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REVISION HISTORY

REVISION	DESCRIPTION	DATE
1.0	Original Version	Dec 03
1.1	Updated sections: 3.1. for Max. Input Power, 3.2. for Optical Power, 4.1. for Carrier Fault treshold, 4.2.1. For optical power detection when there is valid input signal, 4.2.2. – Added 310M display and its description, 5.1. - updated description, 6.2. – Changed naming of some parameters, 6.4. – Added VistaLINK traps list	Jun 04
1.2	Updated sections: 4.1 EDH Disabled: error detection is on card edge display. 4.2.1 Included –H optical power indications. 6.2, Table 1: Added card type, Laser Not OK, Removed SD rate and HD rate and updated Rate Control. 6.4, Table 3, Add Laser Not OK	Sep 04
1.3	Updated safety section and added assembly and labeling sections	Aug 05
1.4	Updated *Vista*LINK® description and fixed format	Jun 08
1.5	Updated features & specs	Nov 08

WARNING

Never look directly into an optical fiber. Non-reversible damage to the eye can occur in a matter of milliseconds.

Do not hook up the 7707OO-HD DWDM cards directly with a short fiber optic cable. The 7707OO-HD DWDM cards produce +7dBm of power which will damage the receiver if connected directly.

1. OVERVIEW

The 7707OO-HD is a *Vista*LINK® enabled, optical to optical converter for SMPTE 292M (1.485Gb/s), SMPTE 259M (143-360Mb/s), SMPTE 344M (540Mb/s), DVB-ASI (270Mb/s) and SMPTE 310M (19.4Mb/s) signals. Automatic reclocking, data rate selection and data rate indication is provided for rates from 143Mb/s to 1.485Gb/s. Monitoring and control of card status and parameters is provided locally at the card edge, and remotely via *Vista*LINK®. The 7707OO-HD accepts one fiber input and provides two reclocked coaxial outputs and one optical output.

The 7707OO-HD is available in different versions to meet a variety of applications. All versions accept 1310 nm to 1610 nm optical input signals on multi-mode or single-mode fiber and translate the signal to another wavelength as indicated below. Please refer to specifications for complete information.

7707OO13-HD	1310 nm FP	Suitable for distances up to 6 Km @ 1.5 Gb/s
7707OO13-HD-H	1310 nm FP	Suitable for distances up to 6 Km @ 1.5 Gb/s
7707OO15-HD	1550 nm DFB	Suitable for distances up to 50 Km @ 1.5 Gb/s

There are several versions with built in isolators specifically suited to coarse wave division multiplexing (CWDM) applications. The CWDM versions are suitable for distances up to 50 Km @ 1.5 Gb/s

Standard:		**High Sensitivity:**	
7707OO27-HD	1270 nm DFB	7707OO27-HD-H	1270 nm DFB
7707OO29-HD	1290 nm DFB	7707OO29-HD-H	1290 nm DFB
7707OO31-HD	1310 nm DFB	7707OO31-HD-H	1310 nm DFB
7707OO33-HD	1330 nm DFB	7707OO33-HD-H	1330 nm DFB
7707OO35-HD	1350 nm DFB	7707OO35-HD-H	1350 nm DFB
7707OO37-HD	1370 nm DFB	7707OO37-HD-H	1370 nm DFB
7707OO43-HD	1430 nm DFB	7707OO43-HD-H	1430 nm DFB
7707OO45-HD	1450 nm DFB	7707OO45-HD-H	1450 nm DFB
7707OO47-HD	1470 nm DFB	7707OO47-HD-H	1470 nm DFB
7707OO49-HD	1490 nm DFB	7707OO49-HD-H	1490 nm DFB
7707OO51-HD	1510 nm DFB	7707OO51-HD-H	1510 nm DFB
7707OO53-HD	1530 nm DFB	7707OO53-HD-H	1530 nm DFB
7707OO55-HD	1550 nm DFB	7707OO55-HD-H	1550 nm DFB
7707OO57-HD	1570 nm DFB	7707OO57-HD-H	1570 nm DFB
7707OO59-HD	1590 nm DFB	7707OO59-HD-H	1590 nm DFB
7707OO61-HD	1610 nm DFB	7707OO61-HD-H	1610 nm DFB

There are several versions with built in isolators specifically suited to dense wave division multiplexing (DWDM) applications. The DWDM versions are suitable for distances more than 50 Km @ 1.5 Gb/s (for DWDM applications contact factory).

