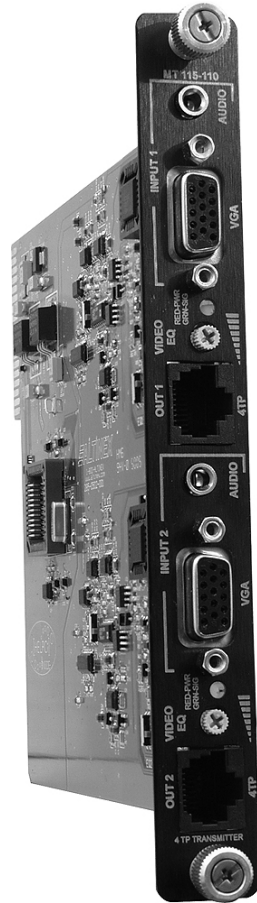


**Multitasker®**



MANUAL PART NUMBER: 400-0433-003

**MT115-110**

**COMPUTER/COMPONENT VIDEO + AUDIO,  
DUAL TWISTED PAIR TRANSMITTER  
USER'S GUIDE**

**ALTINEX®**

**SIGNAL  
MANAGEMENT  
SOLUTIONS®**

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## PRECAUTIONS / SAFETY WARNINGS 1

Please read this manual carefully before using your **MT115-110** and keep it handy for future reference. These safety instructions are to ensure the long life of your **MT115-110** and to prevent fire and shock hazards. Please read them carefully and heed all warnings.

### 1.1 GENERAL

- Qualified ALTINEX service personnel or its authorized representatives must perform all service.

### 1.2 HANDLING

- Handle the **MT115-110** carefully. Dropping or jarring can damage the card.
- The **MT115-110** contains components that are sensitive to electrostatic discharge (ESD). Always use ESD safety precautions when touching the card.
- To prevent fire or shock, do not expose this unit to water or moisture. Do not place the **MT115-110** in direct sunlight, near heaters or heat-radiating appliances, or near any liquid. Exposure to direct sunlight, smoke, or steam can harm internal components.
- Do not pull any cables that are attached to the **MT115-110**.

### 1.4 CLEANING

- Clean only the connector area with a dry cloth. Never use strong detergents or solvents such as alcohol or thinner. Do not use a wet cloth or water to clean the card. Do not clean or touch any component or PCB.

### 1.5 FCC NOTICE

- This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

- 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 expense.
- Any changes or modifications to the unit not expressly approved by ALTINEX, Inc. could void the user's authority to operate the equipment.

## ABOUT YOUR MT115-110 2

### MT115-110

#### Computer/Component Video+ Audio, Dual Twisted Pair Transmitter

The **MT115-110** provides a means of transmitting computer or component video and audio signals over Twisted Pair-type (CAT-5) cable when used together with an ALTINEX Twisted Pair Video Receiver, such as the **MT115-111** or **TP115-111**.

The **MT115-110** offers two 15-pin HD female inputs with native Plug & Play compatibility and two 3.5 mm audio input jacks. The RJ-45 outputs provide distributed drive to Twisted Pair cables. The **MT115-110** also offers video equalization for cable lengths up to 400 ft (122 m). The equalization adjustment may be set for either hardware or software (RS-232) control.

Additionally, the **MT115-110** offers the option for video gain adjustments through RS-232 control or the gain may be set to a value of one for hardware control.

The latest generation of Twisted Pair devices uses an innovative, patented technology\* developed by ALTINEX. The new signal processing technology allows transmitting and receiving fully equalized computer video signals, stereo, and audio signals over long distances. The maximum distance at full UXGA resolution is 400 ft (122 m) between devices and may reach up to 750 ft (230 m) at VGA resolution.

\* US Patent 7,065,190

## TECHNICAL SPECIFICATIONS 3

Specifications are subject to change. See [www.altinex.com](http://www.altinex.com) for up-to-date information.

FEATURES/DESCRIPTION	MT115-110
<b>Inputs</b>	
Video	(2) 15-pin HD female
Audio	(2) 3.5 mm jack
<b>Output</b>	
CAT-5/6 Twisted Pair	(2) RJ-45 female

Table 1. **MT115-110** General

MECHANICAL	MT115-110
Enclosure Slots	One
Weight (pounds)	0.5 lbs (0.23 kg)
T° Operating	10°C-35°C
T° Maximum	50°C
Humidity	90% non-condensing
MTBF (calculations)	40,000 hrs (min.)

Table 2. **MT115-110** Mechanical

ELECTRICAL	MT115-110
<b>Video Input Signal</b>	
Video Signal	1.5 Vp-p max
Video Impedance	75 ohms
SYNC Signal	TTL (+/-)
SYNC Impedance	10 kohms
<b>Audio Input Signal</b>	
Impedance	30 kohms
Level	1.0 Vp-p max
<b>Twisted Pair Output</b>	
CAT-5/6 Twisted Pair	Video/Sync/Audio Signals ALTINEX Standard
Video Resolution	VGA through UXGA 480p through 1080i
<b>Power (from enclosure)</b>	
+6V	0.600 A (3.6 W)
-6V	0.400 A (2.4 W)
Total Power	6.0 W max.

