DISCONTINUED

TranScend

TranScend Chassis

OPERATION MANUAL

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SCOPE

1. Scope

This document describes the user interfaces for TranScend family chassis. The user interfaces include front panel LED, buttons operations, LCD display, Craft Line Interfaces and remote monitoring through SNMP.

NOTE: *An overcurrent protection device for permanent connection must be included at the site as a building installation requirement.*

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LED DISPLAY

2. LED Display

There are nine front panel LEDs, one indicates the chassis power supply status and four sets of two each indicate the status of the four plug-in units. The number labeled on the front panel correspond to the slot identification; one on the most left and four on the most right (closest to power switch) when facing the rear of the chassis. Figure 1 below shows the generic alarm table and corresponding color codes.

2.1 LED Color Codes

There are four possible colors of LEDs. They are observed during the following conditions.

Off: indicates the monitored function is unavailable. This is also observed temporarily during power on LED test.

Example #1: Only slot 1 and slot 2 have plug in units. The LEDs for slot 3 and slot 4 are off.

Example #2: The High Sensitivity Quad Return Receiver is detected in slot 1; the RF LED for slot 1 is turned off since RF detection is not available in this unit.

Green: indicates the monitored function is healthy. This is also temporarily observed during power on LED test.

Example #1: The High Sensitivity Quad Return Receiver is detected in slot 1, and the OPT LED for slot 1 is green which indicates the monitored level of all four optical power receivers in slot 1 are within normal operating range.

Amber: indicates the monitored function is in minor alarm condition. This is also temporarily observed during power on LED test.

Example #1: The High Sensitivity Quad Return Receiver is detected in slot 1, and the OPT LED for slot 1 is amber which indicates the level of any one or more of the four optical power receivers in slot 1 are in minor alarm range. The minor alarm is triggered if the monitored level is between the high and high-high or low and low-low thresholds.

Red: indicates the monitored function is in major alarm condition. This is also observed temporarily during power on LED test.

Example #1:The High Sensitivity Quad Return Receiver is detected in slot 1, and the OPT LED for slot 1 is red which indicates the level of any of the four optical power receivers in slot 1 are within major alarm range. The major alarm is triggered if the monitored level is beyond the high-high or low-low thresholds.

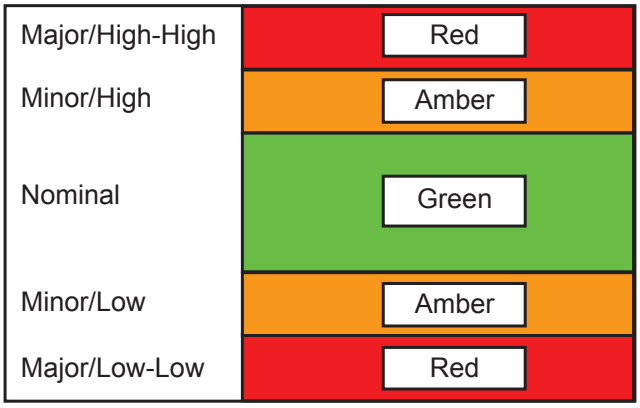

Figure 1: Generic Alarm & LED Table Plug-in LED Definitions

2.1.1 High Sensitivity Quad Return Receiver

The High Sensitivity Quad Return Receiver detects the alarms and reflects them on the front panel LEDs based on the following schema.

LED Location	Trigger Events
Top	Optical receive power Module temperature
Bottom	Disable

Example #1: The module temperature and optical receive power on channel #1, #2 are normal and the channel #3 is minor low, but the channel #4 is major low low. The top LED associated with the slot shall be observed as “red”, since this is the worst case scenario for any of the observed parameters. The top LED may show green regardless of the real-time alarm status if the per channel alarm enable switch is set as “OFF”.

2.1.2 PON EDFA

The PON EDFA detects the alarms and reflects them on the front panel LEDs based on the following schema.

LED Location	Trigger Events
Top	Optical input power Optical output power Module temperature
Bottom	Disable

Example #1: The module temperature and optical output power is normal, but the optical input power is at a level that indicates a major alarm. The top LED associated with the slot shall be observed as “red”.

2.1.3 Quad Return Receiver

The Quad Return Receiver detects the alarms and reflects them on the front panel LEDs based on the following schema.

LED Location	Trigger Events
Top	Optical receive power Module temperature
Bottom	Software version 2.6 and before - green Software version 2.7 and later- disable

Example #1: The module temperature is normal, but optical receive power is major low low. The top LED associated with the slot shall be observed as “red”.

2.1.4 Destacker

The Destacker detects the alarms and reflects them on the front panel LEDs based on the following schema.

LED Location	Trigger Events
Top	Optical power Module temperature
Bottom	Synthesizer lock state

Example #1: The module temperature is normal, but optical power is major low low. The top LED associated with the slot shall be observed as “red”.

2.1.5 Stacker

The Stacker detects the alarms and reflects them on the front panel LEDs based on the following schema.

LED Location	Trigger Events
Top	Optical power Module temperature
Bottom	Synthesizer lock state

Example #1: The module temperature is normal, but optical power is major low low. The top LED associated with the slot shall be observed as “red”.

2.1.6 Optical Switch

The Optical Switch detects the alarms and reflects them on the front panel LEDs based on the following schema.

LED Location	Trigger Events
Top	Primary and secondary optical input power Switch alarm Module temperature
Bottom	Disable

Example #1: The module temperature is normal, but primary optical power is major low low. The top LED associated with the slot shall be observed as “red”.

2.1.7 Forward Receiver

The Forward Receicer detects the alarms and reflects them on the front panel LEDs based on the following schema.

LED Location	Trigger Events
Top	Optical power Module temperature
Bottom	Disable

Example #1: The module temperature is normal, but optical power is major low low. The top LED associated with the slot shall be observed as “red”.

2.1.8 RF Switch

The Optical Switch detects the alarms and reflects them on the front panel LEDs based on the following schema.

LED Location	Trigger Events
Top	Switch alarm Module temperature
Bottom	Primary and secondary RF input

Example #1: The module temperature is normal, but primary optical power is major low low. The top LED associated with the slot shall be observed as “red”.

2.1.9 AGC EDFA

NOTE: *The AGC EDFA described in this document applies to the firmware release 1.21 or later.*

The AGC EDFA detects the alarms and reflects them on the front panel LEDs based on the following schema.

LED Location	Trigger Events
Top	Optical input power Optical output power Gain Module temperature
Bottom	Disable

Example #1: The optical input power is at a level that indicates a major alarm, but the rest of the attributes are normal. The top LED associated with the slot shall be observed as “red”.

2.1.10 Transceiver

The Transceiver (also known as MDU) detects the alarms and reflects them on the front panel LEDs based on the following schema.

LED Location	Trigger Events
Top	Laser Temperature Laser Power Optical Input Power Module temperature
Bottom	RF

Example #1: The optical input power is at a level that indicates a major alarm, but the rest of the attributes are normal. The top LED associated with the slot shall be observed as “red”.

2.1.11 High Sensitivity Opto-Stacker

The High Sensitivity Opto-stacker is a dual wide plug-in that detects the alarms and reflects them on the front panel LEDs based on the following schema.

LED Location	Trigger Events
Top	Laser Temperature Optical Input and output Power Module temperature
Bottom	Lock

Example #1: The optical input power is at a level that indicates a major alarm, but the rest of the attributes are normal. The top LED associated with the slot shall be observed as “red”.

2.1.12 Direct Forward Transmitter (DFB Tx)

The Direct Forward Transmitter detects the alarms and reflects them on the front panel LEDs based on the following schema.

LED Location	Trigger Events
Top	Laser Temperature Optical Input Power Module temperature
Bottom	RF

Example #1: The optical input power is at a level that indicates a major alarm, but the rest of the attributes are normal. The top LED associated with the slot shall be observed as “red”.

2.1.13 Opto-Stacker

The Opto-stacker is a dual wide plug-in that detects the alarms and reflects them on the front panel LEDs based on the following schema.

LED Location	Trigger Events
Top	Laser Temperature Optical Input and output Power Module temperature
Bottom	Lock

Example #1: The optical input power is at a level that indicates a major alarm, but the rest of the attributes are normal. The top LED associated with the slot shall be observed as “red”.

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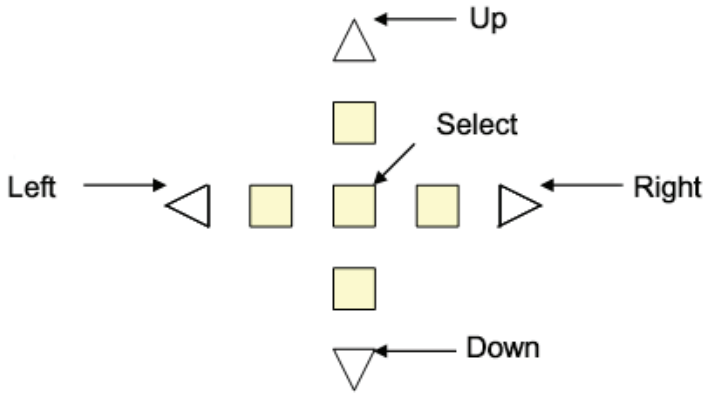
PUSHBUTTON OPERATIONS

3. Pushbutton Operations

There are five pushbuttons located at the front panel of chassis. They are designated as “Up” with a upper arrow indicator, “Right” with a right arrow indicator, “Left” with a left arrow indicator, “Down” with a down arrow indicator and “Select” as the center button.



3.1 Philosophy of Button Operations

3.1.1 Individual Button Operations

Up: The cursor moves up one line

Down: The cursor moves down one line

Right: Cycle through the available options for the line where cursor is located.

If the menu is for read-only attribute, the display shows the next available interface.

Example #1: If the current display is “#1 Optical Power”, the “#2 Optical Power” shall be displayed after “Right” button is pressed.

Example #2: If the menu is for the quantitative write attributes, the “Right” button increases the value.

In the “Gain Setting Menu”, the cursor displays Gain (steps): 1, the Gain (steps): 2 shall be displayed after the “Right” button is pressed once.

Left: Cycle through the available options for the line where cursor is located

If the menu is for read-only attribute, the display shows the next available interface.

Example #1: If the current display is “#2 Optical Power”, the “#1 Optical Power” shall be displayed after “Left” button is pressed.

Example #2: If the menu is for the quantitative write attributes, the left button decreases the value.

In the “Gain Setting Menu”, the cursor displays Gain (steps): 3, the Gain (steps): 2 shall be displayed after “Left” button is pressed.

Select: There are multiple meanings to the select button.

- Select to execute the action where the cursor is located.

  Example #1: If the cursor is located at the “Prev menu” line, the display shall change to the NEXT higher menu after the “Select” button is pressed once.

- Select to commit the option.

  Example #1: In the “Gain Setting Menu”, if the cursor is located on the “Sel Ch: 1” line, the channel #1 shall be used for gain adjustment after “Select” button is pressed.

NOTE: *Only after pressing the Select button, the gain settings option is operated on the selected channel.*

- Select to commit the setting to NVRAM

  Example #1: In the “Gain Setting Menu”, if cursor is on “Save: No (17)”, user must toggle the right or left button to change the option to “Yes”. Then press “Select” to commit the value, 17, in the bracket into the NVRAM.

NOTE: *Only if the value is committed into NVRAM, the chassis will use the selected gain level next time the chassis recovers from power cycle.*

3.1.2 Combination Button Operations

The combination button operations are unique to TranScend chassis. Each combination operation is defined strictly for their specific usage as the following definition.

UP+DOWN: When pressing and holding the UP+DOWN button simultaneously when traversing the slot menu, the front panel displays current slot number. The front panel display will restore back to the previous display once the button combination is released.

Example #1: User is within the “Status Menu” of slot #1, press and hold the Up and Down buttons, the front panel displays “Current Slot: 1”. The “Status Menu” returns after releasing the Up and Down button combinations.

LEFT+RIGHT: When pressing and holding the LEFT+RIGHT button simultaneously, the front panel displays tree’s top menu of sub-tree. The top menu is usually the module’s Greetings.

NOTE: *The support of this feature starts on plugin software version 2.1D or later.*

FRONT PANEL LCD DISPLAY

4. Front Panel LCD Display

4.1 Menu Tree Structure

The TranScend chassis LCD menu is structured into bi-level trees. The top level is system related information and the second level is plug-in related information. The top level contains the menu for second level, but each has its own menu structure.

Level 1	Level 2	Level 3
Greeting	Slot	
	Chassis	Model
		Hardware Version
		Software Version
		Serial Number
		Prev Menu
	Alarm	Power Supply
		Fan
		Prev Menu
	Prev Menu	

Table 1: TranScend Front Panel System Menu Overview

4.2 System Menu Trees

TranScend chassis displays the greeting message upon chassis power up.

Greeting:

ATX Networks
Transcend

Press “Select” button to go into the system menus. The entries in system menus are described as follows:

Slot:

This displays the detected plug-in card type or “Empty” if none is detected. Press “Right” or “Left” button to cycle through available slots. Press “Select” to show the slot status. If the communication with slot establishes successfully, the display will go into the second level plug-in menu. Keep in mind that the slot numbering scheme is 1, 2, 3, 4 going from the LEFT when you are facing the rear of the chassis.

Slot Status:

Module Greeting: Communication is established with plug-in.

Empty: No module is detected in the slot.

Failed to Switch: Cannot establish communication with module.

Multi-slot unit; Display avail on slot #: this is the virtual slot on a multiple slot unit. User can access the module's display menu via the lowest slot of the multi slot unit. The slot # is shown.

Chassis:

Displays all system related information.

Model: Displays the chassis' model name.

HW Ver: Displays the hardware version information of TranScend chassis.

SW Ver: Displays the software version information of TranScend chassis.

Ser #: Displays the serial number of TranScend chassis.

Alarm:

Display all system related alarm status.

Pwr Sply: displays the health of chassis power supply.

Fan: displays the collective health of the chassis fans.

Prev Menu:

Press "Select" will bring the Greeting Message screen back.

NOTE: *"Prev Menu" exists in all menu trees AT THE VERY BOTTOM. When you see it, place the cursor on this line and press the "Select" button will go back to the previous menu.*

4.3 Plug-in Menu Tree

The plug-in menu displays is driven by the card type. Each model provides its own display structure. In any sub menu, press "Select" on the **Prev Menu** line to return to the previous menu one level up.

4.3.1 High Sensitivity Quad Return Receiver

Level 1	Level 2	Level 3	Level 4
Greeting	Setup	Attn Setting	Select Channel
			Attn (dB)
			Save
			Prev Menu
		Test Point	Select Channel
			Prev Menu
		Alarm Enable	Channel
			Enable
			Save
			Prev Menu
		Prev Menu	
	Status	Optical	
		Prev Menu	
	Alarm	Receiver Power	
		Module Temp	
		Prev Menu	

	Optical	Power (dBm)	
		Attn (dB)	
		Prev Menu	
	Chassis	Temperature(C)	
		Model	
		Hardware Version	
		Software Version	
		Serial Number	
		Prev Menu	
	Prev Menu		
Prev Menu			

Table 2: TranScend High Sensitivity Quad Return Receiver Front Panel Display Menu Overview

Greeting:

Greeting Message

ATX Networks
HS Quad Return Rcvr

Press “Select” button to go into the plug-in menu.

Prev Menu:

Press “Select” will bring back to the System menu.

The entries in plug-in menu are described as follows:

Setup Menu:

Attn Setting Menu:

Sel Ch: Press “Select” to select the channel for attenuation adjustment. Press “Right” or “Left” button to cycle through available channels.

Attn (dB): Press “Select” to set the attenuation level. Press “Right” to increase or “Left” button to decrease the attenuation level.

***NOTE:** After the attenuation level adjustment, user must press “Select” to commit the attenuation level in order for the plug-in to operate at such level and for NVRAM storage. Fail to do so, the attenuation might revert back to previous level.*

Save: Press “Right” or “Left” button to select between “Yes” or “No”. Press “Select” to commit the value into NVRAM when “Yes” is selected. The value in bracket reflects the current NVRAM contents. If user presses “Select” when display is “No”, no NVRAM change takes place.

Test Point Menu: Select the test point connection to front panel “RF TEST” output.

Sel Ch: Press “Select” to select the channel to connect to the front panel “RF TEST” output. Press “Right” or “Left” button to cycle through available channels.

Alarm Enable Menu: Enable or disable alarms on the selected channel. Note: the alarm’s enable or disable switch only applies to the analog attributes on per channel basis. These attributes include Optical Power Level, RF and Laser Temperature.

Channel: Press “Right” or “Left” button to cycle through available channels.

Enable: Press “Select” to enable or disable the alarm reporting. Press “Right” or “Left” button to cycle through the available options.

On: Report alarms on the selected channel

Off: Disable alarm reporting on the selected channel

Save: Press “Right” or “Left” button to select between “Yes” or “No”. Press “Select” to commit the value into NVRAM when “Yes” is selected. The value in bracket reflects the current NVRAM contents. If user presses “Select” when display is “No”, no NVRAM change takes place.

Status Menu:

Opt: Displays the reading of optical receiver power in dBm. This display does not include the reading after the decimal point.

Alarm Menu:

Rcvr Pwr: Displays the alarm status of optical receiver power.

Module Temp: Displays the alarm status of module temperature.

Optical Menu:

Power (dBm): Displays the optical receiver power reading in dBm.

Attn (dB): Displays the attenuation setting in dB on per channel basis.

Chassis Menu:

Temp(C): Displays the module’s temperature reading in Centigrade.

Model: Displays the model name of plug-in module.

HW Ver: Displays the hardware version information of plug-in module.

SW Ver: Displays the software version information of plug-in module.

Ser #: Displays the serial number of plug-in module.

Prev Menu:

Press “Select” will bring the plug-in’s greeting message screen back.

4.3.2 PON EDFA

Level 1	Level 2	Level 3	Level 4
Greeting	Status	Laser Temperature (C)	
		Bias (mA)	
		Optical Input (dBm)	
		Optical Output (dBm)	
		Prev Menu	
	Alarm	Laser Temperature	
		Optical Input	
		Optical Output	
		Module Temperature	
		Shutoff	
		Prev Menu	

	Chassis	Temperature(C)	
		Model	
		Hardware Version	
		Software Version	
		Serial Number	
		Prev Menu	
	Prev Menu		
Prev Menu			

Table 3: TranScend Pon EDFA Front Panel Display Menu Overview

Greeting:

Greeting Message

ATX Networks
PON EDFA

Press “Select” button to go into the plug-in menu.

Prev Menu:

Press “Select” will bring back to the System menu.

The entries in plug-in menu are described as follows:

Status Menu:

Laser Temp(C): Displays the reading of laser temperature in Centigrade. Press “Left” or “Right” button to cycle through the available channels.

Bias (mA): Displays the reading of the laser bias in mA. Press “Left” or “Right” button to cycle through the available channels.

OPT Input (dBm): Displays the reading of optical input power in dBm.

OPT Output (dBm): Displays the reading of optical output power in dBm.

Alarm Menu:

Laser Temp: Displays the alarm status of laser temperature. Press “Right” or “Left” button to cycle through available channels.

OPT Input: Displays the alarm status of the optical input power.

OPT Output: Displays the alarm status of the optical output power.

Module Temp: Displays the alarm status of module temperature.

Shutoff: Displays the alarm status of pump shutoff.

Chassis Menu:

Temp(C): Displays the module’s temperature reading in Centigrade.

Model: Displays the model name of plug-in module.

HW Ver: Displays the hardware version information of plug-in module.

SW Ver: Displays the software version information of plug-in module.

Ser #: Displays the serial number of plug-in module.

Prev Menu:

Press “Select” will bring the plug-in’s greeting message screen back.

