TABLE OF CONTENTS

Figures

Tables

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REVISION HISTORY

REVISION	DESCRIPTION	DATE
1.0	First Release	Apr 09
1.1	Added note in Installation section	Aug 13

Information contained in this manual is believed to be accurate and reliable. However, Evertz assumes no responsibility for the use thereof nor for the rights of third parties, which may be affected in any way by the use thereof. Any representations in this document concerning performance of Evertz products are for informational use only and are not warranties of future performance, either expressed or implied. The only warranty offered by Evertz in relation to this product is the Evertz standard limited warranty, stated in the sales contract or order confirmation form.

Although every attempt has been made to accurately describe the features, installation and operation of this product in this manual, no warranty is granted nor liability assumed in relation to any errors or omissions unless specifically undertaken in the Evertz sales contract or order confirmation. Information contained in this manual is periodically updated and changes will be incorporated into subsequent editions. If you encounter an error, please notify Evertz Customer Service department. Evertz reserves the right, without notice or liability, to make changes in equipment design or specifications.

CAUTION

If the LNB POWER LED is on, there will be DC voltage for LNB power at the RF INPUT connector. This can damage some test equipment. The user can turn off the LNB power under using the card-edge control system under the LNBV menu item. See section 6.1.8 for details.
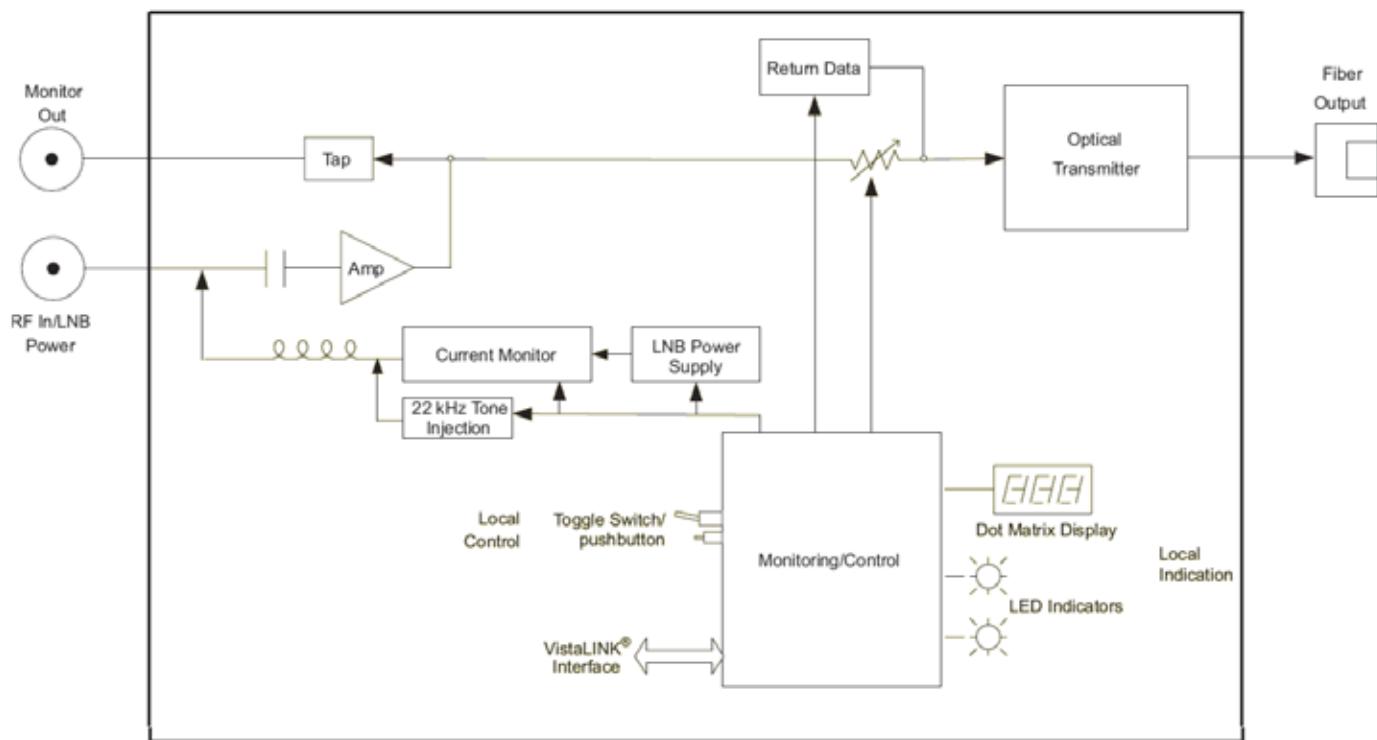
1. OVERVIEW

The 7708LT is a fiber optic transmitter for RF signals in the extended L-Band frequency range and below, for frequencies such as over-the-air DTV. It accepts a single RF input on coaxial cable and provides a single output for optical transmission. An RF monitor output provides a convenient means of obtaining peak satellite signal strength, or additional signal distribution.

