EQT SERIES ROUTERS

SYSTEM MANUAL

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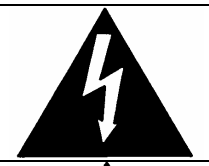
Version 1.2. June 2009

IMPORTANT SAFETY INSTRUCTIONS

	The lightning flash with arrowhead symbol within an equilateral triangle is intended to alert the user to the presence of un-insulated “Dangerous voltage” within the product’s enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.
	The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (Servicing) instructions in the literature accompanying the product.

- Read these instructions.
- Keep these instructions.
- Heed all warnings.
- Follow all instructions.
- Do not use this apparatus near water.
- Clean only with dry cloth.
- Do not block any ventilation openings. Install in accordance with the manufacturer’s instructions.
- Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
- Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding-type plug has two blades and a third grounding prong. The wide blade or the third prong is provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
- Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles and the point where they exit from the apparatus.
- Only use attachments/accessories specified by the manufacturer
- Unplug this apparatus during lightning storms or when unused for long periods of time.
- Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

WARNING
TO REDUCE THE RISK OF FIRE OR ELECTRIC – SHOCK, DO NOT EXPOSE THIS APPARATUS TO RAIN OR MOISTURE

WARNING
DO NOT EXPOSE THIS EQUIPMENT TO DRIPPING OR SPLASHING AND ENSURE THAT NO OBJECTS FILLED WITH LIQUIDS ARE PLACED ON THE EQUIPMENT

WARNING
TO COMPLETELY DISCONNECT THIS EQUIPMENT FROM THE AC MAINS, DISCONNECT THE POWER SUPPLY CORD PLUG FROM THE AC RECEPTACLE

WARNING
THE MAINS PLUG OF THE POWER SUPPLY CORD SHALL REMAIN READILY OPERABLE

INFORMATION TO USERS IN EUROPE

NOTE

This equipment with the CE marking complies with both the EMC Directive (2004/108/EC) and the Low Voltage Directive (2006/95/EC) issued by the Commission of the European Community.

Compliance with these directives implies conformity to the following European standards:

- EN60065 Product Safety
- EN55103-1 Electromagnetic Interference Class A (Emission)
- EN55103-2 Electromagnetic Susceptibility (Immunity)

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to the European Union EMC directive. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

CE	EN60065 EN55103-1: 1996 EN55103-2: 1996	Safety Emission Immunity

	EN504192 2005 Waste electrical products should not be disposed of with household waste. Contact your Local Authority for recycling advice

INFORMATION TO USERS IN THE U.S.A.

NOTE

FCC CLASS A DIGITAL DEVICE OR PERIPHERAL

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

WARNING

Changes or Modifications not expressly approved by Evertz Microsystems Ltd. could void the user's authority to operate the equipment.

Use of unshielded plugs or cables may cause radiation interference. Properly shielded interface cables with the shield connected to the chassis ground of the device must be used.

Evertz Microsystems Ltd  For Home or Office Use	Tested to comply with FCC Standards	This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: This device may cause harmful interference, and This device must accept any interference received, including interference that may cause undesired operation.

REVISION HISTORY

REVISION	DESCRIPTION	DATE
0.1	Preliminary Version	Aug 08
1.0	Added –F Fiber version information	Oct 08
1.1	Updated Specifications	May 09
1.2	Added panel configuration information (section 5)	Jun 09

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1. OVERVIEW

Thank you for choosing Evertz products for use in your video/audio system. The EQT router offers outstanding quality and value, and will provide a long and cost effective working life with the minimum of maintenance.

In order to offer the best in customer support, Evertz supplies the EQT router with a full one-year manufacturing warranty.

This guide is intended as an instructional reference for the EQT routing switcher. In the event of further product information or assistance, please contact Evertz or your local Evertz distributor.

There are many other products that range in sizes from 8x2 up to 1024x1024, in all signal formats including HD, SDI, AES, analog video and analog audio. We can also supply a range of data, tally, and relay routers.

Figure 1-1: The EQT Signal Processing Router

The EQT is a routing solution for mission critical applications. It has the ability to route up to 32x32 signals in a compact 2RU frame. The EQT is ideal for all mission critical and demanding 24/7 environments.

The EQT has format independent data paths which support digital signals from 3Mb/s to 3Gb/s including SD-SDI, HD-SDI, DVB-ASI, and SMPTE310.

The EQT comes in three configurations: EQT-3232-H, EQT-3232-3G and EQT-3232-3G-F. The EQT-3232-H supports digital signals from 3MB/s to 1.5Gb/s, while the EQT-3232-3G supports digital signals from 3Mb/s to 3Gb/s. The EQT-3232-3G–F fiber version supports reclocked video signals over fiber up to 3Gb/s. Signals supported are 270Mb/s, 1.485Gb/s and 2.970Gb/s.

CONFIGURATION:
The EQT is housed in a 2RU frame and switches 32 sources to 32 destinations. Both the input and output stage of the EQT are fixed at 32.

CONTROL:
The EQT router is compatible with the existing range of Quartz routers, remote control panels and control systems. The EQT router has a number of control options, which include:

- **Remote Control Panel:** Any panel(s) from the entire series of Quartz remote control panels can be used with the EQT router connected via Q-Link or Ethernet.
- **External Third Party Control:** The EQT router can be remotely controlled via an external third party control device, such as an automation system, when connected to the routers serial port.

Note: Q-Link connection to the EQT router requires an SC-1000. See section 4.4.2 for more details.

Note: The –F fiber version for the EQT does not support Q-Link

POWER SUPPLY:
The power supply for the EQT router is internal. The EQT router can be fitted with an optional redundant internal power supply.

TECHNICAL:
The EQT router offers a full 3Gb/s bandwidth to handle uncompressed HD signals. Automatic Bit Rate Detection on the input equalizer allows any mix of HD and SD signals in the same unit. The –F fiber version supports bandwidth up to 3Gb/s and is comprised of 270Mb/s, 1.485Gb/s and 2.970Gb/s.

FEATURES:
- 143 to 540Mbit compatible SDI (coax version)
- 143 to 2.97Gbit compatible HD-SDI/SDI (coax version)
- 270Mb/s, 1.485Gb/s, and 2.970Gb/s rates for –F fiber version
- Fiber input/output version available (utilizing hot swappable SFP modules).
- EQ bypass for sub 143Mbit operation (please contact the factory) (coax version)
- System-wide environmental monitoring
- Modular architecture
- Compact design
- Software and firmware updates after installation
- Remote monitoring over Ethernet
- Optional power supply redundancy
- Automatic input equalization

1.1. HOW TO USE THIS MANUAL

This manual will assist you in the use of the EQT router, and contains all the necessary information to successfully operate this product. If further product information or assistance is required, please contact Evertz or your local Evertz/Quartz distributor.

This manual is organized into 6 sections: Overview, Installation, Technical Description, System Control Overview, VistaLINK® Remote Monitoring/Control, and Configuration.

Section 1 contains a brief overview of the EQT operation, features and a glossary to define concepts and terms used throughout the remainder of the manual. We highly recommend taking the time to become familiar with the terms and concepts described here before proceeding into the rest of the manual.

Section 2 provides instructions on how to unpack, install and setup the EQT.

Section 3 provides technical specifications and information on configuring the connector pin-outs of the EQT system.

Section 4 describes how to control the EQT. More specifically, front and rear view control, video signals, and system monitoring and control are outlined in this chapter.

Setction 5 provides instructions on how to configure the EQT.

Section 6 describes how to control and monitor some of the features of the EQT using VistaLINK®.

This symbol is intended to alert the user to important operating instructions.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important safety related operating and maintenance (Servicing) instructions in this manual.

1.2. DEFINITIONS

4:2:2: The sampling ratio used in the HDTV digital video signal. For every 4 samples of luminance there are 2 samples each of R-Y (Red minus Luminance) and B-Y (Blue minus Luminance).

16x9: A wide screen television format such as HDTV in which the aspect ratio of the screen is 16 units wide by 9 high as opposed to the 4x3 of normal TV.

AES/EBU: (Sometimes abbreviated as AES) Refers to the digital audio standard (AES3-1992) set by the Audio Engineering Society and European Broadcast Union and used by most forms of digital audio from CDs to professional digital video.

ASPECT RATIO: The ratio of width to height in a picture. Theatre screens generally have an aspect ratio of 1.85 to 1, widescreen TV (16x9) is 1.77 to 1, and normal TV (4x3) is 1.33 to 1.

CCIR (International Radio Consultative Committee): An international standards committee. (This organization is now known as ITU.)

CCIR-601: See ITU-R601.

CLIFF EFFECT: (also referred to as the 'digital cliff') This is a phenomenon found in digital video systems that describes the sudden deterioration of picture quality when due to excessive bit errors, often caused by excessive cable lengths. The digital signal will be perfect even though one of its signal parameters is approaching or passing the specified limits. At a given moment however, the parameter will reach a point where the data can no longer be interpreted correctly, and the picture will be totally unrecognizable.

