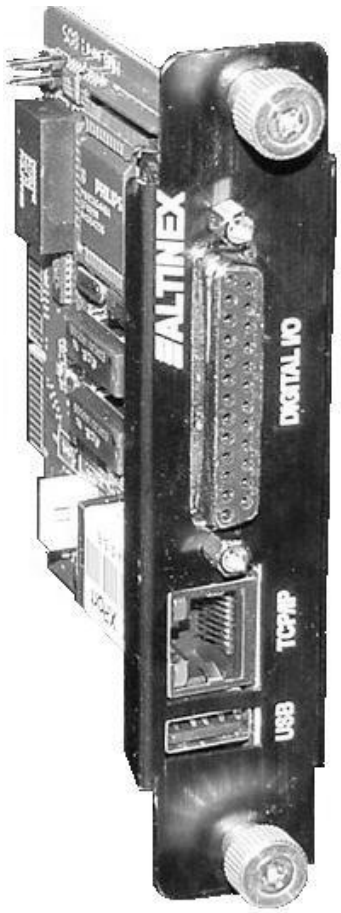

MANUAL PART NUMBER: 400-0384-001

PE1005

CONTROL CARD FOR PIONEER PLASMA DISPLAY USER'S GUIDE

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PRECAUTIONS / SAFETY WARNINGS 1

Please read this manual carefully before using your **PE1005**. Keep this manual handy for future reference. These safety instructions are to ensure the long life of your **PE1005** and to prevent fire and shock hazard. Please read them carefully and heed all warnings.

1.1 GENERAL

- There are no user serviceable parts on this unit. Qualified ALTINEX service personnel must perform all service on the **PE1005**.

1.2 INSTALLATION

- To prevent fire or shock, do not expose this unit to rain or moisture. Do not place the **PE1005** 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 the cables that are attached to the **PE1005.**

1.3 CLEANING

- Unplug the **PE1005** adapter before cleaning.
- Clean only 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 unit. Do not open the unit to clean.

1.4 HANDLING

- Handle the **PE1005** carefully. Dropping or jarring can damage the card.
- The **PE1005** contains components that are sensitive to electro static discharge (ESD). Always use ESD safety precautions when touching the card.

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

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ABOUT YOUR PE1005 2

PE1005
PIONEER CONTROL CARD

The **PE1005** Pioneer card allows users to control events on Pioneer Plasma displays using many different control protocols and programmed functions. Key features are:

> USB control
> RS-232
> RS-485
> Relay contacts
> Digital Inputs
> Real time clock
> Proximity detector
> Calendar

Real Time Clock/Alarms
Program repetitive tasks or one-time events up to a year in advance. Execute macros to turn plasma ON or OFF at pre-determined times or intervals.

Contact Relays
Four relays are available to control external events. Each relay handles up to 100VDC at 1Amp. Turn lights on or off, close or open drapes, lower or raise projectors. Fully integrated with a one-year calendar and alarms.

RS-232/RS-485
All functions on the plasma can be controlled using RS-232 or RS-485 protocol. Decide which protocol to use and the card handles the rest.

IP Control
All functions of the card can be accessed through Telnet or Mini-web server. Choose the access protocol and the **PE1005** handles the details.

Digital Inputs
Optically isolated digital inputs allow the user to control a Pioneer Plasma from simple push buttons. Wire them in and use them for remote on/off, brightness up/down, input select and more.

Proximity Detector (optional)
An ultrasonic proximity detector allows the execution of any macro, based on the proximity and direction of a target. Increase brightness as customers get closer to the display. Reduce the brightness as they move away, thus preventing burnout on the screen and increasing the life of the plasma display.

The HelpInside™ feature allows programmers to have access to command structures and control of the **PE1005** from any terminal. This technology provides easier than ever control of the **PE1005** with simple keyboard commands.

TECHNICAL SPECIFICATIONS 3

FEATURES/ DESCRIPTION	PE1005
GENERAL	
Input Connectors	
USB	Type A-female (1)
Ethernet/LAN	RJ-45 female (1)
Control	25-pin HD female (1)
Compatibility	
Pioneer Plasma TVs	PDP504 Series PDP434 Series

Table 1. **PE1005** General

MECHANICAL	PE1005
Weight	0.5 lb (0.23 kg)
T° Operating	10°C to 35°C
T° Maximum	0°C to 50°C
Humidity	90% non-condensing
MTBF (calc.)	40,000 hrs

Table 2. **PE1005** Mechanical

ELECTRICAL	PE1005
Inputs	
USB	Standard
Ethernet/LAN	TCP/IP 10/100
25 PIN HD CONNECTOR	
Relays	Maximum 100VDC, 1A
Input Ports	Open or Ground
Motion Detector (MD)	MD+: MD Analog Out MD TRIG: MD Ext Trigger
RS-232/RS-485 Control	9600 Baud 1 Stop Bits 8 Data Bits No Parity
Power	Pioneer Internal +5.0V 90mA +3.3V 120mA

Table 3. **PE1005** Electrical

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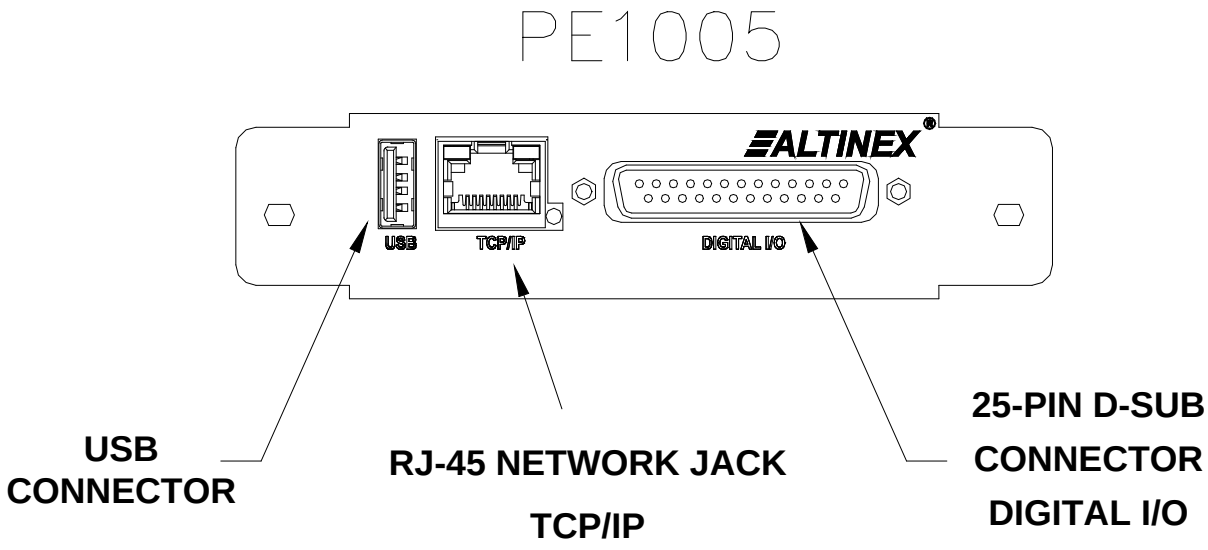
DESCRIPTION OF PE1005 4



