1275T/1285T Series
Digital Clock Display
User Manual

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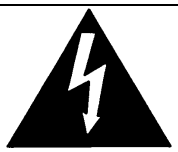
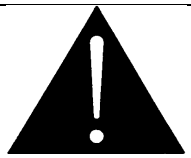
IMPORTANT SAFETY INSTRUCTIONS

	The lightning flash with arrowhead symbol within an equilateral triangle is intended to alert the user to the presence of uninsulated “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 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

CISPR 22 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 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	Safety
EN55103-1: 1996	Emission
EN55103-2: 1996	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.

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REVISION HISTORY

REVISION	DESCRIPTION	DATE
1.0	First Release	May 2015

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1. OVERVIEW

The 1275T/1285T is a multifunction time-of-day display that can act as a slave to a master clock system or as a self-contained, pre-settable clock.

Sixty bright rectangular LEDs are mounted in a circular arrangement simulating an analog second hand. Twelve individual round LEDs indicate the hour. In addition, the hours, minutes and seconds are displayed in digital format.

As a slave display, the unit will read SMPTE/EBU/DQS-B6/NTP time code. The user can program time zone offsets from the incoming code. As a standalone clock, it can be programmed to operate in either 12 or 24 hour mode. Three unobtrusive front panel push-buttons allow presetting and accurate synchronization to a standard time source.

The product comes in two sizes - 9” and 12” clock display. Beautifully finished with black wood trim, the 1275T/1285T are ideally suited for studio, lobby, board room or office mounting.

Features and Benefits:

- LED brightness is adjustable
- Runs on 50/60Hz, 115/230V AC power line
- User-programmable time offsets
- VistaLINK® control for device configuration and status monitoring with support of the CP-2232E or CP-2116E-H Advanced Systems Control Panel
- Programmable daylight saving time start & end times NTP client

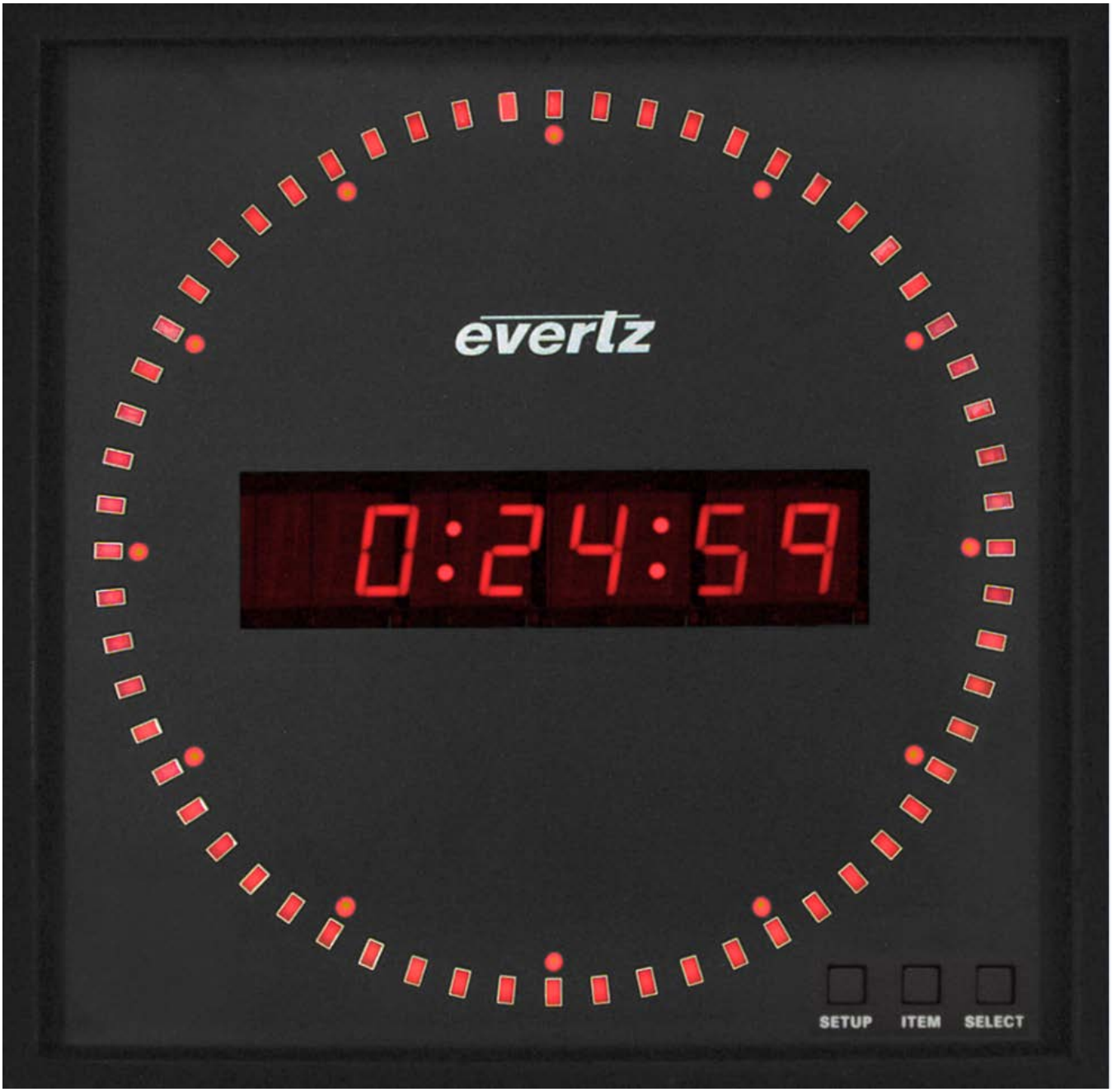


Figure 1-1 : 1275T/1285T Digital Clock

2. INSTALLATION

The following section describes the methods to mount and connect the device.

2.1. MOUNTING

The 1275T/1285T is equipped with pre-fixed holes in the rear as depicted below in Figure 2-1. The clock can be mounted through screws on walls at the areas indicated by the arrows in the diagram.

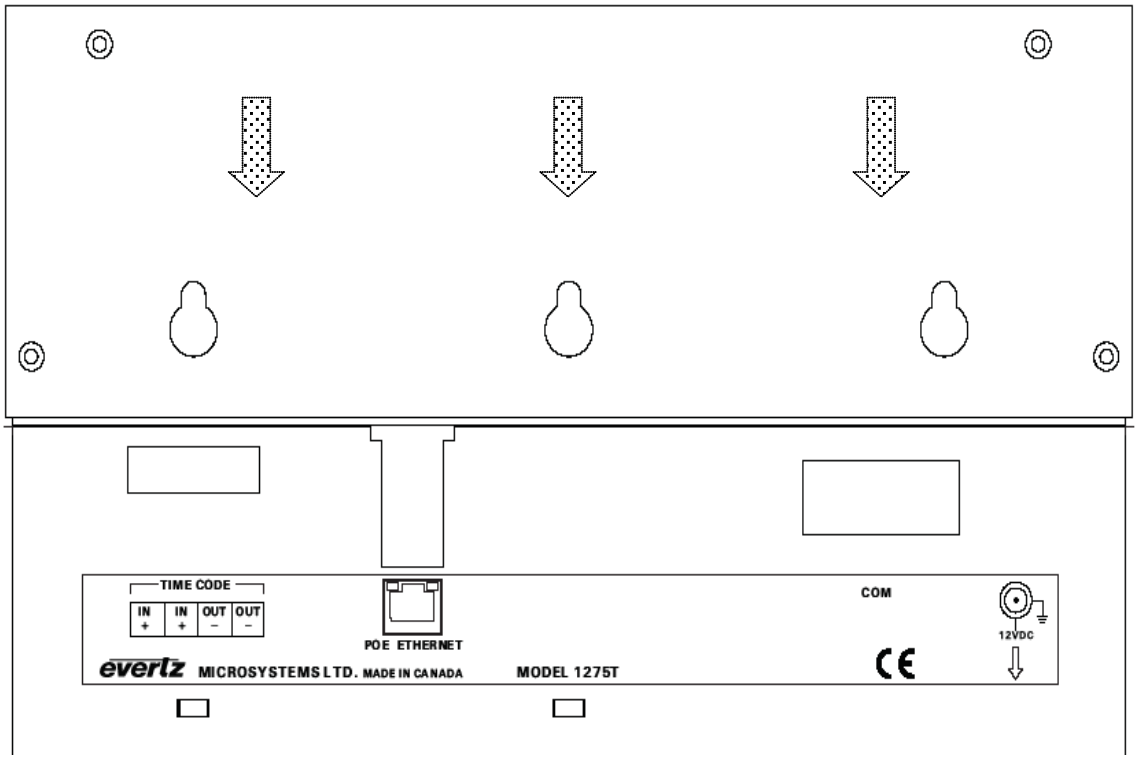


Figure 2-1: 1275T/1285T Rear Panel

2.2. CONNECTORS

The device comes with the ability to connect with other sources, in order to take time information, or configure & control the wall clock itself. This section provides describes the connection options to the device. The key sections are the following:

Time Code connections	Allows input and output connect connectivity to time codes.
Ethernet Connection	Allows operation and configuration of the device through a NMS (VL-PRO).
Serial Port connection	Allows configuration of the device through the RS-232 or Serial Port.

