



Optical line terminals

LTP-8X, LTP-4X


CLI command reference guide, version 3.9 (10.12.2020)


Firmware version 3.40.0

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Notes and warnings

 Notes contain important information, tips or recommendations on device operation and setup.

 Warnings are used to inform the user about harmful situations for the device and the user alike, which could cause malfunction or data loss.

1 Configuring the device via CLI (Command Line Interface)

This chapter contains the commands that are used to manage the device via the command line interface.

Command Line Interface (CLI) allows to perform the device management and monitor its operation and status. You will require the PC application supporting Telnet or SSH protocol operation or direct connection via the console port (e.g. HyperTerminal).

The methods of connection are described in the chapter Connecting to the CLI of the LTP-X User Guide.

To simplify the use of the command line, the interface supports automatic command completion. This function is activated when the command is incomplete and the <Tab> character is entered.

Another function that helps to use the command line – context help. At any stage of entering a command, you can get a prompt about the following command elements by entering <?> character.

For the convenience of managing the device via a command line, the **do** command is used, which allows you to execute global level commands (Top view) when you are at other levels of the command interface.

1.1 CLI commands list. Global mode

The command system of the LTP-8X command line interface is divided into view sections.

Figure 1 shows the main sections as well as the transition between them.

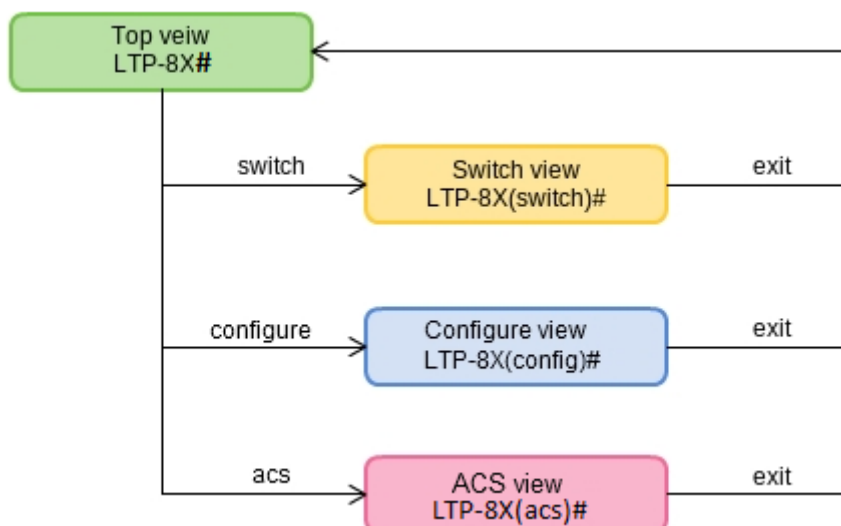


Figure 1 – CLI main sections

The **Top view** includes general commands, which refer to the device in general. E.g. view terminal parameters, firmware update, reboot, etc. The **Switch configure view** is a group of switch-related commands: VLAN, GE interfaces, LACP, etc. The **Configure view** is a list of terminal configuration commands. E.g. user management, services configuration, GPON interface and ONT configuration, profile configuration, etc. The **ACS view** contains commands for operation with the built-in Device Autoconfiguration Server (ACS).

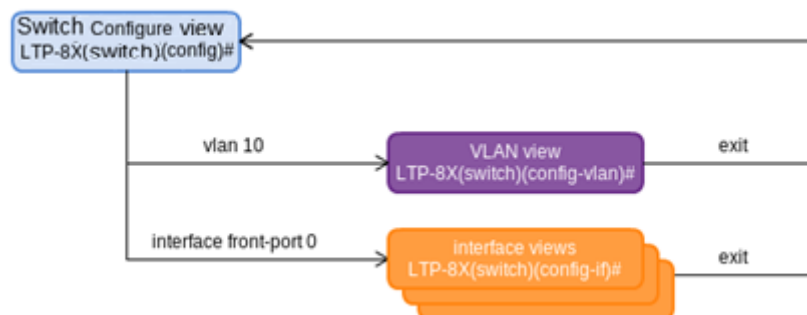


Figure 2 – Switch view hierarchy

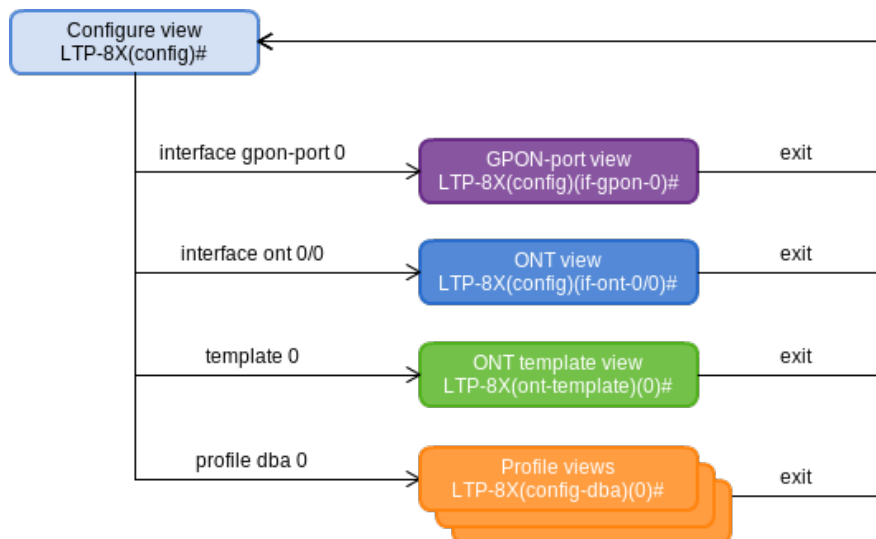


Figure 3 – Configure view hierarchy

Figure 3 shows the Configure view, which consists of four parts. The **GPON-port view** is used to configure GPON interfaces. The **ONT view** is used to configure the ONT. ONT configuration templates are modified in the **ONT template view**. The profile part of the terminal configuration is configured in the **Profile view**.

Table 1 shows the complete list of commands in the main **Top view** mode in alphabetical order.

A typical command structure is the body of the command and the following set of arguments listed in Table 1 in the **Parameter** column in the order in which they are entered. If the arguments are distributed in the command body, their position is indicated in the **Command** column. An empty field in the **Parameter** column in the table means that the command does not contain arguments.

Arguments in the **Parameter** column, enclosed in corner brackets <>, are mandatory, without specifying them the command is considered incomplete and will not be accepted for execution. The arguments in the **Command** column, enclosed in square brackets [], are optional, the command can be accepted for execution without specifying them.

Possible values for the command arguments and explanations for their input are listed in the **Value** column. The **Action** column contains a description of the command.

Table 1 – List of commands in the main mode of the **Top view**

Command	Parameter	Value	Action
?			Show list of available commands
acs ¹			Go to the ACS configuration section

Command	Parameter	Value	Action
clear alarms type <TYPE>	<TYPE>	dummy/ ram/ login/ config-save/ firmware-update/ duplicate-mac/ physical-layer-flapping/ pon-gpon-port-no-ont/ ont-physical-layer/ olt-update/ ont-update/ gpon-port-flapping/ ont-flapping/ download/ battery-power/ battery-low/ lan-los/ ont-config/ file-delete/ physical-layer-errors/ physical-layer-block/ link/ logout/ ont-dying-gasp/ ont-rei/ ont-power-off/ config-change/ shutdown/ oms/ ont-state-changed/ ont-config-changed/ gpon-port-state-changed/ pon-alarm-gpon-port/ pon-alarm-onui/ ont-update-inprogress/ olt-device-reset/ ont-signal-degrade/ ont-high-rx-power/ ont-low-rx-power/ gpon-port-ont-count-overflow/ olt-device-not-working/ load-average/ free-space/ temperature/ fan/ system-reboot/ rssi-update/ power-supply/	Delete entries with this type of alarm from the system alarm log.

Command	Parameter	Value	Action
		storm-detected/ ont-storm-detected/ ont-los-video-power/ ont-low-video-power/ ont-high-video-power	
clear alarms severity <VALUE>	<VALUE>	info/ minor/ major/ critical	Delete entries with the specified accident severity from the system crash log.
clear counters interface gpon- port <CHANNEL>	<CHANNEL>	LTP-8X: LTP-4X: 0..7 0..3 Range and/or list of GPON interfaces (e.g. 0 or 1-3,5-7)	Zero counters on GPON-port interface
clear counters interface ont <VALUE>	<VALUE>	for LTP-8X: <0-7>[/0-127] Range and/or list of ONT interfaces (e.g. 1/1-3/3,5,7,15-33) for LTP-4X: <0-3>[/0-127] Range and/or list of ONT interfaces (e.g. 1/1-3/3,5,7,15-33)	Zero counters on ONT
clear dhcp- sessions interface ont <VALUE>	<VALUE>	for LTP-8X: <0-7>[/0-127] Range and/or list of ONT interfaces (e.g. 1/1-3/3,5,7,15-33) for LTP-4X: <0-3>[/0-127] Range and/or list of ONT interfaces (e.g. 1/1-3/3,5,7,15-33)	Zero DHCP session counters
clear downstream-ber interface gpon- port <CHANNEL>	<CHANNEL>	LTP-8X: LTP-4X: 0..7 0..3 Range and/or list of GPON interfaces (e.g. 0 or 1-3,5-7)	Zero error rate counters for downstream on GPON-port interface

Command	Parameter	Value	Action
clear downstream-ber interface ont <VALUE>	<VALUE>	for LTP-8X: <0-7>[/0-127] Range and/or list of ONT interfaces (e.g. 1/1-3/3,5,7,15-33) for LTP-4X: <0-3>[/0-127] Range and/or list of ONT interfaces (e.g. 1/1-3/3,5,7,15-33)	Zero error rate counters for upstream on ONT
clear log buffer			Clear log buffer
clear log files			Delete all log files
clear mac interface gpon- port <CHANNEL>	<CHANNEL>	LTP-8X: 0..7 LTP-4X: 0..3 Range and/or list of GPON interfaces (e.g. 0 or 1-3,5-7)	Clear MAC address table on GPON-port interface
clear mac interface ont <VALUE>	<VALUE>	for LTP-8X: <0-7>[/0-127] Range and/or list of ONT interfaces (e.g. 1/1-3/3,5,7,15-33) for LTP-4X: <0-3>[/0-127] Range and/or list of ONT interfaces (e.g. 1/1-3/3,5,7,15-33)	Clear MAC address table on ONT
clear schedule ont reconfigure			Clear the schedule of reconfiguration
clear schedule ont update			Clear the schedule of firmware upgrade
commit			Apply changes made to the configuration
configure terminal			Go to the configuration section

Command	Parameter	Value	Action
copy <VALUE1> <VALUE2>	<VALUE1>	Source URL: tftp://ip[:port]/path/to/ file http://ip[:port]/path/to/ file ftp:// user:password@ip[:port]]/path/to/file fs://config fs://log/filename	Copying files from a TFTP/HTTP/FTP server to the device flash memory.
	<VALUE2>	Destination URL: tftp://ip[:port]/path/to/ file http://ip[:port]/path/to/ file ftp:// user:password@ip[:port]]/path/to/file fs://config fs://ont-firmware fs://firmware fs://license fs://ont-config fs://acs-config	Copying files from a device flash memory to the TFTP/HTTP/FTP server.
date <VALUE>	<VALUE>	time and date in format YYYYMMDDhhmm.ss	Setting the current date and time
default			Clear configuration and return to default settings. After entering the command, you must confirm it by answering the question «Do you really want to set up default configuration? (y/n)». After this command is executed, the device will reboot. The time before rebooting may be up to 5 min.
delete config ont <VALUE>	<VALUE>	Configuration file name, or «*» character.	Deleting the ONT configuration file by name, or all files when entering the "*" character.
delete firmware ont <VALUE>	<VALUE>	Firmware file name, or «*» character.	Deleting the ONT firmware file by name, or all files when entering the "*" character.
easy-mode			Enable simplified configuration mode with default settings (see Easy Config documentation for more details)
easy-mode wizard			Switch on simplified configuration mode with possibility of parameter customization.

Command	Parameter	Value	Action
exit			Exit the CLI session
force-mode interface gpon- port <CHANNEL>	<CHANNEL>	LTP-8X: LTP-4X: 0..7 0..3 Range and/or list of GPON interfaces (e.g. 0 or 1-3,5-7)	Forced gpon-port enable, regardless of configuration
license set ""<LICENSE>""	<LICENSE>	Full content of the license file obtained from a representative of Eltex Enterprise Ltd.	Upload the license file to the OLT.
mac static gpon- port <CHANNEL> c-vid <VALUE1> s-vid <VALUE2> prio <VALUE3> mac <VALUE4> serial <VALUE5> cross-connect <VALUE6>	<CHANNEL>	LTP-8X: LTP-4X: 0..7 0..3 Range and/or list of GPON interfaces (e.g. 0 or 1-3,5-7)	Recording a static record in the PON address table:
	<VALUE1>	1-4094	<i>c-vid</i> – client VLAN identifier
	<VALUE2>	1-4094	<i>s-vid</i> – service VLAN identifier
	<VALUE3>	0-7/unused	<i>prio</i> – VLAN priority
	<VALUE4>	MAC address in the format of XX:XX:XX:XX:XX:XX, where every X – hexadecimal digit [0-F]	<i>mac</i> – MAC address.
	<VALUE5>	AAAAAAAAAAAA or XXXXXXXXXXXXXXXX or XX-XX-XX-XX-XX-XX- XX-XX, where every A – uppercase letter, every X – hexadecimal digit [0-F]	<i>serial</i> – ONT serial number
	<VALUE6>	0-31	<i>cross-connect</i> – cross connect profile number

Command	Parameter	Value	Action
no force-mode interface gpon- port <CHANNEL>	<CHANNEL>	LTP-8X: LTP-4X: 0..7 0..3 Range and/or list of GPON interfaces (e.g. 0 or 1-3,5-7)	Disable force-mode
no license			Deletion of a previously installed OLT license
no mac static gpon-port <CHANNEL> c-vid <VALUE1> s-vid <VALUE2> prio <VALUE3> mac <VALUE4> serial <VALUE5> cross-connect <VALUE6>	<CHANNEL>	LTP-8X: LTP-4X: 0..7 0..3 Range and/or list of GPON interfaces (e.g. 0 or 1-3,5-7)	Deleting a static record from a PON address table:
	<VALUE1>	1-4094	<i>c-vid</i> — client VLAN identifier
	<VALUE2>	1-4094	<i>s-vid</i> — service VLAN identifier
	<VALUE3>	0-7/unused	<i>prio</i> — VLAN priority
	<VALUE4>	MAC address in the format of XX:XX:XX:XX:XX:XX, where every X — hexadecimal digit [0-F]	<i>mac</i> — MAC address.
	<VALUE5>	AAAAAAAAXXXXX or XXXXXXXXXXXXXXXXX or XX-XX-XX-XX-XX-XX- XX-XX, where every A — uppercase letter, every X — hexadecimal digit [0-F]	<i>serial</i> — ONT serial number
	<VALUE6>	0-31	<i>cross-connect</i> — cross connect profile number
no ont autofind interface gpon- port <CHANNEL>	<CHANNEL>	LTP-8X: LTP-4X: 0..7 0..3 Range and/or list of GPON interfaces (e.g. 0 or 1-3,5-7)	Disable ONT autodetection on selected GPON- port interface

Command	Parameter	Value	Action
no schedule ont reconfigure <VALUE>	<VALUE>	<p>for LTP-8X: <0-7>[/0-127] Range and/or list of ONT interfaces (e.g. 1/1-3/3,5,7,15-33)</p> <p>for LTP-4X: <0-3>[/0-127] Range and/or list of ONT interfaces (e.g. 1/1-3/3,5,7,15-33)</p> <p>or AAAAXXXXXXXXXX or XXXXXXXXXXXXXXXXXX or XX-XX-XX-XX-XX-XX- XX-XX, where every A – uppercase letter, every X – hexadecimal digit [0-F]</p>	Remove ONT from the schedule for reconfiguration
no schedule ont update <VALUE>	<VALUE>	<p>for LTP-8X: <0-7>[/0-127] Range and/or list of ONT interfaces (e.g. 1/1-3/3,5,7,15-33)</p> <p>for LTP-4X: <0-3>[/0-127] Range and/or list of ONT interfaces (e.g. 1/1-3/3,5,7,15-33)</p> <p>or AAAAXXXXXXXXXX or XXXXXXXXXXXXXXXXXX or XX-XX-XX-XX-XX-XX- XX-XX, where each A – uppercase letter, each X – hexadecimal digit [0-F]</p>	Remove ONT from the schedule for firmware update
no trace			Disable CLI trace output

Command	Parameter	Value	Action
ont autofind interface gpon- port <CHANNEL>	<CHANNEL>	LTP-8X: LTP-4X: 0..7 0..3 Range and/or list of GPON interfaces (e.g. 0 or 1-3,5-7)	Enable ONT autodetection on selected GPON-port interface
ping <VALUE>	<VALUE>	IP address in the format of AAA.BBB.CCC.DDD	Verify that you can access the specified address
reboot			Reboot the device. After entering the command, you must answer the question «Do you really want to reboot the system now? (y/n)».
reconfigure interface gpon- port <CHANNEL>	<CHANNEL>	LTP-8X: LTP-4X: 0..7 0..3 Range and/or list of GPON interfaces (e.g. 0 or 1-3,5-7)	Reconfigure GPON-port interface
reconfigure interface ont <VALUE>	<VALUE>	for LTP-8X: <0-7>[/0-127] Range and/or list of ONT interfaces (e.g. 1/1-3/3,5,7,15-33) for LTP-4X: <0-3>[/0-127] Range and/or list of ONT interfaces (e.g. 1/1-3/3,5,7,15-33)	Reconfigure ONT
reconfigure olt	<VALUE>	for LTP-8X: all/0/1 for LTP-4X: unspecified	Reconfigure OLT chip
rollback			Cancel the changes
run shell			Go to the privilege mode:
save			Save configuration into non-volatile memory

Command	Parameter	Value	Action
schedule ont reconfigure <VALUE>	<VALUE>	for LTP-8X: <0-7>[/0-127] Range and/or list of ONT interfaces (e.g. 1/1-3/3,5,7,15-33) for LTP-4X: <0-3>[/0-127] Range and/or list of ONT interfaces (e.g. 1/1-3/3,5,7,15-33)	Add ONT to the schedule to perform reconfiguration
schedule ont update <VALUE>	<VALUE>	for LTP-8X: <0-7>[/0-127] Range and/or list of ONT interfaces (e.g. 1/1-3/3,5,7,15-33) for LTP-4X: <0-3>[/0-127] Range and/or list of ONT interfaces (e.g. 1/1-3/3,5,7,15-33)	Add ONT to the firmware upgrade schedule
send omci pptp-video-uni administrative-state disable interface ont <VALUE>	<VALUE>	for LTP-8X: <0-7>[/0-127] Range and/or list of ONT interfaces (e.g. 1/1-3/3,5,7,15-33) for LTP-4X: <0-3>[/0-127] Range and/or list of ONT interfaces (e.g. 1/1-3/3,5,7,15-33)	Send RF port shutdown command to ONT
send omci reset interface ont <VALUE>	<VALUE>	for LTP-8X: <0-7>[/0-127] Range and/or list of ONT interfaces (e.g. 1/1-3/3,5,7,15-33) for LTP-4X: <0-3>[/0-127] Range and/or list of ONT interfaces (e.g. 1/1-3/3,5,7,15-33)	Send a command to reboot ONT

Command	Parameter	Value	Action
send omci restore interface ont <VALUE>	<VALUE>	for LTP-8X: <0-7>[/0-127] Range and/or list of ONT interfaces (e.g. 1/1-3/3,5,7,15-33) for LTP-4X: <0-3>[/0-127] Range and/or list of ONT interfaces (e.g. 1/1-3/3,5,7,15-33)	Send factory reset command to reset ONT (Eltex ONT only)
send omci software-image get interface ont <VALUE1> instance <VALUE2>	<VALUE1>	for LTP-8X: <0-7>[/0-127] Range and/or list of ONT interfaces (e.g. 1/1-3/3,5,7,15-33) for LTP-4X: <0-3>[/0-127] Range and/or list of ONT interfaces (e.g. 1/1-3/3,5,7,15-33)	Subtract the value set in this instance
	<VALUE2>	0-255	
send omci software-image set interface ont <VALUE1> instance <VALUE2> file <VALUE3>	<VALUE1>	for LTP-8X: <0-7>[/0-127] Range and/or list of ONT interfaces (e.g. 1/1-3/3,5,7,15-33) for LTP-4X: <0-3>[/0-127] Range and/or list of ONT interfaces (e.g. 1/1-3/3,5,7,15-33)	Upload the configuration file to the specified area (the functionality is supported only for ONT Atron, Ericsson).
	<VALUE2>	0-255	
	<VALUE3>	Configuration file name	
send ploam ber- interval <VALUE> gpon-port [<CHANNEL>]	<VALUE>	0-4294967294	Send a command to enable downstream error rate calculation to all ONTs in the configuration on the specified OLT GPON-port
	<CHANNEL>	LTP-8X: LTP-4X: 0..7 0..3 Range and/or list of GPON interfaces (e.g. 0 or 1-3,5-7)	

Command	Parameter	Value	Action
send ploam ber-interval <VALUE1> ont [<VALUE2>]	<VALUE1> <VALUE2>	0-4294967294 for LTP-8X: <0-7>[/0-127] Range and/or list of ONT interfaces (e.g. 1/1-3/3,5,7,15-33) for LTP-4X: <0-3>[/0-127] Range and/or list of ONT interfaces (e.g. 1/1-3/3,5,7,15-33)	Send a command to enable downstream error rate calculation to ONTs with specified ONT ID in the configuration on the specified OLT GPON-port
send ploam disable-sn mode enable-all gpon-port <CHANNEL>	<CHANNEL>	LTP-8X: LTP-4X: 0..7 0..3 Range and/or list of GPON interfaces (e.g. 0 or 1-3,5-7)	Send the command to enable the optical transmitter to all ONTs: connected to the specified OLT GPON-port
send ploam disable-sn mode enable ont <VALUE>	<VALUE>	for LTP-8X: <0-7>[/0-127] Range and/or list of ONT interfaces (e.g. 1/1-3/3,5,7,15-33) for LTP-4X: <0-3>[/0-127] Range and/or list of ONT interfaces (e.g. 1/1-3/3,5,7,15-33)	Send the command to enable the optical transmitter to all ONTs on the specified OLT GPON-port with the specified ONT ID
send ploam disable-sn mode enable ont from-configuration gpon-port <CHANNEL>	<CHANNEL>	LTP-8X: LTP-4X: 0..7 0..3 Range and/or list of GPON interfaces (e.g. 0 or 1-3,5-7)	Send the command to enable the optical transmitter to all ONTs listed in the configuration on the specified OLT GPON-port
send ploam disable-sn mode enable ont serial <VALUE>	<VALUE>	AAAAXXXXXXXXXX or XXXXXXXXXXXXXXXXXX or XX-XX-XX-XX-XX-XX- XX-XX, where each A – uppercase letter, each X – hexadecimal digit [0-F]	Send the command to enable the optical transmitter on the ONT with the specified serial number

