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REVISION HISTORY

REVISION	DESCRIPTION	DATE
1.0	First Release	Nov 04
1.1	Updated safety section and added assembly and labeling sections	Aug 05
1.2	Change of 7707RGBR-A2KM-F2 part number to 7707RGBR-A2KM-USB-F2	Sept 05
1.3	Added DVIR; coaxial & G-Link options; other updates & corrections	July 06
1.3.1	Added LED functionality table	Mar 07
1.3.2	Fixed referencing and typos-1q	April 07
1.4	Added 7707RGBR-A2-GC rear plate to Figure 2-1. Added tables to section 4.	Jan 09

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 7707RGBR/DVIR DWDM cards directly with a short fiber optic cable. The 7707RGBR/DVIR DWDM cards produce +7dBm of power which will damage the receiver if connected directly.

1. OVERVIEW

The 7707RGBR RGB Fiber Receiver extends one digital (DVI) or analog (RGB) video display connection over a single fiber optic link with display resolutions up to WUXGA (1920 x 1200). The DVI-I connector combines analog and digital display technologies, promoting optimal compatibility with different display types. Two optional analog audio outputs are also available, as well as optional serial data, USB, keyboard, and mouse. These options facilitate complete remote computer control and display, including the ability to connect USB peripherals. The 7707RGBR is designed to operate with a companion 7707RGBT transmitter.

The 7707DVIR provides the same features listed above, but only accepts a digital (DVI) input.

Instead of fiber optic cable connections, the -C and –C2 versions of the card provide an economical 3.125 Gb/s electrical coaxial link.

The –GF version provides a fiber optic link and the –GC version provides a coaxial link to receive an RGB or DVI signal from Evertz MVP™ or VIP™ multi-display products using the G-Link protocol.

Monitoring and control of card status and card parameters are provided locally, at the card-edge, or remotely via *Vista*LINK® capability. The 7707RGBR/DIVIR has a wide-band optical input and can accept any wavelength between 1270nm and1610nm.

Features:

- Digital (DVI) and analog (RGB) display technologies are supported through one interface on the 7707RGBR.
- Available in a variety of fiber optic and coaxial versions
- VESA video resolutions supported up to WUXGA (1920x1200).
- Two optional analog audio channels
- Optional keyboard, mouse and serial
- Optional USB interface
- Optional G-Link support for use with Evertz VIP™ and MVP™ multi-display products
- Full 24 bits per pixel color resolution
- Convenient audio monitoring headphone jack with adjustable volume
- Full-bandwidth 3 Gb/s signal transport over fiber – no compression or sub-sampling
- Ideal for use with high resolution LCD, plasma or projection screens
- All configuration settings are controllable through the card-edge user interface, or *Vista*LINK®.
- Comprehensive signal and card status monitoring via four-digit card-edge display, or *Vista*LINK®.
- Wide-band optical input is compatible with standard, CWDM, or DWDM transmission schemes.
- Compatible with multi-mode and single-mode fiber.
- SC/PC, ST/PC, or FC/PC fiber connector options.
- Fully hot swappable from front of frame.
- *Vista*LINK® enabled for remote monitoring and control when installed in 7700FR-C frame with 7700FC Frame Controller.

Fiber Type	Optical/Link Budget	Transmit Side		Receive Side		Description
		Ordering Product Info	TX Power	Ordering Product Info	RX Sensitivity	
Multi-Mode	< 500m	7707RGBT13-A2KM-USB-F2	-7dBm	7707RGBR13-A2KM - USB-F2	-21dBm	1310nm on Tx and Rx fibers
Single-Mode	14dB/40km	7707RGBT13-A2KM - USB-F2	-7dBm	7707RGBR13-A2KM - USB-F2	-21dBm	1310nm on Tx and Rx fibers
Single-Mode	17dB/48km*	7707RGBT15-A2KM -W	-2dBm	7707RGBR13L-A2KM -W	-19dBm	1310nm/1550nm WDM bi-directional, one fiber
Single-Mode	17.5dB/70km**	7707RGBTxx-A2KM - USB-F2	0dBm	7707RGBRyy-A2KM - USB-F2	-21dBm	Different CWDM Wavelengths for Tx & Rx, with 8Ch CWDM Mux/Demux**
Single-Mode	23dB/92km***	7707RGBTDxxx-A2KM - USB-F2	+7dBm	7707RGBRDyyy-A2KM - USB-F2	-21dBm	Different DWDM Wavelengths for Tx & Rx, with 8Ch DWDM Mux/Demux***

* With >20dB return loss on fiber interfaces
** Assumes 8Ch CWDM Mux/Demux loss of 3.5dB
*** Assumes 8Ch DWDM Mux/Demux loss of 5dB

Tx Power/Rx Sensitivity are nominal values of ± 1dBm
Fiber loss =0.35/0.25dB per km @ 1310nm/1550nm