2.2.1. Time Code Connectors

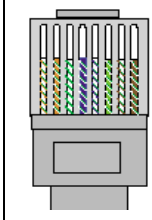
There are two LTC IN and LTC OUT connections available in the rear of the device.

IN+, IN-	These two input pins are for connecting SMPTE/EBU longitudinal timecode (LTC) to the clock.
OUT+, OUT-	These two input pins are for connecting SMPTE/EBU longitudinal timecode (LTC) to the clock. They are a loop thru from the IN+ and IN- pins.

2.2.2. Ethernet Connections

The 1275T/1285T is designed to be used with either 10Base-T (10 Mbps) or 100Base-TX (100 Mbps) also known as Fast Ethernet, twisted pair Ethernet cabling systems. When connecting for 10Base-T systems, category 3, 4, or 5 UTP cable as well as EIA/TIA – 568 100 ☐ STP cab
connecting for 100Base-TX systems, category 5 UTP cable is required. The cable must be “straight through” with a RJ-45 connector.

The straight-through RJ-45 cable can be purchased or can be constructed using the pinout information in Figure 2-2. A colour code wiring table is provided in Figure 2-2 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 2-1: Standard RJ45 Wiring Colour 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 1275T/1285T and the supporting hub is 300 ft (90 m). The maximum combined cable run between any two end points (i.e. 1275T/1285T and PC/laptop via network hub) is 675 feet (205 m).

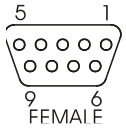
Devices on the Ethernet network continually monitor the receive data path for activity as a means of checking that the link is working correctly. When the network is idle, the devices also send a link test signal to one another to verify link integrity. The 1275T/1285T rear panel is fitted with two LEDs 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/AC
This dual purpose Green LED indicates that the 1275T/1285T has established a valid link to its hub, and whether the 1275T/1285T is sending or receiving data. This LED will be ON when the 1275T/1285T 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 1275T/1285T is sending or receiving data. The LED will be OFF if there is no valid connection.

2.2.3. Serial Port Connections

COM This female 9 pin D connector is used for connecting a computer to upload firmware to the 1275T/1285T. It is also used as a diagnostic port for troubleshooting. See section 6 for information on upgrading the firmware.



Pin #	Name	Description
1		
2	TxD	RS-232 Transmit Output
3	RxD	RS-232 Receive Input
4		
5	Sig Gnd	RS-232 Signal Ground
6		
7		
8		
9		

Table 2-2: COM Port Pinout

2.3. POWER

The 1275T/1285T series displays come with an auto-ranging DC voltage adapter that 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 DC voltage adapter. The power cord should be minimum 18 AWG wire size; type SST marked VW-1, maximum 2.5 m in length. The DC cable of the voltage adapter should be connected to the DC power jack on the rear panel.

2.4. POWER OVER ETHERNET (POE)

The device is 'Power Over Ethernet' enabled. This simply allows a single cable to provide both data connection and electrical power to the display unit. It is IEEE802.3af compliant.

3. SPECIFICATIONS

The following section stipulates the key specifications regarding the product's hardware and software monitoring elements.

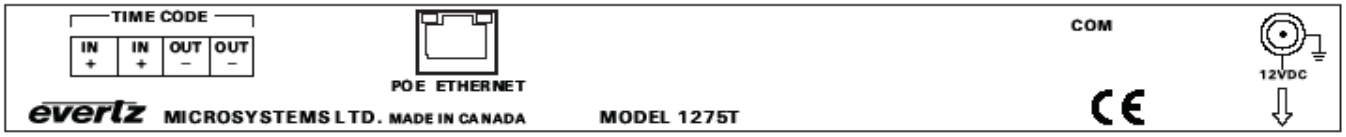


Figure 3-1: 1275T/1285T Rear Panel

3.1. FUNCTIONAL

Code Input	SMPTE/EBU ST 12-2 LTC Time Code 20kΩ balanced or unbalanced or optional NTP DQS-B6

3.2. SERIAL PORT

Connector	Female DB-9
Level	RS-232
Baud Rate	57.6kBaud
Format	8 data bits, no parity, 2 stop bits

3.3. TIME KEEPING

Accuracy	< 2 seconds per day with power on, no time code present < 10 seconds / day with power removed.
Time One Offset	0 to 23 ½ hours in ½ hours increments set with menu.

3.4. ETHERNET

Network Type	Ethernet 100 Base-TX IEEE 802.3u standard for 100Mb/s baseband CSMA/CD local area network. Ethernet 10 Base-T IEEE 802.3 standard or 10Mb/s baseband CSMA/CD local area network
Connector	RJ-45
NTP Standard	RFC-1305 complaint, client mode support

3.5. ELECTRICAL

Backup Battery Type	CR-2032 3 volt lithium cell
Life Expectancy	> 5 years
Power	12V DC, 15W auto ranging 100 to 240V AC, 50/60Hz adapter included IEEE 802.3af PoE
Power Supply	UL Listed

3.6. PHYSICAL

Dimensions	1275T: 9.6” W x 9.6” H x 2.125” D (244mm W x 244mm H x 54mm D)
1285T	12.575”W x 12.575” H x 2.5” D (320mm W x 320mm H x 63mm D)
Weight	5.0lbs (approx.)
Mounting	Rear slots for wall mounting.

4. OPERATION

The following section describes how to the 1275T/1285T functions and how to operate it in your environment.

4.1. AN OVERVIEW OF THE SETUP MENU SYSTEM

The key to the operational flexibility of the 1275T/1285T series displays lies in the *Setup* menu system that provides a quick, intuitive method of configuring the display. The *Setup* menu uses the alphanumeric display to show menu items, and the six large digits are used as alphanumeric displays to indicate the value of the menu item.

The *Setup* menu system consists of a main menu with several choices for each menu item. The **SETUP, ITEM,** and **SELECT** pushbuttons are used to navigate the menu.

4.1.1. Setting the Brightness

When not in the Setup menu, the keys are used to adjust the brightness of the LEDS.

- To decrease the brightness of LEDs, press the **SELECT** button (each time you press the button the brightness of the LEDs will decrease).
- To increase the brightness of LEDs, press the **ITEM** button (each time you press the button the brightness of the LEDs will increase).

4.1.2. The Setup Menu System

To enter the *Setup* menu system, press the **SETUP** key. This will bring you to the main *Setup* menu where you can use the **ITEM** key to move down the list of available top level menu items. A two character display in the alpha digits indicates the menu item you are displaying. The six large displays show the active value for that menu item. Once you have chosen the desired top level menu item, press the **SELECT** key to enter the bottom menu level. The six large digits will blink indicating that you are at the bottom level and that you are displaying the active item value.

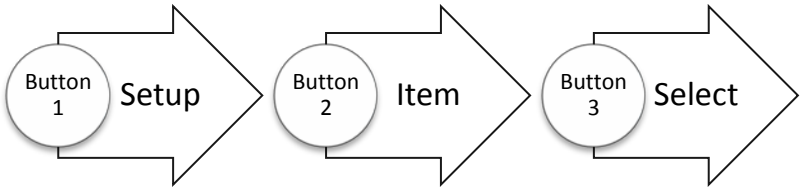


Figure 4-1: Setup Menu System

To adjust any parameter, press the **ITEM** keys to adjust the parameter to its desired value. When you are showing the active value, the six large digits will flash on and off.

When you have selected the desired parameter value press the **SELECT** key to make that value the active value. The six large digits will flash indicating that the value shown is now the active value. Press the **SETUP** key to move back to the top menu level. You can select other items from the top level menu by pressing the **ITEM** key, followed by the **SELECT** key. Alternately you can exit the *Setup* menu by pressing the **SETUP** key.

4.2. FRONT PANEL CONTROLS

The 1275T/1285T series displays are equipped with three pushbuttons located at the right side of the front panel. They are used to operate the menu system and to control what is currently being displayed on the LED display.

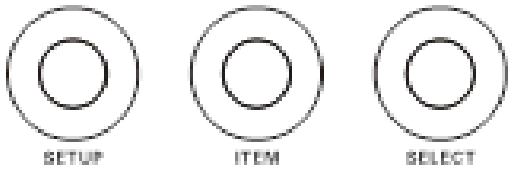


Figure 4-2: 1275T/1285 Front Panel Controls

4.2.1. Pushbuttons

The pushbutton group consists of the **SETUP, ITEM** and **SELECT,** pushbuttons and is used to navigate the *Setup* menu system.

