TrueSite Workstation

Simplex

Cautions, Warnings, Copyrights and Trademarks

READ AND SAVE THESE INSTRUCTIONS- Follow the instructions in this installation manual. These instructions must be followed to avoid damage to this product and associated equipment. Product operation and reliability depend upon proper installation.

DO NOT INSTALL ANY SIMPLEX® PRODUCT THAT APPEARS DAMAGED- Upon unpacking your Simplex product, inspect the contents of the carton for shipping damage. If damage is apparent, immediately file a claim with the carrier and notify an authorized Simplex product supplier.

ELECTRICAL HAZARD - Disconnect electrical field power when making any internal adjustments or repairs. All repairs should be performed by a representative or authorized agent of your local Simplex product supplier.

STATIC HAZARD - Static electricity can damage components. Handle as follows:
- Ground yourself before opening or installing components.
- Prior to installation, keep components wrapped in anti-static material at all times.

EYE SAFETY HAZARD - Under certain fiber optic application conditions, the optical output of this device may exceed eye safety limits. Do not use magnification (such as a microscope or other focusing equipment) when viewing the output of this device.

SYSTEM REACCEPTANCE TEST AFTER SOFTWARE CHANGES - To ensure proper system operation, this product must be tested in accordance with NFPA-72, after any programming operation or change in site-specific software. Reacceptance testing is required after any change, addition or deletion of system components, or after any modification, repair or adjustment to system hardware or wiring.

All components, circuits, system operations, or software functions known to be affected by a change must be 100% tested. In addition, to ensure that other operations are not inadvertently affected, at least 10% of initiating devices that are not directly affected by the change, up to a maximum of 50 devices, must also be tested and proper system operation verified.

FCC RULES AND REGULATIONS – PART 15 - 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.

MICROSOFT WINDOWS UPDATE - Automatic Windows Updates are turned off by default on the TSW PC. Contact the local IT department concerning recommended settings for this option at your site.

ANTI-VIRUS SOFTWARE - Connection of either the TSW PC or Remote Client PCs to a TCP/IP network other than a dedicated TCP/IP fire network can expose the machines to threats like viruses that could impair the operation of the PC. Any PC connected to a TCP/IP network should be protected by anti-virus software. The TSW has been verified as compatible with Symantec EndPoint Protection 12.1.2 and McAfee VirusScan Enterprise 8.8.

RECOMMENDATION - Whenever TSW PC's are connected to a TCP/IP network, there should be a regular maintenance schedule for Antivirus scans and Antivirus component updates.

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Chapter 1. Before You Begin

Introduction

This publication describes how to install and check out the Simplex TrueSite Workstation (TSW) software, which includes the TSW, the TSW Remote Client, the TSW as a Firefighter Smoke Control Station (FSCS), and the TSW Configurator applications. The CD containing these applications is labeled *TrueSite_Workstation_XXX.exe*, where *XXX* is the revision number.

Once installed, these applications are accessible via the TrueSite Workstation, TrueSite Workstation Remote Client and TrueSite Workstation Configurator icons (Figure 1-1). The PC on which the TSW is installed is called the TSW PC. The TSW can also be accessed from a remote computer (called a Remote Client PC). To do so, the TSW software needs to be installed on a Remote Client PC that is on the same TCP/IP network as the TSW PC. The TSW PC will have all three applications installed. The Remote Client PC, on the other hand, will only have the TSW Remote Client Application.

Figure 1-1   Icons for the three TSW applications

The TSW application provides head-end annunciation, floor plan display, system control and information management. The TSW is a node on a Simplex 4120 fire network used to annunciate and control the points contained within the 4120 fire network. If you are installing additional 4120 Fire Network Interface Cards (NIC) on the TSW PC, you can interface with up to seven 4120 fire networks from either the TSW or the Remote Client PCs.

On the Remote Client PC, the TSW Remote Client application acts as an interface to the TSW software that is installed on the TSW PC. It remotely connects to the TSW software on the TSW PC and provides access to some of its options. Not all the options can be accessed from the Remote Client PC, and those that are need to be selected when the TSW software is first being configured in the TSW Configurator.

Note: Remote clients can be configured as either Supervised or Non-Supervised. Supervised clients are monitored. That is if the TSW loses the TCP/IP connection to a Supervised client, the TSW will indicate a Trouble. This option should be selected for job sites which require monitoring of TCP/IP Remote Client connections. TSW will not indicate a trouble when connections are lost to Non-supervised clients.

The TSW as an FSCS is connected to 4100ES panels through the 4120 Network. For Programming and Setup information, refer to the Smoke Application Guide 579-465 revision F or later.

The TSW Configurator is a programming application used to configure hardware devices, 4120 fire network nodes, and general system settings in the TrueSite Workstation.

Inventory the Equipment

After the equipment is unpacked, locate the shipping papers that came with the equipment and inventory the equipment received. If equipment is missing, notify your local Simplex product supplier.

Text Conventions

• A word that is in **bold** indicates the name of a dialog box, button or selection. For example: "Click on **Start** then **Run**" or "Select **Never** in the **Print** dialog box".

• A word that is "inside quotation marks" indicates a section or chapter name, a name of a field in a dialog box or a message. For example: "Select **Never** for the "Desktop" field".

**When Part of a
Mass Notification
System (UL2572)**

Communication Security: Level 1

Stored Data Security: Level 0

Access Control Security: Level 1

Physical Security: Level 1

To provide emergency live voice paging, a remote microphone, such as 4100-1243, must be installed adjacent to the TSW.

To provide all necessary display information, at least two monitors must be connected to the annunciator when configured as a CCS.

Chapter 2. Installing the Hardware

Introduction   This chapter describes the necessary TrueSite Workstation (TSW) hardware and shows you how to install it on the computer running the TSW application. It also explains how to upgrade the Simplex IMS, or an older version of Simplex TSW, to run the TSW, TSW Remote Client and the TSW Configurator applications.

In this Chapter   This chapter discusses the topics listed in the following table.

Topic	See Page #
System Requirements	2-2
Connecting Equipment to the TrueSite Workstation PC	2-5

System Requirements

System Requirements for Computers using Latest Windows Operating Systems

For a Microsoft® Windows®-based computer platform to operate properly as a TSW, it must meet or exceed the minimum hardware requirements shown in Table 2-1.

The TSW Workstation and Configurator are supported on Windows 7 Professional (32 bit) and Windows 7 Enterprise (32 bit). The TSW Remote Client is supported on Windows 7 Professional (32 bit), Enterprise (32 bit), and Home Premium (32 bit). It is also supported on Windows 7 Professional (64 bit), Enterprise (64 bit) and Home Premium (64 bit), but UL-listed only for Unsupervised Remote Clients.

Note: A Windows account with Administrator privileges is required to run the TSW installation.

Table 2-1: Minimum Hardware Requirements

Parameter	TSW PC	Remote Client PC	All-In-One
Processor	Intel i7 2.1 GHz or 2.1 GHz Core 2 Duo	Pentium® 4 (any speed)	Up to i7 2.66 GHz
RAM	2 GB	1 GB	4 GB
Hard Disc Space	40 GB	20 GB	100 GB
CD-Drive	CD-RW Required	Optional	CD-RW
3 1/2" Floppy	Optional	Optional	None
Video RAM	16 MB	4 MB	16 MB
Video Resolution	1024 x 768 minimum	1024 x 768 minimum	1024 x 768 minimum
Video Monitor	15"	15"	19''
Color Depth	16 bit minimum	16 bit minimum	16 bit minimum
Parallel Port	1 - EPP	1 - EPP	None
Serial Port	2 - 16550 UART	1 - 16550 UART	1 - 16550 UART
USB Port	2 - USB	Optional	7 - USB
Ethernet Port	2 - 10/100 Mbs	1 - 10/100 Mbs	2 - 10/100 Mbs
PCI Sound Card	Optional	Optional	Not Applicable
PCI Quad-Serial-Port Card	Optional	Not required	Optional
ISA Expansion slots*	1 Slot	required	None
PCI Expansion slots	7 slots	not required	2 slots
Fan monitor card	Required for 4190-8403		Not required

* The ISA Expansion slot is only required when a PC Monitoring (UL I/O) card is needed. When the PC monitoring UL I/O USB card is used, a bayonet slot is required.

Note: TSW requires the default Windows DPI setting (96 DPI) for proper display of all windows/dialogs. See page 3-3 for more details. The UL I/O USB card is part of the All-in-One PC.

The following is a list optional requirements based on the need for additional devices:

- 1 parallel port (for printer). Not applicable for All-In-One PC.
- 2 serial ports (for connecting a Digital Alarm Communicator Receiver (DACR) and 2120 retrofit).

Note: The default Comark onboard video card does not support Windows AERO feature. The 4190-6038 video card needs to be installed instead. Please see section "Installing the Second Video Card" for instructions. Not applicable for All-In-One PC.

Additional Hardware Requirements for Central Station

NFPA-72 Central Station applications require a Sur-Gard System II or III DACR, Bosch D6600 DACR, D6100i DACR or AES Intellinet 7705i Receiver with Installation Manual.

System Requirements, *Continued*

DACR/TrueSite Workstation Limitations

The DACR supports the following protocol formats in the TSW:

- Ademco CID
- 3/1*
- 4-2*
- BFSK
- SIA level 1

Note: AES only supports Ademco CID

The TSW does not support the B32 Header option for TCP/IP messages. The TCP/IP for the DACR works with the configured TSW default settings. The TSW is able to receive messages from the DACR.

* Protocols are only available for security applications and signalling.

Electrical Input Ratings

The following ratings apply to selected system hardware:

Table 2-2: System Hardware Ratings

Order Number (Reference Only)	Equipment	Watts Maximum
4190-7011,-7012 (rackmount), -7015, -7016 (rackmount)	Computer	240
4190-7013 (4100ES mounted)	Computer	48
4190-7014	Computer	240
4190-7131	22" Monitor	41
4190-7230	19" LCD Monitor w/TS	48
4190-7233	22" Monitor w/TS	41
4190-7232	19" LCD Monitor w/TS Rack Mount	48
4190-7114	42" Monitor	243
4190-7214	42" Monitor w/TS	243
4190-9013	Printer	240

All the System Hardware Ratings above are with respect to 120V and 60Hz ratings, with the exception of 4190-7013, which is rated at 24 VDC.

Considerations

When you are locating the equipment, take into consideration anything that may affect the installation. You may want to consider the following items:

- Will it be difficult to run cables to the TSW?
- Will the equipment be installed in a dusty or dirty environment, or will the system be exposed to contaminants?
- Is the location close enough to any locations you might want to get to quickly?
- Is it a good location for future expansion?

Note for audio control: The TSW and the 4100U or 4100ES control unit must be located and grouped for viewing and operation by one person from one location.

System Requirements, *Continued*

Upgrading a PC, Running the Existing Simplex IMS

Note: 1. This section is only relevant if you are upgrading the Simplex IMS software installed on a UL864 Listed PC to TSW Revision 2.01. TSW Revision 2.01 includes TSW, TSW Configurator and TSW Remote Client applications. If your Simplex UL864 Listed PC is up to date with the manufacturing implementation of new PC specifications, ignore the following instructions.

2. As of version 2.01, TSW will not work with IMS type dongles. Select **Help** from the TSW runtime application to view the current dongle type. Please contact your sales representative to obtain a TSW type dongle if necessary (required for TSW 2.01 and later).

The Information Management System (IMS) PC requires an additional 1GB DIMM RAM module in order to run the TSW Revision 2.01 software, which includes TSW Runtime, Configurator and Remote Client applications. The appropriate hardware upgrades (4190-9812 or 4190-9814) and software upgrades must be performed. The total amount of RAM required by the TSW is 2 GB.

To install the additional 1GB DIMM RAM, follow this procedure:

1. Backup the system and notify all building personnel and occupants that the IMS is going offline until system upgrade is completed.
2. Shut down the Simplex UL864 Listed PC.
3. Disable the power supply by pushing switch situated at the back of its case.
4. Strip off the case of the tower by doing the following:
   a. Remove the screws in the back of the unit. Keep them in a bag or a container to avoid losing them.
   b. Once the screws are removed, slide the case forward.
   c. Lift up the case to expose the components inside the PC tower.
5. Locate the Single Board Computer (SBC) in the second slot.
6. The RAM slots are situated on top of the board. Normally, there is a DIMM unit in the top slot.
7. Install the RAM:
   a. Make a note of how the existing unit looks.
   b. Locate the little notches on the pin-side of the module. These notches (usually two) are lined up with keys on the memory socket to ensure proper alignment.
   c. Place the module over the slot and press it in with the ejector clips in the open position. You must apply pressure and also support the rear of the SBC. As you press down, the module will sink into place and the ejector clips will close themselves to lock the module into place.
8. Before you put the case back on, make sure that the amount of RAM tallies properly.
   a. Enable the power supply and start the system.
   b. After starting the system, select **Start -> Control Panel.** This brings up the Control Panel folder.
   c. From the **Control Panel** folder, double-click the **System** icon.
   d. The **System Properties** dialog box appears. Verify the RAM capacity of the system under the General tab.
9. After verifying the new RAM amount, shut down the Simplex UL864 Listed PC.
10. Put the case back on and secure it with the screws.
11. Start the Simplex UL864 Listed PC.

Upgrading a PC, Running the Simplex TSW

Note: This section is only relevant if you are upgrading the TSW software installed on a UL864 Listed PC to TSW Revision 2.01. TSW Revision 2.01 includes TSW, TSW Configurator and TSW Remote Client applications. If your Simplex UL864 Listed PC is up to date with the manufacturing implementation of new PC specifications, ignore the following instructions.

TSW Revision 2.01 or later requires 2GB DIMM RAM in order to run the TSW, TSW Configurator and TSW Remote Client applications. If your system has less than 2GB DIMM RAM, please refer to the section "Upgrading a PC, Running the Existing Simplex IMS" for instructions on how to upgrade your system's memory. The appropriate hardware upgrades (4190-9812 or 4190-9814) and software upgrades must be performed.

Connecting Equipment to the TrueSite Workstation PC

Connecting the Equipment

Note: Be advised that the procedures described in this section are specific to the Simplex UL864 Listed PC.

After choosing the location for the equipment, you are ready to connect the equipment in preparation for the installation of the TSW software.

Note: If you need to install additional cards into the TSW, or modify existing card settings, please do so before connecting the equipment. One example is when you need to install PCI cards for a multiple-loop 4120 fire network.

To install the hardware, place the PC in the desired location and connect the equipment you will use with the system (printer, mouse, etc.). A typical TSW hardware configuration is shown in Figure 2-1.

Note: Verify that all the PC boards are firmly seated into the motherboard. This helps ensure that you have complete electrical connections.
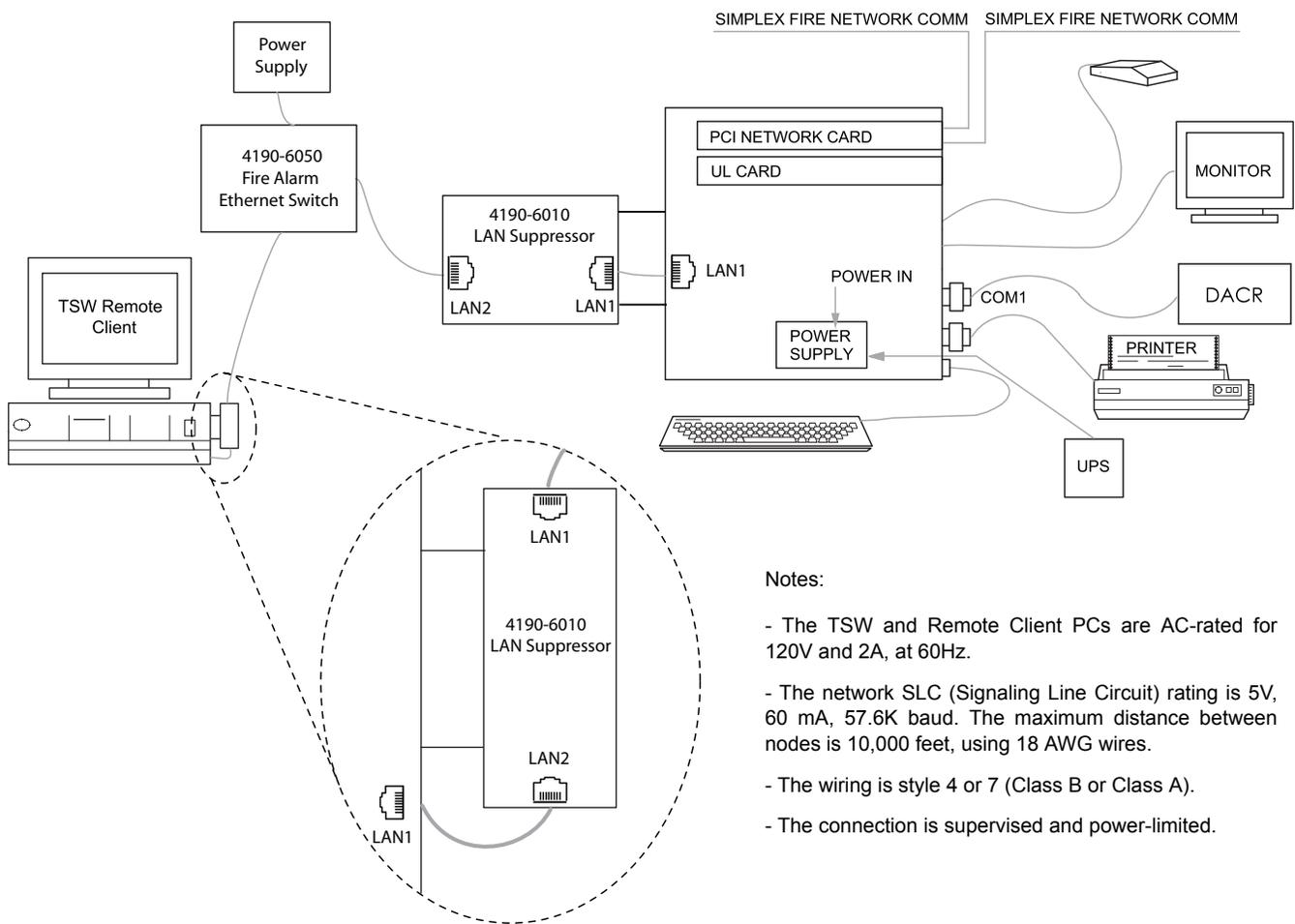
Figure 2-1   Example of Typical TSW System Configuration on a Simplex UL864 Listed PC, Block Diagram

Note: The TSW Remote Client PC can either be:

1. A UL-listed PC (4190-8410 or 4190-8411) with TSW control capabilities (ACK/Silence/ Reset)
2. Any Windows operating system with view-only capabilities

Connecting Equipment to the TrueSite Workstation PC, *Continued*

Connecting the Equipment

Figure 2-2 shows the computer configuration with four 4120 Fire Network Interface Cards, two Quad Serial Cards and an additional Dual Video Card. The computers utilized are a Comark Intel i7 PC, and a Core 2 Duo PC.