Table 1-1: Typical Application Configurations

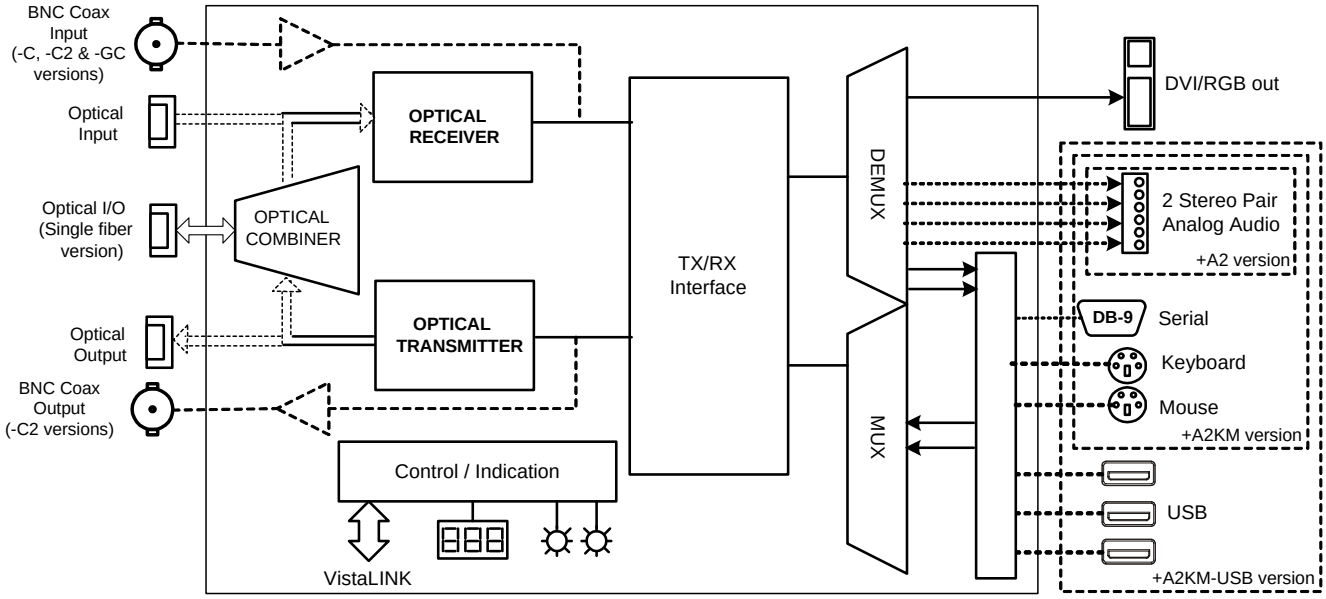

Figure 1-1: 7707RGBR Block Diagram

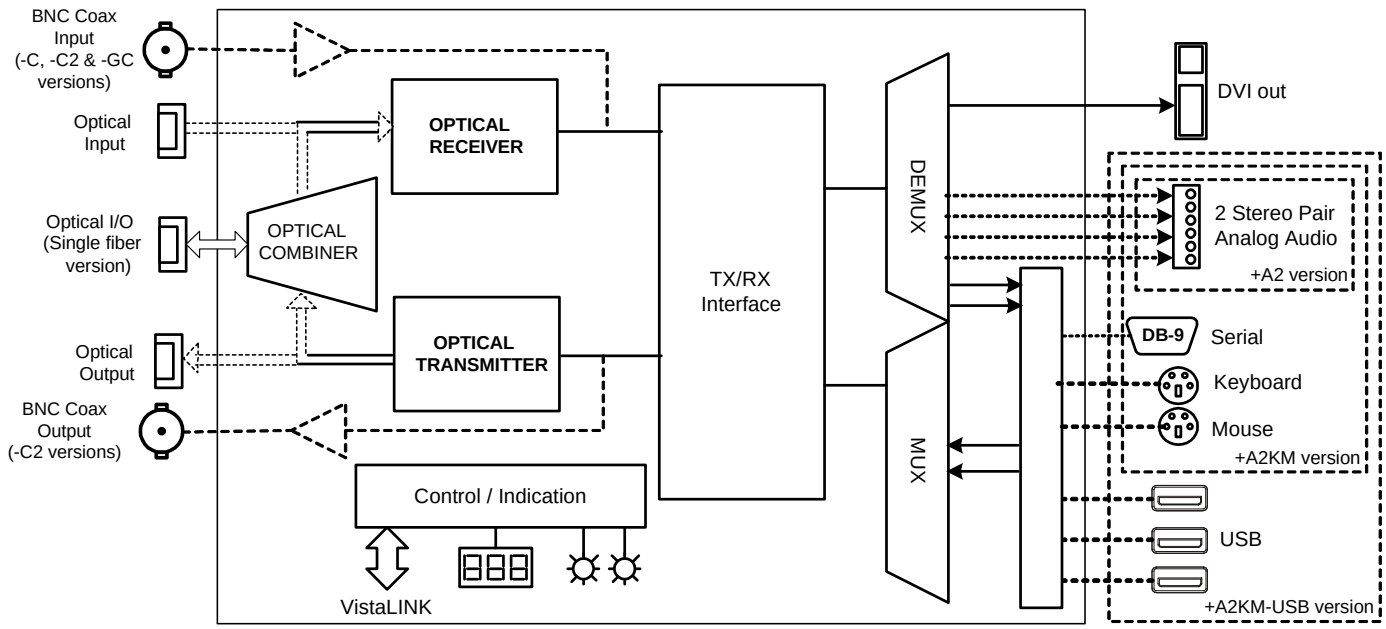

Figure 1-2: 7707DVIR Block Diagram

2. INSTALLATION

Each 7707RGBR/DVIR module comes with a companion rear plate that has one DVI-I video connector and (depending on the options ordered) may also have analog audio terminals, PS2 keyboard and mouse connectors, a DB9 serial connector, and three type-A USB connectors. In addition, there will be SC/PC (shown), ST/PC, or FC/PC optical connector(s) and/or a BNC connector for link connections. On 7707RGBR models only, the DVI-I connector supports combined analog and digital video through a single interface. An industry-standard DB-15 connector adapter may be used for RGB. For information on mounting the rear plate and inserting the module into the frame, see section 3 of the 7700FR chapter. The following diagrams show some sample rear plate options for the 7707RGBR and 7707DVIR.