COMPONENT ANALOG: The non-encoded output of a camera, video tape recorder, etc., consisting of the three primary colour signals: red, green, and blue (RGB) that together convey all necessary picture information. In some component video formats these three components have been translated into a luminance signal and two colour difference signals, for example Y, B-Y, R-Y.

COMPONENT DIGITAL: A digital representation of a component analog signal set, most often Y, B-Y, R-Y. The encoding parameters are specified by ITU-R709 for HDTV signals. SMPTE 274M and SMPTE 296M specify the parallel interface.

COMPOSITE ANALOG: An encoded video signal such as NTSC or PAL video that includes horizontal and vertical synchronizing information.

COMPOSITE DIGITAL: A digitally encoded video signal, such as NTSC or PAL video that includes horizontal and vertical synchronizing information.

DROP FRAME: In NTSC systems, where the frame rate is 29.97002618 frames per second, the drop frame mode permits time of day indexing of the frame numbers by dropping certain frame numbers. Specifically frames 0, and 1 at the beginning of each minute except minutes 0,10,20,30,40, & 50, are omitted, to compensate for an approximate timing error of 108 frames (3 seconds 18 frames) per hour. A flag bit is set in the time code to signal when the drop frame mode is in effect.

EBU (European Broadcasting Union): An organization of European broadcasters that among other activities provides technical recommendations for the 625/50 line television systems.

EMBEDDED AUDIO: Digital audio is multiplexed onto a serial digital video data stream.

ITU: The United Nations regulatory body governing all forms of communications. ITU-R (previously CCIR) regulates the radio frequency spectrum, while ITU-T (previously CCITT) deals with the telecommunications standards.

ITU-R601: An international standard for standard definition component digital television from which was derived SMPTE 125M and EBU 3246-E standards. ITU-R601 defines the sampling systems, matrix values and filter characteristics for Y, B-Y, R-Y and RGB component digital television signals.

NTSC: National Television Standards Committee established the television and video standard in use in the United States, Canada, Japan and several other countries. NTSC video consists of 525 horizontal lines at a field rate of approximately 60 fields per second. (Two fields equals one complete Frame). Only 487 of these lines are used for picture. The rest are used for sync or extra information such as VITC and Closed Captioning.

PAL: Phase Alternating Line. The television and video standard in use in most of Europe. Consists of 625 horizontal lines at a field rate of 50 fields per second. (Two fields equals one complete Frame). Only 576 of these lines are used for picture. The rest are used for sync or extra information such as VITC and Teletext.

PIXEL: The smallest distinguishable and resolvable area in a video image. A single point on the screen. In digital video, a single sample of the picture. Derived from the words *picture element*.

SMPTE (Society of Motion Picture and Television Engineers): A professional organization that recommends standards for the film and television industries.

SMPTE 12M: The SMPTE standard for Time and address code. SMPTE 12M defines the parameters required for both linear and vertical interval time codes.

SMPTE 125M: The SMPTE standard for bit parallel digital interface for component video signals. SMPTE 125M defines the parameters required to generate and distribute component video signals on a parallel interface.

SMPTE 259M-C: The SMPTE standard for 525 and 625 line serial digital component and composite interfaces.

SMPTE 272M: The SMPTE standard for embedding audio in serial digital standard definition (SMPTE 259M-C) video signals.

SMPTE 274M: The SMPTE standard for bit parallel digital interface for high definition component video signals with an active picture of 1080 lines x 1920 pixels.

SMPTE 276M: The SMPTE standard for transmission of AES/EBU Digital Audio Signals Over Coaxial Cable.

SMPTE 292M: The SMPTE standard for high definition serial digital component interfaces.

SMPTE 296M: The SMPTE standard for bit parallel digital interface for high definition component video signals with an active picture of 720 lines x 1280 pixels.

SMPTE 299M: The SMPTE standard for embedding audio in serial digital high definition (SMPTE 292M) video signals.

TRS: Timing reference signals used in composite digital systems. (It is four words long).

TRS-ID: Abbreviation for "Timing Reference Signal Identification". A reference signal used to maintain timing in composite digital systems. (It is four words long.)

2. INSTALLATION

2.1. UNPACKING

Remove the equipment carefully from the boxes and check against the Packing List supplied with each unit. This shows what items have been shipped against your order and includes all options.

Any error should be reported to your supplier immediately. After you have unpacked the equipment please save all the packing material as this could be useful in the future should the unit need to be returned for maintenance.

Check each item supplied for transit damage. Any damage should be reported in detail to your supplier. You must state the serial number of the unit, which can be found on the rear of the frame. Check that power cords supplied are suitable for your country and that the equipment is compatible with your mains (line) voltage. Note that remote panels are mains powered and must also be checked.

Note: Ensure that the EQT module is installed firmly inside the frame and that it has not fallen out of position during shipping.

2.2. PHYSICAL INSTALLATION

2.2.1. Router Frames

All units are designed for mounting in standard 19" equipment racks. The depth of all the frames is 262mm. In addition allowance must be made to accommodate the various cables which are to be installed at the rear of the frame.

Power dissipation in all units is low and cooling is achieved by fan-assisted convection.

2.2.2. Remote Panels

The Q-Link and Ethernet remote panels are 130mm deep plus the size of the cables. All remote panels are designed to fit into standard 19" equipment racks and can be mounted at any angle.

2.3. ELECTRICAL CONNECTIONS

Figure 2-1 displays the EQT rear panel connections.

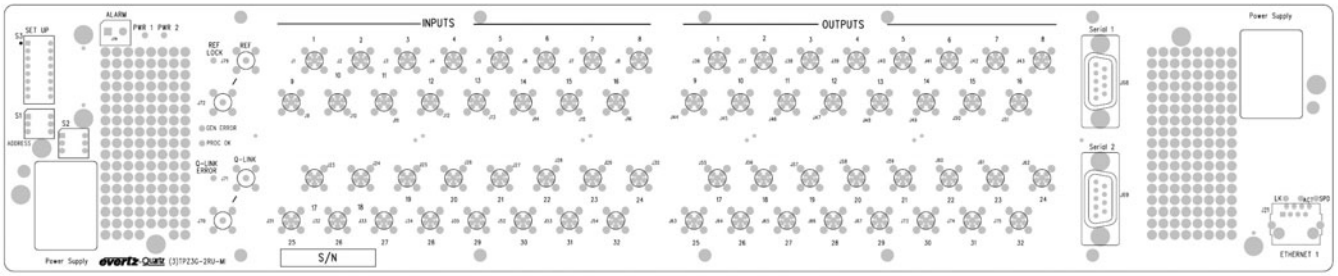


Figure 2-1: EQT Rear View

2.3.1. Video Inputs and Outputs

These connections are made using standard 75Ω video BNC connectors. There are 32 inputs and 32 outputs on the EQT rear panel. A high quality coax cable such as PSF1/2 (TF3255) for analog video, PSF1/3 (TF3304) for SDI video, Belden 8281 or 1694 for SDI-HD video or suitable equivalents should be used for optimum performance.

It is both important and good practice that cables are properly supported and not hanging on the connectors as this can put unnecessary stress on the connectors and possibly reduce their working life.

2.3.2. Video Reference

Standard Definition and High Definition Video routers have a separate looping Ref input that takes any standard analog video signal with standard sync. In addition, High Definition routers will also accept a tri-level sync.

Note: The Video Reference feature is only available on the coax version. Video reference is not available on the –F fiber version.

2.3.3. Fiber Input and Output Connections (EQT-3232-3G-F ONLY)

These connections are made using standard LC fiber connector ends on single mode. There are 32 fiber inputs and 32 fiber outputs on the EQT rear panel. A high quality fiber cable such as Corning SMF-28 or suitable equivalents should be used for optimum performance.

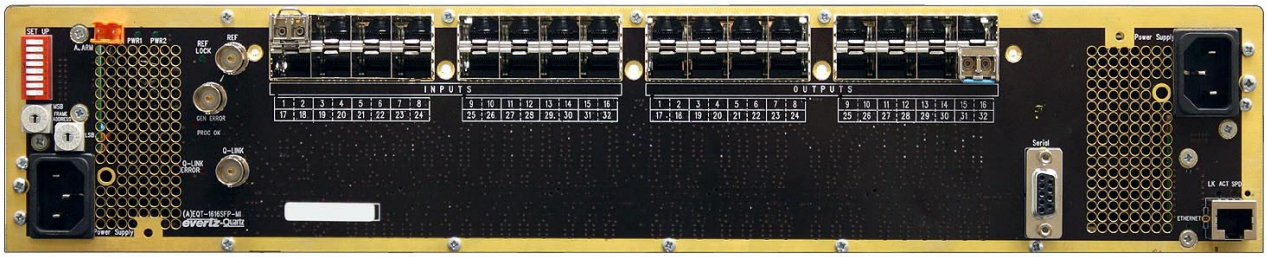


Figure 2-2: EQT Rear View with Fiber Inputs and Outputs

Note: SFP dual-receivers (inputs) are installed on the left half of the above rear panel, labelled 'Inputs'. SFP dual-transmitters (outputs) are installed on the right half of the rear panel, labelled 'Outputs'.