Gain may be adjusted manually or managed automatically via AGC. With SmartMON™, incoming RF signal strength, LNB current, and other data are relayed over the fiber output for monitoring through SNMP/VistaLINK® at the fiber receiver (requires SmartMON™ capable companion fiber receiver). LNB power with selectable 13/18V DC and 22 kHz tone is also provided.
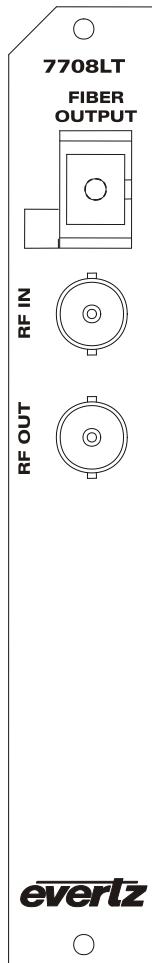
Features:
- Extended frequency response for L-Band and other frequencies
- Protocol independent design - transports all modulation formats
- High power +11 dBm DWDM laser option for extended reach on long-haul applications
- LNB power with selectable 13/18V DC
- LNB current limit & short circuit protection
- LNB current monitoring
- 22kHz tone on/off for LNB local oscillator control
- RF monitor output for signal peaking and signal distribution
- Manually adjustable gain
- AGC mode
- The 7708LT occupies one card slot and can be housed in a 1RU frame that will hold up to 3 modules, a 3RU frame that will hold up to 15 modules or a standalone enclosure which holds 1 module
- SmartMON™ capability provides remote status monitoring via SNMP without a separate data connection
- VistaLINK® capability is available for monitoring and control when modules are used in a 3RU 7800FR frame and a 7700FC VistaLINK® frame controller is installed in slot 1 of the frame.

Figure 1-1: 7708LT Block Diagram

2. INSTALLATION

The 7708LT comes with a companion rear plate appropriate for a 1RU, 3RU or standalone enclosure as specified at the time of order. SC/UPC, SC/APC, ST/UPC, FC/UPC, FC/APC or ST/UPC optical connectors are available and the type specified at the time of order will be installed. For information on mounting the rear plate and inserting the module into the frame, see the 7700FR manual for detailed instructions.

Figure 2-1: 7708LT Module

2.1.   7708LT CONNECTIONS

FIBER OUTPUT: SC/UPC, SC/APC, FC/UPC, FC/APC or ST/UPC female connector with the optical output from the 7708LT. This connector should be connected to the FIBER IN connector of an appropriate Evertz companion receiver model at the destination end with a suitable fiber optic cable. The 7708LT may transmit 1310nm, CWDM or DWDM wavelengths as indicated by the part number on the card ejector. The standard connector type is UPC. This connector type is compatible with standard PC connectors, but for optimal return loss performance, Evertz recommends the use of UPC fiber terminations throughout the system.   The optional APC connectors provide further enhanced return loss performance, and when specified, should be used throughout the system.

RF IN: Input connector for RF signals. This connector can also provide LNB power and 22 kHz tone back to the LNB.

The RF input is protected to the same degree as other professional RF devices, and will withstand a degree of ESD from handling, etc. Regardless, proper precautions should be taken during handling, such as the use of static bags and wrist straps. The input is not protected against lightning or other coupling of large energy spikes. If the installation is such that the RF input may be susceptible to spikes (e.g. direct connection to the antenna/LNB) then appropriate supplemental surge protection should be installed (e.g. Polyphaser).

RF OUT: Output connector provides a buffered copy of the incoming RF signal for monitoring purposes (signal peaking, etc.) or coaxial distribution. Although not essential, if this connector is to remain unused, it is recommended that it be terminated with an appropriate 75 Ohm or 50 Ohm load.

