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REVISION HISTORY

<u>REVISION</u>	<u>DESCRIPTION</u>	<u>DATE</u>
1.0	First Release	July 2012

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

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1. OVERVIEW

The 500IDA9-ASI-TSMLITE reclocking distribution amplifier provides high quality distribution of facility ASI signals. This module feature an auto-sensing equalized input which generates nine reclocked outputs and is especially useful for projects where long cables runs are encountered.

Unlike other traditional DA's on the market, this module has been designed to support additional broadcast functionality such as essential monitoring on MPEG Transport Stream (TS).

The 500IDA9-ASI-TSMLITE is VistaLINK[®] capable, offering remote monitoring, control and configuration capabilities via Simple Network Management Protocol (SNMP) giving the flexibility to manage operations, including signal monitoring and module configuration from SNMP capable control systems (Manager or NMS).

The 500IDA9-ASI-TSMLITE occupies 1 card slot and is housed in the 3RU 500FR frame which has a 16 slot capacity. The 500FC or 500FC-DA-HD frame controller is required for configuration.

Features:

- Nine reclocked outputs from one ASI input
- Enhanced signal reclocking and conditioning
- Long reach cable performance
- Input signal presence detection
- Essential Transport Stream(TS) monitoring including TS Loss, Sync Byte Error, Bitrate Analysis, PIDs List Monitoring, Continuity Count and PAT Monitoring
- Real time VistaLINK[®] monitoring and trending
- High density approach offers 15 modules within 3RU

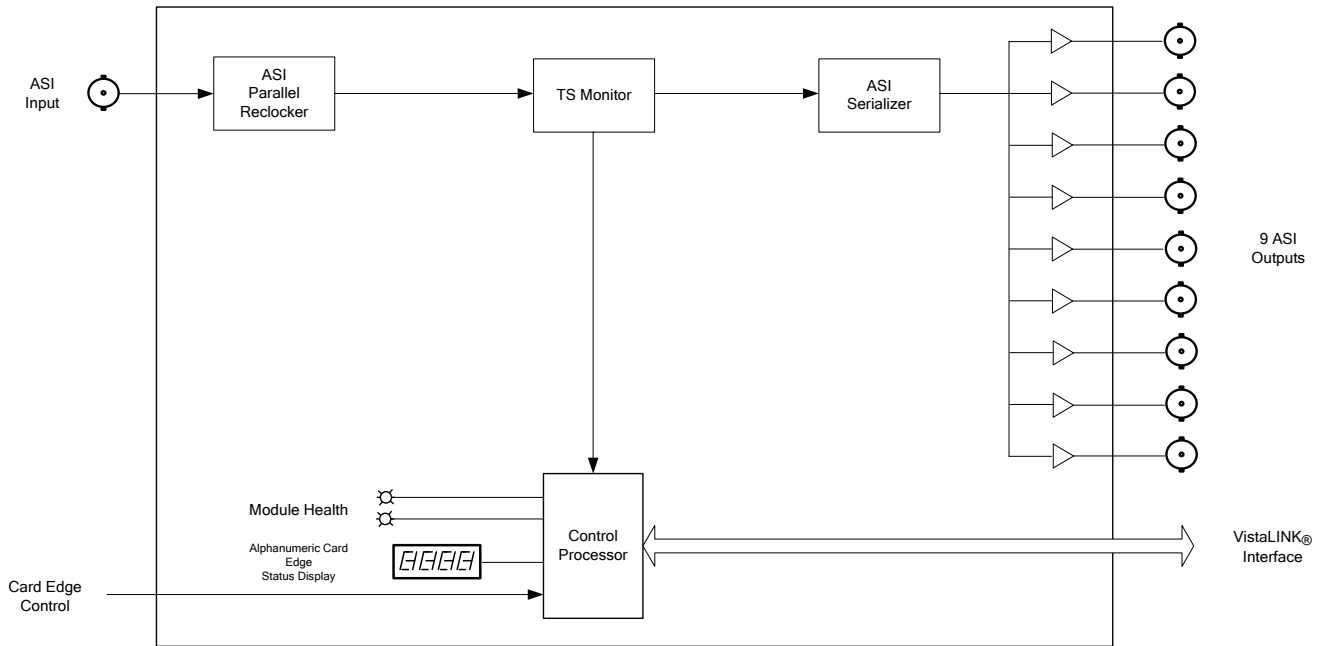


Figure 1-1: 500IDA9-ASI-TSMLITE Block Diagram

2. INSTALLATION

The 500IDA9-ASI-TSMLITE comes with a companion rear panel overlay that can be placed over the rear panel BNC connectors to identify their function. For information on inserting the module into the frame see section 3 of the 500FR chapter.