Warning: Do not plug the keyboard or keyboard adapter into a powered unit! This will damage the CPU board. All equipment must be powered down before adding any hardware. As you connect the equipment, refer to the figures below and the instructions that follow.

*** Fire Network cards added in locations shown if used. If not used, then Quad Serial, or Video Card can be added in that slot.**
**** USB bayonet can be moved to unused slot or removed if space for Fire Network, Quad Serial, or Video Card is needed.

Note:

The PCs are AC-rated for 120V and 2A, at 60Hz.

* Looking from right to left, Network Card 3 is followed by Network Card 2, 1 and 4 respectively. This layout varies, depending on the application. Verify the card (loop) number during installation.

** Bracket may be pre-mounted or shipped in the box with the PC. Existing screws are then used to mount it.

Figure 2-2   Simplex UL864 Listed PC Rear Panel Layout, using PCI 4120 Fire Network Cards and QUAD Serial Port Cards

Connecting Equipment to the TrueSite Workstation PC, *Continued*

Connecting the Equipment

Figure 2-3 shows the upper computer configuration with all seven 4120 Fire Network Interface Cards and no Quad Serial Cards. The bottom configuration in Figure 2-3 shows all seven 4120 Fire Network Interface Cards. When all seven PCI slots are used for 4120 network cards, this limits the PC's capability to add other PCI cards. In this case, the Second Video Card 4190-6038 and the Quad Serial Cards are missing.

Panel Layout 4190-7015 or -7016
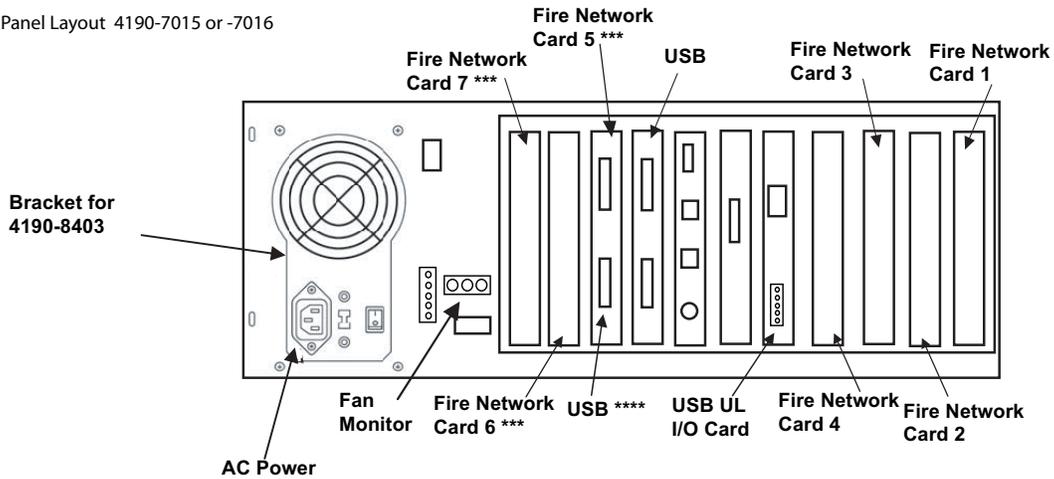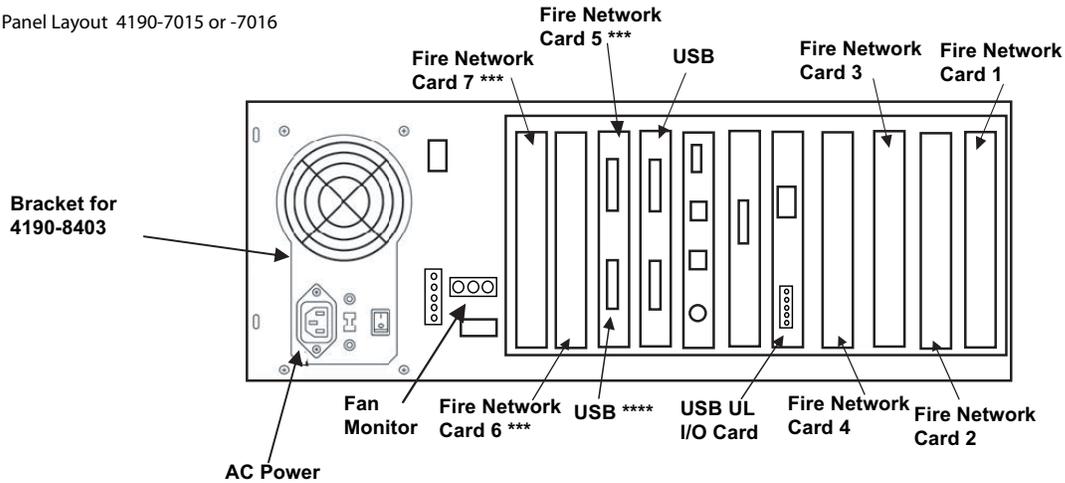
Fire Network Card 5 ***
USB
Fire Network Card 7 ***
Fire Network Card 3
Fire Network Card 1
Bracket for 4190-8403
Fan Monitor
Fire Network Card 6 ***
USB ****
USB UL I/O Card
Fire Network Card 4
Fire Network Card 2
AC Power

*** Fire Network cards added in locations shown if used. If not used, then Quad Serial, or Video Card can be added in that slot.
**** USB bayonet can be moved to unused slot or removed if space for Fire Network, Quad Serial, or Video Card is needed.

Panel Layout 4190-7011 or -7012
Core 2 Duo PC
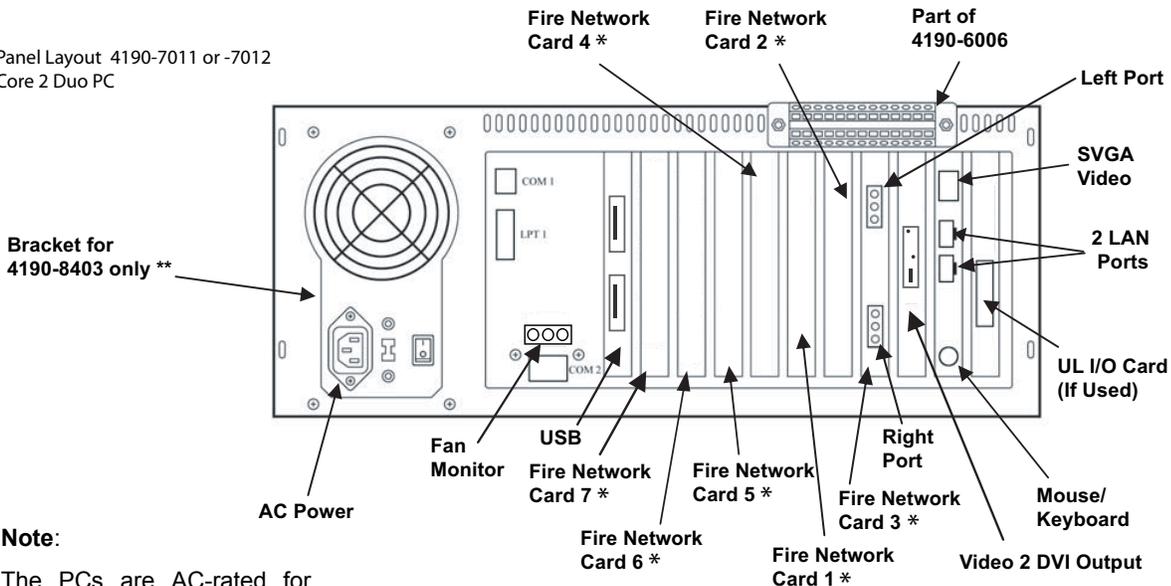
Fire Network Card 4 *
Fire Network Card 2 *
Part of 4190-6006
Left Port
SVGA Video
2 LAN Ports
Bracket for 4190-8403 only **
COM 1
LPT 1
COM 2
UL I/O Card (If Used)
Fan Monitor
USB
Fire Network Card 7 *
Fire Network Card 5 *
Right Port
Mouse/ Keyboard
AC Power
Fire Network Card 6 *
Fire Network Card 3 *
Fire Network Card 1 *
Video 2 DVI Output

Note:

The PCs are AC-rated for 120V and 2A, at 60Hz.

* Looking from right to left, Network Card 3 is followed by Network Card 2, 1, 4, 5, 6 and 7 respectively. This layout varies, depending on the application. Verify the card (loop) number during installation.

** Bracket may be pre-mounted or shipped in the box with the PC. Existing screws are then used to mount it.

Figure 2-3   Simplex UL864 Listed PC Rear Panel Layout, using all seven PCI 4120 Fire Network Cards

Connecting Equipment to the TrueSite Workstation PC, *Continued*

All-In-One Configuration

Figure 2-4 shows the All-In-One configuration.
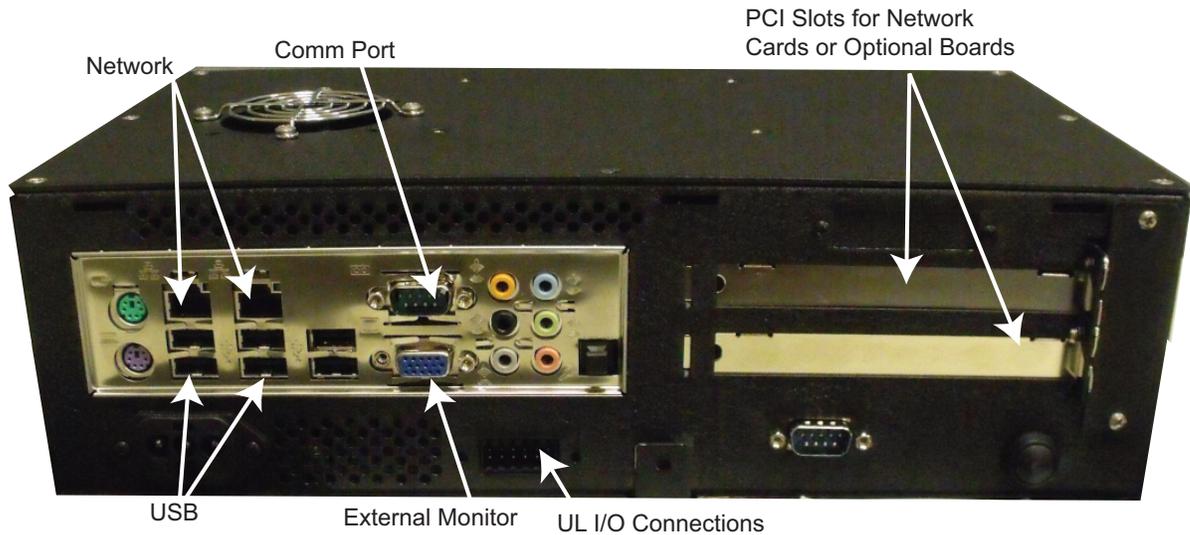
Figure 2-4   Simplex UL864-Listed 4190-8404, 4190-8405, 4190-8407 and 4190-8411

Connecting a Regular Monitor or a Touchscreen Monitor

To connect a regular monitor:
1. Position the monitor close enough to the PC so that you can connect the cables from the monitor to the PC.
2. Follow any additional instructions that came with the monitor.

If you are installing a 42" wall mount monitor, see Appendix B for wall mount bracket instructions.

To connect a non-42" touchscreen monitor:
1. Connect the touchscreen controller cable to either the Com1 or Com2 serial ports. Port Com2 is the preferred one.
2. Connect the other end of the cable to the touchscreen input connector on the back of the monitor.

To connect a 42" touchscreen monitor, connect it either to a 1.0, 1.1 or 2.0 USB port on the back of the PC.

Connecting the Mouse

To connect the mouse supplied with the PC, do the following:
1. Locate the mouse/keyboard connector on the back of the PC.
2. Plug the connector on the end of the mouse cable into the mouse/keyboard adapter cable on the PC.

Connecting the Keyboard

Connect the keyboard supplied with the PC, by completing the following steps:
1. Locate the mouse/keyboard connector on the back of the PC.
2. Plug the connector on the end of the keyboard cable into mouse/keyboard adapter cable on the PC.

Connecting the Dongle

Dongles are used as a protection against unauthorized access and installation of the TSW software. In addition, you need either a TSW dongle or a Technical Representative (TR)/maintenance dongle to have unrestricted access to the software. A TrueSite Graphic Annunciator dongle only gives you "view-only" access to TSW. Two types of dongles are available:

1. **USB dongle**: inserted into the USB port of the PC.
2. **Parallel dongle**: inserted into the parallel port of the PC.

Notes: • CONNECT THE DONGLES AFTER THE SECURITY SERVICE SOFTWARE IS INSTALLED ON THE PC. For instructions on installing the Security Service, refer to document *579-825: Installing the Software Security System.*

• The dongle is required only on a TSW PC. Refer to document *579-835: Operation and Application Instructions* for details on accessing the TSW Feature Code window, used with the dongle to unlock TSW software features on the TSW PC.

Connecting Equipment to the TrueSite Workstation PC, *Continued*

Connecting the Serial Printer (Optional)

Connect the printer by performing the following steps:

1. Locate the serial COM port on the PC that was selected in the program.

2. Plug harness 733-937 into the printer and complete the connections per document *579-233: 4190-9013 Remote Printer Installation Instructions*. If needed, you can install the printer drivers off the installation CD supplied with the printer. Choose one of the COM ports available to the driver once it was installed.

Notes: • These instructions are specific for connecting a serial port printer. To connect a parallel or a USB-port printer, use a standard parallel or USB-port cable.

• For UL864 listed installations, TSW Event Printers must not be shared. Use a separate/different printer for report and screen printouts.

• If a serial printer is to be configured as an event printer, then it must not be configured as a Windows printer.

Connecting the Optional Uninterruptible Power Supply (UPS)

Note: A UPS (La Marche Series A-31 and A-36D) is required only for proprietary receiving station applications.

Connect the Uninterruptible Power Supply (UPS) by completing the following steps:

1. Plug the PC, printer (if used), and monitor power cords into the AC outlet, which is integral to the equipment rack.
2. Connect the dedicated branch circuit to the AC power input of the UPS.
3. Connect the output of the UPS (in conduit) to the AC input terminals provided on the equipment rack.
4. Connect the transfer contacts of the UPS to the first of the general-purpose I/O points on the UL I/O card (see diagram 842-451 for interconnection specifics).

Connecting to a 4120 Fire Network

Complete the following steps for each 4120 Fire Network Interface Card (NIC) you are installing. You can install up to seven 4120 Fire NICs in a TSW.

1. Locate the 4120 Fire NIC on the back of the PC.
2. Connect the cable from the previous node's right port to the top connector on the 4120 Fire NIC.
3. Connect the next node's left port to the bottom connector on the 4120 Fire NIC.