4.2.1.1. SETUP – Pushbutton:

Enters the *Setup* menu. When you are in the *Setup* menu the **SETUP** pushbutton is used to move to the next higher sub-menu level or return to normal operation if at the top level of sub-menus.

4.2.1.2. ITEM – Pushbutton:

When in the *Setup* menu, the **ITEM** pushbutton is used to move to the next item in the menu system. When in the bottom level of the menu the **ITEM** pushbutton is used to change the value of the menu item. When at the bottom level, the display flashes when the active value is shown and stops flashing when inactive values are shown.

When not in the *Setup* menu, pressing the **ITEM** pushbutton makes the display brighter.

SELECT – PUSHBUTTON:
When in one of the *Setup* menus the **SELECT** pushbutton is used to move to the next lower sub-menu levels or to select a menu parameter that is to be changed. When at the bottom level of the menu the **SELECT** pushbutton is used to make the displayed parameter value active.

When not in the *Setup* menu, pressing the **SELECT** pushbutton makes the display dimmer.

4.2.2. Front Panel Displays

The main LED display on the 1275T/1285T series displays consists of sixty LEDs around the outside of the face and a six character 16 segment alphanumeric display. In normal display modes the six digits are used to display the time or date.

When in the Setup menu, the alphanumeric display is used to display menu items, and the six large digits are used as alphanumeric displays to indicate the value of the menu item. When setup, the alphanumeric displays can show the date.

4.3. SETUP MENU – TOP LEVEL

The following section gives a brief description of the menu items available when you enter the *Setup* menu. Sections 4.3.1 to 4.3.7 provide detailed descriptions of the *Setup* menus. The tables in these sections are arranged in an indented structure to indicate the path taken to reach the control. Menu items or parameters (in this section) that are underlined indicate the factory default values.

IP	Configures the Input Source for the display.
FR	Configures the Frame Rate of the output LTC.
DF	Configures the Date Format used to encode dates on the output LTC.
LZ	Configures the output LTC time zone offset.
TZ	Configures the time zone offset.
DZ	Configures the Daylight Saving Time rules.
DS	Configures the Time or Date Display.
TD	Configures the Time Display Format (12 or 24 hour).
DD	Configures the Date Display Format (MM DD YY, DD MM YY, or YY MM DD).
ST	Configures the Time when there is no input.
SD	Configures the Date when there is no input.
IC	Configures the Internet Protocol items.

4.3.1. Setting the Input Source

IP
LTC
LTC ND
DQS
NTP
NONE

With this menu item, you can select the source of time and date information.

When set to *LTC,* the 1275T/1285T series displays will use time and date information from the LTC input.

When set to *LTC ND,* the 1275T/1285T series displays will use time but not date information from the LTC input. When in this mode, it is important to enter the date manually. This is useful when the data had no date information since this looks like Legacy format date of January 1, 1980.

When set to DQS the 1275T/1285T accepts Evertz DQS protocol timecode.

When set to *NONE,* the 1275T/1285T series displays will free run on its internal crystal. The user must set the time and date using the *ST* and *SD* menu items. When the power fails, the time will be kept by the battery backed up clock and will be restored on power up.

4.3.2. Setting the Time Zone Offset

TZ
00:00
..
11:30
12:00
-12:00
-11:30
..
00

With this menu item, you can select the time zone offset that will be applied from the time displayed.

The Time zone offsets can be set from 0 to 23.5 hours in one half hour intervals. The time zone offset will be applied when displaying time or date from one of the input sources selected by the *IP* menu item

4.3.3. Setting the Time Daylight Saving Time Rules

Daylight Saving Time (DST) or Summer Time as it is called in many countries, is a way of getting more daylight out of the summer days by advancing the clocks by one hour during the summer. Then, the sun will appear to rise one hour later in the morning when people are usually asleep anyway, at the benefit of one hour longer evenings when awake. The sunset and sunrise are one hour later than during normal time.

To make DST work, the clocks have to be adjusted one hour ahead when DST begins, and adjusted back one hour to standard time when DST ends. There are many countries observing DST, and many who do not. Some countries adjust the clocks by two hours for DST.

During the months March/April to September/October, the countries in the Northern Hemisphere are having their summer and may observe DST, while the countries in the Southern Hemisphere are having winter. During the rest of the year (September/October to March/April) the countries in the Southern Hemisphere are having their summer and may observe DST, while the countries in the Northern Hemisphere are having winter.

Daylight Saving Time is difficult to predict, as many countries change the transition days/principles every year because of special happenings or conditions that have happened or will happen.

How does the transition to DST start?
Let's say that DST starts at 2:00 am local time and DST is one hour ahead of standard time:

DST Start Transition		
Local time HH:MM:SS	**DST or normal?**	**Comments**
01:59:58	Normal	
01:59:59	Normal	
03:00:00	DST	DST started, time advanced by one hour
03:00:01	DST	
03:00:02	DST	

Table 4-1: DST Start Transition

Note that local time is never between 2:00:00 - 2:59:59. At the transition from standard time to DST, this hour is skipped and therefore this day has only 23 hours (instead of 24 hours).

How does the transition from DST end?
Let's say that DST ends at 2:00 am local time and DST is one hour ahead of standard time:

DST End Transition		
Local time HH:MM:SS	**DST or normal?**	**Comments**
00:59:59	DST	
01:00:00	DST	
01:00:01	DST	
...3556 seconds from 01:00:02 to 01:59:57 daylight saving time not shown...		
01:59.58	DST	
01:59.59	DST	
01:00:00	Normal	Time is turned back to normal
01:00:01	Normal	
...3556 seconds from 01:00:02 to 01:59:57 standard time not shown...		
01:59.58	Normal	
01:59:59	Normal	
02:00:00	Normal	
02:00:01	Normal	

Table 4-2: DST End Transition

Note that local time between 1:00:00 and 1:59:59 actually is repeated twice this day, first during DST time, then clocks are turned back one hour to normal time, and the hour is repeated during standard time and therefore this day has 25 hours (instead of 24 hours). To avoid confusion when referring to time within this hour, it is important to tell whether it happened before or after the change back to normal time. For further information about daylight saving time in your area consult the web page http://www.timeanddate.com/time/aboutdst.html
Because of the variation of daylight saving time rules throughout the world, the 1275T/1285T has several registers to allow the user to set the DST rules for their region. There is a set of DST registers for the LTC and each of the video outputs. For the sake of simplicity in the manual only the registers for the LTC DST will be described.

The *DZ* menu item, allows you to configure the daylight saving time rules applied to the displayed time. When in *DZ* menu, the 6 numeric displays show “DST”, and the alphanumeric display flashes with the sub menu item to indicate that there is another level of menus. Use the **ITEM** key to move through the list of available IC sub menu items. Once you have chosen the desired sub menu item, press the **SELECT** key to enter the bottom menu level.

The following section gives a brief description of the menu items available when you enter the *DZ* menu item. Sections 4.3.3.1 onwards provide detailed descriptions of the *DZ* sub-menus. The tables in these sections are arranged in an indented structure to indicate the path taken to reach the control. Menu items or parameters that are underlined indicate the factory default values.

EN	Enables or Disables automatic application of Daylight Saving Time rules.
MD	Configures DST Date Entry Mode.
SM	Sets DST start month.
SW	Sets DST start week.
SD	Sets DST start day.
SH	Sets DST start hour.
EM	Sets DST end month.
EW	Sets DST end week.
ED	Sets DST end day.
EH	Sets DST end hour.

4.3.3.1. Enable Automatic Daylight Saving Time Display

DZ
- *EN*
  - *DST ON*
  - *DST OF*

With this menu item, you can enable automatic Daylight Saving Time.

When set to ON, the time will be offset by number of hours offset if the date is between the starting date (Months, Weeks, Days, and Hours), and the ending date.

When set to OFF, no Daylight Saving Time Offset will be applied.

4.3.3.2. Setting the DST Date Entry Mode

DZ
- *MD*
  - *DST 7*
  - *DST 30*

With this menu item, you can set the date mode for start and end of Daylight Saving Time.

When set to 7, the start and end time will be based on hours of the day, day of the week in units of 1 to 7, and weeks of the month, and month.

When set to 30, the start and end time will be based on hours of the day, day of the month, and month. Start and End Weeks will be ignored.

4.3.3.3. Setting the Beginning and End of Daylight Saving Time

The four *DST start* registers (*SH, SD, SM, SW)* set the DST beginning time and the four *DST end* registers (*EH, ED, EM, EW)* set the DST end time. For the sake of simplicity only the *DST start* registers will be described, although they both operate in the same way.

DZ
- *SM*
  - *ST 1M*
  - *ST 2M*
  - *ST 3M*
  - *ST 4M*
  - *…*
  - *ST 12M*

With this menu item, you can set the Start Month for Daylight Saving Time.