2.2.   CARE AND HANDLING OF OPTICAL FIBER

2.2.1. Safety

2.2.1.1. 7708LT 1310nm FP and CWDM Versions

CLASS 1 LASER PRODUCT

Background colour: yellow
Triangular band: black
Symbol: black

2.2.1.2. 7708LT DWDM Versions

INVISIBLE LASER RADIATION
DO NOT VIEW DIRECTLY WITH OPTICAL INSTRUMENTS
CLASS 1M LASER PRODUCT

Background colour: yellow
Triangular band: black

Symbol: black
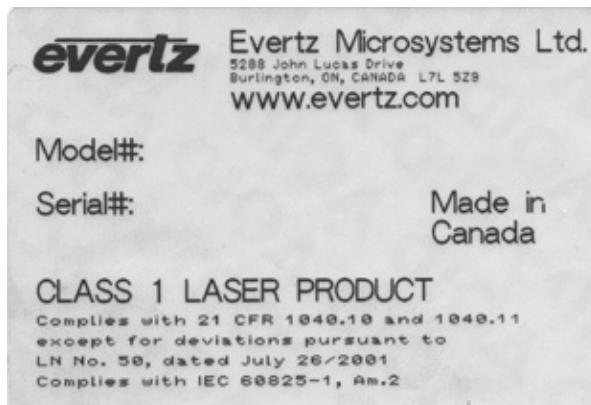
2.2.2. Assembly

Assembly or repair of the laser sub-module is to be done only at the Evertz facility and performed only by Evertz technical personnel.

2.2.3. Labeling

Certification and Identification labels are combined into one label. As there is inadequate space on the product to place the label, it is reproduced here in the manuals.

- There is no date of manufacture on this label as it can be traced by bar code label placed on the PCB of each Evertz plug-in product
- Class 1 Laser Products: Model number is one of 7708LT13 or 7708LTxx (xx = 27, 29, 31, 33, 35, 37, 43, 45, 47, 49, 51, 53, 55, 57, 59, 61)
- Class 1M Laser Products: Model number is one of 7708LTDxxx (Dxxx represents ITU Grid Channel: D200, D210, D220, D230, D240, D250, D260, D270, D280, D290, D300, D310, D320, D330, D340, D350, D360, D370, D380, D390, D400, D410, D420, D430, D440, D450, D460, D470, D480, D490, D500, D510, D520, D530, D540, D550, D570, D580, D590, D600)

Figure 2-2: Reproduction of 7708LT Certification and Identification Label for Models that are Class 1 Laser Products

Figure 2-3: Reproduction of 7708LT Certification and Identification Label for Models that are Class 1M Laser Products

2.2.4. Handling and Connecting Fibers

> **Never touch the end face of an optical fiber. Always keep dust caps on optical fiber connectors when not connected and always remember to properly clean the optical end facet of a connector before making a connection.**

The transmission characteristics of the fiber are dependent on the shape of the optical core and therefore care must be taken to prevent fiber damage due to heavy objects or abrupt fiber bending. Evertz recommends that the user maintain a minimum bending radius of 5 cm to avoid fiber-bending loss that will decrease the maximum attainable distance of the fiber cable. Evertz fiber optic modules are equipped with lockout devices that prevent the user from damaging the fiber connector by installing a module into a slot in the frame that does not have a suitable rear plate installed.

3. SPECIFICATIONS

3.1. RF INPUT

Number of Inputs:	1
Connector:	BNC per IEC 61169-8 Annex A (F-Type Optional)
Input Impedance:	75Ω (50Ω Optional)
Return Loss:	> 15dB
Frequency Range:	120MHz-2250MHz
Input Power Range:	-10dBm to -60dBm
AGC Gain Range:	0 to +31.5 dB
Input IP3:	+10dBm
LNB Power:	
Voltage:	13V DC, 17V DC, off (selectable)
Current:	400mA
Protection:	Short Circuit, current limited
LO Control:	22kHz on/off (selectable)

3.2. RF MONITOR OUTPUT

Number of Outputs:	1
Connector:	BNC per IEC 61169-8 Annex A (F-Type Optional)
Output Impedance:	75Ω (50Ω Optional)
Return Loss:	> 15dB
Frequency Range:	120MHz to 2250MHz
Output Level:	within -2.0dB of input signal

3.3. OPTICAL OUTPUT

Number of Outputs:	1
Connector:	Female FC/UPC, ST/UPC, FC/UPC, SC/APC, FC/APC
Operating Wavelength:	
Standard:	1310nm
CWDM:	1270-1610nm
DWDM:	C-Band (ITU G.694.1 compliant)
Output Power:	
Standard 1310nm:	+2dBm
CWDM:	+2dBm
DWDM:	+10dBm

3.4. ELECTRICAL

Voltage:	+12V DC
Power:	6W max excluding LNB Power

3.5. PHYSICAL (NUMBER OF SLOTS)

350FR:
7700FR-C:	1

7800FR:

3.6.   COMPLIANCE

Laser Safety: Class 1 laser product for 1310nm FP and CWDM versions
                        Class 1M laser product for DWDM versions
                        Complies with 24 CFR 1040.10 and 1040.11 IEC 60825-1
EMI/RFI: Complies with FCC Part 15, Class A EU EMC directive

3.7.   RF SYSTEM PERFORMANCE 7708LT13+7708LRA PAIR

Frequency Range: 120MHz-2250MHz
Flatness: ±1.5dB @ 850MHz-2250MHz

4.   STATUS INDICATORS

The 7708LT has eight LED status indicators on the front card edge to show operational status of the card at a glance. See Figure 5-1 for LED locations.

