# TABLE OF CONTENTS

## Figures



## Tables

# REVISION HISTORY

| REVISION | DESCRIPTION | DATE |
|---|---|---|
| 1.0 | Original Version | Jan 05 |
| 1.1 | Updated safety section and added assembly and labeling sections | Aug 05 |
| 1.2 | Updated *Vista*LINK® description and fixed format | Jun 08 |
| 1.3 | 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 DWDM cards directly with a short fiber optic cable. The 7707OO DWDM cards produce +7dBm of power which will damage the receiver if connected directly.**

# 1. OVERVIEW

The 7707OO is a *Vista*LINK® enabled, optical to optical converter for any bi-level encoded signal @ rates from 19.39Mb/s to 540Mb/s. As such it can be used for SMPTE 259M (143-360Mb/s), SMPTE 344M (540Mb/s), DVB-ASI (270Mb/s) and SMPTE 310M (19.4Mb/s) signals. Monitoring and control of card status and parameters is provided locally at the card edge, and remotely via *Vista*LINK®. The 7707OO accepts one fiber input and provides two reclocked coaxial outputs and one optical output. A coaxial SDI input can be used as a fallback source, in case of optical link failure or can be selected as the primary input.

The 7707OO 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. (See specifications for complete information).

| | | |
|---|---|---|
| **7707OO13** | 1310 nm FP | Suitable for distances > 60 km @ 270 Mb/s |
| **7707OO15** | 1550 nm DFB | Suitable for distances > 100 km @ 270 Mb/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 > 100 km @ 270 Mb/s

| | |
|---|---|
| **7707OO27** | 1270 nm DFB |
| **7707OO29** | 1290 nm DFB |
| **7707OO31** | 1310 nm DFB |
| **7707OO33** | 1330 nm DFB |
| **7707OO35** | 1350 nm DFB |
| **7707OO37** | 1370 nm DFB |
| **7707OO43** | 1430 nm DFB |
| **7707OO45** | 1450 nm DFB |
| **7707OO47** | 1470 nm DFB |
| **7707OO49** | 1490 nm DFB |
| **7707OO51** | 1510 nm DFB |
| **7707OO53** | 1530 nm DFB |
| **7707OO55** | 1550 nm DFB |
| **7707OO57** | 1570 nm DFB |
| **7707OO59** | 1590 nm DFB |
| **7707OO61** | 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 >120 km @ 270 Mb/s (for DWDM applications contact factory).

| | |
|---|---|
| **7707OODyyy** | DWDM DFB laser output, yyy – ITU channel number |

The 7707OO 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, E to O converter, to E converter, O to O wavelength converter
- Auto-rate selection, reclocking and indication for all SMPTE 259M
- standards from 143-540Mb/s
- Supports additional standards of SMPTE 305M(SDTi), SMPTE 310M(19.4Mb/s) and M2S or DVB-ASI(270Mb/s)
- Can also support Datacom/Telecom rates up to 540Mb/s
- Coaxial or optical input (jumper selectable)
- Supports single-mode and multi-mode fiber optic cable
- 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
- Independent isolated output drivers to ensure no cross channel
- loading effects and to maintain polarity from input to output for
- DVB-ASI applications
- Comprehensive signal and card status monitoring via four digit card
- edge display or remotely through SNMP and VistaLINK -enabled capability
- Detection and display of optical input power, video format and EDH errors
- Fully hot-swappable from front of frame
- Two BNC serial digital output