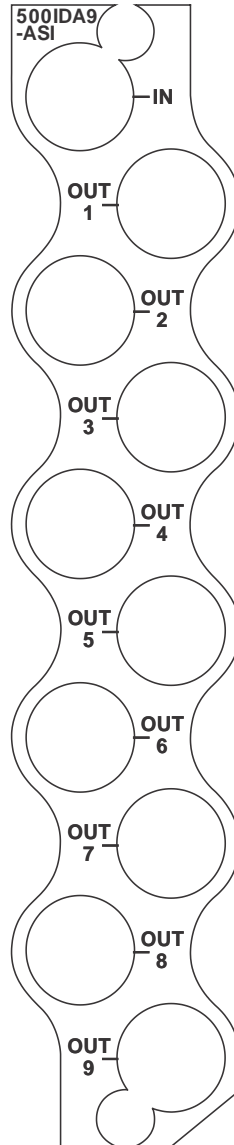


Figure 2-1: 500IDA9-ASI-TSMLITE Rear Panel Overlay

IN: Input BNC connector for ASI.

OUT 1 to 9: Output BNC connector for reclocked outputs of the input signal.

3. SPECIFICATIONS

3.1. SERIAL VIDEO INPUTS

Standard: ASI per DVB TR 101 891-270Mb/s
Number of Inputs: 1
Connector: 1 BNC per IEC 61169-8 Annex A
Bitrate: 100kb/s to 200Mb/s

3.2. SERIAL VIDEO OUTPUTS

Standard: Same as input
Number of Outputs: 9
Connector: BNC per IEC 61169-8 Annex A
Bitrate: Same as input

3.3. ELECTRICAL

Voltage: +12V DC
Power: 9W
EMI/RFI: Complies with FCC Part 15 Class A
EU EMC Directive

3.4. PHYSICAL

Number of Slots: 1

4. STATUS LEDS

The 500IDA9-ASI-TSMLITE has multiple LED Status indicators on the front card edge to show operational status of the card at a glance. Figure 7-1 shows the location of the LEDs.

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

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

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

There are 18 small LEDs that indicate additional status of the module. Figure 4-1 identifies the function of some of the status LEDs present on the board.