A fully populated 32x32 fiber routing matrix will possess 16 dual-transmitters and 16 dual-receivers. Unpopulated SFP slots will remain inactive until the appropriate SFP is installed. Please ensure flat or ultra flat polished fiber LC connectors are used for the SFPs.

2.3.3.1 Optical Fiber Handling and Care

The SFP fiber modules are equipped with a class 1 laser and emit invisible radiation. Avoid exposure to the laser emitter and do not stare directly into unconnected SFP emitter ports or fiber ends that are connected to SFP ports.

- It is recommended that trained and qualified personnel install, replace or handle this equipment.
- Ensure ESD precautions are followed during SFP install.
- Store SFP modules in static bags and wear an ESD strap when handling the optical modules. SFP modules are also dust sensitive.
- To prevent dust entering the apertures of an SFP module, keep plugs inserted into the optical bores.
- Do not repeatedly remove and insert SFP modules more often than necessary. Repeated removals and insertions of an SFP module can shorten its life.

2.3.3.2 Installing an SFP module

Note: In most cases, SFP modules will come from the factory preinstalled into its respective slot. The following steps outline the procedure for replacing or installing a new SFP module in the –F fiber version of the EQT router.

1. Remove the SFP module from its protective packaging. You can identify if your particular SFP module is a duplex transmitter or duplex receiver. Observe the top of the SFP module. There are two triangles on the top of the SFP module. Triangles pointing towards the fiber emitters denotes a duplex transmitter module (output). Triangles that point away from the fiber emitter denotes a duplex receiver module (input).

2. Hold the sides of the SFP module between your thumb and forefinger, position the alignment grooves on the sides of the SFP with the corresponding guides in the SFP slot on your module.

3. Slide the SFP gently but firmly into the SFP slot. You should hear a click when the clips on either side of the SFP snap into place, locking the SFP in the port receptacle.

Note: Do not remove the dust plugs from the optical bores of the SFP or the dust caps from the fiber-optic cable until you are ready to connect the cable. The plugs and caps protect the SFP optical ports and the cable connectors from contamination.

2.3.3.3 Removing an SFP module

Note: It is strongly recommended that you not install or remove the SFP module while the fiber-optic cable is attached to it because of the potential damage to the cables, to the cable connector, or to the optical interfaces in the SFP module. Disconnect the cable before you remove or install an SFP module.

1. Pull the bale-clasp latch out and down to eject the module. If the latch is obstructed and you are not able to release the clasp, use a small flat-blade screwdriver or other narrow flat instrument to open the bale-clasp latch.

2. Grasp the SFP module between your thumb and index finger and carefully remove the SFP from its slot.

3. Place the removed SFP module into an anti-static bag, or other ESD protective container.

2.3.4. Q-LINK Connections (Coax version ONLY)

There are two Q-LINK 75Ω termination BNC connectors located on the rear of the EQT. The EQT supports Evertz control panels that have a Q-Link connection.

Note: Q-Link connection to the EQT router requires an SC-1000. See section 4.4.2 for more details.

Note: Q-Link is not supported on the –F fiber version of the EQT.

The rear of the EQT has two BNC connectors to allow connection to two terminated external Q-Links. Q-Link is a dedicated control system specific to Evertz brand of Quartz products. The Q-Link system works as a single transmission line with devices connected along the length of the cable. It must be terminated at either end in 75Ω. The EQT rear panel is fitted with two LEDs to monitor the Q-Link connection.

Q-LINK1 ERROR: This Red LED is ON when there is no Q-Link communication on the Q-LINK1 BNC or if there are communication errors on the Q-Link connection. The LED is OFF when there is a Q-Link connection present and it is functioning properly.

Q-LINK2 ERROR: This Red LED is ON when there is no Q-Link communication on the Q-LINK2 BNC or if there are communication errors on the Q-Link connection. The LED is OFF when there is a Q-Link connection present and it is functioning properly.

2.3.4.1 Manual Remote Control - Using Q-Link

All EQT routers can be connected to other Evertz routers and remote control panels by a single coaxial link called Q-Link. This link uses standard 75Ω video cable daisy-chained from frame to frame and from panel to panel over a maximum cable length of 500m. Each end of the link must be terminated in 75Ω.

Note: The installer must fit a 75Ω terminator at each end of the cable.

This daisy-chain method ensures the best transmission quality of the control signals down the cable. Short cuts that might save cable (i.e. running stubs to some panels) are not recommended as this may, under certain circumstances, cause data errors.

The system can support up to 32 devices. Each unit being connected to the Q-Link has its own address switch, which is set up as part of the system configuration.

Note: Further technical information regarding the EQT can be found in section 3 of the manual.

2.4. SERIAL CONNECTIONS

The rear panel of the EQT has two separate DB9 female serial connectors, Serial 1 and Serial 2. The EQT supports Quartz(-1) protocol commands over the serial port. For information regarding the Quartz protocol, contact Evertz service.

The pin-out for the serial ports is shown in Table 2-1 below:

RS422 9 WAY FEMALE D-TYPE	
PIN	**SIGNAL**
1	0V
2	Tx-
3	Rx+
4	0V
5	-
6	0V
7	Tx+
8	Rx-
9	-

Table 2-1: RS-422 Pin out

As an option it is possible to convert either of the two serial ports to RS232 with the following pin-out, as shown in Table 2-2.

RS232 9 WAY FEMALE D-TYPE	
PIN	**SIGNAL**
1	0V
2	TXD
3	RXD
4	0V
5	-
6	0V
7	RTS
8	CTS
9	-

Table 2-2: RS-232 Pin out

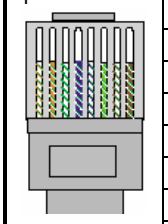
2.5. ETHERNET CONNECTIONS

There is one RJ-45 network connector on the rear panel. The RJ-45 connector is an Ethernet port used for monitoring and control of the system, etc. See section 4.4.1 for information on connecting to an Ethernet network. See section 4.2.2 for information on configuring the network address for the router.

2.5.1. Connecting to an Ethernet Network

The EQT uses 10Base-T (10 Mbps), 100Base-TX (100 Mbps) or Gigabit (1Gbps) twisted pair Ethernet cabling systems. When connecting for 10Base-T systems, category 3, 4, or 5 UTP cable as well as EIA/TIA – 568 100Ω STP cable may be used. When connecting for 100Base-TX systems, category 5 UTP cable is required. The cable must be "straight-through" with a RJ-45 connector at each end. Establish the network connection by plugging one end of the cable into the RJ-45 receptacle of the EQT and the other end into a port of the supporting hub.

The straight-through RJ-45 cable can be purchased or can be constructed using the pin-out information in Table 2-3. A colour coded wiring table is provided in Table 2-3 for the current RJ-45 standards (AT&T 258A or EIA/TIA 258B colour coding shown). Also refer to the notes following the table for additional wiring guide information.



Pin #	Signal	EIA/TIA 568A	AT&T 258A or EIA/TIA 568B	10BaseT or 100BaseT
1	Transmit +	White/Green	White/Orange	X
2	Transmit –	Green/White or White	Orange/White or Orange	X
3	Receive +	White/Orange	White/Green	X
4	N/A	Blue/White or Blue	Blue/White or Blue	Not used (required)
5	N/A	White/Blue	White/Blue	Not used (required)
6	Receive –	Orange/White or Orange	Green/White or Green	X
7	N/A	White/Brown	White/Brown	Not used (required)
8	N/A	Brown/White or Brown	Brown/White or Brown	Not used (required)

Table 2-3: Standard RJ-45 Wiring Color Codes

Note the following cabling information for this wiring guide:

- Only two pairs of wires are used in the 8-pin RJ-45 connector to carry Ethernet signals.
- Even though pins 4, 5, 7 and 8 are not used, it is mandatory that they be present in the cable.
- 10BaseT and 100BaseT use the same pins (a crossover cable made for one will also work with the other).
- Pairs may be solid colours and not have a stripe.
- Category 5 cable must use Category 5 rated connectors.

The maximum cable run between the router and the supporting hub is 300 ft (90 m). The maximum combined cable run between any two end points (i.e. router and PC/laptop via network hub) is 675 feet (205 m).

Devices on the Ethernet network continually monitor the receive data path for activity as a means of checking that the link is working correctly. When the network is idle, the devices also send a link test signal to one another to verify link integrity. The EQT rear panel is fitted with two LEDs to monitor the Ethernet connection.