Command	Parameter	Value	Action
send ploam disable-sn mode disable ont <VALUE>	<VALUE>	for LTP-8X: <0-7>[/0-127] Range and/or list of ONT interfaces (e.g. 1/1-3/3,5,7,15-33) for LTP-4X: <0-3>[/0-127] Range and/or list of ONT interfaces (e.g. 1/1-3/3,5,7,15-33)	Send the command to disable the optical transmitter to all ONTs on the specified OLT GPON-port with the specified ONT ID
send ploam disable-sn mode disable ont from- configuration gpon-port <channel>	<CHANNEL>	LTP-8X: 0..7 LTP-4X: 0..3 Range and/or list of GPON interfaces (e.g. 0 or 1-3,5-7)	Send the command to disable the optical transmitter to all ONTs listed in the configuration on the specified OLT GPON-port
send ploam disable-sn mode disable ont serial <VALUE>	<VALUE>	AAAAXXXXXXXXXX or XXXXXXXXXXXXXXXXXX or XX-XX-XX-XX-XX-XX- XX-XX, where each A — uppercase letter, each X — hexadecimal digit [0-F]	Send the command to disable the optical transmitter on the ONT with the specified serial number
show aaa			Show AAA configuration

Command	Parameter	Value	Action
show alarm active type <TYPE>	<TYPE>	dummy/ ram/ login/ config-save/ firmware-update/ duplicate-mac/ physical-layer-flapping/ pon-gpon-port-no-ont/ ont-physical-layer/ olt-update/ ont-update/ gpon-port-flapping/ ont-flapping/ download/ battery-power/ battery-low/ lan-los/ ont-config/ file-delete/ physical-layer-errors/ physical-layer-block/ link/ logout/ ont-dying-gasp/ ont-rei/ ont-power-off/ config-change/ shutdown/ oms/ ont-state-changed/ ont-config-changed/ gpon-port-state-changed/ pon-alarm-gpon-port/ pon-alarm-onui/ ont-update-inprogress/ olt-device-reset/ ont-signal-degrade/	Show all active alarms of a certain type

Command	Parameter	Value	Action
		ont-high-rx-power/ ont-low-rx-power/ gpon-port-ont-count-overflow/ olt-device-not-working/ load-average/ free-space/ temperature/ fan/ system-reboot/ rssi-update/ power-supply/ storm-detected/ ont-storm-detected/ ont-los-video-power/ ont-low-video-power/ ont-high-video-power	
show alarm active severity <VALUE>	<VALUE>	info/ minor/ major/ critical	Show all active alarms of a certain level
show alarm active all			Show all active alarms
show alarm configuration <TYPE>	<TYPE>	dummy/ ram/ login/ config-save/ firmware-update/ duplicate-mac/ physical-layer-flapping/ pon-gpon-port-no-ont/ ont-physical-layer/ olt-update/ ont-update/ gpon-port-flapping/ ont-flapping/ download/ battery-power/ battery-low/ lan-los/ ont-config/ file-delete/ physical-layer-errors/ physical-layer-block/ link/ logout/ ont-dying-gasp/ ont-rei/ ont-power-off/	Show ALARM service configuration by event type

Command	Parameter	Value	Action
		config-change/ shutdown/ oms/ ont-state-changed/ ont-config-changed/ gpon-port-state-changed/ pon-alarm-gpon-port/ pon-alarm-onui/ ont-update-inprogress/ olt-device-reset/ ont-signal-degrade/ ont-high-rx-power/ ont-low-rx-power/ gpon-port-ont-count-overflow/ olt-device-not-working/ load-average/ free-space/ temperature/ fan/ system-reboot/ rssi-update/ power-supply/ storm-detected/ ont-storm-detected/ ont-los-video-power/ ont-low-video-power/ ont-high-video-power	
show auto-update ont			Show ONT automatic firmware update mode
show auto-update ont records			Show list of rules for ONT firmware updates
show backup			Show configuration upload settings for TFTP service
show cli			Show CLI settings
show config autosave			Show configuration auto save settings
show config ont			Display a list of configuration files for ONT
show date			Show current date and time

Command	Parameter	Value	Action
show firmware ont			Display a list of firmware files for ONT
show gpon network			Show OLT network settings
show gpon olt state			Show status and version of OLT chip firmware
show gpon olt configuration [verbose]			Show current OLT settings. When verbose is specified, more detailed information is displayed
show history			Display the history of executed commands
show interface gpon-port <CHANNEL> state	<CHANNEL>	LTP-8X: 0..7 LTP-4X: 0..3 Range and/or list of GPON interfaces (e.g. 0 or 1-3,5-7)	Show status of GPON-port interfaces
show interface gpon-port <CHANNEL> optics	<CHANNEL>	LTP-8X: 0..7 LTP-4X: 0..3 Range and/or list of GPON interfaces (e.g. 0 or 1-3,5-7)	Show status of optical parameters of GPON-port interfaces
show interface gpon-port <CHANNEL> optics state	<CHANNEL>	LTP-8X: 0..7 LTP-4X: 0..3 Range and/or list of GPON interfaces (e.g. 0 or 1-3,5-7)	Show information about the current status of GPON-port interfaces
show interface gpon-port <CHANNEL> optics configuration	<CHANNEL>	LTP-8X: 0..7 LTP-4X: 0..3 Range and/or list of GPON interfaces (e.g. 0 or 1-3,5-7)	Show the optical configuration of the GPON-port interfaces
show interface gpon-port <CHANNEL> igmp groups	<CHANNEL>	LTP-8X: 0..7 LTP-4X: 0..3 Range and/or list of GPON interfaces (e.g. 0 or 1-3,5-7)	Show log of requested IGMP groups on GPON-port interfaces

Command	Parameter	Value	Action
show interface gpon-port <CHANNEL> dhcp sessions	<CHANNEL>	LTP-8X: LTP-4X: 0..7 0..3 Range and/or list of GPON interfaces (e.g. 0 or 1-3,5-7)	View DHCP-snooping table for specified GPON-port interfaces
show interface gpon-port <CHANNEL> pppoe sessions	<CHANNEL>	LTP-8X: LTP-4X: 0..7 0..3 Range and/or list of GPON interfaces (e.g. 0 or 1-3,5-7)	View table of established PPPoE sessions for specified GPON-port interfaces
show interface gpon-port <CHANNEL> configuration	<CHANNEL>	LTP-8X: LTP-4X: 0..7 0..3 Range and/or list of GPON interfaces (e.g. 0 or 1-3,5-7)	Show the configuration of the GPON-port interfaces
show interface gpon-port <CHANNEL> counters	<CHANNEL>	LTP-8X: LTP-4X: 0..7 0..3 Range and/or list of GPON interfaces (e.g. 0 or 1-3,5-7)	Show GPON-port interface counters
show interface gpon-port <CHANNEL> counters v-interface	<CHANNEL>	LTP-8X: LTP-4X: 0..7 0..3 Range and/or list of GPON interfaces (e.g. 0 or 1-3,5-7)	Show the counters of the v-interface (GPON OLT uplink interface connected to the switch)
show interface gpon-port <CHANNEL> downstream-ber	<CHANNEL>	LTP-8X: LTP-4X: 0..7 0..3 Range and/or list of GPON interfaces (e.g. 0 or 1-3,5-7)	Show downstream BER counters for all ONT GPON-port interfaces
show interface ont <VALUE> connections	<VALUE>	for LTP-8X: <0-7>[/0-127] Range and/or list of ONT interfaces (e.g. 1/1-3/3,5,7,15-33) for LTP-4X: <0-3>[/0-127] Range and/or list of ONT interfaces (e.g. 1/1-3/3,5,7,15-33)	Show ONT reconnection statistics

Command	Parameter	Value	Action
show interface ont <VALUE> laser	<VALUE>	for LTP-8X: <0-7>[/0-127] Range and/or list of ONT interfaces (e.g. 1/1-3/3,5,7,15-33) for LTP-4X: <0-3>[/0-127] Range and/or list of ONT interfaces (e.g. 1/1-3/3,5,7,15-33)	Show parameters of the ONT optical module: transmitter power, level at reception, temperature, current and voltage
show interface ont <VALUE> ports	<VALUE>	for LTP-8X: <0-7>[/0-127] Range and/or list of ONT interfaces (e.g. 1/1-3/3,5,7,15-33) for LTP-4X: <0-3>[/0-127] Range and/or list of ONT interfaces (e.g. 1/1-3/3,5,7,15-33)	Show LAN port connection status on ONT
show interface ont <VALUE> rssi	<VALUE>	for LTP-8X: <0-7>[/0-127] Range and/or list of ONT interfaces (e.g. 1/1-3/3,5,7,15-33) for LTP-4X: <0-3>[/0-127] Range and/or list of ONT interfaces (e.g. 1/1-3/3,5,7,15-33)	Show signal power level
show interface ont <VALUE> state	<VALUE>	for LTP-8X: <0-7>[/0-127] Range and/or list of ONT interfaces (e.g. 1/1-3/3,5,7,15-33) for LTP-4X: <0-3>[/0-127] Range and/or list of ONT interfaces (e.g. 1/1-3/3,5,7,15-33)	Show ONT state

Command	Parameter	Value	Action
show interface ont <VALUE> configuration	<VALUE>	for LTP-8X: <0-7>[/0-127] Range and/or list of ONT interfaces (e.g. 1/1-3/3,5,7,15-33) for LTP-4X: <0-3>[/0-127] Range and/or list of ONT interfaces (e.g. 1/1-3/3,5,7,15-33)	Show ONT configuration
show interface ont <VALUE> configuration verbose	<VALUE>	for LTP-8X: <0-7>[/0-127] Range and/or list of ONT interfaces (e.g. 1/1-3/3,5,7,15-33) for LTP-4X: <0-3>[/0-127] Range and/or list of ONT interfaces (e.g. 1/1-3/3,5,7,15-33)	Show extended ONT configuration
show interface ont <VALUE1> counters <VALUE2>	<VALUE1>	for LTP-8X: <0-7>[/0-127] Range and/or list of ONT interfaces (e.g. 1/1-3/3,5,7,15-33) for LTP-4X: <0-3>[/0-127] Range and/or list of ONT interfaces (e.g. 1/1-3/3,5,7,15-33)	Show transmission statistics for a specified ONT

Command	Parameter	Value	Action
	<VALUE2>	<p>cross-connect/ gem-port-performance-monitoring/ gem-port-nctp-performance-monitoring/ ethernet-performance-monitoring</p> <p>history-data/ ethernet-performance-monitoring-history-data2/ ethernet-performance-monitoring-history-data3/ gal-ethernet-performance-monitoring-history-data/ fec-performance-monitoring-history-data/ ethernet-frame-extended-performance-monitoring/ multicast-subscriber-monitor</p>	<ul style="list-style-type: none"> · <i>cross-connect</i> – traffic statistics for services; · <i>gem-port-performance-monitoring</i> – GEM traffic statistics; · <i>ethernet-performance-monitoring-history-data</i>, <i>gal-ethernet-performance-monitoring-history-data</i>, <i>ethernet-frame-extended-performance-monitoring</i> – LAN traffic statistics; · <i>fec-performance-monitoring-history-data</i> – error correction operation statistics; · <i>multicast-subscriber-monitor</i> – MC traffic statistics and list of requested MC groups.
show interface ont <VALUE> online	<VALUE>	<p>for LTP-8X: <0-7>[/0-127] Range and/or list of ONT interfaces (e.g. 1/1-3/3,5,7,15-33)</p> <p>for LTP-4X: <0-3>[/0-127] Range and/or list of ONT interfaces (e.g. 1/1-3/3,5,7,15-33)</p>	Show a list of connected ONTs with a configuration
show interface ont <VALUE1> online grep <VALUE2>	<VALUE1>	<p>for LTP-8X: <0-7>[/0-127] Range and/or list of ONT interfaces (e.g. 1/1-3/3,5,7,15-33)</p> <p>for LTP-4X: <0-3>[/0-127] Range and/or list of ONT interfaces (e.g. 1/1-3/3,5,7,15-33)</p>	Show a list of connected ONTs with a configuration filtered by a specific value

Command	Parameter	Value	Action
	<VALUE2>	random line	
show interface ont <VALUE> offline	<VALUE>	for LTP-8X: <0-7>[/0-127] Range and/or list of ONT interfaces (e.g. 1/1-3/3,5,7,15-33) for LTP-4X: <0-3>[/0-127] Range and/or list of ONT interfaces (e.g. 1/1-3/3,5,7,15-33)	Show a list of ONTs that are configured but not currently connected
show interface ont <VALUE1> offline grep <VALUE2>	<VALUE1>	for LTP-8X: <0-7>[/0-127] Range and/or list of ONT interfaces (e.g. 1/1-3/3,5,7,15-33) for LTP-4X: <0-3>[/0-127] Range and/or list of ONT interfaces (e.g. 1/1-3/3,5,7,15-33)	Show a list of ONTs that are configured but not currently connected, filtered by specific value
	<VALUE2>	random line	
show interface ont <VALUE> unactivated	<VALUE>	for LTP-8X: <0-7>[/0-127] Range and/or list of ONT interfaces (e.g. 1/1-3/3,5,7,15-33) for LTP-4X: <0-3>[/0-127] Range and/or list of ONT interfaces (e.g. 1/1-3/3,5,7,15-33)	Show a list of connected ONTs that are not configured
show interface ont <VALUE1> unactivated grep <VALUE2>	<VALUE1>	for LTP-8X: <0-7>[/0-127] Range and/or list of ONT interfaces (e.g. 1/1-3/3,5,7,15-33) for LTP-4X: <0-3>[/0-127] Range and/or list of ONT interfaces (e.g. 1/1-3/3,5,7,15-33)	Show a list of connected ONTs that have no configuration filtered by specific value

Command	Parameter	Value	Action
	<VALUE2>	random line	
show interface ont <VALUE> configured	<VALUE>	for LTP-8X: <0-7>[/0-127] Range and/or list of ONT interfaces (e.g. 1/1-3/3,5,7,15-33) for LTP-4X: <0-3>[/0-127] Range and/or list of ONT interfaces (e.g. 1/1-3/3,5,7,15-33)	Show a list of all configured ONTs on the channel
show interface ont <VALUE1> configured grep <VALUE2>	<VALUE1>	for LTP-8X: <0-7>[/0-127] Range and/or list of ONT interfaces (e.g. 1/1-3/3,5,7,15-33) for LTP-4X: <0-3>[/0-127] Range and/or list of ONT interfaces (e.g. 1/1-3/3,5,7,15-33)	Show a list of all configured ONTs on the channel filtered by specific value
	<VALUE2>	random line	
show interface ont <VALUE> unconfigured	<VALUE>	for LTP-8X: <0-7>[/0-127] Range and/or list of ONT interfaces (e.g. 1/1-3/3,5,7,15-33) for LTP-4X: <0-3>[/0-127] Range and/or list of ONT interfaces (e.g. 1/1-3/3,5,7,15-33)	Show list of free ONT IDs
show interface ont <VALUE> connected	<VALUE>	for LTP-8X: <0-7>[/0-127] Range and/or list of ONT interfaces (e.g. 1/1-3/3,5,7,15-33) for LTP-4X: <0-3>[/0-127] Range and/or list of ONT interfaces (e.g. 1/1-3/3,5,7,15-33)	Show a list of all connected ONTs (regardless of configuration)

Command	Parameter	Value	Action
show interface ont <VALUE1> connected grep <VALUE2>	<VALUE1>	for LTP-8X: <0-7>[/0-127] Range and/or list of ONT interfaces (e.g. 1/1-3/3,5,7,15-33) for LTP-4X: <0-3>[/0-127] Range and/or list of ONT interfaces (e.g. 1/1-3/3,5,7,15-33)	Show a list of all connected ONTs (regardless of configuration) filtered by specific value
	<VALUE2>	random line	
show interface ont <VALUE> downstream-ber	<VALUE>	for LTP-8X: <0-7>[/0-127] Range and/or list of ONT interfaces (e.g. 1/1-3/3,5,7,15-33) for LTP-4X: <0-3>[/0-127] Range and/or list of ONT interfaces (e.g. 1/1-3/3,5,7,15-33)	Show descending error rate counter for specified ONT
show interface ont <VALUE> redundant	<VALUE>	for LTP-8X: <0-7>[/0-127] Range and/or list of ONT interfaces (e.g. 1/1-3/3,5,7,15-33) for LTP-4X: <0-3>[/0-127] Range and/or list of ONT interfaces (e.g. 1/1-3/3,5,7,15-33)	Show list of all connected ONTs to the main channel (regardless of configuration) and a list of reserved ONTs
show interface ont <VALUE> services utilization	<VALUE>	for LTP-8X: <0-7>[/0-127] Range and/or list of ONT interfaces (e.g. 1/1-3/3,5,7,15-33) for LTP-4X: <0-3>[/0-127] Range and/or list of ONT interfaces (e.g. 1/1-3/3,5,7,15-33)	Show utilization counters by service for the specified ONT
show ip acs server			Show configuration of the built-in ONT Autoconfiguration Server (ACS)

Command	Parameter	Value	Action
show ip ntp			Show NTP settings
show ip route			Show routing configuration
show ip snmp			Show SNMP settings
show ip snmp alias	<VALUE>	0-17	Show information for all snmp-alias or for a given alias
show ip snmp users			Show created SNMPv3 users
show ip source-guard			Show ip source-guard protocol settings
show ip ssh			Show SSH protocol settings
show ip telnet			Show TELNET protocol settings
show license			Show information on the OLT license
show log			Show file log
show log <FILE>	<FILE>	File name: ltp ltp.0.gz ltp.1.gz ltp.2.gz	Show the content of the specified log file (if there is a large amount of information in the file, then the display is carried out in parts: to continue outputting line by line press <enter>, to stop output – <q>, to display the log file in full press <r>).
show log <FILE> grep <VALUE>	<FILE>	File name: ltp ltp.0.gz ltp.1.gz ltp.2.gz	Show content of the specified log file filtered by a specific value
	<VALUE>	string, 255 characters max.	

Command	Parameter	Value	Action
show log buffer			Show the content of the log buffer (if there is a large amount of information in the buffer, then the display is carried out in parts: to continue outputting line by line press <enter>, to stop output – <q>, to display the log file in full press <r>).
show log buffer grep <VALUE>	<VALUE>	string, 255 characters max.	Show content of the log buffer filtered by a specific value
show logging module <VALUE>	<VALUE>	all/ pmchal-gpon/ pmchal-ipc/ pmchal-machine/ pmchal-olt/ pmchal-ont/ pmchal-gpon-port/ pmchal-scheduler/ pmchal-dhcp/ra/ pmchal-pppoeia/ pmchal-rdn/ snmp/ alarm/ dhcpd/ pmchal-dhcpv6ra	Viewing the configuration of the system log modules
show logging settings			Show information on SYSLOG configuration
show mac interface gpon- port <CHANNEL>	<CHANNEL>	LTP-8X: 0..7 LTP-4X: 0..3 Range and/or list of GPON interfaces (e.g. 0 or 1-3,5-7)	Show list of GPON port MAC addresses

Command	Parameter	Value	Action
show mac interface gpon- port <CHANNEL> sort <VALUE1> [[ascending/ descending] include/exclude <VALUE2> <VALUE3>]	<CHANNEL>	LTP-8X: LTP-4X: 0..7 0..3 Range and/or list of GPON interfaces (e.g. 0 or 1-3,5-7)	Show a list of GPON port MAC addresses ordered by the specified parameter. - <i>serial</i> — ONT serial number: written in the format of AAAAXXXXXXXXXX or XXXXXXXXXXXXXXXXXXXX or XX-XX-XX-XX-XX-XX-XX, where each A — uppercase letter, each X — hexadecimal digit [0-F]; 1 - <i>ont-id</i> — ONT identifier, may take values 0-253; - <i>gpon-port</i> — GPON port identifier, values 0..7 for LTP-8X, 0..3 for LTP-4X; - <i>gem</i> — GEM port identifier, may take values 0-4095; - <i>u-vid</i> , <i>c-vid</i> , <i>s-vid</i> — VLAN identifiers, may take values 1-4094; - <i>mac-address</i> — value in format of XX:XX:XX:XX:XX:XX
	<VALUE1>	ont-id/ gpon-port/ gem/ u-vid/ c-vid/ s-vid	
	<VALUE2>	serial/ ont-id/ gpon-port/ gem/ u-vid/ c-vid/ s-vid/ mac-address	
	<VALUE3>	parameter value specified in <VALUE2>	
show mac interface gpon- port <CHANNEL> include <VALUE1> [sort <VALUE2> [ascending/ descending]]	<CHANNEL>	LTP-8X: LTP-4X: 0..7 0..3 Range and/or list of GPON interfaces (e.g. 0 or 1-3,5-7)	Show a list of GPON port MAC addresses filtered by the specified parameter. - <i>serial</i> — ONT serial number: written in format of AAAAXXXXXXXXXX or XXXXXXXXXXXXXXXXXXXX or XX- XX-XX-XX-XX-XX-XX-XX, where each A — uppercase letter, each X — hexadecimal digit [0-F]; - <i>ont-id</i> — ONT identifier, may take values 0-253; - <i>gpon-port</i> — GPON port identifier, takes values 0..7 for LTP-8X, 0..3 for LTP-4X; - <i>gem</i> — GEM port identifier, may take values 0-4095; - <i>u-vid</i> , <i>c-vid</i> , <i>s-vid</i> — VLAN identifiers, may take values 1-4094; - <i>mac-address</i> — value in format of XX:XX:XX:XX:XX:XX
	<VALUE1>	serial/ ont-id/ gpon-port/ gem/ u-vid/ c-vid/ s-vid/ mac-address	
	<VALUE2>	parameter value specified in <VALUE1>	
	<VALUE3>	ont-id/ gpon-port/ gem/ u-vid/ c-vid/ s-vid	