Table 3. **MT115-110** Electrical

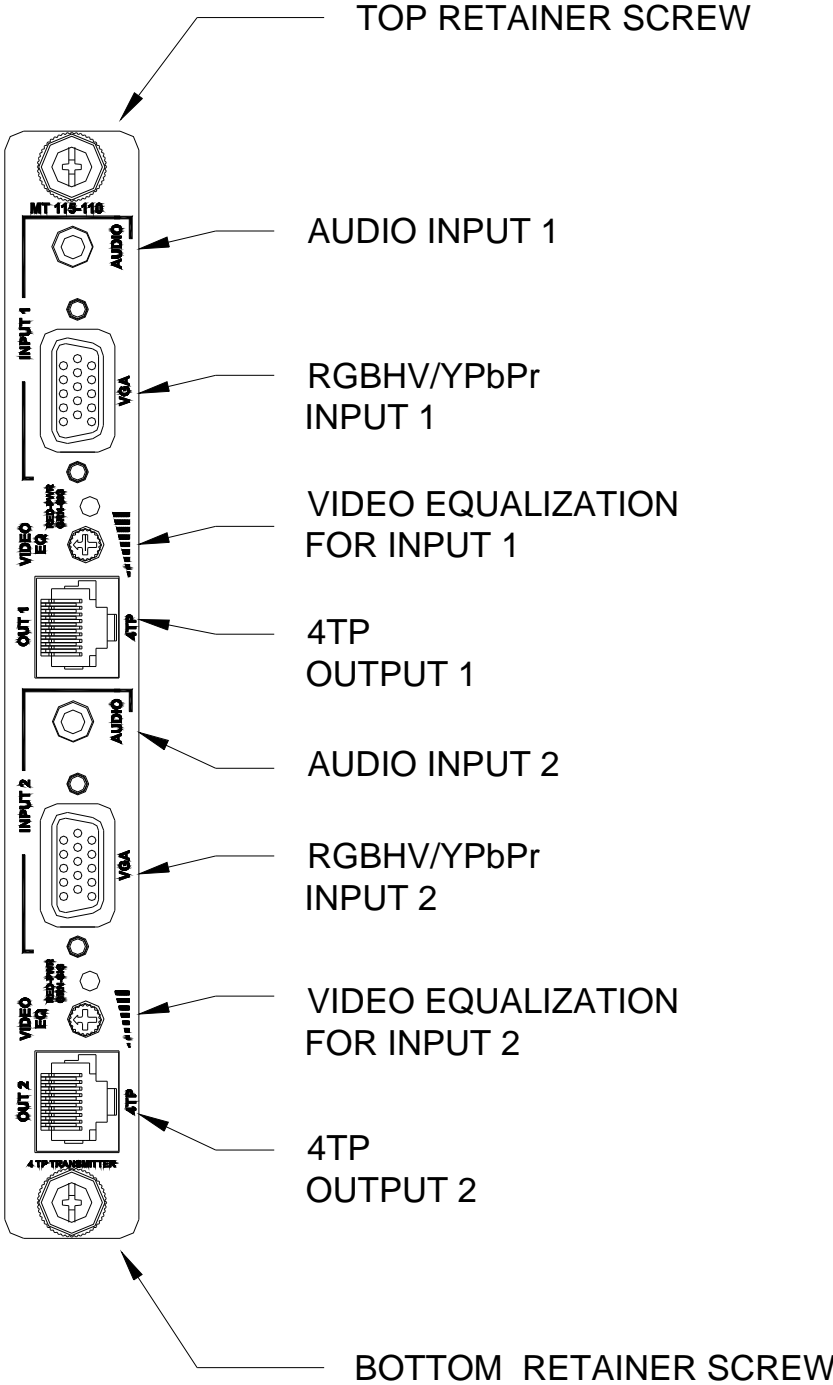