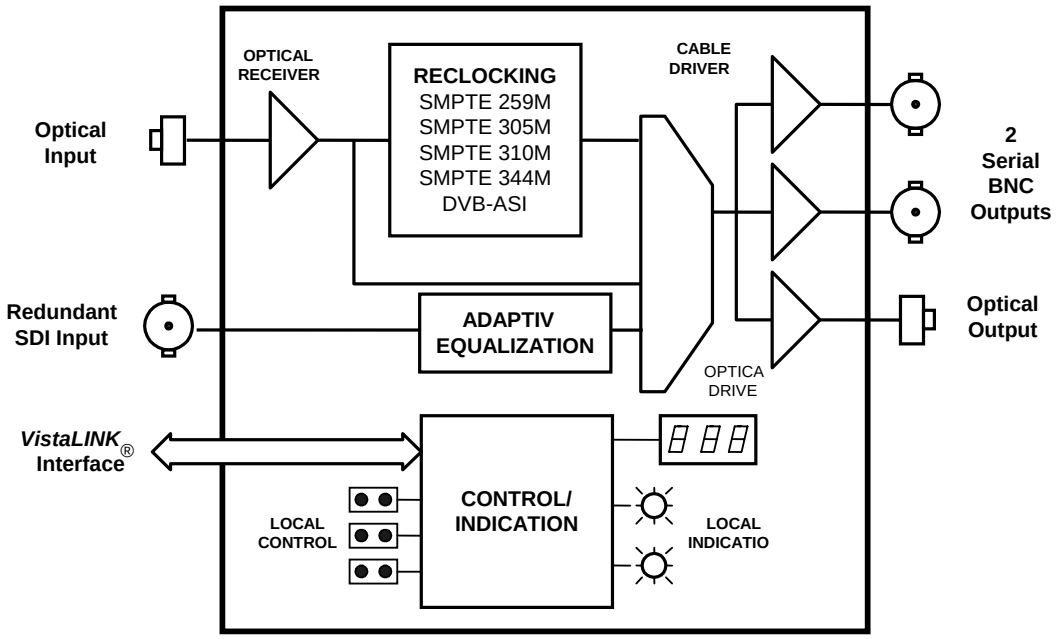


**Figure 1-1: 7707OO Block Diagram**

# 2. INSTALLATION

The 7707OO 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.

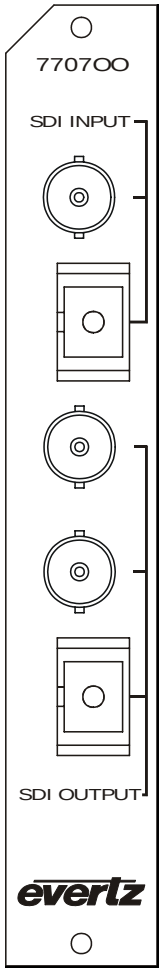


**Figure 2-1: 7707OO Rear Panel**

**OPTICAL INPUT:** Input for SDI optical signals. Available in SC/PC, ST/PC, FC/PC female connectors. Accepts SMPTE 259M, SMPTE 344M, DVB-ASI, SMPTE 305M(SDTi) or SMPTE 310M optical signals and provides auto-rate selection and reclocking for rates from 143Mb/s to 540Mb/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.

**COAXIAL SDI INPUT:** This input provides a second Serial Video input. When the SOURCE jumper is set to the AUTO mode, the module will switch to the coaxial input in case of optical link failure. In addition either input may also be selected as the sole signal source. The coaxial input is non-reclocked. (See section 5.1 for more information on setting the SOURCE jumper).

**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 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 bar code label placed on the Printed circuit board of each Evertz plug-in module.

- The Model number is one of: 7707OO13, 7707OO15
  7707OOxx, (xx = 27, 29, 31, 33, 35, 37, 43, 45, 47, 49, 51, 53, 55, 57, 59, 61)
  7707OODyyy (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 you 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 the 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 259M A, B, C, D, SMPTE 344M, SMPTE 305M, DVB-ASI, M2S |
| **Non-Reclocked:** | Any bi-level signal type at rates of 19.4Mb/s – 540Mb/s including SMPTE 310M (19.4 Mb/s) |
| **Connector:** | Female SC/PC, ST/PC or FC/PC |
| **Wavelength:** | 1270nm -1610nm |
| **Optical Sensitivity:** | -31dBm @ 270Mb/s |
| **Max. Input Power:** | 0dBm |
| **Fiber Size:** | 62 μm core / 125 μm overall |