Command	Parameter	Value	Action
show mac interface gpon- port <CHANNEL> exclude <VALUE1> <VALUE2> [sort <VALUE3> [ascending/ descending]]	<CHANNEL>	LTP-8X: 0..7 LTP-4X: 0..3 Range and/or list of GPON interfaces (e.g. 0 or 1-3,5-7)	Show a list of GPON port MAC addresses excluding addresses with the specified parameter. - <i>serial</i> — ONT serial number: written in format of AAAAXXXXXXXX or XXXXXXXXXXXXXXXXXXXX or XX- XX-XX-XX-XX-XX-XX, where each A — uppercase letter, each X — hexadecimal digit [0-F]; - <i>ont-id</i> — ONT identifier, may take values 0-253; - <i>gpon-port</i> — GPON port identifier, takes values 0..7 for LTP-8X, 0..3 for LTP-4X; - <i>gem</i> — GEM port identifier, may take values 0-4095; - <i>u-vid</i> , <i>c-vid</i> , <i>s-vid</i> — VLAN identifiers, may take values 1-4094; - <i>mac-address</i> — value in format of XX:XX:XX:XX:XX:XX
	<VALUE1>	serial/ ont-id/ gpon-port/ gem/ u-vid/ c-vid/ s-vid/ mac-address	
	<VALUE2>	parameter value specified in <VALUE1>	
	<VALUE3>	ont-id/ gpon-port/ gem/ u-vid/ c-vid/ s-vid	
show mac interface ont <VALUE>	<VALUE>	for LTP-8X: <0-7>[/0-127] Range and/or list of ONT interfaces (e.g. 1/1-3/3,5,7,15-33) for LTP-4X: <0-3>[/0-127] Range and/or list of ONT interfaces (e.g. 1/1-3/3,5,7,15-33)	Show list of ONT MAC addresses
show mac interface ont <VALUE1> sort <VALUE2> [[ascending/ descending] include/exclude <VALUE3> <VALUE4>]	<VALUE1>	for LTP-8X: <0-7>[/0-127] Range and/or list of ONT interfaces (e.g. 1/1-3/3,5,7,15-33) for LTP-4X: <0-3>[/0-127] Range and/or list of ONT interfaces (e.g. 1/1-3/3,5,7,15-33)	Show list of ONT MAC addresses sorted by the specified parameter. - <i>gem</i> — GEM port identifier, may take values 0-4095; - <i>u-vid</i> , <i>c-vid</i> , <i>s-vid</i> — VLAN identifiers, may take values 1-4094; - <i>mac-address</i> — value in format of XX:XX:XX:XX:XX:XX

Command	Parameter	Value	Action
	<VALUE2>	gem/ u-vid/ c-vid/ s-vid	
	<VALUE3>	gem/ u-vid/ c-vid/ s-vid/ mac-address	
	<VALUE4>	parameter value specified in <VALUE3>	
show mac interface ont <VALUE1> include <VALUE2> <VALUE3> [sort <VALUE4> [ascending/ descending]]	<VALUE1>	for LTP-8X: <0-7>[/0-127] Range and/or list of ONT interfaces (e.g. 1/1-3/3,5,7,15-33) for LTP-4X: <0-3>[/0-127] Range and/or list of ONT interfaces (e.g. 1/1-3/3,5,7,15-33)	Show list of ONT MAC addresses filtered by the specified parameter. - <i>gem</i> – GEM port identifier, may take values 0-4095; - <i>u-vid</i> , <i>c-vid</i> , <i>s-vid</i> – VLAN identifiers, may take values 1-4094; - <i>mac-address</i> – value in format of XX:XX:XX:XX:XX:XX
	<VALUE2>	gem/ u-vid/ c-vid/ s-vid/ mac-address	
	<VALUE3>	parameter value specified in <VALUE2>	
	<VALUE4>	gem/ u-vid/ c-vid/ s-vid	

Command	Parameter	Value	Action
show mac interface ont <VALUE1> exclude <VALUE2> <VALUE3> [sort <VALUE4> [ascending/ descending]]	<VALUE1>	for LTP-8X: <0-7>[/0-127] Range and/or list of ONT interfaces (e.g. 1/1-3/3,5,7,15-33) for LTP-4X: <0-3>[/0-127] Range and/or list of ONT interfaces (e.g. 1/1-3/3,5,7,15-33)	Show list of ONT MAC addresses excluding addresses with the specified parameter. - <i>gem</i> — GEM port identifier, may take values 0-4095; - <i>u-vid</i> , <i>c-vid</i> , <i>s-vid</i> — VLAN identifiers, may take values 1-4094; - <i>mac-address</i> — value in format of XX:XX:XX:XX:XX:XX
	<VALUE2>	gem/ u-vid/ c-vid/ s-vid/ mac-address	
	<VALUE3>	parameter value specified in <VALUE2>	
	<VALUE4>	gem/ u-vid/ c-vid/ s-vid	
show management			Show system network settings
show memory cli			Show CLI process memory utilization map
show memory pmchal			Show PMCHAL process memory utilization map
show privileges			Show privilege levels for system users
show profile address-table [<NAME>]	<NAME>	profile name, string	Show list of address-table profiles When specifying <NAME>, display the configuration of this profile
show profile address-table <NAME> s-vlan [<VALUE>]	<NAME>	profile name, string	Show s-vlan list for the specified address-table profile
	<VALUE>	1-4094	When specifying <VALUE> display unique configuration parameters for the specified VLAN ID

Command	Parameter	Value	Action
show profile cross-connect [<NAME> [verbose]]	<NAME>	profile name, string	Show a list of cross-connect profiles. When specifying <NAME>, display the configuration of this profile. When specifying verbose, print the value of the assigned terminal-vlan.
show profile dba [<NAME>]	<NAME>	profile name, string	Show the list of dba profiles. When specifying <name>, display the configuration of this profile
show profile dhcp-ra [<NAME>]	<NAME>	profile name, string	Show the list of dhcp-ra profiles. When specifying <name>, display the configuration of this profile
show profile dhcpv6-ra [<NAME>]	<NAME>	profile name, string	Show the list of dhcpv6-ra profiles. When specifying <name>, display the configuration of this profile
show profile management [<NAME>]	<NAME>	profile name, string	Show the list of management profiles. When specifying <name>, display the configuration of this profile
show profile ports [<NAME>]	<NAME>	profile name, string	Show the list of port profiles. When specifying <name>, display the configuration of this profile
show profile pppoe-ia [<NAME>]	<NAME>	profile name, string	Show the list of pppoe-ia profiles. When specifying <name>, display the configuration of this profile
show profile shaping [<NAME> [verbose]]	<NAME>	profile name, string	Show the list of shaping profiles. When specifying <name>, display the configuration of this profile. When specifying verbose, display full configuration of this profile.
show profile vlan [<NAME>]	<NAME>	profile name, string	Show the list of vlan profiles. When specifying <name>, display the configuration of this profile

Command	Parameter	Value	Action
show profile voice [<NAME>]	<NAME>	profile name, string	Show the list of voice profiles. When specifying <name>, display the configuration of this profile
show resources pmchal			Show a list of PMCHAL process resources utilization
show running-config			Show current equipment configuration
show running-config <VALUE> [all]	<VALUE>	aaa/ access-list/ alarm/ backup/ cli/ config/ fan/ gpon network/ gpon olt/ interface ports/ interface trunks/ interface ont <0-7>[/<0-127>]/ interface gpon-port <0-7>/ ip acs/ ip igmp/ ip ntp/ ip route/ ip snmp/ ip source-guard/ ip ssh/ ip telnet/ logging/ management/ mirror/ profile <TYPE> [<NAME>]/ qos/ template <NAME>/ user/ vlan <1..4094>	Show the configuration for individual modules of the system as modified, but not applied by commit . .When specifying [all], display the full configuration of the specified module. [...]
show schedule ont reconfigure			View the schedule for ONT reconfiguration
show schedule ont update			View the schedule for ONT firmware update

Command	Parameter	Value	Action
show system environment			Show system-wide information
show template [<NAME> [verbose]]	<NAME>	profile name, string	Show a list of ONT templates. When specifying <NAME>, display the configuration of this profile. When specifying verbose, display detailed configuration of the specified profile.
show uptime			Show the time since the last reboot of the device
show users config			Show a list of existing system users and their privileges
show users last			Show list of last active connections
show users who			Show a list of active users and their connection method
show version			Show firmware version
switch			Go to the switch configuration section
trace			Enable CLI trace output
update ont <VALUE1> filename <VALUE2>	<VALUE1>	for LTP-8X: <0-7>[/0-127] Range and/or list of ONT interfaces (e.g. 1/1-3/3,5,7,15-33) for LTP-4X: <0-3>[/0-127] Range and/or list of ONT interfaces (e.g. 1/1-3/3,5,7,15-33)	Update firmware on ONT with given ONT ID using the specified file.
	<VALUE2>	firmware file name	

¹ The ACS server configuration description is given in the «LTP-X User Manual», the functionality is implemented for LTP-4(8)X rev.B, LTP-4(8)X rev.C, LTP-8X rev.D devices

1.2 Configuration mode

The terminal configuration can be conventionally divided into 3 parts. Figure 4 shows the configuration structure.

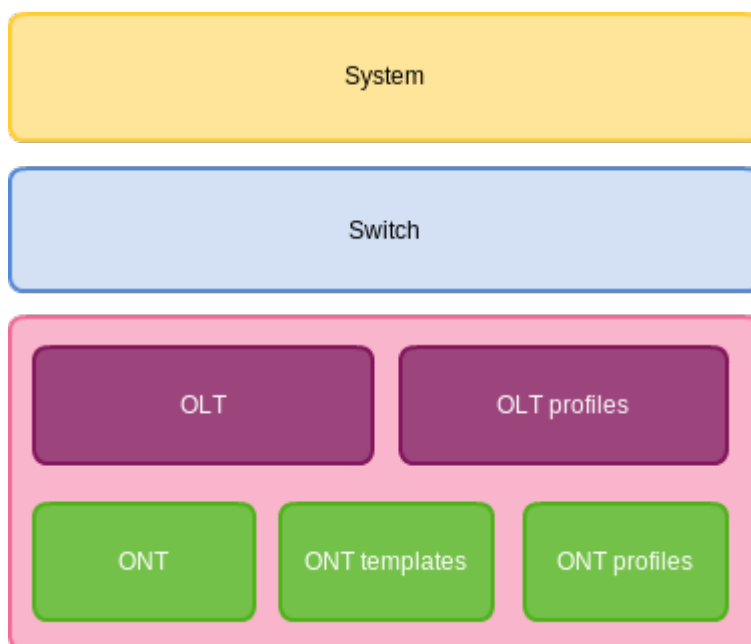


Figure 4 – The structure of terminal configuration

System is a general system part. This group includes such settings as: network, service settings, user table, etc.

Switch represents a switch configuration. This group includes configuration parameters for Ethernet interfaces of the front panel, as well as VLAN settings.

GPON contains 5 subparts:

- OLT – GPON OLT and GPON interface settings;
- OLT profiles – OLT profile part consists of address table profiles, VLAN profiles, DHCP RA and PPPoE IA profiles;
- ONT – ONT configuration base:
 - ONT templates – ONT templates
 - ONT profiles – ONT profiles.

1.2.1 Configuration of system parameters

To proceed to configuring the system parameters, execute the **configure terminal** command from the main **Top view** section.

```
LTP-8X# configure terminal
LTP-8X(config)#
```

Command	Parameter	Value	Action
do			Call the root menu commands (used in all sections of Configure view)
no			The negative form of the command (used in all sections of Configure view)
Network parameters configuration			
management additional-vid <VALUE>	<VALUE>	1-4094	Set VLAN control for access from alternative management interfaces
management dscp <VALUE>	<VALUE>	0-63	Set DSCP for management traffic packets
management ip <VALUE>	<VALUE>	IP addres in the format of AAA.BBB.CCC.DDD	Set the IP address of the device
management mask <VALUE>	<VALUE>	mask in format of AAA.BBB.CCC.DDD	Set subnet mask
management gateway <VALUE>	<VALUE>	IP addres in the format of AAA.BBB.CCC.DDD	Set the default gateway address
management vid <VALUE>	<VALUE>	1-4094	Set the management VLAN
management cos <VALUE>	<VALUE>	0-7	Set the 802.1p tag for management traffic packets
hostname <VALUE>	<VALUE>	string, 255 characters max	Set device name
Configuring the authentication, authorization and accounting system (AAA)			
aaa accounting start-stop <VALUE>	<VALUE>	tacacs+/radius	Set the protocol used for login/logout accounting.
aaa accounting commands tacacs +			Specify the protocol used to account the commands entered by the user.

aaa authentication <VALUE>	<VALUE>	tacacs+/radius	Set the authentication method: <ul style="list-style-type: none"> · tacacs+ — on the TACACS+ server; · radius — on the Radius server In case the server used for authentication is not available, the local user base will be used
aaa authorization taca cs+			Enable authorization (access level verification) on the TACACS+ server

Setting up the ALARM service

alarm <VALUE1> in <VALUE2> [out <VALUE3> severity <VALUE4> ttl <VALUE5>]	<VALUE1>	fan/ free-space/ load-average/ ont-high-rx-power/ ont-low-rx-power/ ram/ temperature/ dummy/ login/ config-save/ firmware-update/ duplicate-mac/ physical-layer-flapping/ pon-channel-no-ont/ ont-physical-layer/ olt-update/ ont-update/ gpon-port-flapping/ ont-flapping/ download/ battery-power/ battery-low/ lan-los/ ont-config/ file-delete/ physical-layer-errors/ physical-layer-block/ link/ logout/ ont-dying-gasp/ ont-rei/ ont-power-off/ config-change/ shutdown/ oms/ ont-state-changed/ ont-config-changed/ gpon-port-state-changed/ pon-alarm-gpon-port/ pon-alarm-onui/ ont-update-inprogress/	Send SNMP traps in case of occurrence of alarm messages of the specified type. If necessary, all existing parameters for this type of alarm messages can be configured in one command
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		olt-device-reset/ ont-signal-degrade/ ont-high-rx-power/ ont-low-rx-power/ gpon-port-ont-count- overflow/ olt-device-not-working/ load-average/ free-space/ system-reboot/ rssi-update/ power-supply/ storm-detected/ ont-storm-detected/ ont-los-video-power/ ont-low-video-power/ ont-high-video-power
	<VALUE2>	true/false
	<VALUE3>	true/false
	<VALUE4>	info/ minor/ major/ critical
	<VALUE5>	-1-2147483647

<p>alarm <VALUE1> out <VALUE2> [in <VALUE3> severity <VALUE4> ttl show alarm configuration<VAL UE5>]</p>	<p><VALUE1></p>	<p>fan/ free-space/ load-average/ ont-high-rx-power/ ont-low-rx-power/ ram/ temperature/ dummy/ login/ config-save/ firmware-update/ duplicate-mac/ physical-layer-flapping/ pon-channel-no-ont/ ont-physical-layer/ olt-update/ ont-update/ gpon-port-flapping/ ont-flapping/ download/ battery-power/ battery-low/ lan-los/ ont-config/ file-delete/ physical-layer-errors/ physical-layer-block/ link/ logout/ ont-dying-gasp/ ont-rei/</p>	<p>Send SNMP traps during normalization of alarms of the specified type.</p> <p>If necessary, all existing parameters for this type of alarm messages can be configured in one command</p>
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		ont-power-off/ config-change/ shutdown/ oms/ ont-state-changed/ ont-config-changed/ gpon-port-state-changed/ pon-alarm-gpon-port/ pon-alarm-onui/ ont-update-inprogress/ olt-device-reset/ ont-signal-degrade/ ont-high-rx-power/ ont-low-rx-power/ gpon-port-ont-count-overflow/ olt-device-not-working/ load-average/ free-space/ system-reboot/ rssi-update/ power-supply/ storm-detected/ ont-storm-detected/ ont-los-video-power/ ont-low-video-power/ ont-high-video-power
	<VALUE2>	true/false
	<VALUE3>	true/false
	<VALUE4>	info/ minor/ major/ critical
	<VALUE5>	-1-2147483647

<p>alarm <VALUE1> severity <VALUE2> [in <VALUE3> out <VALUE4> ttl <VALUE5>]</p>	<p><VALUE1></p>	<p>fan/ free-space/ load-average/ ont-high-rx-power/ ont-low-rx-power/ ram/ temperature/ dummy/ login/ config-save/ firmware-update/ duplicate-mac/ physical-layer-flapping/ pon-channel-no-ont/ ont-physical-layer/ olt-update/ ont-update/ gpon-port-flapping/ ont-flapping/ download/ battery-power/</p>	<p>Set the priority of alarm messages of the specified type.</p> <p>If necessary, all existing parameters for this type of alarm messages can be configured in one command</p>
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	battery-low/ lan-los/ ont-config/ file-delete/ physical-layer-errors/ physical-layer-block/ link/ logout/ ont-dying-gasp/ ont-rei/ ont-power-off/ config-change/ shutdown/ oms/ ont-state-changed/ ont-config-changed/ gpon-port-state-changed/ pon-alarm-gpon-port/ pon-alarm-onui/ ont-update-inprogress/ olt-device-reset/ ont-signal-degrade/ ont-high-rx-power/ ont-low-rx-power/ gpon-port-ont-count-overflow/ olt-device-not-working/ load-average/ free-space/ system-reboot/ rssi-update/ power-supply/ storm-detected/ ont-storm-detected/ ont-los-video-power/ ont-low-video-power/ ont-high-video-power
<VALUE2>	info/ minor/ major/ critical
<VALUE3>	true/false
<VALUE4>	true/false
<VALUE5>	-1-2147483647

<p>alarm <VALUE1> ttl <VALUE2> [in <VALUE3> out <VALUE4> severity <VALUE5>]</p>	<p><VALUE1></p>	<p>fan/ free-space/ load-average/ ont-high-rx-power/ ont-low-rx-power/ ram/ temperature/ dummy/ login/ config-save/ firmware-update/ duplicate-mac/ physical-layer-flapping/ pon-channel-no-ont/ ont-physical-layer/ olt-update/ ont-update/ gpon-port-flapping/ ont-flapping/ download/ battery-power/ battery-low/ lan-los/ ont-config/ file-delete/ physical-layer-errors/ physical-layer-block/ link/ logout/ ont-dying-gasp/ ont-rei/ ont-power-off/ config-change/ shutdown/ oms/ ont-state-changed/ ont-config-changed/ gpon-port-state-changed/ pon-alarm-gpon-port/ pon-alarm-onui/ ont-update-inprogress/ olt-device-reset/ ont-signal-degrade/ ont-high-rx-power/ ont-low-rx-power/ gpon-port-ont-count-overflow/ olt-device-not-working/ load-average/ free-space/ system-reboot/ rssi-update/ power-supply/ storm-detected/ ont-storm-detected/ ont-los-video-power/ ont-low-video-power ont-high-video-power</p>	<p>Configure the lifetime of all alarm messages of the specified type:</p> <p>'0' — report an alarm until it normalizes, '-1' — Send trap if necessary, do not show alarm message. '1-2147483647' — display an alarm message for a specified amount of time.</p> <p>If necessary, all existing parameters for this type of alarm messages can be configured in one command</p>
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	<VALUE2>	-1-2147483647	
	<VALUE3>	true/false	
	<VALUE4>	true/false	
	<VALUE5>	info/ minor/ major/ critical	
alarm fan max-rpm <VALUE>	<VALUE>	600-20000	Set the fan speed at which an alarm message will be issued if it is exceeded
alarm fan min-rpm <VALUE>	<VALUE>	600-8000	Set the fan speed at which an error message will be triggered if it falls below.
alarm free-space level <VALUE>	<VALUE>	0-100	Set the percentage of free space on the drive at which the error message will be displayed.
alarm load-average level <VALUE>	<VALUE>	0-255	Set the average load per minute at which the alarm message will be displayed
alarm ont-high-rx-power level <VALUE>	<VALUE>	-127..0 dBm	Set the power level of the optical signal received from the ONT (RSSI level), if exceeded, the alarm message will be displayed
alarm ont-low-rx-power level <VALUE>	<VALUE>	-127..0 dBm	Set the power level of the optical signal received from the ONT (RSSI level), when it drops below which an alarm message will be displayed
alarm ram free-ram <VALUE>	<VALUE>	0-100	Set the percentage of free RAM at which the alarm message will be issued
alarm temperature sensor1/sensor2 min <VALUE>	<VALUE>	-50 - 5	Set the minimum critical temperature above which the alarm message will be displayed
alarm temperature sensor1/sensor2 max <VALUE>	<VALUE>	0 - 100	Set the critical temperature above which the alarm message will be displayed
ONT update configuration commands			
auto-reconfigure interface <VALUE>	<VALUE>	gpon-port/ ont	Enable automatic reconfiguration of GPON-PORT or ONT when changing configuration

auto-reconfigure <VALUE>	<VALUE>	olt	Enable automatic reconfiguration of OLT when changing configuration
auto-update ont record <VALUE1> equipment-id <VALUE2> fw- version [not-]match <VALUE3> filename <VALUE4> [<VALUE5>] [downgrade <VALUE6>]	<VALUE1>	entry name, string	Specify an ONT auto-update rule with specifying the device type, current ONT firmware version, update version, update mode and downgrade ability
	<VALUE2>	ONT type, string	
	<VALUE3>	firmware version, string	
	<VALUE4>	firmware file name, string	
	<VALUE5>	disable/ immediate/ postpone/ global	
	<VALUE6>	enable/ disable	
auto-update ont edit <VALUE1> <VALUE2> <VALUE3>	<VALUE1>	existing entry name, string	Edit a previously created ONT auto-update rule
	<VALUE2>	equipment-id/ fw-version/ filename/ new-name/ disable/ immediate/ postpone/ global/ downgrade	
	<VALUE3>	new value for the parameter to be edited, string	
auto-update ont immediate			Enable immediate auto update of ONT. Updating is performed on the operator's command
auto-update ont postpone			Enable delayed ONT auto-update. Update is performed at the next ONT authorization
no auto-update ont			Disable ONT global auto-update rule
no auto-update ont record <VALUE>	<VALUE>	existing entry name, string	Remove a previously created ONT auto-update rule

no auto-update ont records			Remove all previously created ONT auto-update rules
Setting parameters for CONFIG service			
backup on save			Enable automatic upload of configuration file to tftp server on save
backup on timer			Enable automatic upload of configuration file to tftp server on timer
backup timer period <VALUE>	<VALUE>	600-300000	Set a timer to automatically upload the configuration file
backup uri <VALUE>	<VALUE>	URL in format of tftp://ip[:port]/path/to/file or ftp://user:password@ip[:port]/path/to/file string, 255 characters max.	Set the tftp/ftp server address. <i>ip address</i> of the tftp/ftp server <i>path/to/file</i> – path for the configuration file
config autosave period <VALUE>	<VALUE>	<600-300000>	Set the period for auto save of the configuration, in minutes
config autosave hour <VALUE1> minute <VALUE2>	<VALUE1>	0..23	Set the time in which the configuration autosave will be performed
	<VALUE2>	0-59	
Setting parameters for CLI service			
cli display <VALUE>	<VALUE>	config-password/ description/ equipment-id/ gpon-port/ profile/ received-password/ rssi/ status/ version	Set the output format for ONT list (show interface gpon-port ont online)
cli history <VALUE>	<VALUE>	0-4294967295	Set command history storage buffer size
cli max-sessions <VALUE>	<VALUE>	1..3	Set a limit on the number of simultaneous CLI sessions (not including ACS sessions)

cli ont-sn-format <VALUE>	<VALUE>	literal/ numerical/ section-numerical	Set the ONT serial number display format
cli session- timeout <VALUE>	<VALUE>	0-2103840	Set the CLI session timeout (timeout is the user's inactivity time in minutes after which the session ends), 0 – without restrictions.
Fans management ¹			
system fan min- speed <VALUE>	<VALUE>	15-100	Set the minimum fan rotation speed
system fan speed <VALUE>	<VALUE>	15-100	Set the fan speed, in percent: 15 – minimum; 100 – maximum.
no system fan speed			Set automatic fan rotation speed
system fan speed- level <VALUE>	<VALUE> <VALUE>	0-8 15-100	Set the rotational speed value for a specific level, in percents
system fan speed- table <VALUE>	<VALUE>	15-100	Set the rotational speed value for all levels, in percents
system reset- button <VALUE>	<VALUE>	disable/ enable/ reset-only	Set the action on pressing the reset button
Setting the ACS parameters (built-in OLT auto-configuration server for ONT) ²			
ip acs server enable			Enable local ACS
ip acs server vid <VLAN ID>	<VLAN ID>	1-4094	Set VLAN ID to run ACS (server runs on LTP)
ip acs server ip <VALUE>	<VALUE>	IP addresses in the format of AAA.BBB.CCC.DDD	Set the IP address of the ACS (the address must not intersect with the management subnet)
ip acs server mask <VALUE>	<VALUE>	subnet mask in format of AAA.BBB.CCC.DDD	Set the ACS subnet mask (the subnet must not intersect with the management subnet)

ip acs server port <VALUE>	<VALUE>	1-65535	Set the ACS port. By default – 9595
ip acs server scheme <VALUE>	<VALUE>	http/ https	Set the protocol to run ACS (HTTP is the default)
ip acs server login <VALUE>	<VALUE>	string, 31 characters max.	Set the username to authenticate on the server
ip acs server password <VALUE>	<VALUE>	string, 31 characters max.	Set the user password to authenticate on the server