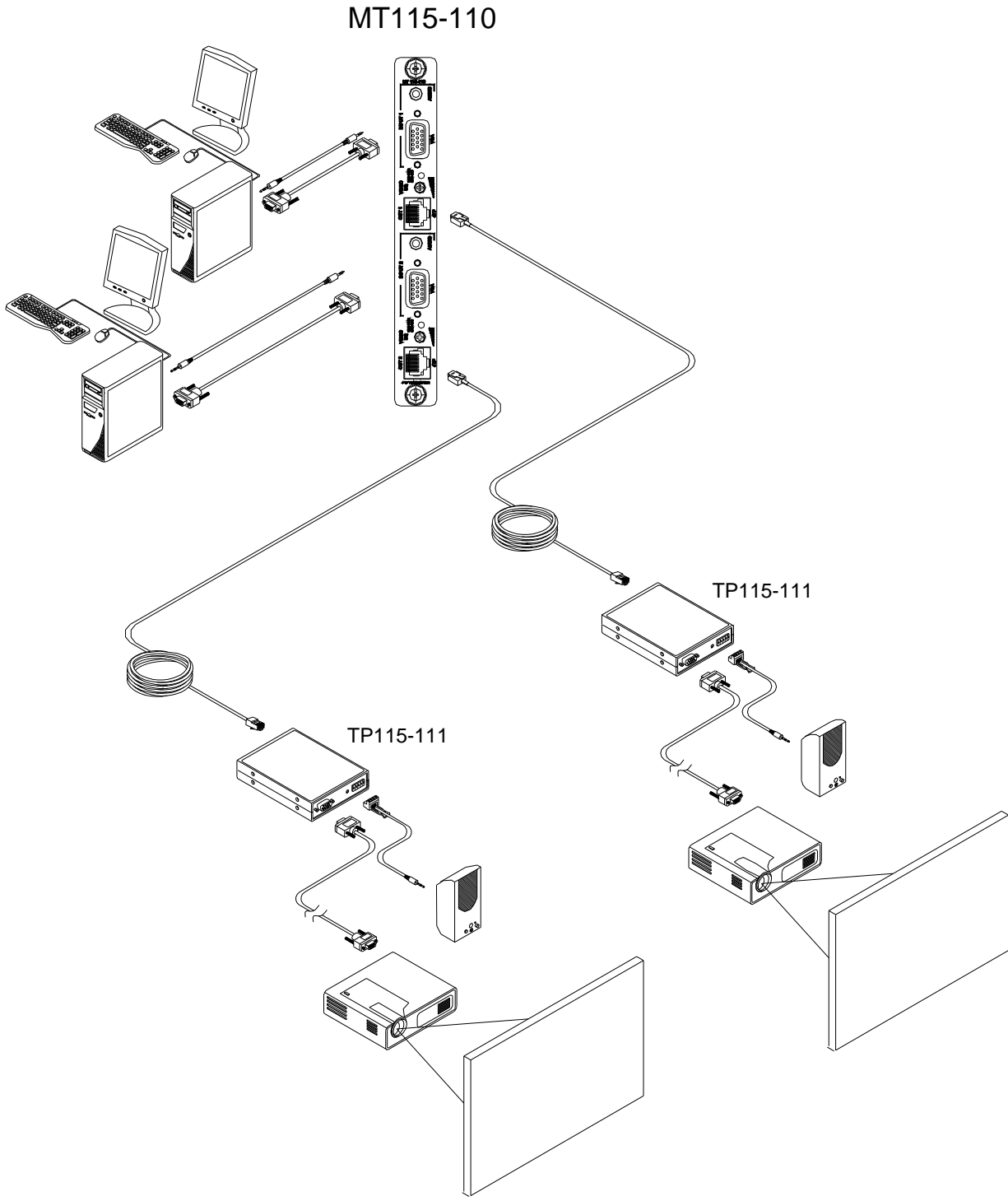
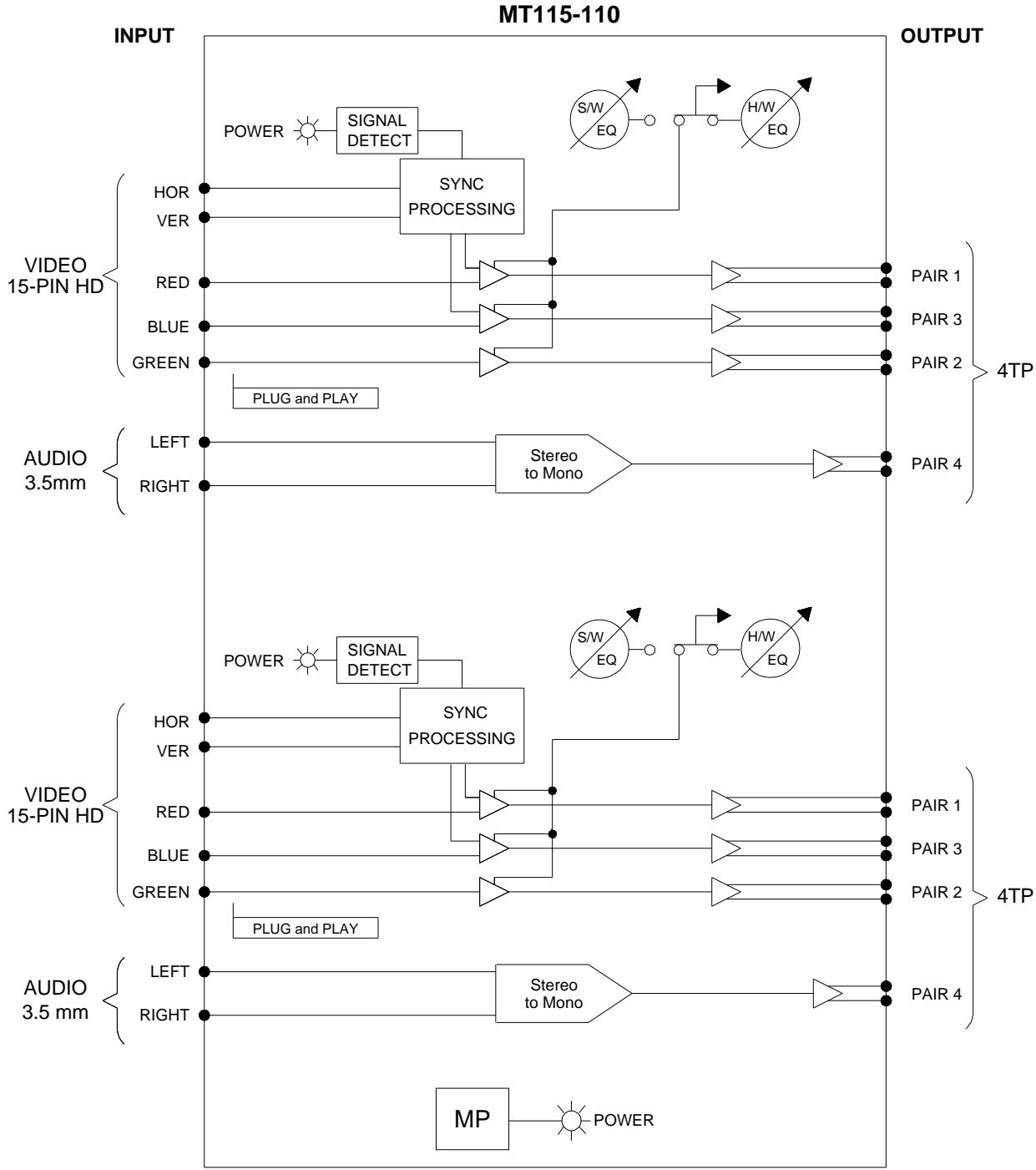