## 3.2. COAXIAL INPUT

| | |
|---|---|
| **Normal:** | SMPTE 259M (143 to 540Mb/s) or DVB/ASI |
| **Jumper Selectable:** | SMPTE 310M (19.4Mb/s) |
| **Connector:** | 1 BNC per IEC 61169-8 Annex A |
| **Impedance:** | 75Ω(nominal) |
| **Equalization**: | Automatic to 275m(min) @ 270Mb/s with Belden 8281 cable |
| **Return Loss:** | > 15dB to 540Mb/s |

## 3.3. 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:** | 400-700 ps |
| **Jitter:** | < 0.15UI (Reclocked)<br>< 0.20UI (Non-reclocked) |
| **Fiber Size:** | 9 μm core / 125 μm overall |

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

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

### 3.4. 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:** < 900ps (nominal)
**Overshoot:** < 10% of amplitude
**Return Loss:** > 15dB to 540Mb/s
**Wide Band Jitter:** < 0.15UI (Reclocked)
< 0.20UI (Non-reclocked)

### 3.5. ELECTRICAL

**Voltage:** +12VDC
**Power:** 6 Watts (Non DWDM), 9 Watts (DWDM)

### 3.6. PHYSICAL

**7700 or 7701 frame mounting:**
**Number of slots:** 1

## 3.7. COMPLIANCE

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

# 4. STATUS INDICATORS AND DISPLAYS

The 7707OO 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.

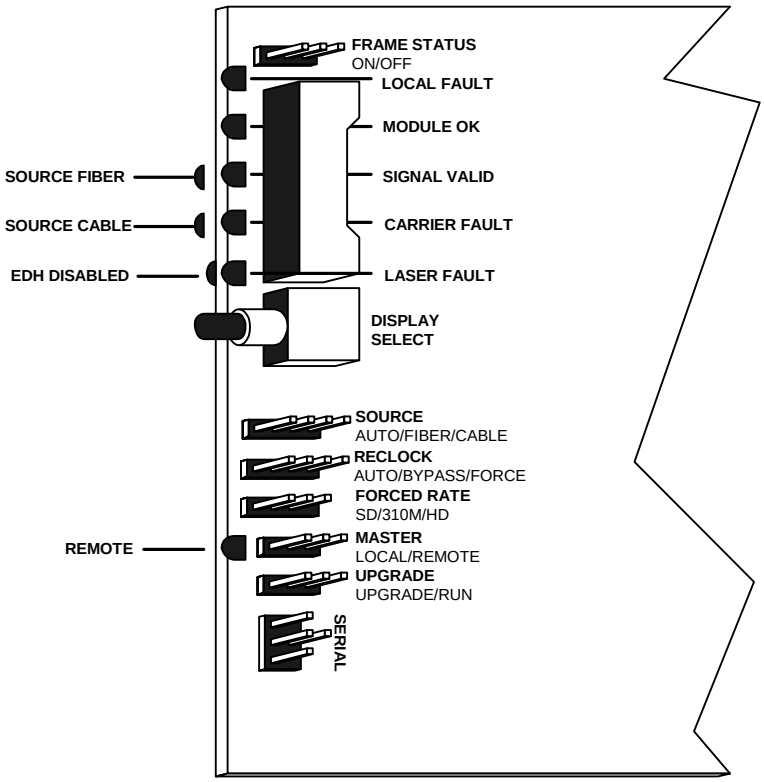


**Figure 4-1: 7707OO Status Indicator and Jumper Locations**

## 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 at either the optical or electrical input signal, (determined by the SIGNAL SOURCE jumper). The CARRIER FAULT thresholds are calibrated to an optical power of -29dBm and cable equalization of 90% (250m of Belden 8281 cable).