The range is 1 to 12, representing January to December.
EN 10M is the default for EM.

DZ
- *SW*
  - *ST 1*
  - *ST 2*
  - *ST 3*
  - *ST 4*
  - *ST LST*

With this menu item, you can set the Start Week for Daylight Saving Time.

This menu item is only valid if DST Date Entry Mode is 7.
When set to 1, then the first week of the month is selected.
When set to 2, then the second week of the month is selected.
When set to 3, then the third week of the month is selected.
When set to 4, then the fourth week of the month is selected.
When set to LST, then the last week of the month is selected.
EN LST is the default for EW.

DZ
- *SD*
  - *ST 1D*
  - *ST 2D*
  - *…*

With this menu item, you can set the Start Day for Daylight Saving Time.

If DST Date Entry Mode is 7, then the range is 1 to 7, representing Sunday to Saturday.

If DST Date Entry Mode is 30, then the range is 1 to 31 representing the day of the month. The range is reduced to 28 if starting month is February, and 30 if the Month is April, June, September and November.

DZ
- *SH*
  - *ST 0H*
  - *ST 1H*
  - *ST 2H*
  - *…*
  - *ST 23H*

With this menu item, you can set the Start Hour for Daylight Saving Time.

The units are hours. 0H is midnight, 1H is 1AM etc.

4.3.4. Selecting the Time Display Format

TD
12 HR L
12 HR D
24 HR L
24 HR D

With this menu item, you can select whether the time information will be displayed in 12 hour or 24 hour format.

When set to *12 HR L* the time information will be displayed in 12 hour format. The number of seconds that have passed in that minute will be indicated by being on. Every second that passes, the corresponding (out of 60 LEDs) led will turn on. This will continue until 60 seconds have passed, when all LED's will turn off, and the process will start again.

When set to *12 HR D* the time information will be displayed in 12 hour format. The seconds passing by will be indicating by the corresponding LED lighting up for that 1 second (out of sixty LEDs for 60 seconds)

When set to *24 HR L* the time information will be displayed in 24 hour format. The number of seconds will be displayed by all the LEDs indicating seconds being turned on – so it will seem like a line display.

When set to *24 HR D* the time information will be displayed in 24 hour format. The seconds passing by will be indicating by the corresponding LED lighting up for that 1 second (out of sixty LEDs for 60 seconds)

4.3.5. Selecting the Date Display Format

DD
YYMMDD
MMDDYY
DDMMYY

With this menu item, you can select the date display format.

4.3.6. Setting the Time

ST
00:00:00

With this menu item, you can set the time in the internal clock of the 1275T/1285T. Use the following procedure to set the time. You can press the **SETUP** key at any time to exit the *Set Time* mode without affecting the clock time.

Press the **SELECT** key to begin time entry - all digits blink. Press the **ITEM** key to advance the hours digits – the hours digits stop blinking.

Press the **SELECT** key to adjust the minutes – the hours digits start blinking, minutes digits stop blinking. Press the **ITEM** key to advance the minutes digits.

Press the **SELECT** key to adjust the seconds – the minutes digits start blinking, seconds digits stop blinking but keep running. Press the **ITEM** key to advance the seconds digits. The seconds digits will stop.

Press the **SELECT** key to complete the time entry. All the digits will blink and the seconds digits will start counting as this is now the current time.

Press the **SETUP** key to exit the *Setup* menu and return to the normal display.

4.3.7. Setting the Date

SD
00 00 00

With this menu item, you can set the date in the internal clock of the 1275T/1285T. **Dates are always entered in the YYMMDD format regardless of the setting of the *DD* menu item setting.**

Use the following procedure to set the date. You can press the **SETUP** key at any time to exit the *Set Time* mode without affecting the clock time.

Press the **SELECT** key to begin date entry - all digits blink. Press the **ITEM** key to advance the year digits – the year digits stop blinking.

Press the **SELECT** key to adjust the month – the year digits start blinking, month digits stop blinking. Press the **ITEM** key to advance the month digits.

Press the **SELECT** key to adjust the day – the month digits start blinking, the day digits stop blinking. Press the **ITEM** key to advance the day digits.

Press the **SELECT** key to complete the date entry. All the digits will blink as this is now the current date.

Press the **SETUP** key to exit the *Setup* menu and return to the normal display.

4.3.8. Setting the Internet Protocol and NTP Rules

The *IC* menu item, allows you to configure the Internet Protocol and NTP rules. When in *IC* menu, the two leftmost numeric displays show "IC", and the alphanumeric display flashes the sub menu choice to indicate that there is another level of menus. Use the **ITEM** key to move through the list of available IC sub menu items. Once you have chosen the desired sub menu item, press the **SELECT** key to enter the bottom menu level. Pressing select enters the selected menu item.

DC	Sets BOOTP or Static Internet Protocol.
IA	Sets IP Address.
IM	Sets IP Mask.
IG	Sets IP Gateway.
IU	Shows IP in use.
TS	Selects trap destination (1 to 4) to be used in TA setting.
TA	Sets IP Address of trap destination (selected by TS).
TE	Enables or disables traps.
NS	Selects server (1 to 8) to be used in NA setting.
NA	Sets IP Address of NTP server (selected by NS).

4.3.8.1. Set BOOTP or Static Internet Protocol

IC
- *DC*
  - *BOOTP*
  - *STATIC*

With this menu item, you can enable dynamic or static networks.

When set to BOOTP, the 1275T/1285T will use a BOOTP process to obtain its IP address and netmask and gateway from the system server. When set to STATIC, the 1275T/1285T will use the settings in IA, IM, and IG for IP address, IP netmask and IP gateway.

4.3.8.2. Internet Address Entry Procedure

The following procedure is used to when setting the various IP addresses and net mask. IP addresses are entered in a decimal/dot format. For example, 192.205.22.5 or 255.255.255.0. Each number set between the dots represents 8 bits ('octet') of the IP address, and has a range of 0 to 255.

1. When you enter one of the address entry routines (by pressing the **SELECT** button), the display shows: `000___`, with the first 0 flashing. Press the **ITEM** button to advance the flashing digit from 0 to 2, to the message "ERASE" and back to 0. The "ERASE" message is only available on the first digit. If "ERASE" is showing when the **SELECT** is pressed, all of the IP addresses is set to 0.

2. When you have the correct first digit, press the **SELECT** button and the second digit will flash. Press the **ITEM** button to advance the flashing digit from 0 to 9, or 0 to 5 if the first digit is 2.

3. When you have the correct second digit, press the **SELECT** button and the third digit will flash. Press the **ITEM** button to advance the flashing digit from 0 to 9, or 0 to 5 if the first 2 digits are 25.

4. When you have the correct third digit, press the **SELECT** button to accept the first 'octet'. The display will show `_000__` with the first 0 flashing. You are now ready to enter the second 'octet' of the address. Entry is the same as for the first 'octet', but there is no "ERASE" item.

5. When you have the correct third digit, press the **SELECT** button to accept the second 'octet'. The display will show `__000_` with the first 0 flashing. You are now ready to enter the third 'octet' of the address. Entry is the same as for the second 'octet'.

6. When you have the correct third digit, press the **SELECT** button to accept the third 'octet'. The display will show `___000` with the first 0 flashing. You are now ready to enter the fourth and last 'octet' of the address. Entry is the same as for the second 'octet'.

7. When you have the correct third digit, press the **SELECT** button to accept the fourth 'octet'. If you are entering the NA or TA items, the menu will go up 1 level to facilitate entering multiple addresses.

The sequence is summarized below. The bold items are the flashing digits.

000___	First 8 bit item
0**0**0___	
00**0**___	
_**0**00__	Second 8 bit item
_0**0**0__	
_00**0**__	
__**0**00_	Third 8 bit item
__0**0**0_	
__00**0**_	
___**0**00	Fourth 8 bit item
___0**0**0	
___00**0**	

4.3.8.3. Setting the Internet Address

IC
IA
xxx.yyy.zzz.aaa

With this menu item, you can set the IP address used for static networks.

See section 0 for IP setting instructions. The default is 10.0.0.1

4.3.8.4. Setting the Internet Net Mask

IC
IM
xxx.yyy.zzz.aaa

With this menu item, you can set the IP net mask used for static networks.

See section 0 for IP setting instructions. The default is 255.255.255.0

4.3.8.5. Setting the Internet Gateway Address

IC
IG
xxx.yyy.zzz.aaa

With this menu item, you can set the IP gateway address used for static networks.

See section 0 for IP setting instructions. The default is 0.0.0.0

4.3.8.6. Showing the Internet Address In Use

IC
IU
xxx.yyy.zzz.aaa

With this menu item, you can see the IP address used by the 1275T/1285T for static or dynamic networks.

In dynamic networks, the server allocating addresses will determine the IP in use. This shows address in use if DHCP is selected, and the Internet Address set above if static is selected.