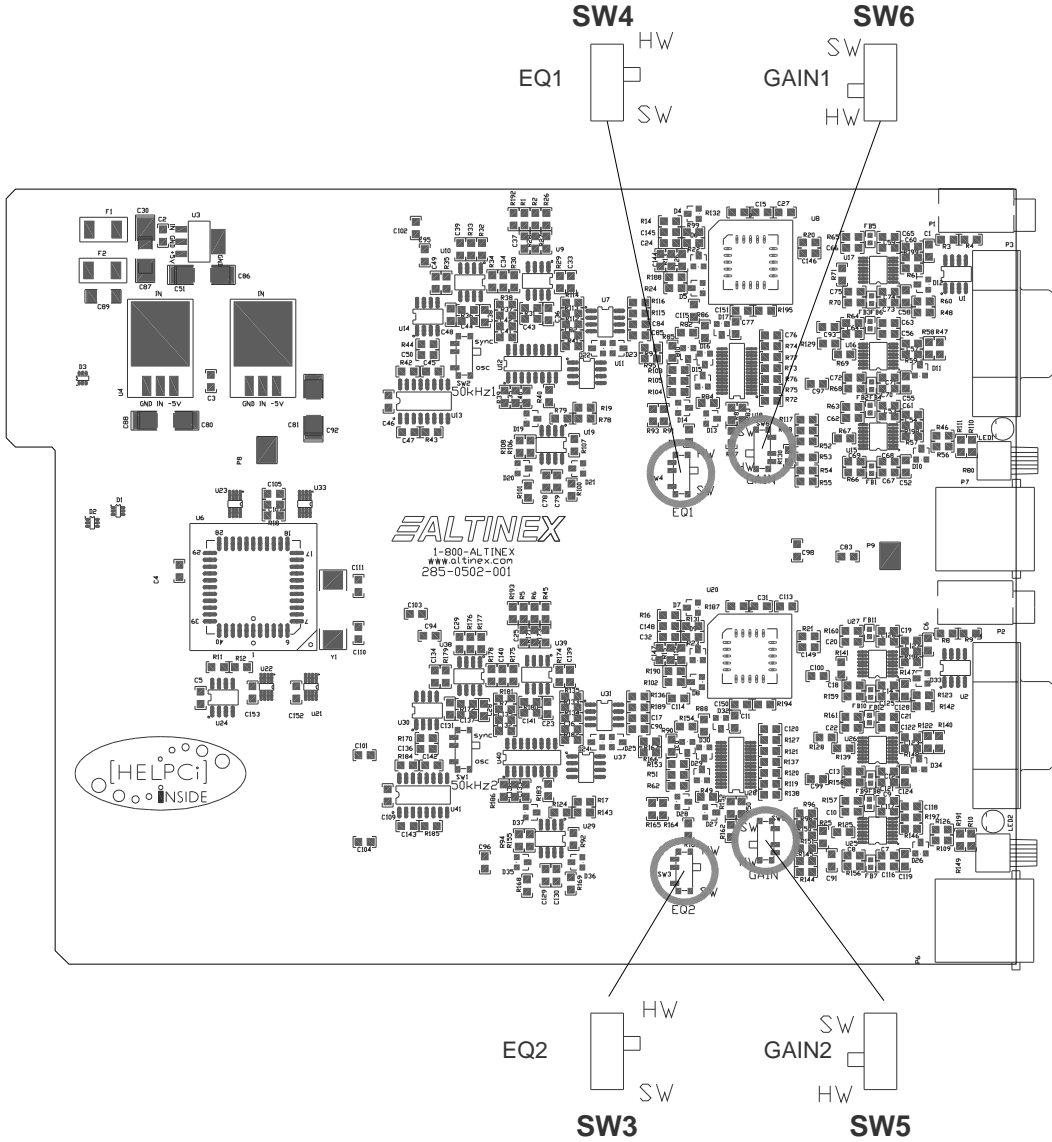
DIAGRAM 1: TYPICAL SETUP



**DIAGRAM 2: INTERNAL VIEW**



**DIAGRAM 3: SWITCH SETTINGS**



CONTROL	INPUT	DESCRIPTION
Video Gain	1	Set SW6 to SW for software control and HW for a fixed gain = 1.
	2	Set SW5 to SW for software control and HW for a fixed gain = 1.
Video Equalization	1	Set SW4 to SW for software control and HW for hardware control.
	2	Set SW3 to SW for software control and HW for hardware control.



## INSTALLING YOUR MT115-110 6

- Step 1.** Determine the appropriate switch settings using Diagram 3 on page 7.
- Step 2.** Turn off power to the MultiTasker system and disconnect from AC power.
- Step 3.** Remove a slot cover (MT200-101) from one of the unused slots. Identify the slot number and note that it is for RS-232 control.
- Step 4.** Slide the **MT115-110** into the enclosure in order to connect it to the bus. Make sure the card fits into place and then secure the card by tightening its retainer screws.
- Step 5.** Restore power to the enclosure. The LEDs for each input should be on and red.
- Step 6.** Connect the computer/component video and audio sources to Inputs 1 and 2. If a properly formatted input signal is available, the Input LED will turn green.
- Step 7.** Connect the 4TP OUT1 to the input of its Twisted Pair receiver.
- Step 8.** Connect the 4TP OUT2 to the input of its Twisted Pair receiver.
- Step 9.** The **MT115-110** is now ready for operation.
- Step 10.** Video equalization is provided to fine-tune the displayed image on the remote display. The equalization adjustments on the **MT115-110** and Twisted Pair receiver work together. Typically, for short cable runs the equalization will be set to near minimum. Cable lengths up to 400 ft (122 m) will require near maximum equalization on both units.
- Step 11.** The **MT115-110** also has video gain adjustment capability through RS-232 control. See the following section for RS-232 command details.

## OPERATION 7

### 7.1 RS-232 CONTROL

The **MT115-110** has many advanced remote-control capabilities accessible through standard RS-232 communication. Control may be accomplished through a computer control system or any other device capable of sending RS-232 communication.

#### 7.1.1 RS-232 INTERFACE

The control commands for the **MT115-110** are in a simple ASCII character format.

- 1. Square brackets “[ ]” are part of the command.**
- 2. Use uppercase letters for all commands.**
- 3. Spaces are not legal characters.**

The cards in a MultiTasker system are capable of performing various functions, as well as providing feedback to the user or control system. Commands instruct a card to perform specific actions or request information about the status of the card. Some commands do both simultaneously.

A command that instructs the card only to perform an action will generate feedback of “[ ]”. The open bracket immediately followed by a closed bracket indicates the card received a valid command. If the command requested information from the card, the feedback generated by the card is the acknowledgement of having received a valid command. Invalid commands generate feedback of “[ERR001]”.

After processing a command, an “OK” or [ERR001] will be returned as feedback if ‘F’ is included at the end of a command string.

Commands ending in ‘S’ will be saved into memory. Commands not ending in ‘S’ will still be executed, but will not be restored when the system is reset or powered off, then on.

## 7.2 DESCRIPTION OF COMMANDS

Each command consists of three parts: Function, Card ID, and Unit ID.

[ Function , Card ID , Unit ID ]

Example: [VERC3U2]

VER= Function

C3 = Card ID or Group ID

U2 = Unit ID (optional for Unit ID 0)

For Function, see a detailed explanation under each command description.

The card ID is a unique identifier. It is equal to the enclosure slot number, or it may be an assigned value. As the slot number, the value can range from 1-4 up to 1-to-20 depending on the enclosure. If the value is assigned, the ID may be a maximum of 99. Card ID 0 (C0) is used for the controller and cannot be reassigned.