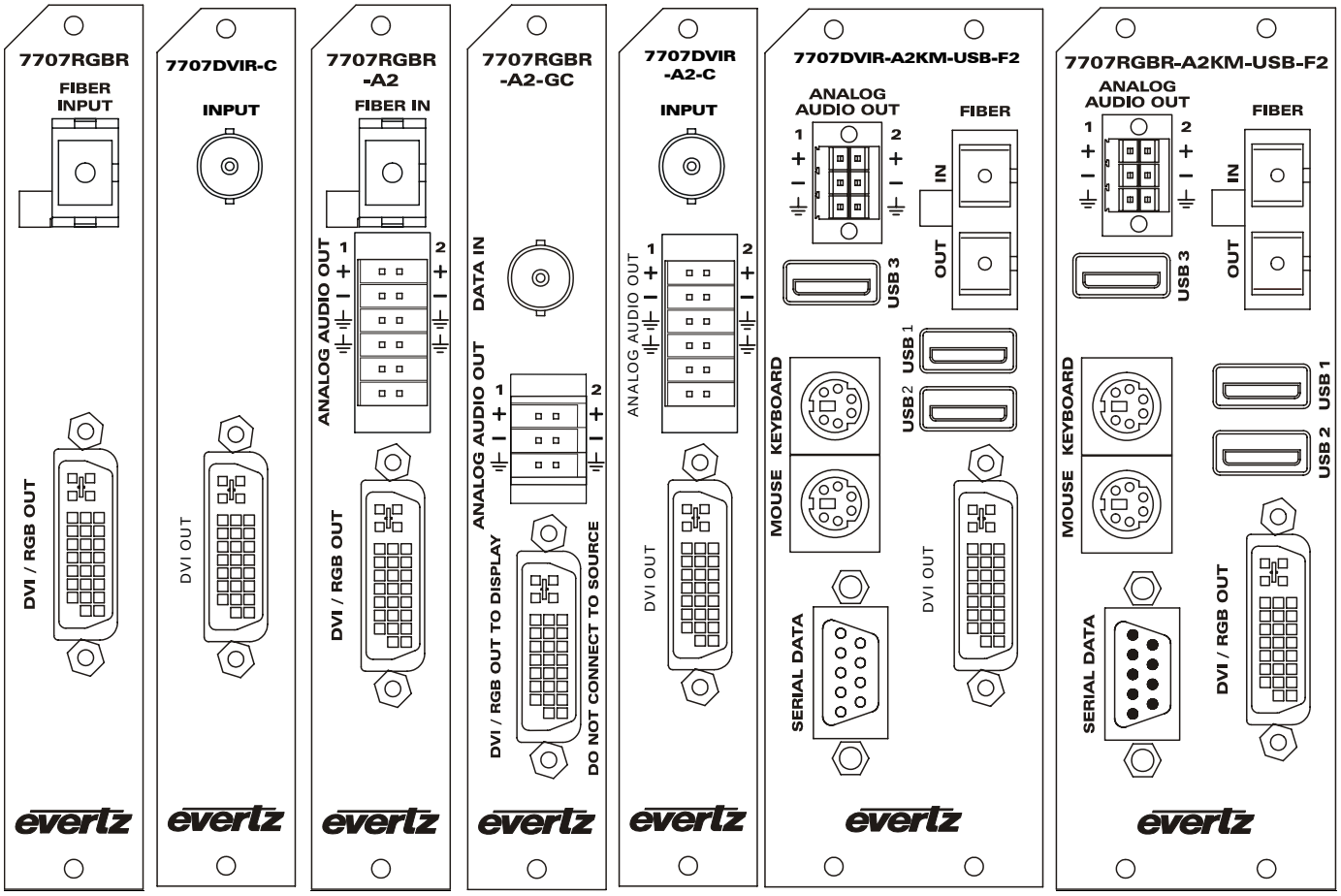

Figure 2-1: 7707RGBR/DVIR Rear Panels

2.1. OPTICAL CONNECTIONS

FIBER INPUT: There is one SC/PC (shown), ST/PC or FC/PC female connector for the optical input to the 7707RGBR/DVIR. This wide band optical input accepts optical wavelengths of 1270nm to 1610nm, accommodating standard or CWDM transmission schemes. This input is compatible with multimode fiber when connected directly to a companion 7707RGBT/DVIT transmitter. On the 7707RGBR/DVIR-GF versions, this connector will accept an input signal in the G-Link format for connection to Evertz MVP™ multi-display products.