10/100: This Amber LED is ON when a 100Base-TX link is last detected. The LED is OFF when a 10Base-T link is last detected (the LINK LED is ON). Upon power-up the LED is OFF as the last detected rate is not known and therefore defaults to the 10Base-T state until rate detection is completed.

LN/ACT: This dual purpose Green LED indicates that the EQT has established a valid linkage to its hub, and whether the EQT is sending or receiving data. This LED will be ON when the EQT has established a good link to its supporting hub. This gives you a good indication that the segment is wired correctly. The LED will BLINK when the EQT is sending or receiving data. The LED will be OFF if there is no valid connection.

2.6. ALARM CONNECTOR

A 2-pin alarm terminal provides external alarm indication. This is a simple interface over which television equipment can report the occurrence of internal failures and faults in incoming signals. It is intended for use in all television equipment.

The interface consists of an isolated closure, which can assume one of two states: open, or closed. The respective signal indicates that the reporting device is okay, or has detected an internal fault.

The EQT may be in one of two states:

1. **Normal operation** – The EQT is currently not detecting any internal failures and is receiving power.

2. **Internal failure** – The EQT is currently detecting an internal failure or has lost power.

This requires that the user connect an external fault indicator and power supply to the alarm terminals. The power supply should be 12 VDC max. and current limited to 20mA. An example is shown in Figure 2-3.

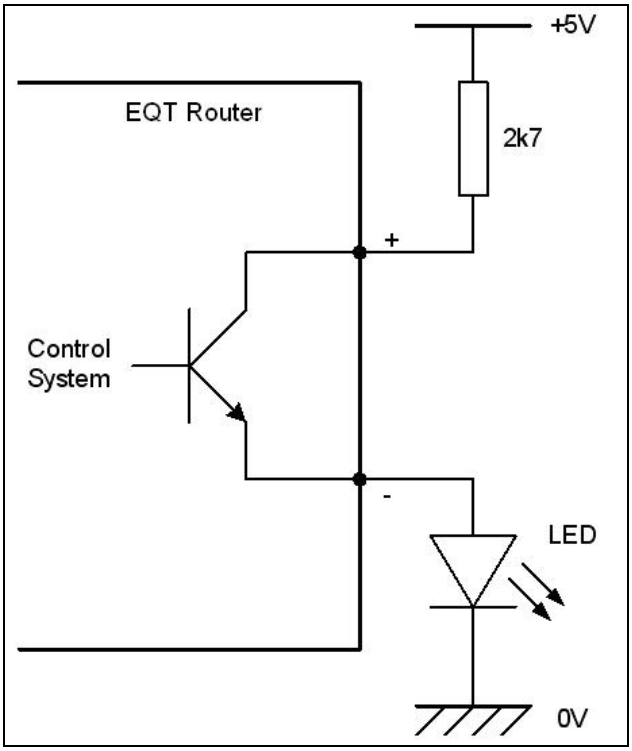


Figure 2-3: Example Alarm Circuit

2.7. REFERENCE

2.7.1. Video Reference

There must be an analog reference present to ensure the crosspoint changes occur during the field-blanking interval. If the reference is missing then the routing will occur asynchronously. If you experience problems with clean switching then refer to our application note AN-0008.

The reference signal should be connected to the Ref 1 input and this is terminated in 75R. The Ref 2 connector is a passive loop-through. The EQT rear panel is fitted with two LEDs to monitor the reference connection.

REF LOCK: This Green LED is ON when there is a valid reference present on the REF BNC. This LED is OFF when no reference is being applied.

GEN ERROR: This Red LED is ON when there is an error detected with the reference on the REF BNC. This LED is OFF when the detected reference is valid.

2.7.2. Selecting Whether the Video Reference is Terminated

TERM: The REF TERMINATION jumper J21 located at the rear of the main module is used to terminate the reference loop input. When it is in the 75R position a 75 ohm terminating resistor will connect the input to ground. When it is in the HI-Z position the reference input will be high impedance.

2.8. POWER SUPPLY

The EQT router power supplies operate on either 100 to 240 volts AC at 50 or 60 Hz and automatically senses the input voltage. Power should be applied by connecting a 3-wire grounding type power supply cord to the power entry module on the rear panel. The power cord should be a minimum 18 AWG wire size; type SVT marked VW-1, maximum 2.5 m in length.

The EQT chassis is fitted with a power supply on one side, and an optional redundant supply on the opposite side. The supplies are hot swappable and can be removed for service or maintenance without removing the entire EQT frame. Figure 2-4 shows an EQT-PS power supply module once it has been removed from the chassis.

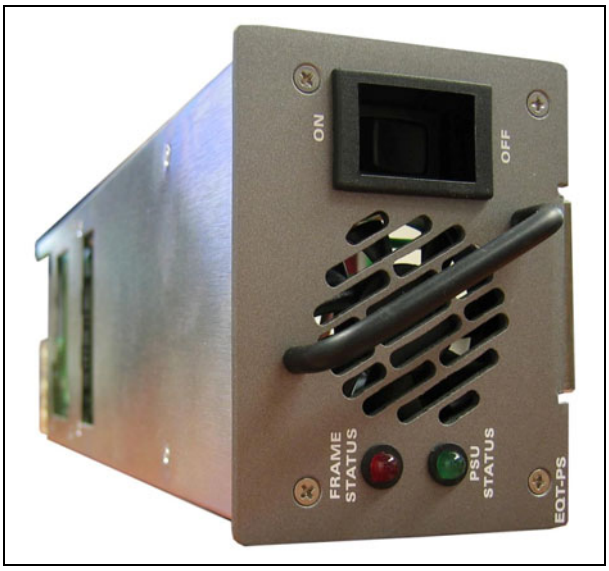


Figure 2-4 - EQT-PS Power Supply

Each power supply has two status indicator LEDs. The green PSU STATUS LED indicates the health of the local power supply. The red FRAME STATUS LED indicates the health of the entire frame and is operated by the frame status bus of the frame. The FRAME STATUS LED will be Off under normal conditions and On when there are Frame Status Fault conditions.

If one of the power supplies malfunctions, (i.e. power cord disconnected, power switch is off, fuse is blown, rear fan is stopped, etc) then its PSU STATUS LED will go Off, and the red FRAME STATUS LED on both power supplies will turn On. The PSU STATUS LED on the power supply that is functioning will remain On. If the frame is connected to VistaLINK® then the power supply fault will send a trap message from the frame.

The EQT rear panel is fitted with two LEDs to monitor the power supplies.

PWR1: This Green LED is ON when the right power supply (when viewed from the front) is functional. The LED is OFF when the power supply is off or not functioning.

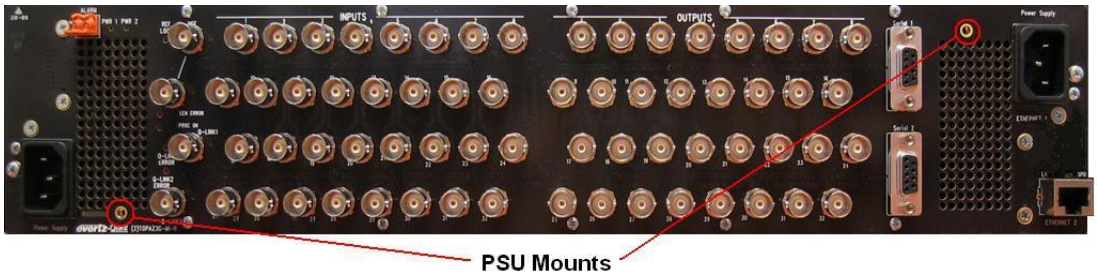
PWR2: This Green LED is ON when the left power supply (when viewed from the front) is functional. The LED is OFF when the power supply is off or not functioning.

The EQT rear panel is fitted with another LED to monitor the state of the main board.

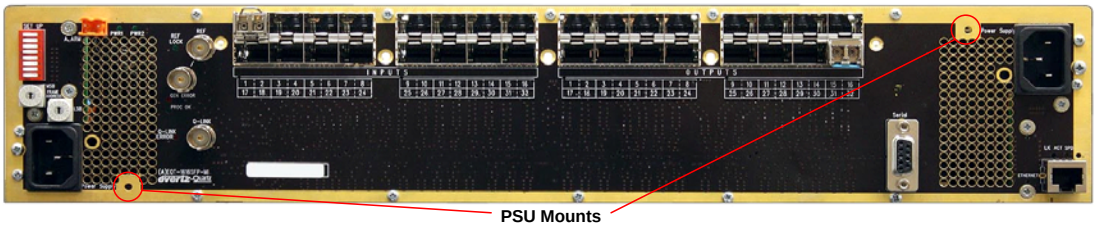
PROC OK: This Green LED is ON when the main board of the router boots up properly and is in operating mode. This LED is OFF when there are issues with the boot up process.