Connecting the TSW Server with Remote Clients via TCP/IP Networks

If the TSW is being installed as a server for remote clients, both the server (workstation) PC and the client PC(s) will need to be added to a TCP/IP Network and be able to communicate with each other. Refer to pages 7-23 and 7-25 for information on using the 4190-6050 and 4190-6051 Ethernet Switches which can be optionally ordered with the TSW. If the TSW PCs are being added to an existing building TCP/IP network, contact the local IT department to verify that the TSW PCs are properly configured. Refer to the section "Setting-up the TSW Server with Remote Clients" in Chapter 3 for more details on setting-up a TCP/IP network in Microsoft Windows 7.

TCP/IP Connection Speed

When using a high speed TCP/IP connection (e.g. 100 Mb/second), a TSW Remote Client PC will typically connect to a TSW Server PC and initialize quickly, similar to starting up the Workstation at the TSW Server PC.

When using a lower speed TCP/IP connection (e.g. Broadband), the minimum recommended TCP/IP connection speed between a TSW Remote Client PC and a TSW Server PC is 3 Mb/second.

UL I/O Card Fan Monitor Connection

When the UL I/O card is used:

1. Connect monitor point 1 to the 3 position terminal (located on the back of the PC) to monitor the fan.
2. Remove the 10K EOLR from terminal blocks 1 and 2 of the UL I/O USB version (746-189).

Refer to Figure 2-5 for wiring details.

USB UL I/O card (746-189)
General Purpose I/O

Notes:
 1. All wiring to be minimum 24 AWG or to local codes.
 2. Input circuits are Class B (Style B) and are intended for
    supplementary use only. Compatible input devices are not
    powered from the line, and short the line when in alarm
    (normally open). Supervised power-limited 28V, 10 mA maximum.
 3. Output circuit dry contact relay. Max current is 1A at 30 VDC
    max. Resistive loads only. Wiring must stay in the same room.
 4. If inputs are not used, place a 10K (2081-9060) EOLR from
    IN+ to IN- terminals.
 5. Conductors must test free of all grounds.
 6. Inputs rated 28VDC, 10mA; power- limited, supervised.
 7. For 4190 TSW, the first input connects to the FAN trouble contacts
    and the second input to the TSW cooling UPS trouble contacts
    (required if 4190-8403).

Pin	Signal	Pin	Signal
1	IN1+	7	IN4+
2	IN1-	8	IN4-
3	IN2+	9	OUT1 C
4	IN2-	10	OUT1 NC
5	IN3+	11	OUT1 NO
6	IN3-	12	n/a

USB UL I/O card pluggable
connector connections

Fan monitor terminal block, located in PC. See below.

RED

N.O input device

EOLR 10K, 1/2 W (2081-9060)

BLK

USB UL I/O card pluggable connector

J1

Back

Fan monitor terminal block. For connection, see above.

4190 TSW

Front
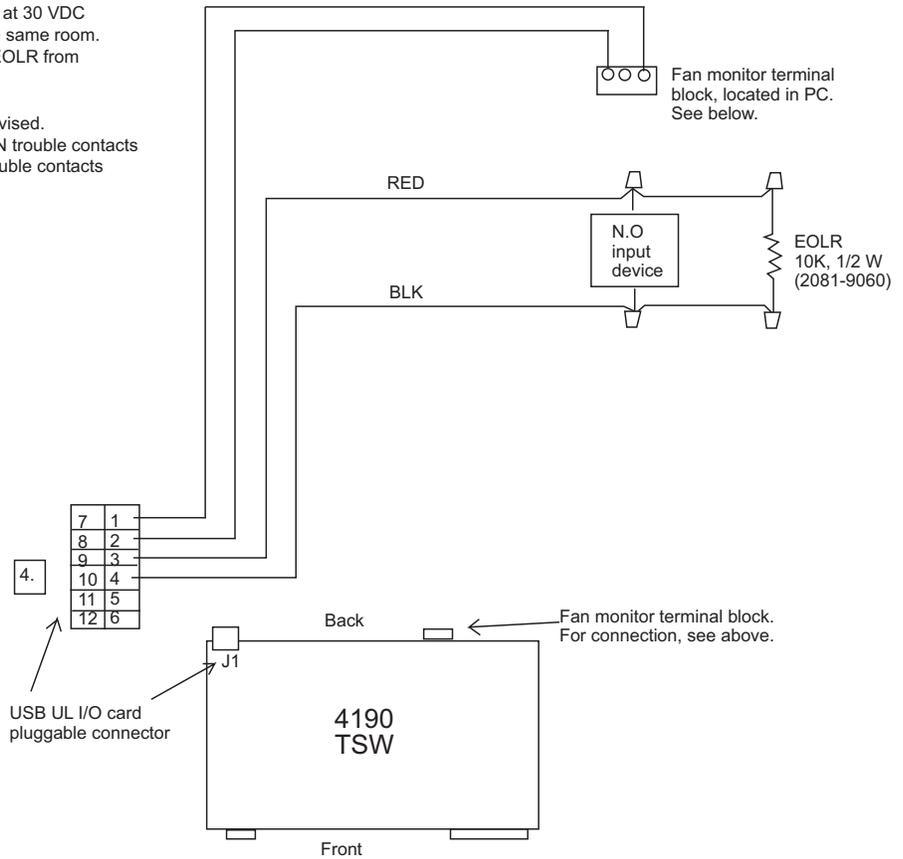
Figure 2-5   Wiring the USB UL I/O Card

Chapter 3. Installing the TrueSite Software

Introduction   This chapter describes how to install the TSW software, which includes the TSW Runtime, the TSW Configurator and the TSW Remote Client. The CD is labeled *TrueSite_Workstation_XXX.exe*, where *XXX* is the revision number.

In this Chapter   This chapter discusses the topics listed in the following table.

Topic	See Page #
Software Requirements	3-2
Installing the Software	3-3
TrueSite Workstation Client/Server Worksheet	3-19

Software Requirements

TrueSite Workstation Requirements

The following software is required for adequate TSW operation. In some instances, this software may have already been installed:

- Microsoft Windows operating system.
- Required software drivers (mouse, touchscreen, or printer drivers)

Optional Software

The following software may also be needed:

- Elo Touch System Touch Screen software is used on the 4190-7219, -7220 and 7221.
- 3M Touch Systems Touchware driver for Windows, version 7.12.6 or higher that came with the 4190-7222, -7223, -7224, -7225, -7226 and -7228.
- eGalax Touch touchscreen software driver for Windows 7 that came with the 19" touchscreen monitor 4190-7230 or -7232 (if used). 3M touchscreen driver can also be used but eGalax is recommended.
- General Touch touchscreen driver for Windows 7 that came with the 42" touchscreen monitor 4190-7214 (if used).
- Microsoft Intellipoint for the Microsoft Mouse, latest version.

Installing the Software

Installing Windows   If Windows operating system software must be installed on your computer, follow the instructions given in the Microsoft documentation for this product. Before either of the operating systems have been installed, modify the computer for TrueSite Workstation operation in the following manner.

BIOS Setup

Modify the BIOS Setup as follows:

1. During initialization, enter the BIOS SETUP by pressing the **DEL** key.
2. Select **PNP/PCI Configuration**.
3. Change "IRQ 11" from **PCI/ISA PnP** to **Reserved** (not required if UL I/O card 746-189 is used).
4. Select **Power Management**. Change "ACPI Function" to **Enabled**.
5. Press <**ESC**>, "Save Changes and Exit".

Appearance and Personalization:

Set the **Appearance** and **Personalization** options as follows:

1. Click on the **Start** button and select **Control Panel**.
2. Select **Appearance and Personalization**.
3. Under the **Display** menu, select **Adjust screen resolution**.
4. In the **Resolution** drop-down list, select **1024 by 768** or higher. Click on **Apply**. You are prompted to keep the new setting or revert to the old setting. If the new setting is accurate, click on **Keep changes**.
5. Click on **OK**.
6. In the **Personalization** menu, click on **Change Screen saver**.
7. In the **Screen saver** drop-down list, select **(None)**. *(Alarm messages on the computer screen cannot be seen when the screen saver is running)*.
8. Click on **Apply** and then **OK**.
9. Right click on the desktop and select **Screen resolution**.
10. Click on the **Make text and other items larger or smaller** link
11. Under the heading "Make it easier to read what's on your screen" select **Smaller - 100%**.
12. Click on **Apply**.

Note: **1.** If you do not select the option **Smaller - 100%**, part of the TSW screen cuts-off.

   2. When using the TSW Comark PC onboard video, for best results use the Intel Graphics Media dialog box to change the display settings (resolution, multi-monitor, etc):

   Right click on the Windows desktop and select **Graphics Properties** in order to select the optimal settings for your display (e.g. 1920x1080 on a 42 inch monitor running Windows 7).
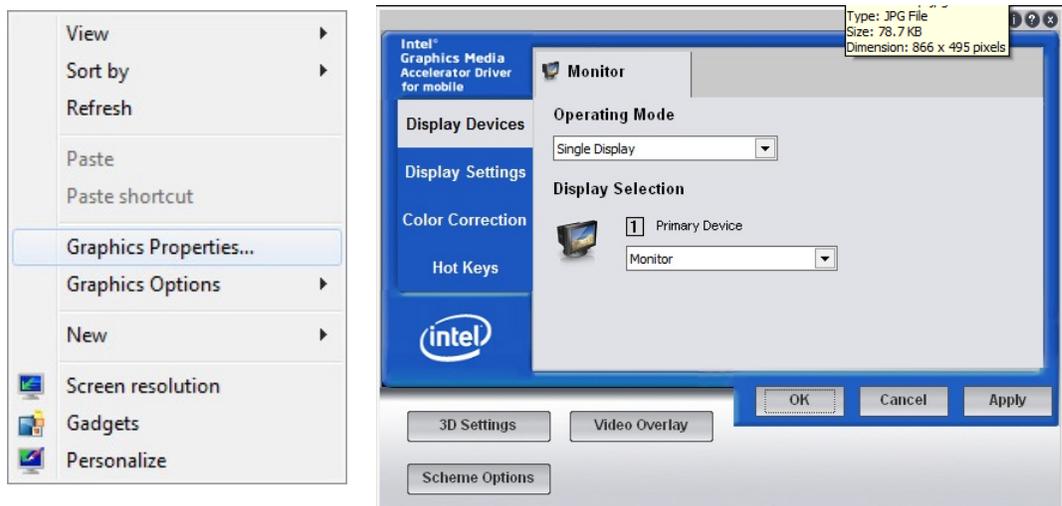
Figure 3-1   Display Settings

Installing the Software, *Continued*

Installing Windows   <u>Power Options</u>

1. Click on the **Start** button and select **Control Panel**.
2. Select **System and Security**.
3. Under the **Power Options** menu, select **Change when the computer sleeps**.
4. In both drop down menus, select **Never**.
5. Select the option **Change advanced power settings**.
6. In the **Power Options** window that appears, click on **Display** and then on **Turn off display after**.
7. Change the two settings to **NEVER**.
8. Click on **Apply** and then **OK**.
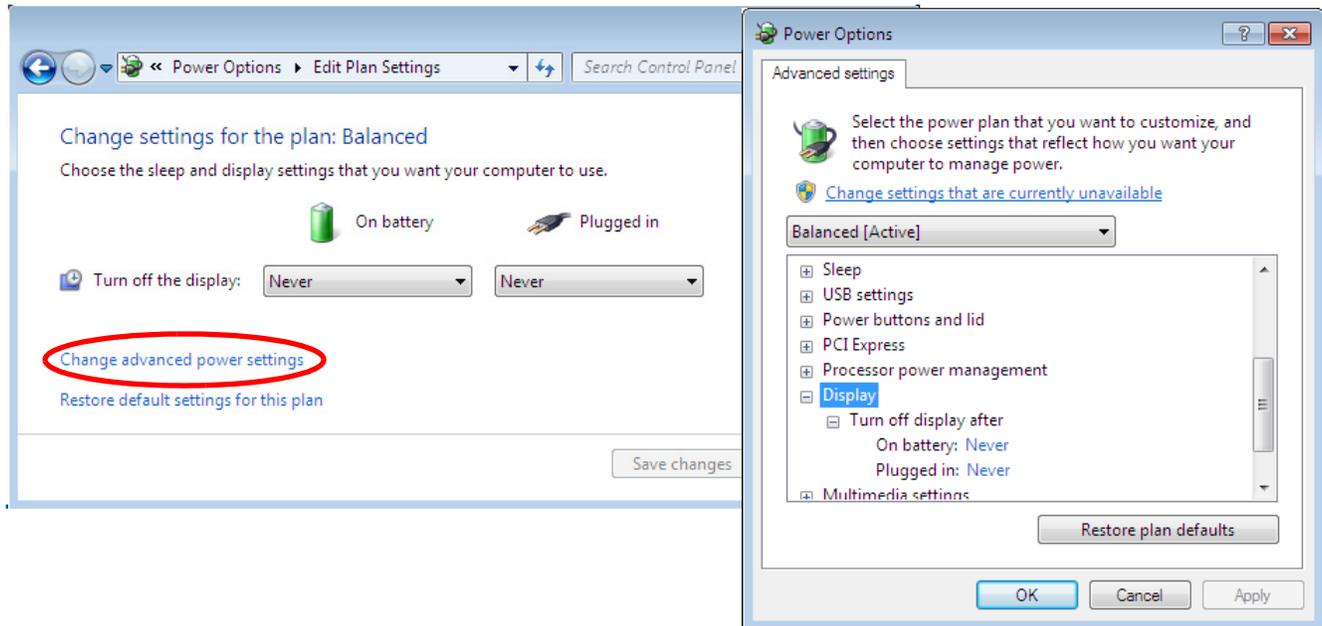
Figure 3-2   Power Options

Installing a   As an example, this section describes the installation of the eGalax Touch touchscreen software in
Touchscreen Driver   Windows. The installation of other touchscreen software may vary slightly.

1. Connect the two cables from the touchscreen monitor to the PC (the 42" monitor uses a USB connection).

   a. Connect one cable to the connector labelled Video

   b. Connect the other cable to the serial connector, COM1 or COM2 is preferred. Connect to a USB port when using the 42" monitor.

2. Check all other cables to ensure that they are secure.

3. Connect the AC power cord from the monitor to an AC source.

4. Turn on the power to the PC and monitor.

5. Locate the disk that contains the serial touchscreen drivers and insert it into the PC drive.

6. From the Windows Start icon, select Computer.

   a. Access the correct drive and select **Open**.

   b. Follow the instructions to unzip the file. Be mindful of where the unzipped files will be written.

7. From the Windows **Start** icon, select **Run** and **Browse**. Select the directory to where the files were unzipped and locate the Setup.exe file, as shown in Figure 3-3.