The group ID is a number representing a group of cards defined with the [WR] command. When using the group ID, all cards in the group will perform the given instruction.

NOTE: In this manual, cards will be referenced by their ID (C1, C2...C99). Typically, the ID number will be equivalent to the slot number. Groups will be referenced by their ID (G1-G8).

Changing the position of a card will significantly affect the commands recorded on software definitions or third-party control systems.

The unit ID has a value from 0 to 9. Unit ID 0 should be used for single unit operation. If the unit ID is set to zero, each command may be used without Ui. Use the command [SETU0], as explained in the MT100-100 User's Guide.

Example:

[VERC3]: For Unit ID Zero

[VERC3Ui]: For Unit ID other than Zero

[VERC3]: Equivalent to [VERC3U0]

## COMMANDS

### 1. [VER]

This command displays the software version and card type for the **MT115-110** card.

Command Format: [VERCn]

Cn = Card ID (n = slot # from 1 to max slots)

Example:

An **MT115-110** card is in slot 3. Send the command [VERC3], and the system will return feedback similar to the following:

```
[MT115-110 690-0231-001 C03]
```

```
MT115-110      = Model number
```

```
690-0231-001  = Firmware version
```

```
C03           = Card ID
```

### 2. [C]

This command displays the status of the card.

Command Format: [Cn]

Cn = Card ID (n = # from 1 to max slots)

Example:

There is an **MT115-110** card in slot 3. Sending the command [C3] will yield feedback similar to the following:

```
INPUT#1 VIDEO GAIN 4
```

```
    EQUALIZATION 32
```

```
INPUT#2 VIDEO GAIN 4
```

```
    EQUALIZATION 32
```

In this case, both card inputs are set for a video gain of 4 and an equalization of 32.

If there is no card in slot 4, sending the [C4] command will not return any feedback.

### 3. [CnS]

This command saves the card settings and displays the status. After the system is reset or powered off and on, the settings are restored.

Cn = card number

S = save configuration

Example:

Save the status by sending [C4S]. The feedback returned will be similar to the following:

```
INPUT#1 VIDEO GAIN 4
      EQUALIZATION 32
INPUT#2 VIDEO GAIN 4
      EQUALIZATION 32
SAVED
```

### FEEDBACK COMMANDS

The next four commands are a function of both the card and the front panel and are only available with MultiTasker Front Panel systems that have the following firmware:

690-0122-015 = Version 015 or later.  
690-0123-004 = Version 004 or later.  
690-0124-018 = Version 018 or later.

Send the command [VER], and the system will respond with feedback that includes the following:

690-0122-015 690-0123-004 690-0124-018

Check the last three digits against the numbers above to determine if the option is available.

### 4. [?]

This command will return general information about the MultiTasker and cards installed in the unit.

Command Format: [?Ui]

Ui = Unit ID (i = from 0 to 9)

Example:

A MultiTasker with unit ID 1 has a front panel with part number MT101-101 and contains an MT103-122, MT103-123, and MT115-110. Send the command [?U1] and receive the following feedback:

```
[(MT101-101U1)(MT103-122C01)
(MT103-123C02)(MT115-110C03)]
```

MT101-101U1 = Panel Number and Unit ID

MT103-122C01 = An MT103-122 is in slot 1

MT103-123C02 = An MT103-123 is in slot 2

MT115-110C03 = An MT115-110 is in slot 3

### 5. [?C]

This command will return general information about the card and its status.

Command Format: [?Cn]

Cn = Card ID (n = # from 1 to max slots)

Example:

The **MT115-110** in slot 3 has Input 1 connected to all outputs. Each input is set to a gain level of 4 and an equalization value of 32. Send the command [?C3] and receive feedback similar to the following.

```
[(MT115-110C03)(VR690-0231-001C03)
(GN0404C03)(EQ3232C03)]
```

All status feedback is enclosed in brackets, “[ ]”. Each data field within the status is enclosed in parentheses. The first two characters identify the status type. The last three characters are the card's ID.

MT115-110 = Card model number

VR690-0231-001 = Firmware version

GN0404 = Gain levels

EQ3232 = Equalization values

The gain and equalization settings are read from left to right. The first 2 digits are for Input 1 and the last 2 digits are for Input 2.

In this case, both gains are set to 4 and both equalization levels are set to 32.

## 6. [STA1]

This command enables automatic feedback from the front panel. The command affects any card with auto-feedback capability, not just the **MT115-110**. The default at power on or reset is STA0, off. For more details, see the [?Cn] command definition.

Command Format: [STA1]

Feedback Prefix Definitions:

MT Card model number

VR Firmware revision

GN Gain levels

EQ Equalization value

Example 1:

Command= [GAIN1=10C3]

Feedback = (GN1004C03)

GN = Gain

1004 = Levels (IN1=10, IN2= 04)

C04 = Card/Slot number

## 7. [STA0]

This command disables automatic feedback from the card and front panel. The command affects any card with auto-feedback capability, not just the **MT115-110** card. The default at power on or reset is STA0, OFF.

Command Format: [STA0]

## 8. [CLR]

This command clears the card settings and returns it to the factory default values. The default gain settings are 4 and the default equalization settings are 32 for each input.

Command Format: [CLRCn]

Cn = Card ID (n = slot # from 1 to max slots)

Example:

In order to clear the card in slot 3, send the command [CLRC3]. The card will respond with the following feedback when complete:

FACTORY RESET COMPLETED

## 9. [TEST]

This command performs a series of tests on the internal memory and displays a pass message if successful. Otherwise, failures are indicated.

Command Format: [TESTCn]

Cn = Card ID (n = slot # from 1 to max slots)

Upon completion, the system will display the results. This feedback will be similar to the following:

MEMORY IC TEST RESULTS:

MEMORY IC PASS

## 10. [EQ]

This command displays the equalization setting for an input and selects that input for adjustment using the [+] and [-] commands.

Command Format: [EQmCn]

m = Input # (m = 1 or 2)

Cn = Card ID (n = slot # from 1 to max slots)

Example:

Display the equalization setting for Input 1 of C3, then increase the equalization level by 3 from a starting value of 12.