FIBER OUTPUT (F2 Versions): There is one SC/PC (shown), ST/PC, or FC/PC female connector when the 7707RGBT/DVIT is equipped with an optical output. The optical output is available in 1310nm, 1550nm, CWDM (ITU-T G.694.2 compliant) and DWDM (ITU G.694.1 compliant) wavelengths. This connector is compatible with multimode fiber when connected directly to a companion 7707RGBT/DVIT transmitter.

FIBER I/O (A2KM-W Version Only): There is one SC/PC (shown), ST/PC or FC/PC female connector with the optical input/output for the 7707RGBT/DVIT15-W version. This connector should be mated to a companion 7707RGBR13L-W version card using single-mode fiber optic cable.

All single fiber versions of the 7707RGBR13L-W are designed to work only with single-mode fiber optic cable.

2.2. SIGNAL CONNECTIONS

VIDEO OUTPUT: The 7707DVIR accommodates display devices with digital DVI connections only. The 7707RGBR DVI-I connector accommodates analog and digital display technologies, promoting optimal compatibility with different display types. Display devices with DVI connectors may be connected directly to this port. A DB-15 RGB connection may also be accommodated using an industry standard DB-15 to DVI-I adapter such as the Belkin F2E4162, or appropriately terminated cable assembly such as the Amp 16539332-1.

Note: When making digital DVI connections, Evertz recommends using only high quality DVI cables, no longer than 6 feet (1.8m).

AUDIO OUTPUTS (A2 & A2KM Versions): The 7707RGBR/DVIR-A2 and 7707RGBR/DVIR-A2KM modules provide a terminal block for output connections compatible with either balanced or unbalanced analog audio. Balanced audio signals should be connected to the positive (+) and negative (-) output terminals. Unbalanced audio signals should be connected to the positive (+) input terminal, and a jumper connection should be installed between the negative (-) input terminal and the ground terminal (⏚).

KEYBOARD (A2KM Versions): The 7707RGBR/DVIR-A2KM provides a PS2 port for a keyboard connection. Connect this port to a standard PS2 keyboard.

MOUSE (A2KM Versions): The 7707RGBR/DVIR-A2KM provides a PS2 port for a mouse connection. Connect this port to a standard PS2 mouse.

SERIAL (A2KM Versions): Female DB9 RS232 serial port with standard PC style layout. This port may be connected to serial peripherals. This port may also operate in RS422 mode by changing a user-selectable menu item (see section 4.2.7).

USB PORTS (USB Versions): When equipped with the USB option, the 7707RGBR/DVIR provides three type-A USB ports. These ports may be used to connect USB peripherals.

2.3. BNC CONNECTIONS

INPUT (-C, -C2, -GC versions): BNC connector for the electrical link input of the 7707RGBR/DVIR. This signal should be connected to the Tx port of a companion 7707RGBT/DVIT. –GC versions will accept a G-Link formatted signal for connection to Evertz MVP™ multi-display products.

OUTPUT (-A2KM-C2 versions): BNC connector for the electrical link output of the 7707RGBR/DVIR. This signal should be connected to the Rx port of a companion 7707RGBT/DVIT. This connection may be extended using Belden 1694 or equivalent cable.

2.4. CARE AND HANDLING OF OPTICAL FIBER

2.4.1. Safety

CLASS 1 LASER PRODUCT

Background colour: yellow
Triangular band: black
Symbol: black

2.4.2. Assembly

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

2.4.3. Labeling

Certification and Identification labels are combined into one label. As there is not enough room 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: 7707RGBR, 7707RGBR-A2, 7707RGBR13-A2KM- F2, 7707RGBR13-A2KM-USB-F2, 7707RGBR13M-A2KM-W
  7707 RGBR xx, (xx = 27, 29, 31, 33, 35, 37, 43, 45, 47, 49, 51, 53, 55, 57, 59, 61)
  7707 RGBR Dyyy (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). 7707DVIR part numbers are similar, replacing “RGBR” with “DVIR”.

Figure 2-2: Reproduction of Laser Certification and Identification Label

2.4.4. 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 about 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. ANALOG VIDEO OUTPUTS

Number of Signals: 1
Signal Type: RGB
Sync Type: H and V, or Sync on Green
Connector: DVI-1 with Analog, or 15-pin HD-15 VGA Analog (with adapter)
Display Resolution:
Non-A2KM versions: Up to WUXGA, 1920x1200 @ 75Hz
-A2KM versions: Up to WUXGA, 1920x1200 @ 60Hz
Colour Depth: 24 Bit
Analog Bandwidth: 300MHz (min)
Impedance: 75Ohm
Analog Output Level: 1.4Vp-p (max)
SNR: >55dB
Linear Distortion: 2% (max)
Intensity Distortion: 2% (max)

3.2. DIGITAL VIDEO OUTPUTS

Number of Signals: 1
Signal Type: TMDS, per DVI specification
Connector: DVI-I
Display Resolution:
Non-A2KM versions: Up to WUXGA, 1920x1200 @ 75Hz
-A2KM versions: Up to WUXGA, 1920x1200 @ 60Hz
Colour Depth: 24-Bit