7707OODyyy-HD	DWDM DFB laser output, xxx – ITU channel number.
7707OODyyy-HD-H	High sensitivity input, DWDM DFB laser output, xxx – ITU channel number.

The 7707OO-HD occupies one card slot and can be housed in either a 1RU frame, which will hold up to three modules, or a 3 RU frame, which will hold up to 15 modules.

Features:

- Can be used as optical regenerator/repeater, O to E converter or O to O wavelength converter
- Auto rate selection, reclocking and indication for all SDI (SMPTE 259M) and HD-SDI (SMPTE 292M) data rates from 143Mb/s to 1.485Gb/s
- Also supports SMPTE 305M (SDTi), SMPTE 310M (19.4Mb/s) and M2S or DVB-ASI (270Mb/s)
- Supports other Telecom/Datacom rates up to 1.5Gb/s
- Optical output wavelengths of 1310nm, 1550nm and up to sixteen CWDM wavelengths (ITU-T G.694.2 compliant)
- DWDM wavelengths (ITU-T G.694.1 compliant) also available
- Wide range optical input (1270nm-1610nm)
- BNC outputs maintain polarity from input to output for DVB-ASI applications
- Supports single-mode and multi-mode fiber optic cable
- Comprehensive signal and card status monitoring via four digit card edge display or remotely through SNMP and *Vista*LINK® -capable resources
- Detection & display of optical input power, video format, and EDH errors (SDI only)
- Fully hot-swappable from front of frame
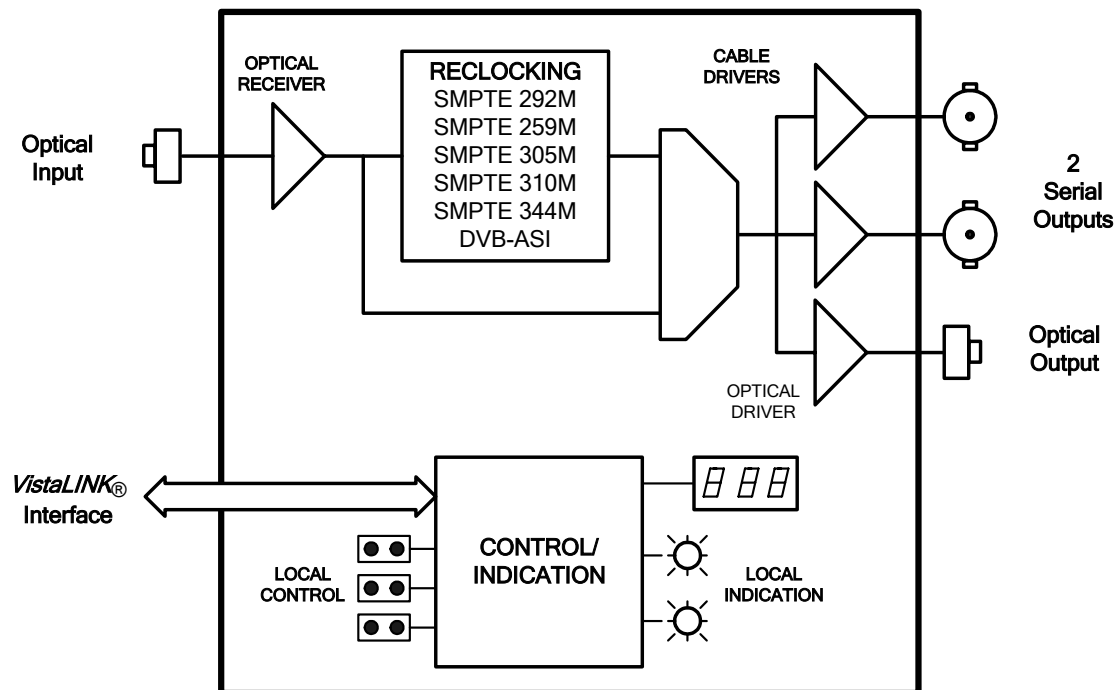
Figure 1-1: 7707OO-HD Block Diagram

2. INSTALLATION

The 7707OO-HD comes with a companion rear plate that has two BNC connectors and two SC/PC (shown), ST/PC or FC/PC optical connector. For information on mounting the rear plate and inserting the module into the frame see the 7700FR chapter section 3.

