum optical power level value (dBm)
- A maximum optical power level value (dBm)
- A threshold hysteresis value (dB)

The threshold hysteresis value brackets each power level. Alarm conditions occur or are cleared when the optical power rises above or below the power level ± the threshold hysteresis value. So, the alarm and alarm-clear thresholds are offset from the power level values by the hysteresis to preclude alarm 'fluttering'.

The alarm type for the minimum optical threshold crossing is designated as **STMIN** (**S**ignal **T**hreshold **Min**imum). This alarm is generated when the power falls below the minimum threshold. This alarm is cleared when the power returns above the threshold.

The alarm type for the maximum optical threshold crossing is designated as **STMAX** (**S**ignal **T**hreshold **Max**imum). This alarm is generated when the power rises above the maximum threshold. This alarm is cleared when the power falls below the threshold.

Once configured, Signal Thresholds are then assigned to port(s) by the user. When a Signal Threshold is modified, then changes are immediately reflected at all assigned ports.

There is no requirement for input and output ports to have different thresholds. If the input and output ports in a connection share the same Signal Threshold, the operation is the same as in earlier software releases where Signal Types were used.

4 ClickFlow Changes

This chapter outlines the changes implemented in the ClickFlow user interface to support Release 8 functionality.

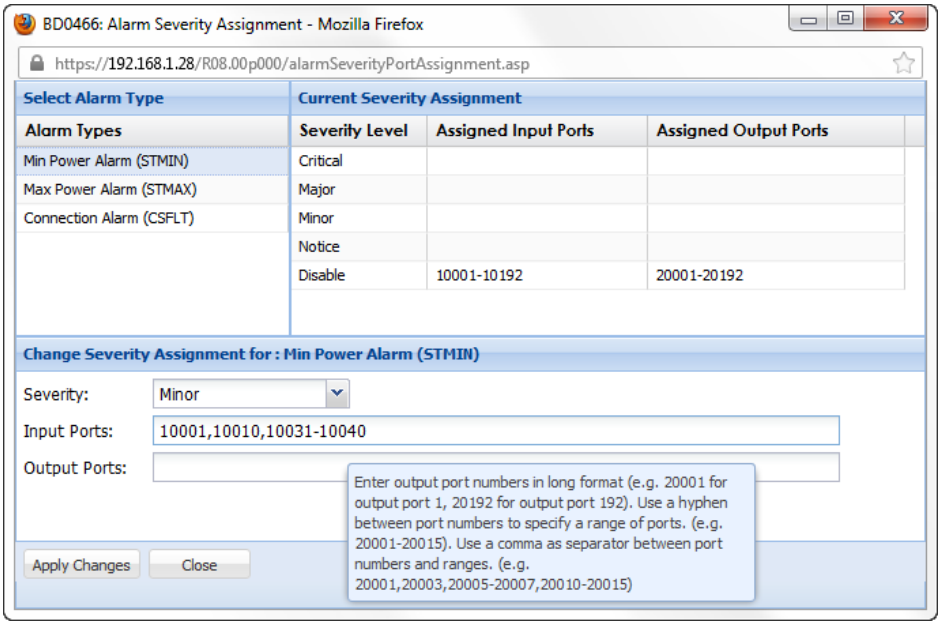
4.1 Port List Configuration

With Release 8, there are several new configuration parameters for input and output ports. With the exception of port names and comments, a given parameter value (e.g. waveband = 1310) is typically assigned to many ports in the system. To simplify the task of assigning a parameter value to multiple ports, ClickFlow now allows the user to specify a list of ports for assignment. The parameters supported for list operations are:

- Waveband Assignment
- Signal Threshold Assignment
- Port-to-Port Group Assignment
- STMIN, STMAX, and CSFLT Alarm Severity Assignment
- User Port Privilege Assignment

Below is an example of the window for assigning STMIN, STMAX and CSFLT severities. This window is representative of the look/feel for each of the above.

When opened, the current port assignments for the configurable options are displayed at the top of the window. The user then selects the option to assign and enters a port list (Input Ports and/or Output Ports) to which to assign the value. This example shows an actual input list as well as the tool tip for guidance on how to enter ports and port ranges. After the user clicks the Apply Changes button, the upper portion of the window will refresh to show the new port assignments and will be ready for further changes if required. Refer to the Release 8 ClickFlow Manual (p/n: 901-0102) for further information on configuring the above port parameters.



4.2 Connection Screen Changes

There are four changes to the Connection Screen in Release 8. These are listed below. Refer to the ClickFlow Manual (p/n: 901-0102) for further information.