Two large LEDs on the front of the board indicate the general health of the module:

LOCAL FAULT: This red LED will be on during the absence of a valid RF input signal (too low, too high or out of AGC range), an LNB short/overload, or if a local internal power fault exists (i.e.: a blown fuse). Whether or not this LOCAL FAULT indication is reported to the frame may be selected by the FRAME STATUS jumper (see section 5.1).

MODULE OK: This green LED will be on when the RF input signal is within range, LNB power conditions are normal and the board power is good.

There are six small LEDs that indicate the status of the input RF signal, LNB, and AGC mode signals.

RF HIGH: This red LED will be on when the input RF signal is higher than the RF high threshold setting.

RF OK: This green LED will be on when the input RF signal is within threshold settings.

RF LOW: This yellow LED will be on when the input RF signal is lower than the RF low threshold setting.

GAIN MODE: This LED is on when AGC mode is enabled and off when Manual mode is enabled. It will be green when power levels are within the AGC hold range and a constant RF output level is being maintained. It will be red if power levels are either above or below the power levels required for the AGC circuit to be able to maintain a constant level.

LNB MODE: This LED is on when LNB power is ON. It will green when LNB is active and OK (no short). It will be red when an LNB short or overload is detected (fault present).

SQUELCH MODE: This LED is on when squelch is enabled. It will be green when squelch is enabled but not active. It will be red when squelch mode is enabled and the output signal is squelched.

LED #	Colour	Function
LOCAL / FAULT	RED	LED 1 is red or LED 2 is off or LED 3 is yellow or LED 4 is red or LED 5 is red.
	GREEN	LED 1 is off and LED 2 is green and LED 3 is off and LED 4 is green or off and LED 5 is green or off.
1	RED	RF Input Power is greater then or equal to the upper threshold setting.
	OFF	RF Input Power is less then the upper threshold setting.
2	GREEN	RF Input Power is less the upper threshold setting and greater then the lower threshold setting.
	OFF	RF Input Power is less then the lower threshold setting or greater then the upper threshold setting.
3	YELLOW	RF Input Power less then or equal to the lower threshold setting.
	OFF	RF Input Power greater then the lower threshold setting.
4	RED	AGC is on but unable to maintain output power setting.
	GREEN	AGC is on and can maintain output power setting.
	OFF	AGC is off (manual mode)
5	RED	LNB Short/Overload
	GREEN	LNB power on and OK
	OFF	LNB power OFF
6	RED	Squelch active
	GREEN	Squelch on but not active
	OFF	Squelch off

Table 4-1: LED Status Indicators

5.   JUMER POSITIONS

5.1.   7708LT JUMPERS AND LEDS
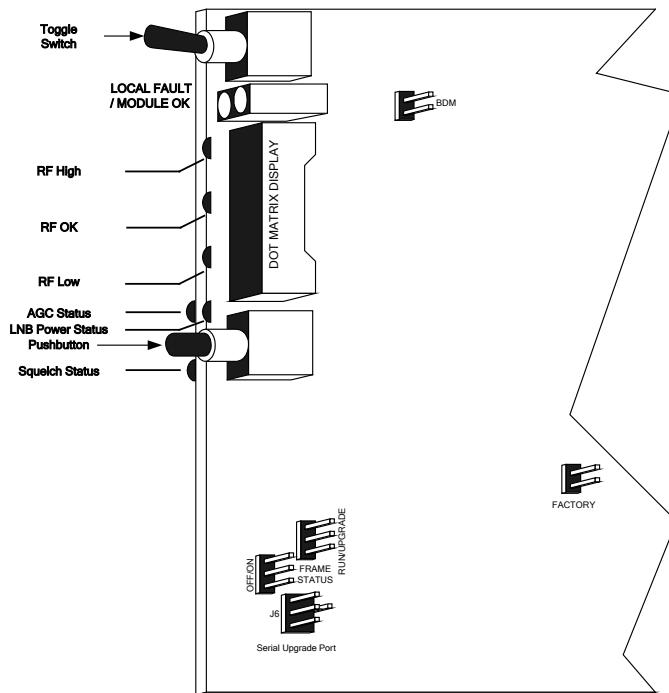
Figure 5-1: Location of 7708LT Jumpers and LEDs

5.2.   SELECTING WHETHER LOCAL FAULTS WILL BE MONITORED BY THE GLOBAL FRAME STATUS

The FRAME STATUS jumper J3 determines whether local faults (as shown by the Local Fault indicator) will be connected to the 7700FR frame's global status bus.

FRAME STATUS: To monitor faults on this module with the frame status indicators (on the Power Supply FRAME STATUS LEDs and on the Frame's Fault Tally output) install this jumper in the ON position (default).