Send the command [EQ1C3] and the current setting for Input 1 will be displayed.

[12]

Next, send the commands [+], [+], and [+] to increase the setting by 3. Send the [EQ] command again to receive new value.

[15]

## 11. [EQ=]

This command sets the equalization for an input to a value specified by the user.

Command Format: [EQm=xCn]

m = Input # (m = 1 or 2)

x = Equalization level (x = # from 1 to 64)

Cn = Card ID (n = slot # from 1 to max slots)

Example:

Set the equalization on Input 2 of C3 to a value of 32 by sending the command [EQ2=32C3]. The card will respond with feedback of “[ ]” once the command is executed.

## 12. [GAIN]

This command displays the gain setting for an input and selects that input for adjustment using the [+] and [-] commands. A gain setting of 4 is equivalent to unity gain.

Command Format: [GAINmCn]

m = Input # (m = 1 or 2)

Cn = Card ID (n = slot # from 1 to max slots)

Example:

Display the gain setting for Input 2 of C3, then decrease the gain level by 3 from a starting value of 10.

Send the command [GAIN2C3] and the current setting for Input 1 will be displayed.

[10]

Next, send the commands [-], [-], and [-] to decrease the setting by 3. Send the [GAIN] command again to display the new value.

[7]

## 13. [GAIN=]

This command sets the gain level for an input to a value specified by the user. A gain setting of 4 is equivalent to unity gain.

Command Format: [GAINm=xCn]

m = Input # (m = 1 or 2)

x = Gain level (m = # from 1 to 11, 4=unity)

Cn = Card ID (n = slot # from 1 to max slots)

Example:

Set the gain level for Input 2 of C3 to a value of 4 by sending the command [GAIN2=4C3]. The card will respond with feedback of “[ ]” once the command is executed.

## 14. [HELP]

This command displays information available for the MultiTasker interface commands.

Command Format: [HELPCn]

Cn = Card ID (n = # from 1 to max slots)

Example:

In order to display the RS-232 commands available for the **MT115-110** card in slot 3, send the command [HELPC3]. The commands along with a brief description will be displayed in the Terminal Window.

## 15. [...S]

This command will save the configuration command being sent in memory. When sending the command [EQ1=16C3S], after reset or power-up, the equalization for Input 1 will be set to 16.

## 16. [FBD]

This command turns feedback delay on or off. It is necessary when installing some newer cards in older systems. If the system does not receive all of the feedback from the card, the card may be communicating too fast. This command will slow down the card's communication rate.

Command Format: [FBDm]

m = Delay (0= no delay, 1= delay 100mS)

Example:

The command [HELPC3] is sent to the card in slot 3. Some of the HELP file is displayed on the screen, but most is missing. Send the command [FBD1] to slow down the rate at which the card sends feedback to the system.

## ID COMMANDS

The default card ID is the same as the card slot number. The next several commands allow the user to change the card ID to a value other than the slot number. Once the ID is changed, moving the card to another slot will not change the card ID. If a card in slot 4 is set to ID 1, then moved to slot 10, its ID will remain 1. The RSI command forces each installed card to take its slot number as its ID number, regardless of the slot in which it is installed.

Some cards require more than one slot in the MultiTasker system. As an example, some matrix switcher cards require 4 slots. If 5 of these cards are installed, they would be numbered C4, C8, C12, C16, and C20. Changing the ID allows the user to define the cards as C1, C2, C3, C4, and C5.

Another use for changing the card ID is to be able to use multiple systems without having to set each unit to a different unit ID. All systems may be left as unit ID 0 for ease of programming. The cards in the first unit may be numbered 1-10 and in the second unit 11-20.

The ID commands work with all MultiTasker systems. However, front panels that have firmware releases prior to the following will not be able to address card IDs greater than the number of slots in the system:

690-0122-019 = Version 019 or later.

690-0123-005 = Version 005 or later.

690-0124-019 = Version 019 or later.

Send the command [VER], and the system will respond with feedback that includes the following:

690-0122-019 690-0123-005 690-0124-019

Check the last three digits against the numbers above to determine if the card ID commands can address all 99 card IDs.

## 17. [RSI]

This command resets the card IDs in the system. After sending this command, each card ID in the system will match the slot number of the card. If the card is moved to another slot, its ID number will be the new slot number.

Command Format: [RSI]

Example:

Send the command [RSI] to the system with Unit ID 0. The card in slot 1 will have ID 1, the card in slot 2 will have ID 2, and so on. If the card in slot 1 is then moved to slot 4, the card ID will then be 4.

## 18. [SIDn]

This command sets all the cards installed in the MultiTasker system to the same card ID. After sending this command, all cards will be addressed with the same ID. Use caution when sending this command to a system with multiple board types.

Command Format: [SIDn]

n = Card ID (n = # from 1 to 99)

Example:

Send the command [SID1] to the system. All the cards in the system now have ID 1. Any commands that are sent to card ID 1 will be received and executed by each card.

## 19. [SIDnCi]

This command sets the card ID of a single card to a number from 1 to 99.

Command Format: [SIDnCi]

n = Card ID (n = # from 1 to 99)

Ci = Slot Number (i = # from 1 to max slots)

Example:

Send the command [SID50C10] to set the ID of the card in slot 10 to an ID of 50.

## 20. [SID+]

This command sets the card ID of all the cards in a system to their slot number plus the offset value.

Command Format: [SID+n]

n = Offset amount (n = # from 0 to 99)  
The maximum card ID is 99, so subtract the highest slot number from 99 to find the maximum offset. For example, in an 8-slot enclosure, the maximum offset would be 91. The slot number (8) plus the offset (91) equals 99.

Example:

There are two 20-slot enclosures to be connected together during normal operation. The first unit will use the default IDs where the card ID is equal to the slot number. The second unit will have the same unit ID, but each card ID will be offset by 20.

Connect the computer to the second unit only. Send [SID+20] to set the ID of all the cards in the second enclosure to their slot number plus 20. Reconnect both units to the computer.

The cards in the first unit will be referenced as card IDs 1-20 and the cards in the second unit will be referenced by card IDs 21-40.