- Alarm Panel Changes
  - The panel longer displays icons for system hardware (fans, DC power)
  - The panel header displays the System Name and the background color the severity of the highest unacknowledged alarm in the system
  - The panel footer indicates if Alarms are present (even if all are acknowledged)
  - The System Name in the panel header may be clicked to open the Active Alarm Table
- Port Information Box Changes
  - The contents are updated to include the Waveband and Signal Threshold assignments for the port
- Configure/Provision Port Context Window Changes
  - The Port Configure window is updated to support configuration of all new input and output port attributes
  - The Provision windows are updated to support assignment of Waveband, Input and Output Signal Thresholds and Connection Fault Severity
- Connection Configuration Boxes
  - The Signal Type Assignment option is removed

4.3 Reports Menu Changes

The table below outlines the changes in the Reports menu. In addition to the content changes for these items, the presentation of each window is updated for ease of use.

Reports Menu Option	New or Modified	Comments
Port	Modified	The following port attributes are added: Signal Threshold, Waveband and each of the assignable alarm severities (MinPwr, MaxPwr, and ConnAlarm)
Connection	Modified	The following port/connection attributes are removed: • Signal Type The following port/connection attributes are added: • Waveband - Waveband assigned to the Input Port (automatically assigned to output port upon connection) • Input Signal Threshold - Threshold name assigned to Input Port • Output Signal Threshold - Threshold name assigned to Output Port • CSFLT Severity – Severity that will be used when reporting a connection fault condition is detected for this connection (configured on output port)
Signal Threshold	New	Displays the configuration for each Signal Threshold and the ports currently assigned to each Signal Threshold

Reports Menu Option	New or Modified	Comments
Waveband	New	Displays the ports assigned to each Waveband (1310 or 1550)
System Info	Modified	Reformatted to support display of system configuration by hardware configuration, port information, license information, and software information. Port information not displayed if user does not have privilege for all ports.

4.4 Configure Menu Changes

The table below outlines the changes in the Configure menu. In addition to the content changes for these items, the presentation of each window is updated for ease of use.

Configure Menu Option	New or Modified	Comments
Signal Threshold	New	Configuration of Signal Thresholds
Ports > Change Port Configuration	Modified	Added column supporting assignment of a Signal Threshold to the port
Ports > Clear Port Parameters	New	Opens sub-menu with access to options to clear port names, clear port comments or clear both port names and comments
Ports > Change Waveband Assignment	New	Used to change port waveband assignment. Supports changing assignments via an input port list.
Ports > Change Signal Threshold Assignment	New	Used to assign ports to Signal Thresholds. Supports changing assignments via port lists for both input and output ports.
Ports > Change Group Assignment	New	Used to assign ports to Port Groups. Supports changing assignments via port lists for both input and output ports.
Ports > Change Alarm Severity Assignment	New	Used to assign the STMIN, STMAX and CSFLT alarm reporting severities to ports. Supports changing assignments via port lists for both input and output ports.

4.5 User Management Menu Changes

The table below outlines the single change in the User Management menu. This is a new option allowing direct port privilege assignments by port list as opposed to the previous (still available) export/import method.

User Management Menu Option	New or Modified	Comments
Change Port Privilege Assignment	New	Used to assign a user's port privileges. Supports changing assignments via port lists for both input and output ports.

4.6 System Menu Changes

The table below outlines the changes in the System menu. With the exception of the changes required to include Signal Threshold records as an individually restorable item, all other options are new. The Active Alarm table may be accessed and viewed from this menu. All log files are also accessed through this menu for viewing.

System Menu Option	New or Modified	Comments
System Backup/Restore > Restore	Modified	Replaced Signal Type with Signal Threshold under Restore settings
System Alarms	New	Opens the Active Alarm table window
System Logs > ALARM	New	Opens the Alarm Log for viewing
System Logs > AUTO	New	Opens the Auto Log for viewing
System Logs > SECU	New	Opens the Security Log for viewing

5 TL1 Changes

This chapter outlines the changes implemented in the TL1 user interface to support Release 8 functionality.

5.1 General Changes

The following general changes are implemented in the TL1 interface.

SSL Change
The operation of the –tl1SSLEnable parameter is modified in Release 8. The new operation is as follows.

The -tl1SSLEnable parameter is set to a value of 0.

- TL1 sessions are accepted using both insecure and secure TCP Ports.

The -tl1SSLEnable parameter is set to a value of 1.

- TL1 sessions are only accepted on secure TCP Ports.

Log file Structure Changes
The payload of all log file records is now a GGNMSG. Previously, log file records were a combination of GGNMSG and native TL1 formats. The GGNMSG format is defined in Appendix B of the TL1 Manual.