4.3.3 Quad Return Receiver

Level 1	Level 2	Level 3	Level 4
Greeting	Setup	Attn Setting	Select Channel
			Attn (dB)
			Save
			Prev Menu
		Test Point	Select Channel
			Prev Menu
		Alarm Enable	Channel
			Enable
			Save
			Prev Menu
		Prev Menu	
	Status	Optical	
		Prev Menu	
	Alarm	Receiver Power	
		Module Temp	
		Prev Menu	
	Optical	Power (dBm)	
		Attn (dB)	
		Prev Menu	
	Chassis	Temperature(C)	
		Model	
		Hardware Version	
		Software Version	
		Serial Number	
		Prev Menu	
	Prev Menu		
Prev Menu			

Table 4: TranScend Quad Return Receiver Front Panel Display Menu Overview

Greeting:

Greeting Message

ATX Networks
Quad Return Rcvr

Press “Select” button to go into the plug-in menu.

Prev Menu:

Press “Select” will bring back to the System menu.

The entries in plug-in menu are described as follows:

Setup Menu:

Attn Setting Menu:

Sel Ch: Press “Select” to select the channel for attenuation adjustment. Press “Right” or “Left” button to cycle through available channels.

Attn (dB): Press “Select” to set the attenuation level. Press “Right” to increase or “Left” button to decrease the attenuation level.

NOTE: *After the attenuation level adjustment, user must press “Select” to commit the attenuation level in order for the plug-in to operate at such level and for NVRAM storage. Fail to do so, the attenuation will revert back to previous level after the module recovers from power cycle.*

Save: Press “Right” or “Left” to select between “Yes” or “No”. Press “Select” to commit the value into NVRAM when “Yes” is selected. The value in bracket reflects the current NVRAM contents. If user presses “Select” when display is “No”, no NVRAM change takes place.

Test Point Menu: Select the test point connection to front panel “RF TEST” output.

Sel Ch: Press “Select” to select the channel to connect to the front panel “RF TEST” output. Press “Right” or “Left” button to cycle through available channels.

Alarm Enable Menu: Enable or disable alarms on the selected channel. Note: the alarm enable or disable switch only applies to the analog attributes on per channel bassis. These attributes include Optical Power Level, RF and Laser Temperature.

Channel: Press “Right” or “Left” button to cycle through available channels.

Enable: Press “Select” to enable or disable the alarm reporting. Press “Right” or “Left” button to cycle through the available options.

On: Report alarms on the selected channel

Off: Disable alarm reporting on the selected channel

Save: Press “Right” or “Left” to select between “Yes” or “No”. Press “Select” to commit the value into NVRAM when “Yes” is selected. The value in bracket reflects the current NVRAM contents. If user presses “Select” when display is “No”, no NVRAM change takes place.

Status Menu:

Opt: Displays the reading of optical receiver power in dBm. This display does not include the reading after the decimal point.

Alarm Menu:

Rcvr Pwr: Displays the alarm status of optical receiver power.

Press “Right” or “Left” button to cycle through available channels.

Module Temp: Displays the alarm status of module temperature.

Optical Menu:

Power (dBm): Displays the optical receiver power reading in dBm.

Attn (dB): Displays the attenuation setting in dB on per channel basis.

Chassis Menu:

Temp(C): Displays the module’s temperature reading in Centigrade.

Model: Displays the model name of plug-in module.

HW Ver: Displays the hardware version information of plug-in module.

SW Ver: Displays the software version information of plug-in module.

Ser #: Displays the serial number of plug-in module.

Prev Menu:

Press “Select” will bring the plug-in’s greeting message screen back.

4.3.4 Destacker Proxy

The Destacker Proxy consists of Destacker and I-HUB Proxy modules, it replaces the Destacker.

Level 1	Level 2	Level 3	Level 4
Greeting	Setup	Attn Setting	Sel Channel
			Attn (dB)
			Save
			Prev Menu
		Test Point	Select Channel
			Prev Menu
		Frequency Ch	Chnl Mode
			Save
			Prev Menu
		Prev Menu	
	Alarm	Synthesizer Lock	
		Receiver Power	
		Module Temperature	
		Prev Menu	
	Optical	Receiver Power (dBm)	
		Gain Resv (dB)	
		Attn (dB)	
		Freq Chnl	
		Prev Menu	
	Chassis	Temperature(C)	
		Model	
		Hardware Version	
		Software Version	
		Serial Number	
		Prev Menu	
	Proxy		
	Prev Menu		
Prev Menu			

Table 5: TranScend Destacker Proxy Front Panel Display Menu Overview

Greeting:

Greeting Message

ATX Networks
DeStacker

Press “Select” button to go into the plug-in menu.

Prev Menu:

Press “Select” will bring back to the System menu.

The entries in plug-in menu are described as follows:

Setup Menu:

Attn Setting Menu:

Sel Ch: Press “Select” to select the channel for attenuation adjustment. Press “Right” or “Left” button to cycle through available channels. Starting revision 2.C software, the channel plan mode status is reflected in the bracket following the channel number. The status “On” indicates the channel is turned on and “Off” indicates the channel is turned off.

Attn (dB): Press “Select” to set the attenuation level. Press “Right” to increase or “Left” button to decrease the attenuation level.

NOTE: *After the attenuation level adjustment, user must press “Select” to commit the attenuation level in order for the plug-in to operate at such level and for NVRAM storage. Fail to do so, the attenuation might revert back to previous level.*

Save: Press “Right” or “Left” button to select between “Yes” or “No”. Press “Select” to commit the value into NVRAM when “Yes” is selected. The value in bracket reflects the current NVRAM contetns. If user presses “Select” when the display is “No”, no NVRAM change takes place.

Test Point Menu: Select the test point connection to front panel “RF TEST” output.

Sel Ch: Press “Select” to select the channel to connect to the front panel “RF TEST” output. Press “Right” or “Left” button to cycle through available channels.

Frequency Ch Menu: Select frequency channel plan mode. Starting with revision 3 board and 2.C software, user can optionally switch on and off partial frequency channels via this menu.

Chnl Mode: Press “Select” to select the channel plan mode. Press “Right” or “Left” button to cycle through available options. The options are either 2-channel mode or 4-channel mode. In the case when the board does not support frequency channel plan mode change, this displays “NA”. When 2-channel mode is selected, the frequency channel #1 and #3 are turned on and channel #2 and #4 are turned off.

Save: Press “Right” or “Left” button to select between “Yes” or “No”. Press “Select” to commit the value in bracket into NVRAM if “Yes” is selected. The value in bracket reflects the current NVRAM storage reading. If user presses “Select” when the display is “No”, no NVRAM change takes place.

Optical Menu:

Rcvr Pwr (dBm): Displays the optical receiver power reading in dBm.

Gain Resv (dB): Displays the gain reserve in dB.

Attn (dB): Displays the attenuation reading in dB.

Alarm Menu:

Syn Lock: Displays the alarm state of synthesizer lock status.

Press “Right” or “Left” button to cycle through available channels.

Rcvr Power: Displays the alarm status of optical receiver power.

Module Temp: Displays the alarm status of module temperature.

Chassis Menu:

Temp(C): Displays the module's temperature reading in Centigrade.

Model: Displays the model name of plug-in module.

HW Ver: Displays the hardware version information of plug-in module.

SW Ver: Displays the software version information of plug-in module.

Ser #: Displays the serial number of plug-in module.

Proxy Menu:

This is the gateway to I-HUB Proxy menu tree. Refer to 4.3.5 I-HUB Proxy for display details.

Prev Menu:

Press "Select" will bring the plug-in's greeting message screen back.

4.3.5 I-HUB Proxy

The I-HUB Proxy is the gateway to enter the menu of remote I-HUB. The details of I-HUB monitoring operation is included in the I-HUB User Interface Menu document.

Level 1	Level 2	Level 3	Level 4
Greeting	I-HUB		
	Topology Setup	Number of I-HUBs	
		Save	
		Prev Menu	
	Alarm	Module Temp	
		SFP	
		Prev Menu	
	Chassis	Temperature(C)	
		Model	
		Hardware Version	
		Software Version	
		Serial Number	
		Prev Menu	
	Prev Menu		
Prev Menu			

Table 6 I-HUB Proxy Front Panel Display Menu Overview

Greeting:

Greeting Message

ATX Networks
iHub Proxy

Press "Select" button to go into the plug-in menu.

Prev Menu:

Press "Select" will bring back to the Destacker menu.

The entries in plug-in menu are described as follows:

iHub: Displays the detected I-HUB status. The display reads “Empty” when no I-HUB is detected or “IHUB” if an I-HUB is detected.

Topology Setup:

Number of iHubs: The maximum number of I-HUBs is managed by this proxy agent. The number is fixed as “1” for Destacker type of proxy.

Save: Press “Right” or “Left” button to select between “Yes” or “No”. Press “Select” to commit the value into NVRAM when “Yes” is selected. The value in bracket reflects the current NVRAM contetns. If user presses “Select” when the display is “No”, no NVRAM change takes place.

Alarm Menu:

Module Temp: Displays the module temperature alarm status.

SFP: Displays the I-HUB front plug in SFP alarm status. This alarm is unavailable for Destacker type of proxy.

Prev Menu:

Press “Select” will bring back to the greeting menu.

Chassis Menu:

Temp(C): Displays the module’s temperature reading in Centigrade.

Model: Displays the model name of plug-in module.

HW Ver: Displays the hardware version information of plug-in module.

SW Ver: Displays the software version information of plug-in module.

Ser #: Displays the serial number of plug-in module.

Prev Menu:

Press “Select” will bring the plug-in’s greeting message screen back.

4.3.6 Stacker

Level 1	Level 2	Level 3	Level 4
Greeting	Setup	Test Point Menu	Sel Channel
			Prev Menu
		Prev Menu	
	Alarm	Synthesizer Lock	
		Optical Power	
		Laser Temperature	
		Module Temperature	
		Prev Menu	
	Optical	Optical Power (dBm)	
		Laser Temperature (C)	
		Attn (dB)	
		Prev Menu	

	Chassis	Temperature(C)	
		Model	
		Hardware Version	
		Software Version	
		Serial Number	
		Prev Menu	
	Prev Menu		
Prev Menu			

Table 7: TranScend Stacker Front Panel Display Menu Overview

Greeting:

Greeting Message

ATX Networks
Stacker

Press “Select” button to go into the plug-in menu.

Prev Menu:

Press “Select” will bring back to the System menu.

The entries in plug-in menu are described as follows:

Setup Menu:

Test Point Menu: Select the test point connection to front panel “RF TEST” output.

Sel Ch: Press “Select” to select the channel to connect to the front panel “RF TEST” output. Press “Right” or “Left” button to cycle through available channels.

Optical Menu:

Opt Pwr (dBm): Displays the optical power reading in dBm.

RF Level (dB): Displays the RF level in dB.

Attn (dB): Displays the attenuation reading in dB.

Laser Tmp(C): Displays the laser temperature in Centigrade.

Alarm Menu:

Syn Lock: Displays the alarm state of synthesizer lock status.

Press “Right” or “Left” button to cycle through available channels.

Opt Power: Displays the alarm status of optical receiver power.

Laser Temp: Displays the alarm status of laser temperature.

Module Temp: Displays the alarm status of module temperature.

Chassis Menu:

Temp(C): Displays the module’s temperature reading in Centigrade.

Model: Displays the model name of plug-in module.

HW Ver: Displays the hardware version information of plug-in module.

SW Ver: Displays the software version information of plug-in module.

Ser #: Displays the serial number of plug-in module.

Prev Menu:

Press “Select” will bring the plug-in’s greeting message screen back.

4.3.7 Optical Switch

Level 1	Level 2	Level 3
Greeting	Setup Menu	Threshold(dBm)
		Save
		Prev Menu
	Status Menu	OPin Pwr(dBm)
		Switch
		Prev Menu
	Alarm Menu	OPin Pwr
		Module Temperature
		Switch
		Prev Menu
	Chassis Menu	Temperature(C)
		Model
		Hardware Version
		Software Version
		Serial Number
		Prev Menu
	Prev Menu	
Prev Menu		

Table 8: TranScend Optical Switch Front Panel Display Menu Overview

Greeting:

Greeting Message

ATX Networks
Optical Switch

Press “Select” button to go into the plug-in menu.

Prev Menu:

Press “Select” will bring back to the System menu.

The entries in plug-in menu are described as follows:

Setup Menu:

Threshold (dBm): Press “Right” or “Left” button to increase or decrease the level of threshold in dBm for switching between primary and secondary optical inputs. The factory default threshold is 0 dBm with the range -13 to 14 dBm.

Save: Press “Right” or “Left” button to select between “Yes” or “No”. Press “Select” to commit the value into NVRAM when “Yes” is selected. The value in bracket reflects the current NVRAM contents. If user presses “Select” when display is “No”, no NVRAM change takes place.

Status Menu:

OPin Pwr (dBm): Displays the optical input power reading in dBm. Press “Right” or “Left” button to cycle through available channels.

NOTE: *The primary input is marked as #1 and secondary is #2.*

Switch: Displays the optical switch position, either “Primary” or “Secondary”.

Alarm Menu:

OPin Pwr: Displays the alarm state of optical input power status.

Press “Right” or “Left” button to cycle through available channels.

Module Temp: Displays the alarm status of module temperature.

Switch: Displays the alarm status of optical switch. The alarm is determined based on following conditions-

Severity	Condition
Major	- Optical switch is faulty - Secondary input is invalid when primary input is below threshold. The secondary input shall be above the threshold to qualify as a valid signal.
Minor	- Optical switch is on secondary input

Chassis Menu:

Temp(C): Displays the module’s temperature reading in Centigrade.

Model: Displays the model name of plug-in module.

HW Ver: Displays the hardware version information of plug-in module.

SW Ver: Displays the software version information of plug-in module.

Ser #: Displays the serial number of plug-in module.

Prev Menu:

Press “Select” will bring the plug-in’s greeting message screen back.

4.3.7.1 Optical Switch Switching Criteria

Switch from primary to secondary: When the primary optical power drops below the user defined threshold and the secondary optical power is above the user defined threshold, the optical switch position moves over to the secondary optical power immediately.

Recover from secondary to primary: When the primary optical power is above the user defined threshold for one second, the optical switch recovers back to primary position.

The optical switch position is persistently stored and the unit that recovers from power cycle will restore the optical switch initial position according to its persistent value. The factory default is primary.

4.3.8 Forward Receiver

Level 1	Level 2	Level 3
Greeting	Setup Menu	Attn(dB)
		Save
		Prev Menu
	Status Menu	Opt Pwr(dBm)
		Attn (dB)
		RF Pwr (dBm)
		Prev Menu
	Alarm Menu	Opt Power
		Module Temperature
		Prev Menu

	Chassis Menu	Temperature(C)
		Model
		Hardware Version
		Software Version
		Serial Number
		Prev Menu
	Prev Menu	
Prev Menu		

Table 9: TranScend Optical Switch Front Panel Display Menu Overview

Greeting:

Greeting Message

ATX Networks
Forward Rcvr

Press “Select” button to go into the plug-in menu.

Prev Menu:

Press “Select” will bring back to the TranScend System menu.

The entries in plug-in menu are described as follows:

Setup Menu:

Attn (dB): Press “Right” or “Left” button to increase or decrease the level of attenuation in dB, the adjustable range is 0 to 31.5 dB. The factory default threshold is 16 dB.

Save: Press “Right” or “Left” button to select between “Yes” or “No”. Press “Select” to commit the value into NVRAM when “Yes” is selected. The value in bracket reflects the current NVRAM storage reading. If user presses “Select” when display is “No”, no NVRAM change takes place.

Status Menu:

Opt Pwr (dBm): Displays the optical input power reading in dBm.

Attn (dB): Displays the attenuation setting in dB. This value should concur with the value set in Set Up Menu.

RF Pwr (dBm): Displays the RF input power reading in dBmV.

Alarm Menu:

Opt Power: Displays the alarm state of optical input power status.

Module Temp: Displays the alarm status of module temperature.

Chassis Menu:

Temp(C): Displays the module’s temperature reading in Centigrade.

Model: Displays the model name of plug-in module.

HW Ver: Displays the hardware version information of plug-in module.

SW Ver: Displays the software version information of plug-in module.

Ser #: Displays the serial number of plug-in module.

Prev Menu:

Press “Select” will bring the plug-in’s greeting message screen back.

4.3.9 RF Switch

Level 1	Level 2	Level 3
Greeting	Setup Menu	Threshold(dBmV)
		Save
		Prev Menu
	Status Menu	RF Pwr(dBmV)
		Switch
		Prev Menu
	Alarm Menu	RF Pwr
		Module Temperature
		Switch
		Prev Menu
	Chassis Menu	Temperature(C)
		Model
		Hardware Version
		Software Version
		Serial Number
		Prev Menu
	Prev Menu	
Prev Menu		

Table 10: TranScend Optical Switch Front Panel Display Menu Overview

Greeting:

Greeting Message

ATX Networks
RF Switch

Press “Select” button to go into the plug-in menu.

Prev Menu:

Press “Select” will bring back to the System menu.

The entries in plug-in menu are described as follows:

Setup Menu:

Threshold (dBmV): Press “Right” or “Left” button to increase or decrease the level of threshold in dBmV for switching between primary and secondary RF inputs. The adjustable range is 35 to 65 dBmV. The factory default threshold is 50 dBmV.

Save: Press “Right” or “Left” button to select between “Yes” or “No”. Press “Select” to commit the value into NVRAM when “Yes” is selected. The value in bracket reflects the current NVRAM contents. If user presses “Select” when display is “No”, no NVRAM change takes place.

Status Menu:

RF Pwr (dBmV): Displays the RF input power reading in dBmV. Press “Right” or “Left” button to cycle through available channels.

NOTE: *The primary input is marked as #1 and secondary is #2.*

Switch: Displays the RF switch position, either “Primary” or “Secondary”.

Alarm Menu:

RF Pwr: Displays the alarm state of optical input power status.

Press “Right” or “Left” button to cycle through available channels.

Module Temp: Displays the alarm status of module temperature.

Switch: Displays the alarm status of optical switch. The alarm is determined based on following conditions:

Severity	Condition
Major	- RF switch is faulty - Secondary input is invalid when primary input is below threshold. The secondary input shall be above the threshold to qualify as a valid signal.
Minor	- RF switch is on secondary input

Chassis Menu:

Temp(C): Displays the module’s temperature reading in Centigrade.

Model: Displays the model name of plug-in module.

HW Ver: Displays the hardware version information of plug-in module.

SW Ver: Displays the software version information of plug-in module.

Ser #: Displays the serial number of plug-in module.

Prev Menu:

Press “Select” will bring the plug-in’s greeting message screen back.

4.3.9.1 RF Switch Switching Criteria

Switch from primary to secondary: When the primary RF input drops below the user defined threshold and the secondary RF input is above the user defined threshold, the optical switch position moves over to the secondary optical power immediately.

Recover from secondary to primary: When the primary RF input is above the user defined threshold for one second, the RF switch recovers back to primary position.

The RF switch position is persistently stored and the unit that recovers from power cycle will restore the RF switch initial position according to its persistent value. The factory default is primary.

4.3.10 AGC-EDFA

NOTE: *The AGC EDFA describes in this document applies to the firmware release 1.21 or later.*

Level 1	Level 2	Level 3	Level 4
	Setup	Mode Setting	Mode
			Save
			Prev Menu
		Gain Setting	Gain (steps)
			Save
			Prev Menu
		Attn Setting	Attn
			Save
			Prev Menu
		Prev Menu	

Greeting	Alarm	OPin Power	
		OPout Power	
		Gain	
		Module Temperature	
		Prev Menu	
	Status	OPin Pwr (dBm)	
		OPout Pwr (dBm)	
		Gain (dB)	
		Volt (V)	
		Prev Menu	
	Chassis	Temperature(C)	
		Model	
		Hardware Version	
		Software Version	
		Serial Number	
		Prev Menu	
Prev Menu			

Table 11: TranScend AGC-EDFA Front Panel Display Menu Overview

Greeting:

Greeting Message

ATX Networks
AGC-EDFA

Press “Select” button to go into the plug-in menu.