Configuring the built-in DHCP server parameters (for ONT with local ACS) ³

ip dhcp server enable			Enable local DHCP server
ip dhcp server range <VALUE>	<VALUE>	IP address in format of AAA.BBB.CCC.DDD	Set the range of IP addresses issued by the DHCP server (the range start and end address must be set)
ip dhcp server lease-time <VALUE>	<VALUE>	600-2678400	Set lease time for IP addresses issued by the DHCP server (in seconds)
ip dhcp server option-43			Enable option 43 in DHCP Offer packets issued by the DHCP server
ip dhcp server static-route net <VALUE1> mask <VALUE2> gateway <VALUE3>	<VALUE1> <VALUE2> <VALUE3>	IP address in format of AAA.BBB.CCC.DDD	Setting the static route (options 121)

Setting parameters for NTP service

ip ntp enable			Enable NTP support.
ip ntp daylightsaving			Enable daylight saving change
ip ntp ip	<VALUE>	IP address in format of AAA.BBB.CCC.DDD	Set NTP server address
ip ntp timezone	<VALUE>	-12 – 12	Set the time zone with specification of time zone offset from the zero meridian [-12...12]

ip ntp interval	<VALUE>	0-65535	Set the NTP server polling interval in seconds. It is recommended to set it to 900, in this case the poll will be carried out every 15 minutes.
Setting parameters for SNMP service			
ip snmp access-control			Enable SNMP access control
ip snmp alias name <VALUE> [up-down-trap]	<VALUE>	string, 63 characters max.	Assign an alternative name to the interface
ip snmp allow ip <VALUE1> [mask <VALUE2>] [vid <VALUE3>]	<VALUE1>	IP address in format of AAA.BBB.CCC.DDD	Set the list of IP addresses allowed for access, it is possible to specify the mask and vlan id.
	<VALUE2>	subnet mask in format of <0-32>	
	<VALUE3>	VLAN ID <1 – 4094>	
ip snmp community read-only <VALUE1> <VALUE2>	<VALUE1>	<0-2>	Set sequential number and password for snmp Get requests
	<VALUE2>	string, 63 characters max.	
ip snmp community read-write <VALUE1> <VALUE2>	<VALUE1>	<0-2>	Set the snmp sequential number and password for Set requests
	<VALUE2>	string, 63 characters max.	
ip snmp contact <VALUE>	<VALUE>	string, 254 characters max.	Set snmp contact value
ip snmp enable			Enable SNMP support
ip snmp engineID <VALUE>	<VALUE>	0xAAAAAAAAAAAA AAAAAAAAAAAAAAAA, 13 bytes long hexadecimal number	Set the value of EngineID (snmp agent identifier)
ip snmp engineID generate			Generate new value of EngineID (snmp agent identifier)
ip snmp location <VALUE>	<VALUE>	string, 255 characters max.	Set the device location

ip snmp ont-sn-format <VALUE>	<VALUE>	literal/ numerical/ section-numerical	Set the ONT serial number transmission format
ip snmp trap-community <VALUE>	<VALUE>	string, 63 characters max.	Set the password for traps
ip snmp traps <VALUE1> type <VALUE2>	<VALUE1>	IP address in the format of AAA.BBB.CCC.DDD	Set the address for sending traps, type of messages to be sent
	<VALUE2>	v1/v2/informs	
ip snmp version	<VALUE>	v2/v3	Set the SNMP version
ip snmp user <NAME> auth- password <PASSWORD> enc-password <KEY> access <TYPE>	<NAME> <PASSWORD> <KEY> <TYPE>	username password encryption key access type ro/rw	Add SNMPv3 user
no ip snmp user <NAME>	<NAME>		Remove SNMPv3 user
Setting parameters for SSH protocol			
ip ssh access-control			Set an access restriction
ip ssh allow ip <VALUE1> [mask <VALUE2>] [vid <VALUE3>]	<VALUE1>	IP address in format of AAA.BBB.CCC.DDD	Create a list of allowed IP addresses to access the device via SSH protocol, it is possible to specify a mask and vlan id
	<VALUE2>	subnet mask <0-32>	
	<VALUE3>	VLAN ID <1 – 4094>	
ip ssh enable			Enable SSH protocol support
Setting parameters for Telnet protocol			
ip telnet access-control			Set an access restriction

ip telnet allow ip <VALUE1> [mask <VALUE2>] [vid <VALUE3>]	<VALUE1>	IP address in format of AAA.BBB.CCC.DDD	Create a list of allowed IP addresses to access the device via Telnet protocol, it is possible to specify a mask and vlan id
	<VALUE2>	subnet mask <0-32>	
	<VALUE3>	VLAN ID <1 – 4094>	
ip telnet enable			Enable Telnet protocol support
Logging configuration			
logging <VALUE1> loglevel <VALUE2>	<VALUE1>	console/ file/ module/ rsh/ system/ origin-id/	Set the debug message level to be sent to the specified interface
	<VALUE2>	alert/ critical/ debug/ emergency/ error/ info/ none/ notice/ warning	
logging module <VALUE1> loglevel <VALUE2>	<VALUE1>	pmchal-gpon/ pmchal-ipc/ pmchal-machine/ pmchal-olt/ pmchal-ont/ pmchal-gpon-port/ pmchal-scheduler/ pmchal-dhcpa/ pmchal-dhcpv6ra/ pmchal-pppoeia/ pmchal-rdn/ snmp/ alarm/ dhcpd	Assign an appropriate debug message level to individual system modules

	<VALUE2>	alert/ critical/ debug/ emergency/ error/ info/ none/ notice/ warning	
logging remote <VALUE1> [<VALUE2>]	<VALUE1>	IP address in format of AAA.BBB.CCC.DDD	Set the IP address and port of the SYSLOG server to which the system log is to be broadcast
	<VALUE2>	syslog server port	
logging buffer <VALUE>	<VALUE>	1024-262144	Set the system log size in bytes
logging commands			Enable recording entered commands in syslog
logging permanent			Enable log recording in non-volatile memory
logging origin-id <VALUE>	<VALUE>	hostname/ string/ ip/	Add an additional parameter to messages sent to the remote log-server.
Setting ONT blocking			
ont block-time	<VALUE>	1-2147483647	Set the duration of the ONT blocking (in minutes)
TACACS+ configuration			
tacacs-server timeout <VALUE>	<VALUE>	1-30	Set the interval for waiting for a response from the server
tacacs-server key <VALUE>	<VALUE>	(0..255) characters/ by default key is an empty string	Set the key for authentication and encryption for all messages between the device and the TACACS server
tacacs-server host <VALUE>	<VALUE>	IP address in format of AAA.BBB.CCC.DDD	Set the IP address of TACACS server

tacacs-server port <VALUE>	<VALUE>	1-65535	Set the TACACS server port
RADIUS configuration			
radius-server timeout <VALUE>	<VALUE>	1-30	Set the interval for waiting for a response from the server
radius-server host <IP>	<IP>	IP address in the format of AAA.BBB.CCC.DDD	Specify IP address of the server
radius-server key <VALUE>	<VALUE>	(0..255) characters/ by default key is an empty string	Specify the key to connect to the server
radius-server port <VALUE>	<VALUE>	1-65535	Specify connection port
radius-server priority <VALUE>	<VALUE>	0-2	Set connection priority
User and privilege management			
privilege	<VALUE1>	1-14	Set the list of privileges for the selected group through a space
	<VALUE2>	view-switch/ view-alarm/ view-system/ view-general/ view-gpon/ view-ont/ view-ont-profile/ view-switch-interface/ config-switch/ config-alarm/ config-system/ config-general/ config-gpon/ config-ont/ ont-operation/ config-ont-profile/ config-switch-interface It is possible to use several values by separating them with spaces, for example: (config-system view-ont)	
user <VALUE>	<VALUE>	a word containing any characters, except "\$<>()#", from 1 to 31 characters long	Add a system user

user <NAME> password <VALUE>	<NAME>	a word containing any characters, except '\$<>()#', from 1 to 31 characters long	Set password for user
	<VALUE>	String from 8 to 31 characters	
user <NAME> privilege <VALUE>	<NAME>	a word containing any characters, except '\$<>()#', from 1 to 31 characters long	Assign user access rights (0 – minimum priority, 15 – maximum)
	<VALUE>	0-15	
IP Source Guard configuration			
ip source-guard enable			Enable IP Source Guard functionality
ip source-guard mode	<TYPE>	dynamic/static	Select IPSG operation mode.
ip source-guard bind ip <IP> mac <VALUE1> interface-ont <VALUE2> service <VALUE3>	<IP>	IP address in XXX.XXX.XXX.XXX format	Assign user access rights (0 - minimum priority, 15 - maximum)
	<VALUE1>	MAC – address in format of XX:XX:XX:XX:XX:XX	
	<VALUE2>	ONT identifier in the CNANNEL_ID/ONT_ID format	
	<VALUE3>	Number of service on ONT, 0-28	
no ip source-guard bind ip <IP>	<IP>	IP address in XXX.XXX.XXX.XXX format	Delete static mapping for a specified IP address
no ip source-guard bind			Delete all static mappings
ip source-guard database enable			Enable IP Source guard database saving in non-volatile memory
ip source-guard database update-freq <VALUE>	<VALUE>	600-86400	Specify in seconds the period of IP Source guard base saving to non-volatile memory

ip source-guard ignore-vlan <VALUE>	<VALUE>	1-4094	Disable IPSG operation on the specified VLAN
ip source-guard one-dynamic-binding-for-MAC			When checked, after a successful DHCP session establishment, traffic will only flow for this MAC + IP pair. For other pairs with the same MAC or IP address, the traffic will be rejected.
Static route configuration			
ip route prefix <IP> mask <MASK> gateway <IP>	<IP>	IP address in XXX.XXX.XXX.XXX format	Add a static route to the specified subnet address through the specified gateway address
	<MASK>	subnet mask in decimal format (e.g. 24)	

¹ Only for LTP-4(8)X rev.B, LTP-4(8)X rev.C

² Only for LTP-4(8)X rev.B, LTP-4(8)X rev.C

³ DHCP server operates only when local ACS is enabled

1.2.2 Network switch configuration

The switch mode is designed to configure the internal switch. This mode is available from the global **Top view** mode.

To proceed to configuration of switch, execute the **switch** command.

<pre>LTP-8X# switch LTP-8X(switch)#</pre>			
Command	Parameter	Value	Action
help			Show list of available commands
exit			Exit the Switch configuration menu to a higher level
history			Display the history of entered commands
no			The use of a negative form of a command
configure terminal			Go to the Switch terminal configuration mode
compare <VALUE1> <VALUE2>	<VALUE1>	candidate-config/ default-config/ running-config	Compare two configurations with each other: <i>candidate-config</i> – current configuration with no changes applied; <i>default-config</i> – default configuration; <i>running-config</i> – current configuration
	<VALUE2>	candidate-config/ default-config/ running-config	
show mac			Show table of MAC addresses (for chip)
show mac count			Display the number of records in the MAC table
show mac include interface <PORT TYPE> <PORT NUMBER> [count]	<PORT TYPE>	10G-front-port/ front-port/ pon-port/ port-channel	Show a table of MAC addresses for the selected port on the specified interface When [count] is specified, only the number of MAC addresses in the table is displayed

Command	Parameter	Value	Action
	<PORT NUMBER>	port number according to type: for LTP-8X: 10G-front-port: 0..1 front-port: 0..7 pon-port: 0..7 port-channel: 1..10 for LTP-4X: 10G-front-port: 0..1 front-port: 0..3 pon-port: 0..3 port-channel: 1..10	
show mac include mac	<MAC>	XX:XX:XX:XX:XX:XX	Show MAC table for the specified MAC address
show mac include mac <MAC> mask <MAC> [count]	<MAC>	XX:XX:XX:XX:XX:XX	Show MAC table for the specified range of MAC addresses. When specifying [count] – print only the number of entries
show mac include vlan <VLAN> [count]	<VLAN>	1-4094	Show MAC table for the specified VLAN. When specifying [count] – print only the number of entries
show mac exclude interface <PORT TYPE> <PORT NUMBER> [count]	<PORT TYPE>	10G-front-port/ front-port/ pon-port/ port-channel	Show the MAC table for all ports, excluding the selected port on the specified interface. When specifying [count] – print only the number of entries

Command	Parameter	Value	Action
	<PORT NUMBER>	port number according to type: 10G-front-port: for LTP-8X: 10G-front-port: 0..1 front-port: 0..7 pon-port: 0..7 port-channel: 1..10 for LTP-4X: 10G-front-port: 0..1 front-port: 0..3 pon-port: 0..3 port-channel: 1..10	
show mac exclude mac	<MAC>	XX:XX:XX:XX:XX:XX	Show a MAC table, excluding the specified
show mac exclude mac <MAC> mask <MAC> [count]	<MAC>	XX:XX:XX:XX:XX:XX	Show a MAC table, excluding the specified range of addresses. When specifying [count] – print only the number of entries
show mac exclude vlan <VLAN> [count]	<VLAN>	1-4094	Show a MAC table, excluding the specified VLAN. When specifying [count] – print only the number of entries
show vlan [<VLAN ID>]	<VLAN ID>	1-4094	Show information on VLAN
show interfaces acl <PORT TYPE> <PORT NUMBER>	<PORT TYPE>	10G-front-port/ front-port/ pon-port/ port-channel	Viewing assigned access lists and policies

Command	Parameter	Value	Action
	<PORT NUMBER>	port number according to type: for LTP-8X: 10G-front-port: 0..1 front-port: 0..7 pon-port: 0..7 port-channel: 1..10 for LTP-4X: 10G-front-port: 0..1 front-port: 0..3 pon-port: 0..3 port-channel: 1..10	
show interfaces utilization <PORT TYPE> <PORT NUMBER>	<PORT TYPE>	10G-front-port/ front-port/ pon-port/ port-channel	Show the utilization state of the specified port on data transfer/receive: <i>Last utilization counters</i> – port load average; <i>5m:00s utilization average</i> – values averaged over a 5-minute interval
	<PORT NUMBER>	port number according to type: for LTP-8X: 10G-front-port: 0..1 front-port: 0..7 pon-port: 0..7 for LTP-4X: 10G-front-port: 0..1 front-port: 0..3 pon-port: 0..3	

Command	Parameter	Value	Action
show channel-group counters port-channel <PORT NUMBER>	<PORT NUMBER>	1..10	Show LACP counters for each of the aggregated ports of a specified group (e.g. port-channel 1) in case of dynamic aggregation
show channel-group hw port-channel <PORT NUMBER>	<PORT NUMBER>	1..10	Show the state of the specified group and ports in it both during static and dynamic aggregation
show channel-group lacp port-channel <PORT NUMBER>	<PORT NUMBER>	1..10	Show LACP protocol status for the specified group (e.g. port-channel 1) in case of dynamic aggregation
show channel-group summary port-channel <PORT NUMBER>	<PORT NUMBER>	1..10	Show port state for the specified group (e.g. port-channel 1)
show cnterset <DEVICE ID> <TXQ MIB COUNTERS>	<DEVICE ID>	LTP-8X: 0..1 LTP-4X: 0	The command is used as a diagnostic tool: cnterset 0 and 1 counts the packets at the output and can be configured for a specific VLAN, port, priority queue or all together.
	<TXQ MIB COUNTERS>	0..1 0..1	
show class-map			Show created class-map
show qos			Show queue configuration
show qos cpu			Show queue binding settings for CPU
show access-list			Show all access control lists and filters
show running-config			Show current equipment configuration
show spanning-tree bridge instance <INSTANCE ID>	<INSTANCE ID>	1..15	Show STP status for the bridge (if MSTP mode is used, each individual status is displayed)

Command	Parameter	Value	Action
show spanning-tree active instance <INSTANCE ID>	<INSTANCE ID>	1..15	Show STP status for interfaces (when using MSTP mode, the status of each interface is displayed separately)
show spanning-tree mst-configuration			Show MSTP settings
show spanning-tree interface <PORT TYPE> <PORT NUMBER>	<PORT TYPE>	10G-front-port/ front-port/ port-channel	Show STP status for the specified interfaces
	<PORT NUMBER>	port number according to the type: for LTP-8X: 10G-front-port: 0..1 front-port: 0..7 port-channel: 1..10 for LTP-4X: 10G-front-port: 0..1 front-port: 0..3 port-channel: 1..10	
show spanning-tree bpdu			Show method of processing bpdu-packets for interfaces with disabled STP function
show bridging [<PORT TYPE> <PORT NUMBER>]	<PORT TYPE>	10G-front-port/ front-port/ pon-port/ port-channel	Show port-to-port connection settings

Command	Parameter	Value	Action
	<PORT NUMBER>	port number according to the number: for LTP-8X: 10G-front-port: 0..1 front-port: 0..7 pon-port: 0..7 port-channel: 1..10 for LTP-4X: 10G-front-port: 0..1 front-port: 0..3 pon-port: 0..3 port-channel: 1..10	
show isolation group	<GROUP ID>	0..29	Show configuration of the specified port isolation groups
show isolation vlan	<VLAN ID>	1..4094	Show port isolation configuration for specified VLANs
show ip igmp snooping groups [vlan <VLAN ID>]	<VLAN ID>	1..4094	Show multicast groups added via IGMP
show ip igmp snooping vlan <VLAN ID> config	<VLAN ID>	0..4094	Show IGMP configuration parameters: 1-4094 – for the specified VLAN; 0 – for all VLANs
show ip igmp snooping vlan <VLAN ID> hosts	<VLAN ID>	0..4094	Show registered groups: 1-4094 – for the specified VLAN; 0 – for all VLANs
show ip igmp snooping vlan <VLAN ID> mrouter	<VLAN ID>	0..4094	Show static group configuration: 1-4094 – for the specified VLAN; 0 – for all VLANs

Command	Parameter	Value	Action
show ip arp table			Show ARP repeater table
show ip arp inspection			Show ARP inspection parameters
show ip route			Display L3 routing mode status
show ipv6 mld snooping groups [vlan <VLAN ID>]	<VLAN ID>	1..4094	Show multicast groups added via MLD
show ipv6 mld snooping vlan <VLAN ID> config	<VLAN ID>	0..4094	Show MLD configuration parameters: 1-4094 – for the specified VLAN; 0 – for all VLANs
show ipv6 mld snooping vlan <VLAN ID> hosts	<VLAN ID>	0..4094	Show registered MLD groups: 1-4094 – for the specified VLAN; 0 – for all VLANs
show ipv6 mld snooping vlan <VLAN ID> mrouter	<VLAN ID>	0..4094	Show configuration of all registered MLD groups: 1-4094 – for the specified VLAN; 0 – for all VLANs
show ethercat arp table			Show EtherCAT ARP table
show sfp <PORT TYPE> <PORT NUMBER>	<PORT TYPE>	10G-front-port/ front-port/	Show status of installed SFP modules
	<PORT NUMBER>	port number according to the type: for LTP-8X: 10G-front-port: 0..1 front-port: 0..7 for LTP-4X: 10G-front-port: 0..1 front-port: 0..3	

Command	Parameter	Value	Action
show cpu input-rate detailed			Show number of packets intercepted for each traffic type
show lldp configuration			Show current LLDP configuration
show lldp local [interface <PORT TYPE> <PORT NUMBER>]	<PORT TYPE>	10G-front-port/ front-port/	Show information on local ports
	<PORT NUMBER>	port number according to the type: for LTP-8X: 10G-front-port: 0..1 front-port: 0..7 for LTP-4X: 10G-front-port: 0..1 front-port: 0..3	
show lldp neighbors [interface <PORT TYPE> <PORT NUMBER>]	<PORT TYPE>	10G-front-port/ front-port/	Show neighbour information
	<PORT NUMBER>	port number according to the type: for LTP-8X: 10G-front-port: 0..1 front-port: 0..7 for LTP-4X: 10G-front-port: 0..1 front-port: 0..3	
show lldp statistics [interface <PORT TYPE> <PORT- NUMBER>]	<PORT TYPE>	10G-front-port/ front-port/	Show statistics on LLDP packets