2.8.1. Removing the Power Supply

When removing a power supply, ensure that the screw on the back of the frame is removed before pulling the supply out of the frame. This screw is labeled as 'PSU Mount' to ensure that the correct screw is removed. On earlier versions of the EQT, the PSU Mount may not be labeled. For these versions, refer to Figure 2-5 for the location of these screws.



Coax Version



-F Fiber Version

Figure 2-5: PSU Mounting Screw Locations

WARNING:
This equipment uses power/mains connectors fitted with safety ground pins. To reduce the risk of electric shock, grounding of the ground pin of the mains plug must be maintained.

To completely disconnect this equipment from the AC mains, disconnect the power supply cord plug from the AC receptacle. This equipment may have more than one power supply cord. To reduce the risk of electric shock, disconnect all power supply cords before servicing.

3. TECHNICAL DESCRIPTION

3.1. SPECIFICATIONS

3.1.1. Configuration

Inputs:	Fixed at 32
Outputs:	Fixed at 32
Redundant Protection:	Redundant Power Supply

3.1.2. Video Inputs

Standards:	SMPTE 259M, SMPTE 292M, SMPTE 310M, SMPTE 424M, ASI
Signal Level:	800mV p-p
Impedance:	75Ω terminating
Return Loss:	>15db typical (5-1485 MHz)
Cable Equalization:	Belden 1694 @ 270 MHz 300m Belden 1694 @ 1.5GHz 100m
Connectors:	BNC per IEC 61169-8 Annex A.

3.1.3. Video Outputs

Signals Supported:	SMPTE 259M, SMPTE 292M, SMPTE 310M, SMPTE 424M, ASI
Reclocking:	Configurable
Non-Reclocking:	Configurable
Signal Level:	800mV p-p ± 10%
Impedance:	75Ω terminating
Return Loss:	>15 db typical (5-1485 MHz)
DC Offset:	0 ± 0.5V
Output Jitter:	0.2 UI
Connectors:	BNC per IEC 61169-8 Annex A.

3.1.4. Fiber Inputs (-F Fiber version)

Number of Fiber Inputs:	2
Reclocked Data Rate:	270Mb/s, 1.485Gb/s, 2.970Gb/s
Receive Sensitivity	-20dBm
Receive Wavelength	1260 to 1620nm
Connectors:	LC
Fiber Type:	Single Mode

3.1.5. Fiber Outputs (-F Fiber version)

Number of Fiber Outputs:	2
Reclocked Data Rate:	270Mb/s, 1.485Gb/s, 2.970Gb/s
Min. Avg Optical Power	-5dBm
Output Wavelength	1310nm
Max Distance @ 3Gb/s	10km
Connectors:	LC/PC
Fiber Type:	Single Mode

3.1.6. Reference Timing

Switching Reference:	Analog 525/625/tri-level HD looping
Connector:	BNC per IEC 61169-8 Annex A.
Signal Level:	1 V p-p ± 3dB
Impedance:	75Ω
Switching Line:	Lines 6/319 (625), Lines 10/273 (525), Line 7 (HD)

3.1.7. Control

Q-Link:	75Ω video cable (max length 500m)
Serial	RS422/232: 1x DB9 female
Ethernet:	10/100baseT, 1x RJ45

3.1.8. Physical

Height:	3.5” (89mm) 2RU
Width:	19” (483mm) 19” Rack Mount
Depth:	10.3” (262mm) over hinges and BNCs
Weight:	6 kg Fully Loaded
Operating Temperature:	0°C to 40°C
Cooling:	Fan cooled, front to rear

3.1.9. Electrical

Input Voltage:	Auto ranging 100-240V AC, 50/60Hz
Input Power:	200W

4. OPERATION

4.1. SYSTEM OVERVIEW

The EQT router is a 32x32 matrix router that provides a simple cost-effective solution for small router applications. The EQT consists of 32 equalized inputs and 32 reclocked outputs. Each input and each output is interfaced through a common crosspoint that is controlled by the main processing unit.

The processing unit interfaces the various control options such as Q-Link, Ethernet and serial with the crosspoint, allowing full control of the routing resources. The processing unit also provides a video reference to the crosspoint to maintain clean switching on the switch line.

In addition to the 32 outputs, there are two dedicated outputs from the crosspoint that are routed to audio/video monitor (AVM) modules to provide critical information regarding the integrity of audio and video on the router outputs.

Please note that at the time of printing, the AVM modules are not fully functional and will be implemented in a future release.

The major components of the EQT router are shown below in Figure 4-1.

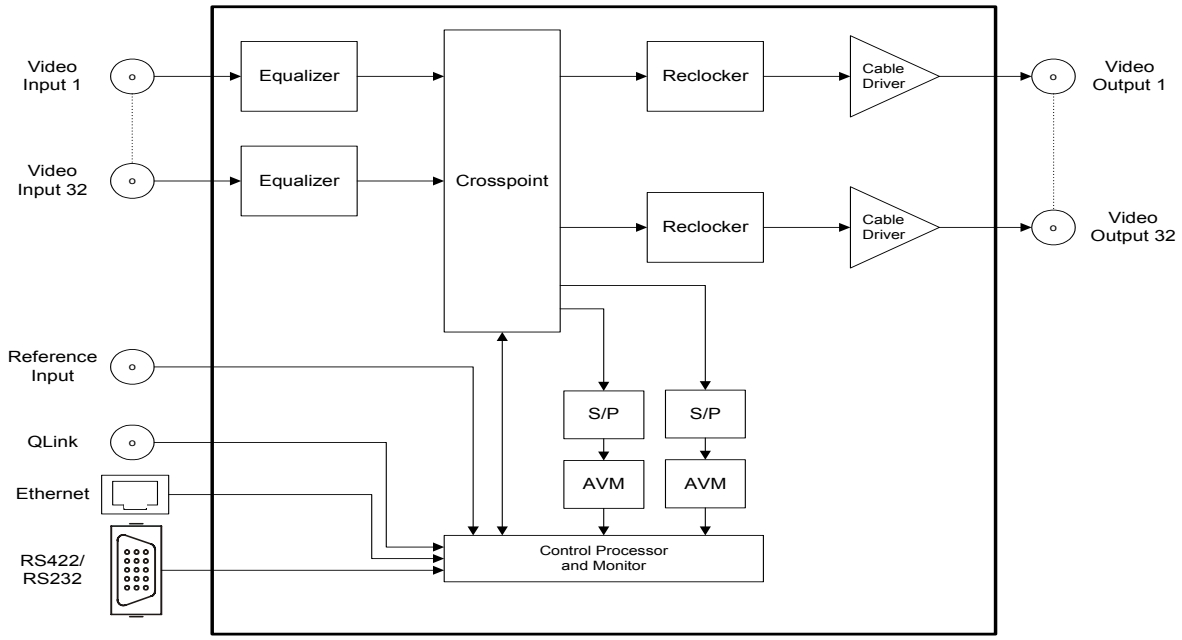


Figure 4-1: EQT Block Diagram

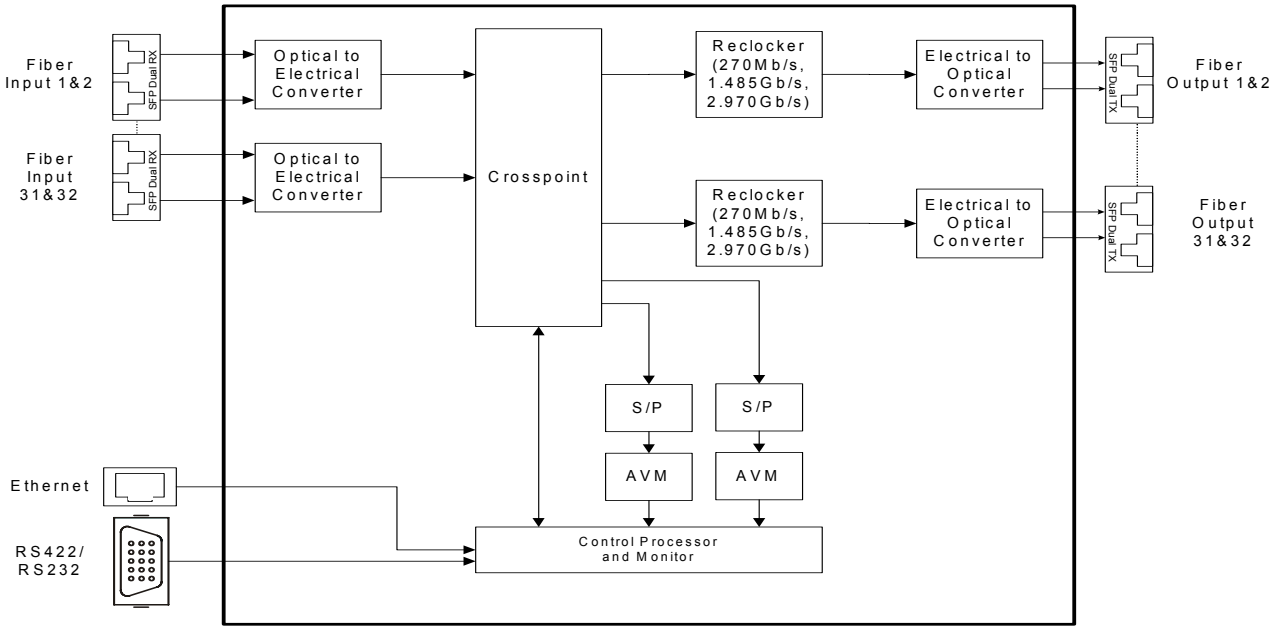


Figure 4-2: EQT Fiber Input/Output Block Diagram

4.1.1. Front View

The front view of the EQT, as shown in Figure 4-3, illustrates the flexibility and ingenuity that was incorporated into the design.