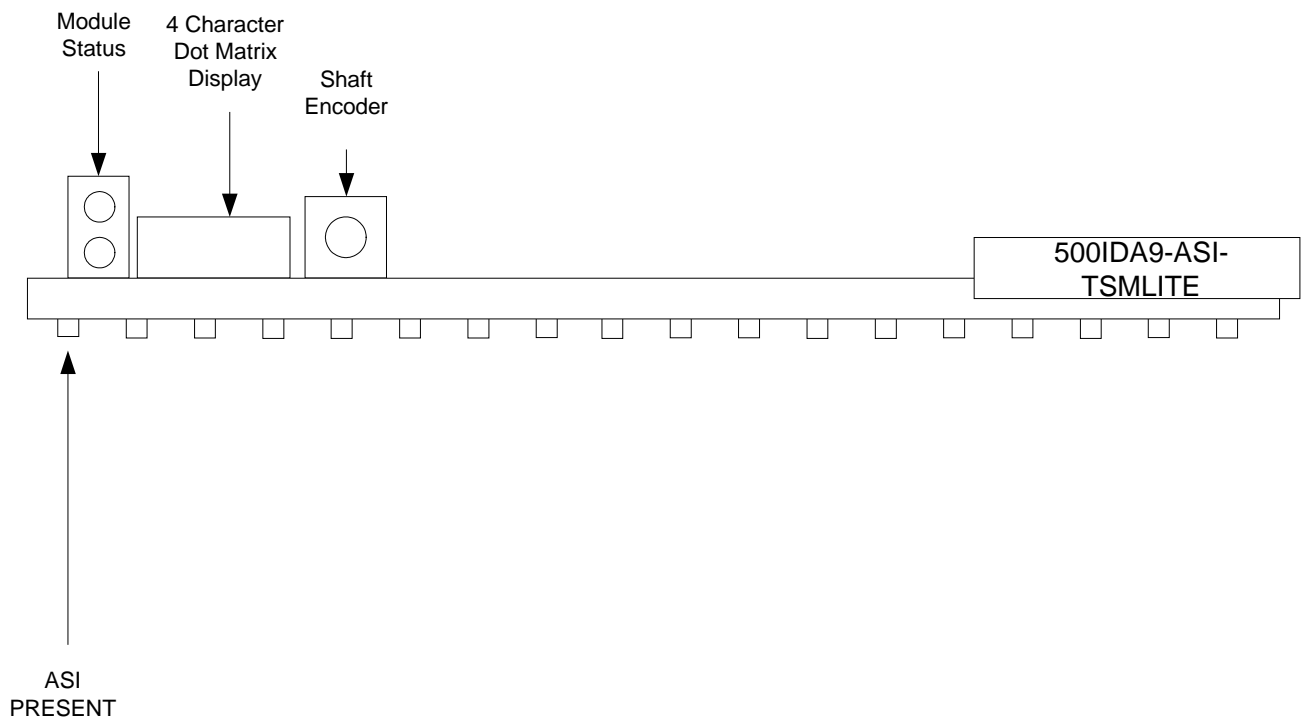


Figure 4-1: Status LEDS

5. CARD EDGE MODULE CONTROL

5.1. CARD EDGE CONTROL

The 500IDA9-ASI-TSMLITE is equipped with a push-button shaft encoder and a four character dot matrix display to control various functions on the card. The push-button shaft encoder is used to navigate through a menu system to set and monitor various parameters for the module. When not in the menu system, the four character dot matrix display rotates through the module name, firmware version, and IP address.

5.1.1. Navigating the Card Edge

You can use the push-button shaft encoder to move up and down the list of available parameters to adjust. To adjust any parameter, use the shaft encoder to move up or down to the desired parameter and then press the shaft encoder in. If the parameter is a numerical value, the number will increase if you rotate the shaft encoder clockwise and decrease if you rotate the shaft encoder counter-clockwise. If the parameter contains a list of options, you can cycle through the list by rotating the shaft encoder in either direction. The parameter values are changed as you cycle through the list.

When you have stopped at the desired value, depress the shaft encoder. This will return you to the parameter, select the menu item that you are setting (the display shows the parameter name you were setting). To change another parameter, rotate the shaft encoder to select other parameters. If neither the toggle switch nor pushbutton is operated for several seconds the card edge control will exit the menu system and return to an idle state.

Throughout the descriptions of the Menu items, default values are shown with bolded text.

5.2. CARD-EDGE MENU STRUCTURE

The following is a brief description of the top level of the menu tree that appears when you enter the ON screen menu. Selecting one of these items will take you down into the next menu level to set the value of that parameter.

DPSL	Sets the orientation of the four-digit LED display.
PRST	Allows the saving or recalling of presets.
QUIT	Exits the menu.

5.3. SETTING THE DISPLAY ORIENTATION

The **DSPL** parameter controls the display orientation of the four digit LED display.

HORZ	The display will be shown horizontally (ideal when installed in a 1RU or standalone frame).
VERT	The display will be shown vertically (ideal when installed in a 3RU frame).

5.4. PRESET PARAMETERS

The *PRST* menu option enters into a selection menu to either recall or save a preset.

SAVE	Menu option to save current module state to a selected preset.
LOAD	Menu option to load to the module a selected preset.

5.4.1. Saving Presets

The **SAVE** parameter will save the current module settings to a selected preset number. The user can save the settings by assigning a preset number (i.e. Preset 02), which can later be recalled using the *load* parameter.

01-10	Selects the preset to save the current module settings to.
--------------	--

5.4.2. Loading Presets

The **LOAD** parameter will load the settings saved in the preset to the current module settings. The user can recall and load a saved preset by selecting the desired preset number (i.e. Preset 02).