When this jumper is installed in the Off position local faults on this module will not be monitored.

5.3.   CONFIGURING THE MODULE FOR FIRMWARE UPGRADES

UPGRADE: The UPGRADE jumper J5 is used when firmware upgrades are being done to the module. For normal operation it should be installed in the *RUN* position. See the *Upgrading Firmware* section of this manual for more information.

To upgrade the firmware:

1. Pull the module out of the frame.

2. Move the UPGRADE jumper into the *UPGRADE* position.

3. Install the Upgrade cable provided (located in the vinyl pouch in the front of this manual) onto the SERIAL header at the card edge.

4. Re-install the module into the frame.

5. Run the upgrade as described in the *Upgrading Firmware* section of this manual.

6. When the upgrade is completed, remove the module from the frame, move the UPGRADE jumper into the *RUN* position, remove the upgrade cable and re-install the module.

The module is now ready for normal operation.

> **If installed in a frame with a 7700FC frame controller, the 7708T may also be conveniently upgraded through Evertz VistaLINK® PRO, without service interruption. Consult VistaLINK® PRO documentation for details on this feature.**

5.4. FACTORY AND BDM JUMPERS

When shipped from the Evertz facility, the FACTORY and BDM jumpers will not be installed. These jumpers **should not** be installed for any reason. If jumpers are on these positions they should be removed.

6. DOT-MATRIX DISPLAY

Signal and status monitoring and control of the card's parameters are provided via the four-digit alphanumeric display located on the card edge. The card-edge toggle-switch (see Figure 5-1) is used to navigate through the display menus and the push button is used to select options. Figure 6-1 provides a quick reference to the display menu structure.

`CTRL` menu items have user-adjustable configuration values associated with them. `STAT` menu items display operating conditions or configuration values, but do not allow adjustment.

If a specific menu selection has a configuration value associated with it, then this may be changed using the toggle switch. Pressing the pushbutton will apply the displayed value and return you to the previous menu level.

The most recent user selection will be maintained in non-volatile memory in the event of power loss to the module.

Top Level	Level 1	Level 2	Level 3	Level 4
	BACK			
		BACK		
		RFTH	LWR	0 to -60 dBm Default -60 dBm
			UPPR	0 to -60 dBm Default 0 dBm
		MODE	AGC	
			MAN (default)	
		SQL	ON	
			OFF (default)	
		SQTH	0 to -60dBm Default: -60dBm	
		GAIN (visible in manual mode only)	0 to 31.5dB Default: 0dB	
		OUTL (visible in AGC mode only)	0 to -50dBm Default: -20dBm	
DEFD selection	**CTRL**	**PSWD+**	0 to 9999 (Default 7154)	
		This area visible only if correct password entered.	PSWL+	0000 - 9999
			LASR+	ON
				OFF
		LNBV	18V	
			13V	
			OFF (Default)	
		22KT	ON	
			OFF (Default, also can only be off if LNBV is off)	
		LNTH	LWR	0 to 500mA Default = 0
			UPPR	0 to 500mA Default = 500

CTRL (continued)	**DEFD**	Fault status (Default)		
		PWR		
		MODE		
		SQL		
		GAIN		
		OUTL		
		LNBV (-LNB only)		
		22KT (-LNB only)		
		LNBC (-LNB only)		
	DISP	HORZ		
		VERT (default)		
STAT	**BACK**			
	PWR	0 to -60dBm		
	RFTH	LWR	0 to -60 dBm	
		UPPR	0 to -60 dBm	
	MODE	AGC		
		MAN		
	GAIN (visible in manual mode only)	-10 to 30dB		
	SQL	ON		
		OFF		
	LASR	OK		
		OFF		
		FALT		
	LNBV	18V		
		13V		
		OFF		
	22KT	ON		
		OFF		
	LNBC	0 to 500mA		
	LNTH	LWR	0 to 500mA	
		UPPR	0 to 500mA	
	VER	Firmware version		

Figure 6-1: Card Edge Menu Structure

6.1.   7708LT CONTROLLED PARAMETERS

To change the 7708LT parameters, select the CTRL menu item in menu level 1. The toggle switch may then be used to select the parameter to change as described below.

6.1.1. Adjusting the RF Input Power Alarm

The 7708LT measures and can display the input RF power over a range of 0dBm to –60dBm in increments of 1dBm. Alarms may be set for high and low input RF power that will appear locally on the card edge LEDs (see Section 4) and remotely via SNMP traps. To set the alarm threshold points, select the CTRL menu item in the first menu level and then use the toggle switch to display the RFTH option and press the pushbutton to select it.