Figure 2-1: 7707OO-HD Rear Panel

OPTICAL INPUT: Input for SDI optical signals. Available in SC/PC, ST/PC, FC/PC female connectors. Accepts SMPTE 292M, SMPTE 259M, SMPTE 344M,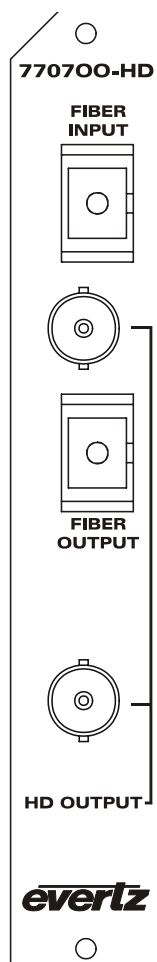 DVB-ASI or SMPTE 310M optical signals and provides auto-rate selection and reclocking for rates from 143Mb/s to 1.485Gb/s. A non-reclocking mode is also selectable via card edge jumpers, or through the *Vista*LINK® interface. This wide range input accepts optical wavelengths of 1270nm to 1610nm, accommodating standard, CWDM or DWDM transmission schemes.

OPTICAL OUTPUT: There is one SC/PC (shown), ST/PC or FC/PC female connector with the video output converted to an optical signal as specified in section 3.2. The optical output laser is enabled only while a valid input signal is detected indicated by the SIGNAL VALID LED.

SDI OUTPUT: The 7707OO-HD provides two reclocked serial digital video outputs for signal distribution. Both outputs maintain the same polarity as the input and are DVB-ASI compliant.

2.1. CARE AND HANDLING OF OPTICAL FIBER

2.1.1. Safety

⚠ !	CLASS 1 LASER PRODUCT

Background colour: yellow
Triangular band: black
Symbol: black

2.1.2. Assembly

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

2.1.3. 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 the code label placed on the printed circuit board of each Evertz plug-in module
- The Model number is one of: 7707OO13-HD, 7707OO13-HD-H, 7707OO15-HD
  7707OOxx-HD, (xx = 27, 29, 31, 33, 35, 37, 43, 45, 47, 49, 51, 53, 55, 57, 59, 61)
  7707OODyyy-HD (Dyyy 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)
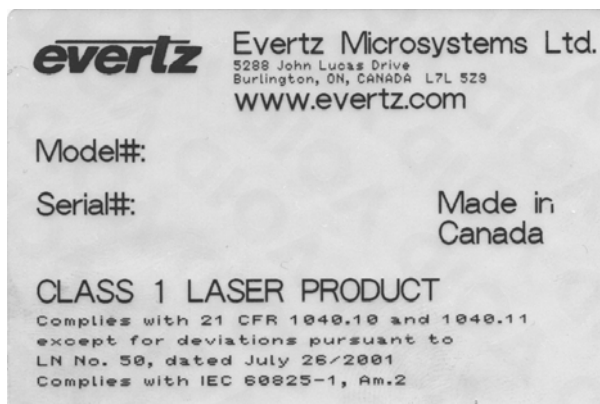
Figure 2-2: Reproduction of Laser Certification and Identification Label

2.1.4. 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 face 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. The Evertz fiber optic modules come with cable lockout devices, to prevent the user from damaging the fiber by installing a module into a slot in the frame that does not have a suitable I/O module. For further information regarding care and handling of fiber optic cable see section 3 of the Fiber Optics System Design section of this manual binder.

3. SPECIFICATIONS

3.1. OPTICAL INPUT

Standards: SMPTE 297M
   Reclocked: SMPTE 292M, SMPTE 259M A, B, C, D, SMPTE 344M, SMPTE 305M, SMPTE 310M (19.4 Mb/s), DVB-ASI, M2S
   Non-Reclocked: Any bi-level signal type at rates of 19.4Mb/s – 1.485Gb/s
Connector: Female SC/PC, ST/PC or FC/PC
Wavelength: 1270nm -1610nm
Optical Sensitivity
   Standard: -23dBm @ 1.485Gb/s
   High Sensitivity (-H): -28dBm @ 1.485Gb/s
Max. Input Power:
   Standard: -1dBm
   High Sensitivity (-H): -7dBm
Fiber Size: 62 μm core / 125 μm overall