APPLICATION DIAGRAMS 5

DIAGRAM 1: TYPICAL SETUP

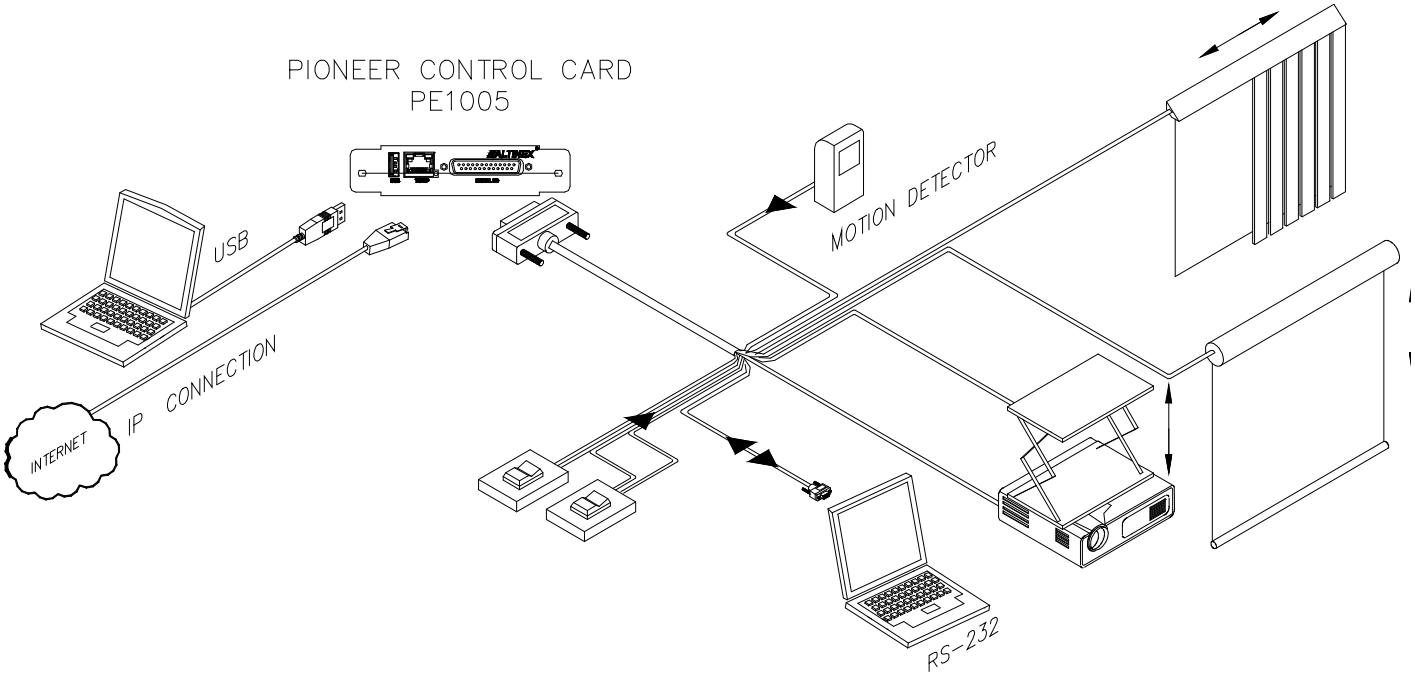


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DIAGRAM 2: INTERNAL VIEW

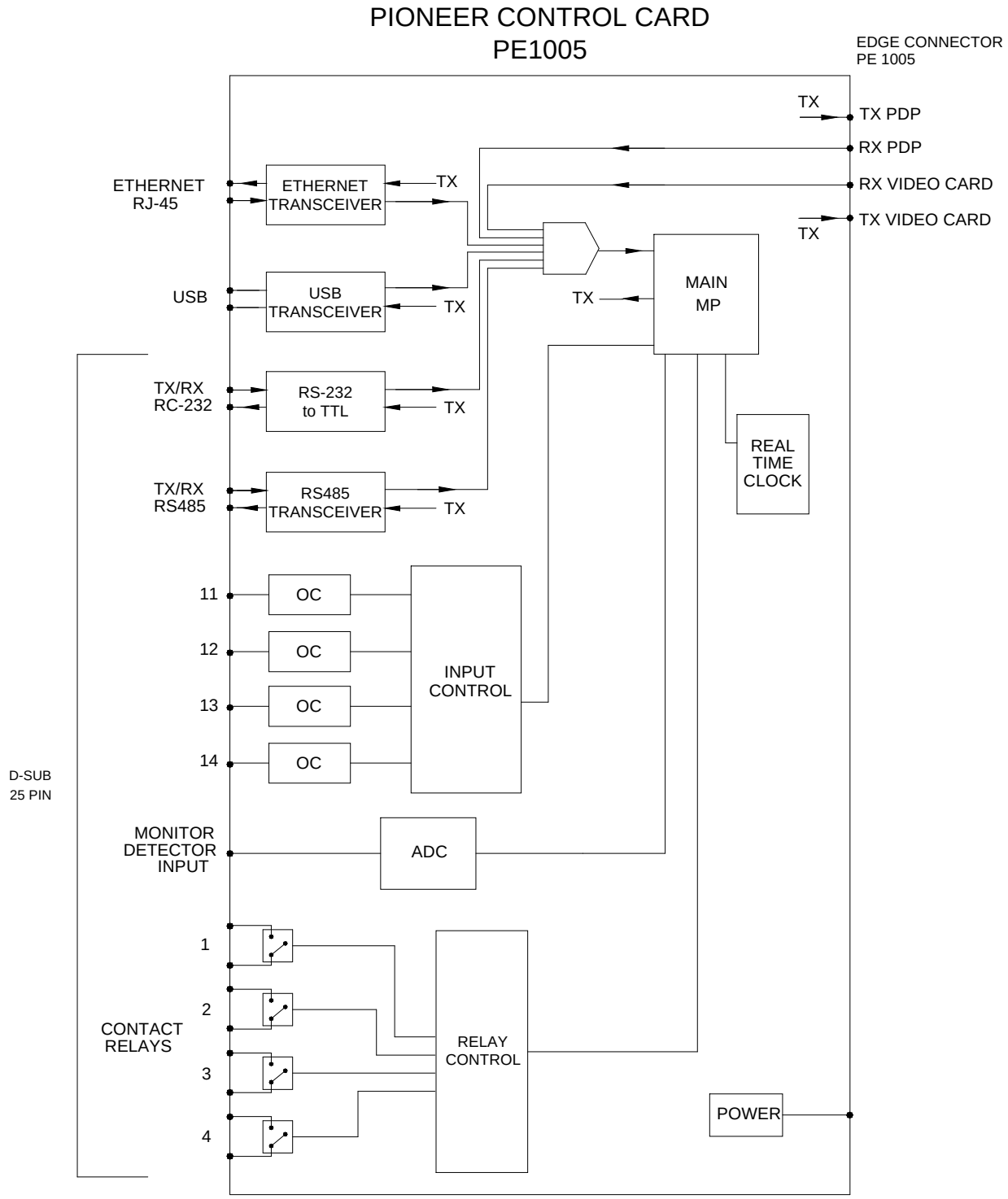

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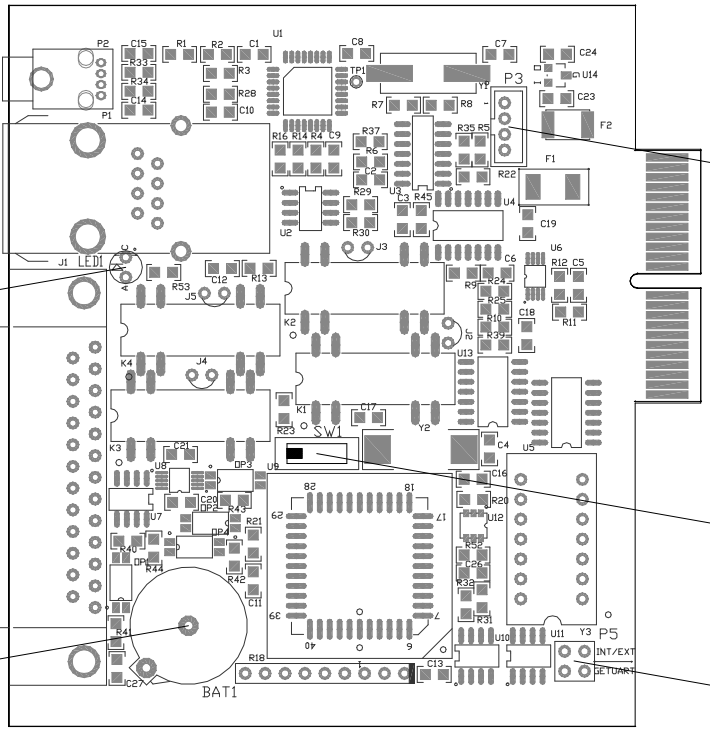
DIAGRAM 3: CARD DETAILS



LED1

BATTERY
3V Lithium
CR1225

P3
Test Connector
Used for circuit
card evaluation.

SW1
RS-232/RS-485
selection. The RS-232
position is shown.

P5
Test Connector
Used for circuit
card evaluation.

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DIAGRAM 4: 25 PIN HD DETAILS

DB25 Female Connector

PIN	Description
1	Input 1
2	Input 2
3	Input 3
4	Input 4

PIN	Description
5	Relay 1 Throw
6	Relay 1 Pole
7	Relay 2 Throw
8	Relay 2 Pole
9	Relay 3 Throw
10	Relay 3 Pole
11	Relay 4 Throw
12	Relay 4 Pole

PIN	Description
13	GND
14	RS-232 TX
15	GND
16	RS-232 RX
17	GND
18	RS485+
19	RS485 -
20	GND

PIN	Description
21	Motion Det. +
22	Motion Det. Trg.
23	GND
24	GND
25	GND
21	Motion Det. +
22	Motion Det. Trg.