CTRL
  RFTH
    LWR
      0 to –60 dBm
	`0` to `-60` dBm Lower RF power alarm threshold (default -60 dBm).

CTRL
  RFTH
    UPPR
      0 to -60 dBm
	`0` to `-60` dBm Upper RF power alarm threshold (default 0 dBm).

✎   **The 7708LT will not allow threshold settings where the lower threshold is greater than the upper threshold.**

6.1.2. Selecting the Input Gain Mode

The 7708LT has two gain modes available:

Manual gain mode allows the user to select a fixed gain level for the RF signal.

AGC (automatic gain control) will maintain a constant output level even if the input RF level changes, as long as this input level does not go outside of the AGC hold range (the 7708LT has from 0 to +31.5 dB of gain available to automatically apply to the incoming signal to maintain the target level). The AGC target level is user adjustable (see Section 6.1.6).

To select the gain mode, select the CTRL menu item in the first menu level, then use the toggle switch to display the MODE option and press the pushbutton to select it.

CTRL
  MODE
    AGC
    MAN
	`AGC` AGC mode (default).
	`MAN` Manual mode.

6.1.3. Enabling/Disabling Squelch Mode

Squelch mode will turn off the laser output if the RF input drops below the squelch threshold setting (see section 6.1.4). This feature is useful for triggering downstream automatic main/standby protection switches, and for other such applications. To enable or disable squelch mode, select the CTRL menu item in the first menu level, then use the toggle switch to display the SQL option and press the pushbutton to select it.

CTRL
SQL
ON
OFF

ON   Enable squelch mode.
OFF   Disable squelch mode (default).

6.1.4. Adjusting the Squelch Mode Threshold

The RF Squelch threshold may be set from this menu via the SQTH selection. The squelch level is based on the RF input power to the transmitter.

To select the RF Squelch threshold, select the CTRL menu item in the first menu level, then use the toggle switch to display SQTH option and press the pushbutton to select it.

CTRL
SQTH
0 to -60 dBm

0 to **–60** dBm   RF Squelch threshold range (default -60 dBm).

6.1.5. Adjusting the RF Gain

The 7708LT can apply gain to adjust the level of the input signal in 0.5 dB increments. This allows weaker signals to be gained up for optimal laser depth of modulation and CNR performance. For optimal performance tuning, it is recommended that a spectrum analyzer be connected at the receive side of the link while the gain value is adjusted to provide the best CNR performance while not introducing distortion products which may appear as an increase in the noise floor while increasing gain level, or as "spectrum skirts". To set the gain, select the CTRL menu item in the first menu level, then use the toggle switch to display the GAIN option and press the pushbutton to select it.

CTRL
GAIN
0 to +31.5 dBm

0 to **+31.5** dBm   Output signal gain level (default 0 dBm).

> **Note that this menu item is not applicable and therefore not visible when in AGC mode.**

evertz

6.1.6. Adjusting the AGC Target Level

The target output level to be maintained by the 7708LT when AGC mode is user adjustable. Adjustment of this parameter allows optimal laser depth of modulation and CNR performance to be achieved. A typical value is –20 to –10 dBm, but for optimal performance it is recommended that a spectrum analyzer be connected at the receive side of the link while this value is adjusted to provide the best CNR performance while not introducing distortion products which may appear as an increase in the noise floor while increasing the target level, or as "spectrum skirts".   To set the AGC target level, select the CTRL menu item in the first menu level, then use the toggle switch to display the OUTL option and press the pushbutton to select it.

CTRL
OUTL
0 to -50 dBm

`0` to `-50` dBm   AGC output signal target level (default –20 dBm).

✎ | **Note that this menu item is only applicable and visible when the card is set to operate in AGC mode.**

6.1.7. Setting the Passcode (DWDM versions only)

Due to the high-powered lasers used on the DWDM version of these cards, it is possible to turn the laser on and off and protect this function with a passcode. This provides added optical safety. Depress the pushbutton and select the PSWD option. Actuate the toggle switch to achieve the correct code number (Factory Default Passcode = 0000).

CTRL
PSWD
0-9999
PSWL+
LASR+
0000-9999
ON
OFF

PWSD   Store a new passcode (0-9999) required for BLOCK configuration. This menu is not available without entering the correct passcode.

LASR+   Enable / Disable Laser. Only visible for DWDM versions.

6.1.8. Setting the LNB Voltage Level

The voltage level for LNB power is user adjustable. To set the LNB output voltage level, select the CTRL menu item in the first menu level, then use the toggle switch to display the LNBV option and press the pushbutton to select it.

CTRL
LNBV
18V
13V
OFF

Sets the LNB output voltage.

18V   Sets the LNB output voltage to 18 volts.
13V   Sets the LNB output voltage to 13 volts.
OFF   Disables the LNB output voltage.