Prev Menu:

Press “Select” will bring back to the System menu.

The entries in plug-in menu are described as follows:

Setup Menu:

Mode Setting Menu:

Mode: Press “Select” to set the gain mode, AGC/MGC. Press “Right” or “left” button to cycle through the available mode options.

NOTE: *User must press “Select” to select the gain mode in order for the plug-in to operate at selected gain mode and for NVRAM storage. Fail to do so, the gain mode might revert back to previous setting.*

The factory default: MGC

Save: Press “Right” or “Left” button to cycle between “Yes” or “No”. Press “Select” to commit the selection into NVRAM when “Yes” is selected. The display in bracket reflects the current NVRAM storage reading. If user presses “Select” when display is “No”, no NVRAM change takes place.

Gain Setting Menu:

Gain (steps): Press “Select” to set the gain offset. Press “Right” or “left” button to increase or decrease the gain steps.

NOTE: *User must press “Select” to select the gain offset in order for the plug-in to operate at selected gain offset and for NVRAM storage. Fail to do so, the gain offset might revert back to previous setting.*

The factory default: 0.

Save: Press “Right” or “Left” button to cycle between “Yes” or “No”. Press “Select” to commit the selection into NVRAM when “Yes” is selected. The display in bracket reflects the current NVRAM storage reading. If user presses

Attn Setting Menu:

Attn (dB): Press “Select” to set the attenuation level. Press “Right” to increase or “Left” button to decrease the attenuation level.

NOTE: *After the attenuation level adjustment, user must press “Select” to commit the attenuation level in order for the plug-in to operate at such level and for NVRAM storage. Fail to do so, the attenuation might revert back to previous level.*

Save: Press “Right” or “Left” button to select between “Yes” or “No”. Press “Select” to commit the value into NVRAM when “Yes” is selected. The value in bracket reflects the current NVRAM contetns. If user presses “Select” when the display is “No”, no NVRAM change takes place.

Alarm Menu:

OPin Power: Displays the alarm status of optical input power.

OPout Power: Displays the alarm status of optical output power.

Gain: Displays the alarm status of gain.

Module Temp: Displays the alarm status of module temperature.

Shutoff: Displays the alarm status of shutoff activity.

Status Menu:

OPin Pwr (dBm): Displays the optical input power reading in dBm.

OPout Pwr (dBm): Displays the optical output power reading in dBm.

Gain (dB): Displays the gain reading in dB.

Volt (V): Displays the on board voltage in V.

Chassis Menu:

Temp(C): Displays the module’s temperature reading in Centigrade.

Model: Displays the model name of plug-in module.

HW Ver: Displays the hardware version information of plug-in module.

SW Ver: Displays the software version information of plug-in module.

Ser #: Displays the serial number of plug-in module.

Prev Menu:

Press “Select” will bring the plug-in’s greeting message screen back.

4.3.11 Transceiver

Level 1	Level 2	Level 3	Level 4
Greeting	Setup	Mode Setting Menu	Mode
			Save
			Prev Menu
		Tx Gain Setting Menu	Gain(steps)
			Save
			Prev Menu
		Tx Fiber Length Menu	Length(km)
			Save
			Prev Menu
		Rx Attenuation Menu	Attn(dB)
			Save
			Prev Menu
		Prev Menu	
	Status	Laser Temp(C)	
		Laser Pwr(dBm)	
		RF Lvl(dB)	
		OPin Pwr(dBm)	
		Lambda (nm)	
		Tx Attn (dB)	
		Prev Menu	
	Alarm	Laser Temp	
		Laser Power	
		OPin Pwr	
		RF Level	
		Module Temp	
		Prev Menu	
	Chassis	Temperature(C)	
		Model	
		Hardware Version	
		Software Version	
		Serial Number	
		Prev Menu	
	Prev Menu		
Prev Menu			

Table 12: TranScend Transceiver Front Panel Display Menu Overview

Greeting:

Greeting Message

ATX Networks Transceiver

Press “Select” button to go into the plug-in menu.

Prev Menu:

Press “Select” will bring back to the System menu.

The entries in plug-in menu are described as follows:

Setup Menu:

Mode Setting Menu:

Mode: Press “Select” to set the gain mode, AGC/MGC. Press “Right” or “left” button to cycle through the available mode options.

NOTE: *User must press “Select” to select the gain mode in order for the plug-in to operate at selected gain mode and for NVRAM storage. Fail to do so, the gain mode might revert back to previous setting.*

The factory default: MGC

Save: Press “Right” or “Left” button to cycle between “Yes” or “No”. Press “Select” to commit the selection into NVRAM when “Yes” is selected. The display in bracket reflects the current NVRAM storage reading. If user presses “Select” when display is “No”, no NVRAM change takes place.

Tx Gain Setting Menu:

Gain (steps): Press “Select” to set the gain offset. Press “Right” or “left” button to increase or decrease the gain steps.

NOTE: *User must press “Select” to select the gain offset in order for the plug-in to operate at selected gain offset and for NVRAM storage. Fail to do so, the gain offset might revert back to previous setting.*

The factory default: 0.

Save: Press “Right” or “Left” button to cycle between “Yes” or “No”. Press “Select” to commit the selection into NVRAM when “Yes” is selected. The display in bracket reflects the current NVRAM storage reading. If user presses “Select” when display is “No”, no NVRAM change takes place.

Tx Fiber Length Menu:

Length (km): Press “Select” to set the transmit fiber length. Press “Right” or “left” button to increase or decrease the fiber length.

NOTE: *User must press “Select” to select the fiber length in order for the plug-in to operate at selected fiber length and for NVRAM storage. Fail to do so, the fiber length might revert back to previous setting.*

The factory default: 10

Save: Press “Right” or “Left” button to cycle between “Yes” or “No”. Press “Select” to commit the selection into NVRAM when “Yes” is selected. The display in bracket reflects the current NVRAM storage reading. If user presses “Select” when display is “No”, no NVRAM change takes place.

Rx Attenuation Menu:

Attn (dB): Press “Select” to set the receiver attenuation. Press “Right” or “left” button to increase or decrease the attenuation level.

NOTE: *User must press “Select” to select the attenuation in order for the plug-in to operate at selected receiver attenuation and for NVRAM storage. Fail to do so, the receiver attenuation might revert back to previous setting.*

The factory default: 16

Save: Press “Right” or “Left” button to cycle between “Yes” or “No”. Press “Select” to commit the selection into NVRAM when “Yes” is selected. The display in bracket reflects the current NVRAM storage reading. If user presses “Select” when display is “No”, no NVRAM change takes place.

Status Menu:

Laser Temp(C): Displays the current reading of laser temperature in Centigrade.

Laser Pwr(dBm): Displays the current reading of laser power in dBm.

RF Lvl(dB): Displays the current reading of RF level in dB.

OPin Pwr(dBm): Displays the current reading of optical input power in dBm.

Lambda (nm): Displays the laser wavelength in nano meter.

Tx Attn (dB): Displays the current reading of transmit attenuation in dB.

Alarm Menu:

Laser Temp: Displays the alarm status of laser temperature.

Laser Power: Displays the alarm status of laser power.

OPin Pwr: Displays the alarm status of optical input power.

RF Level: Displays the alarm status of RF level.

Module Temp: Displays the alarm status of module temperature.

Optical Menu:

Power (dBm): Displays the optical receiver power reading in dBm.

Attn (dB): Displays the attenuation setting in dB on per channel basis.

Chassis Menu:

Temp(C): Displays the module’s temperature reading in Centigrade.

Model: Displays the model name of plug-in module.

HW Ver: Displays the hardware version information of plug-in module.

SW Ver: Displays the software version information of plug-in module.

Ser #: Displays the serial number of plug-in module.

Prev Menu:

Press “Select” will bring the plug-in’s greeting message screen back.

4.3.12 High Sensitivity Opto-Stacker

Level 1	Level 2	Level 3	Level 4
Greeting	Setup	Sel Ch	
		Attn Setting	GainRsv(dB)
			Attn (dB)
			Save
			Prev Menu
		Test Point	TP Ch
			Prev Menu
		Mode Setting	Mode
			Save
			Prev Menu
		Prev Menu	
	Status	OptPwr(dBm)	
		Attn (dB)	
		Laser Temp(C)	
		OPout Pwr(dBm)	
		Gain Resv(dB)	
		Mode	
		Prev Menu	
	Alarm	OptPwr	
		Syn Lock	
		Laser Temp	
		OPout Pwr	
		Module Temp	
		Prev Menu	
	Chassis	Temperature(C)	
		Model	
		Hardware Version	
		Software Version	
		Serial Number	
		Prev Menu	
	Prev Menu		
Prev Menu			

Table 13: TranScend High Sensitivity Opto-Stacker Front Panel Display Menu Overview

Greeting:

Greeting Message

ATX Networks
HS Opto Stacker

Press “Select” button to go into the plug-in menu.

Prev Menu:

Press “Select” will bring back to the System menu.

The entries in plug-in menu are described as follows:

Setup Menu:

Sel Ch: Press “Select” to select the channel for adjustment.

Press “Right” or “Left” button to cycle through available channels.

Attn Setting Menu:

GainRsv(dB): Display the gain reserve value in dB for convenience.

This value can also be found under “Status” menu.

Attn (dB): Press “Select” to set the attenuation level. Press “Right” to increase or “Left” button to decrease the attenuation level.

NOTE: *After the attenuation level adjustment, user must press “Select” to commit the attenuation level in order for the plug-in to operate at such level and for NVRAM storage. Fail to do so, the attenuation might revert back to previous level.*

Save: Press “Right” or “Left” button to select between “Yes” or “No”. Press “Select” to commit the value into NVRAM when “Yes” is selected. The value in bracket reflects the current NVRAM contents. If user presses “Select” when display is “No”, no NVRAM change takes place.

Test Point Menu: select the test point connection to front panel “RF TEST”.

TP Ch: Press “Select” to select the channel to connect to the front panel “RF TEST” output. Press “Right” or “Left” button to cycle through available channels.

Mode Setting Menu:

Mode: Press “Select” to set the gain mode, AGC/MGC. Press “Right” or “left” button to cycle through the available mode options.

NOTE: *User must press “Select” to select the gain mode in order for the plug-in to operate at selected gain mode and for NVRAM storage. Fail to do so, the gain mode might revert back to previous setting.*

Save: Press “Right” or “Left” button to cycle between “Yes” or “No”. Press “Select” to commit the selection into NVRAM when “Yes” is selected. The display in bracket reflects the current NVRAM storage reading. If user presses “Select” when display is “No”, no NVRAM change takes place.

Status Menu:

OptPwr(dBm): Displays the current reading of optical input power in dBm.

Attn (dB): Displays the current reading of attenuation in dB.

Laser Temp(C): Displays the current reading of laser temperature in Centigrade.

OPout Pwr(dBm): Displays the current reading of optical output power in dBm.

Gain Resv (dB): Displays the current gain reserve reading in dB.

Mode: Displays the current gain mode setting.

Alarm Menu:

OptPwr: Displays the alarm status of optical receiver power.
Syn Lock: Displays the alarm status of the synthesizer lock state.
Laser Temp: Displays the alarm status of the laser temperature.
OPout Pwr: Displays the alarm status of the optical output power.
Module Temp: Displays the alarm status of module temperature.

Chassis Menu:

Temp(C): Displays the module's temperature reading in Centigrade.
Model: Displays the model name of plug-in module.
HW Ver: Displays the hardware version information of plug-in module.
SW Ver: Displays the software version information of plug-in module.
Ser #: Displays the serial number of plug-in module.

Prev Menu:

Press "Select" will bring the plug-in's greeting message screen back.

4.3.13 Direct Forward Transmitter (DFB Tx)

Level 1	Level 2	Level 3	Level 4
Greeting	Setup	Mode	Mode
			Save
			Prev Menu
		Tx Gain Setting	Gain(Steps)
			Save
			Prev Menu
		Tx Fiber Length	Length(Km)
			Save
			Prev Menu
		Prev Menu	
	Status	Laser Temp(C)	
		Laser Pwr(dBm)	
		TxRF Lvl(dB)	
		Lambda (nm)	
		Tx Attn (dB)	
		Volt (V)	
		Prev Menu	
	Alarm	Laser Temp	
		Laser Power	
		TxRF Lvl	
		Mod Temp	
		Prev Menu	

	Chassis	Tmp(C)	
		Model	
		HW Ver	
		SW Ver	
Greeting	Chassis	Ser #	
		Prev Menu	
	Prev Menu		
Prev Menu			

Table 12: DFB-Tx Front Panel Display Menu Overview

Greeting:

Greeting Message

ATX Networks
DFB-Tx

Press “Select” button to go into the plug-in menu.

Prev Menu:

Press “Select” will bring back to the System menu.

The entries in plug-in menu are described as follows:

Setup Menu:

Mode Setting Menu:

Mode: Press “Select” to set the gain mode, AGC/MGC. Press “Right” or “left” button to cycle through the available mode options.

NOTE: *User must press “Select” to select the gain mode in order for the plug-in to operate at selected gain mode and for NVRAM storage. Fail to do so, the gain mode might revert back to previous setting.*

Save: Press “Right” or “Left” button to cycle between “Yes” or “No”. Press “Select” to commit the selection into NVRAM when “Yes” is selected. The display in bracket reflects the current NVRAM storage reading. If user presses “Select” when display is “No”, no NVRAM change takes place.

Tx Gain Setting Menu:

Gain (steps): Press “Select” to set the gain offset. Press “Right” or “left” button to increase or decrease the gain steps.

NOTE: *User must press “Select” to select the gain offset in order for the plug-in to operate at selected gain offset and for NVRAM storage. Fail to do so, the gain offset might revert back to previous setting.*

The factory default: 0.

Save: Press “Right” or “Left” button to cycle between “Yes” or “No”. Press “Select” to commit the selection into NVRAM when “Yes” is selected. The display in bracket reflects the current NVRAM storage reading. If user presses “Select” when display is “No”, no NVRAM change takes place.

Tx Fiber Length Menu:

Length (km): Press “Select” to set the transmit fiber length. Press “Right” or “left” button to increase or decrease the fiber length.

NOTE: *User must press “Select” to select the fiber length in order for the plug-in to operate at selected fiber length and for NVRAM storage. Fail to do so, the fiber length might revert back to previous setting.*

The factory default: 10

Save: Press “Right” or “Left” button to cycle between “Yes” or “No”. Press “Select” to commit the selection into NVRAM when “Yes” is selected. The display in bracket reflects the current NVRAM storage reading. If user presses “Select” when display is “No”, no NVRAM change takes place.

Status Menu:

Laser Temp(C): Displays the current reading of laser temperature in Centigrade.

Laser Pwr(dBm): Displays the current reading of laser power in dBm.

TxRF Lvl(dB): Displays the current reading of TxRF level in dB.

Lambda (nm): Displays the laser wavelength in nano meter.

Tx Attn (dB): Displays the current reading of transmit attenuation in dB.

Volt (V): Displays onboard supply voltage.

Alarm Menu:

Laser Temp: Displays the alarm status of the laser temperature.

Laser Power: Displays the alarm status of laser power.

TxRF Level: Displays the alarm status of TxRF level.

Module Temp: Displays the alarm status of module temperature.

Chassis Menu:

Temp(C): Displays the module’s temperature reading in Centigrade.

Model: Displays the model name of plug-in module.

HW Ver: Displays the hardware version information of plug-in module.

SW Ver: Displays the software version information of plug-in module.

Ser #: Displays the serial number of plug-in module.

Prev Menu:

Press “Select” will bring the plug-in’s greeting message screen back.

4.3.14 Opto-Stacker

Level 1	Level 2	Level 3	Level 4
Greeting	Setup	Sel Channel	
		Mode Setting	Mode
			Save
			Prev Menu
		Attn Setting	Attn(dB)
			Save
			Prev Menu
		Prev Menu	

	Status	OptPwr (dBm)	
		Attn (dB)	
		Mode	
		Laser Temp (C)	
		OPout Pwr(dBm)	
		Prev Menu	
	Alarm	OptPwr	
		Syn Lock	
		Laser Temp	
		OPout Pwr	
		Module Temp	
		Prev Menu	
	Chassis	Temperature(C)	
		Model	
		HW Ver	
		SW Ver	
		Ser #	
		Prev Menu	
	Prev Menu		
Prev Menu			

Table 7: TranScend Stacker Front Panel Display Menu Overview

Greeting:

Greeting Message

ATX Networks
OptoStacker

Press “Select” button to go into the plug-in menu.

Prev Menu:

Press “Select” will bring back to the System menu.

The entries in plug-in menu are described as follows:

Setup Menu:

Sel Ch: Press “Select” to select the desired channel. Press “Right” or “Left” button to cycle through available channels.

Mode Setting Menu:

Mode: To select AGC or MGC mode. Press “Right” or “Left” button to select desired mode.

Save: To select yes or no to save the change into NVRAM by pressing

“Right” or “Left” button.

Attn Setting Menu: This is settable only when Mode Setting is in MGC mode.

Attn(dB): Increasing or decreasing 0.5 dB per unit, by pressing “Left” or “Right” button. The full range is 0 - 31.5 dB.
Save: To select yes or no to save the change into NVRAM.

Status Menu:

Opt Pwr (dBm): Displays the optical input power reading in dBm.
Attn (dB): Displays the attenuation reading in dB.
Mode: Displays the mode setting in Setup menu.
Laser Tmp(C): Displays the laser temperature in Centigrade.
OPout Pwr(dBm): Displays the optical output power in dBm.

Alarm Menu:

OptPwr: Displays the alarm state of the optical input power.
Syn Lock: Displays the alarm state of synthesizer lock status.
OPout Power: Displays the alarm status of optical output power.
Laser Temp: Displays the alarm status of laser temperature.
Module Temp: Displays the alarm status of module temperature.

Chassis Menu:

Temp(C): Displays the module’s temperature reading in Centigrade.
Model: Displays the model name of plug-in module.
HW Ver: Displays the hardware version information of plug-in module.
SW Ver: Displays the software version information of plug-in module.
Ser #: Displays the serial number of plug-in module.

Prev Menu:

Press “Select” will bring the plug-in’s greeting message screen back.

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CRAFT LINE INTERFACE (CLI)

5. Craft Line Interface (CLI)

The CLI interface allows user to configure and monitor the chassis. The chassis allows one console and up to three remote CLI simultaneous sessions. The console session is always active; the remote session is activated when initiated through telnet.

Local Console CLI:

User can connect to the console CLI session via the front panel DB9 RS232 connector via either native serial RS232 or USB-Serial adaptor to host PC running terminal application like Hyperterm or TeraTerm. The serial port settings:

9600 bps
8 data bit
no parity
no flow control

Remote CLI:

User can connect up to three remote CLI sessions via telnet. Telnet can be initiated from a host PC via the application like putty.exe or telnet. The remote CLI login credential (in lower case):

Login: inno
Password: inno

The remote CLI session is de-activated with the command “logout” on CLI prompt. When finishing with a remote CLI session, user shall “logout” instead of timeout. The remote CLI session may be still considered active.

5.1 Command Structure

Similar to the LCD menu, the TranScend chassis Craft Line Interface (CLI) is structured into bi-level trees. The top level is system related information and the second level is plug-in related information. The top level contains the commands for second level, but each has its own command structure.

Upon power up, the CLI attaches to the front panel DB9 console port by default. The following is a sample greeting screen:

```
*******************************************************
    InnoTrans Craft Line Interface
*******************************************************
Transcend [slot-1] >
```

The slot number in square bracket indicates the plug-in that CLI is currently in communication with. The above example selects the slot number 1.

5.1.1 System Commands

The commands in this section are system related.

Help: Displays all available commands or help on individual command.