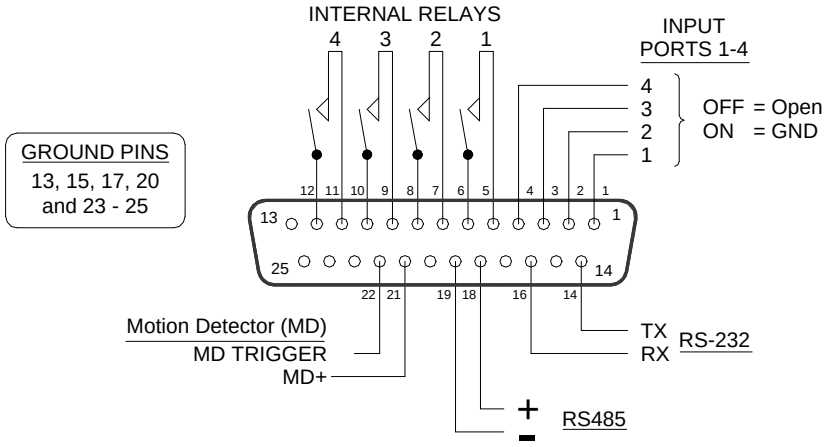
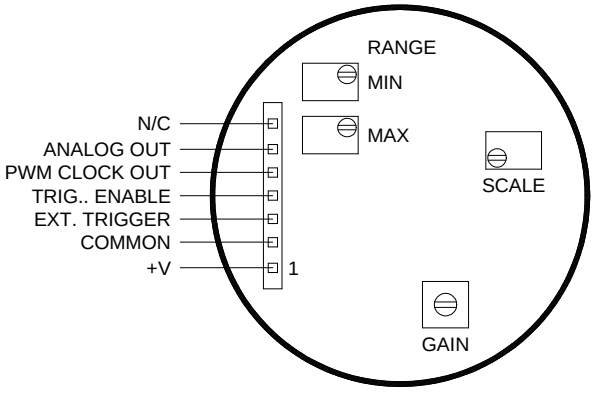


DIAGRAM 5: MOTION DETECTOR DETAILS



CONNECTIONS

MOTION DET.	PE1005
Analog Out	MD+
Trig. Enable	Ground
Ext. Trigger	MD_TRIG
Common	Ground
+V	+5V

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INSTALLING YOUR PE1005 6

Step 1. Turn off the power to the plasma display.

Step 2. Use ESD safety precautions and always wear a ground strap when handling the **PE1005**.

Step 3. Prepare the card if necessary using the application diagrams on page 7.

Step 4. Remove the card or cover currently installed at the bottom of the display.

Step 5. Carefully, insert the **PE1005**. Use the thumb screws to tighten the card securely into place.

Step 6. If using RS-232 control, connect the RS-232 communication port of the PC or other control device to the PE1005 through the Digital I/O port using a 25-pin HD connector and cable. See DIAGRAM 4: 25 PIN HD DETAILS for pinout information.

NOTE: RS-232 operation: Use AVSnap or other RS-232 communication software.

Step 7. Turn on power to the plasma display.

EXTERNAL PORT SETUP

In addition to the controls available through the 25-pin HD connector, the **PE1005** may also be controlled through its USB or LAN ports. The drivers required for configuring these ports are available on the Altinex website, www.altinex.com. If there are any questions or difficulties installing these drivers, please call Altinex at (714)-990-2300.

USB SETUP

1. Download the TUSB3410 driver from the Altinex website, www.altinex.com.
2. Do not connect the **PE1005** to the USB port on the computer until after the drivers are installed.
3. Check for a “readme” file that may contain special installation instructions. If there is a “readme” file, print and read the contents prior to running the application.
4. Launch the application.
5. Follow the instructions provided by the installation wizard.
6. Connect the **PE1005** to the computer’s USB port. The unit should be operational. If not, it may be necessary to reboot the computer.

Note: In some cases, it is necessary to use the Device Manager in Windows and direct Windows to install the drivers located at the path displayed during the installation procedure (step 5).

TCP/IP SETUP

1. Download the “DeviceInstaller” for the XPort device from the Altinex website, www.altinex.com.

   The “DeviceInstaller” is a Configuration Utility for the Ethernet to serial controller. This software requires Windows .NET Framework to be installed on the computer. The .NET Framework should be revision 1.1 or later.
2. Run the “setup.exe” file from the downloaded files.

   This will install the DeviceInstaller on your system. Make note of where the software is installed on your computer.
3. Connect the XPort device to the LAN using a standard CAT-5 cable.
4. The device must be installed in a system and have power turned on in order to proceed.
5. Launch the installer, Lantronix – DeviceInstaller from the START menu or from the directory noted earlier. This will allow the configuration of the XPort device.

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6. Click on the “Search” button to check for new devices on the LAN.

NOTE: If you want to assign the IP manually, click “Assign IP”. This method will require the hardware address on the device the assistance of your IT Administrator.

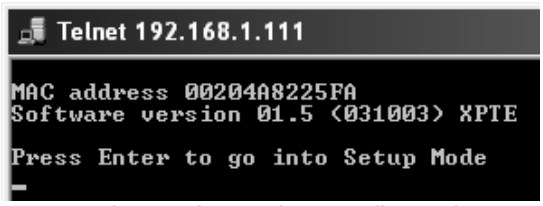
THE IP ADDRESS

7. Once the device is located, click on the device in the installer window and make note of the internet address.

CONFIGURE THE DEVICE

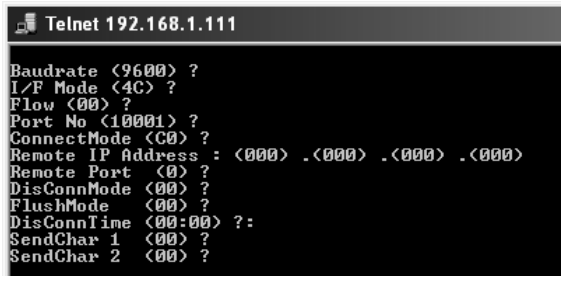
8. The device may be configured using a web browser or using a Telnet session. This procedure uses the Telnet option. Click the “Telnet” button and do not change the default port number of “9999”.

9. When the command window appears, press ENTER when prompted to enter Setup Mode and then select the factory defaults.



10. Next, select “Channel 1 Configuration”.

11. View each line item as it appears. Press ENTER to leave the default value, or enter the new value and press ENTER.



NOTE: The “Port No.” in the configuration menu is the COM port for use with RS-232 communication software.

11. Select “Save and Exit” to keep changes and exit setup mode.

12. Close the Device Installer, setup is complete. Use the port number assigned above to communicate with the PE-1005 over the LAN.

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OPERATION 7

7.1 RS-232 CONTROL

The **PE1005** has many advanced remote control capabilities, which are accessible through standard RS-232 communication. Actual controlling may be achieved using a computer control system or other device capable of sending RS-232 commands.

7.1.1 RS-232 INTERFACE

The RS-232 commands, for the **PE1005**, are in a simple ASCII character format.

1. Square brackets "[ ]" are part of the command.
2. Use uppercase letters for all commands.

After processing a command, an "OK" will be returned as feedback if the command is good. "OK" will not be returned if the command generates other feedback like the [RDRL] command.

7.2 DESCRIPTION OF COMMANDS

The default unit ID is zero, but may be set to a value from 1 to 99. In single unit operation, commands may be sent without the unit identifier. Unit ID 0 should be used for single unit operation.

If multiple **PE1005**'s are connected to the same communication port, the units may be controlled two ways. In order to control all the units the same, commands may be sent without the unit identifier. Commands sent without the unit identifier will be executed by all **PE1005**'s.

Example:

[VER]: Executed by all units.
[VERC1]: For Unit ID 1 Only
[VERC2]: For Unit ID 2 Only
etc…

Individual control is accomplished by first assigning each unit a unique ID number. Then each unit may be controlled individually by including the unit identifier at the end of each command string.

1. **[STATUS]**

   This command displays the status of the **PE1005** and includes input status, relay settings, assigned subroutines and alarm information.