Autonomous Message Structure Changes
Autonomous Messages carry the same information as placed in the RTRV-LOG file. As such, the payload in all Autonomous Messages is now a GGNMSG.

5.2 New TL1 Commands

This section outlines the TL1 commands introduced in Release 8 to support alarm management as well as Signal Threshold configuration and Waveband/Signal Threshold assignment to ports.

Signal Threshold Configuration
The commands below are used to create/modify/delete and view Signal Thresholds. These commands are described in Chapter 7 of the Release 8 TL1 Manual.

Commands	Descriptions
SET-CFG-SIGTHRESH	Command used to create a Signal Threshold record
RTRV-CFG-SIGTHRESH	Shows configuration of specified Signal Threshold records
DLT-CFG-SIGTHRESH	Deletes specified Signal Threshold records

Waveband and Signal Threshold Assignment to Ports
The commands below are used to assign a waveband (called SIGBAND in TL1) and Signal Thresholds to ports in the system. These commands are described in Chapter 6 of the Release 8 TL1 Manual

Commands	Descriptions
SET-SIGBAND-FIBER	Used to assign a waveband to the specified input port(s)
RTRV-SIGBAND-FIBER	Shows current waveband assignments for specified ports(s)
SET-SIGTHRESH-FIBER	Used to assign a Signal Threshold to the specified port(s)
RTRV-SIGTHRESH-FIBER	Shows current Signal Threshold assignments for specified port(s)

Alarm Management, Log Viewing and Notification Target Configuration
These commands are added to support configuration of alarms, configuration of notification targets, viewing of the active alarm table, acknowledging alarms as well as viewing of all logs in a GGNMSG format. These commands are described in Chapter 9 of the Release 8 TL1 Manual

Commands	Descriptions
SET-CFG-ALARM	Used to define the severity for configurable optical alarms for a port.
RTRV-CFG-ALARM	Shows configuration for all ports where the configurable optical alarm severity settings differ from the factory default setting
DLT-CFG-ALARM	Restores the optical alarm setting to the default value for the port
RTRV-ACT-ALARM	Shows all active alarms in the system
ACK-ACT-ALARM	Used to acknowledge an active alarm
ALW-MSG-ALM	Used to allow TL1 Autonomous Message notification for system alarms in the current TL1 session
INH-MSG-ALM	Used to inhibit TL1 Autonomous Message notification for system alarms in the current TL1 session (must have been previously allowed)
ALW-MSG-EVT	Used to allow TL1 Autonomous Message notification for system and optical events in the current TL1 session
INH-MSG-EVT	Used to inhibit TL1 Autonomous Message notification for system and optical events in the current TL1 session (must have been previously allowed)
RTRV-GGNMSG-LOG	Shows the specified log file in the GGNMSG format. This is an alternative view to the RTRV-LOG view which includes TL1 header information.
SET-GGNMSG-SERVER	Used to configure GGNMSG notification targets (e.g. Path Manager 2)
RTRV-GGNMSG-SERVER	Shows current GGNMSG notification targets
DLT-GGNMSG-SERVER	Deletes (removes) a GGNMSG notification target
DLT-SYSLOG-SERVER	Deletes (removes) a Syslog notification target

5.3 Modified TL1 Commands

This section outlines the TL1 commands modified in Release 8. If these commands are used in existing scripts, check the new command responses to ensure compatibility.

Access Commands
A minor enhancement was implemented to allow a TL1 user to view and force-logoff both TL1 and ClickFlow users. Previously, TL1 only displayed and allowed force-logoff for active TL1 user sessions. The TL1 functionality is now equivalent to the Session Admin functionality provided under the System menu in ClickFlow. These commands are described in Chapter 3 of the Release 8 TL1 Manual.

Command	R8.0 Change
RTRV-STATUS	Command response now shows both ClickFlow and TL1 active sessions and identifies the user, user's IP and user interface for each session.
CANC-USER-SECU	Command now logs off all sessions for the specified user id (all ClickFlow and TL1 sessions opened to the user id)
CANC-CID-SECU	Command now logs off all active sessions (both ClickFlow and TL1)

Port Configuration Commands
The SET-CFG-FIBER command is modified to allow the user to configure all port attributes with the exception of port names. This allows a single command to be used to assign wavebands, signal thresholds, and alarm severities along with the previously supported port group and port comment attributes. The RTRV-CFG-FIBER command response now includes the new fields. These commands are described in Chapter 6 of the Release 8 TL1 Manual.