3.3. DIGITAL VIDEO CONTROL

Number of Signals: 1
Signal Type: DDC2B, per DVI specification
Connector: DVI-I

3.4. ANALOG AUDIO OUTPUTS (A2 & A2KM VERSIONS)

Number of Signals: 2
Type: Balanced or unbalanced analog audio
Connector: 12-pin Removable Terminal Block
Output Level:
Into High Impedance: +24dBu (max)
Into 600Ω: +23dBu (max)
Level: -20dB to +3dB
Frequency Response: ±0.1dB (max, 20Hz to 20KHz)
THD + Noise: 0.005% (max, 20Hz to 20KHz)
S/N Ratio: >85dB (min)
Channel Phase: ±1° (max, 20Hz to 20KHz)
Output Impedance: >20kΩ (nom, differential)

3.5. KEYBOARD/MOUSE INPUT/OUTPUT (A2KM VERSIONS)

Number: 2
Connector: 1 PS2 each for keyboard and mouse

3.6. SERIAL PORT (A2KM VERSIONS)

Standard: RS232 or RS422 (user selectable)
Number: 1
Connector: DB9M

3.7. USB PORT (USB VERSIONS)

Standard: USB 1.1
Number: 3
Connector: USB type-A

3.8. OPTICAL INPUT

Connector: SC/PC, ST/PC, FC/PC female housing
Input Wavelength: 1270 to 1610nm (min)
Input Power: 0dBm (max)
Input Optical Sensitivity: -19dBm

3.9. COAXIAL INPUT (- C2, -C2 VERSIONS)

Number: 1
Connector: BNC per IEC 61169-8 Annex A

3.10. OPTICAL OUTPUT

Connector: SC/PC, ST/PC, FC/PC female housing
Fiber Size and Type: Single Fiber versions: 9 μm core / single mode
Output Wavelengths:
- **Standard:** 1310nm, 1550nm (nominal)
- **CWDM:** 1270nm to 1610nm (ITU-T G.694.2 compliant)
- **DWDM:** 1530nm to 1560nm (ITU-T G.694.1 compliant)

Output Power:
- **1310nm FP (Standard):** -7 dBm ±1dBm
- **-W Version:** -1 dBm ±1dBm
- **CWDM DFB**: 0 dBm ±1dBm
- **DWDM DFB:** +7 dBm ±1dBm

3.11. COAXIAL OUTPUT (-C2 VERSIONS)

Number: 1
Connector: BNC per IEC 61169-8 Annex A
Cable Equalization: Automatic

3.12. ELECTRICAL

Voltage: 12V DC (nom)
Power:
Non DWDM Laser: 11 Watts (max)
DWDM Laser: 14 Watts (max)

3.13. PHYSICAL

7700 or 7701 frame mounting:
Number of Slots:
Standard and A2 Versions: 1 slot
A2KM Versions: 2 slots

4. CARD-EDGE MONITORING AND CONTROL

The 7707RGBR/DVIR has up to nine LED status indicators and a 4-digit dot-matrix display on the front card-edge to show operational status of the card at a glance. The card-edge pushbutton and toggle switch are used to select various control and status indications to the dot-matrix display. Additionally, an optional audio monitoring headphone jack is provided at the card-edge, for verification of signal presence and content. Figure 4-1 shows the locations of the indicators and controls. Refer to Table 4-1 for LED functionality on different cards.