6.1.9. Configuring the 22KHz Tone

A 22 kHz tone may be combined with the LNB voltage for universal LNB local oscillator control. The 22KHz tone can be enabled or disabled via the `22KT` selection menu. To select the 22KHz tone, select the `CTRL` menu item in the first menu level, then use the toggle switch to display the `22KT` option and press the pushbutton to select it.

CTRL
22KT
ON
OFF

Indicates whether the 22KHz tone on LNB output is enabled or disabled.

`ON`   22KHz tone is enabled.
`OFF`   22KHz tone is disabled.

6.1.10. Setting the LNB Current Threshold Level

The 7708LT monitors the amount of current being drawn by the LNB. Upper and lower thresholds may be set, which when exceeded will trigger an SNMP alarm. This function may be used to provide an early warning of impending LNB failure. To set the LNB current threshold, select the `CTRL` menu item in the first menu level, then use the toggle switch to display the `LNTH` option and press the pushbutton to select it.

CTRL
LNTH
LWR / UPPR
0 to 500A

`LWR`   Lower RF threshold level.
`UPPR`   Upper RF threshold level.

`0 to 500A`   RF threshold range.

6.1.11. Default Card-Edge Display

This allows configuration of which operating condition will be displayed as the top-level item on the dot-matrix display. The default is NORM, which displays "OK" or "LASER FAULT" in the event of a problem with the laser. To choose an alternate parameter, select the `CTRL` menu item in the first menu level, then use the toggle switch to display the `DEDF` option and press the pushbutton to select it.

CTRL
DEFD
NORM
PWR
MODE
SQL
GAIN
OUTL
LNBV
22KT
LNBC

`NORM`   Laser status
`PWR`   Measured RF Input power
`MODE`   Gain mode
`SQL`   Squelch setting
`GAIN`   Gain setting (manual mode only)
`OUTL`   AGC output level setting (AGC mode only)
`LNBV`   LNB voltage setting
`22KT`   22kHz tone setting
`LNBC`   Measured LNB current

6.1.12. Setting the Display Orientation

The *DISP* option allows the user to set a horizontal or vertical orientation for the card edge display. To set the display orientation, select the *CTRL* menu item in the first menu level, then use the toggle switch to display the *DISP* option and use the pushbutton to select it.

CTRL
DISP
HORZ
VERT

HORZ   Horizontal display used when the module is housed in the one-rack unit 7701FR frame or the stand-alone enclosure.

VERT   Vertical display used when the module is housed in the three-rack unit 7700FR frame.

6.1.13. Displaying the RF Threshold

To display the RF input power threshold, select the STAT menu item in the first menu level, then use the toggle switch to display the RFTH option and press the pushbutton to select it.

STAT
RFTH
LWR / UPPR
0 to -60dBm

LWR   Indicates the lower RF threshold level.
UPPR   Indicates the upper RF threshold level.

0 to **-60** dBm   RF threshold range (in dBm units).

6.1.14. Displaying the Gain Mode

To display the gain mode, select the STAT menu item in the first menu level, then use the toggle switch to display the MODE option and press the pushbutton to select it.

STAT
MODE
AGC
MAN

AGC   Gain mode is AGC (automatic gain control).
MAN   Gain mode is manual.

6.1.15. Displaying the Gain Level

To display the gain level, select the STAT menu item in the first menu level, then use the toggle switch to display the GAIN option and press the pushbutton to select it. This status item is only available when the card is set to manual gain mode.

STAT
GAIN
0 to 31.5 dB

0 to **+31.5** dB   Gain level (manual gain mode only)

6.1.16. Displaying the Squelch Status

To display the squelch mode setting, select the STAT menu item in the first menu level, then use the toggle switch to display the SQL option and press the pushbutton to select it.

STAT
SQL
ON
OFF

ON   Squelch mode enabled.
OFF   Squelch mode disabled.

6.1.17. Displaying the Laser Status

To display the laser status, select the STAT menu item in the first menu level, then use the toggle switch to display the LASR option and press the pushbutton to select it.

STAT
LASR
OK
OFF
FALT

OK	Laser is operating normally.
OFF	Laser is disabled.
FALT	Fault in laser operation.

6.1.18. Displaying the LNB Voltage Level

To display the LNB Voltage, select the STAT menu item in the first menu level, then use the toggle switch to display the LNBV option and press the pushbutton to select it.

STAT
LNBV
18V
13V
OFF

Indicates the LNB output voltage.

6.1.19. 22KHz Tone Status

To display the 22KHZ tone status, select the STAT menu item in the first menu level, then use the toggle switch to display the 22KT option and press the pushbutton to select it.

STAT
22KT
ON
OFF

Indicates whether the 22KHz tone on LNB output is enabled or disabled.