Command	R8.0 Change
SET-CFG-FIBER	Command includes support for assigning the following port attributes: SIGBAND (Waveband), SIGTHRESH (Signal Threshold), STMINSEV (Min. Optical Power Alarm Severity), STMAXSEV (Max. Optical Power Alarm Severity) and CSFLTSEV (Connection Fault Alarm Severity)
RTRV-CFG-FIBER	Command response updated to include the keyword=value pairs for the new port attributes (SET-CFG-FIBER). The PORTDIR and PORTLIC keyword=value pairs are removed from the command response.

Log Management and Viewing

The following commands are enhanced to include support for the new Alarm log. The RTRV-LOG command output is standardized to show the message payload in the GGNMSG format.

Command	R8.0 Change
INIT-LOG	Added the Alarm log to the command options
RTRV-LOG	Added the Alarm log to the command options. Log records displayed in GGNMSG format
SET-ATTR-LOG	Added the Alarm log to the command options
RTRV-ATTR-LOG	Added the Alarm log to the command options

5.4 Removed TL1 Commands

The following TL1 commands are no longer used and are removed from the software and Release 8 TL1 Manual. The comments to the right of the command

Command Removed	Comments
SET-SIGTYPE-FIBER	Signal Types no longer supported
RTRV-SIGTYPE-FIBER	Signal Types no longer supported
DLT-SIGTYPE-FIBER	Signal Types no longer supported
SET-SIG-THRESH	Replaced by configuration commands for alarm severity
RTRV-SIG-THRESH	Replaced by retrieve commands for alarm severity
RTRV-PORT-THRESH	Same as above (redundant command)
STA-LOG	Log files can no longer be stopped/started
STP-LOG	Log files can no longer be stopped/started
RTRV-AO	Functionality replaced by RTRV-GGNMSG-LOG
RTRV-COND-COM	Replaced by Active Alarm Table
SET-ATTR-SECUALM	Security alarm conditions are hard coded
ALW-MSG-SECU	Removed Autonomous Messages for SECU events
INH-MSG-SECU	Removed Autonomous Messages for SECU events
RTRV-ALM-SECU	Replaced by Active Alarm Table
ALW-MSG-FIBER	Replaced by ALW-MSG-ALM and ALW-MSG-EVT
INH-MSG-FIBER	Replaced by INH-MSG-ALM and INH-MSG-EVT
RTRV-MSG-FIBER	Replaced by retrieve commands for alarm severity
RTRV-COND-FIBER	Replaced by Active Alarm Table

6 SNMP Changes

Glimmerglass has released a new MIB for Release 8.0 software.

The new MIB is included on the Release 8 Manuals CD (part number 901-0003_RevL) and is also available for download through the Glimmerglass web site. The latter requires a valid login account under the Resources tab. The MIB is located with the user manual PDFs accessed from the Support link.

The Release 8 MIB uses a new sysObjectID and may be loaded with the old Glimmerglass SMI and alongside the existing Glimmerglass-IOS-MIB.

Alternatively, the existing (Release 7) GLIMMERGLASS-SMI.txt and GLIMMERGLASS-IOS-MIB.txt files may be unloaded and replaced by the latest revisions of the GLIMMERGLASS-SMI.txt and the GLIMMERGLASS-IOS-R7-MIB.txt (name change only). The files and revisions for the new and old files are shown in the tables below.

Upgrade Issues (upgrading to Release 8 from Release 7):
If either the VACM or NOTIFICATION tables have been configured via SNMPv3 to modify user views or to setup delivery filters, these tables will need to be configured to recognize the new OID values used for the Release 8 MIB.

USM tables are not affected and do not require modification.

The MIB files available on the Web site are enumerated below.

Release 8 SMI and MIB File Information:
For SNMP managers supporting Release 7 systems, it is only necessary to load the GLIMMERGLASS-IOS-R8-MIB.txt. The updated SMI and Release 7 MIB simply make the R7 vs. R8 identification easier. The original Release 7 MIB identifies the product as “ggOpticalSystem” whereas the updated version changes the name displayed to “ggSystemR7”.

R8 SMI/MIB Files	Information
GLIMMERGLASS-SMI.txt	Enterprise Root = 1.3.6.1.4.1.30742 Products Root = 1.3.6.1.4.1.30742.1 (ggProducts) Latest Revision = 201307021800Z
GLIMMERGLASS-IOS-R7-MIB.txt	sysObjectID = 1.3.6.1.4.1.30742.1.3 (ggProducts = 3 (ggSystemR7)) Latest Revision = 201307021800Z
GLIMMERGLASS-IOS-R8-MIB.txt	sysObjectID = 1.3.6.1.4.1.30742.1.4 (ggProducts = 4 (ggSystemR8)) Latest Revision = 201307021800Z

Release 7 SMI and MIB File Information:
The files below are the current revisions for Release 7 systems. The Release 8 MIB may be added (loaded) alongside these files.