Installing the Software, *Continued*

Installing a Touchscreen Driver
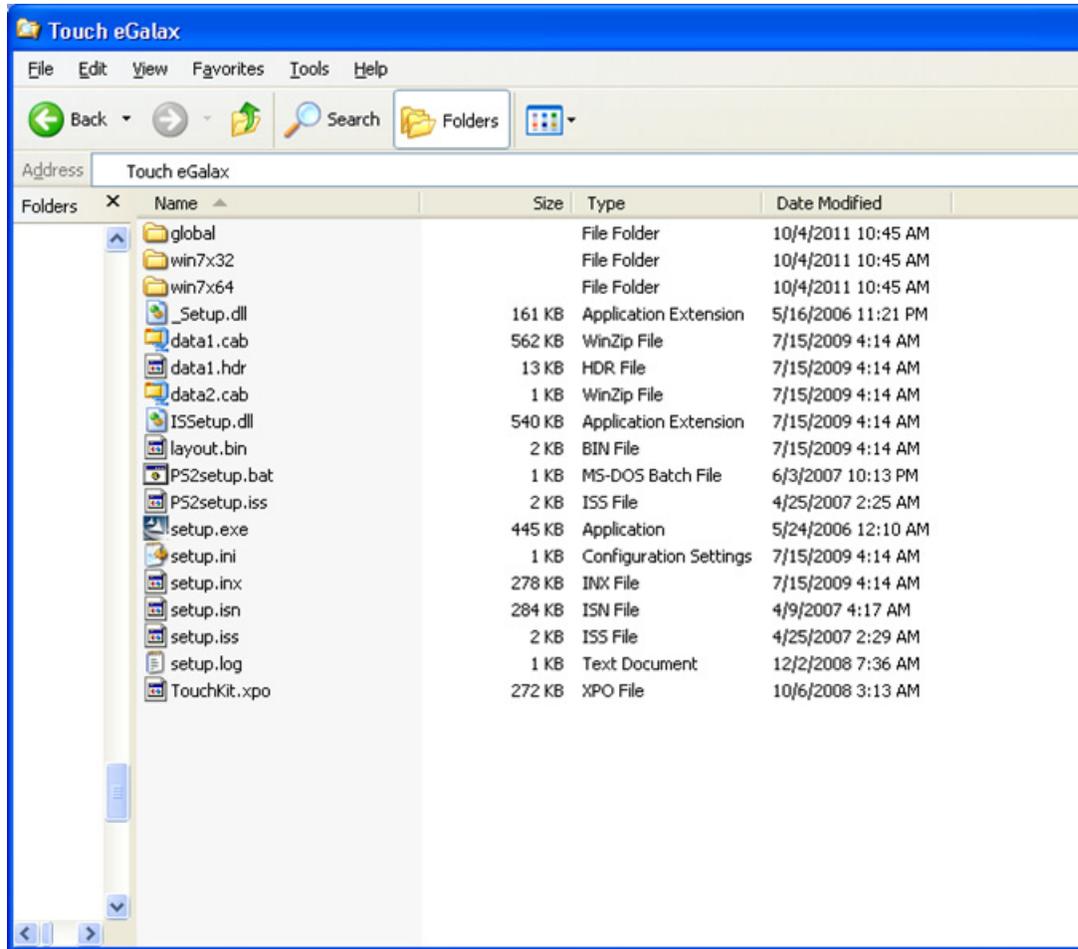
Figure 3-3   Locating the Setup.exe File

8. Run the Setup.exe file. Click **Next** in the next screen that appears (Figure 3-4).
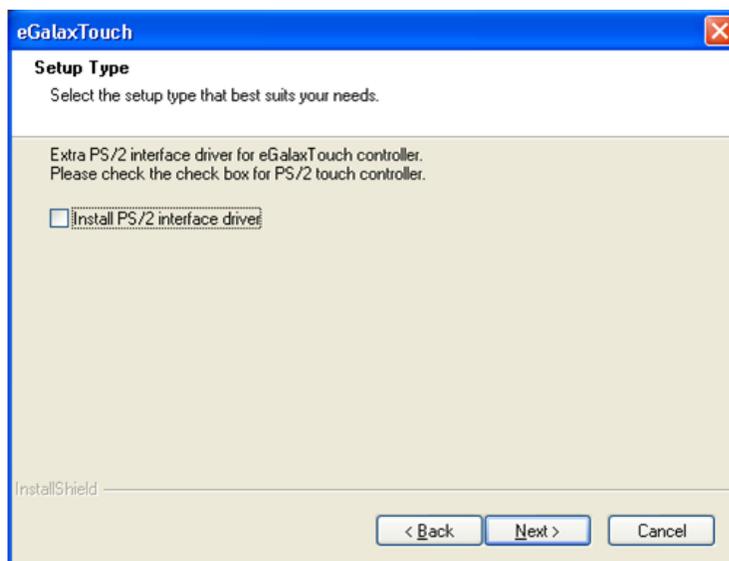
Figure 3-4   PS/2 Interface Driver Screen

Installing a Touchscreen Driver

9. In the next screen that appears, select the **Install RS232 interface driver** and click **Next** (Figure 3-5).
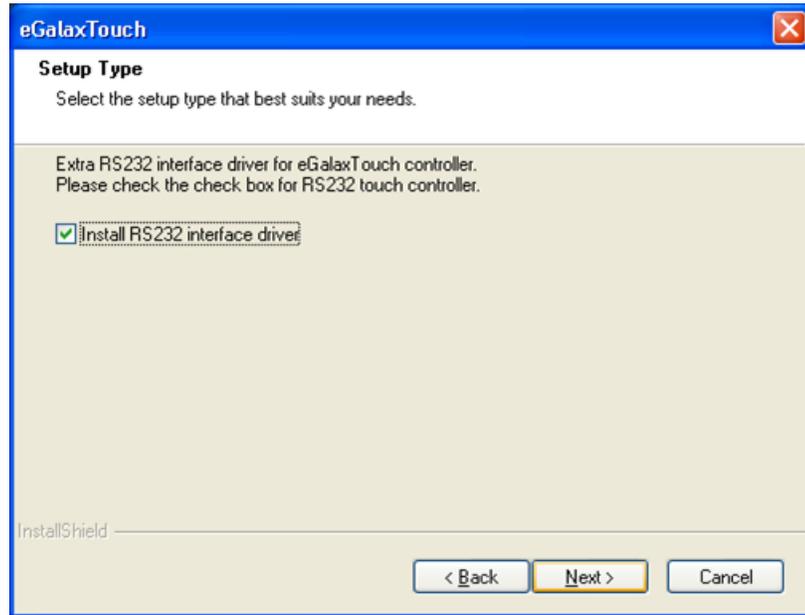
Figure 3-5   RS232 Interface Driver Screen

10. In the next screen that appears, select **None** and click **Next** (Figure 3-6).
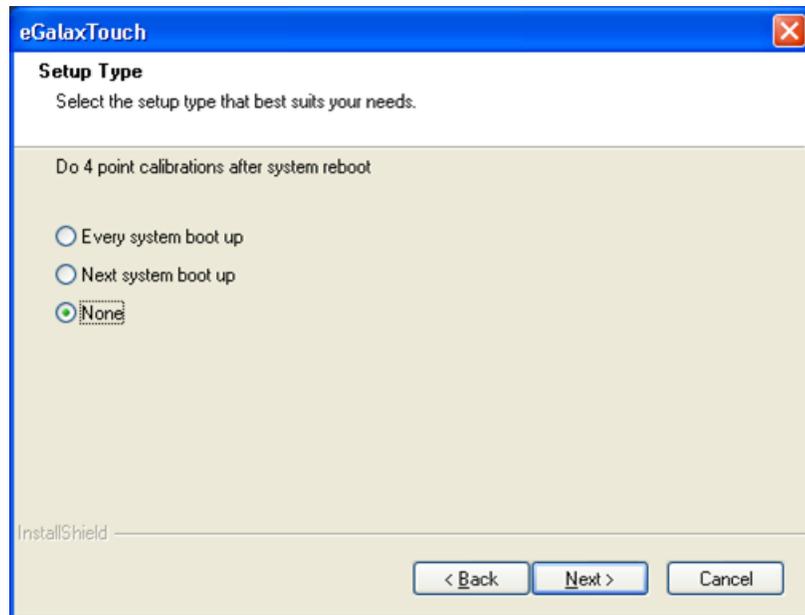
Figure 3-6   4 Point Calibrations Screen

11. Read the information inside the **InstallShield Wizard** dialog box that appears and click **OK**.

Installing the Software, *Continued*

Installing a Touchscreen Driver

12. In the next screen that appears, select the **Support Multi-Monitor System** checkbox and click **Next** (Figure 3-7).
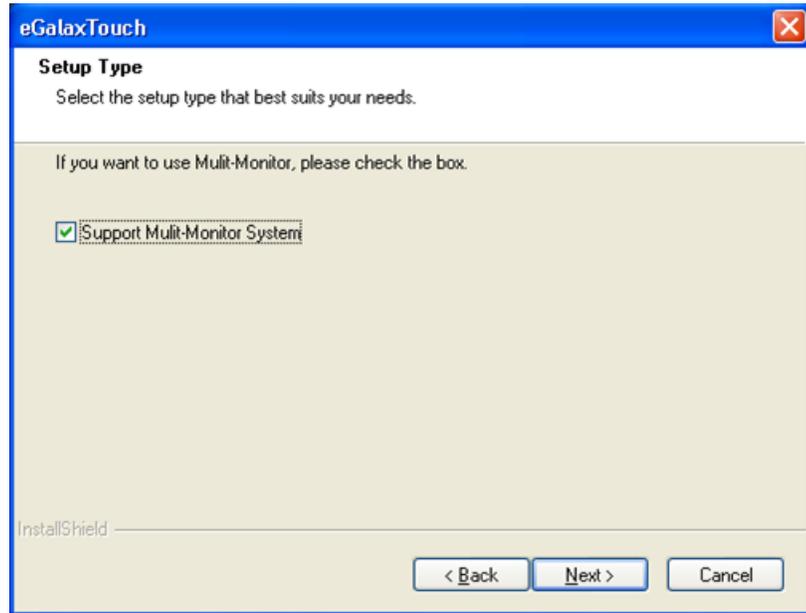
Figure 3-7   Multi-Monitor Screen

13. Select the destination where the eGalax software files will be sent and click **Next** (Figure 3-8).
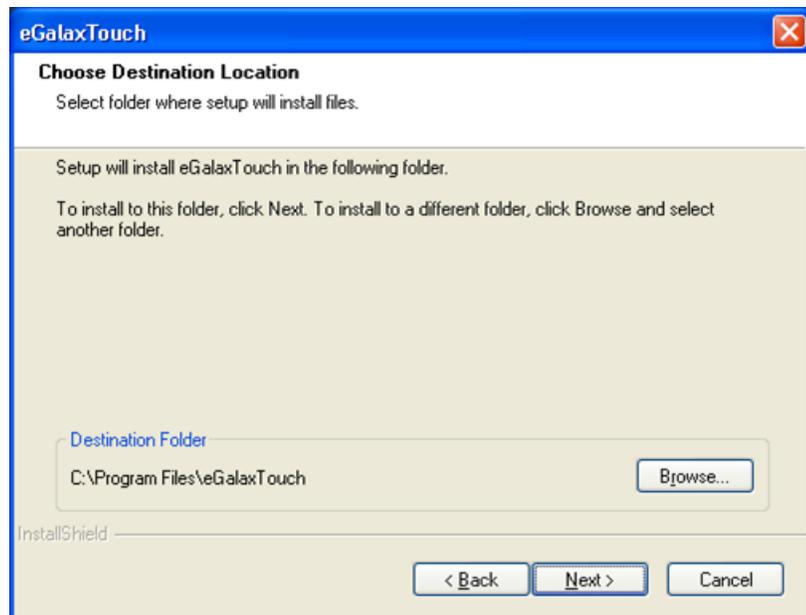
Figure 3-8   Choose Destination Location Screen

14. In the next screen that appears, choose the name of the eGalax program folder and click **Next**. Allow the installation to complete and restart the PC.

15. After the restart, follow the directions on the screen. When calibrating, look for the bull's eye in the center of the screen.

Calibrating a Touchscreen Software

The section uses the calibration of the eGalax Touch touchscreen software as an example.

1. Click on **Start**, **Programs**, **eGalax Touch**, **Configure Utility** and then select the **Tools** tab (Figure 3-9).
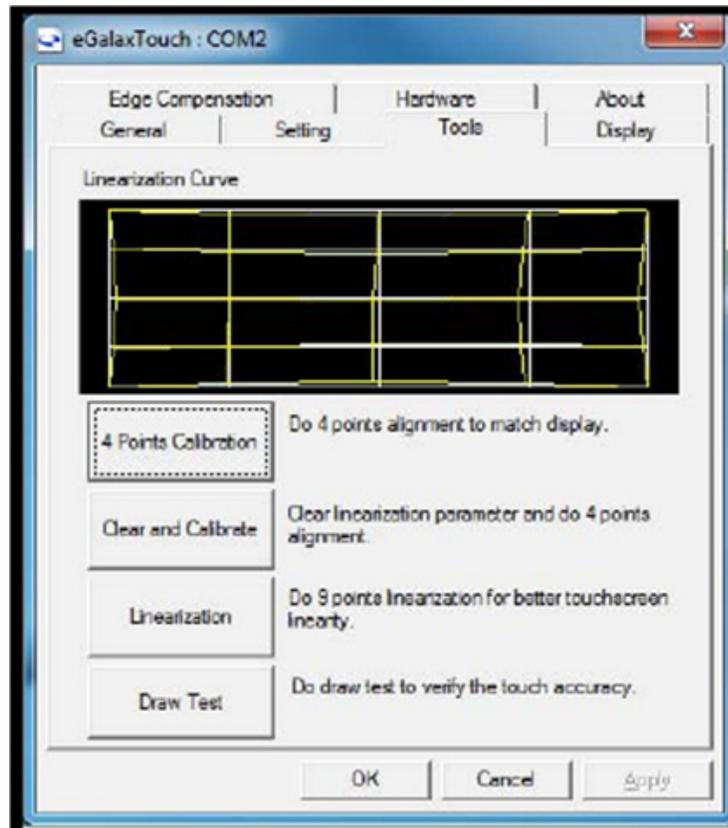
Figure 3-9   Calibrating eGalax Touchscreen Software

2. Click on the **4 Points Calibration** button.

3. Wait to the end of the 15 second countdown to see the four points, one at each corner (Figure 3-10). Click on **OK** in the **Configure Utility** (Figure 3-9) to complete the calibration.

Figure 3-10   4 Points Calibration Screen

Installing the Security Service

Please refer to document *579-825: Installing the Software Security System* (shipped with the TSW) for instructions on installing the Key Security Service. This service is necessary for access to the program.

TSW Software Installation Overview

The PC on which the TSW is installed is called the TSW PC. An additional feature on the TSW is the possibility of accessing it from a remote computer (called a Remote Client PC). The TSW PC needs the full TSW software (TSW, TSW Configurator and TSW Remote Client applications) installed. The Remote Client PC on the other hand only needs the TSW Remote Client application to connect to the TSW software on the TSW PC.

The TSW CD is labeled *TrueSite_Workstation_XXX.exe*, where *XXX* is the revision number. The CD contains a package with the following applications:

• TSW Runtime application
• TSW Configurator
• TSW Remote Client

The TSW requires at least 1 GB of free disk space. Minimum space requirements are automatically verified during installation and the installation process is terminated if the minimum system requirements are not met.

Note: Additional space is required to accommodate configuration and runtime data.

TSW Software Installation on a TSW PC

Notes: • Before installing the TSW software, make sure that Windows operating system is installed.

• You should install the Simplex Network Programmer with TSW node support to configure the 4120 fire network. Refer to *Simplex Fire Network Programmer Installation and Programming Instructions,* 579-166 for details on how to program the 4120 fire network.

To install the TSW applications, complete the following steps:

1. Insert the CD into the CD drive. If the installation process does not start by itself do the following:
    a. From the Windows **Start** menu, select **Accessories** and then select **Run**. The system displays a command line dialog box.
    b. On the command line, type **D:\TrueSite_Workstation_XXX.exe** (where D: is the CD drive letter) and select **OK**.
2. As a prerequisite to TSW installation, the following will be installed, if not already installed: Microsoft .NET Framework 4.0 and Visual C++ 2010 Redistributable.

Important: In some cases, a restart is required after installing these prerequisites. The TSW installation continues automatically after the reboot. If it does not, run the TSW installation again. Follow the on-screen instructions to install the TrueSite software.

Note: Whenever available, you may click on the **Back** button to review and make changes to your selections from the previous dialogs, or click on the **Cancel** button to terminate the installation process before it completes.

    a. As the installation process initializes, a **Setup Preparation** dialog box appears, followed by a welcome dialog box. To proceed with the installation, click **Next**.
    b. An **End-User License Agreement** (EULA) dialog box appears as shown in Figure 3-11. You must scroll down and read through the agreement.

    • If you agree with the terms of the EULA, check the radio button next to *"I accept the terms of the license agreement"*, then click **Next** to proceed with the installation.

    • If you do not accept the terms of the EULA, check the *"I do not accept the terms of the license agreement"* radio button and click **Next** to terminate the installation process immediately.

**TSW Software
Installation on a
TSW PC**

.

Figure 3-11   End-User License Agreement Dialog

c. Once you've confirmed your agreement to the EULA, a **Customer Information** dialog box prompts you to enter your username and company name as shown in Figure 3-12. Provide the required information and click **Next**.
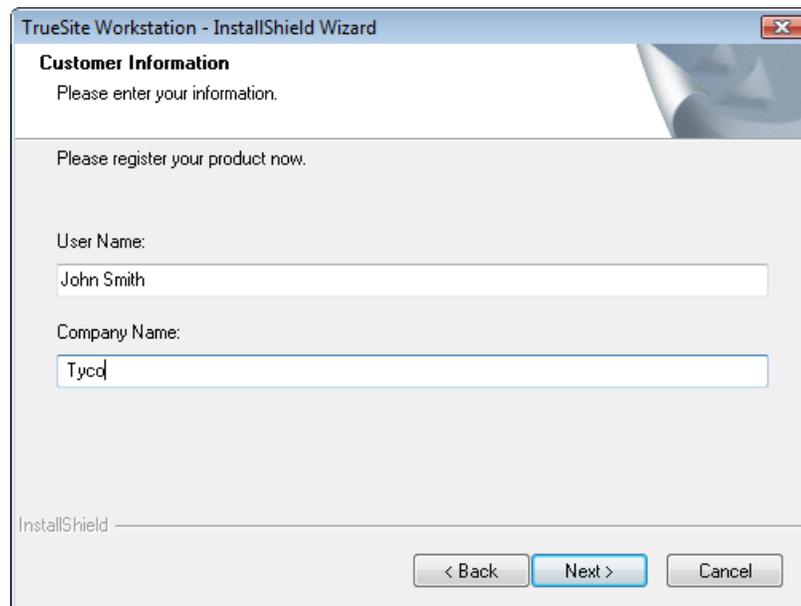
Figure 3-12   Customer Information Dialog Box

d. The **Select Features** dialog box appears. It is where you select which components of the TSW software to install (see Figure 3-13). For TSW installation on a TSW PC, you need to have both the TrueSite Workstation and the TrueSite Workstation Remote Client selected. Click **Next** to continue.