Command	Parameter	Value	Action
	<PORT-NUMBER>	port number according to the type: for LTP-8X: 10G-front-port: 0..1 front-port: 0..7 for LTP-4X: 10G-front-port: 0..1 front-port: 0..3	
show erps			Show information on ERPSv2 protocol configuration
show erps vlan <VLAN ID>	<VLAN ID>	1..4094	Show detailed information on ERPSv2 protocol configuration for the specified VLAN ID
clear counters <PORT TYPE> <PORT-NUMBER>	<PORT TYPE>	10G-front-port/ front-port/	Clear counters for selected interfaces
	<PORT-NUMBER>	port number according to the type: for LTP-8X: 10G-front-port: 0..1 front-port: 0..7 for LTP-4X: 10G-front-port: 0..1 front-port: 0..3	
clear mac			Clear MAC table
clear mac interface <PORT TYPE> <PORT-NUMBER>	<PORT TYPE>	10G-front-port/ front-port/	Clear MAC table for the specified interfaces

Command	Parameter	Value	Action
	<PORT-NUMBER>	port number according to the type: for LTP-8X: 10G-front-port: 0..1 front-port: 0..7 for LTP-4X: 10G-front-port: 0..1 front-port: 0..3	
clear mac vlan	<VLAN ID>	1..4094	Clear MAC table for the specified VLAN ID
clear cpu input-rate			Clear the counter of intercepted messages for each traffic type
clear storm <PORT TYPE> <PORT NUMBER>	<PORT TYPE>	10G-front-port/ front-port/ pon-port	Unlock the interface blocked by the storm
	<PORT NUMBER>	port number according to the type: for LTP-8X: 10G-front-port: 0..1 front-port: 0..7 pon-port: 0..7 for HW_revision-1vX pon-port: 0..1 for LTP-4X: 10G-front-port: 0..1 front-port: 0..3 pon-port: 0..3	

Command	Parameter	Value	Action
clear lldp neighbor [interface <PORT TYPE> <PORT-NUMBER>]	<PORT TYPE>	10G-front-port/ front-port	Clear statistics for LLDP packets
	<PORT NUMBER>	port number according to the type: for LTP-8X: 10G-front-port: 0..1 front-port: 0..7 for LTP-4X: 10G-front-port: 0..1 front-port: 0..3	
debug/no debug fdb			Enable/disable autofill debugging of MAC table
debug/no debug fdb duplicate			Enable/disable debugging of duplicate MAC address appearance.
debug/no debug cfg-manager routine			Enable/disable general debugging of configuration manager operation
debug/no debug cfg-manager errors			Enable/disable error debugging in configuration manager operation
debug/no debug events port			Display/do not display port state change events
debug/no debug events unknown			Display/do not display other status change events
debug/no debug packet rx [<VLAN ID>]	<VLAN ID>	1..4094	Enable/disable debugging of packages received by the processor
debug/no debug packet tx [<VLAN ID>]	<VLAN ID>	1..4094	Enable/disable debugging of packets transmitted by the processor

Command	Parameter	Value	Action
debug/no debug igmp fdb			Enable/disable FDB access debugging
debug /no debug igmp query			Enable/disable IGMP query general membership debugging
debug/no debug igmp group			Enable/disable IGMP group membership debugging
debug/no debug igmp packet			Enable/disable debugging of received/transmitted IGMP packets
debug/no debug vlan			Enable/disable VLAN creation/delete/update debugging
debug/no debug vlan pvid			Enable/disable VLAN PVID creation/delete/update debugging
debug/no debug lacp			Enable/disable LACP debugging
debug/no debug lacp packet			Enable/disable LACP message debugging
debug/no debug spanning-tree common			Enable/disable general STP debugging
debug spanning- tree errors			Enable/disable STP errors debugging
debug/no debug ifm			Enable/disable IFM debugging
debug/no debug locks			Enable/disable debugging of all mutex/semaphor busy/release messages
debug/no debug mod-int			Enable/disable debugging of the message interface between modules
debug/no debug iprouting common			Enable/disable general IP routing debugging

Command	Parameter	Value	Action
debug/no debug iprouting errors			Enable/disable IP routing errors debugging
debug/no debug arp common			Enable/disable general ARP messages debugging
debug/no debug arp errors			Enable/disable ARP error messages debugging
debug / no debug port- state-check			Enable/disable port tracking service debugging
debug / no debug tti			Enable/disable debugging by tti rules
debug / no debug lldp			Enable/disable LLDP message debugging
debug / no debug acl			Enable/disable debugging of ACL events
debug / no debug dsa <VALUE>	<VALUE>	rx/ tx/ ingress-filter/ remote-dev/ sdma/ rx-loopback	Enable/disable packet interceptor debugging
debug / no debug erps			Enable/disable ERPS message debugging

1.2.2.1 Switch terminal configuration mode

To proceed to configuring the switch terminal, execute the **configure terminal** command.

```
LTP-8X(switch)# configure terminal
LTP-8X(switch)(config)#
```

Command	Parameter	Value	Action
help			Display command entry rules
exit			Exit the configuration menu to a higher level

Command	Parameter	Value	Action
history			Display the history of entered commands
no			The use of a negative form of a command
port-channel load-balance ip			Balance the load in the channel group by destination IP address
port-channel load-balance ip- l4			Balance the load in the channel group by destination IP address and L4
port-channel load-balance mac			Balance the load in the channel group by destination MAC address
port-channel load-balance mac-ip			Balance the load in the channel group by destination IP address and MAC address
port-channel load-balance mac-ip-l4			Balance the load in the channel group by destination IP address, MAC address and L4
port-channel l4- long-hash <VALUE>	<VALUE>	enable/ disable	Set the load-balancing mode using l4-hash
port-channel ipv6-hash-mode <VALUE>	<VALUE>	1 2 3 4	Set the load-balancing mode using the ipv6-hash-mode: 1 – use low SIP, DIP bits and flow tag; 2 – use high SIP, DIP bits and flow tag; 3 – use low and high SIP, DIP bits and flow tag; 4 – use low SIP, DIP bits
cntreset <VALUE1> <VALUE2> <VALUE3> <VALUE4> <VALUE5> <VALUE6>	<VALUE1>	LTP-8X: 0..1 LTP-4X: 0	Set the advanced counter to the specified port: <i>PORT</i> – port number: 0..27 – set to a port from this range; <i>all</i> – set the counter on all ports; <i>cpu</i> – set to a port on the CPU
	<VALUE2>	0..1	
	<VALUE3>	0..27/ all/ cpu	
	<VALUE4>	1..4094/ all	

Command	Parameter	Value	Action
	<VALUE5>	0..7/ all	
	<VALUE6>	0..1/ all	
commit			Accept changes in the current configuration
[no] mirror <VALUE1> interface <VALUE2> <VALUE3>	<VALUE1>	rx/tx	Assign/delete – port for mirroring received/ transmitted traffic
	<VALUE2>	10G-front-port/ front-port/ pon-port/ port-channel	
	<VALUE3>	port number according to type: for LTP-8X: 10G-front-port: 0..1 front-port: 0..7 pon-port: 0..7 for LTP-4X: 10G-front-port: 0..1 front-port: 0..3 pon-port: 0..3 port-channel: 1..10	
[no] mirror <TRAFFIC TYPE> analyzer <VALUE2> <VALUE3>	<VALUE1>	rx/tx	Set/delete destination port for mirroring and analysis of received/transmitted traffic
	<VALUE2>	10G-front-port/ front-port/ port-channel	

Command	Parameter	Value	Action
	<VALUE3>	port number according to the type: for LTP-8X: 10G-front-port: 0..1 front-port: 0..7 port-channel: 1..10 for LTP-4X: 10G-front-port: 0..1 front-port: 0..3 port-channel: 1..10	
[no] mirror <VALUE1> vlan <VALUE2>	<VALUE1>	rx/tx	Assign/delete VLAN list for mirroring received/transmitted traffic
	<VALUE2>	VLAN list (input without spaces, for example: 1-4,7,100)	
[no] mirror <VALUE1> added-tag-config vlan <VALUE2> [user prio <VALUE3>]	<VALUE1>	rx/tx	Set/remove the 802.1q tag value for the specified VLAN that can be added to the mirrored received/transmitted traffic and the COS priority (set to 0 by default).
	<VALUE2>	1..4094	
	<VALUE3>	0..7/ 0 is default	
[no] mirror add-tag			Add/do not add 802.1q tag to analyzed traffic
[no] vlan <VLAN ID>	<VLAN ID>	VLAN list (input without spaces, for example: 1-4,7,100)	Go to configuring the specified VLAN/VLAN list
isolation group <VALUE>	<VALUE>	group list (input without spaces, for example: 1-4,7,29)	Go to editing the specified group/isolation group list
[no] lacp system-priority <VALUE>	<VALUE>	0..65535	Set/remove LACP system priority

Command	Parameter	Value	Action
mac access-list extended <VALUE>	<VALUE>	MAC access-list name	Go to editing the specified mac access list
ip access-list extended <VALUE>	<VALUE>	IP access-list name	Go to editing the specified ip access list
[no] ip igmp snooping			Use/do not use IGMP snooping
ip igmp unregistered ip4-mc <VALUE>	<VALUE>	drop/flood	Reject/pass unregistered IPv4 group mailing traffic
[no] ip igmp proxy report enable			Enable IGMP Proxy mode
[no] ip igmp proxy report range <VALUE> from <VLAN_ID> to <VLAN_ID>	<VALUE>	range of IP addresses in format of A.B.C.D E.F.G.H	Specify the range of multicast groups, for which IGMP report should be proxied to the specified VLAN from the specified VLANs
	<VLAN_ID>	1..4094	
[no] ipv6 mld snooping			Use/do not use MLD snooping
ipv6 mld unregistered ip6-mc <VALUE>	<VALUE>	drop/flood	Reject/pass unregistered IPv6 group mailing traffic
[no] ipv6 mld proxy report enable			Enable MLD Proxy mode
[no] ipv6 mld proxy report range <VALUE> from <VLAN_ID> to <VLAN_ID>	<VALUE>	range of IPv6 addresses in format of XXXX:XXXX:XXXX:XX XX YYYY:YYYY:YYYY:YYY Y	Specify the range of multicast groups, for which MLD report should be proxied to the specified VLAN from the specified VLANs
	<VLAN_ID>	1..4094	

Command	Parameter	Value	Action
[no] ip arp inspection			Enable/disable ARP monitoring (ARP inspection function)
[no] ip arp inspection static-table <IP> <MAC> vlan <VLAN ID>	<IP>	IP address in XXX.XXX.XXX.XXX format	Add/remove IP + MAC + VLAN compliance to static table for ARP inspection
	<MAC>	XX:XX:XX:XX:XX:XX	
	<VLAN ID>	1..4094	
[no] ip routing			Enable/disable L3 routing mode
[no] ip dhcp relay <IP>	<IP>	IP address in format of XXX.XXX.XXX.XXX	Set the DHCP Relay IP address
[no] ip dhcp downlink bridging enable			Enable/disable DHCP packets to pass downwards
class-map <VALUE>	<VALUE>	Class-map name	Go to editing the specified class-map
policy-map <VALUE>	<VALUE>	Policy-map name	Go to editing the specified policy-map
spanning-tree enable			Allow STP usage
spanning-tree bpdu filtering			Enable bpdu-package filter on interfaces with disabled STP
spanning-tree bpdu flooding			Enable a mode in which non-tagged bpdu packets are transmitted and tagged packets are filtered on interfaces with disabled STP
spanning-tree priority <VALUE>	<VALUE>	0..61440 The value should be a multiple of 4096	Set the priority of the STP binder tree.
spanning-tree hello <VALUE>	<VALUE>	1..10	Set the time to send hello packs

Command	Parameter	Value	Action
spanning-tree maxage <VALUE>	<VALUE>	6..40	Set bpdu packet waiting time value
spanning-tree fdelay <VALUE>	<VALUE>	4..30	Set the transmission delay time
spanning-tree holdcount <VALUE>	<VALUE>	1..10	Set the maximum number of bpdu packets received by the device within a second
spanning-tree mode <VALUE>	<VALUE>	mst/rstp/stp	Set the MSTP/RSTP/STP operation mode
spanning-tree mst configuration			Move to MSTP configuration mode
spanning-tree mst max-hops <VALUE>	<VALUE>	6..40	Set the maximum radius of the ring for STP
[no] lldp lldpdu <VALUE>	<VALUE>	filtering / flooding	Set LLDP packet processing mode
[no] lldp enable			Enable/disable LLDP
[no] lldp hold-multiplier <VALUE>	<VALUE>	2..10	Set the amount of time for the receiver to keep LLDP packets before dropping them
[no] lldp timer <VALUE>	<VALUE>	5..32768	Set the LLDP update sending period
[no] lldp reinit <VALUE>	<VALUE>	1..10	Set LLDP reinitialization time
[no] lldp tx-delay <VALUE>	<VALUE>	1..8192	Set the delay between subsequent LLDP packet transfers
[no] erps enable			Enable/disable ERPS protocol
erps vlan <VLAN ID>	<VLAN ID>	1..4094	Switch to the ERPS ring editing mode with R-APS VLAN ID

Command	Parameter	Value	Action
[no] qos default <VALUE>	<VALUE>	0..7	Set the default priority queue
[no] qos type <VALUE>	<VALUE>	0/1/2/3	Set the distribution by the specified priority field of the «Field type» package: 0 – all priorities are equal; 1 – 802.1p; 2 – DSCP/TOS; 3 – DSCP/TOS or 802.1p]
[no] qos map <VALUE1> <VALUE2> to <VALUE3>	<VALUE1>	0/1	Set/unselect the priority queue for this type of packages: <i>TYPE</i> – queue type: 0 – use 802.1p queues, <i>WORD</i> parameter value is selected from the range [0..7]; 1 – use DSCP/TOS queues, <i>WORD</i> parameter value is selected from the range [0..63]; <i>PRIORITY QUEUE</i> – priority queue number in a range of 0 to 7.
	<VALUE2>	0..7/ 0..63	
	<VALUE3>	0..7	
[no] qos wrr enable [<VALUE>]	<VALUE>	1-8	Enable/disable the priority queue processing mode on the switch. The digit sets the number of WRR queues in SP+WRR mode.
qos wrr queues <VALUE1> <VALUE2>	<VALUE1>	7..0	Set the buffer size for each of the queues on the switch (in order, from 7 to 0 queues)
	<VALUE2>	1..255	
[no] qos cpu rate-limit <VALUE1> <VALUE2>	<VALUE1>	arp/ green-replication/ icmpv6/ igmp/ larp/ mgmt/ mgmt-pon/ pon-interception/ route-mgmt-ip/ route-no-route/ route-reject/ route-vlan-ip/ stp/ yellow-replication	Set/unlimit the number of packets intercepted for sending to the CPU: · type – traffic type; · rate – packets per second
	<VALUE2>	1..10000	

Command	Parameter	Value	Action
[no] qos cpu wrr enable			Enable/disable wrr priority queue processing mode on CPU
qos cpu wrr queues <VALUE>	<VALUE>	1..255	Set the buffer size for each of the queues on the CPU
qos cpu quota queues <VALUE>	<VALUE>	1..255	Set the buffer size for each of the queues on the CPU
qos cpu replication-task-priority <VALUE>	<VALUE>	0..19	Set priority to process system traffic replication to CPU
[no] qos cpu replication-swap-queues			Invert green and yellow packet replication queue processing mechanisms on CPU
[no] qos cpu input-rate			Enable/disable CPU packet transfer restriction

1.2.2.2 Switch interface configuration mode

To proceed to the configuration of the selected switch interface you should execute the **interface <type> <X>** command, where <type> – interface type, <X> – interface number.

Correspondence of types and numbering of interfaces is given in the table:

Interface		Quantity	Enumeration
10G-front-port		2	[0..1]
front-port	LTP-8X	8	[0..7]
	LTP-4X	4	[0..3]
pon-port	LTP-8X	8	[0..7]
	LTP-4X	4	[0..3]

```
LTP-8X(switch)(config)# interface front-port 0
LTP-8X(switch)(config-if)#
```


Command	Parameter	Value	Action
help			Display command entry rules
exit			Exit the configuration menu to a higher level
history			Display the history of entered commands
no			The use of a negative form of a command
description <VALUE>	<VALUE>	String, 31 characters max.	Assign a description for the specified interface
[no] shutdown			Disable/enable the current interface
[no] 802.1ad			Enable the mode of passing only double-tag packets through upstream interface
[no] multicast loopback enable			Enable/disable multicast traffic between ONTs of one PON channel
flow-control <VALUE>	<VALUE>	on/off	Enable/disable flow control (IEEE 802.3x PAUSE)
[no] ip arp inspection trusted			Add/remove the interface to the list of «trusted» when using ARP control. The ARP traffic of the «trusted» interface is considered safe and is not monitored.
[no] ip arp inspection static-table <IP> <MAC> <VLAN ID>	<IP>	IP address in format of A.B.C.D	Add/remove new IP + MAC + VLAN compliance to static table for ARP inspection
	<MAC>	MAC address in format of XX:XX:XX:XX:XX:XX	
	<VLAN ID>	1..4094	
snmp trap mac- notification <VALUE>	<VALUE>	added/ removed	Enable/disable mac notification trap
[no] ingress- filtering			Enable/disable incoming packet filtering mode

Command	Parameter	Value	Action
frame-types all			Pass untagged, tagged (prioritized tagged) and tagged (VLAN-tagged) packets
frame-types tagged			Pass only tagged (VLAN-tagged) packets
pvid <VALUE>	<VALUE>	1..4094	Set the port PVID
pup <VALUE>	<VALUE>	0..7	Set port user priority (802.1p tag for untagged traffic)
bridging to [<PORT TYPE> <PORT NUMBER>]	<PORT TYPE>	10G-front-port/ front-port/ pon-port/ port-channel	Set bridge mode to communicate with the specified port
	<PORT NUMBER>	port number according to the type: for LTP-8X: 10G-front-port: 0..1 front-port: 0..7 pon-port: 0..7 for LTP-4X: 10G-front-port: 0..1 front-port: 0..3 pon-port: 0..3 port-channel: 1..10	
spanning-tree enable			Allow STP usage
spanning-tree priority <VALUE>	<VALUE>	0...240 The value should be a multiple of 16.	Set the priority of the STP binder tree.
spanning-tree pathcost <VALUE>	<VALUE>	0..200000000	Set a method for defining the value of the path for the STP protocol. 0 — define automatically

Command	Parameter	Value	Action
spanning-tree admin-p2p <VALUE>	<VALUE>	auto/ force-false/ force-true	Sets p2p connection definition type <ul style="list-style-type: none"> · auto — the definition is based on bpdu; · force-false — forced link as p2p; · force-true — forced link as a non p2p
spanning-tree admin-edge			Enable the mode in which the port, when the link is brought up, immediately switches to the transmission state
spanning-tree auto-edge			Enable automatic connection detection mode
spanning-tree mst instance priority	<VALUE>	1..15	Set the priority for this switch over others using a shared MSTP instance.
spanning-tree mst instance pathcost <VALUE>	<VALUE>	0...240 The value should be a multiple of 16.	Set the interface priority in an MSTP instance.
service-acl <type> <name>	<TYPE>	mac/ip	Assign the ACL by name
	<NAME>	string 0-255 characters long	
service-policy <VALUE>	<VALUE>	String 0-255 characters long	Assign the policy by name
lldp mode <VALUE>	<VALUE>	disable / receive-only / transmit-only / transmit-receive	Set LLDPDU sending mode
[no] lldp optional-tlv <VALUE>	<VALUE>	802.1 / 802.3 / mgmt-address / none / port-desc / sys-cap / sys-desc / sys-name	Add optional TLVs to sent LLDPDUs

Command	Parameter	Value	Action
[no] lldp optional-tlv 802.1 <VALUE>	<VALUE>	link-aggregation / management-vid / ppvid / protocol / vid-usage-digest / vlan-name	Add optional 802.1 TLVs to sent LLDPDUs
[no] lldp optional-tlv 802.1 protocol add/remove <VALUE>	<VALUE>	lacp / mstp / rstp / stp	Add/remove optional 802.1 protocol TLVs to sent LLDPDUs
[no] lldp optional-tlv 802.1 vlan-name add/remove <VALUE>	<VALUE>	1-4094	Add/remove optional 802.1 vlan-name TLVs to sent LLDPDUs
[no] lldp optional-tlv 802.3 <VALUE>	<VALUE>	mac-phy / max-frame-size	Add/remove optional 802.3 TLVs to sent LLDPDUs
rate-limit <TYPE> <SHAPER> <BURST> [LOGGING [SHUTDOWN <TIME>]]	<TYPE>	bc/mc/uu	Set the speed limit level for broadcast (Kbps) and the maximum continuous packet length (in bytes) for broadcast/multicast/unknown unicast traffic. The logging and shutdown commands allow logging an event and disabling the port for a specified time.
	<SHAPER>	1..10000000	
	<BURST>	1..1000000000	
	<TIME>	30-86400	
no rate-limit <VALUE>	<VALUE>	bc/mc/uu	Cancel the speed limit mode for the specified type
shaper <SHAPER> <BURST>	<SHAPER>	193..789000	Configure the bandwidth limit on the interface (Kbps) and the maximum continuous transmission length of a packet (in bytes)
	<BURST>	1..4000	
no shaper			Cancel bandwidth limit on the interface
speed auto			Set autodetect speed and duplex on port
speed <SPEED> <DUPLEX>	<SPEED>	10/100/1000/10G	Set the speed and duplex mode for this interface
	<DUPLEX>	full/half	

Command	Parameter	Value	Action
channel-group port-channel <VALUE> [force]	<VALUE>	1..10	Add the specified port to the channel group
no channel-group			Exclude this interface from the channel group
[no] lacp port-priority <VALUE>	<VALUE>	0..65535	Set/remove LACP priority on port
[no] lacp mode <VALUE>	<VALUE>	active/ passive	Set/remove LACP operation mode

1.2.2.3 Configuration mode for the interface of the aggregation group

To proceed to configuring the selected interface of the aggregation group, execute the **interface port-channel <X>** command, where <X> – interface number.

```
LTP-8X(switch)(config)# interface port-channel 1
LTP-8X(switch)(config-if)#
```