Example #1: displays all available commands.

```
Transcend [slot-1] >help
Following commands are supported.
```

```
Common Commands:
help        uptime      info        logout      status
alarm       DownloadStatus  slot    SwVer       HwVer
ModelName   SerialNum    Network     Download    Reboot

Date        Hostname    Community   TrapAddr    sysContact
sysLocation PowerAlarm  FanAlarm
```

Example #2: display individual help description.

```
Transcend [slot-1] >help network
Network:
Set/Get network configuration.
Syntax: Network <ip netmask gateway >
No argument: Display network configuration.
With all 3 arguments: Configure network.
```

Uptime: Displays the number of seconds accumulated since chassis boot up.

Example #1:

```
Transcend[slot-1] >uptime
820 seconds (0 days 0 hours 13 min 40 sec)
```

info: Displays the system and selected plug-in factory information.

Example #1: The first part is System factory information and followed by the factory information of plug-in in slot 1.

```
Transcend [slot-1] >info
System
 SwVer:
      2.0-2.0
 HwVer:
      1-1
 ModelName:
      TSD-CH-AC
 SerialNum:
      24521210

Slot 1 (HS-QRRX)
 SwVer:
      2.0-2.0
 HwVer:
      1-1
 ModelName:
      TSD-RRX4-HS-EP
 SerialNum:
      25200111
```

logout: Logs the remote user off and close the current CLI session. This command has no effect on the CLI via front panel console port.

status: Displays the status on the system and selected plug-in.

Example #1: In this example, there is no defined system status, it displays the status of the selected plug-in, High Sensitivity Quad Return Receiver.

```
Transcend[slot-1] >status
Slot 1 (HS-QRRX)
 ModuleTemp (deg C):
       +19.8
 OpticalPowerDbm (dBm):
       [1] -8.0 [2] -8.0 [3] -8.0 [4] -57.9
```

alarm: Displays the alarm status on the system and selected plug-in.

Example #1: In this example, there is 2 defined system alarms and the alarms of the selected plug-in, High Sensitivity Quad Return Receiver.

```
Transcend[slot-1] >alarm
System
 PowerAlarm:
       Normal
 FanAlarm:
      Normal
Slot 1 (HS-QRRX)
 OpticalPowerAlarm:
       [1] MajorLoLo [2] MajorLoLo [3] MajorLoLo [4] MajorLoLo
 ModuleTempAlarm:
       Normal
```

DownloadStatus: Displays the status of current or previous download.

Example #1: This example shows the previous download was completed successfully.

```
Transcend[slot-1] >downloadstatus
Successful
```

slot: Displays the detected plug-in in each slot.

Example #1: This example shows that the chassis contains an High Sensitivity Quad Return Receiver in slot 1 and slot 2, 3 and 4 are empty.

```
Transcend[slot-1] >slot
Slot 1 - HS-QRRX
Slot 2 - Empty
Slot 3 - Empty
Slot 4 - Empty
```

ModuleSupport: Displays the list of supported modules. *User shall use this command to determine the compatibility of the chassis and plug in modules. A microprocessor with older version of software may require a software upgrade to support the newer plug in module for remote monitoring and snmp support.*

Example #1: This example shows the list of supported module.

```
Transcend [slot-1] >ModuleSupport
    PON-EDFA
    QRRX
    Destacker
    HS-QRRX
    Stacker
```

ModelName: Displays the model name information of the system.

SerialNum: Displays the model name information of the system.

Network: Displays or set the chassis network configuration.

Example #1: In this example, the system contains the configuration with an IP address: 192.168.1.202, network address mask: 255.255.255.0 and gateways address: 192.168.1.1.

```
Transcend [slot-1] >network
IpAddr: 192.168.1.202      Mask: 255.255.255.0      Gateway: 192.168.1.1
BdCast: 192.168.1.255      Mac: 00:50:c2:88:10:02
```

Example #2: In this example, the system is configured with an IP address: 192.168.1.202, network address mask: 255.255.255.0 and gateways address: 192.168.1.1. And the system indicates the command execution as “Successful”. Only these network parameters are settable by user.

```
Transcend [slot-1] >network 192.168.1.202 255.255.255.0 192.168.1.1
Successful
```

Download: Initiate a remote system software upgrade.

Example #1: In this example, the user “inno” with password “inno” initiated the download request. The download file name is “vmlinux-initrd.img” which is hosted under /tftpboot on the download server at 192.168.1.137. Note: the ftp server must be set up prior to a successful download. There is no response returned for this command. To see the download status, user shall use “downloadstatus” command instead.

```
Transcend [slot-1] >download inno inno 192.168.1.137 /tftpboot/vmlinux-initrd.img
```

Reboot: Displays the current reboot state or initiates a system reboot.

Example #1: This example demonstrates a system reboot. The reboot process may a few minutes to complete.

```
Transcend [slot-1] >reboot now
```

Date: Displays the current system time.

NOTE: *TranScend chassis is configured to factory time prior to shipment. It does not make local time adjustment (e.g. daylight saving time) automatically.*

Hostname: Displays or configure the system hostname.

Example #1: In this example, user requested to configure the hostname “InnoTrans”. And the system indicates the command execution as “Successful”.

```
Transcend[slot-1] >hostname InnoTrans
Successful
```

Community: Displays or configures the SNMP community string. Up to three community strings are supported. The system default community string is “public” with read only permission.

Example #1: In this example, user requested to add a community string “inno” with read-write permission. And the system indicates the command execution as “Successful”.

```
Transcend [slot-1] >community add inno rw
Successful
```

Exampel #2: In this example, user requested to add a community string name “inno” with read-only permission. And the system indicates the command execution as “Successful”

```
Transcend [slot-1] >community add inno
Successful
```

TrapAddr: Displays or configures the SNMP trap destination IP addresses. Up to two trap addresses are supported.

Example #1: In this example, user requested to add a trap destination, 192.168.1.137. And the system indicates the command execution as “Successful”.

```
Transcend [slot-1] >trapaddr add 192.168.1.137
Successful
```

sysContact: Displays or configures the SNMP system contact information.

Example #1: In this example, user configures the SNMP system contact information as “snmp@inno-trans.com”. And the system indicates the command execution as “Successful”.

```
Transcend [slot-1] >sysContact snmp@inno-trans.com
Successful
```

SysLocation: Displays or configures the SNMP system location information.

Example #1: In this example, user configures the SNMP system location information as “Bldg 10, San Jose, CA”. And the system indicates the command execution as “Successful”.

```
Transcend [slot-1] >sysLocation bldg 10, San Jose, CA
Successful
```

PowerAlarm: Displays the system power brick alarm status.

FanAlarm: Displays the chassis fan alarm status.

5.1.2 Plug-in Commands

The plug-in commands are grouped into two types, commands that are common to all types of plug-in and that are type specific.

5.1.2.1 Common Commands

The commands in this section are common to all types of module.

SwVer: Displays the software version information of the selected plug-in.

HwVer: Displays the hardware version information of the selected plug-in.

5.1.2.2 High Sensitivity Quad Return Receiver

The commands in this section are High Sensitivity Quad Return Receiver specific.

ModuleTemp: Displays the module temperature reading in Centigrade.

Example #1: In this example, the module in slot 1 reports its module temperature reading as 21.4 Centigrade.

```
Transcend [slot-1] >moduletemp
+21.4 (deg C)
```

OpticalPowerDbm: Displays the optical receiver power in dBm.

Example #1: In this example, the module in slot 1 reports its optical receiver power reading as -8.0 dBm on channel 1.

```
Transcend [slot-1] >opticalPowerdbm 1
-8.0 (dBm)
```

Attenuation: Displays the attenuation setting in dB.

Example #1: In this example, the module in slot 1 reports its attenuation setting as 0 dB on channel 1.

```
Transcend [slot-1] >attenuation 1
0 (dB)
```

OpticalPowerAlarm: Displays the alarm status of optical receiver power.

Example #1: In this example, the module in slot 1 reports the alarm status of optical receiver power on channel 1 as “MajorLoLo” (e.g. Major alarm with power reading below the low low threshold).

```
Transcend [slot-1] >opticalpoweralarm 1
MajorLoLo
```

ModuleTempAlarm: Displays the alarm status of module temperature.

Example #1: In this example, the module in slot 1 reports the alarm status of module temperature as Normal.

```
Transcend [slot-1] >ModuleTempAlarm
Normal
```

5.1.2.3 PON EDFA

The commands in this section are PON EDFA specific.

ModuleTemp: Displays the module temperature reading in Centigrade.

Example #1: In this example, the module in slot 1 reports its module temperature reading as 21.4 Centigrade.

```
Transcend [slot-1] >ModuleTempAlarm
+21.4 (deg C)
```

LaserTemp: Displays the laser temperature reading in Centigrade.

Example #1: In this example, the module in slot 1 reports its laser temperature reading on channel 1.

```
Transcend [slot-1] >LaserTemp 1
+23.0 (deg C)
```

LaserBias: Displays the laser bias reading in mA.

Example #1: In this example, the module in slot 1 reports its laser bias reading on channel 1.

```
Transcend[slot-1] >LaserBias 1
+0.0 (mA)
```

OPinPower: Displays the optical input power reading in dBm.

Example #1: In this example, the module in slot 1 reports its optical input power reading.

```
Transcend [slot-1] >OPinPower
-99.0 (dBm)
```

OPoutPower: Displays the optical output power reading in dBm.

Example #1: In this example, the module in slot 1 reports its optical output power reading.

```
Transcend [slot-1] >OPoutPower
-99.0 (dBm)
```

LaserTempAlarm: Displays the alarm status of laser temperature.

Example #1: In this example, the module in slot 1 reports the alarm status of laser temperature on channel 1 as “MajorLoLo” (e.g. Major alarm with power reading below the low low threshold).

```
Transcend [slot-1] >LaserTempAlarm 1
MajorLoLo
```

OPinPowerAlarm: Displays the alarm status of optical input power.

Example #1: In this example, the module in slot 1 reports the alarm status of optical input power as “MajorLoLo” (e.g. Major alarm with power reading below the low low threshold).

```
Transcend [slot-1] >OPinPowerAlarm 1
MajorLoLo
```

OPoutPowerAlarm: Displays the alarm status of optical output power.

Example #1: In this example, the module in slot 1 reports the alarm status of optical output power as “MajorLoLo” (e.g. Major alarm with power reading below the low low threshold).

```
Transcend [slot-1] >OPoutPowerAlarm 1
MajorLoLo
```

ModuleTempAlarm: Displays the alarm status of module temperature.

Example #1: In this example, the module in slot 1 reports the alarm status of module temperature as Normal.

```
Transcend [slot-1] >ModuleTempAlarm
Normal
```

ShutoffAlarm: Displays the status of pump shut off state. It’s an alarm state when pump is shut off.

Example #1: In this example, the pump of the module in slot 1 is shut off.

```
Transcend [slot-1] >ShutoffAlarm
Major (Enable)
```

5.1.2.4 Quad Return Receiver

The commands in this section are Quad Return Receiver specific.

ModuleTemp: Displays the module temperature reading in Centigrade.

Example #1: In this example, the module in slot 1 reports its module temperature reading as 21.4 Centigrade.

```
Transcend [slot-1] >moduletemp
+21.4 (deg C)
```

OpticalPowerDbm: Displays the optical receiver power in dBm.

Example #1: In this example, the module in slot 1 reports its optical receiver power reading as -8.0 dBm on channel 1.

```
Transcend [slot-1] >opticalPowerdbm 1
-8.0 (dBm)
```

Attenuation: Displays the attenuation setting in dB.

Example #1: In this example, the module in slot 1 reports its attenuation setting as 0 dB on channel 1.

```
Transcend [slot-1] >attenuation 1
0 (dB)
```

OpticalPowerAlarm: Displays the alarm status of optical receiver power.

Example #1: In this example, the module in slot 1 reports the alarm status of optical receiver power on channel 1 as “MajorLoLo” (e.g. Major alarm with power reading below the low low threshold).

```
Transcend [slot-1] >opticalpoweralarm 1
MajorLoLo
```

ModuleTempAlarm: Displays the alarm status of module temperature.

Example #1: In this example, the module in slot 1 reports the alarm status of module temperature as Normal.

```
Transcend [slot-1] >ModuleTempAlarm
Normal
```

5.1.2.5 Destacker Proxy

The commands in this section are Destacker Proxy specific.

ModuleTemp: Displays the module temperature reading in Centigrade.

Example #1: In this example, the module in slot 1 reports its module temperature reading as 21.4 Centigrade.

```
Transcend [slot-1] >ModuleTemp
+21.4 (deg C)
```

OpticalPowerDbm: Displays the optical receiver power in dBm.

Example #1: In this example, the module in slot 1 reports its optical receiver power reading as -8.0 dBm.

```
Transcend [slot-1] >OpticalPowerdBm
-8.0 (dBm)
```

GainReserve: Displays the gain reserve in dBm.

Example #1: In this example, the module in slot 1 reports its gain reserve as 6 dBm.

```
Transcend[slot-1] >GainReserve
6 (dBm)
```

Attenuation: Displays the attenuation in dB.

Example #1: In this example, the module in slot 1 reports its attenuation setting as 0 dB on channel 1.

```
Transcend [slot-1] >attenuation 1
0.0 (dB)
```

Mode: Displays the frequency channel plan mode.

Example #1: In this example, the module in slot 1 reports its frequency channel mode is 2-channel mode.

```
Transcend [slot-1] >mode
2
```

OpticalPowerAlarm: Displays the alarm status of optical power.

Example #1: In this example, the module in slot 1 reports the alarm status of optical power as “MajorLoLo” (e.g. Major alarm with power reading below the low low threshold).

Transcend [slot-1] >OpticalPowerAlarm
MajorLoLo

LockAlarm: Displays the alarm status of synthesizer lock. It’s an alarm condition when synthesizer loses its lock.

Example #1: In this example, the module in slot 1 reports the alarm status of synthesizer lock as “Major” on channel 1.

Transcend [slot-1] >LockAlarm 1
Major

ModuleTempAlarm: Displays the alarm status of module temperature.

Example #1: In this example, the module in slot 1 reports the alarm status of module temperature as Normal.

Transcend [slot-1] >ModuleTempalarm
Normal

5.1.2.6 Stacker

The commands in this section are Stacker specific.

ModuleTemp: Displays the module temperature reading in Centigrade.

Example #1: In this example, the module in slot 1 reports its module temperature reading as 21.4 Centigrade.

Transcend [slot-1] >ModuleTemp
+21.4 (deg C)

LaserTemp: Displays the laser temperature reading in Centigrade.

Example #1: In this example, the module in slot 1 reports its laser temperature reading on channel 1.

Transcend [slot-1] >LaserTemp 1
+23.0 (deg C)

OpticalPowerDbm: Displays the optical receiver power in dBm.

Example #1: In this example, the module in slot 1 reports its optical receiver power reading as -8.0 dBm.

Transcend [slot-1] >OpticalPowerdBm
-8.0 (dBm)

LaserTempAlarm: Displays the alarm status of laser temperature.

Example #1: In this example, the module in slot 1 reports the alarm status of laser temperature as “MajorLoLo” (e.g. Major alarm with power reading below the low low threshold).

```
Transcend [slot-1] >LaserTempAlarm
MajorLoLo
```

OpticalPowerAlarm: Displays the alarm status of optical power.

Example #1: In this example, the module in slot 1 reports the alarm status of optical power as “MajorLoLo” (e.g. Major alarm with power reading below the low low threshold).

```
Transcend [slot-1] >OpticalpPowerAlarm
MajorLoLo
```

LockAlarm: Displays the alarm status of synthesizer lock. It’s an alarm condition when synthesizer loses its lock.

Example #1: In this example, the module in slot 1 reports the alarm status of synthesizer lock as “Major” on channel 1.

```
Transcend [slot-1] >LockAlarm 1
Major
```

ModuleTempAlarm: Displays the alarm status of module temperature.

Example #1: In this example, the module in slot 1 reports the alarm status of module temperature as Normal.

```
Transcend [slot-1] >ModuleTempalarm
Normal
```

5.1.2.7 Optical Switch

The commands in this section are Optical Switch specific.

ModuleTemp: Displays the module temperature reading in Centigrade.

Example #1: In this example, the module in slot 1 reports its module temperature reading as 21.4 Centigrade.

```
Transcend [slot-1] >ModuleTemp
+21.4 (deg C)
```

OPinPower: Displays the optical input power reading in dBm.

Example #1: In this example, the module in slot 1 reports its optical input power reading on input #1 (p.s. primary optical input).

```
Transcend [slot-1] >OPinPwer 1
+3.0 (dBm)
```

Switch: Displays the optical switch position.

Example #1: In this example, the module in slot 1 reports its optical switch position as on primary input.

```
Transcend [slot-1] >switch
primary
```

thresholddBm: Display threshold setting.

Example #1: In this example, the module in slot 1 reports its optical switch threshold as 0 dBm.

```
Transcend [slot-1] > thresholddBm
+0.0
```

OPinPowerAlarm: Displays the alarm status of optical input power.

Example #1: In this example, the module in slot 1 reports the alarm status of optical input #1 power as “MajorLoLo” (e.g. Major alarm with power reading below the low low threshold).

```
Transcend [slot-1] >OPinPowerAlarm 1
MajorLoLo
```

SwitchAlarm: Displays the alarm status of optical switch. This alarm is raised if switch is in faulty state.

Example #1: In this example, the module in slot 1 reports the alarm status of optical switch as “Normal”

```
Transcend [slot-1] >switchAlarm
Normal
```

ModuleTempAlarm: Displays the alarm status of module temperature.

Example #1: In this example, the module in slot 1 reports the alarm status of module temperature as Normal.

```
Transcend [slot-1] >ModuleTempalarm
Normal
```

5.1.2.8 Forward Receiver

The commands in this section are Forward Receiver specific.

ModuleTemp: Displays the module temperature reading in Centigrade.

Example #1: In this example, the module in slot 1 reports its module temperature reading as 21.4 Centigrade.

```
Transcend [slot-1] >ModuleTemp
+21.4 (deg C)
```

RFPower: Displays the optical input power reading in dBm.

Example #1: In this example, the module in slot 1 reports its RF input power reading on input #1 (p.s. primary optical input).

```
Transcend [slot-1] >RFPower 1
+3.0 (dBmV)
```

OpticalPowerDbm: Displays the optical input power reading in dBm.

Example #1: In this example, the module in slot 1 reports its optical input power reading on input #1 (p.s. primary optical input).

```
Transcend [slot-1] >OpticalPwerDbm
+3.0 (dBm)
```

Attenuation: Displays the attenuation setting in dB.

Example #1: In this example, the module in slot 1 reports its attenuation setting as 0 dB.

```
Transcend [slot-1] >attenuation
+0.0 dB
```

OpticalPowerAlarm: Displays the alarm status of optical input power.

Example #1: In this example, the module in slot 1 reports the alarm status of optical input power as “MajorLoLo” (e.g. Major alarm with power reading below the low low threshold).

```
Transcend [slot-1] > OpticalPowerAlarm
MajorLoLo
```

ModuleTempAlarm: Displays the alarm status of module temperature.

Example #1: In this example, the module in slot 1 reports the alarm status of module temperature as Normal.

```
Transcend [slot-1] >ModuleTempalarm
Normal
```

Composite Commands: The composite commands provide a quick way to poll system information and status via one single command. The followings are example of composite command output for Forward Receiver.

Info:

```
System
 SwVer:
      1.6-2.f
 HwVer:
      3-2
 ModelName:
      TSD_SwCntlr
 SerialNum:
      01420070901234

Slot 1 (FwdRcvr)
 SwVer:
      2.f-2.f
 HwVer:
      1-2
 ModelName:
      TSD-FWRX
 SerialNum:
      01420070901234
```

Status:

```
Transcend[slot-1] >status
Slot 1 (FwdRcvr)
 ModuleTemp (deg C):
```

```
        +25.7
 OpticalPowerDbm (dBm):
        -14.1
 Attenuation (dB):
       +16.0

Transcend[slot-1] >alarm
System
PowerAlarm:
      Normal
 FanAlarm:
Major
Slot 1 (FwdRcvr)
 OpticalPowerAlarm:
      Normal
 ModuleTempAlarm:
      Normal
```

5.1.2.9 RF Switch

The commands in this section are RF Switch specific.