Figure 4-3: Front View of EQT

The front of the EQT router is accessible at all times by loosening the two thumb screws as shown in Figure 4-4 and opening the front door. With the door open, the power supplies as well as the main processing module of the EQT can be removed. This allows the user to maintain system connectivity in cases where the power supply or main module needs to be serviced or upgraded.

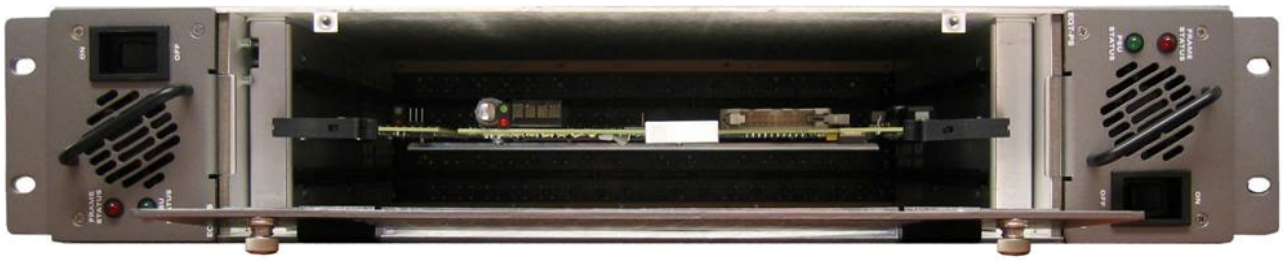


Figure 4-4: Front View of EQT with Door Open

4.1.2. Rear View

There are a number of communication connections on the rear of the EQT frame. Figure 4-5 and Figure 4-6 identifies all of the connections on the rear panel. These connections provide access to the various communication facilities of the EQT router, such as alarms, control and video status monitoring.

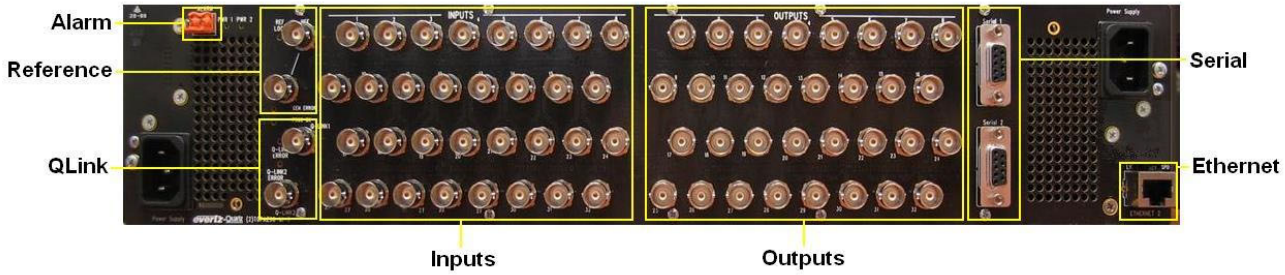


Figure 4-5: Rear Communication Connections on the EQT

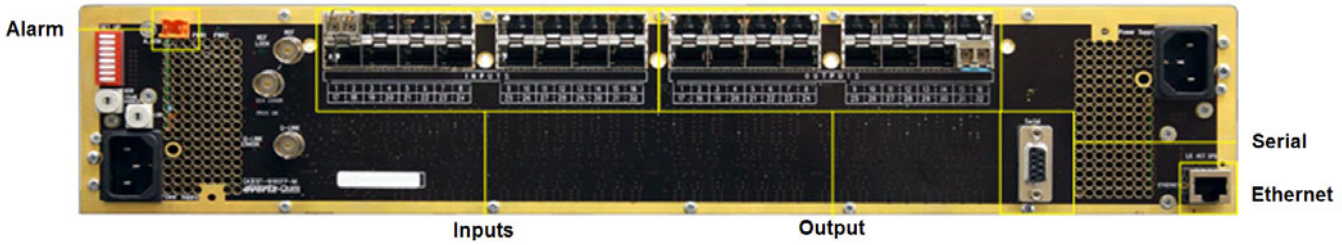


Figure 4-6: Rear Communication Connections on the EQT Fiber Input/Output Version

Note: Menu settings for Q-Link and Video Reference are not applicable for the –F fiber version of the EQT.

4.2. SYSTEM CONFIGURATION

4.2.1. Setting Communication Settings from the Front Panel

A shaft encoder and four digit dot-matrix display allows card edge navigation for a set of menus used to configure the EQT router. To enter the menu system, rotate the shaft encoder in either direction.

On all menus, there are three selectable items: *View, Set* and *End*. Selecting *View* will display the current value of the item, while *End* will return the display to the main menu. Selecting *Set* will allow the current setting to be changed.

To adjust any parameter, use the shaft encoder to move up or down to the desired parameter and press the shaft encoder. The item will be underlined and flashing indicating that you can now adjust the parameter. Using the shaft encoder, adjust the parameter to its desired value.

When you have stopped at the desired value, press the shaft encoder again. This will update the parameter to the selected value. Continue selecting and adjusting other parameters. Scroll to the *End* option when you have completed your selection.

The following chart provides a brief description of the menus that are accessible through the front panel.

QLAD	Sets the Q-Link address of the device.
IPAD	Sets the IP address of the device.
NETM	Sets the Netmask.
DHCP	Controls the Dynamic Host Configuration Protocol function.

Note: The router must be rebooted in order for network changes to take affect.

4.2.2. Accessing the Configuration and Monitoring Menu

The EQT router contains a configuration and monitoring menu that allows the user to change some internal settings of the device and also to monitor various components on the router. Before accessing the configuration and monitoring menu, the IP address of the device must be set.

The dot-matrix display on the front will show the default factory setting of the TCP/IP address of the router.

The configuration and monitoring menu can be accessed using the TELNET network protocol. As standard the EQT uses port 4000 as its server port, which allows control and monitoring to be achieved from a PC using the Telnet function. Using any TELNET client, telnet into the configuration and monitoring menu of the device by typing *telnet* followed by the IP address, and then followed by *4000*. (For example, telnet 192.168.0.0 4000)

Note: Access to the configuration and monitoring menu is done through port 4000.

If there is a problem communicating over Ethernet, then the user should check that there is a network connection to the router from a PC command prompt by typing *ping* followed by the IP address. (For example, ping 192.168.0. 0)

All menu items can be accessed using the number listed beside the menu item. Once in a menu, use the numbers beside the items to set the value. Follow the on screen instructions to set the value of the parameter, save and exit the configuration.

When all desired changes have been made, exit the telnet section by hitting Ctrl-D or closing the telnet session.

4.2.3. Configuration and Monitoring Menu

The following chart provides a brief description of the menus that are accessible through the configuration and monitoring option.

Network Configuration	Configuration of network settings.
Serial Port Setup	Configuration of serial ports.
SNMP Setup	Configuration of Simple Network Management Protocol settings.
Panel Setup	Configuration of Ethernet control panels.
Status Monitoring	Monitoring of crosspoint and signal paths.
Engineering/Debug	Configuration of video signal settings.

4.2.3.1 Configuring Network Settings

The *Network Configuration* menus are used to configure parameters associated with the Ethernet communications of the device. The following chart provides a brief description of the items available in the *Network Configuration* menu.

Set IP Address	Sets the IP Address for the device.
Set Netmask	Sets the Netmask for the device.
Set Gateway	Sets the Gateway for the device.
Set Broadcast Address	Sets the Broadcast Address for the device.
Use DHCP	Sets the Dynamic Host Configuration Protocol mode for the device.
View Live Network Settings	Displays the current network settings of the device.

Note: The router must be rebooted in order for network changes to take affect.

Note: Menu settings for Q-Link and Video Reference are not applicable for the –F fiber version of the EQT.

4.2.3.2 Setting the Serial Port Setup

The *Serial Port Setup* menus are used to configure parameters associated with the serial communications of the device. The following chart provides a brief description of the items available in the *Serial Port Setup* menu.