ON	22KHz tone is enabled.
OFF	22KHz tone is disabled.

6.1.20. Displaying the LNB Current

To display the LNB Current, select the STAT menu item in the first menu level, then use the toggle switch to display the LNBC option and press the pushbutton to select it.

STAT
LNBC
0 to 500mA

Indicates the LNB current. Visible for -LNB versions only.

0 to 500mA   LNB current range.

6.1.21. Displaying the LNB Current Threshold Level

To display the LNB Current threshold, select the STAT menu item in the first menu level, then use the toggle switch to display the LNTH option and press the pushbutton to select it.

STAT
LNTH
LWR / UPPR
0 to 500mA

LWR	Indicates the lower RF threshold level.
UPPR	Indicates the upper RF threshold level.

0 to 500mA   LNB current threshold range.

6.1.22. Displaying the Firmware Version

To display the firmware version, select the STAT menu item in the first menu level, then use the toggle switch to display the VER option and press the pushbutton to select it. The firmware version will scroll across the display.

For example: VER 1.0 BUILD 006

7. VISTALINK® REMOTE MONITORING/CONTROL

7.1. WHAT IS VISTALINK®?

VistaLINK® is Evertz' remote monitoring and configuration platform which operates over an Ethernet network using Simple Network Management Protocol (SNMP). SNMP is a standard computer network protocol that enables different devices sharing the same network to communicate with each other. VistaLINK® provides centralized alarm management, which monitors, reports, and logs all incoming alarm events and dispatches alerts to all the VLPro Clients connected to the server. Card configuration through VistaLINK® PRO can be performed on an individual or multi-card basis using simple copy and paste routines, which reduces the time to configure each module separately. Finally, VistaLINK® enables the user to configure devices in the network from a central station and receive feedback that the configuration has been carried out.

There are 3 components of SNMP:

1. An SNMP manager, also known as a Network Management System (NMS), is a computer running special software that communicates with the devices in the network. Evertz VistaLINK® Pro Manager graphical user interface (GUI), third party or custom manager software may be used to monitor and control Evertz VistaLINK® enabled fiber optic products.

2. Managed devices, each with a unique address (OID), communicate with the NMS through an SNMP Agent. Evertz VistaLINK® enabled 7700 series modules reside in the 3RU 7700FR-C MultiFrame and communicate with the manager via the 7700FC VistaLINK® frame controller module, which serves as the Agent.

3. A virtual database, known as the Management Information Base (MIB), lists all the variables being monitored, which both the Manager and Agent understand. Please contact Evertz for further information about obtaining a copy of the MIB for interfacing to a third party Manager/NMS.

For more information on connecting and configuring the VistaLINK® network, see the 7700FC Frame Controller chapter.

7.2.   VISTALINK® MONITORED PARAMETERS

The following parameters can be remotely monitored through the VistaLINK® interface.

Parameter	Description
RF Input Power Threshold	A range of values indicating the lower/upper RF threshold levels.
RF Input Power	RF power level at the input.
Gain Mode	Indicates RF mode setting.
RF Gain	A range of values indicating RF gain setting.
Squelch	Indicates squelch function status.
Laser Status	Indicates general laser health and laser enable status.
LNB Voltage Level	Indicates LNB voltage levels.
22KHz Tone	Indicates the on/off status of the 22KHz tone.
LNB Current	Displays LNB current value.
LNB Current Threshold	A range of values indicating the LNB current threshold.
Firmware Version	Displays firmware version number.

Table 7-1: VistaLINK® Monitored Parameters

7.3.   7708LT VISTALINK® CONTROLLED PARAMETERS

The following parameter can be remotely controlled through the VistaLINK® interface.

7708LRA/7708LR-H Parameter	Description
RF Input Power	Sets RF power level at the input.
Gain Mode	Enables RF mode setting.
Squelch	Enables squelch function.
Squelch Threshold	Sets squelch threshold level.
Gain	Sets RF gain level setting.
AGC Target Level	Sets the RF power target level.
Passcode	Sets the password.
LNB Voltage Level	Sets the LNB voltage level.
22KHz Tone	Enables/disables 22KHz tone.
LNB Current Threshold	Sets the LNB current threshold.

Table 7-2: VistaLINK® Controlled Parameters

7.4. VISTALINK® TRAPS

The following traps can be controlled through the VistaLINK® interface. Each trap will indicate a fault condition when its value is True.

Trap	Description
RF Input Power High	Input power is above the threshold.
RF Input Power Low	Input power is below the threshold.
Laser Fail	Laser fault detected.
AGC Out of Range	RF input out of AGC range.
LNB Short	LNB short or overload.
LNB Current High	LNB current is above the threshold.
LNB Current Low	LNB current is below the threshold.

Table 7-3: VistaLINK® Traps

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