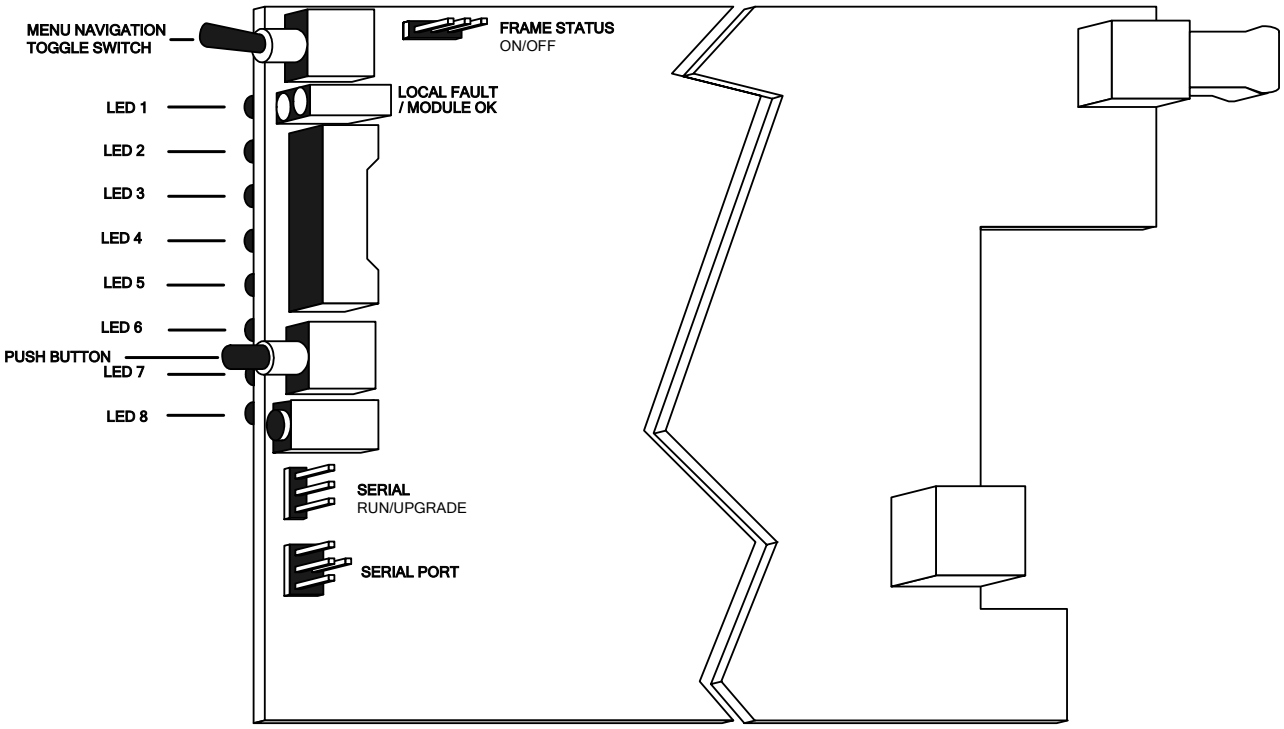

Figure 4-1: Location of Status Indicators and Jumpers

	7707 RGBR	7707 RGBR-A2	7707 RGBR-A2-GF	7707 RGBR-A2KM	7707 RGBR-A2KM-USB
LED 1	VIDEO PRESENT	VIDEO PRESENT	VIDEO PRESENT	VIDEO PRESENT	VIDEO PRESENT
LED 2	DISPLAY PRESENT	DISPLAY PRESENT	AUDIO 1	DISPLAY PRESENT	DISPLAY PRESENT
LED 3	(RESERVED)	AUDIO 1	AUDIO 2	AUDIO 1 PRESENT	AUDIO 1 PRESENT
LED 4	(RESERVED)	AUDIO 2		AUDIO 2 PRESENT	AUDIO 2 PRESENT
LED 5				(RESERVED)	USB 1 CONNECTED
LED 6				(RESERVED)	USB 2 CONNECTED
LED 7				(RESERVED)	USB 3 CONNECTED
LED 8				(RESERVED)	(RESERVED)

Table 4-1: LED Functionality

4.1. STATUS INDICATOR LEDS

LOCAL FAULT: This red LED indicates poor module health. Several conditions could cause this fault indication to be active:

- o A link with a companion 7707RGBT/DVIT has not been achieved
- o A card power fault exists (i.e. a blown fuse)
- o No input video
- o Laser fault (-A2KM versions)

The LOCAL FAULT indication can also be reported to the frame by setting the FRAME STATUS jumper.

MODULE OK: This green LED indicates good module health. It will be On while a link is maintained with a companion 7707RGBT/DVIT, and the card power is good.

VIDEO PRESENT: When active, this green LED indicates that a video signal is present at the optical input, and is compatible with the connected video display. Video format compatibility is determined using DDC (Display Data Channel) information detected from the video display. If no DDC information is detected from the video display (Display Present LED is off), then any received video format will be considered valid.

DISPLAY PRESENT: This green LED indicates that DDC (Display Data Channel) control data is detected from the connected video display. If no DDC data is detected, then any received video signal will appear at the outputs without qualification of display compatibility.

AUDIO PRESENT (A2 & A2KM Versions): These two green LED's indicate the signal presence of the two respective audio input channels. Signal presence indication considers the audio detection threshold set by the user on the transmitter card (Refer to 7707RGBT/DVIT manual for more information).

USB CONNECTED (USB Versions): These three green LED's indicate that a USB connection is established on the respective port.

4.2. CARD-EDGE DISPLAY AND CONTROLS

Additional signal and status monitoring is provided via the 4-digit dot-matrix display located at the card-edge. The card-edge pushbutton and toggle-switch are used to navigate through the display menu. Figure 4-2 provides a quick reference of the display menu structure.

Pressing the pushbutton advances the display to the next menu level. The toggle-switch may then be used to move up or down through selections of that menu level. Select BACK to return to the top menu level.

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

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.