The display will walk through the 4 octets of IP address in a similar method to the setting of IP's, but the **ITEM** and **SELECT** buttons will have no effect.

4.3.8.7. Selecting the Trap IP

IC
TS
1
2
3
4

With this menu item, you can select the trap that the TA instruction affects. There are 4 trap addresses that can be used.

If the trap address indicated by this is set, then there will be an "i" before the number. For example if traps 1 and 3 have their IP addresses set, as this item is scrolled through, it would show:
"i1"
" 2"
"i3"
" 4"

4.3.8.8. Setting the Trap Internet Address

- *IC*
  - *TA*
    - *xxx.yyy.zzz.aaa*

With this menu item, you can set the IP address that the 1275T/1285T will send traps to.

There are 4 IP addresses that can be set. This operates on the one pointed to by TS.

See section 0 for IP setting instructions. The default is 0.0.0.0.

When the address is entered, you will be returned to the TS menu above to facilitate entering multiple trap addresses.

4.3.8.9. Enabling Traps

- *IC*
  - *TE*
    - *On*
    - *Off*

With this menu item, you can enable trap sending.

When set to On, a trap will be sent to all IP addresses set in Selecting the Trap IP when reference is obtained or lost.

4.3.8.10. Selecting the NTP IP server

- *IC*
  - *NS*
    - *1*
    - *2*
    - *..*
    - *8*

With this menu item, you can select the server that the NA instruction affects. There are 8 server addresses that can be used.

If the server address indicated by menu item this is set, then there will be an “i” before the number. For example if server 1 and 3 have their IP addresses set, as this item is scrolled through, it would show:
“i1”
“ 2”
“i3”
“ 4”
“ 5”
“ 6”
“ 7”
“ 8”

4.3.8.11. Setting the Server Internet Address

- *IC*
  - *NA*
    - *xxx.yyy.zzz.aaa*

With this menu item, you can set the IP address used by the NTP lock. Up to 8 IP addresses that can be set. First select the address you want to enter using the NS menu item.

See section 0 for IP setting instructions. The default is 0.0.0.0

When the address is entered, you will be returned to the NS menu above to facilitate entering multiple servers.

5. VISTALINK® PRO INTERFACE

It is possible to completely configure and operate the 1275T/1285T on the network using our VistaLINK® PRO interface. The device needs to be connected to a network through a LAN / Ethernet cable, and, manually, network information needs to be configured initially.

5.1. OVERVIEW

This section explains the method of configuring and monitoring the 1275T/1285T using VistaLINK PRO® Interface. The configuration and monitoring of the device are grouped into three physical tabs as shown below. There are three subsections to the interface. The associated configurable items for section are further explained in figure:

Figure 5-1: 1275T/1285T Configuration Tabs

The following table highlights the tab name and a summary of the configuration options it contains:

Tab	Description
General	The 'General' tab groups most of the settings of the device, including the following: Input: The ability to set the source of input of Date Time. Display: To clearly specify whether to display Date or Time. Daylight Saving Time: To specify all Daylight Saving Time start and end settings. Control Port: The ability to specify the network port settings
IP Settings	The 'IP Settings' tab groups the following settings: Trap addresses: All IP Addresses for the SNMP TRAP settings can be configured here. NTP Addresses: All IP Addresses from which Network Time Protocol can be connected with can be configured here.
Fault Traps	View the information on Fault Traps – whether there is a loss of reference.

5.2. GENERAL

The general tab covers all key areas of configuration of the device. The individual settings can be seen in figure 5-2 and further explained in the tables below.

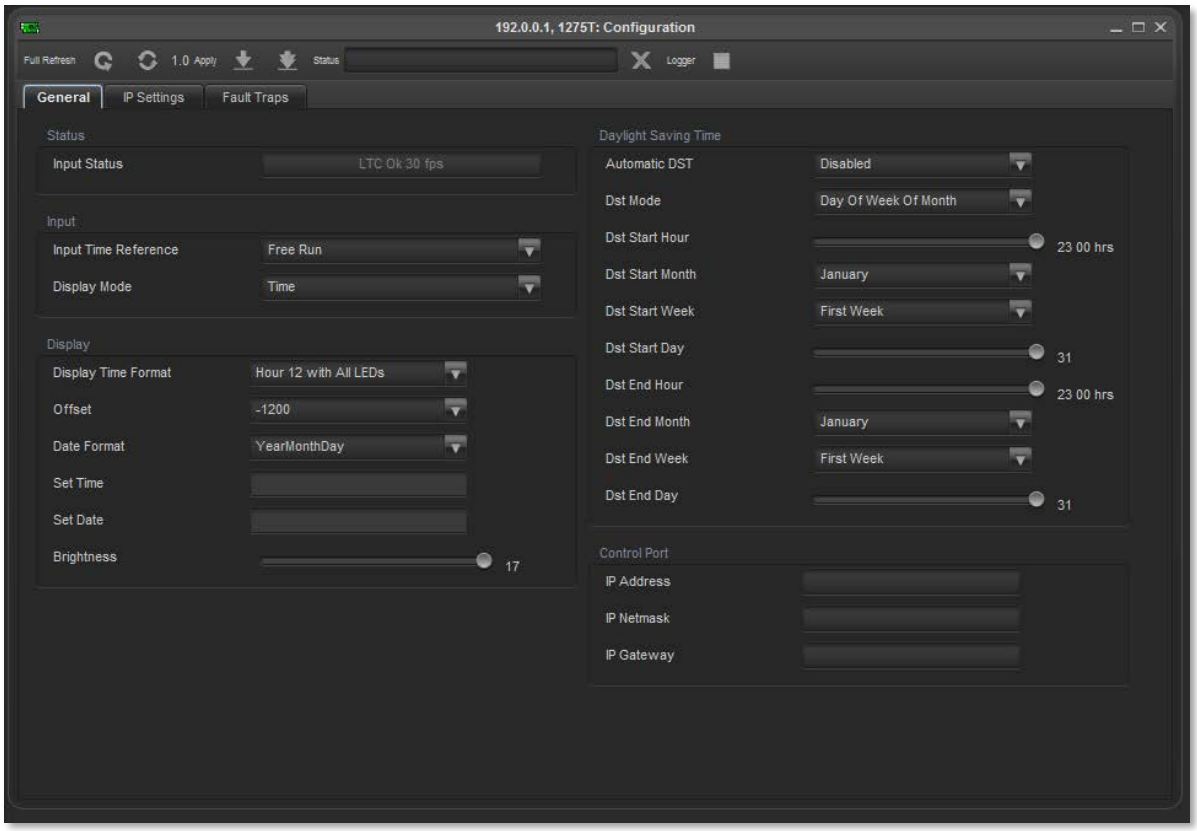


Figure 5-2: General Settings Configuration

5.2.1. Status

Configuration Item	Description
Input Status	This is not a configuration item. This field shows system input status.The possible values that will be returned by the field are the following: • LTC Ok 30 Frames Per Sec • LTC Ok 29.97 Frames Per Sec • LTC Ok 29.97 DropFrames Per Sec • LTC Ok 25 Frames Per Sec • LTC Ok 24 Frames Per Sec • LTC Ok 23.98 Frames Per Sec • LTC Unlocked Unknown Format • LTC Unlocked No Signal • DQS Ok • DQS Unlocked • NTP Ok • NTP Unlocked

5.2.2. Input

Configuration Item	Description
Input Time Reference	This setting selects input time reference. ntp should only be set when control optionNtp is set to ntpPresent The possible values that can be set are the following: • Free Run • LTC With Date • LTC Without Date • DQS • NTP **Note:** NTP should only be set when control optionNTP is set to ntpPresent
Display Mode	Selects the display item item to show on the main screen of the clock. The following items can be selected in the configuration panel. • Time • Date • Status

5.2.3. Display

Configuration Item	Description
Display Time Format	This setting specifies the display time mode. The possible time modes that can be set are the following: • Hour 12 with all LEDs • Hour 12 with one LED • Hour 24 with all LEDs • Hour 24 with One LED
Offset	This setting specifies the offset that can be defined. The possible offsets that can be defined are listed as follows: -1200 -1130 -1100 -1030 -1000 -0930 -0900 -0830 -0800 -0730 -0700 -0630 -0600 -0530 -0500 -0430 -0400 -0330 -0300 -0230 -0200 -0130 -0100 -0030 +0000 +0030 +0100 +0130 +0200 +0230 +0300 +0330 +0400 +0430 +0500 +0550 +0600 +0630 +0700 +0730 +0800 +0830 +0900 +0930 +1000 +1030 +1100 +1130 +1200
Date Format	This setting specifies the date format that can be set. The format can be chosen from the following: • yearMonthDay • monthDayYear • dayMonthYear • monthDay
Set Time	This setting specifies the time. The format is hh:mm:ss.
Set Date	This setting specifies the Date. The format is yy:mm:dd.
Brightness	This setting defines the level of display brightness desired for the clock. The display brightness can be set a 0 (as dimmest), and 17 (as brightest).