Note: When the TrueSite Workstation option is selected (full install), the Remote Client option must be selected as well.

TSW Software Installation on a TSW PC
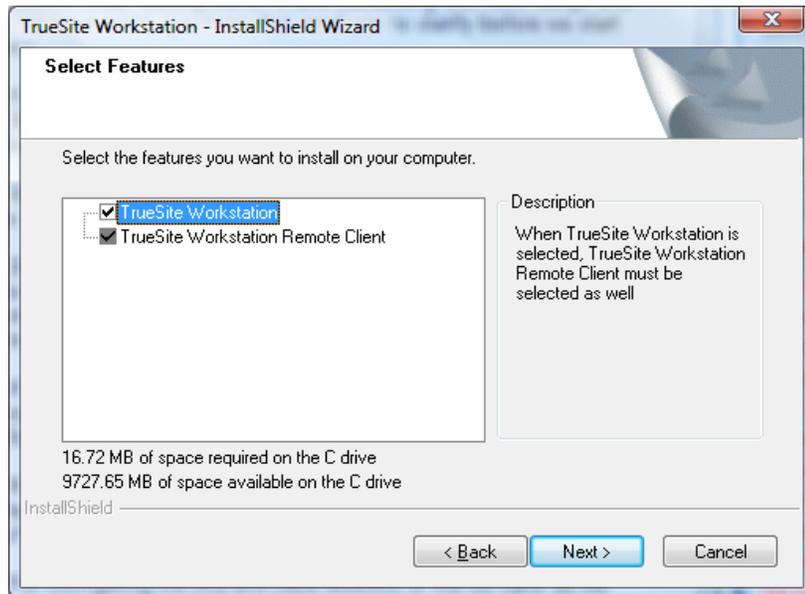
Figure 3-13   Select Features Dialog Box

   e.   The Server installation directory dialog box appears (see Figure 3-14). It indicates which
        location the TSW program files will be sent to. That location is C:\Simplex\TrueSite\TSW.
        Click **Next** to continue.
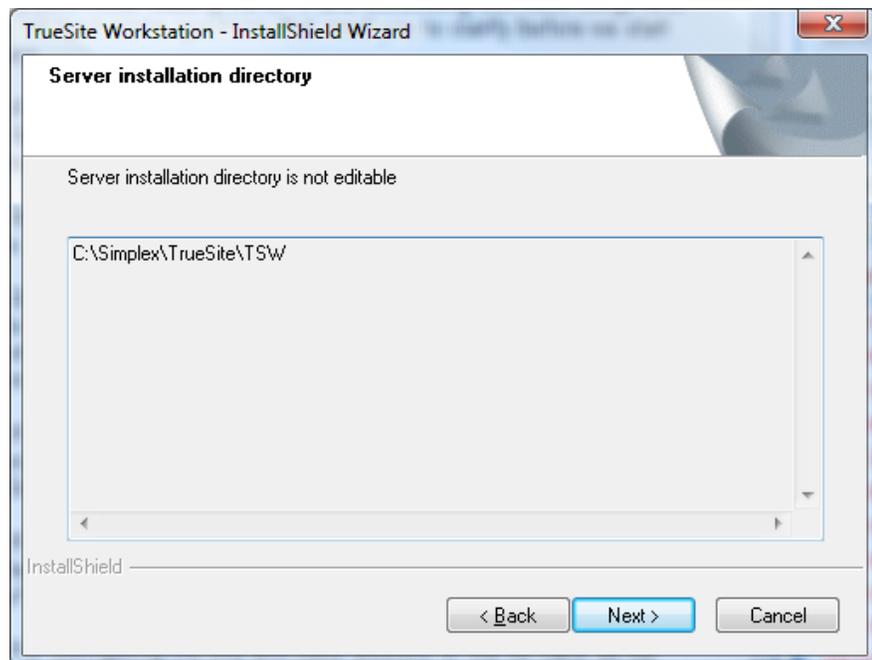
Figure 3-14   Server Installation Directory Dialog Box

   f.   The Client installation directory dialog box appears (see Figure 3-15). It indicates the
        location the files associated with TSW Remote Client will be sent to. The default location is
        C:\Simplex\TrueSite\TSW\Client, but it can be changed. Click **Next** to continue.

**TSW Software
Installation on a
TSW PC**
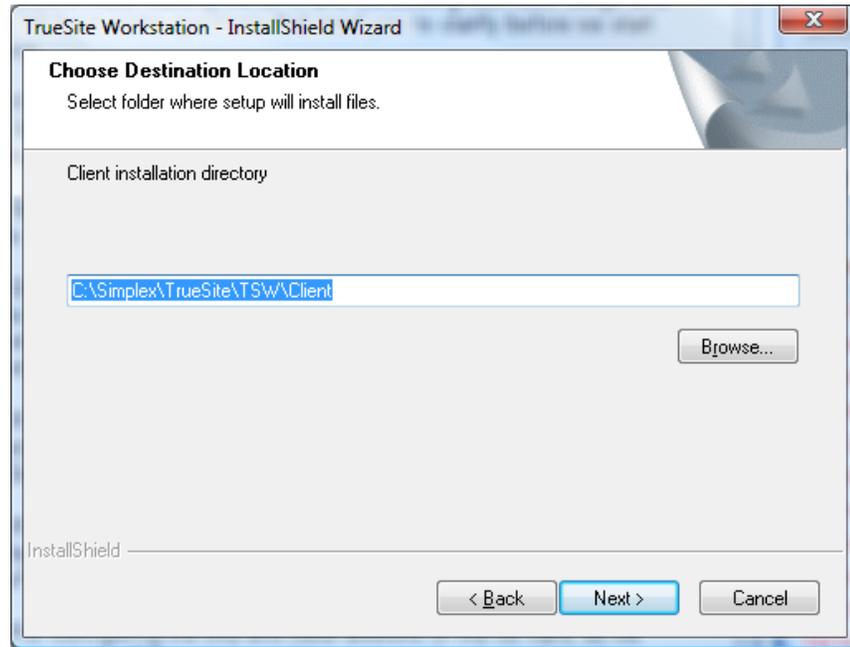
Figure 3-15   Client Installation Directory Dialog Box

g. The Client jobs installation directory dialog box appears (see Figure 3-16). It indicates the location the TSW job files will be sent to. The default location is the C:\Simplex\TrueSite\TSW\Client\TSWJOBS, but it can be changed. Click **Next** to continue.
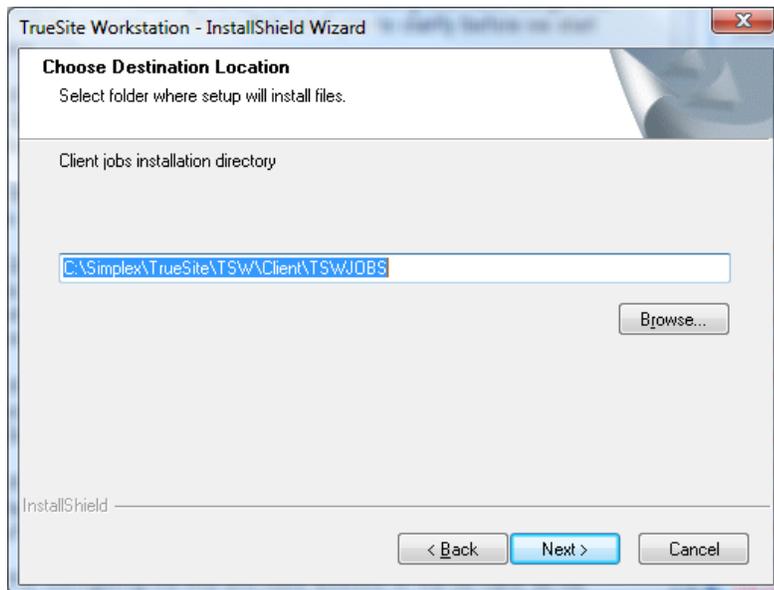
Figure 3-16   Choose Destination Location Dialog Box

h. The **Start Copying Files** dialog box appears. It is the last screen before the installation process begins and it lists all the information that has been entered so far. If the information is correct, click **Next**. Otherwise, click **Back** to make modifications.

Installing the Software, *Continued*

**TSW Software
Installation on a
TSW PC**

i. While the TSW applications and the necessary device drivers (e.g. PortTalk.sys for sound) are being installed, a **Setup Status** dialog box displays the progress. The network card drivers are installed at the end of the installation process (Figure 3-17).

Note: During the installation, if the message "Windows can't verify the publisher of this driver software" is displayed for any of the TSW device drivers, click on **Install this driver software anyway** to proceed with the TSW installation.
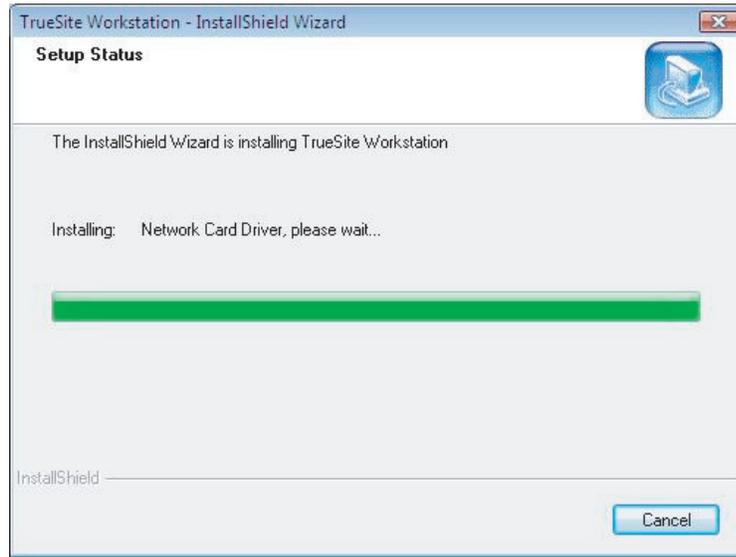
Figure 3-17   Network Card Driver Installation

j. After the network card driver is installed, the UL card driver is installed as well as shown in Figure 3-18.
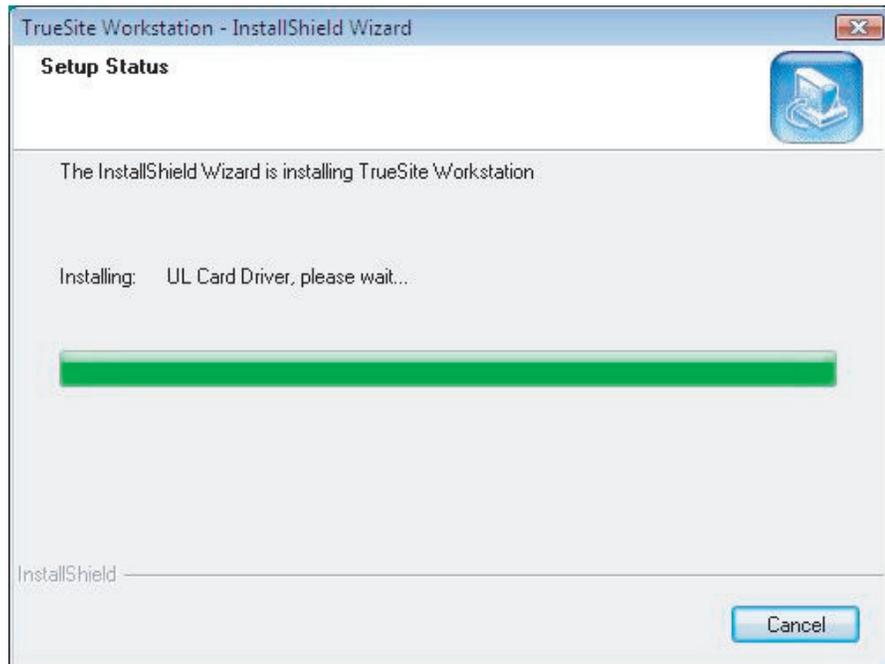
Figure 3-18   UL Card Driver Installation

Installing the Software, *Continued*

TSW Software Installation on a TSW PC

k. TSW installation is complete. The **InstallShield Wizard Complete** dialog box appears as shown in Figure 3-19. Click **Finish.**
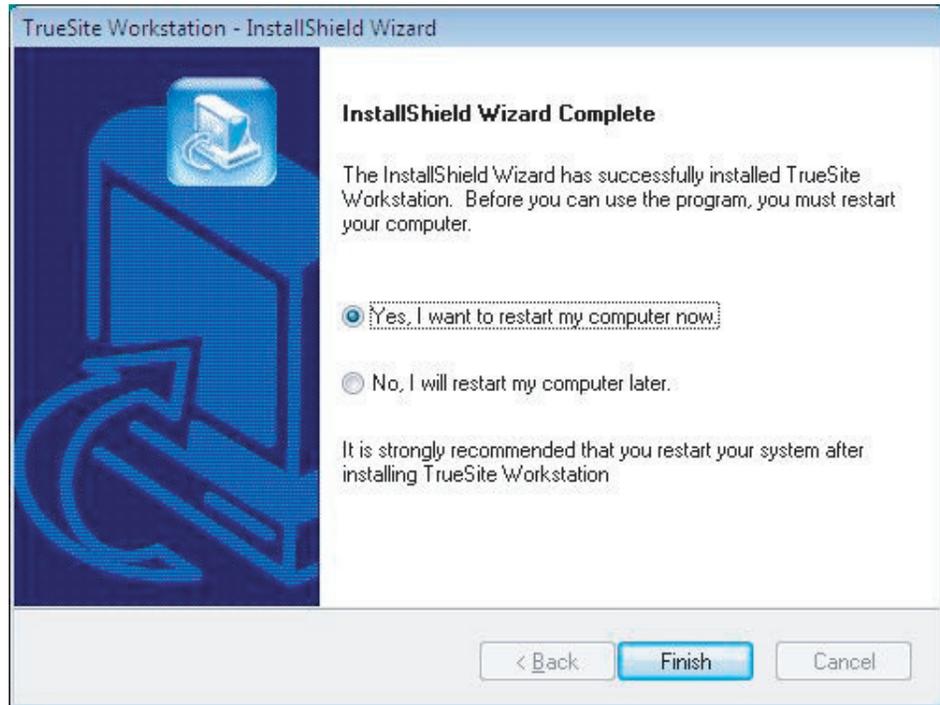
Figure 3-19   InstallShield Wizard Complete Dialog

3. Remove the CD from the drive and store it in a safe place for future use.

4. To automatically start TSW immediately after system reboot, place a copy of the TrueSite Workstation shortcut in the Startup folder for All Users.

Note: If an upgrade from TSW version 1.* to version 2.01 was done, the AutoPrint setting found in the SOS.INI file is now handled via the TSW **Application Setup** dialog box. Refer to the document *579-835: Operation and Application Instructions* for more details.

Remote Client TSW Software Installation

To install the TSW software on a Remote Client PC, only the TSW Remote Client application is needed (see Chapter 2 for Remote Client PC requirements). This is because it will be connecting to the TSW on the TSW PC, via TCP/IP. Some TSW functionalities are only available if accessing the application from the TSW PC and would thus be unavailable at the Remote Client PC.

To install the TSW Remote Client, complete the steps 1 - 4 of the section "TSW Software Installation on a TSW PC". Also, make sure when completing **step 2. e** to have only the TrueSite Workstation Remote Client option checked, as seen in Figure 3-20.

Note: If you are planning to run the TSW Remote Client in Captive Mode, you need to disable the Windows User Account Control (UAC) feature. See document *579-835: TrueSite Workstation Operation and Application Instructions* for more details.