3.2. OPTICAL OUTPUT

Standards: same as optical input
Number of Outputs: 1 reclocked
Connector: SC/PC, ST/PC or FC/PC female housing
Return Loss: < 14 dB
Rise and Fall Time: 200 ps nominal
Wide Band Jitter: < 0.2 UI (reclocked)
Fiber Size: 9 μm core / 125 μm overall

Model	Wavelength	Laser Type	Line Width	Optical Power
7707OO13-HD	1310 ±20 nm	FP	< 4.5 nm	-7 dBm
7707OO13-HD-H	1310 ±20 nm	FP	< 4.5 nm	-7 dBm
7707OO15-HD	1550 ±20 nm	DFB	< 1 nm	0 dBm
7707OO27-HD	1270 ±10 nm	DFB CWDM	< 1 nm	0 dBm
7707OO29-HD	1290 ±10 nm	DFB CWDM	< 1 nm	0 dBm
7707OO31-HD	1310 ±10 nm	DFB CWDM	< 1 nm	0 dBm
7707OO33-HD	1330 ±10 nm	DFB CWDM	< 1 nm	0 dBm
7707OO35-HD	1350 ±10 nm	DFB CWDM	< 1 nm	0 dBm
7707OO37-HD	1370 ±10 nm	DFB CWDM	< 1 nm	0 dBm
7707OO43-HD	1430 ±10 nm	DFB CWDM	< 1 nm	0 dBm
7707OO45-HD	1450 ±10 nm	DFB CWDM	< 1 nm	0 dBm
7707OO47-HD	1470 ±10 nm	DFB CWDM	< 1 nm	0 dBm
7707OO49-HD	1490 ±10 nm	DFB CWDM	< 1 nm	0 dBm
7707OO51-HD	1510 ±10 nm	DFB CWDM	< 1 nm	0 dBm
7707OO53-HD	1530 ±10 nm	DFB CWDM	< 1 nm	0 dBm
7707OO55-HD	1550 ±10 nm	DFB CWDM	< 1 nm	0 dBm
7707OO57-HD	1570 ±10 nm	DFB CWDM	< 1 nm	0 dBm
7707OO59-HD	1590 ±10 nm	DFB CWDM	< 1 nm	0 dBm
7707OO61-HD	1610 ±10 nm	DFB CWDM	< 1 nm	0 dBm
7707OODxxx-HD	ITU ch. wavelengths	DFB DWDM	*	+7 dBm
7707OODxxx-HD-H	ITU ch. wavelengths	DFB DWDM	*	+7 dBm

* Line width for DWDM is not specified. Lasers specified for dispersion tolerance of 1800ps/nm are available.

3.3.   SERIAL VIDEO OUTPUTS

Number of Outputs: 2 Per Card (both outputs maintain polarity from input to output for DVB-ASI applications)
Connectors: 1 BNC per IEC 61169-8 Annex A
Impedance: 75Ω(nominal)
Signal Level: 800mV(nominal)
DC Offset: 0V ±0.5V
Rise and Fall Time: < 270ps
Overshoot: < 10% of amplitude
Return Loss: > 12dB to 1.5Ghz
Wide Band Jitter: < 0.2UI (Reclocked)

3.4.   ELECTRICAL

Voltage: +12VDC
Power: 8 Watts

3.5.   PHYSICAL

7700 or 7701 frame mounting:
   Number of slots: 1

3.6.   COMPLIANCE

Electrical Safety: CSA Listed to UL 60065-03, IEC 60065
                          Complies with CE Low voltage
                          Directive
Laser Safety: Class 1 laser product
                          Complies with 24 CFR 1040.10 and 1040.11
                          IEC 60825-1
EMI/RFI: Complies with FCC Part 15, Class A
                          EU EMC directive