ModuleTemp: Displays the module temperature reading in Centigrade.

Example #1: In this example, the module in slot 1 reports its module temperature reading as 21.4 Centigrade.

```
Transcend [slot-1] >ModuleTemp
+21.4 (deg C)
```

RFPower: Displays the optical input power reading in dBm.

Example #1: In this example, the module in slot 1 reports its RF input power reading on input #1 (p.s. primary optical input).

```
Transcend [slot-1] >RFPower 1
+3.0 (dBmV)
```

Switch: Displays the RF switch position.

Example #1: In this example, the module in slot 1 reports its RF switch position as on primary input.

```
Transcend [slot-1] >switch
Primary
```

thresholddBmV: Display threshold setting.

Example #1: In this example, the module in slot 1 reports its RF switch threshold as 50 dBmV.

```
Transcend [slot-1] > thresholddBmV
+50.0
```

RFPowerAlarm: Displays the alarm status of RF input power.

Example #1: In this example, the module in slot 1 reports the alarm status of RF input #1 power as “MajorLoLo” (e.g. Major alarm with power reading below the low low threshold).

```
Transcend [slot-1] >RFPowerAlarm 1
MajorLoLo
```

SwitchAlarm: Displays the alarm status of RF switch. This alarm is raised if switch is in faulty state.

Example #1: In this example, the module in slot 1 reports the alarm status of RF switch as “Normal”

```
Transcend [slot-1] >switchAlarm
Normal
```

ModuleTempAlarm: Displays the alarm status of module temperature.

Example #1: In this example, the module in slot 1 reports the alarm status of module temperature as Normal.

```
Transcend [slot-1] >ModuleTempalarm
Normal
```

Composite Commands: The composite commands provide a quick way to poll system information and status via one single command. The followings are example of composite command output for RF Switch.

Info:

```
System
 SwVer:
      1.6-2.f
 HwVer:
      3-2
 ModelName:
      TSD_SwCntlr
 SerialNum:
      01420070901234

Slot 1 (RF-Switch)
 SwVer:
      2.f-2.f
 HwVer:
      0-2
 ModelName:
      TSD-RXFSW
 SerialNum:
      01420070901234
```

Status:

```
Transcend[slot-1] >status
Slot 1 (RF-Switch)
 ModuleTemp (deg C):
      +25.0
```

RFPower (dBmV):
[1] -42.1 [2] -99.9
Switch:
Secondary
thresholddBmV (dBmV):
+30.0

Alarm:

Transcend[slot-1] >alarm
System
PowerAlarm:
Normal
FanAlarm:
Major
Slot 1 (RF-Switch)
SwitchAlarm:
Major
RFPowerAlarm:
[1] MajorLoLo [2] MajorLoLo
ModuleTempAlarm:
Normal

5.1.2.10 AGC EDFA

The AGC EDFA describes in this document applies to the firmware release 1.21 or later. The commands in this section are AGC EDFA specific.

OPinPower: Displays the optical input power reading in dBm.

Example #1: In this example, the module in slot 1 reports its optical input power reading.

Transcend [slot-1] >OPinPower
-99.0 (dBm)

OPoutPower: Displays the optical output power reading in dBm.

Example #1: In this example, the module in slot 1 reports its optical output power reading.

Transcend [slot-1] >OPoutPower
-99.0 (dBm)

GainControl: Displays the gain control mode.

Example #1: In this example, the module in slot 1 reports its gain control mode.

Transcend [slot-1] >gainControl
AGC

Gain: Displays the gain reading in dB.

Example #1: In this example, the module in slot 1 reports its gain reading.

```
Transcend [slot-1] >gain
20 (dBm)
```

Attenuation: Displays the user attenuation setting.

Example #1: In this example, the module in slot 1 reports its attenuation setting as 0 on channel 1.

```
Transcend [slot-1] >attenuation 1
0
```

OPinPowerAlarm: Displays the alarm status of optical input power.

Example #1: In this example, the module in slot 1 reports the alarm status of optical input power as “MajorLoLo” (e.g. Major alarm with power reading below the low low threshold).

```
Transcend [slot-1] >OPinPowerAlarm
MajorLoLo
```

OPoutPowerAlarm: Displays the alarm status of optical output power.

Example #1: In this example, the module in slot 1 reports the alarm status of optical output power as “MajorLoLo” (e.g. Major alarm with power reading below the low low threshold).

```
Transcend [slot-1] >OPoutPowerAlarm
MajorLoLo
```

GainAlarm: Ddisplays the alarm status of gain.

Example #1: In this example, the module in slot 1 reports the alarm status of gain as “MajorLoLo” (e.g. Major alarm with power reading below the low low threshold).

```
Transcend [slot-1] >gainAlarm
MajorLoLo
```

ModuleTempAlarm: Displays the alarm status of module temperature.

Example #1: In this example, the module in slot 1 reports the alarm status of module temperature as Normal.

```
Transcend [slot-1] >ModuleTempAlarm
Normal
```

5.1.2.11 Transceiver

The commands in this section are Transceiver specific.

ModuleTemp: Displays the module temperature reading in Centigrade.

Example #1: In this example, the module in slot 1 reports its module temperature reading as 21.4 Centigrade.

```
Transcend [slot-1] >ModuleTempAlarm
+21.4 deg. C
```

LaserTemp: Displays the laser temperature reading in Centigrade.

Example #1: In this example, the module in slot 1 reports its laser temperature reading on channel 1.

```
Transcend [slot-1] >LaserTemp
+23.0 (deg C)
```

LaserPowerDbm: Displays the laser power reading in dBm.

Example #1: In this example, the module in slot 1 reports its laser power reading.

```
Transcend[slot-1] >LaserPowerDbm
+0.0 dBm
```

LaserRf: Displays the RF reading in dB.

Example #1: In this example, the module in slot 1 reports its RF reading.

```
Transcend[slot-1] >LaserRf
+0.0 dB
```

Wavelength: Displays the laser wavelength in nanometer.

Example #1: In this example, the module in slot 1 reports its laser wavelength.

```
Transcend[slot-1] >WaveLength
1546.12 nm
```

OPinPower: Displays the optical input power reading in dBm.

Example #1: In this example, the module in slot 1 reports its optical input power reading.

```
Transcend [slot-1] >OPinPower
-99.0 dBm
```

Attenuation: displays the transmit attenuation reading in dB.

Example #1: In this example, the module in slot 1 reports its transmit attenuation reading.

```
Transcend [slot-1] >attenuation
+4.9 dB
```

GainOffset: Displays the gain offset reading in steps.

Example #1: In this example, the module in slot 1 reports its gain offset reading.

```
Transcend [slot-1] >gainoffset
-20 steps
```

GainControl: Displays the gain control mode setting.

Example #1: In this example, the module in slot 1 reports its gain control mode.

```
Transcend [slot-1] >gaincontrol
MGC
```

FiberLength: Displays the transmit fiber length setting in kilometer.

Example #1: In this example, the module in slot 1 reports its transmit fiber length.

```
Transcend [slot-1] >FiberLength
20 km
```

LaserTempAlarm: Displays the alarm status of laser temperature.

Example #1: In this example, the module in slot 1 reports the alarm status of laser temperature on channel 1 as “MajorLoLo” (e.g. Major alarm with power reading below the low low threshold).

```
Transcend [slot-1] >LaserTempAlarm 1
MajorLoLo
```

LaserPowerAlarm: Displays the alarm status of laser power.

Example #1: In this example, the module in slot 1 reports the alarm status of laser power as “MajorLoLo” (e.g. Major alarm with reading below the low low threshold).

```
Transcend [slot-1] >LaserPowerAlarm
MajorLoLo
```

LaserRfAlarm: Displays the alarm status of laser RF.

Example #1: In this example, the module in slot 1 reports the alarm status of laser RF as “MajorLoLo” (e.g. Major alarm with reading below the low low threshold).

```
Transcend [slot-1] >LaserRfAlarm
MajorLoLo
```

OPinPowerAlarm: Displays the alarm status of optical input power.

Example #1: In this example, the module in slot 1 reports the alarm status of optical input power as “MajorLoLo” (e.g. Major alarm with power reading below the low low threshold).

```
Transcend [slot-1] >OPinPowerAlarm
MajorLoLo
```

ModuleTempAlarm: Displays the alarm status of module temperature.

Example #1: In this example, the module in slot 1 reports the alarm status of module temperature as Normal.

Transcend [slot-1] >ModuleTempAlarm

Normal

5.1.2.12 High Sensitivity Opto-Stacker

The commands in this section are High Sensitivity Opto-stacker specific.

Philosophy of module occupies multiple slots

The multiple-slot-wide module physically consumes more than one slot spaces. Its name is displayed on all slots, but it communicates with user via the lowest number of slot. The lowest number slot is defined as "Physical Slot" and all the upper slots are defined as "Virtual Slot". All UIs (CLI, SNMP etc.) are displayed on Physical slot only.

The High Sensitivity Opto-stacker consumes two physical slot spaces, the lower number slot is defined as true physical slot for CLI slot menu, the higher number slot is defined as a virtual slot, CLI menu would not be available for virtual slots.

Example #1: The HS-OptoStacker is plugged into slot 1 and occupied slot 1 and slot 2. Slot 1 is physical slot and slot 2 is virtual slot.

Transcend[slot-1] >slot
Slot 1 - HS-OptoStacker
Slot 2 - HS-OptoStacker
Slot 3 - DFB-Tx
Slot 4 – QRRX

Selecting the physical slot (slot 1), the module information can be displayed.

Transcend[slot-1] >slot 1
Slot 1 (HS-OptoStacker) selected

Selecting the virtual slot (slot 2), there is no module information available.

Transcend[slot-1] >slot 2
Slot 2 (Empty) selected

ModuleTemp: Displays the module temperature reading in Centigrade.

Example #1: In this example, the module in slot 1 reports its module temperature reading as 21.4 Centigrade.

Transcend [slot-1] >moduletemp
+21.4 (deg C)

LaserTemp: displays the laser temperature reading in Centigrade.

Example #1: In this example, the module in slot 1 reports its laser temperature reading on channel 1.

Transcend [slot-1] >LaserTemp
+23.0 (deg C)

OPoutPower: Displays the optical output power reading in dBm.

Example #1: In this example, the module in slot 1 reports its optical output power reading.

Transcend [slot-1] >OPoutPower
-99.0 (dBm)

OpticalPowerDbm: displays the optical receiver power in dBm.

Example #1: In this example, the module in slot 1 reports its optical receiver power reading as -8.0 dBm on channel 1.

```
Transcend [slot-1] >opticalPowerdbm 1
-8.0 (dBm)
```

GainReserve: Displays the gain reserve in dBm.

Example #1: In this example, the module in slot 1 reports its gain reserve as 6 dBm.

```
Transcend[slot-1] >GainReserve
6 (dBm)
```

Mode: Displays the gain control mode setting: MGC/AGC

Example #1: In this example, the module in slot 1 reports its gain control mode is MGC

```
Transcend [slot-1] >mode
MGC
```

ChannelMode: Displays the frequency channel plan mode.

Example #1: In this example, the module in slot 1 reports its frequency channel mode is 4-channel mode.

```
Transcend [slot-1] >channelmode
4
```

LaserTempAlarm: Displays the alarm status of laser temperature.

Example #1: In this example, the module in slot 1 reports the alarm status of laser temperature as “MajorLoLo” (e.g. Major alarm with power reading below the low low threshold).

```
Transcend [slot-1] >LaserTempAlarm
MajorLoLo
```

OpticalPowerAlarm: Displays the alarm status of optical power.

Example #1: In this example, the module in slot 1 reports the alarm status of optical power as “MajorLoLo” (e.g. Major alarm with power reading below the low low threshold).

```
Transcend [slot-1] >OpticalPowerAlarm
MajorLoLo
```

OPoutPowerAlarm: Displays the alarm status of optical output power.

Example #1: In this example, the module in slot 1 reports the alarm status of optical output power as “MajorLoLo” (e.g. Major alarm with power reading below the low low threshold).

```
Transcend [slot-1] >OPoutPowerAlarm 1
MajorLoLo
```

LockAlarm: Displays the alarm status of synthesizer lock. It's an alarm condition when synthesizer loses its lock.

Example #1: In this example, the module in slot 1 reports the alarm status of synthesizer lock as "Major" on channel 1.

```
Transcend [slot-1] >LockAlarm 1
Major
```

ModuleTempAlarm: Displays the alarm status of module temperature.

Example #1: In this example, the module in slot 1 reports the alarm status of module temperature as Normal.

```
Transcend [slot-1] >ModuleTempalarm
Normal
```

5.1.2.13 Direct Forward Transmitter (DFB Tx)

The commands in this section are DFB-Tx specific.

ModuleTemp: Displays the module temperature reading in Centigrade.

Example #1: In this example, the module in slot 1 reports its module temperature reading as 21.4 Centigrade.

```
Transcend [slot-1] >ModuleTempAlarm
+21.4 deg. C
```

LaserTemp: Displays the laser temperature reading in Centigrade.

Example #1: In this example, the module in slot 1 reports its laser temperature reading on channel 1.

```
Transcend [slot-1] >LaserTemp
+23.0 (deg C)
```

LaserPowerDbm: Displays the laser power reading in dBm.

Example #1: In this example, the module in slot 1 reports its laser power reading.

```
Transcend[slot-1] >LaserPowerDbm
+0.0 dBm
```

LaserRf: Displays the RF reading in dB.

Example #1: In this example, the module in slot 1 reports its RF reading.

```
Transcend[slot-1] >LaserRf
+0.0 dB
```

Wavelength: Displays the laser wavelength in nanometer.

Example #1: In this example, the module in slot 1 reports its laser wavelength.

```
Transcend[slot-1] >WaveLength
1546.12 nm
```

GainOffset: Displays the gain offset reading in steps.

Example #1: In this example, the module in slot 1 reports its gain offset reading.

```
Transcend [slot-1] >gainoffset
-20 steps
```

GainControl: Displays the gain control mode setting.

Example #1: In this example, the module in slot 1 reports its gain control mode.

```
Transcend [slot-1] >gaincontrol
MGC
```

Attenuation: Displays the attenuation setting in dB.

Example #1: In this example, the module in slot 1 reports its attenuation setting as 0 dB on channel 1.

```
Transcend [slot-1] >attenuation 1
0 (dB)
```

FiberLength: Displays the transmit fiber length setting in kilometer.

Example #1: In this example, the module in slot 1 reports its transmit fiber length.

```
Transcend [slot-1] >FiberLength
20 km
```

LaserTempAlarm: Displays the alarm status of laser temperature.

Example #1: In this example, the module in slot 1 reports the alarm status of laser temperature on channel 1 as “MajorLoLo” (e.g. Major alarm with power reading below the low low threshold).

```
Transcend [slot-1] >LaserTempAlarm 1
MajorLoLo
```

LaserPowerAlarm: Displays the alarm status of laser power.

Example #1: In this example, the module in slot 1 reports the alarm status of laser power as “MajorLoLo” (e.g. Major alarm with reading below the low low threshold).

```
Transcend [slot-1] >LaserPowerAlarm
MajorLoLo
```

LaserRfAlarm: Displays the alarm status of laser RF.

Example #1: In this example, the module in slot 1 reports the alarm status of laser RF as “MajorLoLo” (e.g. Major alarm with reading below the low low threshold).

```
Transcend [slot-1] >LaserRfAlarm
MajorLoLo
```

ModuleTempAlarm: Displays the alarm status of module temperature.

Example #1: In this example, the module in slot 1 reports the alarm status of module temperature as Normal.

```
Transcend [slot-1] >ModuleTempAlarm
Normal
```

5.1.2.14 Opto-Stacker

The commands in this section are Opto-stacker specific.

ModuleTemp: Displays the module temperature reading in Centigrade.

Example #1: In this example, the module in slot 1 reports its module temperature reading as 21.4 Centigrade.

```
Transcend [slot-1] >ModuleTemp
+21.4 deg C
```

LaserTemp: Displays the laser temperature reading in Centigrade.

Example #1: In this example, the module in slot 1 reports its laser temperature #1 reading.

```
Transcend [slot-1] >LaserTemp 1
+23.0 (deg C)
```

OPoutPower: Displays the optical output power reading in dBm.

Example #1: In this example, the module in slot 1 reports its optical output power #1 reading.

```
Transcend [slot-1] >OPoutPower 1
-99.0 dBm
```

Mode: Displays the gain control mode setting.

Example #1: In this example, the module in slot 1 reports its channel #1 gain control mode.

```
Transcend [slot-1] >Mode 1
MGC
```

OpticalPowerdBm: Displays the optical input power reading in dBm.

Example #1: In this example, the module in slot 1 reports its optical input power #1 reading.

```
Transcend [slot-1] >OpticalPowerdBm 1
-99.0 dBm
```

Attenuation: Displays the attenuation setting in dB.

Example #1: In this example, the module in slot 1 reports its attenuation #1 setting.

```
Transcend [slot-1] >attenuation 1
-2 dB
```

LaserTempAlarm: Displays the alarm status of laser temperature.

Example #1: In this example, the module in slot 1 reports the alarm status of laser termperature #1 as “MajorLoLo” (e.g. Major alarm with reading below the low low threshold).

```
Transcend [slot-1] >LaserTempAlarm 1
MajorLoLo
```

OpticalPowerAlarm: Displays the alarm status of the optical input power.

Example #1: In this example, the module in slot 1 reports the alarm status of the optical input power #1 as “MajorLoLo” (e.g. Major alarm with power reading below the low low threshold).

```
Transcend [slot-1] >OpticalPowerAlarm 1
MajorLoLo
```

OPoutPowerAlarm: Displays the alarm status of optical output power.

Example #1: In this example, the module in slot 1 reports the alarm status of optical output power #1 as “MajorLoLo” (e.g. Major alarm with power reading below the low low threshold).

```
Transcend [slot-1] >OPoutPowerAlarm 1
MajorLoLo
```

LockAlarm: Displays the alarm status of synthesizer lock. It’s an alarm condition when synthesizer loses its lock.

Example #1: In this example, the module in slot 1 reports the alarm status of synthesizer lock #1 as “Major”.

```
Transcend [slot-1] >LockAlarm 1
Major
```

ModuleTempAlarm: Displays the alarm status of the module temperature.