## 21. [RSN]

This command displays the slot number of a card with a specified ID number. If more than one card has the same ID, each slot number will be displayed.

Command Format: [RSNCi]

Ci = Card ID (i = # from 1 to 99)

Example:

The card in slot 4 takes up four slots in the enclosure. Its ID was set to 1 since it is the first card installed in the system, reading from left to right. Send the command [RSNC1] to find the slot number of this card. The system responds with the following feedback:

[4]

## GROUP COMMANDS

The next few commands are group commands. The use of groups allows several cards with the same functions to be controlled simultaneously using a single command. Up to 8 groups (G1-G8) may be defined in a MultiTasker system. These commands apply to all cards, not only the **MT115-110**.

## 22. [WR]

This command adds cards to a group allowing all the group members to be controlled simultaneously with the same commands. Each MultiTasker unit may define a maximum of eight groups.

In MultiTasker systems with audio and video cards, the groups are typically as follows:

Group 1 = Video Cards

Group 2 = Audio Cards

Group 3 = Video and Audio Cards

Command Format: [WRCn<sub>1</sub>Cn<sub>2</sub>...Gk]

Cn = Card ID (n = slot # from 1 to max slots)

Gk = Group number (k = # from 1-8)

Example:

Add C2, C4, and C6 to G5 by sending the command [WRC2C4C6G5]. After executing this command, C2, C4, and C6 will be G5. The system will return the following feedback:

[G5=C2C4C6]

Now when a command is sent to G5, each board in G5 will execute the same command.

## 23. [RMC]

This command may be used to remove one or more group members from a group. Reset the system after using this command for all changes to take effect.

Command Format: [RMCn<sub>1</sub>Cn<sub>2</sub>...Gk]

Cn = Card ID (n = # from 1 to max slots)

Gk = Group ID (k = # from 1-8)

Example:

G5 consists of the C2, C4, and C6. Remove only C4 and C6 from the group by sending the command [RMC4C6G5]. The system will return the following feedback:

[G5=C2]

## 24. [RMG]

This command may be used to delete an entire group, or all groups.

### REMOVE A GROUP

Remove all the members from the group, effectively deleting the group.

Command Format: [RMGk]

Gk = Group ID (k = # from 1-8)

Example:

G5 consists of the C2, C4, and C6. Remove all cards from the group by sending the command [RMG5]. The system will return the following feedback:

[G5=0]

### REMOVE ALL GROUPS

Remove all the members from every group, effectively deleting all groups.

Command Format: [RMG\*]

Example:

G5 consists of C2, C4, and C6. G2 consists of C1, C2, C3, C4, and C5. Delete all the groups by sending the command [RMG\*]. The system will return the following feedback:

G1-G8: EMPTY

## 25. [RD]

This command reads and then displays the members in a group.

Command Format: [RDGk]

Gk = Group ID (k = # from 1-8)

Example:

C2, C4, and C6 make up G5. Read the member data for G5 by sending the command [RDG5]. The system will return feedback as follows:

[G5=C2C4C6]

The feedback shows G5 and then the cards that make up G5. In this case, G5 includes C2, C4, and C6.

## 7.3 SUMMARY OF COMMANDS

### Card Commands

- 1) [VER] Display firmware version
- 2) [C] Display card status
- 3) [CnS] Save card settings
- 4) [?] Display system status
- 5) [?C] Display card status
- 6) [STA1] Enable auto feedback
- 7) [STA0] Disable auto feedback
- 8) [CLR] Reset card to defaults
- 9) [TEST] Test memory ICs
- 10) [EQ] Display/select equalization
- 11) [EQ=] Set equalization level
- 12) [GAIN] Display/select video gain
- 13) [GAIN=] Set video gain level
- 14) [HELP] Display available commands
- 15) [...S] Save command setting
- 16) [FBD] Enable/disable feedback delay

### ID Commands

- 17) [RSI] Reset Card IDs
- 18) [SIDn] Set all Card IDs
- 19) [SIDnCi] Set one Card ID
- 20) [SID+n] Set Card ID offset
- 21) [RSN] Read Card slot number



## Group Commands

- 22) [WR] Group multiple cards
- 23) [RMC] Remove members from group
- 24) [RMG] Delete group
- 25) [RD] Display group members

## 7.4 MENU MODE

Menu Mode commands allow virtually the same functionality as programming commands. Unlike the programming commands in the previous sections, menu commands prompt the user to select from a list of available options. The system then responds based upon selections made by the user.

The menu-driven commands are only available with MultiTasker systems that have the following front panel firmware:

- 690-0122-015 = Version 015 or later.
- 690-0123-004 = Version 004 or later.
- 690-0124-018 = Version 018 or later.

Send the command [VER] and the system will respond with feedback that includes the following:

690-0122-015 690-0123-004 690-0124-018

Check the last three digits against the numbers above to determine if Menu Mode is available.

### 7.4.1 MENU COMMAND DEFINITIONS

Refer to section 7.2 for details on card functions and examples. Following is a cross-reference between menu mode and programming commands.

MENU	COMMAND
Equalization	[EQ]
Gain	[GAIN]
Save	[CnS]
Reset	[CLR]
Version	[VER]
Status	[C]
Help	[HELP]

## 7.4.2 USING MENU MODE

TIP: It is best to disable the automatic feedback feature, [STA0]. The automatic feature will display after each setting change making the menus difficult to read.

1. In order to enter Menu Mode, the system needs to be connected to a computer running RS-232 control software.
2. In the Terminal Window, press ENTER on the keyboard.
3. The system interrogates all cards and returns a list of cards and their ID numbers.

Example: 08: **MT115-110**

NOTE: Only cards supporting the menu feature will be displayed.

4. Enter the 2-digit ID and a menu for the card will be displayed. In the example above, enter "08" for the **MT115-110**.

WARNING: Do NOT enter any characters except those relating to the desired menu. Press ENTER after "08" and the original prompt will be displayed.

5. The system will prompt for selections specific to the selected card.
6. Read each menu carefully, and continue selecting keys as prompted for further functions. (Example prompt: "Key= ")

## 7.4.3 MENU TYPES

1. MAIN MENU

The first menu displayed after selecting the card is the Main Menu. This menu provides access to the key functions related to the card. Press the key representing the menu item for access and a sub-menu will appear.