5.2.4. Daylight Saving Time

Configuration Item	Description
Automatic DST	This setting enables automatic daylight saving time.
DST Mode	This setting selects the daylight saving time mode. Day of week of month selects a time such as: • Day 1 of week 1 week of month 4, i.e. the first Sunday in April • Day of month selects an absolute date such as Day 3 of month 5, ie May 5.
DST Start Hour	Selects daylight saving time starting hour from 0 = midnight to 23 = 11pm.
DST Start Month	Selects daylight saving time starting month. The options are the following: • January • February • March • April • May • June • July • August • September • October • November • December
DST Start Week	Selects daylight saving time starting week.
DST Start Day	Selects daylight saving time starting day. If dstMode = dstDayOfWeekOfMonth, then the maximum should be 7, which represents Sunday through Saturday
DST End Hour	Selects daylight saving time ending hour from 0 = midnight to 23 = 11pm.
DST End Month	Selects daylight saving time ending month. The following options are: • January • February • March • April • May • June • July • August • September • October • November • December
DST End Week	Selects daylight ending time ending week.
DST End Day	Selects daylight saving time ending day. If dstMode = dstDayOfWeekOfMonth, then the maximum should be 7, which represents Sunday through Saturday

5.2.5. Control Port

Configuration Item	Description
IP Address	This setting allows the definition DHCP mode or static IP mode.
IP Netmask	This setting allows the definition of the Netmask.
IP Gateway	This setting allows the definition of the Gateway.

5.3. IP SETTINGS

The IP Settings tab covers all the main network based settings of the device. The individual settings can be seen in figure 5-3 and further explained in the tables below.

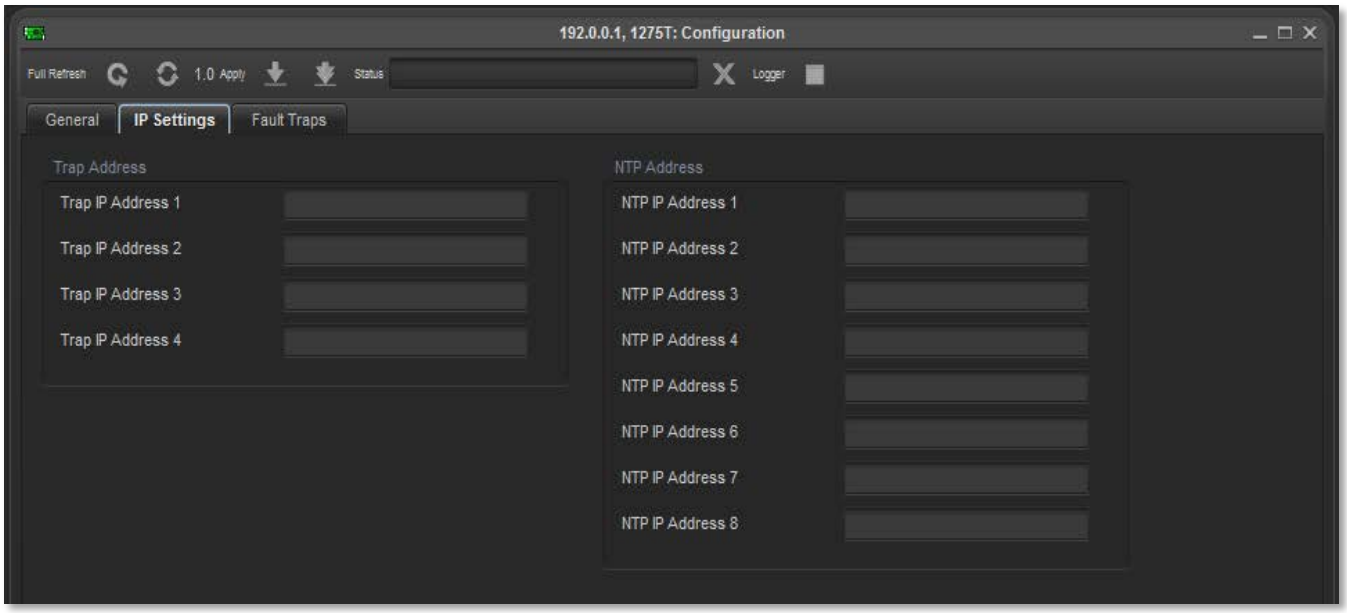


Figure 5-3: IP Settings Configuration

Configuration Item	Description
Trap IP Address 1	This setting allows the specification of a SNMP Trap IP address. It should be noted that specification of address should start with TAP IP Address 1, and onwards (to a max of 4) if further addresses are required.
Trap IP Address 2	This setting allows the specification of a second SNMP Trap IP address.
Trap IP Address 3	This setting allows the specification of a third SNMP Trap IP address.
Trap IP Address 4	This setting allows the specification of a fourth SNMP Trap IP address.
NTP IP Address 1	This setting allows the specification of a Network Time Protocol address. It should be noted that specification of address should start with NTP IP Address 1, and onwards if further addresses are required.
NTP IP Address 2	This setting allows the specification of a second Network Time Protocol address.
NTP IP Address 3	This setting allows the specification of a third Network Time Protocol address.
NTP IP Address 4	This setting allows the specification of a fourth Network Time Protocol address.
NTP IP Address 5	This setting allows the specification of a fifth Network Time Protocol address.
NTP IP Address 6	This setting allows the specification of a sixth Network Time Protocol address.
NTP IP Address 7	This setting allows the specification of a seventh Network Time Protocol address.
NTP IP Address 8	This setting allows the specification of a eighth Network Time Protocol address.

5.4. FAULT TRAPS

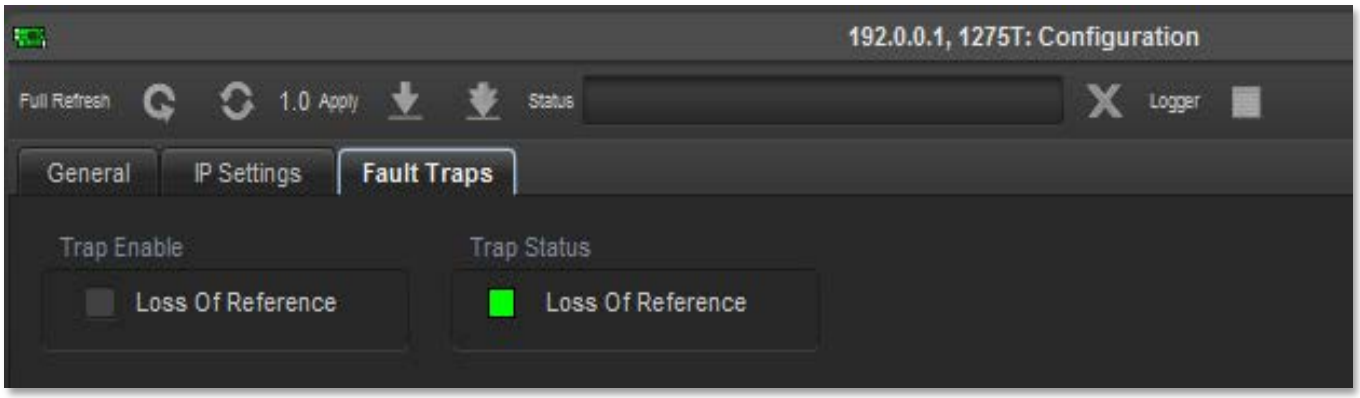


Figure 5-4: Fault Traps Status Viewing

Configuration Item	Description
Trap Enable – Loss of Reference	This enable traps to be sent to the trap addresses in the IP Settings tab.
Trap Status – Loss of Reference	This is a status indicator, which will highlight green when the reference source is valid. It will highlight red on loss of reference.

6. UPGRADE

This section covers the possible configuration / firmware upgrades that can be made to the product and the impact that have. It also explains the procedure to upgrade those impacted areas to the newer version of the software.

Failure in the process of upgrading configurations and / or firmware could result in the device becoming temporarily unusable. Keeping that in mind make sure that the pre-requisite and process below closely followed.

6.1. UPGRADE OVERVIEW

When the product is upgraded, there are two areas of impact that take place. Typically both areas needed to be upgraded. Both are further summarized below:

Upgrade Type	Description
VistaLINK Upgrade	As VistaLINK monitors and controls the device, it has a configuration data on 1275T/1285T saved. Any changes / upgrades require to be reflected in the VistaLINK Server.
Firmware Upgrade	The firmware is considered the Operating System that runs the device. As Evertz keeps on improving capabilities of our devices, we will typically release new firmware for the device. The 1275T/1285T is upgraded through Serial port on the device an RS-232 Cable.