Example #1: In this example, the module in slot 1 reports the alarm status of module temperature as Normal.

```
Transcend [slot-1] >ModuleTempalarm
Normal
```

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GRAPHICAL USER INTERFACE

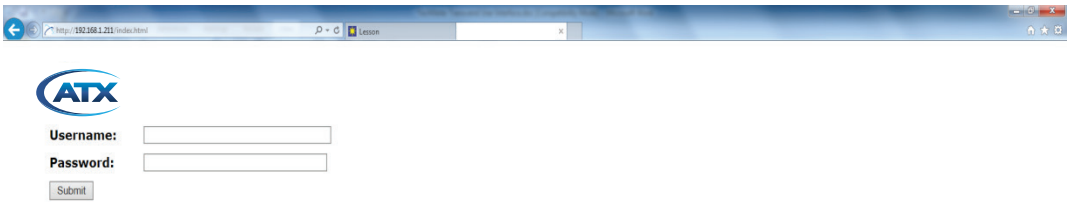
6. Graphical User Interface

Starting system software release 4.0 and later, user can view TranScend chassis via popular browsers. The supported browsers are:

- Internet Explorer®: 11
- Mozilla Firefox®: 20.0
- Google Chrome™: 38

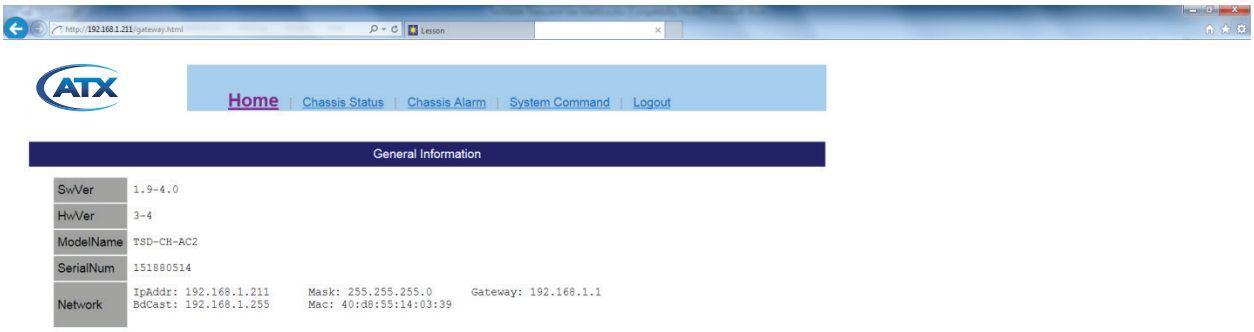
6.1 System Login Page

This is the system login page, where login credentials are collected for accessing the system.



6.2 Home Page

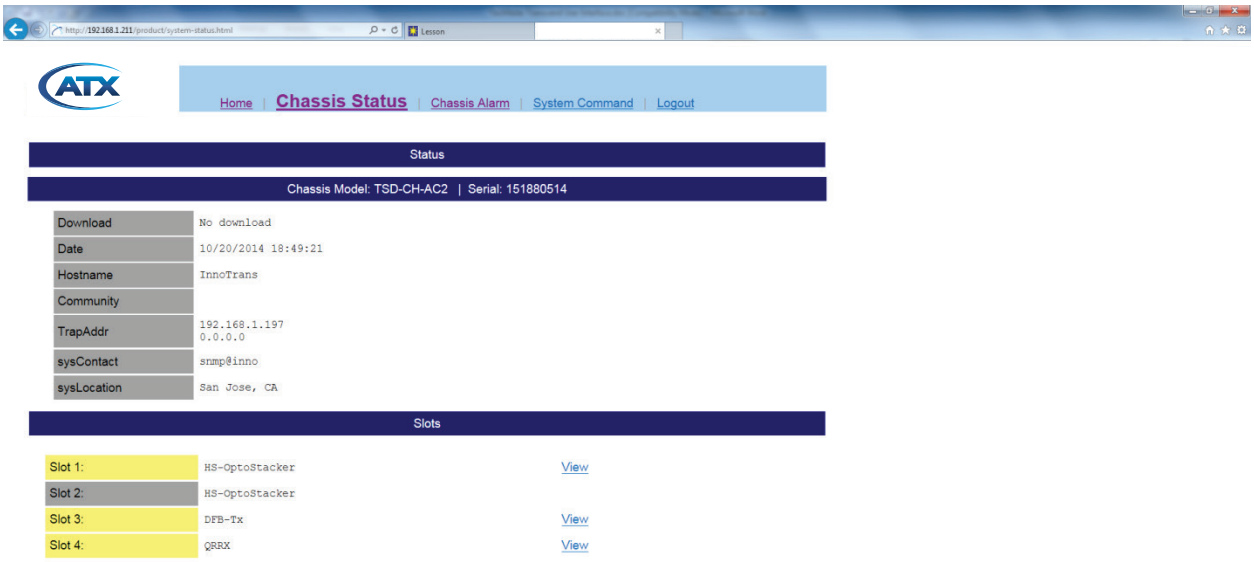
This Page displays system info and network configurations.



6.3 Chassis Status Page

The first session of this page shows chassis Status.

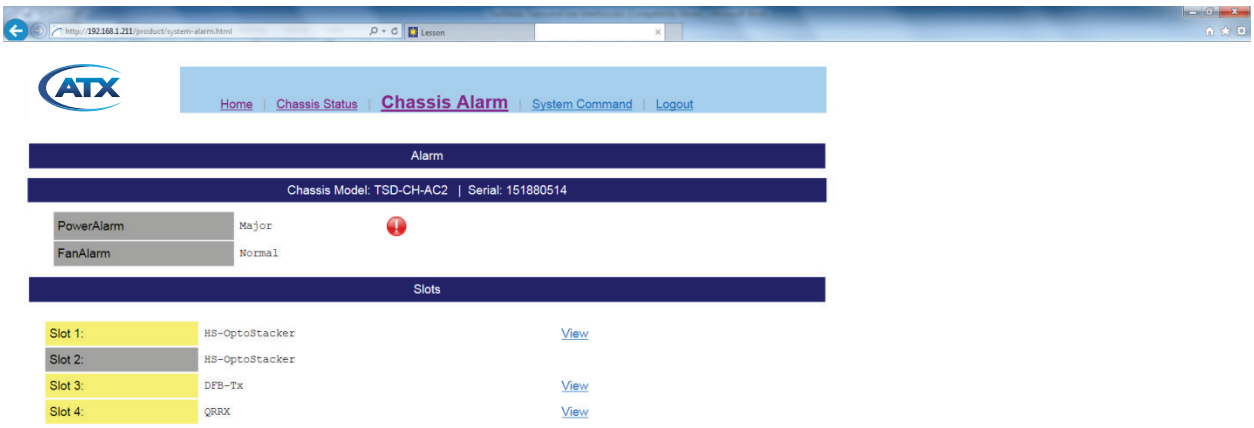
The second session of this page shows available slots, module types. For information about each individual slot, click “View” to link to the Module Status page. Please see 7.5 Module Status & Alarm and 7.6 Module Provision pages for detail.



6.4 Chassis Alarm Page

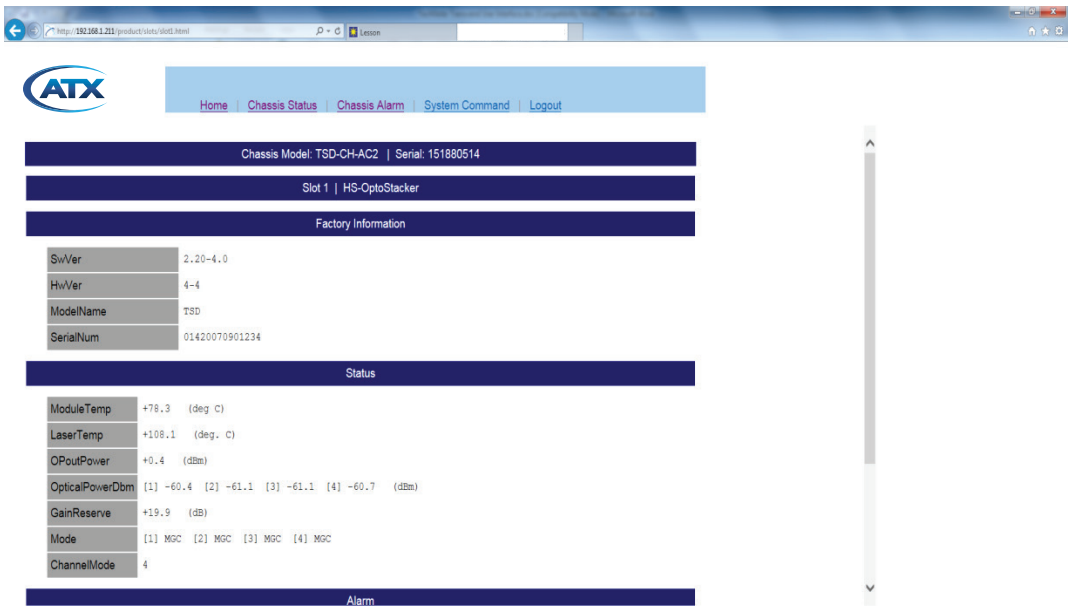
This page shows TranScend chassis alarms, available slots, module types, link to individual slot status and provision (only available to selected modules).

The bottom half of this page shows available slots and options for detail per slot status and Provision For individual module status, click on “View” associated with each module, for individual module provision, click on “Provision” associated with each module.



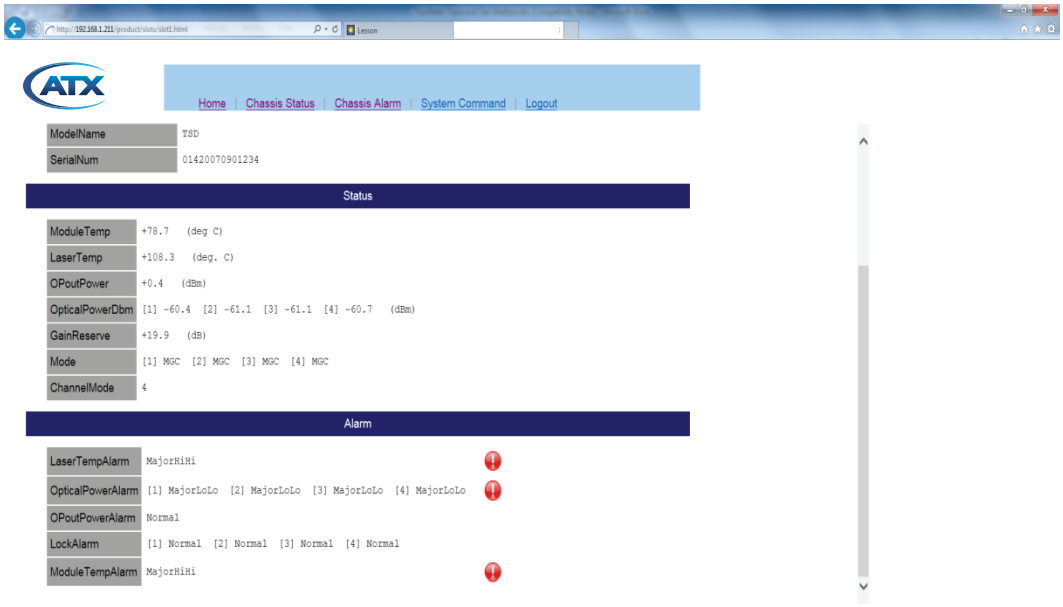
6.4.1 Top Page

Top half of the page shows module type, module's Factory Information and Status.



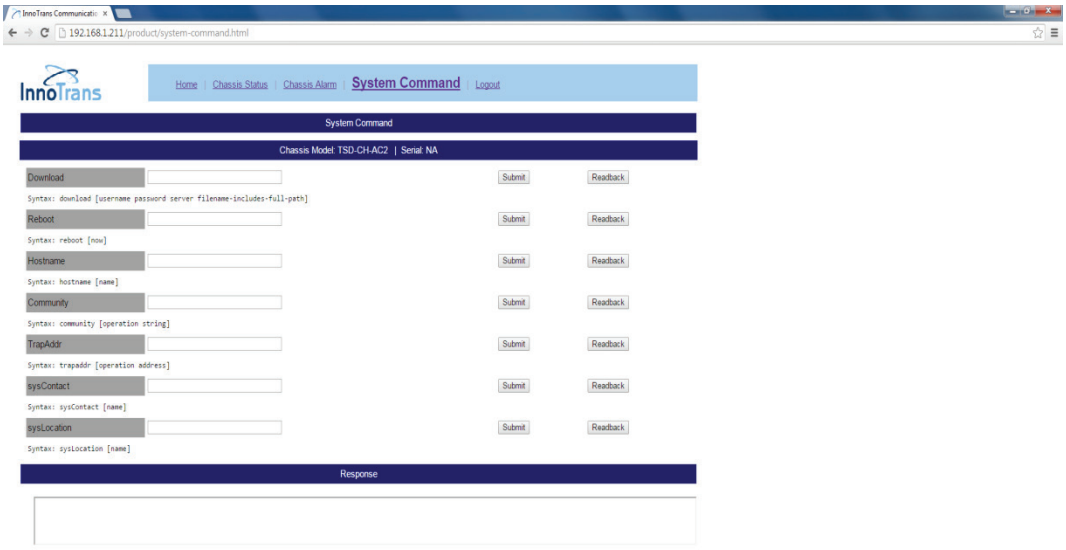
6.4.2 Bottom Page

Bottom half of this page shows module alarms



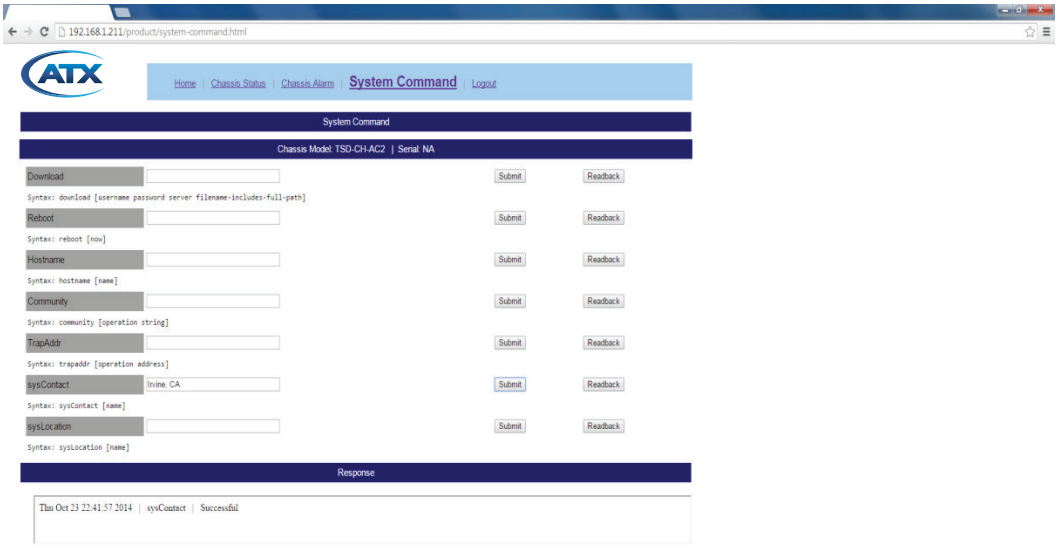
6.5 System Command Page

This page allows users to enter and execute system commands.



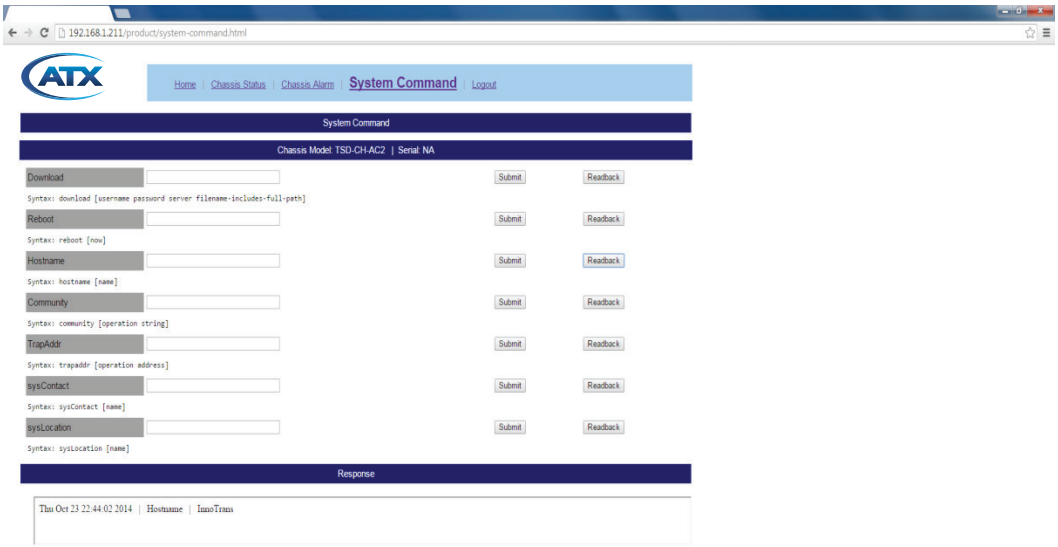
6.5.1 Configuration Example

To configure the sysLocation, in the “sysLocation” input box, enter “Irvine, CA” then click on “Submit” button. Check the “response” session for command process status.



6.5.2 Readback Example

Click on “Readback” bottom to retrieve configuration status. In this example, click on the “Readback” bottom destined for “Hostname”, “Response” session shows “Thu Oct 23 22:44:02 2014 | Hostname | InnoTrans”.



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USER INTERFACE CROSS REFERENCE

7. User Interface Cross Reference

For user's convenience, this chapter cross references the managed attributes relating to status and alarms in various user interfaces. The collective attributes may not be available in all software versions. The general system attributes, for example, model name, are omitted from these listings. Please refer to the CLI and SNMP Enterprise MIB sections for details.

7.1 System / Chassis Attributes

Front Panel Display	CLI	SNMP OID	SNMP Trap ID
Alarm: Pwr Sply	PowerAlarm		.iTTrancendNotification.31
Alarm: Fan	FanAlarm		.iTTrancendNotification.32
Slot	Slot	.innoTransModuleEntry.2	.iTTrancendNotification.33

The "Slot" is a special attribute; there is no direct mapping between CLI and SNMP. "Slot" in CLI provides an inventory snapshot; while user can extract the slot state and inventory via SNMP.

7.2 High Sensitivity Quad Return Receiver Attributes

Front Panel Display	CLI	SNMP OID	SNMP Trap ID
Status: Optical			
Alarm: Receiver Power	OpticalPowerAlarm		.iTTrancendNotification.19
Alarm: Module Temp	ModuleTempAlarm		.iTTrancendNotification.30
Optical: Power (dBm)	OpticalPowerDbm	.innoTransTranscendModuleLaserEntry.15	
Optical: Attn (dB)	Attenuation	.innoTransTranscendModuleLaserEntry.19	
Chassis: Temperature(C)	ModuleTemp	.innoTransTranscendModuleEntry.6	

The Status:Opt is a special feature only available for Front Panel display, not available for SNMP or CLI interface.