4. STATUS INDICATORS AND DISPLAYS

The 7707OO-HD has 9 LED Status indicators and a 4 digit alphanumeric display on the front card edge to show operational status of the card at a glance. The card edge pushbutton is used to select various displays on the alphanumeric display. Figure 4-1 shows the location of the card edge status indicators, dot matrix display, pushbutton and jumpers.
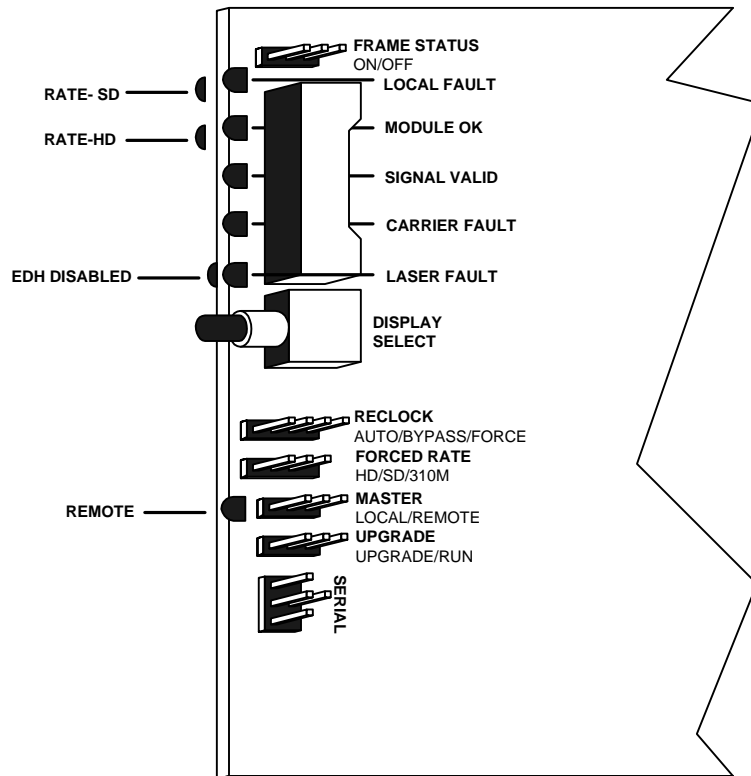

Figure 4-1: 7707OO-HD Status Indicator and Jumper Locations

4.1. STATUS INDICATOR LEDS

LOCAL FAULT: This Red LED indicates poor module health and will be On during the absence of a valid input signal or if a local power fault exists (i.e. a blown fuse). The LOCAL FAULT indication can also be reported to the frame through the FRAME STATUS jumper.

MODULE OK: This Green LED indicates good module health. It will be On when a valid input signal is present, and the board power is good.

SIGNAL VALID: This Green LED indicates the presence of a valid input signal on the optical input. The optical input is considered valid when the module has attained a lock to the signal. If the reclocker is in non-reclock mode, then the input is considered valid when the module detects the presence of a carrier.

CARRIER FAULT: This Yellow LED indicates a weak signal carrier on the optical input. The CARRIER FAULT thresholds are calibrated to an optical power of –21dBm for regular 7707OO-HD and to a power of –26dBm for 7707OO-HD-H.

LASER FAULT: This Red LED indicates poor operation of the optical output laser, leading to limited laser life. The optical output laser is enabled only while a valid input signal is detected as indicated by the SIGNAL VALID LED.

RATE - SD: This Green LED indicates that the reclocker is locked to one of the SD rates.

RATE - HD: This Green LED indicates that the reclocker is locked to the 1.485 Gb/s HD rate.

EDH DISABLED: This Yellow LED indicates that error detection on the card edge display has been deactivated by the user. Press and hold the pushbutton until the LED goes Off to enable EDH detection.

REMOTE: This Yellow LED located beside the MASTER jumper indicates that local controls of the card are disabled, and that the card is under control of the *Vista*LINK® interface. Please refer to section 6 for information about *Vista*LINK® monitoring and control.

4.2. DOT-MATRIX DISPLAY

Additional signal and status monitoring is provided via the 4-digit dot-matrix display located on the card edge. The card-edge pushbutton is used to select which data is being displayed in the alphanumeric display. Each time the pushbutton is pressed, the display advances to the next available display. A message indicating what display mode is active is shown for one second. After one second without the pushbutton being pressed, the selected display data is shown.

The following display messages indicate what is being displayed:

PWR	Input Optical Power
STD	Video Standard in Use
EDH	EDH Errors (for SD only)

The details of the optical power, video standards, and EDH error displays are described in sections 4.2.1 to 4.2.3

4.2.1. Displaying the Optical Power

The 7707OO-HD module can measure and display the input optical power over a range of 0dBm to -40dBm at 1dBm increments. The 7707OO-HD-H module can measure and display the input optical power over a range of -7dBm to -40dBm at 1dBm increments. To display the Input Optical Power press the pushbutton one or more times until the `PWR` message is shown on the display. After one second the detected input optical power will be shown (in units of dBm).