   Command Format: [STATUSCi]

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

   Example 1:

   Send the command [STATUS] and receive feedback similar to the following:

   PE1005 Pioneer Control Card
   IN:1111
   IN#1=SUB NOT ASSIGNED
   IN#2=SUB NOT ASSIGNED
   IN#3=SUB NOT ASSIGNED
   IN#4=SUB NOT ASSIGNED
   TIME: 17:17:29
   DATE: 06:08:05
   DAY: Wednesday
   Alarm 1 OFF SUB NOT ASSIGNED
   Mode 1: once per second
   Alarm 2 OFF SUB NOT ASSIGNED
   Mode 1: once per minute
   Int Baud Rate:9600
   Motion Detector OFF
   MD Threshold value:25
   MD0=SUB NOT ASSIGNED
   MD1=SUB NOT ASSIGNED

2. **[FRESET]**

   This command is used to preform a factory reset on the unit. All settings will be reset to default values. This includes erasing subroutines, clearing alarm settings and resetting the time and date values.

   Command Format: [FRESETCi]

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

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Example:

Reset the **PE1005** with unit ID 1 to its default settings by sending the command [FRESETC1]. The card will display a notice that a reset is in process:

PLEASE WAIT
CARD IS PERFORMING FACTORY RESET

When the reset is complete, the following message will be displayed.

FACTORY RESET COMPLETED

3. **[VER]**

   This command displays the firmware version and model number of the **PE1005**.

   Command Format: [VERCi]

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

   Example:

   Send the command [VER] and receive the following feedback:

   PE1005 690-0205-001

   PE1005 = Model Number

   690-0205-001 = Firmware Version

4. **[TEST]**

   This command performs a test on the internal memory. Upon completion, the system will display the results.

   Command Format: [TESTCi]

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

   Example:

   Send the command [TEST] to check the internal card memory. The feedback will be similar to the following:

   TIME: 17:18:28
   DATE: 06:08:05
   DAY: Wednesday
   MEMORY TEST RESULTS:
   U10: OK
   U11: OK

   Otherwise, failures will be indicated.

5. **[WAIT]**

   This command will cause the card to suspend operation for specified period, up to ten seconds. If several commands are present in a single subroutine, use this command to make a pause in between each command if desired.

   Command Format: [WAITnCi]

   n = Delay time in 0.1sec (n=01~99)

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

   Example:

   Send the command [WAIT10] to suspend operation for one second before executing the next function.

6. **[RDI]**

   This command is used to read the status of one or more of the input ports. The ports are turned on by connecting the corresponding input connector pin to ground. See page 7 for details. An open on the input pin is a low or '0' for that input port. A '1' indicates the port is on, or that the input pin is switched to ground.

   Command Format: [RDInCi]

   n = input number (n = # from 1 to 4, * for all)

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

   Example 1:

   The PE1005 has ports 1 and 2 on, while 3 and 4 are off. Send the command [RDI*] to read the status of all the ports. The feedback will be as follows:

   1100

   Reading left to right, ports 1 and 2 show a '1' for on and ports 3 and 4 show a '0' for off.

   Example 2:

   Check the status of input one only by sending the command [RDI1]. The feedback will be as follows:

   1

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7. **[RDRL]**

   This command is used to read the status of one or all of the internal relays. A '1' indicates the relay is on or closed. A '0' indicates the relay is off or open. The internal relays have a maximum current capacity of 1A and 100VDC.

   Command Format: [RDRLnCi]

   n = Relay No. (1, 2, 3, 4 or * for all)

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

   Example 1:

   The PE1005 has relay number one on (closed) and two through four are off. Send the command [RDRL*] to check the status of all relays. The feedback will be as follows:

   1000

   Example 2:

   Check the status of relay number one only by sending the command [RDRL1]. The feedback will be as follows:

   1

8. **[WRRL$x_1x_2x_3x_4$]**

   This command is used to the turn the internal relays on or off. A '1' will close the relay, a '0' will open a relay and an 'X' will leave the status of the relay unchanged. The internal relays have a maximum current capacity of 1A and 100VDC.

   Command Format: [WRRL$x_1x_2x_3x_4$Ci]

   x_1 = Relay #1
   x_2 = Relay #2
   x_3 = Relay #3
   x_4 = Relay #4
   x = 0 for open, or off
   x = 1 for closed or on
   x = X for no change

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

   Example:

   Set relay 1 on, relay 4 off, and leave relays 2 and 3 unchanged. In order to do this, send the command [WRRL1XX0].

9. **[WRRLk=x]**

   This command is used to set one or all internal relays on or off. A '1' will close the relay and a '0' will open a relay. The internal relays have a maximum current capacity of 1A and 100VDC.

   Command Format: [WRRLk=xCi]

   k = Relay No. (1, 2, 3, 4 or * for all)

   x = Relay Setting (0 = open, 1 = closed)

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

   Example:

   Set only relay 1 on by sending the command [WRRL1=1].

10. **[WRIN]**

    This command is used to assign a subroutine number to be executed when one of the input ports makes a high to low transition. In order to create a high to low transition, connect the input port to ground using a switch or other contact closure device.

    Command Format: [WRINn=SUBkCi]

    n = Input No. (1, 2, 3 or 4)

    k = Subroutine(k = # from 1 to 99)

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

    Example:

    Assign subroutine 10 to be performed when port one makes a high to low transition. In order to do this, send the command [WRIN1=SUB10]. Now, when input port one is shorted to ground, subroutine 10 will be executed.

11. **[RDIN]**

    This command is used to read the subroutine settings for the input ports.

    Command Format: [RDINnCi]

    n = Input No. (1, 2, 3, 4 or * for all)

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

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Example:

Subroutine 10 is assigned to Input #1, subroutine 20 is assigned to Input #2, subroutine 30 is assigned to Input #3, and subroutine 40 is assigned to Input #4. Send the command [RDIN*] and receive the following feedback:

IN#1=SUB10

IN#2=SUB20

IN#3=SUB30

IN#4=SUB40

12. **[WRS]**

The command is used to write functions to any of 99 available subroutine memory locations. A subroutine may be overwritten or appended to for long command function strings.

Each location may contain up to 100 characters, and a maximum of 24 characters may be written to a subroutine at one time.

More than one function may be stored in a single subroutine and multiple functions may be written to memory in one command. When sending multiple functions in a single command, it is necessary to separate each function with a comma.

Command Format: [WRSm=F_1,F_2, F_3...F_n ; pCi]

m = Subroutine (m = # from 1 to 99)

F = Function (up to 25 characters at a time)

p = Saving Instruction

0 overwrite existing info
1 append to existing info

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

Example:

A subroutine (sub 10) needs to store the following functions: WRRL1=1, WAIT10, WRRL1=0, WAIT10, SET1ALARM30800 and ALRMON1. This is accomplished by sending the following commands:

[WRS10=WRRL1=1,WAIT10,WRRL1=0;1]

[WRS10= SET1ALARM30800,ALRMON1;0]

Now, send the command [RDS10] to read the contents of subroutine 10. The feedback will be as follows:

SUB10/NONE/: WRRL1=1,WAIT10,WRRL1=0, SET1ALARM30800,ALRMON1

13. **[WRLS]**

This command is used to assign a label to a subroutine. The label may be used to identify or denote the purpose of the subroutine and may be up to 8 characters long.

Illegal Characters: < > [ ] # $ % / \ |

Command Format: [WRLSm=<xxxxxxxx>Ci]

m = Subroutine (m = # from 1 to 99)

x..x = Label Name (text characters)

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

Example:

Assign the text “SETALRM1” as the label for subroutine 40 by sending the following command:

[WRLS40=<SETALRM1>]

Next, send the command [RDLS40] and verify the following feedback:

SETALRM1

14. **[RDS]**

This command displays the contents of one or all subroutine memory locations. The subroutine number, label and stored data will be displayed.

Command Format: [RDSmCi]

m = Subroutine (m = # from 1 to 99, * for all)

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

Example:

Subroutine 20 is labeled “RLY_1_ON”. The subroutine contains the function “WRRL1=1”. Send the command [RDS20] and receive the following feedback:

SUB20/RLY_1_ON/: WRRL1=1

SUB20 = Subroutine Number
RLY_1_ON = Subroutine Label
WRRL1=1 = Stored Function

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15. **[RDLS]**

This command displays the subroutine label of one or all subroutine memory locations.

Command Format: [RDLSmCi]

m = Subroutine (m = # from 1 to 99, * for all)

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

Example:

Subroutine 20 is labeled “RLY_1_ON”. Send the command [RDS20] and receive the following feedback:

RLY_1_ON

16. **[CLRS]**

This command erases the subroutine contents of one or all subroutine memory locations. Erasing the subroutine contents does not affect the subroutine label.