Installing the Software, *Continued*

Remote Client TSW Software Installation
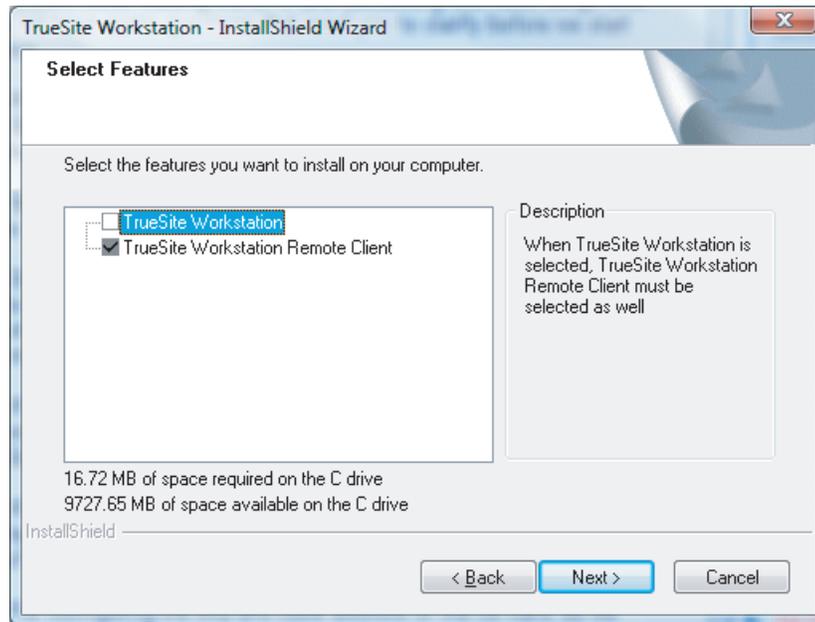
Figure 3-20   Select Features Dialog Box for Remote Client TSW Installation

Note: A Supervised Remote Client PC needs to have its Windows Time service disabled if it is to be time-synced with the TSW PC. To disable this service, follow these steps:

1. Open the **Control Panel** window.
2. Open the **Administrative Tools** option.
3. Open the **Services** option.
4. From the list of services, right click on **Windows Time** and select **Properties**.
5. Under the **General** tab, click on **Stop** to stop the Windows Time service.
6. From the **Service type** drop-down menu, select **Disabled**. Click on **OK**.

The Windows Time service has now been disabled.

Logon Password in Windows

The Logon Password feature in Windows is a security feature that limits access to the contents of a computer. Only users who know the password will be able to log on to the PC and access its contents.

Important: To meet the proprietary receiving station requirement, you must adhere to the following guidelines:

• The **Users must enter a user name and password to use this computer** check box only appears if your computer is not connected to a network domain.

• You must be logged on as an administrator or a member of the Administrators group to make the modifications stated above.

• Requiring users to enter a name and password provides secure protection for your computer. Microsoft Windows verifies each account and provides access to the computer only if the information is correct.

• If only one person uses the computer or the security risk is low, you might find it convenient to allow your Windows operating system to automatically log on each time that you start the computer.

• If the PC is required to auto-start the TSW when the PC boots (e.g. if a UL card is present), the Windows Logon Password feature will need to be disabled. To do so, assign the PC to a Workgroup instead of a Windows domain.

Logon Password in Windows

To require or disable a logon password in a workgroup setting:

1. Click **Start**, and then click **Run**.
2. On the **Open** box, type **control userpasswords2** and click **OK**:

   • Click the **Users must enter a user name and password to use this computer** check box to require users to provide this information when they log on.

   • Clear the **Users must enter a user name and password to use this computer** check box to allow a user to automatically log on. You will be prompted to provide the name and password of the users who will be automatically logged on each time the computer starts.

TSW Data Backup

The 4190-7011 and 4190-7012 PCs are both configured with two 160 GB hard disks:

   • C: drive contains the Windows installation and the TSW Installation.
   • The second drive (D: or E:) can be used for backup purposes.

While the TSW is running on the TSW PC, it is continually updating dynamic data files from the NETJOBS directory on the PC (usually C:\NETJOBS). It is recommended for periodic backups to be scheduled on the TSW PC for all dynamic data. Data can be manually copied to the second drive or a backup utility can be used. Microsoft Windows provides a backup utility, accessed by clicking on the **Start -> Programs -> Accessories ->System Tools -> Backup Status and Configuration** button. See Microsoft Windows documentation for more details. Making regular backups of the TSW dynamic data to an external drive or device is also recommended, in case of damage to the entire PC.

Notes: • The 4190-7011 and 4190-7012 PCs are both configured with a DVD RW drive that can be used for external backup.

   • The second drive will not be available if the PC is configured for RAID 1.

The TSW runtime application writes to the following dynamic files for a job with a site name of "Campus", and a job name of "Lobby":

   • C:\NETJOBS\Campus\Lobby\OpNotes.*
   • C:\NETJOBS\Campus\Lobby\RUNTIME\log*.*

In addition to the TSW dynamic runtime data backup, the Network Programmer should be used to backup the configuration data for the entire network site. See *579-166 - Network Programmer Installation and Programming Instructions* for full details on the Network Programmer.

Setting-up the TSW Server with Remote Clients

If the TSW is being installed as a server for remote clients, the TSW Remote Client PCs will need to know the Workstation Identifier (computer name or TCP/IP address) for the TSW server PC. The PCs will also need to be able to communicate over the TCP/IP network with one another. Both PCs must enable **Network Discovery**. To do so:

1. Open the **Control Panel** and select **Change Advanced Sharing Settings**
2. Make sure that the option **Network Discovery** is **On**.

Refer to Appendix A for details on setting up a dedicated fire alarm LAN. Refer to Windows documentation for more details on joining a Windows network.

The Workstation Identifier for the TSW server can be either the computer name or the TCP/IP address for the PC. One or the other is required, not both. The local IT department can help you determine which to use.

To obtain the computer name, click on **Start**, right-click on **Computer** and then click on **Properties**.

Setting-up the TSW Server with Remote Clients

To obtain the TCP/IP address:

1. Click on the **Start** button and go to **Programs**, **Accessories** and then click on **Command Prompt**.
2. Type *ipconfig* and hit the **Enter** key on the keyboard.
3. The TCP/IP address will be listed next to the **IPv4 Address**, as shown in Figure 3-21.

In this case, the TCP/IP address is 10.38.168.27

Figure 3-21   Windows Command Prompt.

Verify that both computers can communicate with each other from a command prompt by using the ping command from both computers (Figure 3-22).
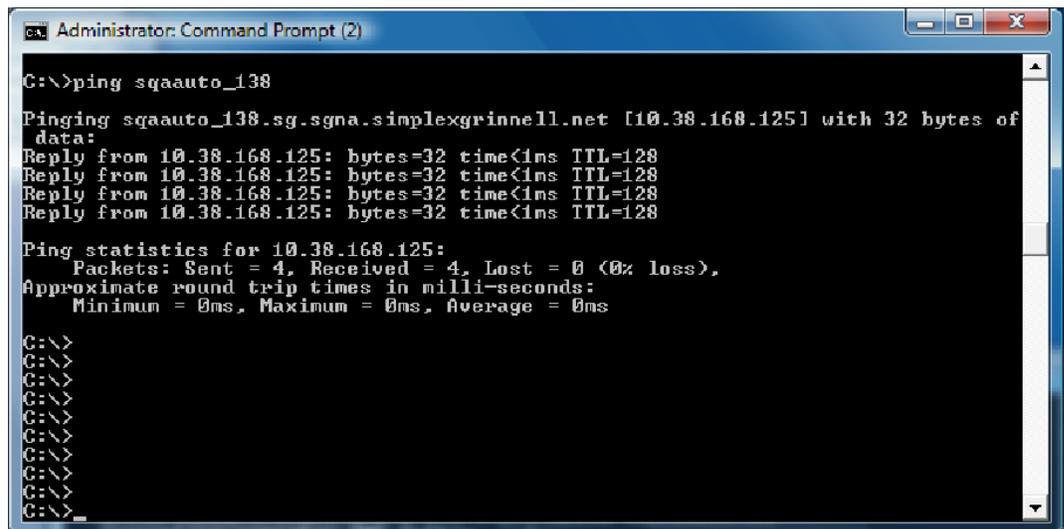
Figure 3-22   Ping Command

Make sure that the TSW server PC is able to receive a reply back from the TSW Remote Client PC, and the Remote Client PC can receive a reply back from the TSW server PC. If the pings fail, verify the Ethernet connectors are properly installed on both PCs and/or contact the local IT department. Windows Explorer can also be invoked to browse available networks. Refer to Windows documentation for more details.

Continued on next page

Installing the Software, *Continued*

Setting-up the TSW Server with Remote Clients

Once the PCs are able to communicate in both directions, and the TSW software has been installed on the server PC with the Remote Client software installed on the client PC, the TSW server PC is then ready to allow connections from TSW Remote Client PCs.

Notes:
- When the TSW server is configured (see document *579-844: Configurator Reference Manual*), a Connection Passcode must be specified (default value: 12345).

- A Feature Code must be installed on the TSW server PC in order to allow Remote Clients to connect. See document *579-835: Operation and Application Instructions* for more details on TSW Feature Codes.

On the TSW Remote Client PC, the **Connect** dialog box must be invoked to connect to a TSW server PC (see document *579-835: Operation and Application Instructions* for full details on the **Connect** dialog box). The **Connect** dialog box requires the client to specify the Workstation (TSW Server) Identifier, the connection passcode, and the TCP/IP port to use for Communications. In most cases, the default port 8831 is used.

Note: If a port is already in use, the TSW server PC can be invoked with a command line argument in order to reset the TSW port:

```
C:\Simplex\TrueSite\tsw\Client> TSWDesktop –local –port:8888
```

The following worksheet can be used to record/copy TSW PC Identifiers. This information might need to be shared with the local IT department. Windows Explorer can also be invoked to browse available networks. Refer to Windows documentation for more details.

Email Account Setup

In order to allow the TSW to send emails on event notifications, an SMTP email server must be specified. The SMTP server must be reachable on the TCP/IP network from the TSW PC.

Set up the email account by following the instructions provided in the document 579-835: *Simplex TrueSite Workstation Operation and Application Instructions*.

TrueSite Workstation Client/Server Worksheet

TSW Workstation (Server) Identifier:
    Computer Name: _____ or
    TCP/IP Address: _____-_____-_____-_____
    TCP/IP Port: _____ (default is 8831)
    Computer Make/Model: _____
    Computer Operating System/Version: _____

TSW [ ] Supervised [ ] Unsupervised Client # 1 Identifier:
    Computer Name: _____ or
    TCP/IP Address: _____-_____-_____-_____
    Computer Make/Model: _____
    Computer Operating System/Version: _____

TSW [ ] Supervised [ ] Unsupervised Client # 2 Identifier:
    Computer Name: _____ or
    TCP/IP Address: _____-_____-_____-_____
    Computer Make/Model: _____
    Computer Operating System/Version: _____

TSW [ ] Supervised [ ] Unsupervised Client # 3 Identifier:
    Computer Name: _____ or
    TCP/IP Address: _____-_____-_____-_____
    Computer Make/Model: _____
    Computer Operating System/Version: _____

TSW [ ] Supervised [ ] Unsupervised Client # 4 Identifier:
    Computer Name: _____ or
    TCP/IP Address: _____-_____-_____-_____
    Computer Make/Model: _____
    Computer Operating System/Version: _____

TSW [ ] Supervised [ ] Unsupervised Client # 5 Identifier:
    Computer Name: _____ or
    TCP/IP Address: _____-_____-_____-_____
    Computer Make/Model: _____
    Computer Operating System/Version: _____

TSW [ ] Supervised [ ] Unsupervised Client # 6 Identifier:
    Computer Name: _____ or
    TCP/IP Address: _____-_____-_____-_____
    Computer Make/Model: _____
    Computer Operating System/Version: _____

TSW [ ] Supervised [ ] Unsupervised Client # 7 Identifier:
    Computer Name: _____ or
    TCP/IP Address: _____-_____-_____-_____
    Computer Make/Model: _____
    Computer Operating System/Version: _____

TrueSite Workstation Client/Server Worksheet

TSW [ ] Supervised [ ] Unsupervised Client # 8 Identifier:
    Computer Name: _____ or
    TCP/IP Address: _____-_____-_____-_____
    Computer Make/Model: _____
    Computer Operating System/Version: _____

TSW [ ] Supervised [ ] Unsupervised Client # 9 Identifier:
    Computer Name: _____ or
    TCP/IP Address: _____-_____-_____-_____
    Computer Make/Model: _____
    Computer Operating System/Version: _____

TSW [ ] Supervised [ ] Unsupervised Client # 10 Identifier:
    Computer Name: _____ or
    TCP/IP Address: _____-_____-_____-_____
    Computer Make/Model: _____
    Computer Operating System/Version: _____

TSW [ ] Supervised [ ] Unsupervised Client # 11 Identifier:
    Computer Name: _____ or
    TCP/IP Address: _____-_____-_____-_____
    Computer Make/Model: _____
    Computer Operating System/Version: _____

TSW [ ] Supervised [ ] Unsupervised Client # 12 Identifier:
    Computer Name: _____ or
    TCP/IP Address: _____-_____-_____-_____
    Computer Make/Model: _____
    Computer Operating System/Version: _____

TSW [ ] Supervised [ ] Unsupervised Client # 13 Identifier:
    Computer Name: _____ or
    TCP/IP Address: _____-_____-_____-_____
    Computer Make/Model: _____
    Computer Operating System/Version: _____

TSW [ ] Supervised [ ] Unsupervised Client # 14 Identifier:
    Computer Name: _____ or
    TCP/IP Address: _____-_____-_____-_____
    Computer Make/Model: _____
    Computer Operating System/Version: _____

TSW [ ] Supervised [ ] Unsupervised Client # 15 Identifier:
    Computer Name: _____ or
    TCP/IP Address: _____-_____-_____-_____
    Computer Make/Model: _____
    Computer Operating System/Version: _____

TSW [ ] Supervised [ ] Unsupervised Client # 16 Identifier:
    Computer Name: _____ or
    TCP/IP Address: _____-_____-_____-_____
    Computer Make/Model: _____
    Computer Operating System/Version: _____

TrueSite Workstation Client/Server Worksheet

TSW [ ] Supervised [ ] Unsupervised Client # 17 Identifier:
    Computer Name: _____ or
    TCP/IP Address: _____-_____-_____-_____
    Computer Make/Model: _____
    Computer Operating System/Version: _____

TSW [ ] Supervised [ ] Unsupervised Client # 18 Identifier:
    Computer Name: _____ or
    TCP/IP Address: _____-_____-_____-_____
    Computer Make/Model: _____
    Computer Operating System/Version: _____

TSW [ ] Supervised [ ] Unsupervised Client # 19 Identifier:
    Computer Name: _____ or
    TCP/IP Address: _____-_____-_____-_____
    Computer Make/Model: _____
    Computer Operating System/Version: _____

TSW [ ] Supervised [ ] Unsupervised Client # 20 Identifier:
    Computer Name: _____ or
    TCP/IP Address: _____-_____-_____-_____
    Computer Make/Model: _____
    Computer Operating System/Version: _____

Note: For proper operation, it is important that there not be any restrictions on the TSW executable files (typically under C:\Simplex\TrueSite\TSW). The system must be set up to allow ALL file access for these files and allow TSW executables to run as services.

Chapter 4. Installing the TrueSite Workstation Rack-Mount Versions

Introduction   The TSW is available as a rack-mount for TSW PC assemblies. Rack-mounts are not applicable to Remote Client PCs because they access TSW application remotely.

In this Chapter   This chapter discusses the topics listed in the following table.

Topic	See Page #
Installing the Rack-Mount Components	4-2

Installing the Rack-Mount Components

Installation Procedure

The entire rack set-up is assembled and tested at the factory. After testing is completed, the PC and monitor are removed and packed in their original shipping cartons. The rails and any other additional items are left on the PC and monitor. The rack is then shipped as an assembled unit.