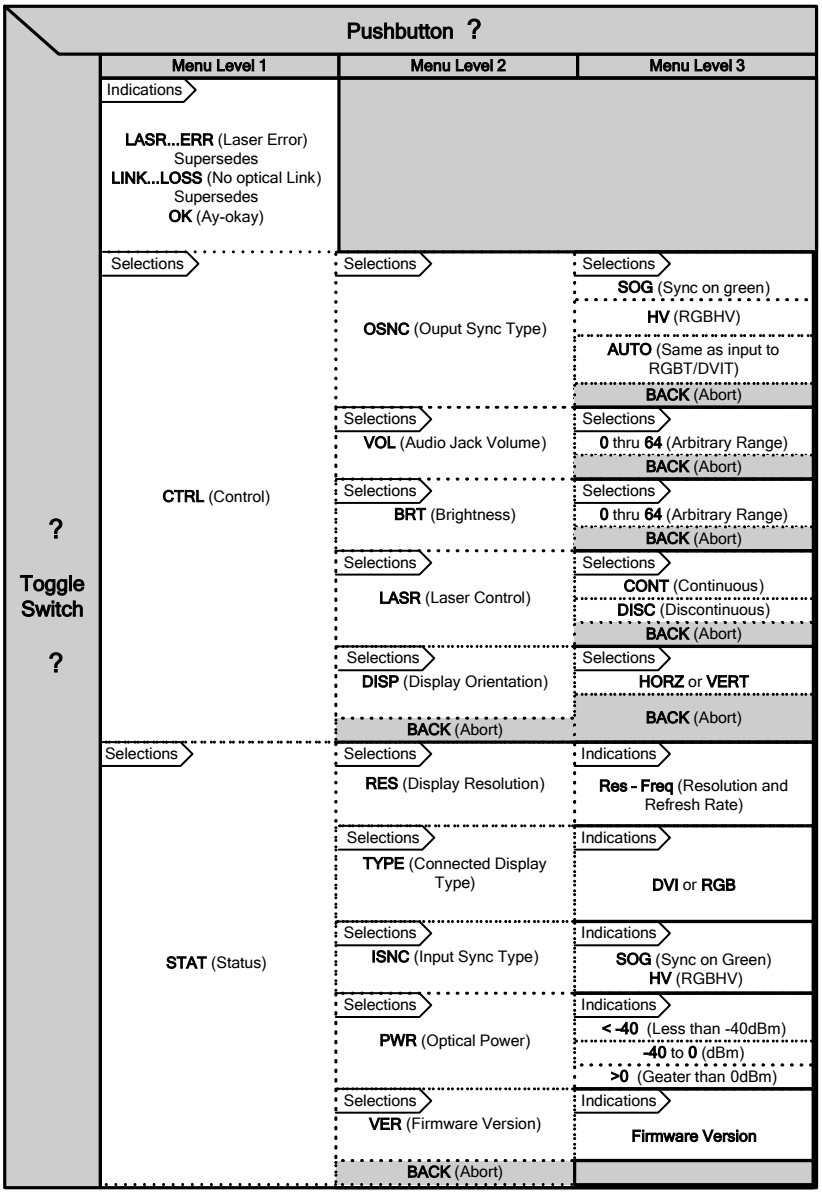

Figure 4-2: 7707RGBR/DVIR Card Edge Menu Flow Cart

4.2.1. Card-Edge Display Warning Indications

There are flashing warning indicators that may appear on the display of the 7707RGBR/DVIR. These warning indications can overwrite other display text, and supersede each other by order of priority. By pressing the pushbutton, a warning indication can be cleared from the display, and access to other menu items is maintained. Possible warning indications are:

LASR…ERR	Laser error - warns of laser (if equipped) end-of-life condition.
LINK…LOSS	Optical link not established.
OK	Optical link established, no video input or laser (if equipped) problems.

4.2.2. Selecting the Output Sync Type (7707RGBR Models Only)

The 7707RGBR is capable of producing different sync signals, depending on the requirements of the connected display equipment. The available sync types are sync on green and RGBHV. The 7707RGBR will choose an output sync type based on the sync type detected at the 7707RGBT (AUTO mode) or it may be forced to produce sync on green or RGBHV regardless of the sync type detected at the 7707RGBT.

- *CTRL*
  - *OSNC*
    - *SOG*
    - *HV*
    - *AUTO*

To change the output sync type, select the CTRL menu item in menu level 1. Use the toggle switch to select the OSNC menu item and press the pushbutton. Select from the following options:

SOG: Sync On Green
HV: RGBHV
AUTO: Output same sync type as detected at the input of the 7707RGBT

4.2.3. Adjusting the Headphone Jack Volume (A2 & A2KM Versions Only)

The 7707RGBR/DVIR provides a convenient audio monitoring headphone jack at the card-edge. This jack can be used to verify signal presence or content for each audio channel. The headphone jack volume can be adjusted via the card-edge interface.

- *CTRL*
  - *VOL*
    - *0 - 64*

To configure the headphone jack, select the CTRL menu item in the first menu level. The 7707RGBR/DVIR allows the user to control the headphone monitoring jack volume. Use the toggle switch to select the VOL menu item and press the pushbutton. The toggle switch may then be used to change the volume. Press the pushbutton to apply the displayed value and return to the first menu level. The following selections are available for this menu item:

0 to **64:** Range of volume selection for the headphone monitoring jack.

The factory default configuration applies an audio volume value of 20.

4.2.4. Adjusting the Output Brightness (7707RGBR Models Only)

The 7707RGBR allows adjustment of the output signal brightness to accommodate display devices with varying input sensitivities.

CTRL
- *BRT*
  - *0 - 64*

To adjust the brightness, select the CTRL menu item in the first menu level. Use the toggle switch to select the BRT menu item and press the pushbutton. The toggle switch may then be used to change the level. Press the pushbutton to apply the displayed value and return to the first menu level. The following selections are available for this menu item:

0 to **64:** Range of brightness selection

The factory default configuration applies a brightness value of 0, which will output a signal equivalent in brightness to that received at the 7707RGBT.

4.2.5. Selecting the Output Laser Enable Mode (A2KM Versions Only)

In some applications, it is beneficial to disable the laser output with no input signal present. Alternatively, it may be preferable to maintain an optical output signal, even with no input. The 7707RGBR/DVIR supports both modes of operation.

CTRL
- *LASR*
  - *CONT*
  - *DISC*

To configure the mode *laser enable*, select the CTRL menu item in the first menu level. Use the toggle switch to select the LASR menu item and press the pushbutton. The toggle switch can then be used to change the mode of operation. Press the pushbutton to apply the displayed selection and return to the first menu level. The following selections are available for this menu item:

CONT: Continuous operation. Laser is always enabled, even without an active input signal.

DISC: Discontinuous operation. Laser is disabled when no active input signal is detected.