Command Format: [CLRSkCi]

k = Subroutine (n = # from 1 to 99, * for all)

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

Example:

Subroutine 50 turns off all the relays and has the label “RLYS_OFF”. Send the command [RDS50] and the display will be as follows:

SUB50/RLYS_OFF/: WRRL*=0

Clear the contents of subroutine 50 by sending the command [CLRS50]. After sending this command, reading the contents of subroutine 50 will be as follows:

SUB50/RLYS_OFF/Subroutine Empty

17. **[CLRLS]**

This command erases one or all subroutine labels. Erasing the subroutine label does not affect the contents of the subroutine.

k = Subroutine (n = # from 1 to 99, * for all)

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

Example:

Subroutine 50 turns off all the relays and has the label “RLYS_OFF”. Send the command [RDS50] and the display will be as follows:

SUB50/RLYS_OFF/: WRRL*=0

Clear the label for subroutine 50 by sending the command [CLRLS50]. After sending this command, reading the contents of subroutine 50 will be as follows:

SUB50/NONE/: WRRL*=0

18. **[SUB]**

This command executes the functions stored in a subroutine.

Command Format: [SUBkCi]

k = Subroutine (n = # from 1 to 99, * for all)

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

Example:

Subroutine 90 is programmed with the command [MDON] enables the motion detector. Send the command [SUB90], and the motion detector will be enabled.

19. **[HELP]**

This command displays a list of all RS-232 available commands.

Command Format: [HELPCi]

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

Example:

Send the command [HELP] and a list of all available commands, along with a brief description, will be displayed.

20. **[SETTIME]**

This command sets the time for the PE1005 internal clock. The time is saved and displayed in 24-hour format.

Command Format: [SETTIMEhhmmssCi]

hh = time in hours (hh = 00 to 23)

mm = time in minutes (mm = 00 to 59)

ss = time in seconds (ss = 00 to 59)

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

Example:

The current time is 07:30AM. Set the internal clock to this time and then verify the time is set by sending the following commands:

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[SETTIME073000] [RDTIME]

The display will be similar to the following:

TIME: 07:30:05

21. **[SETDAY]**

This command is used to program the internal clock with the day of the week.

Command Format: [SETDAYwCi]

w = day of the week (w = # from 1 to 7)
1 = Sunday
2 = Monday
3 = Tuesday
4 = Wednesday
5 = Thursday
6 = Friday
7 = Saturday

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

Example:

Set the day to Monday and then read back the day to verify the setting by sending the following commands:

[SETDAY2] [RDDAY]

The feedback from the read day command will be as follows:

DAY: Monday

22. **[SETDATE]**

This command is used to program the internal clock with the current date.

Command Format: [SETDATEmmddyyCi]

mm = Month (mm=01 to 12)

dd = Date (dd=01 to 31)

yy = Year (yy = 00 to 99)

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

Example:

Set the date to June 1, 2005 and then read back the date for verification by sending the following commands.

[SETDATE060105] [RDDATE]

The feedback will be as follows:

DATE: 06-01-05

23. **[RDTIME]**

This command reads back the time from internal clock.

Command Format: [RDTIMECi]

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

Feedback Format: hh:mm:ss

Example:

The current time is 08:40PM. Read back the time by sending the command [RDTIME] and receiving the following feedback:

TIME: 20:40:00

24. **[RDDAY]**

This command reads the current day of the week from the internal clock.

Command Format: [RDDAYCi]

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

Example:

The day is Monday. Read the day from the internal clock by sending the command [RDDAY] and receiving the following feedback:

DAY: Monday

25. **[RDDATE]**

This command reads the date from the internal clock.

Command Format: [RDDATECi]

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

Example:

The date is June 13, 2005. Read back the current date setting by sending the command [RDDATE] and receive the following feedback:

DATE: 06-13-05

ALARM #1 COMMANDS

The **PE1005** has two programmable alarms, which may be programmed to execute functions stored in subroutines. The first alarm has six modes to choose from, but only one mode may be active at a time. The following Alarm #1 modes allow the alarm to be executed at one of the following rates:

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Mode 1 = Every Second
Mode 2 = Every Minute
Mode 3 = Every Hour
Mode 4 = Every Day
Mode 5 = Every Month
Mode 6 = Every Week

The following is required for the alarm to function:

1. Set the Time, Day and Date on the **PE1005**.

2. Program functions into a subroutine.

3. Associate the subroutine with an alarm.

4. Set the alarm number and mode.

The alarm functions that follow are used to setup the alarms and enable/disable the alarms. The examples used in the next commands reference subroutine 10 and assume the time and date are already set. Subroutine 10 is programmed to close internal relay number one, wait a half-second and then open the relay.

[WRS10=WRRL1=1,WAIT5, WRRL1=0;1]

This is an example only. These or other functions may be programmed into the subroutine in order to control external equipment, set indicator lights or trigger external events as desired.

26. **[SET1ALRM1] – MODE 1 - Every Second**

This command is used to set Alarm #1 to Mode 1. Use caution with this alarm mode. Since all activities will be interrupted every second, issuing other commands will be difficult.

Command Format: [SET1ALRM1Ci]

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

Example:

Associate Alarm #1 with subroutine 10 and set Alarm #1 by sending the following commands:

[ALRM1=SUB10]

[SET1ALRM1]

[ALRMON1]

Alarm #1 is now enabled and running. Every second, the functions stored in subroutine 10 will be executed.

27. **[SET1ALRM2] – MODE 2 - Every Minute**

This command is used to set Alarm #1 into Mode 2.

Command Format: [SET1ALRM2ssCi]

ss = Time in seconds (ss = 00 to 59)

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

Example:

Associate Alarm #1 with subroutine 10 and set Alarm #1 to trigger 30 seconds into each minute by sending the following commands:

[ALRM1=SUB10]

[SET1ALRM230]

[ALRMON1]

Alarm #1 is now enabled and running. Every minute when the second count matches “30”, the functions stored in subroutine 10 will be executed. If the time is 10:00:00AM, the alarm will trigger at the following times:

10:00:30, 10:01:30, 10:01:30 …

28. **[SET1ALRM3] – MODE 3 - Every Hour**

This command is used to set Alarm #1 into Mode 3.

Command Format: [SET1ALRM3mmssCi]

mm = Time in Minutes (mm = 00 to 59)

ss = Time in Seconds (ss = 00 to 59)

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

Example:

Associate Alarm #1 with subroutine 10 and set Alarm #1 to trigger at the bottom of every hour by sending the following commands:

[ALRM1=SUB10]

[SET1ALRM33000]

[ALRMON1]

Alarm #1 is now enabled and running. Every hour when the minute and second count matches “30:00”, the functions stored in subroutine 10 will be executed. If the time is 10:30:00AM, the alarm will trigger at the following times:

10:30:00, 11:30:00, 12:30:00 …

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29. **[SET1ALRM4] – MODE 4 - Once A Day**

This command is used to set Alarm #1 into Mode 4.

Command Format: [SET1ALRM4hhmmssCi]

hh = Time in Hours (hh = 00 to 23)

mm = Time in Minutes (mm = 00 to 59)

ss = Time in Seconds (ss = 00 to 59)

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

Example:

Associate Alarm #1 with subroutine 10 and set Alarm #1 to trigger at 12 noon every day by sending the following commands:

[ALRM1=SUB10]

[SET1ALRM4120000]

[ALRMON1]

Alarm #1 is now enabled and running. Every day at noon, the functions stored in subroutine 10 will be executed.

30. **[SET1ALRM5] – MODE 5 - Once A Month**

This command is used to set Alarm #1 into Mode 5.

Command Format: [SET1ALRM5hhmmssddCi]

hh = Time in Hours (hh = 00 to 23)

mm = Time in Minutes (mm = 00 to 59)

ss = Time in Seconds (ss = 00 to 59)

dd = Date (dd = 01 to 31)

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

Example:

Associate Alarm #1 with subroutine 10 and set Alarm #1 to trigger at 2:30PM on the 15th day of the month by sending the following commands:

[ALRM1=SUB10]

[SET1ALRM514300015]

[ALRMON1]

Alarm #1 is now enabled and running. Every month on the 15th at 2:30PM, the functions stored in subroutine 10 will be executed.

31. **[SET1ALRM6] – MODE 6 - Once A Week**

This command is used to set Alarm #1 into Mode 6.