OVR	Indicates optical input powers exceeding -1dBm for 7707OO-HD and optical input powers exceeding –7dBm for 7707OO-HD-H.
-1 to –40	Optical input power within this range for 7707OO-HD.
-7 to –40	Optical input power within this range for 7707OO-HD-H.
LOW	Optical input power below –40 dBm.
LOS	Indicates that no valid input signal is present.

4.2.2. Displaying the Video Standard

When the reclocker is enabled, the 7707OO-HD detects the Video standards of the signal present at its optical input. To display the Video Standard press the pushbutton one or more times until the `STD` message is shown on the display. After one second the detected video standard will be shown. The following list describes possible displays and their meaning:

N143	SMPTE 259M-A, 143 Mb/s 4Fsc Composite NTSC
P177	SMPTE 259M-B, 177 Mb/s 4Fsc Composite PAL
N270	SMPTE 259M-C, 270 Mb/s 4:2:2 Component 525 line, 4:3
P270	SMPTE 259M-C, 270 Mb/s 4:2:2 Component 625 line, 4:3
N360	SMPTE 259M-D, 360 Mb/s 4:2:2 Component 525 line, 16:9
P360	SMPTE 259M-D, 360 Mb/s 4:2:2 Component 625 line, 16:9
N540	SMPTE 344M, 540 Mb/s 4:4:4 Component 525 line 4:3
P540	SMPTE 344M, 540 Mb/s 4:4:4 Component 625 line 4:3
HD	SMPTE 292M, 1.485 Gb/s
310M	**SMPTE 310M, 19.4 Mb/s**
BYP	Indicates the reclocker is in non-reclock mode.
LOS	Indicates that no valid input signal is present.

4.2.3. Displaying the EDH Errors

For SD rates, EDH errors are displayed in a different manner than optical power, and video standards. When EDH error detection is enabled, the display of EDH errors will take precedence, and overwrite the existing indication with the message `EDH`. The EDH error display shows if any EDH errors have occurred during the previous 1 second interval. If the EDH errors are continuous, then the display will alternate between the `EDH` display and the selected video standard or equalization displays, allowing both to be monitored.

To enable the EDH error display, press and hold the pushbutton until the EDH DISABLE LED goes OFF. To disable the EDH error display, press and hold the pushbutton until the EDH DISABLED LED turns ON. The EDH error display can only be enabled when there is a SMPTE 259M or SMPTE 344M input signal.

5.   JUMPERS AND LOCAL CONTROLS

Several jumpers, located at the front of the module are used to preset various operating modes. Figure 4-1 shows the locations of the jumpers.

5.1.   SELECTING THE RECLOCKING MODE

The RECLOCK jumper allows the user to set the reclocking mode.

RECLOCK: To enable reclocking of the input signal set the jumper to the AUTO or FORCE positions.

Set the jumper to the AUTO position, to select automatic rate selection and reclocking for 143/177/270/360/540Mb/s and 1.485Gb/s signals.

Set the jumper to the FORCED position, and the FORCE RATE jumper determines the reclocking rate.

Set the jumper to the BYPASS position to disable reclocking of the input signal. The timing and duty-cycle of the signal are not reconditioned in this mode.

5.2.   SELECTING THE RECLOCKING RATE

The FORCED RATE jumper selects the range of reclock rates when the RECLOCK jumper is set to the FORCE position.

FORCED RATE: Set the jumper to the SD position to select automatic reclocking of SMPTE 259M (143-360 Mb/s), SMPTE 305M (SDTi) and SMPTE 344M (540 Mb/s) rates.

Set the jumper to the HD position to select reclocking of SMPTE 292M (1.485 Gb/s) signals.

Set the jumper to the 310M position to select reclocking of SMPTE 310M (19.4 Mb/s) signals.

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

The FRAME STATUS jumper 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 LED's 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.

5.4. SELECTING WHETHER MODULE WILL BE CONTROLLED FROM THE LOCAL CONTROLS OR THROUGH THE *VISTA*LINK® INTERFACE

The MASTER jumper selects whether the module will be controlled from the local user controls or through the *Vista*LINK® interface.

MASTER: When this jumper is installed in the LOCAL position, the card functions are controlled through the local jumpers.

When this jumper is installed in the REMOTE position, the card functions are controlled through the *Vista*LINK® interface. The adjacent yellow LED will be ON when *Vista*LINK® control in enabled. This LED is intended to alert the user that local controls are not currently active.