The factory default configuration applies the CONT mode of laser enable.

4.2.6. Setting the Orientation of the Text on the Card Edge Display

The DISP option allows the user to set a horizontal or vertical orientation for the card edge display.

- *CTRL*
  - *DISP*
    - *HORZ*
    - *VERT*

To set the display orientation, select the CTRL menu item in the first menu level, then use the toggle switch to show the DISP menu selection and use the pushbutton to select it. Use the toggle switch to change between HORZ and VERT. Press the pushbutton to make your selection.

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.

4.2.7. Displaying the Video Resolution and Refresh

The 7707RGBR/DVIR will detect and indicate the video format present at the optical input. It should be ensured that this format is compatible with the connected video display. Most video displays will return DDC (Display Data Channel) control data to the 7707RGBR/DVIR. This DDC data contains information describing video formats compatible with the connected display. If the format of the received video signal is not compatible with the connected display, then the output is switched off and a TYPE… ERR warning is indicated in the display. If no DDC information is detected from the video display (Display Present LED is off), then any received video format will be considered valid.

- *STAT*
  - *RES*
    - *RES - FREQ*

To display the video format indication, select the STAT menu item in menu level 1. Use the toggle switch to select the RES menu item and press the pushbutton. Following this selection, a scrolling indication of the video format will appear on the card-edge display, including resolution and refresh rate. If no video signal is detected, the display will indicate NONE. To exit the resolution display, press the pushbutton to return to the previous menu level.

4.2.8. Displaying the Connected Display Type (7707RGBR Models Only)

The 7707RGBR will display the video source type connected to the 7707RGBT.

- *STAT*
  - *TYPE*
    - *DVI*
    - *RGB*

To indicate the video source type, select the STAT menu item in menu level 1. Use the toggle switch to select the TYPE menu item and press the pushbutton. One of the following will be indicated:

CRT: RGBT input video is RGB.
LCD: RGBT input video is DVI.

To exit the Display Type display, press the pushbutton to return to the previous menu level.

4.2.9. Displaying the Input Video Sync Type (7707RGBR Models Only)

The 7707RGBR can display the type of sync signal that is present at the video input of the 7707RGBT transmitter. To indicate the input sync type, select the STAT menu item in menu level 1. Use the toggle switch to select the ISNC menu item and press the pushbutton.

STAT *ISNC* *SOG* *HV*	**SOG:** Sync signal at the RGBT input is Sync On Green **HV:** Sync signal at the RGBT input is RGB H and V To exit the Input Sync Type display, press the pushbutton to return to the previous menu level.

4.2.10. Displaying the Input Optical Power

The 7707RGBR/DVIR can measure and display optical power over a range of –40 to 0dBm in 1dBm increments. To display the optical power, select the STAT menu item in menu level 1. Use the toggle switch to select the PWR menu item and press the pushbutton.

STAT *PWR* *< -40* *-40 to 0* *> 0*	**LOW** Optical input power is below –40dBm. **-40 to 0** Optical input power in dBm units. **OVR** Optical input power is in excess of 0dBm.

4.2.11. Displaying the Firmware Version

STAT *VER* *Firmware Version*	The VER option displays the card's current 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 BLD 067

5. JUMPER 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 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.

5.2. CONFIGURING THE MODULE FOR FIRMWARE UPGRADES

RUN/UPGRADE: The RUN/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 the *Upgrading Firmware* chapter in the front of the binder for more information.

To upgrade the firmware in the module unit pull it out of the frame. Move the RUN/UPGRADE jumper J16 into the *UPGRADE* position. Install the Upgrade cable provided (located in the vinyl pouch in the front of the binder) onto SERIAL header J7 at the card edge. Re-install the module into the frame. Run the upgrade as described in *Upgrading Firmware* chapter in the front of the binder. Once the upgrade is complete, remove the module from the frame, move J16 into the *RUN* position, remove the upgrade cable and re-install the module. The module is now ready for normal operation.

6. *VISTA*LINK® REMOTE MONITORING/CONTROL

6.1. WHAT IS *VISTA*LINK®?

VistaLINK® 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. 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 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 7707RGBR 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 and 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 Name	Notes	Description
Input Video Resolution		Input video resolution
Optical Power		Input optical power
Card Type		Card Type
Source Video Type	RGBR models only	Source video type connected to RGBT (CRT=RGB, LCD=DVI)
Output Video Resolution	-A2KM versions	Resolution of video output at the receiver
RGBT Input Sync	0 = none 1 = RGBHV 2 = Sync on Green	Input video sync type

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

6.3. *VISTA*LINK® CONTROLLED PARAMETERS

When the CONTROL 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 Name	Notes	Description
Laser	-A2KM versions 0 = discontinuous 1 = continuous	Laser continuous or discontinuous mode
Optical power alarm threshold	All except coaxial versions	Low optical power level for alarm trap
Video output on link loss	0 = black 1 = suspend 2 = power down	Video output mode on optical link loss
Output video control	0 = normal 1 = black 2 = suspend 3 = power down	Control of video output – allows output of link video, black or DPMS modes
RGBR output sync	0 = Auto 1 = RGBHV 2 = Sync on Green	Controls sync type on RGB output
V-Shift		Adjusts the vertical position of the output picture
H-Shift		Adjusts the horizontal position of the output picture

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