Command	Parameter	Value	Action
help			Display command entry rules
exit			Exit the configuration menu to a higher level
history			Display the history of entered commands
no			The use of a negative form of a command
description <VALUE>	<VALUE>	String of up to 31 characters	Assign a description for the specified interface
[no] shutdown			Disable/enable the current interface
[no] 802.1ad			Enable the mode of passing only double-tag packets
flow-control on			Enable/disable flow control (IEEE 802.3x PAUSE)

Command	Parameter	Value	Action
[no] ip arp inspection trusted			Add/remove the interface to the list of «trusted» when using ARP control. The ARP traffic of the «trusted» interface is considered safe and is not monitored
[no] ip arp inspection static-table <IP> <MAC> <VLAN ID>	<IP>	IP address in format of A.B.C.D	Add/remove new IP + MAC + VLAN compliance to static table for ARP inspection
	<MAC>	MAC address in format of XX:XX:XX:XX:XX:XX	
	<VLAN ID>	1..4094	
snmp trap mac-notification <VALUE>	<VALUE>	added/removed	Enable mac- notification for a specified event
[no] ingress-filtering			Enable/disable incoming packet filtering mode
frame-types all			Pass untagged, priority-tagged and VLAN-tagged packets
frame-types tagged			Pass only VLAN-tagged packets
pvid <VALUE>	<VALUE>	1..4094	Set the port PVID
pup <VALUE>	<VALUE>	0..7	Set port user priority (802.1p tag for untagged traffic)
bridging to <PORT TYPE> <PORT NUMBER>	<PORT TYPE>	10G-front-port/ front-port/ pon-port/ port-channel	Set the bridge mode for communication with the specified port

Command	Parameter	Value	Action
	<PORT NUMBER>	port number according to type: for LTP-8X: 10G-front-port: 0..1 front-port: 0..7 pon-port: 0..7 for LTP-4X: 10G-front-port: 0..1 front-port: 0..3 pon-port: 0..3 port-channel: 1..10	
mode lacp			Enable LACP (Link Aggregation Control Protocol)
mode static			Use static port configuration
speed <SPEED><DUPL EX>	<SPEED>	10/100/1000/10G	Set the speed and duplex for interfaces in this group
	<DUPLEX>	full/half	
spanning-tree enable			Allow STP usage
spanning-tree priority <VALUE>	<VALUE>	0...240 The value should be a multiple of 16.	Set the priority of the STP binder tree.
spanning-tree pathcost	<VALUE>	The parameter can take values <0...200000000>.	Set a method for defining the value of the path for the STP protocol.
spanning-tree admin-p2p <VALUE>	<VALUE>	auto/ force-false/ force-true	Sets connection definition type p2p: - <i>auto</i> — determination is based on bpdu; - <i>force-false</i> — forced link as p2p; - <i>force-true</i> — forced link as non p2p
spanning-tree admin-edge			Enable the mode in which the port, when the link is brought up, immediately switches to the transmission state

Command	Parameter	Value	Action
spanning-tree mst instance priority			Set the priority for this switch over others using a shared MSTP instance.
spanning-tree mst instance pathcost <VALUE>	<VALUE>	0...240 The value should be a multiple of 16	Set the interface priority in an MSTP instance.
service-acl <type> <name>	<TYPE>	mac/ip	Assign the ACL by name
	<NAME>	string 0-255 characters long	
service-policy <VALUE>	<VALUE>	string 0-255 characters long	Assign the policy by name

1.2.2.4 VLAN/VLAN group configuration mode

To proceed to the configuration of the selected VLANs, execute the **vlan <X>** command, where <X> is the VLAN number or the list of VLANs (without spaces, comma or hyphen to specify intervals, for example: 1-4,7,100).

LTP-8X(switch)(config)# vlan 1 LTP-8X(switch)(config-vlan)#			
Command	Parameter	Value	Action
help			Display list of possible commands
exit			Exit the configuration menu to a higher level
history			Display the history of entered commands
no			The use of a negative form of a command
tagged <PORT TYPE> <PORT NUMBER>	<PORT TYPE>	10G-front-port/ front-port/ pon-port/ port-channel	Add port to VLAN as tagged

Command	Parameter	Value	Action
	<PORT NUMBER>	port number according to type: for LTP-8X: 10G-front-port: 0..1 front-port: 0..7 pon-port: 0..7 for LTP-4X: 10G-front-port: 0..1 front-port: 0..3 pon-port: 0..3 port-channel: 1..10	
untagged <PORT TYPE> <PORT NUMBER>	<PORT TYPE>	10G-front-port/ front-port/ pon-port/ port-channel	Add port to VLAN as untagged
	<PORT NUMBER>	port number according to type: for LTP-8X: 10G-front-port: 0..1 front-port: 0..7 pon-port: 0..7 for LTP-4X: 10G-front-port: 0..1 front-port: 0..3 pon-port: 0..3 port-channel: 1..10	

Command	Parameter	Value	Action
forbidden <PORT TYPE> <PORT NUMBER>	<PORT TYPE>	10G-front-port/ front-port/ pon-port/ port-channel	Delete specified port from VLAN
	<PORT NUMBER>	port number according to type: for LTP-8X: 10G-front-port: 0..1 front-port: 0..7 pon-port: 0..7 for LTP-4X: 10G-front-port: 0..1 front-port: 0..3 pon-port: 0..3 port-channel: 1..10	
mac duplication allow			Allow MAC address replication
isolation enable			Enable port isolation within a given VLAN
isolation assign group <VALUE> to <PORT TYPE> <PORT NUMBER>	<VALUE>	0..29	Create a port isolation group for this VLAN that includes the specified ports
	<PORT TYPE>	10G-front-port/ front-port/ pon-port/ port-channel	

Command	Parameter	Value	Action
	<PORT NUMBER>	port number according to the type: for LTP-8X: 10G-front-port: 0..1 front-port: 0..7 pon-port: 0..7 for LTP-4X: 10G-front-port: 0..1 front-port: 0..3 pon-port: 0..3 port-channel: 1..10	
[no] ip igmp version <VALUE>	<VALUE>	v1-only/ v1-v2/ v1-v2-v3/ v1-v3/ v2-only/ v2-v3/ v3-only	Set IGMP version/mode version compatibility
[no] ip igmp query-interval <VALUE>	<VALUE>	30..600	Set/reset to default the General Query sending interval
[no] ip igmp query-response-interval <VALUE>	<VALUE>	5..200	Set/reset to default the Query reply waiting interval
[no] ip igmp robustness <VALUE>	<VALUE>	1..10	Set the reliability variable for this VLAN
[no] ip igmp last-member-query-interval	<VALUE>	1..25	Set/reset to default the last participant request interval for the given VLAN, in seconds
[no] ip igmp snooping enable			Enable/disable IGMP snooping for this VLAN

Command	Parameter	Value	Action
[no] ip igmp snooping static <IP> <PORT TYPE> <PORT NUMBER>	<IP>	IP address in XXX.XXX.XXX.XXX format	Add/remove static IGMP group
	<PORT TYPE>	10G-front-port/ front-port/ pon-port/ port-channel	
	<PORT NUMBER>	port number according to type: for LTP-8X: 10G-front-port: 0..1 front-port: 0..7 pon-port: 0..7 for LTP-4X: 10G-front-port: 0..1 front-port: 0..3 pon-port: 0..3 port-channel: 1..10	
[no] ip igmp snooping replace source-ip	<VALUE>	IP address in XXX.XXX.XXX.XXX format	Enable/disable source-ip address spoofing in IGMP packets for this VLAN
ip igmp snooping mrouter <VALUE> <PORT TYPE> <PORT NUMBER>	<VALUE>	add/del	Add/remove the port that is connected to a multicast router for the selected VLAN.
	<PORT TYPE>	10G-front-port/ front-port/ port-channel	

Command	Parameter	Value	Action
	<PORT NUMBER>	port number according to type: for LTP-8X: 10G-front-port: 0..1 front-port: 0..7 port-channel: 1..10 for LTP-4X: 10G-front-port: 0..1 front-port: 0..3 port-channel: 1..10	
[no] ip igmp snooping querier dscp <VALUE>	<VALUE>	0..63	Set/reset to the default DSCP value for Query generators
[no] ip igmp snooping querier enable			Enable/disable Querier operation
[no] ip igmp snooping querier address <VALUE>	<VALUE>	IP address in XXX.XXX.XXX.XXX format	Set/reset the querier ip address for the selected VLAN
[no] ip igmp snooping querier fast-leave			Use/do not use immediate group disconnection for this VLAN
[no] ip igmp snooping querier user-prio <VALUE>	<VALUE>	0..7	Set/reset to default 802.1p priority for IGMP packets
[no] ipv6 mld version <VALUE>	<VALUE>	v1-only/ v1-v2	Set MLD version/mode version compatibility
[no] ipv6 mld query-interval <VALUE>	<VALUE>	30..600	Set/reset to default the General Query sending interval

Command	Parameter	Value	Action
[no] ipv6 mld query-response-interval <VALUE>	<VALUE>	5..200	Set/reset to default the Query reply waiting interval
[no] ipv6 mld robustness <VALUE>	<VALUE>	1..10	Set the reliability variable for this VLAN
[no] ipv6 mld last-member-query-interval <VALUE>	<VALUE>	1..25	Set/reset to default the last participant request interval for the given VLAN, in seconds
[no] ipv6 mld snooping enable			Enable/disable MLD snooping for this VLAN
ipv6 mld snooping mrouter <VALUE> <PORT TYPE> <PORT NUMBER>	<VALUE>	add/del	Add/remove the port that is connected to a multicast router for the selected VLAN.
	<PORT TYPE>	10G-front-port/ front-port/ port-channel	
	<PORT NUMBER>	port number according to type: for LTP-8X: 10G-front-port: 0..1 front-port: 0..7 port-channel: 1..10 for LTP-4X: 10G-front-port: 0..1 front-port: 0..3 port-channel: 1..10	
ip/no ipv6 mld snooping querier dscp <VALUE>	<VALUE>	0..63	Set/reset to the default DSCP value for Query generators
[no] ipv6 mld snooping querier enable			Enable/disable Querier operation

Command	Parameter	Value	Action
[no] ipv6 mld snooping querier fast-leave			Use/do not use immediate group disconnection for this VLAN
[no] ip igmp snooping querier user-prio <VALUE>	<VALUE>	0..7	Set/reset to default 802.1p priority for MLD packets
[no] ip arp inspection			Enable/disable ARP monitoring (ARP inspection function) in the current VLAN
[no] ip address <IP>[/<MASK>]	<IP>	IP address in XXX.XXX.XXX.XXX format	Assign/reset IP address for interface in this VLAN
	<MASK>	mask in format of XXX.XXX.XXX.XXX or in decimal format	
[no] ip dhcp relay <IP>	<IP>	IP address in XXX.XXX.XXX.XXX format	Specify the DHCP relay address to which DHCP requests in this VLAN will be redirected
[no] ip dhcp relaying			Enable/disable DHCP request redirection functionality in this VLAN
[no] name <VALUE>	<VALUE>	string, 31 characters max.	Assign/reset to default name for this VLAN. The symbol " (double quotes) is used only to indicate the beginning and end of the line.
[no] multicast loopback enable			Enable/disable multicast traffic between ONTs of one PON channel in the current VLAN

1.2.2.5 Isolation group configuration mode

To proceed to the configuration of the selected isolation groups, execute the **isolation group <X>** command, where <X> is the number of the isolation group, or the list of groups (without spaces, comma or hyphen to specify intervals, for example: 0-4,7,29).

```
LTP-8X(switch)(config)# isolation group 1
LTP-8X(switch)(config-vlan)#
```

Command	Parameter	Value	Action
help			Display list of possible commands
exit			Exit the configuration menu to a higher level
history			Display the history of entered commands
[no] allow <PORT TYPE> <PORT NUMBER>	<PORT TYPE>	10G-front-port/ front-port/ pon-port/ port-channel	Enabling/disabling interface in isolation group
	<PORT NUMBER>	port number according to type: for LTP-8X: 10G-front-port: 0..1 front-port: 0..7 pon-port: 0..7 for LTP-4X: 10G-front-port: 0..1 front-port: 0..3 pon-port: 0..3 port-channel: 1..10	

1.2.2.6 Ip access-list extended configuration mode

To proceed to the configuration of ip access list you should execute the **ip access-list extended <NAME>** command, where <NAME> — name of the access-list.

```
LTP-8X(switch)(config)# ip access-list extended filter1
LTP-8X(switch)(config-ip-al)#
```

Command	Parameter	Value	Action
help			Display list of possible commands
exit			Exit the configuration menu to a higher level

Command	Parameter	Value	Action
history			Display the history of entered commands
no			The use of a negative form of a command
[no] offset-list <VALUE1> <VALUE2> <VALUE3> <VALUE4> <VALUE5> [<VALUE2-5>]	<VALUE1>	offset-list name	Set bit mask filtering settings
	<VALUE2>	I3 I4	
	<VALUE3>	0-23 0-89	
	<VALUE4>	00-FF	
	<VALUE5>	00-FF	
deny	<VALUE>	any/ proto/ tcp/ udp	Configure prohibition filtering rules
permit	<VALUE>	any/ proto/ tcp/ udp	Configure prohibition filtering rules
remove index	<VALUE>	1-20	Delete the rule with the specified index

1.2.2.7 Class-map configuration mode

To proceed to configuring class-map you should execute the **class-map <NAME>** command, where <NAME> is the name of class-map.

```
LTP-8X(switch)(config)# class-map class1
LTP-8X(switch)(config-class 'class1')#
```

Command	Parameter	Value	Action
help			Display list of possible commands
exit			Exit the configuration menu to a higher level
history			Display the history of entered commands

Command	Parameter	Value	Action
match access-group <NAME>	<NAME>	Access-list name	Bind access-list to traffic class
remove access-group <NAME>	<NAME>	Access-list name	Unbind access-list from traffic class

1.2.2.8 Policy-map configuration mode

To proceed to configuring policy-map you should execute the **policy-map <NAME>** command, where <NAME> is the name of policy-map.

```
LTP-8X(switch)(config)# policy-map policy1
LTP-8X(switch)(policy-class 'policy2')#
```

Command	Parameter	Value	Action
help			Display list of possible commands
exit			Exit the configuration menu to a higher level
history			Display the history of entered commands
no			The use of a negative form of a command
[no] class <NAME>	<NAME>	Class-map name	Map class-map to politics

To proceed to configuring class-map you should execute the **class <NAME>** command in the policy-map section, where <NAME> is the name of class-map.

```
LTP-8X(switch)(config)# class class1
LTP-8X(switch)(traffic-class 'class1')#
```

Command	Parameter	Value	Action
help			Display list of possible commands
exit			Exit the configuration menu to a higher level
history			Display the history of entered commands
no			The use of a negative form of a command

Command	Parameter	Value	Action
cos <VALUE>	<VALUE>	0-7	Set the priority
dscp <VALUE>	<VALUE>	0-63	Set DSCP
queue <VALUE>	<VALUE>	0-7	Set the priority queue

1.2.2.9 Erps configuration mode

To switch to configuring erps you should execute the **erps vlan <VLAN ID>** command, where <VLAN ID> is the VLAN number.

```
LTP-8X(switch)(config)# erps vlan
LTP-8X(switch)(config-erps)#
```

Command	Parameter	Value	Action
help			Display list of possible commands
exit			Exit the configuration menu to a higher level
history			Display the history of entered commands
no			The use of a negative form of a command
port <VALUE1> <VALUE2> <VALUE3>	<VALUE1>	east/west	Specify east/west ports
	<VALUE2>	10G-front-port/ front-port/ port-channel	

Command	Parameter	Value	Action
	<VALUE3>	port number according to type: for LTP-8X: 10G-front-port: 0..1 front-port: 0..7 port-channel: 1..10 for LTP-4X: 10G-front-port: 0..1 front-port: 0..3 port-channel: 1..10	
protected vlan <VALUE1> <VALUE2>	<VALUE1>	add/remove	Add/remove protected VLAN range
	<VALUE2>	1-4094	
revertive			Set the revertive mode
rpl <VALUE1> <VALUE2>	<VALUE1>	east/west	Assign the RPL port owner/neighbor
	<VALUE2>	neighbour/owner	
ring enable			Activate the ring
sub-ring vlan <VALUE> [tc-propagation]	<VALUE>	1-4094	Specify the subring
timer guard <VALUE>	<VALUE>	10-2000	Set the reconnection delay time
timer holdoff <VALUE>	<VALUE>	0-10000	Set the delay time before sending R-APS SF when a gap is detected
timer wtr <VALUE>	<VALUE>	1-12	Set the delay time of ring transition to IDLE state after rupture
level <VALUE>	<VALUE>	0-7	Set OAM ERPS message level

Command	Parameter	Value	Action
switch <VALUE1> <VALUE2>	<VALUE1>	forced/manual	Set switching mode
	<VALUE2>	east/west	
clear			Clear timers and ring status

1.2.3 GPON configuration

This section describes the commands to configure ONT, configure GPON interfaces, ONT/OLT profiles, ONT templates.

To proceed to configuring GPON, execute the **configure terminal** command from the main **Top view** section.

```
LTP-8X# configure terminal
LTP-8X(config)#
```

1.2.3.1 ONT configuration is in progress

To proceed to the configuration of ONT you need to go to the corresponding **view** with the **interface ont <port>/<ID>** command, where <port> – GPON-port, <ID> – ONT id.

```
LTP-8X(config)# interface ont 0/0
LTP-8X(config)(if-ont-0/0)#
```

Command	Parameter	Value	Action
?			Show list of available commands
ber interval <VALUE>	<VALUE>	0-4294967294/ none	The number of packets on which ONT calculates the error rate. At the end of the interval, ONT sends a REI message
ber update-period <VALUE>	<VALUE>	1-600000	The interval in seconds that defines the period for which the ONT error rate request is made.
broadcast-downstream enable			Enable broadcast traffic transmission
broadcast-downstream filter			Enable filtering of tagged broadcast traffic
description	<VALUE>	String, 127 characters max.	Set the ONT description

Command	Parameter	Value	Action
do			Global ROOT commands execution (Top view)
easy-mode			Activation of a preset configuration on ONT for easy-mode use
exit			Exit the configuration menu to a higher level
fec			Enable forward error correction (FEC)
multicast-downstream filter			Enabling tagged multicast traffic filtering
no			The use of a negative form of a command
omci-error-tolerant			Skip errors that occurred when configuring ONT via OMCI
password <VALUE>	<VALUE>	string, 10 characters max.	Set password for ONT. Default password is 0000000000
pppoe-sessions-unlimit			Disable the number of x-ray sessions limit for ONT
profile <VALUE1> <VALUE2>	<VALUE1>	management/ ports/ shaping/ voice/	Assign control/port/bandwidth limit/telephony profile
	<VALUE2>	Name of the created profile	
rf-port-state disabled			Disabling RF port on ONT via OMCI
rf-port-state enabled			Enabling RF port on ONT via OMCI
rf-port-state no-change			Do not change the RF port state on ONT via OMCI

Command	Parameter	Value	Action
serial <VALUE>	<VALUE>	Serial number in one of three formats: AAAAXXXXXXXXXX/ XXXXXXXXXXXXXXXXX X/ XX-XX-XX-XX-XX-XX- XX-XX, where A – latin uppercase letters, X – hexadecimal digits [0-F].	Set the ONT serial number
service <VALUE1> profile cross-connect <VALUE2> dba <VALUE3> [selective-tunnel uvid <VALUE4>] [utilization-enable] [custom cvid <VALUE5> svid <VALUE6> cos <VALUE7>]	<VALUE1>	0-28	Set the configuration parameters for a given ONT service (profile, individual parameters)
	<VALUE2> <VALUE3>	Name of the created profile	
	<VALUE4> <VALUE5> <VALUE6>	1-4094	
	<VALUE7>	0-7	
[no] shutdown			Disable/enable the current ONT
template <VALUE>	<VALUE>	Name of the created template	Assign the template to ONT
top			Go to the main menu (Top-view)
voice dtmf mode <VALUE>	<VALUE>	in-band/out-of-band	
voice fax-mode <VALUE>	<VALUE>	passthru/t38	Configuring Supply Services on ONT
voice features call-presentation splash-ring			
voice features call-presentation special-dialtone			
voice features call-presentation visual			

Command	Parameter	Value	Action
voice features call-presentation call-forward			
voice features call-progress 3way			
voice features call-progress transfer			
voice features call-progress hold			
voice features call-progress park			
voice features call-progress not- disturb			
voice features call-progress flash-on- emergency			
voice features call-progress emergency-hold			
voice features call-progress 6way			
voice features call-wait enable			
voice features call-wait call-id- announce			
voice features cid call-number			
voice features cid call-name			

Command	Parameter	Value	Action
voice features cid cid-block			
voice features cid cid-number			
voice features cid cid-name			
voice features cid anon-cid-block			
voice iphost static ip <VALUE1> mask <VALUE2> gateway <VALUE3>	<VALUE1>	IP address in XXX.XXX.XXX.XXX format	Setting a static address for the telephony interface
	<VALUE2>	mask in format of XXX.XXX.XXX.XXX or in decimal format	
	<VALUE3>	IP address in XXX.XXX.XXX.XXX format	
voice port <VALUE1> authentication validation <VALUE2>	<VALUE1>	0/1	Configuring additional telephony data
	<VALUE2>	disable/ md5/ basic	
voice port <VALUE1> authentication username <VALUE2>	<VALUE1>	0/1	
	<VALUE2>	string	
voice port <VALUE1> authentication password <VALUE2>	<VALUE1>	0/1	
	<VALUE2>	string	
voice port <VALUE1> authentication realm <VALUE2>	<VALUE1>	0/1	
	<VALUE2>	string	

Command	Parameter	Value	Action
voice port <VALUE1> number <VALUE2>	<VALUE1>	0/1	
	<VALUE2>	string	
voice port <VALUE1> physical gain <VALUE2> <VALUE3>	<VALUE1>	0/1	
	<VALUE2>	rx/tx	
	<VALUE3>	-12..6	
voice port <VALUE1> physical impedance <VALUE2>	<VALUE1>	0/1	
	<VALUE2>	600/ 900/ 750/ 820/ 1050	

1.2.3.2 ONT profiles configuration

To configure ONT profiles, you need to go to the corresponding ONT profile using the **profile <type> <name>** command, where <type> – type, <name> – profile name.