Command Format: [SET1ALRM6hhmmsswCi]

hh = Time in Hours (hh = 00 to 23)

mm = Time in Minutes (mm = 00 to 59)

ss = Time in Seconds (ss = 00 to 59)

w = Day of the Week (w = 1 to 7)

1 = Sunday
2 = Monday
3 = Tuesday
4 = Wednesday
5 = Thursday
6 = Friday
7 = Saturday

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

Example:

Associate Alarm #1 with subroutine 10, and set Alarm #1 to trigger at 10:00AM every Tuesday, by sending the following commands:

[ALRM1=SUB10]

[SET1ALRM61000003]

[ALRMON1]

Alarm #1 is now enabled and running. Every Tuesday at 10:00AM, the functions stored in subroutine 10 will be executed.

ALARM #2 COMMANDS

The second programmable alarm for the **PE1005** has five modes to choose from, but only one mode may be active at a time. The following Alarm #2 modes allow the alarm to be executed at one of the following rates:

Mode 1 = Every Minute

Mode 2 = Every Hour

Mode 3 = Every Day

Mode 4 = Every Month

Mode 5 = Every Week

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The following is required for the alarm to function:

1. Set the Time, Day and Date on the **PE1005**.

2. Program functions into a subroutine.

3. Associate the subroutine with an alarm.

4. Set the alarm number and mode.

The alarm functions that follow are used to setup the alarms and enable and disable the alarms. The examples used in the next commands reference subroutine 10 and assume the time and date are already set. Subroutine 10 is programmed to close internal relay number one, wait a half-second and then open the relay.

[WRS10=WRRL1=1,WAIT5, WRRL1=0;1]

This is an example only. These or other functions may be programmed into the subroutine in order to control external equipment, set indicator lights or trigger external events as desired.

32. **[SET2ALRM1] – MODE 1 - Every Minute**

This command is used to set Alarm #2 into Mode 1.

Command Format: [SET2ALRM1Ci]

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

Example:

Associate Alarm #2 with subroutine 10 and set Alarm #2 to trigger each minute at “00” by sending the following commands:

[ALRM2=SUB10]

[SET2ALRM1]

[ALRMON2]

Alarm #2 is now enabled and running. Every minute when the second count matches “00”, the functions stored in subroutine 10 will be executed. If the time is 09:59AM, the alarm will trigger at the following times:

10:00:00, 10:01:00, 10:02:00 …

33. **[SET2ALRM2] – MODE 2 - Every Hour**

This command is used to set Alarm #2 into Mode 2.

Command Format: [SET2ALRM2mmCi]

mm = Time in Minutes (mm = 00 to 59)

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

Example:

Associate Alarm #2 with subroutine 10 and set Alarm #2 to trigger at the bottom of every hour by sending the following commands:

[ALRM2=SUB10]

[SET2ALRM230]

[ALRMON2]

Alarm #2 is now enabled and running. Every hour when the minute and second count matches “30:00”, the functions stored in subroutine 10 will be executed. If the time is 10:29:00AM, the alarm will trigger at the following times:

10:30:00, 11:30:00, 12:30:00 …

34. **[SET2ALRM3] – MODE 3 - Once A Day**

This command is used to set Alarm #2 into Mode 3.

Command Format: [SET2ALRM3hhmmCi]

hh = Time in Hours (hh = 00 to 23)

mm = Time in Minutes (mm = 00 to 59)

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

Example:

Associate Alarm #2 with subroutine 10 and set Alarm #2 to trigger at 12 noon every day by sending the following commands:

[ALRM2=SUB10]

[SET2ALRM31200]

[ALRMON2]

Alarm #2 is now enabled and running. Every day at noon, the functions stored in subroutine 10 will be executed.

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35. **[SET2ALRM4] – MODE 4 - Once A Month**

This command is used to set Alarm #2 into Mode 4.

Command Format: [SET2ALRM4hhmmddCi]

hh = Time in Hours (hh = 00 to 23)

mm = Time in Minutes (mm = 00 to 59)

dd = Date (dd = 01 to 31)

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

Example:

Associate Alarm #2 with subroutine 10 and set Alarm #2 to trigger at 2:30PM on the 15th day of the month by sending the following commands:

[ALRM2=SUB10]

[SET2ALRM4143015]

[ALRMON2]

Alarm #1 is now enabled and running. Every month on the 15th at 2:30PM, the functions stored in subroutine 10 will be executed.

36. **[SET2ALRM5] – MODE 5 - Once A Week**

This command is used to set Alarm #2 into Mode 5.

Command Format: [SET2ALRM5hhmmwCi]

hh = Time in Hours (hh = 00 to 23)

mm = Time in Minutes (mm = 00 to 59)

w = Day of the Week (w = 1 to 7)

1 = Sunday
2 = Monday
3 = Tuesday
4 = Wednesday
5 = Thursday
6 = Friday
7 = Saturday

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

Example:

Associate Alarm #2 with subroutine 10, and set Alarm #2 to trigger at 10:00AM every Tuesday, by sending the following commands:

[ALRM2=SUB10]

[SET2ALRM510003]

[ALRMON2]

Alarm #2 is now enabled and running. Every Tuesday at 10:00AM, the functions stored in subroutine 10 will be executed.

ALARM CONTROLS

37. **[ALRMON]**

This command activates Alarm #1 and Alarm #2. After turning the alarm on, the functions assigned to the alarm with the [ALRMn=SUBk] command will be executed at the alarm time.

Command Format: [ALRMONnCi]

n = Alarm No. (n = 1 or 2)

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

Example:

Turn on Alarm #1 on by sending the command [ALRMON1]. Alarm #1 is now enabled.

38. **[ALRMOFF]**

This command deactivates Alarm #1 and Alarm #2. After turning the alarm off, nothing will happen at the alarm time.

Command Format: [ALRMOFFnCi]

n = Alarm No. (n = 1 or 2)

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

Example:

Turn on Alarm #2 off by sending the command [ALRMOFF1]. Alarm #2 is now disabled.

39. **[RDALRM]**

This command reads back an alarm's settings.

Command Format: [RDALRMnCi]

n = Alarm No. (n = 1 or 2)

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

Example:

Subroutine 90 is assigned to Alarm #1, and Alarm #1 is set to go off at 30 minutes past every hour. Send the command [RDALRM1] and receive feedback similar to the following:

Alarm 1 ON SUB90

Mode 3: when minutes and seconds match 30:00

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40. **[ALRMn=SUBk]**

This command sets the dependencies between an alarm and a subroutine. The functions in the subroutine will be executed when the alarm conditions are met.

Command Format: [ALRMn=SUBkCi]

n = Alarm Number (n = 1 or 2)

k = Subroutine (k = # from 1 to 99)

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

Example:

Assign subroutine 20 to be executed when the conditions for Alarm #2 are met by sending the command [ALRM2=SUB20]. Use the [RDALRM2] command to verify the setting.

RS-232 MEMORY COMMANDS

41. **[WRM]**

This command saves RS-232 data into memory. This memory is not the same as the memory for subroutine storage. When writing to the memory location, the memory may be overwritten or appended with this command.

Command Format: [WRMm=xxxxxx;pCi]]

m = Memory Location (m = # from 1 to 99)

x = Data

16 characters may be sent at a time
112 characters total per memory location

p = Saving Instruction

0 append to existing info
1 overwrite existing info

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

Hex characters can be added to the string by using the % sign in front of the hex number. Sending %0C will send the hex “0C”, or form feed character. The three characters making up the hex number cannot be separated and must be in the same string. Below are some common hex numbers:

%5B = ‘ [‘ %5D = '] '
%7B = ' { ‘ %7D = ' } '
%3C = ' < ' %3E = ' > '

Example:

Program RS memory location 50 with the string “STANDBY_ON” by sending the command [WRM50=STANDBY_ON;1]. Using the ‘1’ option, this will overwrite whatever information is currently in location 50 and save the command “STANDBY_ON”.

42. **[WRLM]**

This command assigns a label to a memory location. This label can help identify the contents or function of the data stored in the memory location. The label may be up to eight characters.

Command Format: [WRLMm=<xxxxxx>Ci]

m = Memory Location (m = # from 1 to 99)

x = Label Name (8 characters max)

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

Example:

Add the label “STANDBY” to memory location 50 by sending the command [WRLM50=<STANDBY>].

43. **[RDM]**

This command displays the data for one or all memory locations. The data shows the memory location number, the memory label and then the contents of the memory location.