6.2. VISTALINK® PRO UPGRADE PROCEDURE

This section discusses the approach to upgrading the configuration data on 1275T/1285T.

Open VISTALINK® PRO Server and navigate to *Help* > *Apply Update* > *Product.*

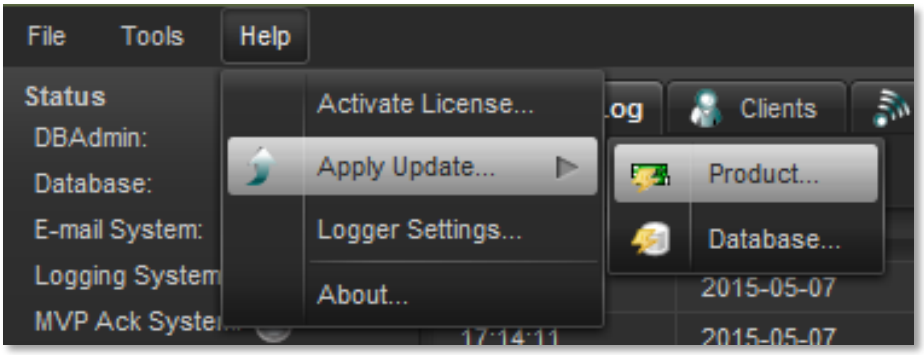


Figure 6-1: How to Apply Update

When the window opens you want to select the latest .jar file for the 1275T/1285T, from its saved location on the computer and select ***Open***.

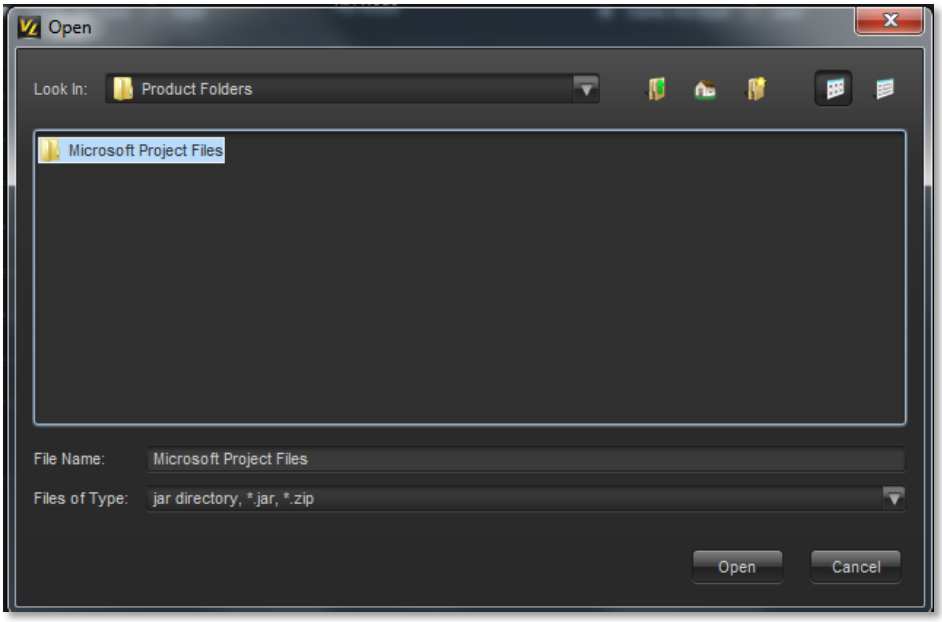


Figure 6-2: Upgrade Window

At this point the VistaLINK® PRO Server will send a message asking to Restart, select ***Yes***. This will apply the update firmware to the 1275T/1285T. Restart VISTALINK® PRO Server followed by VISTALINK® PRO Client.

When VISTALINK® PRO Client has re-opened, verify that the 1275T/1285T is running the correct version, to check this simply right click on the cards address in VistaLINK® PRO Client and select ***Version Information***.

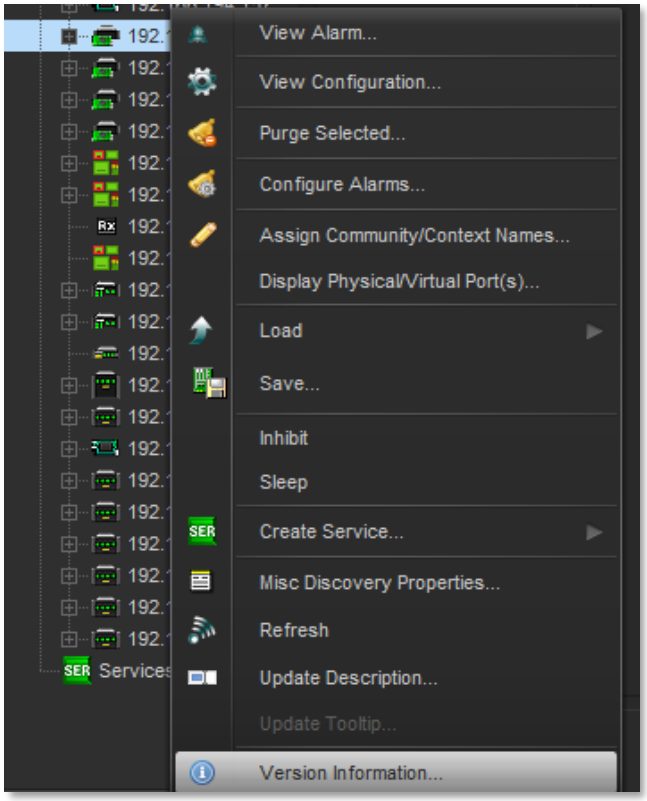


Figure 6-3: Module Dropdown Menu

This will open a window that displays all of the current version information loaded onto the 1275T/1285T. Navigate the hardware tree on the left side of the version information window to select the 1275T/1285T module. The *VISTALINK® PRO Product Version* reported in the top right corner of the window should match the new version. If it does not, please contact Evertz for further assistance.

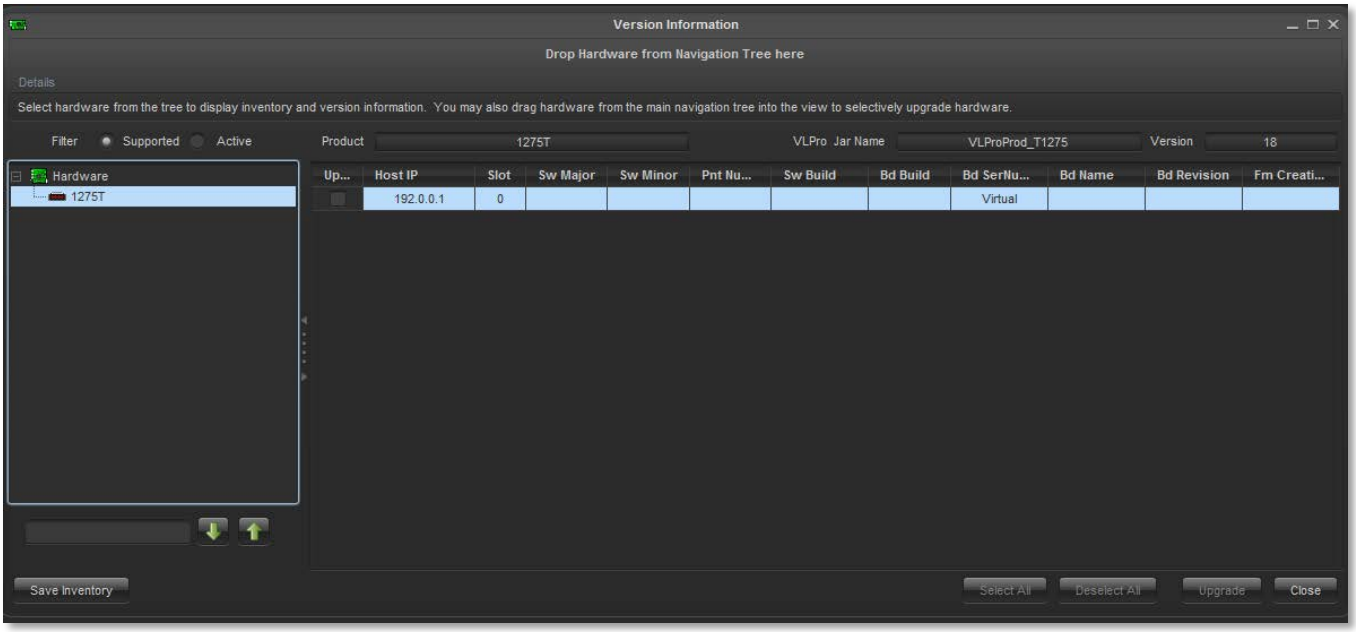


Figure 6-4: Version Information Window

6.3. UPGRADE FIRMWARE

This section explains how to upgrade the firmware of the 1275T/1285T through the Serial Port (or RS-232).