<pre>LTP-8X(config)# profile cross-connect gpon LTP-8X(config-cross-connect)(gpon)#</pre>			
Command	Parameter	Value	Action
Cross-connect profile			
?			Show list of available commands
bridge			Set the OMCI of the ONT interface to omci-bridge mode
bridge group	<VALUE>	1-255	Set the bridge group ID
description	<VALUE>	String, 127 characters max.	Set the profile description
do			Global ROOT commands execution (Top view)

exit			Exit the configuration menu to a higher level
inner vid <VALUE>	<VALUE>	1-4094	Set the inner VLAN ID
inner vid terminal-vlan <NAME>	<NAME>	The name of the terminal VLAN GPON network	Set the inner VLAN ID corresponding to terminal-vlan <NAME>
iphost <VALUE>	<VALUE>	0-65535	Assign eid to the omci interface of ONT running in iphost mode (management/voice).
mac-table-limit <VALUE>	<VALUE>	1..126	Set a limit on the number of MAC addresses on the service
name <NAME>	<NAME>		Set the profile name
no			The use of a negative form of a command
outer vid <VALUE>	<VALUE>	1-4094	Set the outer VLAN ID
outer vid terminal-vlan <NAME>	<NAME>		Set the outer VLAN ID corresponding to terminal-vlan <NAME>
outer cos <VALUE>	<VALUE>	0..7/ unused	Set priority for traffic with outer VLAN ID
outer cos terminal-vlan <NAME>	<NAME>		Set priority for traffic with external VLAN ID corresponding to terminal-vlan <NAME>
priority <VALUE>	<VALUE>	0-7	Set the 802.1p priority
tag-mode <VALUE>	<VALUE>	single-tagged/ double-tagged/ tunnel/ selective-tunnel	Set the operation mode of the interface to transmit dot1.q, 802.1q traffic, in tunneling or selective tunneling mode
top			Go to the main menu (Top-view)
type <VALUE>	<VALUE>	general/ iphost/ management/ multicast/ voice/	Set the type of service to be created on ONT
user vid <VALUE>	<VALUE>	1-4094/ untagged	User VLAN. With this VLAN ID traffic will come from the VEIP/UNI port of ONT.

user vid terminal-vlan <NAME>	<NAME>	The name of the terminal VLAN GPON network	Set the VLAN ID to send to the VEIP/UNI port of ONT corresponding to the terminal-vlan <NAME>
user cos <VALUE>	<VALUE>	0..7/ unused	Set priority for traffic with custom VLAN ID
user cos terminal-vlan <NAME>	<NAME>	The name of the terminal VLAN GPON network	Set priority for traffic with user VLAN ID corresponding to terminal-vlan <NAME>
Dba profile			
?			Show list of available commands
alloc size <VALUE>	<VALUE>	0-194400	Set the block size for periodic-allocation
alloc period <VALUE>	<VALUE>	0 1 2 4 8 16 32	Set the frequency of providing a time slot for periodic-allocation
allocation-scheme allocate-new-t-cont			For each ONT service, allocate a separate T-CONT
allocation-scheme share-t-cont			Use the same T-CONT allocation for all ONT services
bandwidth besteffort <VALUE>	<VALUE>	0-1244000	Set the maximum bandwidth size for transmission
bandwidth fixed <VALUE>	<VALUE>	0-1244000	Set fixed bandwidth size for transmission
bandwidth guaranteed <VALUE>	<VALUE>	0-1244000	Set guaranteed bandwidth size for transmission
description <VALUE>	<VALUE>	String, 127 characters max.	Set the profile description
do			Global ROOT commands execution (Top view)
exit			Exit the configuration menu to a higher level

name <NAME>	<NAME>	String with name	Set the profile name
no			The use of a negative form of a command
sla class <VALUE1> status- reporting <VALUE2>	<VALUE1>	cbr/ data/ periodic- allocation/ type5/ voip	Set T-Cont container type
	<VALUE2>	nsr/ type0/ type1	
top			Go to the main menu (Top-view)
Management profile			
?			Show list of available commands
description <VALUE>	<VALUE>	String, 127 characters max.	Set the profile description
do			Global ROOT commands execution (Top view)
name <NAME>	<NAME>		Set the profile name
exit			Exit the configuration menu to a higher level
no			The use of a negative form of a command
omci- configuration			Set the ONT interface TR configuration mode by OMCI
password	<VALUE>	string, 25 characters max.	Set the password that ONT will use to authenticate with the ACS server
top			Go to the main menu (Top-view)
url	<VALUE>	address in format of http://<ip- addr>:<port>.	Set the address and port of the ACS server. For example, http://192.168.200.1:9595/

username	<VALUE>	string, 25 characters max.	Set the username that ONT will use to authenticate with the ACS server
ont-config version <VALUE1> file <VALUE2>	<VALUE1>	version value	Set the version of the RG configuration, if it does not match, the configuration file will be uploaded (for ONT Ericsson only)
	<VALUE2>	file name	
Ports profile			
?			Show list of available commands
description	<VALUE>	String, 127 characters max.	Set the profile description
do			Global ROOT commands execution (Top view)
exit			Exit the configuration menu to a higher level
igmp immediate-leave			Quick disconnect from MC group. Do not send the last member query to the client.
igmp multicast dynamic-entry <VALUE> vid <VLAN ID> group <FIRST IP> <LAST IP>	<VALUE>	0-19	Configure the range of MC addresses for operation in the specified MC VLAN
	<VLAN ID>	0-4094	
	<FIRST IP>	IPv4 address	
	<LAST IP>	IPv4 address	
igmp query interval <VALUE>	<VALUE>	30-600	Set the periodicity of sending the query
igmp query last-member <VALUE>	<VALUE>	30-600	Set the query interval for the last subscriber.
igmp query response <VALUE>	<VALUE>	50-2000	Set the waiting time of report message on query
igmp mode <VALUE>	<VALUE>	proxy/ snooping/ spr	Set the device operation mode
igmp querier <VALUE>	<VALUE>	IP address in format of AAA.BBB.CCC.DDD	Set querier IP address to send IGMP query messages

igmp robustness <VALUE>	<VALUE>	1-10	Set the number of IGMP message exchange intervals when monitoring MC groups
igmp version <VALUE>	<VALUE>	1-3	Set the IGMP version
mld immediate-leave			Quick disconnect from MC group. Do not send the last member query to the client.
mld multicast dynamic-entry <VALUE> vid <VLAN ID> group <FIRST IP> <LAST IP>	<VALUE>	0-19	Configure the range of MC addresses for operation in the specified MC VLAN
	<VLAN ID>	0-4094	
	<FIRST IP>	IPv6 address	
	<LAST IP>	IPv6 address	
mld multicast dynamic-entry <VALUE> preview-length <VALUE>	<VALUE>	0-19	Set the preview time of the mld-group in seconds
	<VALUE>	0-65535	
mld multicast dynamic-entry <VALUE> preview-repeat-time <VALUE>	<VALUE>	0-19	Set the time between mld-group previews in seconds
	<VALUE>	0-65535	
mld multicast dynamic-entry <VALUE> preview-repeat-count <VALUE>	<VALUE>	0-19	Configure the number of previews of the mld group
	<VALUE>	0-65535	
mld multicast dynamic-entry <VALUE> preview-reset-time <VALUE>	<VALUE>	0-19	Set the hour when the preview count is reset.
	<VALUE>	0-24	
mld query interval <VALUE>	<VALUE>	30-600	Set the periodicity of sending the query
mld query interval last-member <VALUE>	<VALUE>	30-600	Set the query interval for the last subscriber.

mld query response <VALUE>	<VALUE>	50-2000	Set the waiting time of report message on query
mld mode <VALUE>	<VALUE>	proxy/ snooping/ spr	Set the device operation mode
mld querier <VALUE>	<VALUE>	IPv6 address in	Set querier IP address to send MLD query messages
mld robustness <VALUE>	<VALUE>	1-10	Set the number of MLD message exchange intervals when monitoring MC groups
mld version <VALUE>	<VALUE>	1-2	Set the MLD protocol version
multicast ip version <VALUE>	<VALUE>	ipv4/ipv6	Select the version of the IP protocol that provides multicast service
name <NAME>	<NAME>		Set the profile name
no			The use of a negative form of a command
port <VALUE> bridge group spanning-tree	<VALUE>	0/1/2/3	Enable STP support on the OMCI-bridge interface
port <VALUE 1> bridge group <VALUE 2>	<VALUE 1>	0/1/2/3	Set LAN port binding of ONT to VoIP interface or OMCI-bridge
	<VALUE 2>	0-255	
port <VALUE 1> duplex <VALUE 2>	<VALUE 1>	0/1/2/3	Set the duplex mode on the ONT LAN interface
	<VALUE 2>	auto/full/half	
port <VALUE 1> igmp downstream priority <VALUE 2>	<VALUE 1>	0/1/2/3	Set p-bit value for multicast traffic on the LAN interface
	<VALUE 2>	0-7	
port <VALUE 1> igmp downstream tag-control <VALUE 2>	<VALUE 1>	0/1/2/3	Set VLAN manipulation rules to transmit downstream multicast traffic on the LAN interface
	<VALUE 2>	add-tag/ pass/ remove-tag/ replace-tag/ replace-vid	

port <VALUE 1> igmp downstream vid <VALUE 2>	<VALUE 1>	0/1/2/3	Set p-bit value for multicast traffic on the LAN interface
	<VALUE 2>	1-4094	
port <VALUE 1> igmp max groups <VALUE 2>	<VALUE 1>	0/1/2/3	Set a limit on the maximum number of multicast groups transmitted to the LAN interface
	<VALUE 2>	0-65535	
port <VALUE 1> igmp max bandwidth <VALUE2>	<VALUE 1>	0/1/2/3	Set a limit on the maximum channel bandwidth for multicast traffic on the LAN interface
	<VALUE 2>	0-4294967295	
port <VALUE 1> igmp upstream priority <VALUE 2>	<VALUE 1>	0/1/2/3	Set p-bit value for upstream IGMP traffic received from LAN interface
	<VALUE 2>	0-7	
port <VALUE 1> igmp upstream tag-control <VALUE 2>	<VALUE 1>	0/1/2/3	Set VLAN manipulation rules to transmit upstream IGMP traffic from the LAN interface
	<VALUE 2>	add-tag/ pass/ replace-tag/ replace-vid	
port <VALUE 1> igmp upstream vid <VALUE 2>	<VALUE 1>	0/1/2/3	Set p-bit value for upstream IGMP traffic received from LAN interface
	<VALUE 2>	1-4094	
port <VALUE> multicast	<VALUE>	0/1/2/3	Enable multicast traffic processing on ONT LAN interface
port <VALUE 1> shaper downstream committed-rate <VALUE 2>	<VALUE 1>	0/1/2/3	Set a baud rate limit for traffic transmitted from the ONT LAN interface
	<VALUE 2>	0-2488320	
port <VALUE 1> shaper downstream peak-rate <VALUE 2>	<VALUE 1>	0/1/2/3	Set a baud rate limit for traffic received from the ONT LAN interface
	<VALUE 2>	0-2488320	
port <VALUE 1> shaper upstream committed-rate <VALUE 2>	<VALUE 1>	0/1/2/3	Set a baud rate limit for traffic received from the ONT LAN interface
	<VALUE 2>	0-1244160	

port <VALUE 1> shaper upstream peak-rate <VALUE 2>	<VALUE 1>	0/1/2/3	Set a baud rate limit for traffic received from the ONT LAN interface
	<VALUE 2>	0-1244160	
port <VALUE 1> speed <VALUE 2>	<VALUE 1>	0/1/2/3	Set the speed for the ONT LAN interface
	<VALUE 2>	auto/10/100/1000	
top			Go to the main menu (Top-view)
veip downstream priority	<VALUE>	0-7	Set p-bit value for downstream multicast traffic on the VEIP interface
veip downstream tag-control	<VALUE>	add-tag/ pass/ remove-tag/ replace-tag/ replace-vid	Set VLAN manipulation rules to transmit downstream multicast traffic on the VEIP interface
veip downstream vid	<VALUE>	1-4094	Set VLAN ID value for downstream multicast traffic on the VEIP interface
veip max groups	<VALUE>	0-65535	Set a limit on the maximum number of multicast groups
veip max bandwidth	<VALUE>	0-4294967295	Set a limit on the maximum channel bandwidth for multicast traffic
veip multicast			Enable multicast traffic processing
veip upstream priority	<VALUE>	0-7	Set p-bit value for upstream multicast traffic on the VEIP interface
veip upstream tag-control	<VALUE>	add-tag/ pass/ replace-tag/ replace-vid	Set VLAN manipulation rules to transmit upstream multicast traffic on the VEIP interface
veip upstream vid	<VALUE>	1-4094	Set VLAN ID value for upstream multicast traffic on the VEIP interface
Shaping profile			
?			Show list of available commands

description <VALUE>	<VALUE>	String, 127 characters max.	Set the profile description
do			Global ROOT commands execution (Top view)
downstream one- policer			Use policer 0 as a common one for all services.
downstream policer <VALUE> enable	<VALUE>	0-31	Enable specified policer
downstream policer <VALUE1> peak-rate <VALUE2>	<VALUE1>	0-31	Set downstream peak-rate for the specified policer
	<VALUE2>	0-2488320	
exit			Exit the configuration menu to a higher level
name <NAME>	<NAME>		Set the profile name
no			The use of a negative form of a command
top			Go to the main menu (Top-view)
upstream <TYPE> <ID> committed- rate	<TYPE>	broadcast/ multicast/ unicast	Set upstream committed-rate for i-th service
	<ID>	0-7	
upstream <TYPE> <ID> peak-rate	<TYPE>	broadcast/ multicast/ unicast	Set upstream peak-rate for i-th service
	<ID>	0-7	
upstream <TYPE> <ID> enable	<TYPE>	broadcast/ multicast/ unicast	Enable upstream shaper for i-th service
	<ID>	0-7	
upstream <TYPE> storm-control rate-limit <PPS>	<TYPE>	broadcast / multicast / unicast	Configure the storm control threshold for the specified traffic type
	<PPS>	1-1000000	

upstream <TYPE> storm-control shutdown	<TYPE>	broadcast / multicast	Block ONT when a storm of the specified type is detected
upstream <TYPE> storm-control logging	<TYPE>	broadcast / multicast	Log the event when a storm of the specified type occurs
Voice profile			
?			Show list of available commands
description <VALUE>	<VALUE>	String, 127 characters max.	Set the profile description
do			Global ROOT commands execution (Top view)
exit			Exit the configuration menu to a higher level
name			Set the profile name
no			The use of a negative form of a command
ont-config version <VALUE1> file <VALUE2>	<VALUE1>	version value	Set the version of the voice configuration, if it does not match, the configuration file will be uploaded (for ONT Ericsson only)
	<VALUE2>	file name	
sip domain <VALUE>	<VALUE>		Set the sip domain
sip proxy <VALUE>	<VALUE>		Set the sip proxy
sip outbound- proxy <VALUE>	<VALUE>		Set the sip outbound-proxy
sip port <VALUE>	<VALUE>		Set the sip port
sip proto <VALUE>	<VALUE>		Set the sip protocol
sip register expire <VALUE>	<VALUE>		Set the SIP registration expiration time
top			Go to the main menu (Top-view)

1.2.3.3 GPON interface configuration

To configure GPON interfaces, go in the section **Configure view** to the corresponding interface using the **interface gpon-port <ID>** command, where <ID> is the identifier of the GPON-PORT interface.

<pre>LTP-8X(config)# interface gpon-port 0 LTP-8X (config)(if-gpon-0)#</pre>			
Command	Parameter	Value	Action
do			Global ROOT commands execution (Top view)
exit			Exit the configuration menu to a higher level
fec			Enable FEC downstream error correction
mac-migration			Enable MAC address migration for this GPON-PORT
no			The use of a negative form of a command
profile address-table <VALUE>	<VALUE>	Profile name	Assign an address-table profile to a channel
profile vlan <VALUE>	<VALUE>	Profile name	Assign a VLAN profile to a channel
range <VALUE>	<VALUE>	20/40/60	Set the maximum optical line length in km (fixed values).
shutdown			Disable the interface
top			Go to the main menu (Top-view)
unknown-multicast-forward enable			Allow unknown-multicast traffic to pass through the interface
Configuring the channel optical parameters			
optics delay double burst <VALUE>	<VALUE>	0..65535	Configuring the channel optical parameters. These settings are not required for most SFP models and may result in complete or partial loss of line availability.

optics delay single burst <VALUE>	<VALUE>	0..65535	
optics laser-reset polarity <VALUE>	<VALUE>	high/low	
optics preamble correlation-length <VALUE>	<VALUE>	0-255	
optics preamble delimiter byte1 <VALUE>	<VALUE>	0-255	
optics preamble delimiter byte2 <VALUE>	<VALUE>	0-255	
optics preamble delimiter byte3 <VALUE>	<VALUE>	0-255	
optics preamble delimiter size <VALUE>	<VALUE>	16/20/24	
optics preamble guard-time-data- mode <VALUE>	<VALUE>	0-255	
optics preamble pattern type3 <VALUE>	<VALUE>	0-255	
optics preamble size type1-data <VALUE>	<VALUE>	0-255	
optics preamble size type2-data <VALUE>	<VALUE>	0-255	
optics preamble size type3-data <VALUE>	<VALUE>	0-255	
optics preamble snr-rng-length <VALUE>	<VALUE>	0-255	

optics reset data burst bcdr d1 <VALUE>	<VALUE>	0-255	
optics reset data burst bcdr d2 <VALUE>	<VALUE>	0-255	
optics reset data burst laser d1 <VALUE>	<VALUE>	0-255	
optics reset data burst laser d2 <VALUE>	<VALUE>	0-255	
optics reset double bcdr d3 <VALUE>	<VALUE>	0-255	
optics reset double bcdr d4 <VALUE>	<VALUE>	0-255	
optics reset double laser d3 <VALUE>	<VALUE>	0-255	
optics reset double laser d4 <VALUE>	<VALUE>	0-255	
optics reset rng burst bcdr d1 <VALUE>	<VALUE>	0-255	
optics reset rng burst bcdr d2 <VALUE>	<VALUE>	0-255	
optics reset rng burst laser d1 <VALUE>	<VALUE>	0-255	
optics reset rng burst laser d2 <VALUE>	<VALUE>	0-255	
optics reset single bcdr d1 <VALUE>	<VALUE>	0-255	

optics reset single bcdr d2 <VALUE>	<VALUE>	0-255	
optics reset single laser d1 <VALUE>	<VALUE>	0-255	
optics reset single laser d2 <VALUE>	<VALUE>	0-255	
optics reset snr burst bcdr d1 <VALUE>	<VALUE>	0-255	
optics reset snr burst bcdr d2 <VALUE>	<VALUE>	0-255	
optics reset snr burst laser d1 <VALUE>	<VALUE>	0-255	
optics reset snr burst laser d2 <VALUE>	<VALUE>	0-255	
optics reset type normal <VALUE>	<VALUE>	end-burst-based/ start-burst-based	
optics reset type snr ranging <VALUE>	<VALUE>	delay-based/ double-reset/ single-reset	
optics rng burst <VALUE>	<VALUE>	0-65535	
optics rng delimiter <VALUE>	<VALUE>	0-65535	
optics rng preamble <VALUE>	<VALUE>	0-65535	
optics rng timer <VALUE>	<VALUE>	0-65535	
optics signal- detect hold- normal			

optics signal-detect hold-snr-ranging			
optics signal-detect source bcdr-lock			
optics signal-detect source bcdr-sd			
optics signal-detect source laser-sd			
optics snr burst <VALUE>	<VALUE>	0-65535	
optics snr delimiter <VALUE>	<VALUE>	0-65535	
optics snr preamble <VALUE>	<VALUE>	0-65535	
optics snr timer <VALUE>	<VALUE>	0-65535	
optics use-custom			
optics voltage-if-mode cml			
optics voltage-if-mode lypecl			
optics voltage-if-mode undefined			

1.2.3.4 GPON and OLT parameters configuration

GPON interfaces are configured in the **Configure view** section.

```
LTP-8X(config)#
```

Command	Parameter	Value	Action
gpon network svlan-ethertype <VALUE>	<VALUE>	0x0000-0xFFFF	Set the ethertype for outer-vid
gpon network mac-age-time <VALUE>	<VALUE>	14-86400	Set the lifetime of the MAC address table, in seconds
gpon network cvlan-ethertype <VALUE>	<VALUE>	0x0000-0xFFFF	Set the ethertype for inner-vid
gpon network terminal-vlan <NAME> vid <VLAN> cos <COS>	<NAME>	terminal vlan name	Setting terminal vlan parameters
	<VLAN>	1-4094	
	<COS>	0-7/unused	
gpon olt authentication <VALUE>	<VALUE>	password/ serial/ both	ONT authentication mode. By password, by serial number, by combination of serial number and password.
gpon olt auto- activation ont default template <VALUE>	<VALUE>	template name	Specify the default setting for ONT autoactivation
gpon olt auto- activation ont enable			enable ONT autoactivation mode
gpon olt auto- activation ont type <VALUE> template <NAME> [gpon-port <CHANNEL>]	<VALUE>	ONT type	Specify the template used for auto activation for a specific ONT model
	<NAME>	template name	When gpon-port is specified, the template is assigned only to the specified GPON port
	<CHANNEL>	LTP-8X: LTP-4X: 0..7 0..3 Range and/or list of GPON interfaces (e.g. 0 or 1-3,5-7)	
gpon olt block- duplicated-mac			Lock ONT when MAC spoofing is detected

Command	Parameter	Value	Action
gpon olt broadcast-gem-port <VALUE>	<VALUE>	0-4095	GEM port number for broadcast traffic
gpon olt dhcpra-shaper <VALUE>	<VALUE>	0-100	Set the maximum number of DHCP messages per second (for each ONT)
gpon olt disable-rogue-ont			Enable flood ONT detection mode
gpon olt encryption			Enable GPON traffic encryption
gpon olt encryption key-update <VALUE>	<VALUE>	0-65535	Set the encryption key change period
gpon olt model <VALUE>	<VALUE>	1/2/3	Set the datapath construction model
gpon olt multicast-gem-port <VALUE>	<VALUE>	0-4095	Set the GEM port number for multicast traffic
gpon olt ont-block-time <VALUE>	<VALUE>	1-2147483647	Set ONT lockout time
gpon olt password-in-trap			Enable PLOAM password sending mode in ONT detection trawls
gpon olt profile pppoe-ia <VALUE>	<VALUE>	profile name, string	Set the PPP IA default profile
gpon olt profile dhcp-ra <NAME> [vid <VLAN>]	<NAME>	profile name, string	Set the default DHCP RA profile.
	<VLAN>	1-4094	
gpon olt profile dhcpv6-ra <NAME> [vid <VLAN>]	<NAME>	profile name, string	Set the default DHCP v6 RA profile.
	<VLAN>	1-4094	
gpon olt redundancy gpon-port <CHANNEL PAIR>	<CHANNEL PAIR>	Lists the pairs of GPON interfaces (e.g., 0-1 or 2-3,4-5, 6-7)	Enable redundancy for a pair of GPON ports

Command	Parameter	Value	Action
gpon olt unactivated-timeout <VALUE>	<VALUE>	5-300	Set the storage time for the serial number of an inactive ONT
gpon olt video-power-monitoring enable			Enable CaTV video signal level monitoring

1.2.3.5 OLT profiles configuration

To configure OLT profiles, you need to go to the corresponding OLT profile using the **profile <type> <name>** command, where <type> – type, <name> – profile name.

```
LTP-8X(config)# profile address-table gpon
LTP-8X(config-address-table)("gpon">#
```

Command	Parameter	Value	Action
ADDRESS-TABLE profile			
?			Show list of available commands
description <VALUE>	<VALUE>	String, 127 characters max.	Set the profile description
discard-pid-unlearned-sa			Throw downstream packets with unknown DA
do			Global ROOT commands execution (Top view)
exit			Exit the configuration menu to a higher level
name <VALUE>	<VALUE>		Set the profile name
no			The use of a negative form of a command
remove-when-aged			Removal of old records from the MAC table, after the MAC address has expired
s-vlan <VALUE>	<VALUE>	1-4094	Set unique configuration parameters for the specified VLAN ID
top			Go to the main menu (Top-view)

DHCP-RA profile			
?			Show list of available commands
description <VALUE>	<VALUE>	String, 127 characters max.	Set the profile description
do			Global ROOT commands execution (Top view)
dos-block packet-limit <VALUE>	<VALUE>	10-1000	Set the intensity threshold for DHCP requests per second
dos-block block-time <VALUE>	<VALUE>	30-3600	Set the lock duration in seconds
enable			Enable the DHCP agent
exit			Exit the configuration menu to a higher level
name <VALUE>	<VALUE>		Set the profile name
no			The use of a negative form of a command
ont-sn-format <VALUE>	<VALUE>	literal/ numerical/ section-numerical	Set the ONT serial number transmission format
overwrite-option82 circuit-id <VALUE>	<VALUE>	string, 240 characters max. represented as PARAM_name1=PARAM_1... PARAM_name2=PARAM_2... PARAM_name3=PARAM_N Where parameters may be the FOLLOWING FORMATS: %HOSTNAME% — LTP device name; %MNGIP% — management interface IP address; %GPON-PORT% — identifier of the	Set Circuit Id field format for Option82

GPON interface;

%ONTID% – ONT identifier, assigned by administrator;

%PONSERIAL% – ONT serial number;

%GEMID% – identifier of the GEM port;

%VLAN0% – outer VLAN ID;

%VLAN1% – inner VLAN ID;

%MAC% – user device MAC address;

%OLTMAC% – LTP MAC address;

%OPT60% – substitute data from option 60 DHCP packet;

%OPT82_CID% – substitute Circuit ID from option 82 DHCP packet;

%OPT82_RID% – substitute Remote ID from option 82 DHCP packet;

%DESCR% – substitute the first 20 characters of ONT Description.