5.5. CONFIGURING THE MODULE FOR FIRMWARE UPGRADES

UPGRADE: The UPGRADE jumper is used when firmware upgrades are being done to the module. For normal operation it should be installed in the *RUN* position (see NOTE 1). See the *Upgrading Firmware* section of this manual for more information.

To upgrade the firmware in the module unit pull it out of the frame. Move the UPGRADE jumper into the *UPGRADE* position (see NOTE 1). Install the Upgrade cable provided (located in the vinyl pouch in the front of this manual) onto SERIAL header at the card edge. Re-install the module into the frame. Run the upgrade as described in the *Upgrading Firmware* section of this manual. Once 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.

NOTE 1: The Rev (A) boards have incorrect labeling for the *RUN / UPGRADE* modes. The jumper labels shown in Figure 4-1 are correct. On Rev (A) boards, for normal RUN operation set the jumper to the *UPGRADE* position (as shown on the board label - away from the front of the module). For UPGRADE operation the jumper must be set to the *RUN* position (as shown on the board label - closest to the front of the board)*.

6. *VISTA*LINK® REMOTE MONITORING/CONTROL

6.1. WHAT IS *VISTA*LINK®?

*Vista*LINK® is Evertz's 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. *Vista*LINK® 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 *Vista*LINK® 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, *Vista*LINK® 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 VL-Fiber demo Manager graphical user interface (GUI), third party or custom manager software may be used to monitor and control Evertz *Vista*LINK® enabled fiber optic products.

2. Managed devices, (such as 7707EO and 7707OE cards), each with a unique address (OID), communicate with the NMS through an SNMP Agent. Evertz *Vista*LINK® enabled 7700 series modules reside in the 3RU 7700FR-C MultiFrame and communicate with the manager via the 7700FC *Vista*LINK® 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 *Vista*LINK® network, see the 7700FC Frame Controller chapter.

6.2. *Vista*LINK® MONITORED PARAMETERS

The following parameters can be remotely monitored through the *Vista*LINK® interface:

Parameter	Description
Card Type	Indicates either 7707OO-HD or 7707OO-HD-H card type.
Optical Power	A range of values describing optical power at the fiber input.
Video Standard	A range of values describing the detected video standard.
Signal Not Valid	Indicates that input signal is not valid (the state of the SIGNAL VALID LED).
Carrier Weak	Indicates a weak signal carrier (2dB before maximum input sensitivity) at the Fiber input (the state of the CARRIER FAULT LED).
Laser Not OK	Indicates deficient operation of the optical output laser (the state of the LASER FAULT LED).
EDH Error	The status of EDH errors present in the input signal.
Reclock Mode	The state of the RECLOCK jumper. Selects Auto reclocking, Bypass or Forced Rate reclocking.
Rate Mode	The state of the FORCED RATE jumper. Selects SD, HD or SMPTE 310M reclock rates when the FORCED RATE jumper is set to FORCED.
Master Jumper	The state of the MASTER jumper. When in REMOTE position the cad functions are controlled through the VistaLINK™ interface

Table 6-1: *Vista*LINK® Monitored Parameters

6.3. *Vista*LINK® CONTROLLED PARAMETERS

When the MASTER jumper is set to the REMOTE position, the following parameters can be remotely controlled through the *Vista*LINK® interface. When the MASTER jumper is set to the LOCAL position the local jumper settings will override the settings configured through the *Vista*LINK® interface.

Parameter	Description
Reclock Control	Enables or disables signal reclocking.
Rate Control	Sets the reclocking rate to SMPTE 259M, SMPTE 292M or SMPTE310M rates when RECLOCK jumper is set to FORCED position.

Table 6-2: *Vista*LINK® Controlled Parameters

6.4. *Vista*LINK® TRAPS

The following traps can be *Vista*LINK® enabled and monitored:

Parameter	Description
Signal Not Valid	Indicates that input signal is not valid (the state of the SIGNAL VALID LED).
Carrier Weak	Indicates a weak signal carrier (2dB before maximum input sensitivity) at the Fiber input (the state of the CARRIER FAULT LED).
Laser Not OK	Indicates deficient operation of the optical output laser (the state of the LASER FAULT LED).
EDH Error	The status of EDH errors present in the input signal.

Table 6-3: *Vista*LINK® Traps