7.3 PON EDFA Attributes

Front Panel Display	CLI	SNMP OID	SNMP Trap ID
Status: Laser Temperature (C)	LaserTemp	.innoTransTranscendModuleLaserEntry.3	
Status: Bias (mA)	LaserBias	.innoTransTranscendModuleLaserEntry.13	
Status: Optical Input (dBm)	OPinPower	.innoTransTranscendModuleLaserEntry.11	
Status: Optical Output (dBm)	OPoutPower	.innoTransTranscendModuleLaserEntry.12	
Alarm: Laser Temperature	LaserTempAlarm		.iTTrancendNotification.10
Alarm: Optical Input	OPinPowerAlarm		.iTTrancendNotification.15
Alarm: Optical Output	OPoutPowerAlarm		.iTTrancendNotification.16

Alarm: Shutoff	ShutoffAlarm		.iTTrancendNotification.17
Alarm: Module Temperature	ModuleTempAlarm		.iTTrancendNotification.30
Chassis: Temperature(C)	ModuleTemp	.innoTransTranscendModuleEntry.6	

7.4 Quad Return Receiver Attributes

Front Panel Display	CLI	SNMP OID	SNMP Trap ID
Status: Optical			
Alarm: Receiver Power	OpticalPowerAlarm		.iTTrancendNotification.19
Alarm: Module Temp	ModuleTempAlarm		.iTTrancendNotification.30
Optical: Power (dBm)	OpticalPowerDbm	.innoTransTranscendModuleLaserEntry.15	
Optical: Attn (dB)	Attenuation	.innoTransTranscendModuleLaserEntry.19	
Chassis: Temperature(C)	ModuleTemp	.innoTransTranscendModuleEntry.6	

7.5 DeStacker Attributes

Front Panel Display	CLI	SNMP OID	SNMP Trap ID
Alarm: Synthesizer Lock	LockAlarm		.iTTrancendNotification.20
Alarm: Receiver Power	OpticalPowerAlarm		.iTTrancendNotification.19
Alarm: Module Temperature	ModuleTempAlarm		.iTTrancendNotification.30
Optical : Receiver Power (dBm)	OpticalPowerDbm	.innoTransTranscendModuleLaserEntry.15	
Optical: Gain Resv (dB)	GainReserve	.innoTransTranscendModuleLaserEntry.18	
Optical : Attn (dB)	Attenuation	.innoTransTranscendModuleLaserEntry.19	
Optical: Freq Chnl	Mode	.innoTransTranscendModuleLaserEntry.21	
Chassis: Temperature(C)	ModuleTemp	.innoTransTranscendModuleEntry.6	

7.6 Stacker Attributes

Front Panel Display	CLI	SNMP OID	SNMP Trap ID
Alarm: Synthesizer Lock	LockAlarm		.iTTrancendNotification.20
Alarm: Optical Power	OpticalPowerAlarm		.iTTrancendNotification.19
Alarm: Laser Temperature	LaserTempAlarm		.iTTrancendNotification.10
Alarm: Module Temperature	ModuleTempAlarm		.iTTrancendNotification.30

Optical: Power (dBm)	OpticalPowerDbm	.innoTransTranscendModuleLaserEntry.15	
Optical: Laser Temperature (C)	LaserTemp	.innoTransTranscendModuleLaserEntry.3	
Optical: Attn (dB)	Attenuation	.innoTransTranscendModuleLaserEntry.19	
Chassis: Temperature(C)	ModuleTemp	.innoTransTranscendModuleEntry.6	

7.7 Optical Switch Attributes

Front Panel Display	**CLI**	**SNMP OID**	**SNMP Trap ID**
Status: OPin Pwr(dBm)	OpinPower	.innoTransTranscendModuleLaserEntry.11	
Status: Switch	Switch	.innoTransTranscendModuleLaserEntry.20	
Alarm: OPin Pwr	OPinPowerAlarm		.iTTrancendNotification.15
Alarm: Module Temperature	ModuleTempAlarm		.iTTrancendNotification.30
Alarm: Switch	SwitchAlarm		.iTTrancendNotification.21
Chassis: Temperature(C)	ModuleTemp	.innoTransTranscendModuleEntry.6	

7.8 Forward Receiver Attributes

Front Panel Display	**CLI**	**SNMP OID**	**SNMP Trap ID**
Status: Opt Pwr(dBm)	OpticalPowerDbm	.innoTransTranscendModuleLaserEntry.15	
Alarm: RF Pwr	RFPowerAlarm		.iTTrancendNotification.22
Status: Attn (dB)	Attenuation	.innoTransTranscendModuleLaserEntry.19	
Alarm: Opt Power	OpticalPowerAlarm		.iTTrancendNotification.19
Alarm: Module Temperature	ModuleTempAlarm		.iTTrancendNotification.30
Chassis: Temperature(C)	ModuleTemp	.innoTransTranscendModuleEntry.6	

7.9 RF Switch Attributes

Front Panel Display	CLI	SNMP OID	SNMP Trap ID
Status: RF Pwr(dBmV)	RFPower	.innoTransTranscendModuleLaserEntry.14	
Status: Switch	Switch	.innoTransTranscendModuleLaserEntry.20	
Setup: Threshold(dBmV)	ThresholddBmV	.innoTransTranscendModuleLaserEntry.23	
Alarm: RF Pwr	RFPowerAlarm		.iTTrancendNotification.22
Alarm: Module Temperature	ModuleTempAlarm		.iTTrancendNotification.30
Alarm: Switch	SwitchAlarm		.iTTrancendNotification.21
Chassis: Temperature(C)	ModuleTemp	.innoTransTranscendModuleEntry.6	

7.10 AGC EDFA Attributes

The AGC EDFA describes in this document applies to the firmware release 1.21 or later.

Front Panel Display	CLI	SNMP OID	SNMP Trap ID
Status: Laser Temperature (C)	LaserTemp	.innoTransTranscendModuleLaserEntry.3	
Status: Bias (mA)	LaserBias	.innoTransTranscendModuleLaserEntry.13	
Status: Optical Input (dBm)	OPinPower	.innoTransTranscendModuleLaserEntry.11	
Status: Optical Output (dBm)	OPoutPower	.innoTransTranscendModuleLaserEntry.12	
Alarm: Laser Temperature	LaserTempAlarm		.iTTrancendNotification.10
Alarm: Optical Input	OPinPowerAlarm		.iTTrancendNotification.15
Alarm: Gain	GainAlarm		.iTTrancendNotification.18
Alarm: Shutoff	ShutoffAlarm		.iTTrancendNotification.17
Alarm: Module Temperature	ModuleTempAlarm		.iTTrancendNotification.30
Chassis: Temperature(C)	ModuleTemp	.innoTransTranscendModuleEntry.6	

7.11 Transceiver Attributes

Front Panel Display	CLI	SNMP OID	SNMP Trap ID
Status: Laser Temperature (C)	LaserTemp	.innoTransTranscendModuleLaserEntry.3	
Status: Laser Power (dBm)	LaserPowerDbm	.innoTransTranscendModuleLaserEntry.5	
Status: Laser RF (dB)	LaserRf	.innoTransTranscendModuleLaserEntry.2	
Status: Laser Wavelength (nm)	Wavelength	.innoTransTranscendModuleLaserEntry.6	
Status: Optical Input (dBm)	OPinPower	.innoTransTranscendModuleLaserEntry.11	
Status: Attn (dB)	Attenuation	.innoTransTranscendModuleLaserEntry.19	
Status: Gain offset (steps)	GainOffset	.innoTransTranscendModuleLaserEntry.7	
Status: Gain Control Mode	GainControl	.innoTransTranscendModuleLaserEntry.8	
Status: Fiber Length (km)	FiberLength	.innoTransTranscendModuleLaserEntry.25	
Alarm: Laser Temperature	LaserTempAlarm		.iTTrancendNotification.10
Alarm: Laser Power	LaserPowerAlarm		.iTTrancendNotification.11
Alarm: Laser RF	LaserRfAlarm		.iTTrancendNotification.12
Alarm: Optical Input	OPinPowerAlarm		.iTTrancendNotification.15
Alarm: Module Temperature	ModuleTempAlarm		.iTTrancendNotification.30
Chassis: Temperature(C)	ModuleTemp	.innoTransTranscendModuleEntry.6	

7.12 High Sensitivity Opto-Stacker

Front Panel Display	CLI	SNMP OID	SNMP Trap ID
Chassis: Temperature(C)	ModuleTemp	.innoTransTranscendModuleEntry.6	
Status: Laser Temperature (C)	LaserTemp	.innoTransTranscendModuleLaserEntry.3	
Status: Optical Output (dBm)	OPoutPower	.innoTransTranscendModuleLaserEntry.12	
Optical: Power (dBm)	OpticalPowerDbm	.innoTransTranscendModuleLaserEntry.15	
Optical: Gain Resv (dB)	GainReserve	.innoTransTranscendModuleLaserEntry.18	
Status: Mode	Mode	.innoTransTranscendModuleLaserEntry.8	
Optical: Freq Chnl	ChannelMode	.innoTransTranscendModuleLaserEntry.21	
Alarm: Laser Temperature	LaserTempAlarm		.iTTrancendNotification.10
Alarm: Receiver Power	OpticalPowerAlarm		.iTTrancendNotification.19
Alarm: Optical Output	OPoutPowerAlarm		.iTTrancendNotification.16
Alarm: Syn Lock	LockAlarm		.iTTrancendNotification.20
Alarm: Module Temperature	ModuleTempAlarm		.iTTrancendNotification.30

7.13 Direct Forward Transmitter (DFB Tx) Attributes

Front Panel Display	CLI	SNMP OID	SNMP Trap ID
Chassis: Temperature(C)	ModuleTemp	.innoTransTranscendModuleEntry.6	
Status: Laser Temperature (C)	LaserTemp	.innoTransTranscendModuleLaserEntry.3	
Status: Laser Power (dBm)	LaserPowerDbm	.innoTransTranscendModuleLaserEntry.5	
Status: Laser RF (dB)	LaserRf	.innoTransTranscendModuleLaserEntry.2	
Status: Laser Wavelength (nm)	Wavelength	.innoTransTranscendModuleLaserEntry.6	
Status: Gain offset (steps)	GainOffset	.innoTransTranscendModuleLaserEntry.7	
Status: Gain Control Mode	GainControl	.innoTransTranscendModuleLaserEntry.8	
Status: Attn (dB)	Attenuation	.innoTransTranscendModuleLaserEntry.19	
Status: Fiber Length (km)	FiberLength	.innoTransTranscendModuleLaserEntry.25	
Alarm: Laser Temperature	LaserTempAlarm		.iTTrancendNotification.10
Alarm: Laser Power	LaserPowerAlarm		.iTTrancendNotification.11
Alarm: Laser RF	LaserRfAlarm		.iTTrancendNotification.12
Alarm: Module Temperature	ModuleTempAlarm		.iTTrancendNotification.30

7.14 Opto-Stacker Attributes

Front Panel Display	CLI	SNMP OID	SNMP Trap ID
Chassis: Temperature(C)	ModuleTemp	.innoTransTranscendModuleEntry.6	
Status: Laser Temp (C)	LaserTemp	.innoTransTranscendModuleLaserEntry.3	
Status: OPout Pwr (dBm)	OPoutPower	.innoTransTranscendModuleLaserEntry.12	
Status: OptPwr (dBm)	OpticalPowerDbm	.innoTransTranscendModuleLaserEntry.15	
Status: Attn (dB)	Attenuation	.innoTransTranscendModuleLaserEntry.19	
Status: Mode Alarm: Laser Temp	Mode LaserTempAlarm	.innoTransTranscendModuleLaserEntry.8	 .iTTrancendNotification.10
Alarm: OptPwr	OpticalPowerAlarm		.iTTrancendNotification.19
Alarm: OPout Pwr	OPoutPowerAlarm		.iTTrancendNotification.16
Alarm: Syn Lock	LockAlarm		.iTTrancendNotification.20
Alarm: Module Temp	ModuleTempAlarm		.iTTrancendNotification.30