FACT	Loads the factory default settings into the module.
01-10	Selects the preset from which to load settings from.

6. VISTALINK[®] MODULE CONTROL

This section describes the VistaLINK[®] control and monitoring available on the 500IDA9-ASI-TSMLITE.

6.1. WHAT IS VISTALINK[®]?

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 VistaLINK[®] Pro Manager graphical user interface (GUI), third party or custom manager software may be used to monitor and control Evertz VistaLINK[®] enabled products.
2. Managed devices, each with a unique address (OID), communicate with the NMS through an SNMP Agent. Evertz VistaLINK[®] enabled 500series modules reside in the 3RU 500FR MultiFrame and communicate with the manager via the 500FC VistaLINK[®] frame controller module, which serves as the Agent.
3. A virtual database known as the Management Information Base (MIB) lists all the variables being monitored, which both the Manager and Agent understand. Please contact Evertz for further information about obtaining a copy of the MIB for interfacing to a third party Manager/NMS.

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

6.2. GENERAL

The *General* tab provides the user with basic information about the product as illustrated in Figure 6-1.

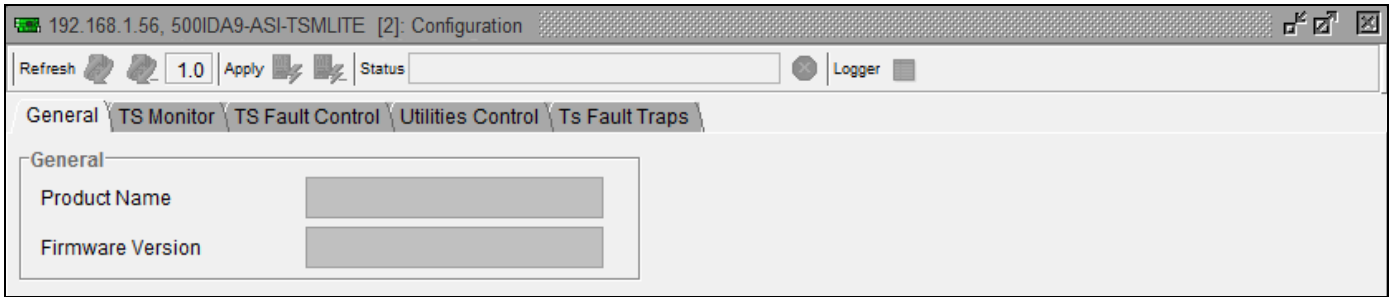


Figure 6-1: General Tab

The description of each parameter shown in the *TS Monitor* tab is as follows:

- Product Name:** Indicates the product model number of the card (including installed options).
- Firmware Version:** Indicates the currently installed firmware version.

6.3. TS MONITOR

The *TS Monitor* tab provides the user with all the pertinent information for the TS as illustrated in Figure 6-2.