Important Note: Failure in the process of Firmware upgrade could result in the device becoming temporarily unusable. Keeping that in mind, make sure that the pre-requisites mentioned are in place and the process is closely followed.

6.3.1. Upgrade through Serial Port

This section clearly outlines the steps required to upgrade the device firmware using the onboard serial port. It has some requisites in order to be successful, however, which are mentioned below:

Pre-Requisites:

- ☐ A male to female D-Sub 9 pin serial extension cable must be available.
- ☐ Computer with serial (RS-232) cable connected and functioning.
- ☐ Computer terminal program (e.g. Hyper Terminal / Terra Term).
- ☐ Correct version Firmware file is available and easily accessible by computer

Once the pre-requisites have been met, you may proceed with the upgrade process.

6.3.1.1. Connecting Serial Port

Connect the Serial Cable (RS-232) to the back of the 1275T/1285T device, as indicated in figure 6-8 below.

Figure 6-5 : 1275T/1285T Serial Port Connection

6.3.1.2. Connecting the Terminal Application

Open the terminal application (HyperTerminal / Tera Term etc.) Create a serial connection and ensure the following parameters have been set:

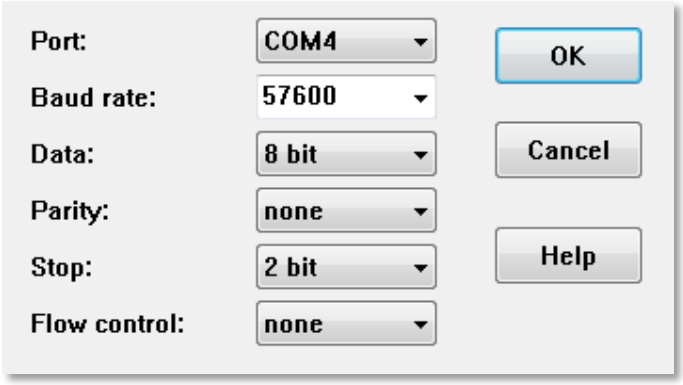


Figure 6-6: Serial Connection Parameters

It should be noted that the COM port can vary based on which port your serial cable is connected to and from computer to computer.

6.3.1.3. Logging onto the Device

Once you turn on the device, a welcome and boot screen should load on the terminal. It will be similar to the figure 6-10 shown below.

Figure 6-7: Serial Terminal – Boot up Screen

6.3.1.4. Going into Upgrade Mode

The device is active and running, awaiting commands at the serial prompt – command line interface (CLI). The next step is to turn the device into upgrade mode in order to send the firmware file to the device for the upgrade.

On the Command Line Interface type 'upgrade'. The device will reboot, and go into upgrade mode, where it will be awaiting an XModem transfer of the new version of the firmware.

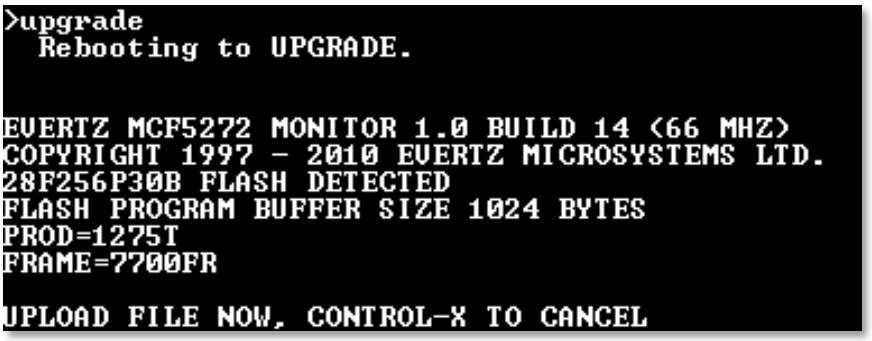


Figure 6-8: Rebooting into Upgrade Mode

6.3.1.5. Send Upgrade File

Once the device is in upgrade mode, you need to transfer the file information quickly in order to ensure the device doesn't time out. The following images 6-12, and 6-13 give an approximate idea of how to transfer the file. This will differ based on the Terminal program you are using.

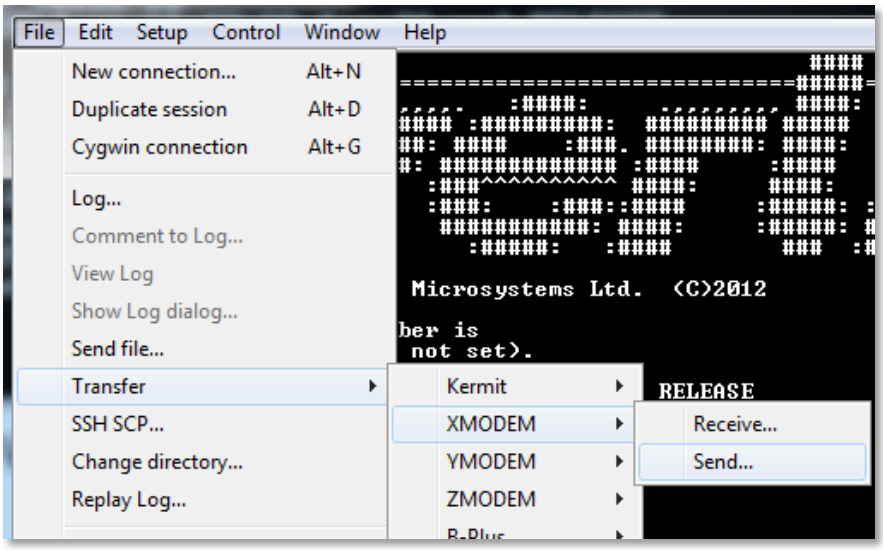


Figure 6-9: Send File

In the following image you will be selecting the binary file, which contains the upgrade information for the firmware of the device.

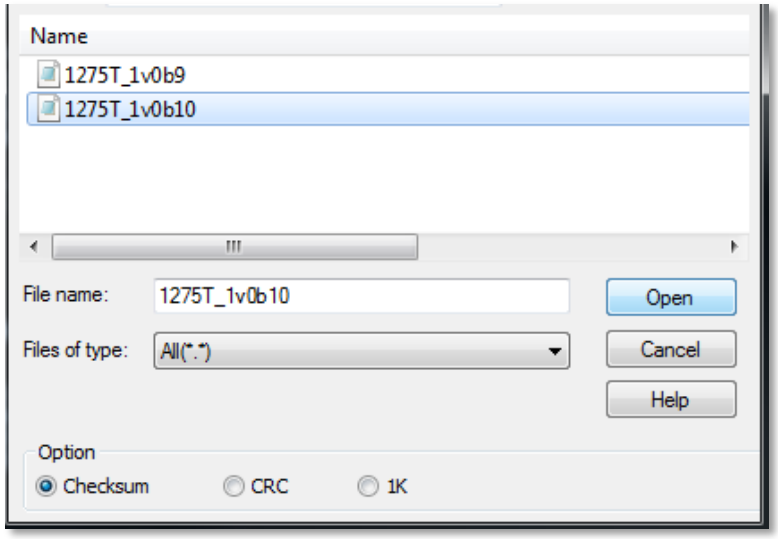


Figure 6-10: Select Binary File

The following screen, indicated by Figure 6-14 will be shown on your screen to display the transfer progress of the

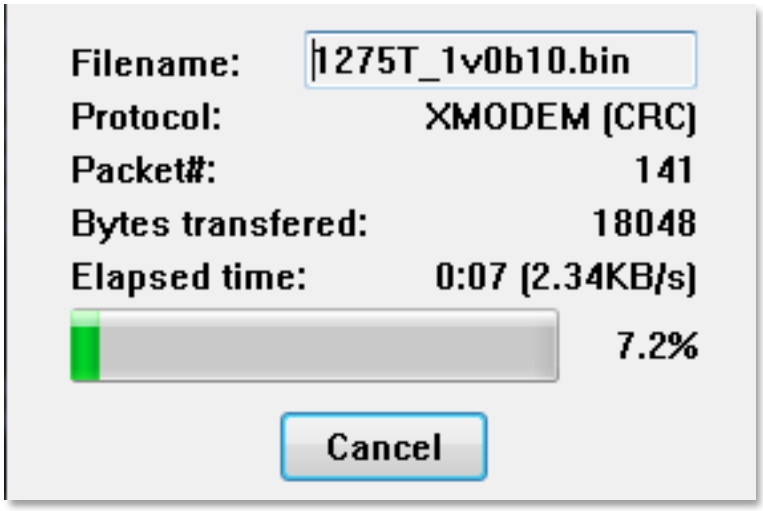


Figure 6-11: File Transfer in Progress

Once the file transfer is complete, the device will automatically reboot in order to reload. This reboot will be based on the new firmware that has been installed.

Figure 6-12: Reboot Screen