SNMP ENTERPRISE ATTRIBUTES

8. SNMP Enterprise Attributes

The following is a list of all the SNMP Enterprise MIB attributes for TranScend chassis. This list is provided as a reference only, please contact ATX Networks for the latest MIB.

```
INNO-TRANS-TRANSCEND-MIB DEFINITIONS ::= BEGIN

--
-- InnoTrans Communications Enterprise MIB
-- Copyright InnoTrans 2008-2013
--

IMPORTS
    MODULE-IDENTITY, OBJECT-TYPE, Integer32,
    NOTIFICATION-TYPE, enterprises          FROM SNMPv2-SMI
    MODULE-COMPLIANCE, OBJECT-GROUP,
    NOTIFICATION-GROUP                      FROM SNMPv2-CONF
    DisplayString, TEXTUAL-CONVENTION       FROM SNMPv2-TC
    InetAddress, InetAddressType            FROM INET-ADDRESS-MIB
    HeTenthdBm, HeTenthCentigrade, HeTenthdB, HeTenthVolt, HeTenthdBmV
                                            FROM SCTE-HMS-HEADENDIDENT-MIB
;


innoTransTranscend MODULE-IDENTITY
    LAST-UPDATED "201505080000Z" -- May 08, 2015
    ORGANIZATION "InnoTrans Communications"
    CONTACT-INFO
            "   InnoTrans SNMP Group
                mailto:snmp@inno-trans.com
            "
    DESCRIPTION
            "InnoTrans enterprise attributes.."
    REVISION
            "201505080000Z"
    DESCRIPTION
           "Transcend release build."

    ::= { innoTrans  11002 }

--
-- top level structure
--

innoTrans       OBJECT IDENTIFIER ::= { enterprises 30294 }

innoTransTranscendSystem       OBJECT IDENTIFIER ::= { innoTransTranscend 1 }
innoTransTranscendEquip        OBJECT IDENTIFIER ::= { innoTransTranscend 2 }
```

```
---
--- The module interface in this document is often described as laser or optics.
---
--- These values are returned when the objects return the following
--- conditions - These values apply to all innoTransTranscend objects.
---
---  Retrieving objects on slots that contain no module
---  Retrieving objects beyond installed laserIndex (e.g. 3rd optics on a 2
channel module)
---  Encountering internal errors such as time out.
---
--- Values:
---  DisplayString: NA
---  Unsigned32: 999
---  Integer32: -999
---  HeTenthCentigrade: -999
---  HeTenthdBm: -999
---  HeTenthdBmV: -999
---  HeTenthdB: -999
---  HeTenthVolt: -999
---

--
-- System Attributes :
--
-- S/W Ver, H/W Ver, Model Name, Serial Num
-- IP address, trap destination

innoTransTranscendSwVer OBJECT-TYPE
    SYNTAX      DisplayString
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
      "The software version(s)."
    ::= { innoTransTranscendSystem 1 }

innoTransTranscendModel OBJECT-TYPE
    SYNTAX      DisplayString
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
      "The model name for the device."
    ::= { innoTransTranscendSystem 2 }

innoTransTranscendSerial OBJECT-TYPE
    SYNTAX      DisplayString
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
      "The serial number for the device."
```

```
    ::= { innoTransTranscendSystem 3 }

innoTransTranscendIpAddressType OBJECT-TYPE
           SYNTAX      InetAddressType
           MAX-ACCESS  read-only
           STATUS      current
           DESCRIPTION
           "The IP address type. Only ipv4(1) is expected."
           ::= { innoTransTranscendSystem 4 }

innoTransTranscendHostAddress OBJECT-TYPE
    SYNTAX      InetAddress
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
     "The address of the device.
     This is primarily for easier logs when doing SNMP data collection
     without and EMS/NMS."
    ::= { innoTransTranscendSystem 5 }

innoTransTranscendTrapTarget1 OBJECT-TYPE
    SYNTAX      InetAddress
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
     "The address to which traps shall be sent.
        Syntax: ip-address-of-trap-destination"
    ::= { innoTransTranscendSystem 6 }


innoTransTranscendTrapTarget2 OBJECT-TYPE
    SYNTAX      InetAddress
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
     "Secondary address to which traps shall be sent.
      This is to support a secondary EMS/NMS.
        Syntax: ip-address-of-trap-destination"
    ::= { innoTransTranscendSystem 7 }

innoTransTranscendDownloadImage OBJECT-TYPE
    SYNTAX      OCTET STRING (SIZE(0..99))
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
     "Download image to the target system. The syntax of the parameters is:
        download username password ftp-server-IP-address filename-includes-full-
path
        If there is no parameters, the download status will be retrieved."
    ::= { innoTransTranscendSystem 8 }

innoTransTranscendDownloadImageStatus OBJECT-TYPE
```

```
    SYNTAX      INTEGER {
        noDownload(1),
        downloadInProgress(2),
        downloadChecksumError(3),
        downloadSuccessful(4),
        downloadFailed(5)
    }
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
      "Retrieve the current status of image download."
    ::= { innoTransTranscendSystem 9 }

innoTransTranscendReboot OBJECT-TYPE
     SYNTAX      OCTET STRING (SIZE(0..64))
     MAX-ACCESS  read-write
     STATUS      current
     DESCRIPTION
       "Reboot target system.
        Syntax: reboot now"
     ::= { innoTransTranscendSystem 10 }

innoTransTranscendHwVer OBJECT-TYPE
    SYNTAX      DisplayString
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
      "The hardware version(s)."
    ::= { innoTransTranscendSystem 11 }

--
--  Equipment Attributes
--
-- ModuleTemp
-- Tx - Opt Power - dBm
--    - RF Level dB
--    - mode : MDC/AGC
-- Amp - PumpLaserPower
--     - Laser Output Power


innoTransTranscendModuleTable OBJECT-TYPE
    SYNTAX       SEQUENCE OF InnoTransTranscendModuleEntry
    MAX-ACCESS   not-accessible
    STATUS       current
    DESCRIPTION  "Transcend module table"
    ::= { innoTransTranscendEquip 1 }

innoTransTranscendModuleEntry OBJECT-TYPE
    SYNTAX       InnoTransTranscendModuleEntry
    MAX-ACCESS   not-accessible
```

```
    STATUS       current
    DESCRIPTION  "Entry in Parent table"
    INDEX        { innoTransTranscendModuleIndex }
    ::= { innoTransTranscendModuleTable 1 }

InnoTransTranscendModuleEntry::= SEQUENCE {
    innoTransTranscendModuleIndex           Integer32,
    innoTransTranscendSlotState             INTEGER,
    innoTransTranscendModuleSwVer           DisplayString,
    innoTransTranscendModuleModel           DisplayString,
    innoTransTranscendModuleSerial          DisplayString,
    innoTransTranscendModuleTemp            HeTenthCentigrade,
    innoTransTranscendModuleHwVer           DisplayString,
    innoTransTranscendModuleDisplayName     DisplayString
    }

innoTransTranscendModuleIndex OBJECT-TYPE
    SYNTAX      Integer32 (1..4)
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
      "The module index. The index of the first module is 1."
    ::= { innoTransTranscendModuleEntry 1 }

innoTransTranscendSlotState OBJECT-TYPE
    SYNTAX      INTEGER {
        equipped(1),
        unequipped(2)
    }
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
      "This object indicates the state of a slot. When a module is
          plugged in a slot, it becomes equipped. When a module is
          removed from a slot, it becomes unequipped."
    ::= { innoTransTranscendModuleEntry 2 }

innoTransTranscendModuleSwVer OBJECT-TYPE
    SYNTAX      DisplayString
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
      "The software version(s) of the module."
    ::= { innoTransTranscendModuleEntry 3 }

innoTransTranscendModuleModel OBJECT-TYPE
    SYNTAX      DisplayString
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
      "The model name for the module."
    ::= { innoTransTranscendModuleEntry 4 }
```

```
innoTransTranscendModuleSerial OBJECT-TYPE
    SYNTAX      DisplayString
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
      "The serial number for the module."
    ::= { innoTransTranscendModuleEntry 5 }

innoTransTranscendModuleTemp OBJECT-TYPE
    SYNTAX      HeTenthCentigrade
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
      "The module temperature."
    ::= { innoTransTranscendModuleEntry 6 }

innoTransTranscendModuleHwVer OBJECT-TYPE
    SYNTAX      DisplayString
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
      "The hardware version(s) of the module."
    ::= { innoTransTranscendModuleEntry 7 }

innoTransTranscendModuleDisplayName OBJECT-TYPE
    SYNTAX      DisplayString
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
      "The slot module display name in more user friendly format.
      For module spans multiple slots, this attribute shows the same display name
on all occupied slots."
    ::= { innoTransTranscendModuleEntry 8 }

--
-- Module Laser Table: contains optics attributes.
--

innoTransTranscendModuleLaserTable OBJECT-TYPE
    SYNTAX      SEQUENCE OF InnoTransTranscendModuleLaserEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
      "This table contains a set of data for laser elements in the module."
    ::= { innoTransTranscendEquip 2 }

innoTransTranscendModuleLaserEntry OBJECT-TYPE
    SYNTAX      InnoTransTranscendModuleLaserEntry
    MAX-ACCESS  not-accessible
    STATUS      current
```

```
    DESCRIPTION
      "A row describing one of the optics. To access to one of the
         entry, it requires the module index and optics index. All the
         optics of all modules are in the same table."
    INDEX   { innoTransTranscendModuleIndex, itModuleLaserIndex }
    ::= {innoTransTranscendModuleLaserTable 1 }

InnoTransTranscendModuleLaserEntry ::= SEQUENCE {
      itModuleLaserIndex          Integer32,
      itModuleLaserRFdB           HeTenthdB,
      itModuleLaserTemp           HeTenthCentigrade,
      itModuleLaserPowerWt        Integer32,
      itModuleLaserPowerdBm       HeTenthdBm,
      itModuleLaserWavelength     DisplayString,
      itModuleLaserGainOffset          Integer32,
      itModuleLaserGainControl    DisplayString,
      itModuleAmpPumpPower        HeTenthdB,
      itModuleAmpOutputPower           HeTenthdB,
      itModuleOPinPower                HeTenthdB,
      itModuleOPoutPower               HeTenthdB,
      itModuleLaserBiasCurrent    Integer32,
      itModuleRFPower                  HeTenthdBmV,
      itModuleOpticalPowerdBm          HeTenthdBm,
      itModule3V3Power            HeTenthVolt,
      itModuleOpticalModulationIndex   Integer32,
      itModuleGainReserve              HeTenthdB,
      itModuleAttenuation              HeTenthdB,
      itModuleSwitch                   DisplayString,
      itModuleMode                     DisplayString,
      itModuleThresholddBm        HeTenthdBm,
      itModuleThresholddBmV       HeTenthdBmV,
      itModuleGaindB                   HeTenthdB,
      itModuleFiberLength              DisplayString,
      itModuleChannelMode              DisplayString,
      itModuleGainSet                  HeTenthdB
}

itModuleLaserIndex OBJECT-TYPE
    SYNTAX      Integer32 (1..4)
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
      "The laser index refering to each laser in the module. The first
         laser has index of 1."
    ::= { innoTransTranscendModuleLaserEntry 1 }

itModuleLaserRFdB OBJECT-TYPE
    SYNTAX      HeTenthdB
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
      "RF level for the laser in tenth of dB."
```

```
    ::= { innoTransTranscendModuleLaserEntry 2 }

itModuleLaserTemp OBJECT-TYPE
    SYNTAX      HeTenthCentigrade
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
      "Laser temperature in tenth of Centigrade."
    ::= { innoTransTranscendModuleLaserEntry 3 }

itModuleLaserPowerWt OBJECT-TYPE
    SYNTAX      Integer32
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
      "Laser Power in tenth of milliWatt."
    ::= { innoTransTranscendModuleLaserEntry 4 }

itModuleLaserPowerdBm OBJECT-TYPE
    SYNTAX      HeTenthdBm
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
      "Laser power in tenth of dBm."
    ::= { innoTransTranscendModuleLaserEntry 5 }

itModuleLaserWavelength OBJECT-TYPE
    SYNTAX      DisplayString
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
      "Laser wavelength."
    ::= { innoTransTranscendModuleLaserEntry 6 }

itModuleLaserGainOffset OBJECT-TYPE
    SYNTAX      Integer32
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
      "Gain offset in steps."
    ::= { innoTransTranscendModuleLaserEntry 7 }

itModuleLaserGainControl OBJECT-TYPE
    SYNTAX      DisplayString
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
      "Module gain control mode."
    ::= { innoTransTranscendModuleLaserEntry 8 }

itModuleAmpPumpPower OBJECT-TYPE
```

```
    SYNTAX      HeTenthdB
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
      "Amplifier pump power in tenth of dBm."
    ::= { innoTransTranscendModuleLaserEntry 9 }

itModuleAmpOutputPower OBJECT-TYPE
    SYNTAX      HeTenthdB
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
      "Amplifier output power in tenth of dBm."
    ::= { innoTransTranscendModuleLaserEntry 10 }

itModuleOPinPower OBJECT-TYPE
    SYNTAX      HeTenthdB
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
      "Optical input power in tenth of dBm."
    ::= { innoTransTranscendModuleLaserEntry 11 }

itModuleOPoutPower OBJECT-TYPE
    SYNTAX      HeTenthdB
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
      "Optical output power in tenth of dBm."
    ::= { innoTransTranscendModuleLaserEntry 12 }

itModuleLaserBiasCurrent OBJECT-TYPE
    SYNTAX      Integer32
    UNITS       "milli Amperes"
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
      "Laser bias current in mA."
    ::= { innoTransTranscendModuleLaserEntry 13 }

itModuleRFPower OBJECT-TYPE
    SYNTAX      HeTenthdBmV
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
      "RF power in dBmV."
    ::= { innoTransTranscendModuleLaserEntry 14 }


itModuleOpticalPowerdBm OBJECT-TYPE
    SYNTAX      HeTenthdBm
    MAX-ACCESS  read-only
```

```
    STATUS      current
    DESCRIPTION
      "Optical power in tenth of dBm."
    ::= { innoTransTranscendModuleLaserEntry 15 }

itModule3V3Power OBJECT-TYPE
    SYNTAX      HeTenthVolt
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
      "3.3 v power reading in tenth of volt."
    ::= { innoTransTranscendModuleLaserEntry 16 }

itModuleOpticalModulationIndex OBJECT-TYPE
    SYNTAX      Integer32
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
      "Optical modulation index."
    ::= { innoTransTranscendModuleLaserEntry 17 }

itModuleGainReserve OBJECT-TYPE
    SYNTAX      HeTenthdB
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
      "Gain reserve in tenth of dB."
    ::= { innoTransTranscendModuleLaserEntry 18 }

itModuleAttenuation OBJECT-TYPE
    SYNTAX      HeTenthdB
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
      "Attenuation settings in tenth of dB."
    ::= { innoTransTranscendModuleLaserEntry 19 }

itModuleSwitch OBJECT-TYPE
    SYNTAX      DisplayString
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
      "Switch position."
    ::= { innoTransTranscendModuleLaserEntry 20 }

itModuleMode OBJECT-TYPE
    SYNTAX      DisplayString
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
      "Module mode - switch control mode, frequency channel mode, etc."
```

```
    ::= { innoTransTranscendModuleLaserEntry 21 }

itModuleThresholddBm OBJECT-TYPE
    SYNTAX      HeTenthdBm
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
      "Threshold in tenth of dBm."
    ::= { innoTransTranscendModuleLaserEntry 22 }

itModuleThresholddBmV OBJECT-TYPE
    SYNTAX      HeTenthdBmV
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
      "Threshold in tenth of dBmV."
    ::= { innoTransTranscendModuleLaserEntry 23 }

itModuleGaindB OBJECT-TYPE
    SYNTAX      HeTenthdB
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
      "Gain in tenth of dB."
    ::= { innoTransTranscendModuleLaserEntry 24 }

itModuleFiberLength OBJECT-TYPE
    SYNTAX      DisplayString
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
      "Fiber length in Kilometer."
    ::= { innoTransTranscendModuleLaserEntry 25 }

itModuleChannelMode OBJECT-TYPE
    SYNTAX      DisplayString
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
      "Frequency channel mode."
    ::= { innoTransTranscendModuleLaserEntry 26 }

itModuleGainSet OBJECT-TYPE
    SYNTAX      HeTenthdB
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
      "User gain setting in dB."
    ::= { innoTransTranscendModuleLaserEntry 27 }


---
```

```
--- TRAPS
---

iTTranscendNotifications       OBJECT IDENTIFIER ::= { innoTransTranscend 3 }
iTTranscendNotification  OBJECT IDENTIFIER ::= { iTTranscendNotifications 0 }
iTTranscendNotificationObjects OBJECT IDENTIFIER ::= { iTTranscendNotifications 1
}

--
-- Notification objects
--
notifyObjectIndex OBJECT-TYPE
    SYNTAX      Integer32
    MAX-ACCESS  accessible-for-notify
    STATUS      current
    DESCRIPTION
        "The integer object reports the interface index number from 1 to 4."
::= { iTTranscendNotificationObjects 1 }

notifyObjectValue OBJECT-TYPE
    SYNTAX      DisplayString
    MAX-ACCESS  accessible-for-notify
    STATUS      current
    DESCRIPTION
        "The value of the notification object."
::= { iTTranscendNotificationObjects 2 }

HeCommonLogState ::= TEXTUAL-CONVENTION
    STATUS      current
    DESCRIPTION
            "The new alarm state of the object which caused the event
            to be recorded into the log."
    SYNTAX      INTEGER {
        heCommonNominal(1),
        heCommonHIHI(2),
        heCommonHI(3),
        heCommonLO(4),
        heCommonLOLO(5),
        heCommonDiscreteMajor(6),
        heCommonDiscreteMinor(7)
    }

notifyAlarmState OBJECT-TYPE
    SYNTAX      HeCommonLogState
    MAX-ACCESS  accessible-for-notify
    STATUS      current
    DESCRIPTION
        "The integer object reports the alarm severity of a notification."
::= { iTTranscendNotificationObjects 3 }

notifyModuleIndex OBJECT-TYPE
```

```
    SYNTAX      Integer32
    MAX-ACCESS  accessible-for-notify
    STATUS      current
    DESCRIPTION
        "The integer object reports the module index number.
         For a non-chassis system, it is always 0. For a chassis system
         with modules, it starts from 1."
::= { iTTranscendNotificationObjects 4 }

--
-- Notification: System
--
notifSystemTemp NOTIFICATION-TYPE
    OBJECTS { notifyObjectIndex, notifyObjectValue, notifyAlarmState,
notifyModuleIndex }
    STATUS      current
    DESCRIPTION
        "The notification of system temperature alarm"
::= { iTTranscendNotification 30 }

notifPower NOTIFICATION-TYPE
    OBJECTS { notifyObjectIndex, notifyObjectValue, notifyAlarmState }
    STATUS      current
    DESCRIPTION
        "The notification of system power alarm"
::= { iTTranscendNotification 31 }

notifFan NOTIFICATION-TYPE
    OBJECTS { notifyObjectIndex, notifyObjectValue, notifyAlarmState }
    STATUS      current
    DESCRIPTION
        "The notification of fan alarm"
::= { iTTranscendNotification 32 }

notifModulePresence NOTIFICATION-TYPE
    OBJECTS { notifyObjectIndex, notifyObjectValue, notifyAlarmState,
notifyModuleIndex }
    STATUS      current
    DESCRIPTION
        "The notification of module presence status alarm"
::= { iTTranscendNotification 33 }

--
-- Notification: Module
--
notifLaserTemp NOTIFICATION-TYPE
    OBJECTS { notifyObjectIndex, notifyObjectValue, notifyAlarmState,
notifyModuleIndex }
    STATUS      current
    DESCRIPTION
        "The notification of laser temperature alarm. There are 4 lasers in the
system. The notifyObjectIndex is
```

```
         used to identify which one. The notifyAlarmState indicates the alarm
state."
::= { iTTranscendNotification 10 }

notifLaserPower NOTIFICATION-TYPE
    OBJECTS { notifyObjectIndex, notifyObjectValue, notifyAlarmState,
notifyModuleIndex }
    STATUS      current
    DESCRIPTION
        "The notification of laser output power alarm"
::= { iTTranscendNotification 11 }

notifLaserRf NOTIFICATION-TYPE
    OBJECTS { notifyObjectIndex, notifyObjectValue, notifyAlarmState,
notifyModuleIndex }
    STATUS      current
    DESCRIPTION
        "The notification of laser RF alarm. There are 4 lasers in the system.
The notifyObjectIndex is
         used to identify which one. The notifyAlarmState indicates the alarm
state."
::= { iTTranscendNotification 12 }

notifPumpPower NOTIFICATION-TYPE
    OBJECTS { notifyObjectIndex, notifyObjectValue, notifyAlarmState,
notifyModuleIndex }
    STATUS      current
    DESCRIPTION
        "The notification of pump output power alarm. There are 1 pump in the
system. The notifyObjectIndex is
         1. The notifyAlarmState indicates the alarm state."
::= { iTTranscendNotification 13 }

notifOpticalOutputPower NOTIFICATION-TYPE
    OBJECTS { notifyObjectIndex, notifyObjectValue, notifyAlarmState,
notifyModuleIndex }
    STATUS      current
    DESCRIPTION
        "The notification of laser optical output power alarm. There are 4 lasers
in the system. The notifyObjectIndex is
         used to identify which one. The notifyAlarmState indicates the alarm
state."
::= { iTTranscendNotification 14 }

notifOPinPower NOTIFICATION-TYPE
    OBJECTS { notifyObjectIndex, notifyObjectValue, notifyAlarmState,
notifyModuleIndex }
    STATUS      current
    DESCRIPTION
        "The notification of optical input power alarm. The notifyAlarmState
indicates the alarm state."
```

```
::= { iTTranscendNotification 15 }

notifOPoutPower NOTIFICATION-TYPE
    OBJECTS { notifyObjectIndex, notifyObjectValue, notifyAlarmState,
notifyModuleIndex }
    STATUS      current
    DESCRIPTION
        "The notification of optical output power alarm. The notifyAlarmState
indicates the alarm state."
::= { iTTranscendNotification 16 }

notifShutoff NOTIFICATION-TYPE
    OBJECTS { notifyObjectIndex, notifyObjectValue, notifyAlarmState,
notifyModuleIndex }
    STATUS      current
    DESCRIPTION
        "The notification of pump shutoff alarm"
::= { iTTranscendNotification 17 }

notifGain NOTIFICATION-TYPE
    OBJECTS { notifyObjectIndex, notifyObjectValue, notifyAlarmState,
notifyModuleIndex }
    STATUS      current
    DESCRIPTION
        "The notification of gain related alarm"
::= { iTTranscendNotification 18 }

notifOpticalPower NOTIFICATION-TYPE
    OBJECTS { notifyObjectIndex, notifyObjectValue, notifyAlarmState,
notifyModuleIndex }
    STATUS      current
    DESCRIPTION
        "The notification of optical power alarm"
::= { iTTranscendNotification 19 }

notifLock NOTIFICATION-TYPE
    OBJECTS { notifyObjectIndex, notifyObjectValue, notifyAlarmState,
notifyModuleIndex }
    STATUS      current
    DESCRIPTION
        "The notification of synthesizer lock alarm"
::= { iTTranscendNotification 20 }

notifSwitch NOTIFICATION-TYPE
    OBJECTS { notifyObjectIndex, notifyObjectValue, notifyAlarmState,
notifyModuleIndex }
    STATUS      current
    DESCRIPTION
        "The notification of switch status alarm"
::= { iTTranscendNotification 21 }

notifRFPower NOTIFICATION-TYPE
```

```
    OBJECTS { notifyObjectIndex, notifyObjectValue, notifyAlarmState,
notifyModuleIndex }
    STATUS      current
    DESCRIPTION
        "The notification of RF power alarm"
::= { iTTranscendNotification 22 }

notifSFP NOTIFICATION-TYPE
    OBJECTS { notifyObjectIndex, notifyObjectValue, notifyAlarmState,
notifyModuleIndex }
    STATUS      current
    DESCRIPTION
        "The notification of SFP status alarm"
::= { iTTranscendNotification 23 }

--
-- 30 and above are system notifications
--

--
-- Conformance Information
--
innoTransTranscendMibConformance OBJECT IDENTIFIER ::= { innoTransTranscend 4 }

innoTransTranscendMibGroups OBJECT IDENTIFIER
                  ::= { innoTransTranscendMibConformance 1 }

innoTransTranscendMibCompliances OBJECT IDENTIFIER
                  ::= { innoTransTranscendMibConformance 2 }
--
-- Compliance Statements
--
innoTransTranscendMibCompliance MODULE-COMPLIANCE
    STATUS      current
    DESCRIPTION "The compliance statement for SNMP entities
                for InnoTrans Transcend products."
    MODULE -- this module
     MANDATORY-GROUPS  { innoTransTranscendSystemGroup,
                         innoTransTranscendModuleGroup,
                         innoTransTranscendModuleLaserGroup,
                         innoTransTranscendNotificationObjectGroup,
                         innoTransTranscendNotificationGroup
                       }
 ::= { innoTransTranscendMibCompliances 1 }

 --
 -- Units of Conformance
 --
innoTransTranscendSystemGroup OBJECT-GROUP
    OBJECTS {
        innoTransTranscendSwVer,
```

```
        innoTransTranscendModel,
        innoTransTranscendSerial,
        innoTransTranscendIpAddressType,
        innoTransTranscendHostAddress,
        innoTransTranscendTrapTarget1,
        innoTransTranscendTrapTarget2,
        innoTransTranscendDownloadImage,
        innoTransTranscendDownloadImageStatus,
        innoTransTranscendReboot,
        innoTransTranscendHwVer
    }
    STATUS current
    DESCRIPTION          "This group consists of objects in InnoTrans Transcend
                          system group."
::= { innoTransTranscendMibGroups 1 }

innoTransTranscendNotificationObjectGroup OBJECT-GROUP
    OBJECTS {
        notifyObjectIndex,
        notifyObjectValue,
        notifyAlarmState,
        notifyModuleIndex
    }
    STATUS current
    DESCRIPTION          "This group consists of objects in InnoTransce
Transcend
                          notification objects group."
::= { innoTransTranscendMibGroups 3 }

innoTransTranscendNotificationGroup NOTIFICATION-GROUP
    NOTIFICATIONS {
        notifSystemTemp,
        notifPower,
        notifFan,
           notifModulePresence,
        notifLaserTemp,
        notifLaserPower,
        notifLaserRf,
        notifPumpPower,
        notifOpticalOutputPower,
           notifOPinPower,
           notifOPoutPower,
           notifShutoff,
           notifGain,
           notifOpticalPower,
           notifLock,
           notifSwitch,
           notifRFPower,
           notifSFP
    }
    STATUS current
    DESCRIPTION          "This group consists of objects in InnoTrans Transcend
```

```
                          equipment group."
::= { innoTransTranscendMibGroups 4 }

innoTransTranscendModuleGroup OBJECT-GROUP
    OBJECTS {
      innoTransTranscendSlotState,
      innoTransTranscendModuleSwVer,
      innoTransTranscendModuleModel,
      innoTransTranscendModuleSerial,
      innoTransTranscendModuleTemp,
            innoTransTranscendModuleHwVer,
            innoTransTranscendModuleDisplayName
    }
    STATUS current
    DESCRIPTION          "This group consists of objects in InnoTrans Transcend
                          module group."
::= { innoTransTranscendMibGroups 5 }

innoTransTranscendModuleLaserGroup OBJECT-GROUP
    OBJECTS {
      itModuleLaserRFdB,
      itModuleLaserTemp,
      itModuleLaserPowerWt,
      itModuleLaserPowerdBm,
      itModuleLaserWavelength,
      itModuleLaserGainOffset,
      itModuleLaserGainControl,
      itModuleAmpPumpPower,
      itModuleAmpOutputPower,
      itModuleOPinPower,
      itModuleOPoutPower,
      itModuleLaserBiasCurrent,
      itModuleRFPower,
      itModuleOpticalPowerdBm,
      itModule3V3Power,
      itModuleOpticalModulationIndex,
      itModuleGainReserve,
      itModuleAttenuation,
      itModuleSwitch,
      itModuleMode,
      itModuleThresholddBm,
      itModuleThresholddBmV,
      itModuleGaindB,
      itModuleFiberLength,
      itModuleChannelMode,
      itModuleGainSet
    }
    STATUS current
    DESCRIPTION          "This group consists of objects in InnoTrans Transcend
                          module interface group."
::= { innoTransTranscendMibGroups 6 }
END
```

SERVICE & SUPPORT

9. Service & Support

9.1 Contact ATX Networks

Please contact ATX Technical Support for assistance with any ATX products.

TECHNICAL SUPPORT

Tel: 289.204.7800 – press 1
Toll-Free: 866.YOUR.ATX (866.968.7289) USA & Canada only
Email: support@atx.com

SALES ASSISTANCE

Tel: 289.204.7800 – press 2
Toll-Free: 866.YOUR.ATX (866.968.7289) USA & Canada only
Email: insidesales@atx.com

FOR HELP WITH AN EXISTING ORDER

Tel: 289.204.7800 – press 3
Toll-Free: 866.YOUR.ATX (866.968.7289) USA & Canada only
Email: orders@atx.com
Web: www.atx.com

9.2 Warranty Information

All of ATX Networks' products have a 1-year warranty that covers manufacturer's defects or failures.

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