2. SUB-MENUS

Each menu item will display either a sub-menu, or a list of options. Press the key corresponding to the desired choice.

## 7.4.4 MT115-110 MENUS

Following are the menus available to the **MT115-110**. The first menu is the Main Menu only. The second listing is an expanded view of the card's sub-menus.

The expanded menu contains values that indicate the current setting or value of a parameter. The value is usually in parentheses, or otherwise indicated at the top of a sub-menu. In some cases, additional comments are provided for clarification and are not part of the menu feedback.

### MT115-110 MAIN MENU

- 1: EQUALIZATION CONTROL
- 2: GAIN CONTROL
- 3: SAVE CONFIGURATION
- 4: RESET CONFIGURATION TO DEFAULT
- 5: VERSION
- 6: STATUS
- 7: HELP
- ESC: GO BACK
- KEY=

### MT115-110 EXPANDED MENUS

- 1: EQUALIZATION CONTROL
  - EQUALIZATION CONTROL
  - 1: INPUT#1 1
    - EQUALIZATION CONTROL INPUT#1 (1)
    - 1: INCREASE EQ LEVEL
    - 2: DECREASE EQ LEVEL
    - ESC: GO BACK
  - 2: INPUT#2 8
    - EQUALIZATION CONTROL INPUT#2 (8)
    - 1: INCREASE EQ LEVEL
    - 2: DECREASE EQ LEVEL
    - ESC: GO BACK
  - ESC: GO BACK

- 2: GAIN CONTROL
  - GAIN CONTROL
  - 1: INPUT#1 12
    - GAIN CONTROL INPUT#1 (12)
    - 1: INCREASE GAIN LEVEL
    - 2: DECREASE GAIN LEVEL
    - ESC: GO BACK
  - 2: INPUT#2 9
    - GAIN CONTROL INPUT#2 (9)
    - 1: INCREASE GAIN LEVEL
    - 2: DECREASE GAIN LEVEL
    - ESC: GO BACK
  - ESC: GO BACK
- 3: SAVE CONFIGURATION
  - SAVE CURRENT CONFIGURATION?
  - 1: YES
  - 2: NO
  - ESC: GO BACK
- 4: RESET CONFIGURATION TO DEFAULT
  - RESET CARD TO FACTORY DEFAULT?
  - 1: YES
  - 2: NO
  - ESC: GO BACK
- 5: VERSION
  - This selection displays the card firmware version and then redisplay the Main Menu. It is equivalent to the [VER] command.*
- 6: STATUS
  - This selection displays the card status and then redisplay the Main Menu. It is equivalent to the [Cn] command.*
- 7: HELP
  - This selection displays a list of commands available for the **MT115-110** along with a brief description. It is equivalent to the [HELP] command.*
- ESC
  - This selection returns you to the parent menu with the listing of all cards.*

## 7.4.5 MENU MODE EXAMPLES

All Menu Mode examples assume an **MT115-110** is installed in slot 3. Start by clicking the mouse in the Terminal Window. Press ENTER and a list of available cards will be displayed.

### 1. Set Video Equalization

Follow the keystrokes below to set the video equalization for Input 1 to 16 with a starting level of 12.

Enter	List available cards
03	Select MT115-110 in slot 3
1	Select EQUALIZATION CONTROL <i>The current gain level will be displayed in the menu, for example 12.</i>
1	Select INPUT #1 for adjustment
1111	Select increment 4 times <i>After each increase, the new level will be displayed in the menu.</i>
ESC	Return to EQUALIZATION Menu
ESC	Return to the Main Menu

### 2. Display Card Status

Starting from the **MT115-110's** Main Menu, follow the keystrokes below.

6            Display card status

NOTE: The status will be displayed, followed by the Main Menu being redisplayed.

## TROUBLESHOOTING GUIDE

8

We have carefully tested and found no problems in the supplied **MT115-110** unit. However, we would like to offer the following suggestions:

### 8.1 LEDs ARE OFF

Cause 1: There is no power to the card.

*Solution 1:* Make sure the card is plugged all the way into the enclosure. If an LED is still not on, see Cause 2.

Cause 2: The card is not initialized.

*Solution 1:* Turn the system power off and then back on again. If one of the LEDs is still not on, please call ALTINEX at (714) 990-2300.

### 8.2 DISPLAY IS TOO BRIGHT

Cause 1: The software gain is too high.

*Solution:* Set the gain control to 1 using the RS-232 commands in Section 7.2. If the display is still too bright, see Cause 2.

Cause 2: The gain switch is not set correctly.

*Solution:* Set the gain control switch to the HW (hardware) position for a fixed gain of one. If the display is still too bright, see Cause 3.

Cause 3: The receiver video gain is too high.

*Solution:* Set the gain control switch to the HW (hardware) position for a fixed gain of one. If the display is still too bright, please call ALTINEX at (714) 990-2300.

### 8.3 NO DISPLAY

Cause 1: The source has a problem.

*Solution:* Check the source and make sure that there is a signal present and all source connections are correct. If the source is working and there is still no display, see Cause 2.

Cause 2: Signal is bad or missing.

*Solution 1:* Make sure the output is connected to the TP receiver. If there is still no display, see Solution 2.

*Solution 2:* Bypass the **MT115-110** and TP receiver and connect the output of the source directly to the monitor. If the display is good, then call ALTINEX at (714) 990-2300. If there is still no display, see Cause 3.

Cause 3: Cable connections are incorrect.

*Solution:* Make sure the cables are properly connected. Also, make sure that the continuity and wiring are good. If there is still no display present, see Cause 4.

Cause 4: The display has a problem.

*Solution:* Make sure the display has power applied and is turned on. If there is still no display, please call ALTINEX at (714) 990-2300.

## ALTINEX POLICIES

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### 9.1 LIMITED WARRANTY/RETURN POLICIES

Please see the ALTINEX website at [www.altinex.com](http://www.altinex.com) for details on warranty and return policies.

### 9.2 CONTACT INFORMATION

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