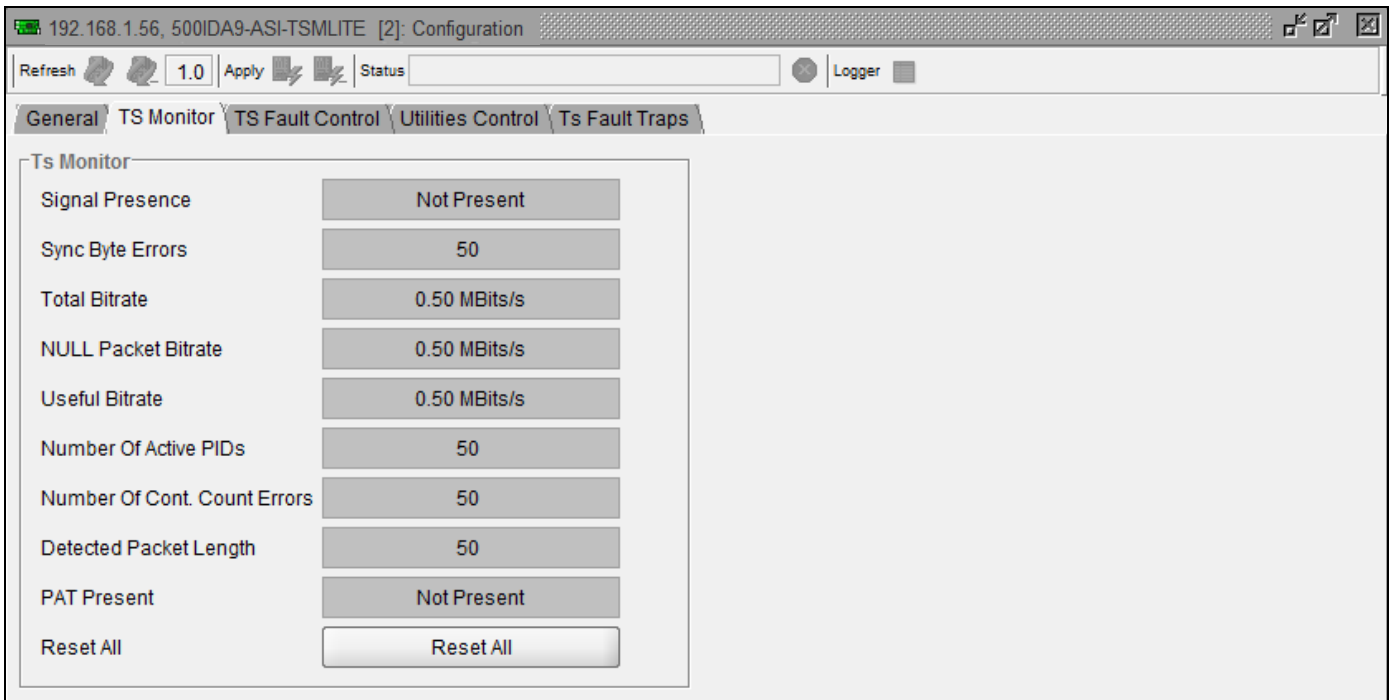


Figure 6-2: TS Monitor Tab

The description of each parameter shown in the *TS Monitor* tab is as follows:

Signal Presence: Indicates whether TS is present.

Sync Byte Errors: Indicates the number of sync errors occurred.

Total Bitrate: Indicates the total bitrate of the stream.

NULL Packet Bitrate: Indicates the bitrate of the null bits.

Useful Bitrate: Indicates the bitrate of the useful bits.

Number of Active PIDs: Indicates the number of active PIDs detected.

Number of Cont. Count Errors: Indicates the number of continuity count errors.

Detected Packet Length: Indicates the length of the detected packet.

PAT Present: Indicates whether PAT is present.

Reset All: Resets all TS monitoring parameters.

6.4. TS FAULT CONTROL

The *TS Fault Duration Control* tab allows the user to configure the TS fault duration as illustrated in Figure 6-3.