Complete the following steps to install the remaining components:

1. Secure the rack to the floor.
2. Separate the conduits for the entry of power-limited and non-power limited supply lines through the bottom plate (there is a label on the bottom plate showing the desired location for these supply lines).
3. Install the PC in the rack (the rails are already assembled) and secure it with 10-32 screws (supplied).
4. Plug the monitor power cord into the PC power outlet.
5. Plug the PC power cord into the surge protector.
6. Secure the power wires to the back left rail using the tie wrap provided (leave a minimum service loop for sliding of the PC).
7. Secure all other wires (non-power limited) to the back right rail using the tie wrap provided.
8. Connect the incoming AC line to the AC termination block.
9. After you have set up the Rack-Mount TSW, you can continue installing it on the 4120 fire network.
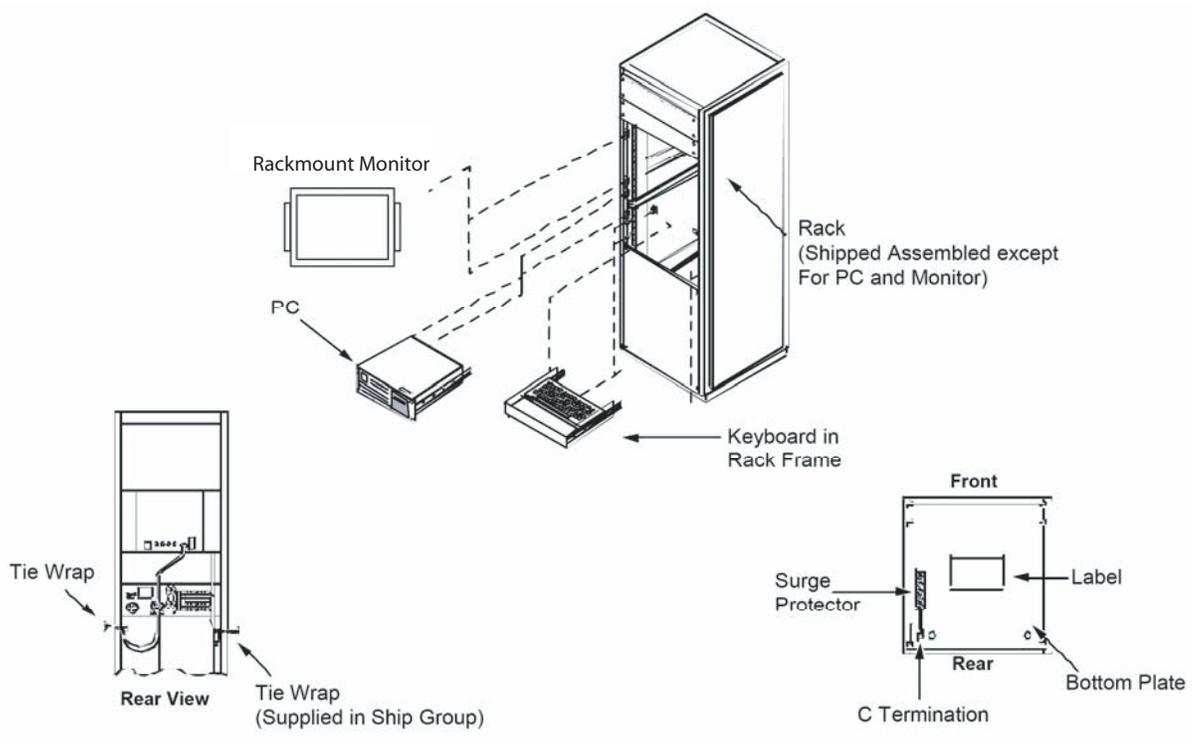
Figure 4-1   Rack-Mount Installation

Chapter 5. Connecting 2120 Nodes (Retrofit Application Only)

Introduction   This chapter describes how to connect 2120 nodes to a TSW PC, running the TSW software, using the existing RS232 Serial Port.

> **Note:**   Keep in mind that 2120 is Retrofit only. To connect 2120 nodes using the Multiport card, refer to the *SLI Multiport Option - Installation Instructions*, 574-097.

In this Chapter   This chapter discusses the topics listed in the following table.

Topic	See Page #
Installing and Operating the SPC 2120 Utility (Retrofit Application Only)	5-2
Configuring the Computer Ports	5-4
Hardware Requirements	5-7
Connecting the 2120 Nodes to the TrueSite Workstation	5-8
Adding 2120 Points (Retrofit Application Only)	5-10

Installing and Operating the SPC 2120 Utility (Retrofit Application Only)

Introduction

Note: Disregard this section if you do not have a 2120 interface.

This section describes the necessary steps to install and configure the 2120 Serial Point Collection Utility (SPC 2120).

For further information, consult publication 574-097.

Installation Procedure

To install the SPC 2120, you must have a Windows operating system. Install the SPC 2120 as follows:

1. Insert the installation media into the appropriate drive.
2. Open an MS-DOS command window by clicking on the **Start** button and then on **all Programs**.
3. Click on **Accessories** and then on **Command Prompt**.
4. From the C:\ or C:\WINDOWS prompt type **[drive name]:install** and press **Enter**.
5. From the installation screen, select **I** to install the SPC 2120 or **E** to exit the installation.
6. The SPC 2120 installation program then asks you where you wish the utility installed. The typical installation is installed in the C:\SPC2120 directory.
7. After a successful installation, the SPC 2120 installation program returns you to the DOS prompt.

Operating the SPC 2120 Utility

Note: A serial cable must be connected from COM X of the PC to a 2120 Computer Port prior to running the SPC 2120 Utility.

To run the SPC 2120 Utility, type **SPC2120** [/option] from the C:\SPC2120 directory. Typing **SPC2120** without a specified option assumes a complete download from Port 1. The options are listed below.

- /**A** - Complete Download
- /**L** - Update Custom Labels
- /**P** - Update Priorities
- /**S** - Update Suppressions
- /**Nn** - Port number; n = the port number (only used as a file reference)
- /**H** or /? - Shows list of parameters (help)

In order to perform the updating options (/L, /P, or /S), a matching 2120_N.SLI (where "N" is the number of the 2120 node) file must already exist. When doing these updates, the point information is referenced from the existing 2120_N.SLI file. Then the specified update request information (/L, /P, or /S) is received from the 2120 and compared to the existing information before writing a new file. When doing a Complete Download, all information is received from the 2120. In both cases, the original file is backed up to 2120_N.SAV. If this file already exists, the program prompts you to enter a filename.

Once the SPC 2120 command is entered, the program asks you for a job name. You can type up to eight characters for a job name and press **Enter**. The SPC 2120 informs you when the system completes a successful download.

Before copying the SPC 2120 output file into the TSW/NPU directory structure, rename it from "2120IOn.SLI" to the 2120 CMS file number **without the revision letter**. For example, if the CMS file number is "W123456A", then rename the file from "2120IOn.SLI" to "W123456.SLI". Before an update option /L, /P, or /S can be performed, the file must be renamed back to "2120IOn.SLI" for the SPC 2120 program to find an existing comparison file.

Notes:
- CMS stands for Conversational Monitor System which is a simple single-user operating system from IBM's VM family. IBM mainframe computers that are used to program the 2120 usually run on the CMS operating system.

- By default, the CMS number is the job name that is printed on the very first page of every 2120 program report.

Before starting the SPC 2120 program, make sure all points to be copied to the TSW are vectored to the download port. Only the points vectored to the 2120 download port will be copied to the output file.

Notes:
- Print class 1 points are vectored to all ports and print class 0 points are not vectored to any ports. Points that were print class 0 and do not need to be printed at the 2120 strip printer should be changed to print class 7 and then vectored to the download port.

- When running the SPC 2120 program, the PC should be connected to the port on the 2120 that will be connected to the TSW at runtime.

Configuring the Computer Ports

Port Configuration Procedure

Use the TSW Configurator and the following steps to configure the RS232 ports to communicate with the 2120.

Note: All required hardware and software (e.g., controllers, drivers, etc.) must be installed before you can successfully complete the following configuration.

Use the following procedure to configure the RS232 ports.

1. From the **Windows Start** menu, select **All Programs** -> **Simplex** -> **TrueSite** -> **TSW** -> **TrueSite Workstation Configurator.** The system displays the **Simplex Programming Unit** screen.
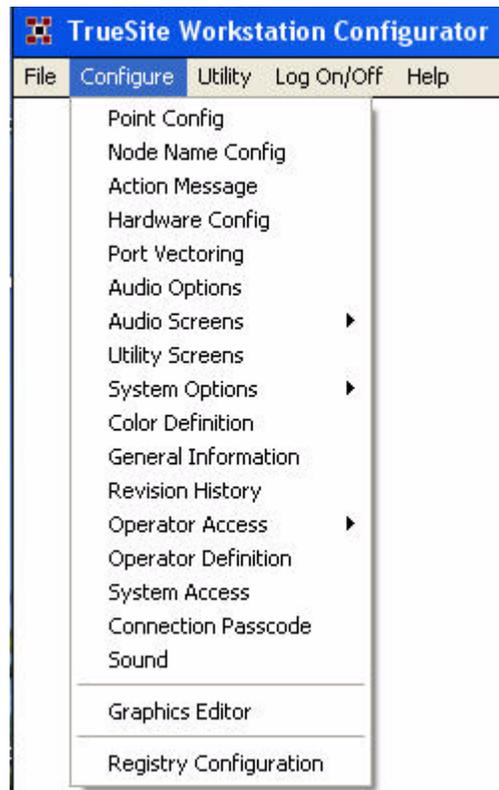
Figure 5-1   TrueSite Workstation Configurator Screen

2. From the **Configure** menu (Figure 5-1), select the **Hardware Config** option. The system displays the **Hardware Configuration** screen shown in Figure 5-2.

Port Configuration Procedure

```
TrueSite Workstation Configurator                                    _ □ ✕
File  Configure  Utility  Log On/Off  Help
                        Hardware Configuration
   ID    Description                  Configuration Info

 HARDDSK 340 MB Hard Drive
 FLOPPY3 3 1/2" floppy drive
 MONITOR 14" SVGA Monitor
 HISTLOG Historical Log              2 - 720K volumes
 NETCRD1 Network Interface Card      OLD - Style 7




     OK          Cancel          Add          Delete          Help
```

Figure 5-2   TrueSite Workstation Configurator Hardware Configuration Screen

    3.   Click **Add.** The system displays the **Add Run-Time Hardware** dialog shown in Figure 5-3.

```
                 Add Run-Time Hardware

   Printer                                    ▲
   Network Interface Card                     ▒
   Network Repeater Card
   TCP/IP Interface
   UL Card
   Serial DACT
   X.25 Interface Card
   Alert Central
   Quad Serial Port Card                      ▼

   Press <F2>, double-click on list, or
   click on Add button to add device.

        OK              Add
```
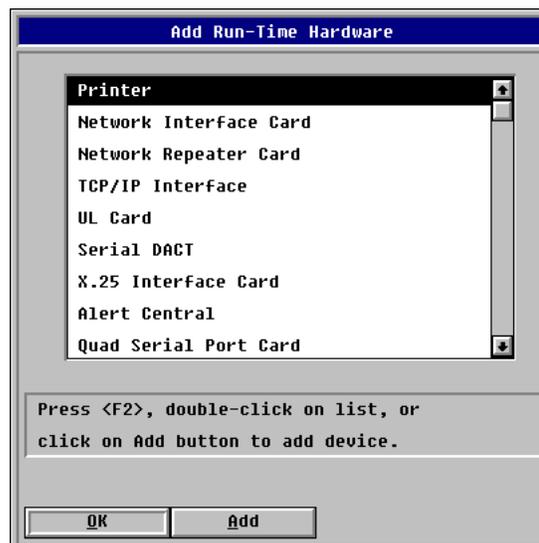
Figure 5-3   Add Run-Time Hardware Dialog

Configuring the Computer Ports, *Continued*

Port Configuration Procedure

4. Use the mouse to highlight **Quad Serial Port Card** and then click **Add** button at the bottom of the screen to configure the port controller card.

5. The system displays the **Generic Port Configuration** dialog box shown in Figure 5-4.

```
┌─────────────────────────────────┐
│ Quad Serial Port Configuration  │
├─────────────────────────────────┤
│  ┌─Base COM Port Address──────┐  │
│  │  ○  COM1                   │  │
│  │  ○  COM2                   │  │
│  │  ●  COM3                   │  │
│  │  ○  COM4                   │  │
│  │  ○  COM5                   │  │
│  │  ○  COM6                   │  │
│  │  ○  COM7                   │  │
│  │  ○  COM8                   │  │
│  │  ○  COM9                   │  │
│  └────────────────────────────┘  │
│                                  │
│    ┌────────┐    ┌────────┐     │
│    │   OK   │    │ Cancel │     │
│    └────────┘    └────────┘     │
└─────────────────────────────────┘
```
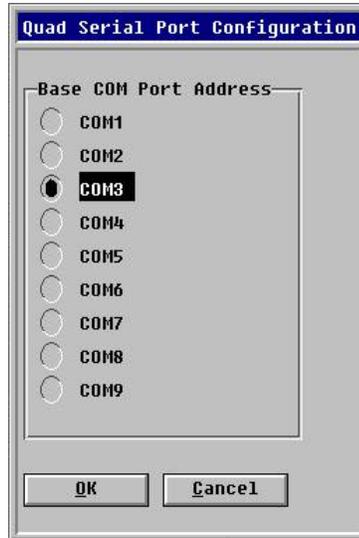
Figure 5-4   Multi-Port Card Configuration Dialog

6. Select an available COM port as the Base COM Port Address (**COM3** through **COM9**). COM 3 is recommended. When finished, select **OK**. The system returns to the original **Hardware Configuration** screen which now includes the Generic Port Serial Card.

7. Select **OK** at the bottom of the **Hardware Configuration** screen. The system prompts you to save the new configuration. Select **OK** to save, or select **Cancel** to cancel the configuration.

Note: Do not attempt to assign port directories or dump files until you have saved the new hardware configuration.

Hardware Requirements

Required Cables and Connectors

Table 5-1 lists the required cable and connectors to complete the installation. Figure 5-5 and Figure 5-6 show a diagram of how to connect the cables and connectors from the RS232 port on each 2120 node to the RS232 connector on the CPU.

Table 5-1: Cables and Connectors for TrueSite Workstation Installation

Part Number	Description
617-836*	6-foot (2 m) DB9 to DB25 adapter cable
733-571	Harness assembly (receptacle suppressor)
733-572	Harness Assembly (RS232 suppressor)

*If the RS232 ports on the TSW PC are DB25 male connectors, this adapter is not needed.

Connecting the 2120 Nodes to the TrueSite Workstation

Installing 2120 Nodes

To connect the 2120 nodes to the TSW PC, complete the following steps.

Note: Ensure that the power is OFF before starting this procedure.

1. Complete all wiring according to the wiring diagram.

Notes: • If you are connecting the 2120 to the TSW with an adapter cable (using DB9 connector), refer to the diagram in Figure 5-5 for details.

• If you are connecting the 2120 to the TSW without an adapter cable (using DB25 connector), refer to the diagram in Figure 5-6 for details.

2. Use the junction boxes at each end of the installed cable to terminate the field wiring between harness 733-571 and 733-572.
3. After connecting the node(s) to the TSW PC, turn the power ON. The TSW automatically boots up to the initial program screen.

NOTE : Installed Cable is typically 18 AWG (0.8231 mm^2), 2-pair twisted.

Figure 5-5   Connecting 2120 Nodes to the TSW PC

Installing 2120 Nodes

REAR VIEW OF QUAD
SERIAL CARD 566-693
LOCATED INSIDE THE **TSW**

CHL4
3 = RXD
4 = CTS   TYPICAL
8 = GND
9 = TXD

CHL3

CHL2

CHL1

4190 **TSW**

TYPICAL CONNECTION
ON QUAD SERIAL
PORT CARD

RED
BLACK
GREEN

ASSY:733-572

db25 female

ASSY:733-571

RED Xmit   WIRE A
BLK Rcv   WIRE B
GRN Gnd   WIRE C
WHT n/c

JUNCTION BOX

4190-6026 is used to connect the PC port to the port on the Quad Serial Card.
This kit consists of :
- (2) 733-572 harnesses
- (1) 733-571 harness
- (1) 734-216 harness

JUNCTION BOX

WIRE A   RED PIN 2
WIRE B   BLK PIN 3
WIRE C   GRN PIN 7 Gnd
WHT n/c

Notes:

- The TSW and Remote Client PCs are AC-rated for 120V and 2A, at 60Hz.

- The TSW, or a Supervised Remote Client PC, must be connected to a UL-listed, regulated and power-limited 24VDC power supply for fire protective signaling service.

- The wiring is style 4 or 7 (Class B or Class A).

- The connection is supervised and power-limited.

2120 BMUX

DB25 MALE (PINS)

RS232 PORT

DB25 FEMALE

ASSY: 733-572

Figure 5-6   Connecting 2120 BMUX Nodes to the TSW

Adding 2120 Points (Retrofit Application Only)

**How to Add 2120
Points to the Point
Database and 4120
Fire Network**

Complete the following steps to add 2120 points to the 4120 fire network and to the point database.

1. Use **Windows Explorer** or **File Manager** to select the following directory: \netjobs\tst2120\n7

2. In **Windows Explorer** select **New**, then **Folder** from the **File** menu.

3. Name the new Folder or Directory "2120_1" for Port 1, or "2120_2" for Port 2. However, if the system has been configured with a DACR, it uses DACR_1 and the first 2120 port would be "2120_2". As such, any subsequent 2120 ports are "2120_3", "2120_4" etc...

Notes: • Before copying the SPC2120 output file into the TSW/NPU directory structure, rename it from "2120IOn.SLI" to the 2120 CMS file number without the revision letter. For example, if the CMS file number is "W123456A", then rename the file from "2120IOn.SLI" to "W123456.SLI".

   • The TSW scans the new directory for an .SLI file. The TSW learns this file name only once. Do not change the name after the directory has been scanned.

4. Copy the 2120 dump file to the new directory. The file extension must be .SLI in order for the TSW Configurator software to accept it.

5. Return to the **Start** menu and select the TSW Configurator icon. The system is now aware of the new port configurations and has automatically added certain system, channel and transponder information into the hardware configuration.