Command Format: [RDMmCi]

m = Memory Location (m = 1 to 99, * for all)

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

Example:

Read back the contents of all the memory locations by sending the command [RDM*]. The feedback will be in the following format:

MEM1/NONE/: ON

MEM2/NONE/: OFF

…

MEM99/NONE/Memory Empty

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44. **[RDLM]**

This command displays the data for one or all memory location labels.

Command Format: [RDLMmCi]

m = Memory Location (m = 1 to 99, * for all)

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

Example:

Read back the contents of all the memory labels by sending the command [RDLM*]. The feedback will be in the following format:

MEM1:STOP

MEM2:PLAY

…

MEM99:NONE

45. **[CLRM]**

This command clears one or all RS-232 memory location. The memory for the subroutines is not affected.

Command Format: [CLRMmCi]

m = Memory Location (m = 1 to 99, * for all)

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

Example:

Clear the contents of all RS-232 memory locations by sending the command [CLRM*]. The **PE1005** will respond with the following feedback:

ALL SUBS WILL BE CLEARED

PLEASE WAIT

Upon completion, the following message will be displayed.

TASK COMPLETED

46. **[CLRLM]**

This command clears one or all RS-232 memory location labels.

Command Format: [CLRLMkCi]

k = Memory Location (m = 1 to 99, * for all)

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

Example:

Clear the contents of all RS-232 memory location labels by sending the command [CLRLM*]. The **PE1005** will respond with “OK” when the labels are cleared.

COMMUNICATION

The next several commands deal with internal and external communication.

47. **[MODERSI]**

This command is used to set the baud rate for the internal RS-232 bus communication.

Command Format: [MODERSImCi]

m = Baud Rate bps

= 2400
= 4800
= 9600
= 19200
= 38400

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

Example:

Set the internal baud rate to 9600 baud by sending the command [MODERSI9600]. Use the [STATUS] or [RDRSI] commands to verify this setting. In the status feedback, this setting will be as follows:

Int Baud Rate:9600

The feedback from the [RDRSI] command will simply be “9600”.

48. **[RDRSI]**

Reads baud rate for internal RS-232 bus communication.

Command Format: [RDRSICi]

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

Example:

Send the command [RDRSI] to read back the internal RS-232 baud rate. The feedback will be similar to the following:

9600

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49. **[OUTRSM]**

This command sends the contents of an RS memory location to the external RS-232 port.

Command Format: [OUTRSMmCi]

m = Memory Location (m = # from 1 to 99)

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

Example:

Output the contents of RS memory location 99 to the external RS-232 bus by sending the command [OUTRSM99]. The characters stored in memory location 99 will be output on the external RS-232 bus.

50. **[OUTBSM]**

This command sends RS memory data through the internal RS-232 port/bus.

Command Format: [OUTBSMmCi]

m = Memory Location (m = # from 1 to 99)

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

Example:

Send the contents of RS memory location 50 to the internal bus by sending the command [OUTBSM50].

51. **[OUTPDPM]**

This command sends RS memory data through the internal RS-232 port/bus to the Display PDP card.

Command Format: [OUTPDPMmCi]

m = Memory Location (m = # from 1 to 99)

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

Example:

Send the contents of RS memory location 10 to the internal bus to the Display PDP card by sending the command [OUTPDPM10].

52. **[OUTVCM]**

This command sends RS memory data through the internal RS-232 port/bus to the Video card.

Command Format: [OUTVCMmCi]

m = Memory Location (m = # from 1 to 99)

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

Example:

Send the contents of RS memory location 1 to the internal bus to the Video card by sending the command [OUTVCM1].

DIRECT DATA

The next four commands allow data to be sent directly to the RS-232 bus/port without using data stored in memory locations.

Hex characters may be sent using the '%' sign followed by two bytes of hex data. Sending %0C will send the hex "0C", or form feed character. The three characters making up the hex number cannot be separated and must be in the same string.

53. **[SENDRS]**

This command sends direct data through the external RS-232 port. The data between the "< >"s is sent to the bus.

Command Format: [SENDRS<xxx>Ci]

xxx = ASCII Characters (16 maximum)

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

Example:

Output the string "PAGE 1" followed by a form feed by sending the following command, [SENDRS<PAGE 1%0C>].

54. **[SENDBS]**

This command sends direct data through the internal RS-232 bus based on the Plasma Display internal control settings. The data between the "< >"s is sent to the bus.

Command Format: [SENDBS<xxx>Ci]

xxx = ASCII Characters (16 maximum)

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

Example:

Output the string "STANDBY" by sending the following command, [SENDBS<STANDBY>].

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55. **[SENDPS]**

This command sends data directly through the internal RS-232 bus to the main control card. The data between the "< >"s is sent to the bus.

Command Format: [SENDPS<xxx>Ci]

xxx = ASCII Characters (16 maximum)

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

Example:

Send the string "INPUT" by sending the following command, [SENDPS<INPUT>].

56. **[SENDVS]**

This command sends data directly through the internal RS-232 bus to the video card. The data between the "< >"s is sent to the bus.

Command Format: [SENDVS<xxx>Ci]

xxx = ASCII Characters (16 maximum)

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

Example:

Send the string "INPUT" by sending the following command, [SENDVS<INPUT>].

MOTION DETECTOR
MDON, MDOFF, MD1, MD0, SETMD RDMD

The next commands setup and control the motion detector. [SETMD] sets the trigger level and [MD0] and [MD1] assign subroutines to be executed depending on the direction of motion. [RDMD] displays the motion detector settings and [MDON] and [MDOFF] activate and deactivate the detector.

57. **[MDON]**

This command activates the external motion detector. The motion detector settings must first be defined using the [SETMD], [MD0] and [MD1] commands.

Command Format: [MDONCi]

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

Example:

Send the command [MDON] to activate/enable the motion detector.

58. **[MDOFF]**

This command is used to deactivate/disable the motion detector.

Command Format: [MDOFFCi]

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

Example:

Send the command [MDOFF] to disable the motion detector. None of the settings will be affected, but the motion detector will not be actively sensing for motion.

59. **[MD1]**

This command is used to assign a subroutine to be executed when an object is sensed moving toward the motion detector.

Command Format: [MD1=SUBkCi]

k = Subroutine (k = # from 1 to 99)

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

Example:

Assign subroutine 10 to be executed when an object is sensed moving toward the motion detector by sending the command [MD1=SUB10].

60. **[MD0]**

This command assigns a subroutine to be executed when an object is sensed moving away from the motion detector.

Command Format: [MD0=SUBkCi]

k = Subroutine (k = # from 1 to 99)

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

Example:

Assign subroutine 11 to be executed when an object is sensed moving away from the motion detector by sending the command [MD1=SUB11].

61. **[SETMD]**

This command sets the motion detector trigger level. The trigger level range is 0.1V to 5.0V and may be set in increments of 0.1V.

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Command Format: [SETMD=xCi]

x = Trigger Level (x = # from 01 to 50)

01 = 0.1V
02 = 0.2V
…
50 = 5.0V

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

Example:

Set the trigger level a value of 1.0V by sending the command [SETMD=10]. Use the [RDMD] command to read values and check settings.

62. **[RDMD]**

Use this command to display the motion detector settings and check its status. The status includes the settings, assigned subroutines, current detected reading and whether or not the motion detector is active.

Command Format: [RDMDCi]

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

Example:

The motion detector trigger level is set to 1.0V, subroutine 10 is assigned for objects moving away from the detector, subroutine 11 is assigned for objects moving toward the detector. Send the command [RDMD] and receive feedback similar to the following:

Motion Detector ON
MD Current value:04
MD Threshold value:10
MD0=SUB10
MD1=SUB11

ID COMMANDS – RSI, SIDn, SIDnCi, RSN

63. **[SIDn]**

This command sets the ID number of all cards connected to the RS-232 bus to the same value. The default unit ID is zero.

Command Format: [SIDn]

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

Example:

Send the command [SID1] to the system. The card ID is now one, and "C1" must be included at the end of each command line, as in "[VERC1]", for only the unit with ID1 to respond.

REMEMBER: A command sent without the unit ID will be executed by all the **PE1005**'s connected to the RS-232 port.

64. **[SIDnCi]**

This command sets the ID number of a single card to a new ID number. Only the cards that have the matching ID will be changed.

Command Format: [SIDnCi]

n = New ID (i = # from 1 to 99)

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

Example:

Send the command [SID10C1] to the bus. The card with the ID of "C1" will now become "C10". Now, "C10" must be included at the end of the command string for only that card to respond.

65. **[RSN]**

This command reads and then displays the ID number of the unit.