Serial Port 1 Setup	Sets the Baud Rate and Data Format for serial port 1.
Serial Port 2 Setup	Sets the Baud Rate and Data Format for serial port 2.
Show All Setups	Displays the current settings for all serial ports.

Please note that at the time of printing, the data format for both serial ports is not configurable and should be set to *no parity, 8 bits*, and *1stop bit*. (N81)

4.2.3.3 Setting the SNMP Setup

The *SNMP Setup* menus are used to configure parameters associated with the SNMP communications of the device. The following chart provides a brief description of the items available in the *SNMP Setup* menu.

Set Trap IP Address	Sets the IP addresses that will receive traps from the device.
Remove Trap IP Address	Removes IP addresses of devices receiving traps.

4.2.3.4 Setting the Panel Setup

The *Panel Setup* menus are used to configure parameters associated with the Ethernet panel communications of the device. The following chart provides a brief description of the items available in the *Panel Setup* menu.

Set Panel IP Address	Sets the IP addresses of panels that are able to control the device.
Remove Panel IP Address	Removes IP addresses of panels controlling the device.

4.2.3.5 Setting the Status Monitoring

The *Status Monitoring* menus are used to view parameters associated with the crosspoint and reclockers of the device. The following chart provides a brief description of the items available in the *Status Monitoring* menu.

View Live XPT Status	Displays the input that is currently mapped to each of the outputs through the crosspoint.
View Video Signal Information	Displays various information regarding both inputs and outputs, such as locked status, video standard, and reclocker status.

4.2.3.6 Setting the Engineering/Debug

The *Engineering/Debug* menus are used to view and set parameters associated with the frame and video configuration of the device. The following chart provides a brief description of the items available in the *Engineering/Debug* menu.

View / Set Frame Configuration	Configuration of the Q-Link address, inputs, outputs, level, and Q-Link port.
View / Set Video Signal Configuration	Configuration of the video input standard, reclockers.

Note: The Engineering/Debug menu contains some controls that are intended for debug purposes. Any item not mentioned in this manual should not be modified under normal circumstances.

4.2.3.6.1 Viewing / Setting the Frame Configuration

The *View / Set Frame Configuration* menus are used to view and set parameters associated with the frame. The following chart provides a brief description of the items available in the *View / Set Frame Configuration* menu.

View Frame Information	Displays Q-Link address, inputs, outputs, level, and Q-Link port.
Set QLink Address	Sets the Q-Link address of the device.
Set Number of Inputs	Sets the number of inputs of the device.
Set Number of Outputs	Sets the number of outputs of the device.
Set Level Number	Sets the level number of the device.
Set Q-Link Port State	Sets the state of the Q-Link Port.

4.2.3.6.2 Viewing / Setting the Video Signal Configuration

The *View / Set Video Signal Configuration* menus are used to view and set parameters associated with the video signals. The following chart provides a brief description of the items available in the *View / Set Video Signal Configuration* menu.

View Video Signal Configuration	Displays input video standard and output cable driver and reclocker status.
Set Video Input Standard	Sets the input video standard of the device.
Set Video Output Reclocker Routing	Sets the state of the reclockers, whether they are enabled or bypassed.

4.3. SIGNAL AND SYSTEM MONITORING

The EQT router supports full signal monitoring of both inputs and outputs. It also incorporates comprehensive system monitoring, including power supply voltages and interior temperatures.

Monitored data is available through VistaLINK® SNMP for facility-wide monitoring systems. System status may also be monitored remotely by a network based remote connection over TCP/IP or a direct serial connection to a PC. User configurable closing contacts are also provided for connection to an external alarm system.

4.4. CONTROL SYSTEM

The EQT router is fully compatible with all Quartz router control panels and interfaces, including connectivity to a comprehensive list of third-party control solutions.

The EQT router can be configured with the following control options: Q-Link, Ethernet, or Serial interfaces. Sections 4.4.1 to 4.4.3 provide more details regarding these options.

4.4.1. Controlling the EQT Using Ethernet

The EQT supports Evertz control panels that have an Ethernet connection. The EQT supports Quartz (-1) protocol commands over the Ethernet port (slave end), therefore, any control device that supports Quartz protocol can control the EQT via Ethernet.

The EQT router can also be controlled using direct router controls via the CP2200E or using Ethernet panels that contain their own WinSetup configurations.

Note: Ethernet control access to the EQT is done through port 2000.

The EQT router will support up to 10 Ethernet panels at once. To setup the panels, the IP address for each panel must be added to the EQT so that the EQT is aware of which panels to communicate with. Section 5.1.1 describes the method used to setup the EQT for use with Ethernet control panels. Consult the instruction manual for the respective panels to setup their IP address and configuration.

4.4.2. Controlling the EQT Using Q-Link

The EQT router supports Evertz control panels that have a Q-Link connection. Q-Link control requires the use of a Quartz SC-1000 system controller to translate the control commands from the panels to the EQT and vice versa.

The control cards interface to the external Q-Link connections. The rear Q-Link module has two BNC connectors to allow connection to two terminated Q-Links.

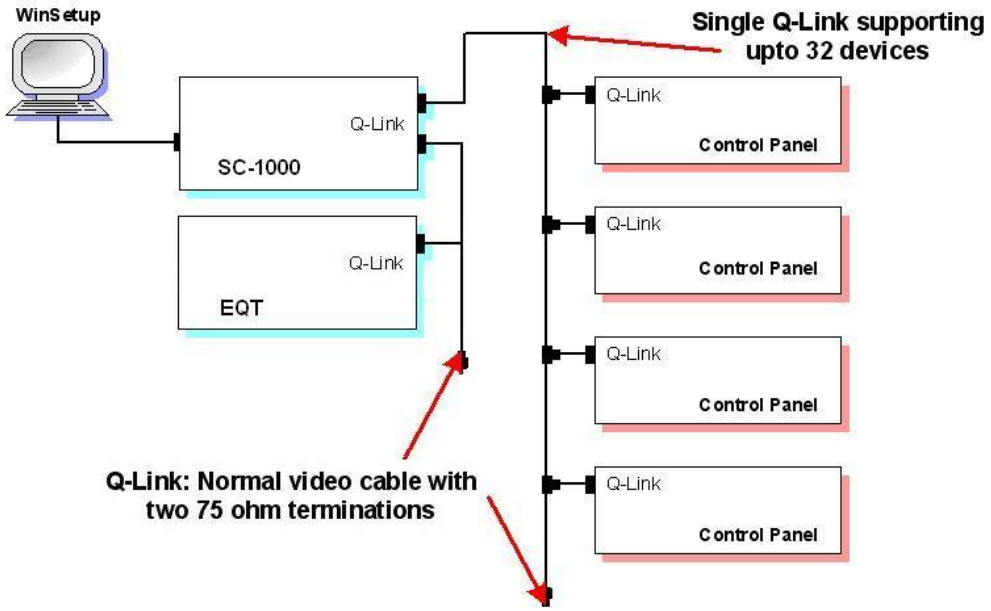


Figure 4-7: Single Q-Link Connection to Multiple Remote Control Panels

The Q-Link is used to connect remote control panels or the SC-1000 system controller as shown in Figure 4-7.

The processor that is currently in control (usually the master) has control of the Q-Link connectors via a control signal passed on the back plane. Q-Link operation requires all Q-Link devices to have a unique one byte Q-Link address.

4.4.3. Controlling the EQT Using Serial

The rear panel of the EQT has one DB9 female serial connector. The EQT supports Quartz(-1) protocol commands over the serial port (slave end). Any control device that supports Quartz protocol can control the EQT via the serial port.

For information regarding the Quartz protocol, contact Evertz service. See section 2.4 for a description of the pin outs.

5. CONFIGURATION

5.1. CONFIGURING PANELS FOR USE WITH THE EQT

The EQT is able to host up to ten Ethernet control panels without the need for an external control system. All information regarding names is stored on the panels and not the EQT. The following section details the steps required to setup the EQT to communicate with Ethernet control panels.

5.1.1. Using WinSetup to Create Panel Configurations

WinSetup is used to configure the Ethernet panels. WinSetup is supplied with a comprehensive help system that can be accessed by pressing **F1** (function key F1) from any screen. The help system can also be entered from the *Help, Index* menu.

The following dialog box, as shown in Figure 5-1, is the WinSetup main screen. Any part of the system can be configured from the menu at the top of the screen. The grey bars above each main section and the line items within the main sections can both be used for quick access to specific items.