R7 SMI/MIB Files	Information
GLIMMERGLASS-SMI.txt	Enterprise Root = 1.3.6.1.4.1.30742 Products Root = 1.3.6.1.4.1.30742.1 (ggProducts) Revision = 201006081800Z
GLIMMERGLASS-IOS-MIB.txt	Old Release 7 MIB (compatible with new SMI) sysObjectID = 1.3.6.1.4.1.30742.1.3 (ggProducts = 3 (ggOpticalSystem)) Revision = 201202021800Z (Unloading this MIB and replacing with the GLIMMERGLASS-IOS-R7-MIB.txt MIB may be desired for viewing the products as ggSystemR7 and ggSystemR8 if a MIB browser is often used)

7 Upgrading to Release 8

Upgrading to Release 8 is more significant than previous upgrades as the system's operation and commands have changed to support alarm management. Most of these changes are easily accommodated by users. External programs, however, will need to be validated prior to the upgrade. Contact Glimmerglass Customer Support for assistance in determining if changes are required.

7.1 Upgrade Considerations

Prior to upgrading to Release 8, the following items should be reviewed:

- If external programs are used to monitor the system or to automate switching, ensure the Release 8 command responses (autonomous messages) are compatible with the existing programs. The TL1 and SNMP manuals provide the required information. In general, TL1 command entry is backwards compatible for existing parameters. New command parameters are simply additional keyword=value pairs. For command responses, the keyword=value pairs for pre-Release 8 parameters are unchanged. However, new pairs are added in many cases for new attributes and some old pairs (e.g. Signal Type) are removed.
- For SNMP operation, Release 8 software is a different sysObjectID than Release 7. The Release 8 MIB will need to be loaded on the SNMP Manager(s). SNMP traps will reflect the new sysObjectID and any VACM or Notification table configuration performed for Release 7 systems will need to be added for Release 8.

After upgrading to Release 8:

- The upgrade process automatically converts the Signal Types in the prior release to both Signal Thresholds and Waveband/Signal Threshold assignments. After the upgrade, all input an output ports will be correctly configured (correct waveband and correct signal threshold). If the upgrade is rolled-back, the original configuration will be restored on the earlier version of software.
- The upgrade process also automatically configures the alarm severities for the user configurable STMIN, STMAX and CSFLT alarm severities. The rules for this are as follows:

    - All output ports will be configured to report CSFLT alarms at the Critical severity
    - Input and output ports that were configured to report ST1A/ST1B and/or ST2A/ST2B events in the earlier release will have the STMIN and STMAX alarms set with a severity of Minor after the upgrade. In earlier releases, these alarm events were hardcoded at the minor severity. Therefore, the functionality remains as in the earlier release.
    - Input and output ports that were NOT configured to report ST1A/ST1B and/or ST2A/ST2B events in the earlier release will have the STMIN and STMAX alarms set with a severity = Disable after the upgrade.

    As a consequence of the above, the system may have unexpected active alarms after the upgrade is completed (after the reboot, as a result of the upgrade) even if the 'no alarms' were present prior to the upgrade.

    - Minor STMIN alarms will be generated for all input ports that are 'dark' (no input power)
    - Critical CSFLT alarms will be generated for all 'dark' connections (no input power)
    - Minor STMIN alarms will be generated for all output ports that are in a 'dark' connection.

- The alarms reported reflect the new standing alarm rules implemented in Release 8. After the upgrade, the correct alarm severities for STMIN, STMAX and CSFLT should be determined and the ports will then be configured appropriately. This can be done on all or some ports via ClickFlow, TL1 or SNMP. Setting the severity value to Disable will clear any of these alarms. This can be done to clear the alarms prior to deciding on the desired alarm severities and assignments for input and output ports (which may be different)
- After the upgrade, backup the system configuration when on Release 8. Backups from Release 7 can be restored but the Signal Type assignments cannot be restored and these backups will not contain the alarm severity configuration.

7.2 Procuring an Upgrade

Release 8 upgrades must be ordered. Contact either Glimmerglass Sales or Customer Support to request an upgrade. Glimmerglass Customer Support will provide the upgrade and answer any questions and provide remote assistance as necessary.

Upgrade requests may be directed to Glimmerglass by sending an email to:

sales@glimmerglass.com

Or

support@glimmerglass.com