**SOURCE FIBER:** This Green LED will be On when the optical input is selected as the signal source.

**SOURCE CABLE:** This Green LED will be On when the coaxial input is selected as the signal source.

**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.

**EDH DISABLED:** This Yellow LED indicates that error detection on the dot-matrix 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 the local controls of the card are disabled, and that the card is under control of the *Vista*LINK® interface. (See section 6 for information regarding *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 |

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 module can measure and display the input optical power over a range of 0dBm to -40dBm at 1dBm decrements. 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 0dBm. |
| **0 to –40** | Optical input power within this range. |
| **LOW** | Optical input power below –40 dBm. |
| **LOS** | Indicates that no valid input signal is present. |
| **COAX** | Indicates that coaxial input is currently selected. |

### 4.2.2. Displaying the Video Standard

When the reclocker is enabled, the 7707OO 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. |
| **310M** | SMPTE310M, 19.4Mb/s. |
| **BYP** | Indicates the reclocker is in non-reclock mode. |
| **LOS** | Indicates that no valid input signal is present. |
| **COAX** | Indicates that coaxial input is currently selected. |

### 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 illustrates the locations of the jumpers.

## 5.1. SELECTING THE INPUT SOURCE

The SOURCE jumper allows the user to set whether the 7707OO will use the Optical or Coaxial Input. The selected input is shown by the SOURCE FIBER and SOURCE CABLE LED's, and remotely through the *Vista*LINK® interface.

**SOURCE:** Set the jumper to the AUTO position to enable automatic switching between the optical and coaxial inputs. The optical input is selected as the default signal source and the SOURCE FIBER LED will be On. If the module loses lock on the optical signal and a signal carrier is present on the coaxial input, the module will automatically switch to the coaxial input in which case the SOURCE CABLE LED will be On. If the reclocking mode is set to BYPASS (non-reclock) then the fiber input will always be selected.

Set the jumper to the FIBER position to select the optical input as the only signal source. The SOURCE FIBER LED will be On.

Set the jumper to the CABLE position to select the coaxial input as the only signal source. The SOURCE CABLE LED will be On.

## 5.2. 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 FORCE position.

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.

## 5.3. 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 310M position to select reclocking of SMPTE 310M (19.4 Mb/s) signals.

## 5.4. 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.

## 5.5. 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.

## 5.6. 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 the 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 7707OO |
| **Master Jumper** | The state of the MASTER jumper. When in REMOTE position the cad functions are controlled through the VistaLINK® interface. |
| **Optical Power** | A range of values describing optical power at the fiber input. |
| **Video Standard** | A range of values describing the detected video standard. |
| **Active Input** | Indicates whether the selected input is FIBRE or CABLE. |
| **Rate Mode** | The state of the FORCED RATE jumper. Selects SD or SMPTE 310M reclock rates when the RECLOCK jumper is set to FORCED. |
| **Reclock Mode** | The state of the RECLOCK jumper. Selects Bypass or Forced rate reclocking. |
| **Source Mode** | Indicates the position of the Source Jumper: AUTO, FIBRE or CABLE. |
| **Carrier Weak** | Indicates a weak signal carrier (2dB before maximum input sensitivity) at the Fiber input and cable equalization of 90% at coaxial input (the state of the CARRIER FAULT LED). |
| **EDH Error** | The status of EDH errors present in the input signal. |
| **Laser Not OK** | Indicates deficient operation of the optical output laser (the state of the LASER FAULT LED). |
| **Signal Not Present** | Indicates the presence of a valid input signal (the state of the SIGNAL VALID LED). |

**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 |
|---|---|
| **Rate Mode** | Sets the reclocking rate to SMPTE 259M, or SMPTE 310M rates when Reclock Mode is set to FORCED. |
| **Reclock Mode** | Enables or disables signal reclocking. |
| **Source Mode** | Sets the active input to AUTO, FIBRE or CABLE. |

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

## 6.4. *VISTA*LINK® TRAPS

The following traps can be enabled:

| Parameter | Description |
|---|---|
| **Carrier Weak** | Indicates a weak signal carrier (2dB before maximum input sensitivity) at the Fiber input and cable equalization of 90% at coaxial input (the state of the CARRIER FAULT LED). |
| **EDH Error** | The status of EDH errors present in the input signal. |
| **Laser Not OK** | Indicates deficient operation of the optical output laser (the state of the LASER FAULT LED). |
| **Signal Not Present** | Indicates the presence of a valid input signal (the state of the SIGNAL VALID LED). |

**Table 6-3: *Vista*LINK® Traps**

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