Command Format: [RSN]

Example:

The **PE1005** was set to an ID value of 3. Send the command [RSN] and the system will return the following feedback:

PE1005 ID#3

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7.3 SUMMARY OF COMMANDS

1) [STATUS] Display status of the card.
2) [FRESET] Perform factory reset.
3) [VER] Display card information.
4) [TEST] Test memory IC's.
5) [WAIT] Suspend operation.
6) [RDI] Read input status.
7) [RDRL] Read relay status.
8) [WRRL$x_1x_2x_3x_4$] Set relays individually.
9) [WRRLk=x] Set one or all relays.
10) [WRIN] Assign sub to input port.
11) [RDIN] Read sub to be executed.
12) [WRS] Write a subroutine.
13) [WRLS] Write a subroutine label.
14) [RDS] Display subroutine data.
15) [RDLS] Display a subroutine label.
16) [CLRS] Clears subroutine content.
17) [CLRLS] Clears subroutine's label.
18) [SUB] Execute a subroutine.
19) [HELP] Show RS-232 commands.
20) [SETTIME] Set the time of day.
21) [SETDAY] Set the day of the week.
22) [SETDATE] Set the day/month/year.
23) [RDTIME] Read internal time clock.
24) [RDDAY] Read day of the week.
25) [RDDATE] Read date from clock.
26) [SET1ALRM1] Set Alarm 1 Mode 1.
27) [SET1ALRM2] Set Alarm 1 Mode 2.
28) [SET1ALRM3] Set Alarm 1 Mode 3.
29) [SET1ALRM4] Set Alarm 1 Mode 4.
30) [SET1ALRM5] Set Alarm 1 Mode 5.
31) [SET1ALRM6] Set Alarm 1 Mode 6.
32) [SET2ALRM1] Set Alarm 2 Mode 1.
33) [SET2ALRM2] Set Alarm 2 Mode 2.
34) [SET2ALRM3] Set Alarm 2 Mode 3.
35) [SET2ALRM4] Set Alarm 2 Mode 4.
36) [SET2ALRM5] Set Alarm 2 Mode 5.
37) [ALRMON] Activate Alarm.
38) [ALRMOFF] Deactivate Alarm.
39) [RDALRM] Read alarm settings.
40) [ALRMn=SUBk] Set Alarm Dependencies.
41) [WRM] Save RS-232 data.
42) [WRLM] Write memory label.
43) [RDM] Display memory data.
44) [RDLM] Display memory label.
45) [CLRM] Clears memory location.
46) [CLRLM] Clears memory label.
47) [MODERSI] Set internal baud rate.
48) [RDRSI] Read internal baud rate.
49) [OUTRSM] Memory via RS-232 ext.
50) [OUTBSM] Memory via RS-232 int.
51) [OUTPDPM] Memory to plasma main.
52) [OUTVCM] Memory to plasma video.
53) [SENDRS] Send data via external bus.
54) [SENDBS] Sends data via internal bus.
55) [SENDPS] Send data to display card.
56) [SENDVS] Send data to video card.
57) [MDON] Motion detector enabled.
58) [MDOFF] Motion detector disabled.
59) [MD1] Set approaching motion.
60) [MD0] Set departing motion.
61) [SETMD] Set detector trigger value.
62) [RDMD] Read motion det. settings.
63) [SIDn] Set ID of cards.
64) [SIDnCi] Set ID of a single card.
65) [RSN] Read ID number.

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7.4 PLASMA CONTROL WITH INTERNAL BUS

The **PE1005** has the capability of sending commands directly to the plasma's internal bus or to third party video cards installed in the plasma. This allows the user to control settings on the display without having to use the menu buttons on the display or with the remote control.

As in the previous sections, the commands are sent through standard RS-232 communication. Commands may be sent directly to the internal bus or stored into RS memory locations and then recalled from the memory location and sent to the bus. The commands for communicating with the internal bus are [OUTPDPM] and [SENDBS]. See the previous sections for details on these two commands, including restrictions on the number of character that may be stored or sent in a single command.

7.4.1 INTERNAL COMMAND FORMAT

The internal commands, for the **PE1005**, are in the following format and must contain the protocols indicated:

1. Start of text. (STX) %02
2. Plasma ID (default) %2A%2A
3. Command ID *See Appendix A.*
4. End of text. (ETX) %03

7.4.2 SENDING COMMANDS TO INTERNAL BUS

The default baud rate for the PE1005 is 9600 baud. Prior to sending any commands, verify both the plasma and PE1005 are set to 9600 baud.

In order to change setting values, the plasma must be in adjustment mode. The plasma may be placed into adjustment mode by sending the command AJY.

The following examples demonstrate communication with the plasma through the internal bus using both stored commands and direct commands. All commands may be sent to the plasma using either method.

Example 1: Adjustment Mode

Place the plasma into adjustment mode by sending the following command directly to the internal bus:

[SENDBS<%02%2A%2AAJY%03>]

Example 2: Adjust Brightness

Now that the plasma is in adjustment mode, various settings may be changed. Set the brightness to a value of 100 by sending the following commands directly to the internal bus:

[SENDBS<%02%2A%2A>]
[SENDBS<BRT150%03>]

NOTE: The [SENDBS] command can only send 16 characters at a time. Break the command into smaller sections if necessary, or store the entire command in a memory location.

Example 3: Select Inputs

Select between Input 1 and Input 2. This time, use commands that are stored in memory.

First, program memory locations 10 and 20 with the input select commands. Memory location 10 will store the IN1 command and location 20 will store the IN2 command. Send the IN1 and IN2 commands along with the STX, ID and ETX portions of the command by sending the following:

[WRM10=%02%2A%2A;1] *Write location 10.*
[WRM10=IN1%03;0] *Append location 10.*
[WRM20=%02%2A%2A;1] *Write location 20.*
[WRM20=IN2%03;0] *Append location 20.*

Second, recall the commands from memory and send them to the internal bus using the following commands:

[OUTPDPM10] *Select Input 1*
[OUTPDPM20] *Select Input 2*

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7.5 PIONEER PLASMA COMMANDS

A detailed listing of RS-232 commands is available in the PDP-504CMX Command Protocol Manual available on the Pioneer Electronics website. Please, see the links below.

Pioneer website: www.pioneerelectronics.com

Pioneer Manual:
http://www.pioneerelectronics.com/pio/pe/images/portal/cit_3424/164151803PDP504CMX_RS232-CPM.pdf

Some of the commands and features in the guide will only be available depending on the model and options of the Pioneer display.

TROUBLESHOOTING GUIDE 8

We have carefully tested and have found no problems in the supplied **PE1005**. However, we would like to offer suggestions for the following:

8.1 THERE IS NO COMMUNICATION

Cause 1: There is a setup problem.

Solution: Check the communication software and verify the **PE1005** is connected to the correct communication port and that the software is connected. If there is still no response, see Cause 2.

Cause 2: The connection is wrong.

Solution: Verify the RS-232 cabling is correct. The RS-232 transmit and receive pins are pins 14 and 16 of the 25-pin HD connector. If there is still no response, please call Altinex at (714)-990-2300.

8.2 RELAYS DO NOT WORK

Cause 1: Cabling is incorrect.

Solution: See DIAGRAM 4: 25 PIN HD DETAILS for connection details. If the cabling is good and the relays still do not switch, see Cause 2.

Cause 2: The correct relay is not being switched.

Solution: There are four internal relays, 1 through 4. Turn on all the relays by sending the command [WRRL*=1]. If some of the relays are open, please call Altinex at (714)-990-2300.

8.3 INPUT PORTS DO NOT RESPOND

Cause 1: The input pin is not grounded.

Solution: Short the input port to ground using a switch or other device. Then send the command [RDI*]. The status of all input ports will be read and displayed. A ‘1’ is for high and a ‘0’ is for a low. Verify the pin that is grounded reads a low, ‘0’. If all the ports show a high, ‘1’, call ALTINEX at (714) 990-2300. Otherwise, see Cause 2.

Cause 2: The input is incorrectly programmed.

Solution: If the PE1005 is seeing a high to low transition, but there is no response, the setup may be wrong. Send the command [RDIN*] and note the number of the subroutine assigned to the input port. Then read the subroutine with the [RDS] command and verify the contents are good. If everything looks as planned, call ALTINEX at (714) 990-2300

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ALTINEX POLICY 9

9.1 LIMITED WARRANTY/RETURN POLICY

Please see the Altinex website at www.altinex.com for details on warranty and return policy.

9.2 CONTACT INFORMATION

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