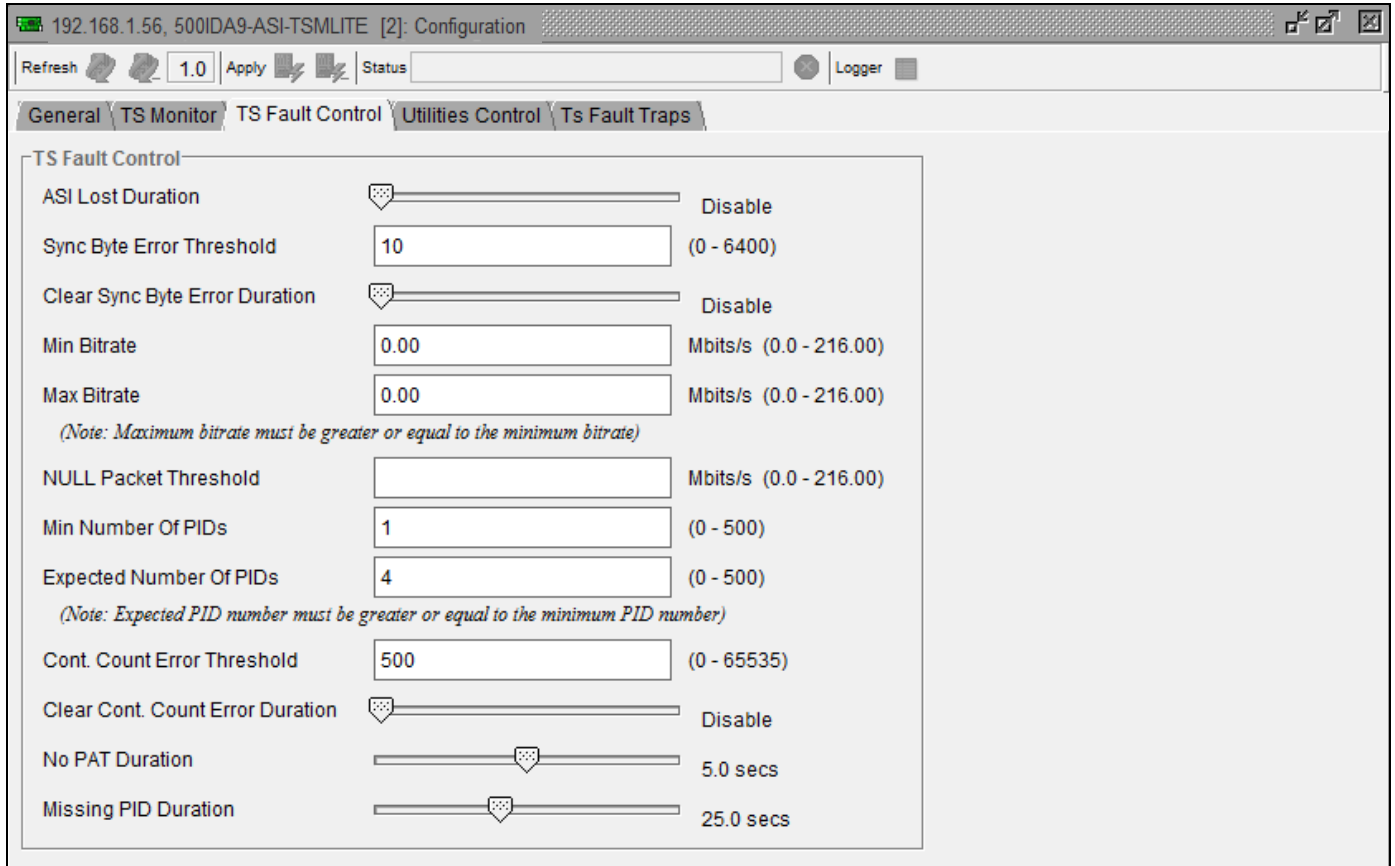


Figure 6-3: TS Fault Control Tab

The description of each parameter shown in the *TS Fault Control* tab is as follows:

ASI Lost Duration: Duration that is considered a fault when ASI is not detected.

Sync Byte Error Threshold: A fault if the maximum number of sync errors occurs.

Min Bitrate: A fault if the minimum bitrate occurs.

Max Bitrate: A fault if the maximum bitrate occurs.

NULL Packet Threshold: A fault if NULL Packet bitrate reaches designated threshold.

Min Number of PIDs: Sets the minimum number of the PIDs.

Expected Number of PIDs: Sets the expected number of PIDs.

Cont. Count Error Threshold: Set the continuity count error threshold.

No PAT Duration: Duration that is considered a fault when PAT is not present.

6.5. UTILITIES CONTROL

The *Utilities Control* tab allows the user to save and load configurations as illustrated in Figure 6-4.

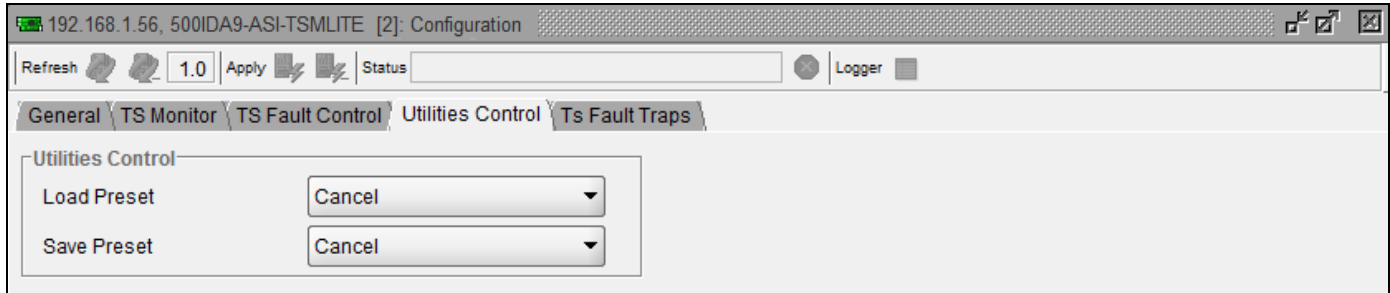


Figure 6-4: Utilities Control Tab

The description of each parameter shown in the *Utilities Control* tab is as follows:

Load Preset: Loads the settings saved in the preset to the current module settings. The user can recall and load a saved preset by selecting the desired preset number (i.e. Preset 02).

Save Preset: Saves the current module settings to a selected preset number. The user can save the settings by assigning a preset number (i.e. Preset 02), which can later be recalled using the *Load Preset* parameter.

6.6. TS FAULT TRAP

The *TS Fault Traps* tab enables the user to set TS fault traps and monitor TS fault trap statuses as illustrated in Figure 6-5. An alarm will be sent to the user if any of the traps (user enabled) are triggered. To enable a particular trap, simply click the box located beside each trap so that a check-mark appears. When a check-mark is present, the trap is enabled. When a check-mark is not present, the trap is disabled.

The *Trap Status* section defines whether a trap is a normal condition or a fault condition. Green indicates a normal condition and red indicates a fault condition.

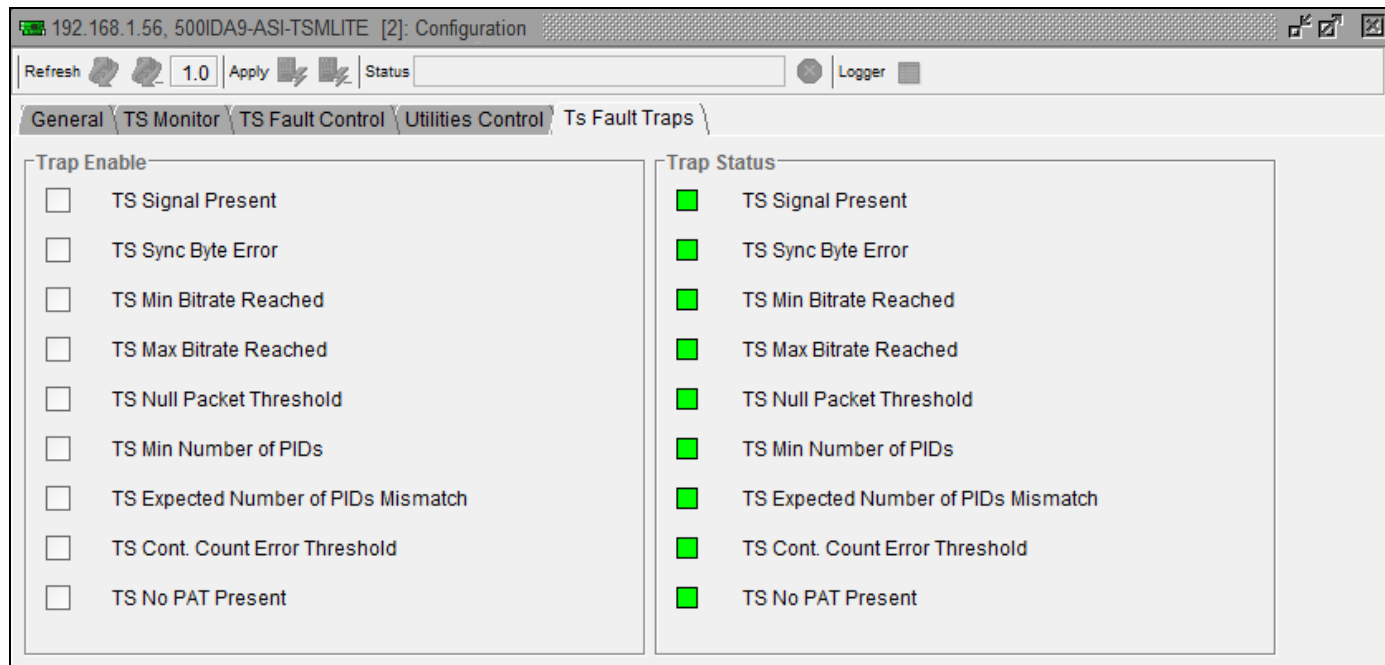


Figure 6-5: TS Fault Traps Tab

7. JUMPERS AND USER ADJUSTMENTS

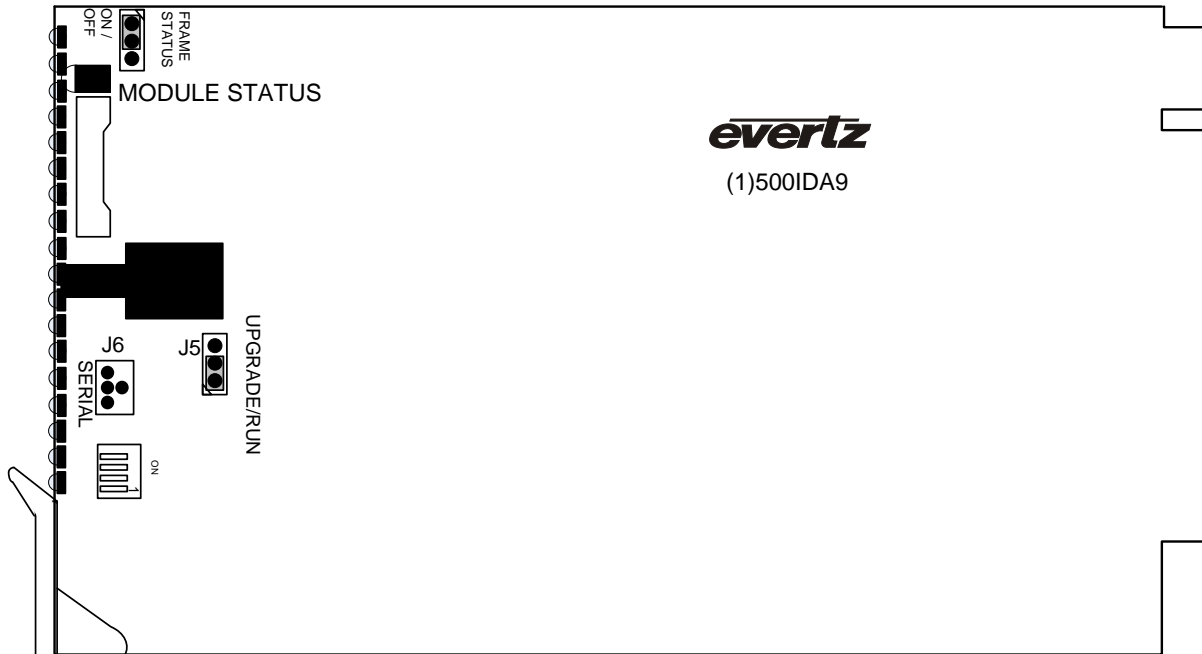


Figure 7-1: LED and Jumper Locations

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

The FRAME STATUS jumper J3, located at the front of the module determines whether local faults (as shown by the Local Fault indicator) will be connected to the 500 series frame's global status bus.

FRAME STATUS: To monitor faults on this module with the frame status indicators (on the power supply's FRAME STATUS LED's and on the Frame's Fault Tally output) install this jumper in the On position.

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

7.2. CONFIGURING THE MODULE FOR FIRMWARE UPGRADES

UPGRADE: The UPGRADE jumper J5 located at the front of the module near the card ejector, is used when firmware upgrades are being done to the module. For normal operation it should be installed in the *RUN* position. See the *Upgrading Firmware* section in the front of the binder for more information.

To upgrade the firmware in the module unit pull it out of the frame. Move Jumper J16 into the *UPGRADE* position. Install the Upgrade cable provided (located in the vinyl pouch in the front of this manual) onto header J6. Re-install the module into the frame. Run the upgrade as described in the *Upgrading Firmware* section in the front of the binder. Once the upgrade is complete, remove the module from the frame, move J5 to the *RUN* position, remove the upgrade cable and re-install the module. The module is now ready for normal operation.