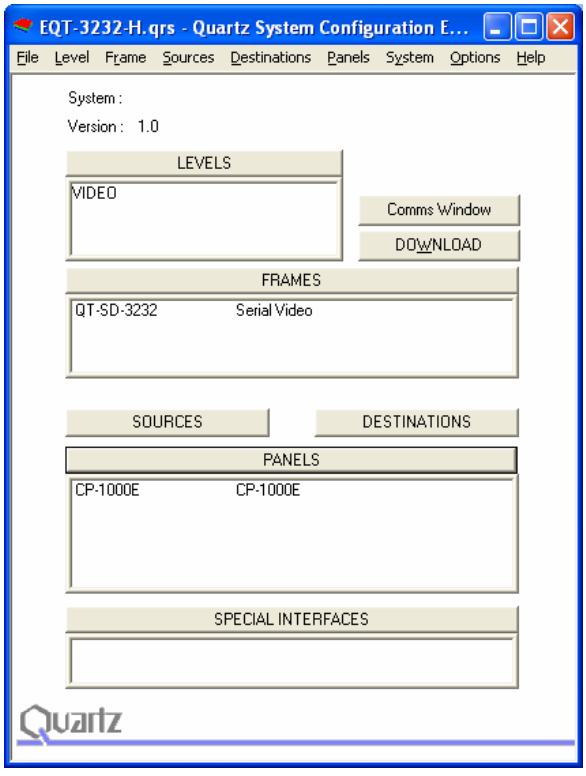


Figure 5-1: WinSetup Main Screen

When generating a new system configuration, some of the menus and functions are greyed out (not available). This is deliberate to ensure the proper sequence of steps are followed. Carry out the following functions to configure the system.

1. **Levels:** The EQT only supports a single level of control.

2. **Frames:** Enter the frames dialog and click the **New** button. This will show all routers listed by part number. Select the QT-SD-3232 part number for the EQT-3232.

3. **Sources:** Enter the sources dialog and use the **Add** button to fill the name table with SRC-1 to SRC-32. The names within this table will be the ones used on the panels. Any changes here will be reflected on all of the panels.

4. **Destinations:** Enter the destination dialog and set up the destination names in the same way as used for the source names.

5. **Panels:** Enter the panels dialog and click the **New** button. This will show all panels listed by part number. Select the part number that matches the part number on the panel's serial number label. A new dialog will appear showing a graphic of the panel as shown in Figure 5-2.

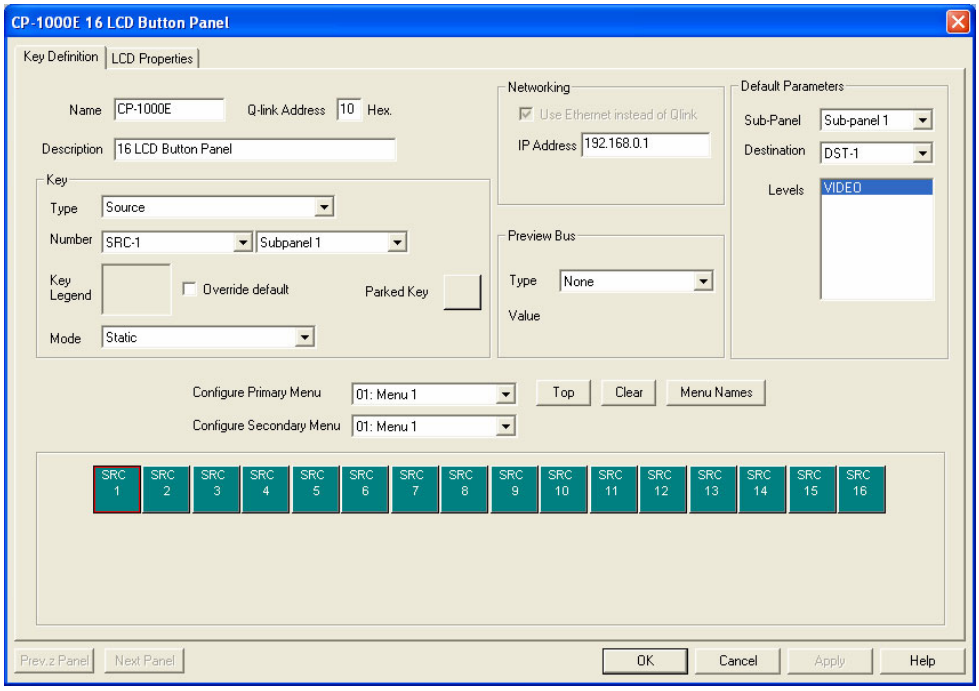


Figure 5-2: WinSetup Panel Configuration Screen

Each button can be programmed by selecting the button and then editing the functions in the *Key* section of the dialog. Each panel should also be given a name for later identification. Under the *Networking* section, enter the IP address of the panel. The default parameters control how the panel will function at power up. In this example the panel will always control DST-1 to start with. Now add any further panels that the system will need.

5.1.2. Exporting Panel Configurations to Panels

Once all desired panels have been added, select the **Panel** button from the main screen in WinSetup and the following prompt will appear as shown in Figure 5-3.

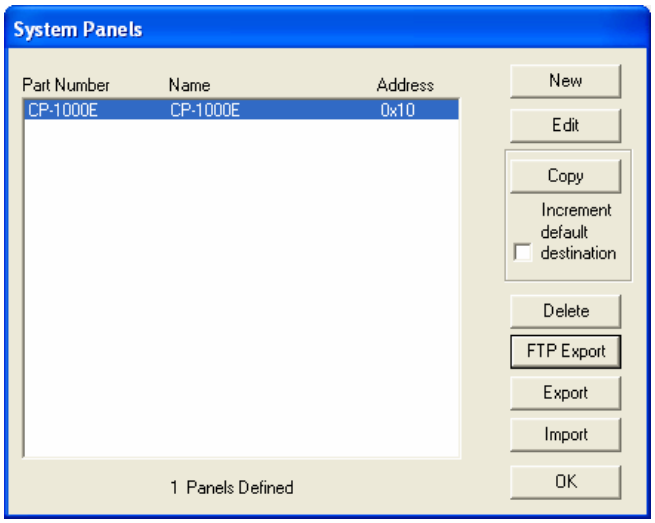


Figure 5-3: WinSetup System Panels Screen

Select each panel individually and click the **FTP Export** button. This will export the configuration for the selected panel to a bin file. A bin file should be generated for each panel in the system.

To upload the bin file to each respective panel, use the following steps:

1. Ftp into the panel, by typing the command ftp 192.168.0.1 in a command window.
2. Press enter twice for login and password (both the login and password should be left blank).
3. Type the command '**cd config**' to change to the config directory.
4. Type the command '**put**' then leave a space and drag the bin file that you created into the command window.
5. Type 'bye' to exit from the session.

The configuration that was created along with the source and destination names is now stored on the panel and ready to communicate with the EQT.

5.1.3. Adding Panels to the EQT

Once the configuration has been sent to each panel, the EQT must be setup to communicate with the panels. Follow the instructions outlined below to set up the system:

1. Telnet into the EQT configuration menu as detailed in section 4.2.2.
2. Navigate to the Panel Setup menu.
3. Go to the Set Panel IP address menu.
4. Enter the IP address of the panel.
5. Select *Save* and *Exit*.

6. VistaLINK® REMOTE MONITORING/CONTROL

6.1. WHAT IS VISTALINK®?

*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. A 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 (such as EQT), each with a unique address (OID), communicate with the NMS through an SNMP 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.

6.2. VISTALINK® MONITORED PARAMETERS

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

Parameter	Description
Card Type	Indicates the model of the device.
Q-Link Address	Indicates the Q-Link address of the device.
Number of Video Inputs	Indicates the number of video inputs of the device.
Number of Video Outputs	Indicates the number of video outputs of the device.
Reference Detected	Indicates the presence of a valid video reference signal.
Reference Standard	Indicates the video standard of the reference signal.
PSU 1 Status	Indicates the state of power supply unit 1. (Right power supply when viewed from the front.)
PSU 2 Status	Indicates the state of power supply unit 2. (Left power supply when viewed from the front.)
Temperature	Indicates the internal temperature of the device.
Serial Port 1 Standard	Indicates the configuration of serial port 1.
Serial Port 2 Standard	Indicates the configuration of serial port 2.
Input Status	Indicates the status of the video input on input BNCs 1 to 32.

Table 6-1: VistaLINK® Monitored Parameters

6.3. VISTALINK® CONTROLLED PARAMETERS

Parameter	Description
Video Input Standard	Sets the video input standard for the device.
Output Control	Enable or disable the video output on output BNCs 1 to 32.
Reclocker Control	Enable or disable the reclocker on output BNCs 1 to 32.
Cross-point Control	Sets the input routed to output BNCs 1 to 32.

Table 6-2: VistaLINK® Controlled Parameters

6.4. VISTALINK® TRAPS

Parameter	Description
Become Active	Raises a trap when the router comes online.
Temperature Warning	Raises a trap when the temperature exceeds ideal conditions.
Right Power Supply Failure	Raises a trap when the right (when viewed from the front) power supply fails.
Left Power Supply Failure	Raises a trap when the left (when viewed from the front) power supply fails.

Table 6-3: VistaLINK® Traps Parameters

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