The separators between parameters may be any characters, but each parameter **FORMAT must be enclosed in '%'**.

E.g.
 host=%HOSTNAME%,ont=%ONTID%,

overwrite-option82 remote-id <VALUE>	<VALUE>	<p>view</p> <p>PARAM_name1=PARAM_1...</p> <p>PARAM_name2=PARAM_2...</p> <p>PARAM_name3=PARAM_N</p> <p>Where parameters may be the FOLLOWING FORMATS:</p> <p>%HOSTNAME% – LTP device name;</p> <p>%MNGIP% – management interface IP address;</p> <p>%GPON-PORT% – identifier of the GPON interface;</p> <p>%ONTID% – ONT identifier, assigned by administrator;</p> <p>%PONSERIAL% – ONT serial number;</p> <p>%GEMID% – identifier of the GEM port;</p> <p>%VLAN0% – outer VLAN ID;</p> <p>%VLAN1% – inner VLAN ID;</p> <p>%MAC% – user device MAC address;</p> <p>%OLTMAC% – LTP MAC address;</p> <p>%OPT60% – substitute data from option 60 DHCP packet;</p> <p>%OPT82_CID% – substitute Circuit ID from option 82 DHCP packet;</p> <p>%OPT82_RID% – substitute Remote ID from option 82 DHCP packet;</p> <p>%DESCR% – substitute the first 20 characters of ONT Description.</p>	Set Remote Id field format for Option82
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		<p>The separators between parameters may be any characters, but each parameter FORMAT must be enclosed in '%'. </p> <p>E.g. host=%HOSTNAME%,ont=%ONTID%,</p>	
top			Go to the main menu (Top-view)
trusted server			Enable primary DHCP server
trusted primary <IP>	<IP>	IP address in format of AAA.BBB.CCC.DDD	Set the address of the primary DHCP server
trusted secondary <IP>	<IP>	IP address in format of AAA.BBB.CCC.DDD	Set the address of the secondary DHCP server
trusted timeout <VALUE>	<VALUE>	200-1500	Set the time to wait for a response from the DHCP server
PPPoE-IA profile			
?			Show list of available commands
description <VALUE>	<VALUE>	String, 127 characters max.	Set the profile description
do			Global ROOT commands execution (Top view)
dos-block enable			Activate lock mode
dos-block packet-limit <VALUE>	<VALUE>	10-1000	Set the intensity threshold for DHCP requests per second
dos-block block-time <VALUE>	<VALUE>	30-3600	Set the lock duration in seconds
enable			Enable PPPoE Intermediate Agent
exit			Exit the configuration menu to a higher level

format circuit-id <VALUE>	<VALUE>	<p>string, 240 characters max. represented as PARAM_name1=PARAM_1... PARAM_name2=PARAM_2... PARAM_name3=PARAM_N Where parameters may be the FOLLOWING FORMATS:</p> <p>%HOSTNAME% – LTP device name;</p> <p>%MNGIP% – management interface IP address;</p> <p>%GPON-PORT% – GPON interface identifier;</p> <p>%ONTID% – ONT identifier, assigned by administrator;</p> <p>%PONSERIAL% – ONT serial number;</p> <p>%GEMID% – GEM port identifier;</p> <p>%VLAN0% – outer VLAN ID;</p> <p>%VLAN1% – inner VLAN ID;</p> <p>%MAC% – user device MAC address;</p> <p>%OLTMAC% – LTP MAC address;</p> <p>%DESCR% – Substitute the first 20 characters of ONT Description.</p> <p>The separators between parameters may be any characters, but each parameter FORMAT must be enclosed in '%'.</p> <p>E.g. host=%HOSTNAME%,ont=%ONTID%,</p>	Set Circuit Id field format for VendorSpecificTag
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format remote-id <VALUE>	<VALUE>	<p>string of up to 240 characters in the form of</p> <p>PARAM_name1=PARAM_1...</p> <p>PARAM_name2=PARAM_2...</p> <p>PARAM_name3=PARAM_N</p> <p>Where parameters may be the FOLLOWING FORMATS:</p> <p>%HOSTNAME% – LTP device name;</p> <p>%MNGIP% – management interface IP address;</p> <p>%GPON-PORT% – GPON interface identifier;</p> <p>%ONTID% – ONT identifier, assigned by administrator;</p> <p>%PONSERIAL% – ONT serial number;</p> <p>%GEMID% – GEM port identifier;</p> <p>%VLAN0% – outer VLAN ID;</p> <p>%VLAN1% – inner VLAN ID;</p> <p>%MAC% – user device MAC address;</p> <p>%OLTMAC% – LTP MAC address;</p> <p>%DESCR% – Substitute the first 20 characters of ONT Description.</p> <p>The separators between parameters may be any characters, but each parameter FORMAT must be enclosed in '%'. E.g. host=%HOSTNAME%,ont=%ONTID%,</p>	Set Remote Id field format for VendorSpecificTag
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name <VALUE>	<VALUE>		Set the profile name
no			The use of a negative form of a command
ont-sn-format <VALUE>	<VALUE>	literal/ numerical/ section-numerical	Set the ONT serial number transmission format
sessions-limit <VALUE>	<VALUE>	0-8192	Set the maximum number of PPPoE sessions for the PPPoE Intermediate Agent
sessions-limit per-user <VALUE>	<VALUE>	0-4 unlimited	Set the maximum number of PPPoE sessions for one ONT or disable user restriction
sessions- monitoring enable			Enable session status tracking. To disable, use the no form.
top			Go to the main menu (Top-view)
vendor-id <VALUE>	<VALUE>	0x000000..0xFFFFFFFF	Set the manufacturer's ID
DHCPv6-RA profile			
?			Show list of available commands
add-interface-id <VALUE>	<VALUE>	string, 240 characters max. represented as PARAM_name1=PARAM _1... PARAM_name2=PARAM _2... PARAM_name3=PARAM _N Where parameters may be the FOLLOWING FORMATS: %HOSTNAME% — LTP device name;	Set the interface-id field format

		<p>%MNGIP% – management interface IP address;</p> <p>%GPON-PORT% – GPON interface identifier;</p> <p>%ONTID% – ONT identifier, assigned by administrator;</p> <p>%PONSERIAL% – serial number of the device from which the DHCPv6 package come;</p> <p>%GEMID% – identifier of the GEM port;</p> <p>%VLAN0% – outer VLAN ID;</p> <p>%VLAN1% – inner VLAN ID;</p> <p>%MAC% – user device MAC address;</p> <p>%OLTMAC% – LTP MAC address;</p> <p>%DESCR% – substitute the first 20 characters of ONT Description.</p> <p>The separators between parameters may be any characters, but each parameter FORMAT must be enclosed in '%'. For example, host=%HOSTNAME%,ont=%ONTID%</p>	
add-remote-id <VALUE>	<VALUE>	<p>string, 240 characters max. represented as</p> <p>PARAM_name1=PARAM_1...</p>	Set the remote-id field format

		<div><div>PARAM_name2=PARAM _2...</div><div>PARAM_name3=PARAM _N</div><div>Where parameters may be the FOLLOWING FORMATS:</div><div>%HOSTNAME% – LTP device name;</div><div>%MNGIP% – management interface IP address;</div><div>%GPON-PORT% – GPON interface identifier;</div><div>%ONTID% – ONT identifier, assigned by administrator;</div><div>%PONSERIAL% – ONT serial number;</div><div>%GEMID% – GEM port identifier;</div><div>%VLAN0% – outer VLAN ID;</div><div>%VLAN1% – inner VLAN ID;</div><div>%MAC% – user device MAC address;</div><div>%OLTMAC% – LTP MAC address;</div><div>%DESCR% – Substitute the first 20 characters of ONT Description.</div><div>The separators between parameters may be any characters, but each parameter FORMAT must be enclosed in '%'. E.g. host=%HOSTNAME%,ont =%ONTID%,</div></div>	
add-suboptions			Enable dhcpv6-ra option substitution

description <VALUE>	<VALUE>	String, 127 characters max.	Set the profile description
do			Global ROOT commands execution (Top view)
dos-block packet-limit	<VALUE>	10-1000	Set the intensity threshold for DHCP requests per second
dos-block block-time	<VALUE>	30-3600	Set the lock duration in seconds
enable			Enable DHCPv6 agent
exit			Exit the configuration menu to a higher level
name <VALUE>	<VALUE>		Set the profile name
no			The use of a negative form of a command
ont-sn-format <VALUE>	<VALUE>	literal/ numerical/ section-numerical	Set the ONT serial number transmission format
top			Go to the main menu (Top-view)
trusted server			Enable primary DHCPv6 server
trusted primary <IP>	<IP>	IPv6 address n format of XXXX:XXXX:XXXX:XXXX: XXXX:XXXX:XXXX:XXXX	Set the address of the primary DHCPv6 server
trusted secondary <IP>	<IP>	IPv6 address n format of XXXX:XXXX:XXXX:XXXX: XXXX:XXXX:XXXX:XXXX	Set the address of the secondary DHCPv6 server
trusted timeout <VALUE>	<VALUE>	200-1500	Set the time to wait for a response from the DHCPv6 server
Vlan profile			
?			Show list of available commands
description <VALUE>	<VALUE>	String, 127 characters max.	Set the profile description
do			Global ROOT commands execution (Top view)

downlink extended cvlan-type <VALUE>	<VALUE>	0x0000-0xFFFF	Optional downstream ethertype for C-VLAN detection
downlink extended svlan-type <VALUE>	<VALUE>	0x0000-0xFFFF	Optional downstream ethertype for S-VLAN detection
downlink insertion cvlan-ethertype <VALUE>	<VALUE>	0x0000-0xFFFF	Downstream ethertype to form a C-VLAN
downlink insertion svlan-ethertype <VALUE>	<VALUE>	0x0000-0xFFFF	Downstream ethertype to form an S-VLAN
exit			Exit the configuration menu to a higher level
name <VALUE>	<VALUE>		Set the profile name
no			The use of a negative form of a command
top			Go to the main menu (Top-view)
uplink extended cvlan-type <VALUE>	<VALUE>	0x0000-0xFFFF	Optional upstream ethertype for C-VLAN detection
uplink extended svlan-type <VALUE>	<VALUE>	0x0000-0xFFFF	Optional upstream ethertype for S-VLAN detection
uplink insertion cvlan-ethertype <VALUE>	<VALUE>	0x0000-0xFFFF	Upstream ethertype to form a C-VLAN
uplink insertion svlan-ethertype <VALUE>	<VALUE>	0x0000-0xFFFF	Upstream ethertype to form an S-VLAN

1.2.3.6 ONT template configuration

To proceed to configuring the ONT template, execute the **template <name>** command in the **config view** mode, where <name> is the ONT Template name.

```
LTP-8X (config)# template gpon
LTP-8X (ont-template) ("gpon")#
```

Command	Parameter	Value	Action
ber interval <VALUE>	<VALUE>	0-4294967294/ none	The number of packets on which ONT calculates the error rate. At the end of the interval, ONT sends a REI message
ber update-period <VALUE>	<VALUE>	1-600000	The interval in seconds that defines the period for which the ONT error rate request is made.
broadcast-downstream enable			Enable broadcast traffic transmission
broadcast-downstream filter			Enable filtering of tagged broadcast traffic
define ber interval			Add ber-interval setting to the template
define ber update-period			Add ber update period setting to the template
define broadcast-downstream enable			Add setting of downstream broadcast packets via dedicated GEM port to the template
define broadcast-downstream filter			Add filtering of tagged broadcast traffic to the template
define multicast-downstream filter			Add filtering of tagged multicast traffic to the template
define profile <VALUE>	<VALUE>	management/ ports/ shaping	Add ONT configuration profiles to the template
define service <VALUE 1> profile <VALUE 2>	<VALUE 1> <VALUE 2>	0-7 dba/ cross-connect	Add setting of dba and cross-connect profiles to the template
define password			Add a GPON password setting
define fec			Add a fec configuration setting

Command	Parameter	Value	Action
define easy-mode			Add a preset configuration activation setting on ONT for easy-mode use
define omci-error-tolerant			Add a handling configuration setting for omci errors
define rf-port-state			add an rf-port configuration
description <VALUE>	<VALUE>	String, 127 characters max.	Set the profile description
do			Global ROOT commands execution (Top view)
easy-mode			Activation of a preset configuration on ONT for easy-mode use
exit			Exit the configuration menu to a higher level
fec			Enable error correction mode for upstream transmission direction from ONT
multicast-downstream filter			Enabling tagged multicast traffic filtering
name <VALUE>	<VALUE>		Set the profile name
no			The use of a negative form of a command
omci-error-tolerant			Disable the processing of errors arising during ONT configuration
password			Set the PLOAM password for ONT. Default password is 0000000000
profile <VALUE>	<VALUE>	management/ ports/ shaping	Assign control profile/ports/bandwidth limits skipping
rf-port-state disabled			RF port shutdown
rf-port-state enabled			Enable RF port

Command	Parameter	Value	Action
rf-port-state no-change			Do not change the RF port state
service <VALUE 1> profile <VALUE 2> <VALUE 3>	<VALUE1>	0-7	Set the configuration parameters for a given ONT service (profile, individual parameters)
	<VALUE2>	dba/ cross-connect	
	<VALUE 3>	profile name	
undefine ber interval			Remove the ber-interval setting from the template
undefine ber update-period			Remove the ber update period setting from the template
undefine broadcast-downstream enable			Remove the setting of downstream broadcast packets via dedicated GEM port from the template
undefine broadcast-downstream filter			Remove the filtering of tagged broadcast traffic from the template
undefine multicast-downstream filter			Remove the filtering of tagged multicast traffic from the template
undefine profile <VALUE>	<VALUE>	management/ ports/ shaping	Remove the setting of ONT configuration profiles from the template
undefine service <VALUE 1> profile <VALUE 2>	<VALUE 1>	0-7	Remove the setting of dba and cross-connect profiles from the template
	<VALUE 2>	dba/ cross-connect	
undefine password			Remove the PLOAM password setting for ONT.
undefine fec			Remove a fec configuration setting
undefine easy-mode			Remove a preset configuration activation setting on ONT for easy-mode use

Command	Parameter	Value	Action
undefine omci-error-tolerant			Remove a handling configuration setting for omci errors
undefine rf-port-state			Remove an rf-port configuration

2 TECHNICAL SUPPORT

For technical assistance in issues related to handling Eltex Ltd. equipment, please, address to Service Center of the company:

Feedback form on the website: <https://eltex-co.com/support/>

Servicedesk: <https://servicedesk.eltex-co.ru>

Visit Eltex official website to get the relevant technical documentation and software, benefit from our knowledge base, send us online request or consult a Service Centre Specialist in our technical forum.

Official website: <https://eltex-co.com/>

Technical forum: <https://eltex-co.ru/forum>

Knowledge base: <https://docs.eltex-co.ru/display/EKB/Eltex+Knowledge+Base>

Download center: <https://eltex-co.com/support/downloads>

3 The list of changes

Document Version	Issue Date	Revisions
Version 3.9	10.12.2020	Added: <ul style="list-style-type: none"> • GPON ports redundancy configuration; • Command to view the list of ONTs on the backup channel; • CaTV signal level acquisition configuration. • Configuration of VLAN filtering disable for multicast GEM. • Configuration of the forced activation of the gpon-port, without considering the configuration; • Command to remove dynamic entries from the DHCP Snooping table; • Configuration of ONT auto-activation by GPON ports. • Configuration of alarms for exceeding the CaTV thresholds.
Version 3.8	20.05.2020	Synchronization with firmware version 3.38.2
Version 3.7	07.02.2020	Synchronization with firmware version 3.38.1
Version 3.6	13.12.2019	Synchronization with firmware version 3.38.0
Version 3.5	08.10.2019	Synchronization with firmware version 3.36.2
Version 3.4	07.02.2019	Added: <ul style="list-style-type: none"> • Configuring multicast traffic between ONTs within the same tree; • Customizing voice profiles (for ONT Ericsson, Atron, CIG); • Configuring DHCPD issuing static routes to the network on the ONT TR-interface (option 121).

Document Version	Issue Date	Revisions
Version 3.3	03.07.2018	<p>Changes:</p> <ul style="list-style-type: none"> • The format of the command for copying files from the TFTP/HTTP/FTP server to the device flash memory was updated; • Format of the OLT chip reconfiguration command has been updated; • A command to view a list of connected ONTs with a configuration; • Format of the command to set the ONT auto-renew rule has been updated; • The command to set the list of IP addresses allowed for access; • The command to set the addresses for sending the traps; • MAC table commands have been updated; • The command for viewing the state of ports; • The command to set the range of MC addresses to work in the specified MC VLAN; • The command of setting the Remote Id field format for VendorSpecificTag. <p>Added:</p> <ul style="list-style-type: none"> • Commands to download, delete and view the OLT license file; • Commands to enable and disable ONT autodiscovery on the selected GPON-PORT interface; • Commands to view DHCP-snooping and PPPoE tables for the specified GPON-PORT interfaces; • The command to view the counters of the GPON-PORT interface; • The command to view the deployed ONT configuration; • The command to view a list of connected ONTs with a configuration filtered by a specific value; • The command to view the list of connected ONTs with/without configuration, but not currently connected, filtered by a specific value; • The command to view recycling meters by service for the specified ONT; • The command to view the routing settings; • The VLAN control installation command for access from alternative management-interfaces; • The command to enable automatic reconfiguration of GPON-PORT or ONT when reconfiguration is changed; • The command to set the TACACS server port; • The command of viewing the parameters of MLD groups; • The commands to work with the LLDP protocol; • Isolation group configuration mode commands; • Ip access-list extended configuration mode commands; • Class-map configuration mode commands; • Policy-map configuration mode commands; • Erps configuration mode commands.

Document Version	Issue Date	Revisions
Version 3.2	11.10.2017	<p>Changes:</p> <ul style="list-style-type: none"> • The command to view the list of requested IGMP groups on the GPON interface; • The command to view the list of users and their privileges; • Commands to view DHCP-snooping tables and active PPPoE sessions; • Fan control commands; • WRR configuration commands; • The commands to configure rate-limit on switch. <p>Added:</p> <ul style="list-style-type: none"> • Commands to view active users and a list of recent CLI OLT connections; • The commands to disable IPSG in vlan; • IPSG database configuration commands; • Commands for working with LLDP; • Commands for configuring storm-control on OLT chip; • Commands to add SNMPv3 users; • The command to enable command logging; • ACL configuration commands; • Commands to configure traffic classes; • Policy configuration commands; • The command to configure additional RADIUS servers; • The reset button configuration command; • The command of setting the port description in switch; • Mac-notification configuration commands.
Version 3.1	13.12.2016	<p>Added:</p> <ul style="list-style-type: none"> • Commands to configure additional PPPoE-IA modes; • Updated format of commands for configuring the configuration autosave; • AAA configuration commands have been updated, radius has been added; • Added commands to use easy-config.
Version 3.0	11.07.2016	<p>Added:</p> <ul style="list-style-type: none"> • IP Source Guard configuration commands; • Service configuration over IPv6 commands; • Commands for configuring DHCP Relay (broadcast-unicast relay); • The command of the list of active DHCP leases; • The command to upload the license file; • The command to output the installed license; • The OLT firmware update command has been changed.
Version 2.0	17.08.2015	Second issue.
Version 1.0	27.11.2014	First issue