6. Select **View** from the **Point Configuration** screen and scroll past Point No. 52815 to display this information.

7. From the TSW Configurator screen, select the **Configure** menu and select the **Point Config** option. The system displays the **2120 Port Selection** dialog shown in Figure 5-7.

```
                        2120 PORT SELECTION

    Port    File

    Port 1    222.SLI




    Double Click or press [ENTER] to select node.



    [ Select ]        [ Exit ]
```
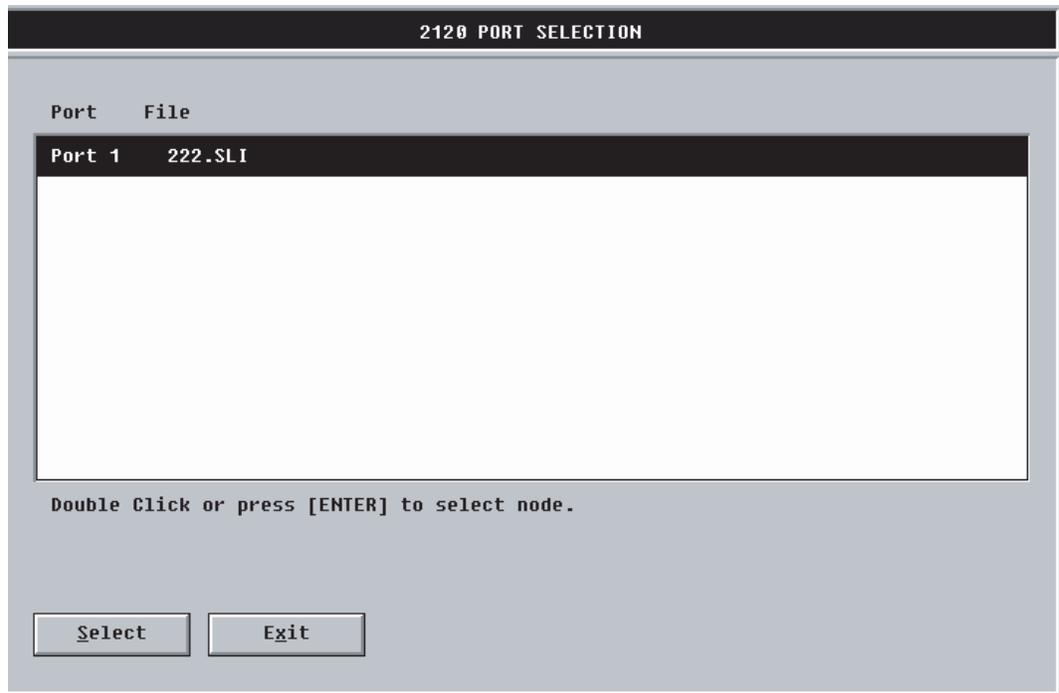
Figure 5-7   2120 Port Selection Screen

Adding 2120 Points (Retrofit Application Only), *Continued*

How to Add 2120 Points to the Point Database and 4120 Fire Network

8. Select the ports you wish to configure and press **OK**. The system displays a tag list. (See Figure 5-8).

Figure 5-8   2120 Points Tag List Screen

9. Highlight each 2120 point and press the space bar after selecting each point. When you are finished making your selections, press **OK**. The system displays the **Port Selection** screen.

Note: Monitor Points are default mapped to the TSW by priority only.

- 2120 PRI1 points (FIRE) are mapped as TSW FIRE
- 2120 PRI2 points (SECURITY) are mapped as TSW GENPRI2
- 2120 PRI3 points (UTILITY) are mapped as TSW UTILITY

This may result in points being incorrectly mapped at the TSW.

- 2120 "F" sense points must be changed to TROUBLE at the TSW
- 2120 "V" sense points must be changed to VERIFIED at the TSW

10. To add 2120 user points, use point numbers between 2816 and 52815, then press the **Add** button at the top of the screen.

11. Select the **Exit** button to return to the **Select Category** screen or select **OK** to return to the **Point Configuration** screen. The system displays the new 2120 points with LC2 as the class. To change the class to **Public**, highlight the "Class" field that you want to change and press the **Up** and **Down** arrow keys to toggle between the classes.

12. At this point, you can save the database and build using the standard method.

Chapter 6. Connecting DACRs

Introduction   This chapter describes how to connect Digital Alarm Communicator Receivers (DACRs) to a TSW PC, using the existing RS232 Serial Port. The four DACR models that are supported are the Sur-Gard System II or III DACR, the Bosch D6600 DACR, the D6100i DACR and the AES Intellinet 7705i Receiver. When the TSW is configured as a UL Listed Proprietary Supervising Station, only the Bosch D6600 DACR can be used, and the DACT format must be programmed as CID.

In this Chapter   This chapter discusses the topics listed in the following table.

Configuring the TrueSite Workstation to Communicate with DACRs

Adding the DACR Port

You must configure the TSW to communicate with the DACR. To start, you must add the DACR port. To do so, you:

1. Select the **Hardware Config** item from the **Configure** menu of the **Configurator** application.
2. Press the **Add** button.
3. Select **DACR Port**.
4. In the **DACR Port** dialog box, select the COM port that is connected to the DACR.
5. Select **OK** before saving and exiting the **Hardware Configuration** screen.

Adding DACR Accounts and Points

Next, you need to add accounts and points. To do so, you:

1. Select **Point Configuration** from the **Configure** menu of the **Configurator** application.
2. Scroll to an empty point in the user area.
3. Press the **Add** button.
4. In the **DACR port** dialog box, select the first COM port as the DACR COM port. The DACR device must always use the lowest COM port on the system.

You are then prompted with three choices: **Add Event Account**, **Manual Point Entry** and **Import CID Points**. Depending on what communication format is being used by the DACR for the panel and on what type of information you want annunciated at the TSW, select the appropriate button. The reporting protocol formats supported by the TSW are: Ademco CID, 3/1, 4-2, BFSK, SIA level 1 and the Bosch D6600's 3/1 and 4/2.

Note: AES only supports Ademco CID

Deleting a DACR Account

To delete a DACR account, perform the following steps:

1. Select **Point Configuration** from the **Configuration** menu.
2. Select **Edit** from point **Configuration** menu.
3. Select **DACT accounts**.
4. Click on **Delete Account**.
5. Enter the port number (always 1).
6. Enter the account number and click on **OK**.

Connecting DACRs to the TrueSite Workstation

Adding the Event Account

You need to add an event account if the panel for the account that you are configuring is a format other than CID, or the format is CID but you don't want to annunciate events at the per point level. In this configuration, the TSW will indicate a FIRE, PRI2, SUPV, or TROUBLE condition at the panel, but will not indicate the specific device that initiated the alarm condition.

For a job with an AES, a minimum of 3 accounts are required: one for the receiver, one for the IP link and one for the first subscriber. Each additional subscriber will require an additional subscriber account, but will share the receiver and IP accounts with all the other subscribers.

To add an event account, do the following:

1. Enter the account number being used by the dialing panel.
2. Enter a label indicating the location of the panel.

Note: When configuring the TSW with an AES Intellinet system you must add the following accounts representing vital AES components, which are listed in the table below.

Table 6-1: Vital AES Components

Port Number	Account Number	Account Label
1	User Defined Account # for AES receiver	AES Receiver
1	User Defined Account # for AES IP Link	IP Link

Entering Points Manually

If you want to enter a few points manually and the dialing panel is Contact ID, you must do the following:

1. Enter the account number being used by the dialing panel.
2. Enter a label indicating the location of the panel. (This step is only necessary the first time that you enter a point for this account. Subsequently, the label will be automatically filled once the account number is entered).
3. Enter the CID Group for the point that you are configuring.
4. Enter the CID Point number for the point that you are configuring.
5. Select the device type for how you want to annunciate this device.
6. Select the point type for how you want to annunciate this point.
7. Enter a label to identify the location of the configured point.

Note: For AES, use the following:

Table 6-2: AES Point Information

Port #	Account #	CID Group	CID Point	Device Type	Point Type	Point Label
1	User Defined Account # for AES IP Link	0	906	MONB	TROUBLE	Tamper Switch

Importing CID Points

If you want per-point annunciation and have a comma-separated file describing the point information for a CID account, you must do the following:

1. Enter the account number being used by the dialing panel.

2. Enter a label to indicate the location of the panel. (This step is only necessary the first time that you enter a point for this account. Subsequently, the label will be automatically filled once the account number is entered).

Importing CID Points

3.   Select the .csv file to import.

Note: The format of the .csv file is described below.

```
In order to import Contact-ID points from an external .csv file, the person
programming must create a dedicated DACR subdirectory in the IMS node's
database directory. The general naming scheme for the DACR subdirectory will
be
```

```
        ..\netjobs\<networksite>\<tswnodename>\DACR_1\
```

Note: All CID account .csv files pertaining to the DACR will be placed into the DACR_1 directory.

The Import file contains the following fields.
<Line #[Optional]><Account # [Optional]>,<CID GROUP[required]>, <CID NUMBER[required]>, <Point Type[Optional]>, <Label[required]>, <Alarm Category[Optional]>

Fields listed as optional must have the comma inserted for that field but can be left blank other than the comma.

If the point type field is present and it matches a valid IMS point type, that point type will be used. If no point type is present and the Alarm category field is present, the FIRE, PRI2, SUPV, TROUBLE, or UTILITY point types will be used to match the category assigned. If neither is present, the point will default to MONB - FIRE.

Category Interpretation.

F (fire) = MONB - Fire
P (priority 2) = MONB - GenPri2
S (supervisory) = MONB - Supv
T (trouble) = MONB - Trouble
U (utility) = MONB - Utility
O (output) = SIGB - SIGNAL

Installing DACR

To connect a DACR to the TSW PC, complete the following steps.

Note: Ensure that the power is OFF before starting this procedure.

1.   Complete all wiring according to the wiring diagram.

Notes: •   If you are connecting the DACR to the TSW PC with an adapter cable (using DB9 connector), refer to the diagram in Figure 6-1 for details.

•   If you are connecting the DACR to the TSW PC without an adapter cable (using DB25 connector), refer to the diagram in Figure 6-2 for details.

2.   Use the junction boxes at each end of the installed cable to terminate the field wiring between the 733-571 harness and the 734-216 harness, in the case of Sys III, Bosch or AES systems. For a MLR2-DG system, only use the 733-572 harness (4190-6002).

Note: The total wiring length from the RS232 port of the CPU to the RS232 port of the DACR must not exceed 20 feet (610 cm) and must be run within conduit or equivalently protected against mechanical injury. Also, the TSW PC and DACR must be located in the same room. See page 6-7 for specifics on each receiver type.

Connecting DACRs to the TrueSite Workstation, *Continued*

Installing DACR

Notes:
- The TSW and Remote Client PCs are AC-rated for 120V and 2A, at 60Hz.

- The TSW, or a Supervised Remote Client PC, must be connected to a UL-listed, regulated and power-limited 24VDC power supply for fire protective signaling service.

- The wiring is style 4 or 7 (Class B or Class A).

- The connection is supervised and power-limited.

4190-6002 is used to connect the PC port to serial port COM1 or COM2. This kit consists of:
- (1) 733-572 harness
- (1) 733-571 harness
- (1) 734-216 harness

TrueSite Workstation
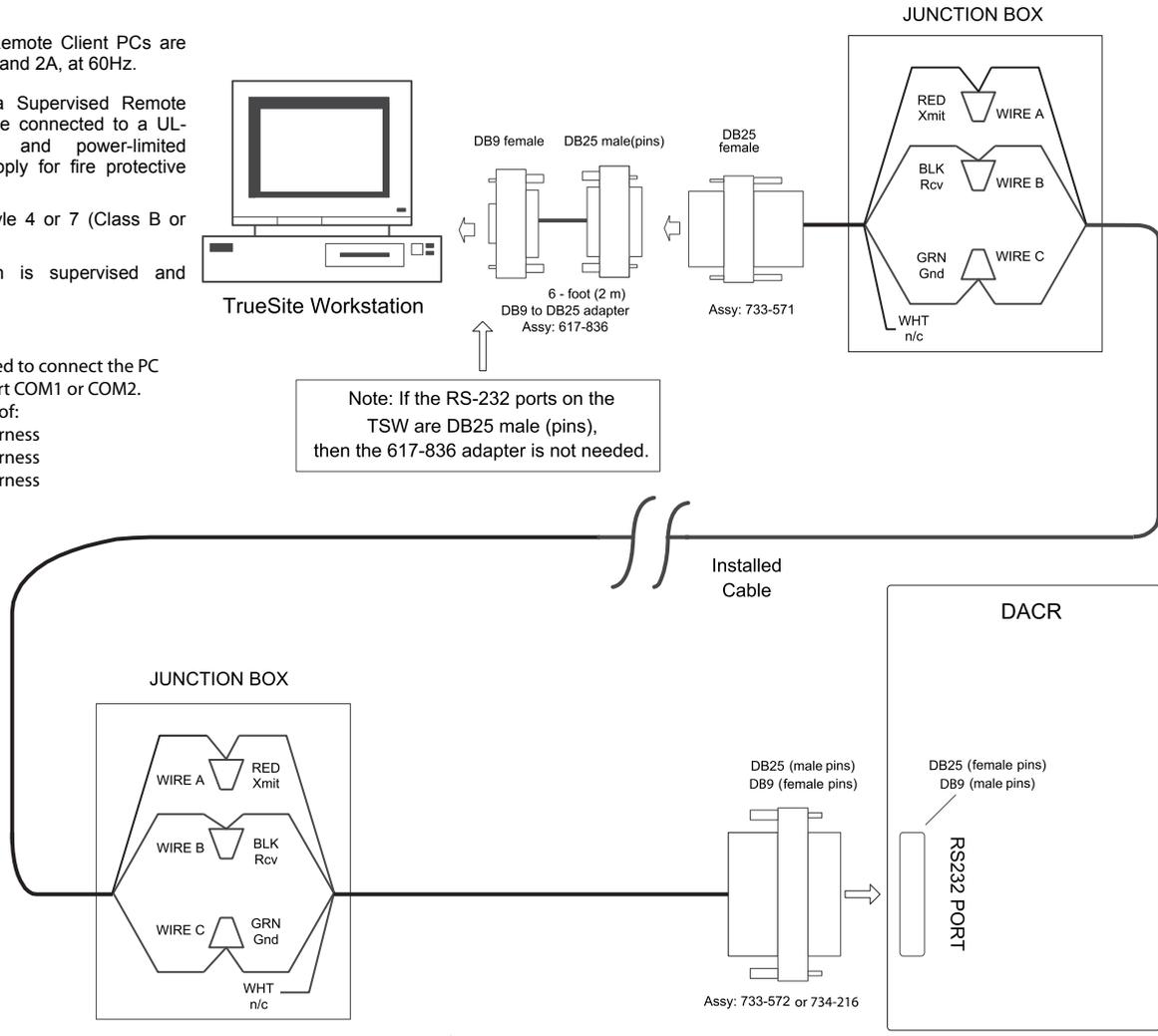
Note: If the RS-232 ports on the TSW are DB25 male (pins), then the 617-836 adapter is not needed.

Installed Cable

NOTE : Installed Cable is typically 18 AWG (0.8231 mm^2), 2-pair twisted.

Figure 6-1   Connecting DACR to the TSW PC with Adapter Cable

Installing DACR

REAR VIEW OF QUAD
SERIAL CARD 566-693
LOCATED INSIDE THE **TSW**

CHL4

3 = RXD
4 = CTS   TYPICAL
8 = GND
9 = TXD

CHL3

CHL2

CHL1

4190 **TSW**

TYPICAL CONNECTION
ON QUAD SERIAL
PORT CARD

RED

BLACK
GREEN

ASSY:733-572

db25
female

ASSY:733-571

RED
Xmit   WIRE A

BLK
Rcv   WIRE B

GRN
Gnd   WIRE C

WHT
n/c

JUNCTION BOX

DACR

4190-6026 is used to connect the PC port
to the port on the Quad Serial Card.
This kit consists of :
- (2) 733-572 harnesses
- (1) 733-571 harness
- (1) 734-216 harness

JUNCTION BOX

WIRE A   RED
           PIN 2

WIRE B   BLK
           PIN 3

WIRE C   GRN
           PIN 7
           Gnd

WHT
n/c

DB25 (MALE PINS)
DB9 (FEMALE PINS)

RS232 PORT

DB25 (FEMALE PINS)
DB9 (MALE PINS)

Notes:

- The TSW and Remote Client PCs are AC-
rated for 120V and 2A, at 60Hz.

- The TSW, or a Supervised Remote Client PC,
must be connected to a UL-listed, regulated
and power-limited 24VDC power supply for fire
protective signaling service.

- The wiring is style 4 or 7 (Class B or Class A).

- The connection is supervised and power-
limited.

ASSY: 733-572 or 734-216

Figure 6-2   Connecting DACR to the TSW PC without Adapter Cable

Configuring System II or III DACR Sur-Gard Options

1. After connecting the DACR(s) to the TSW PC, turn the power ON.
2. Press **ENTER** to bring up the login screen.
3. Enter **CAFÉ** at the access code screen.
4. Select the desired menu item:

    • **System Functions**: To change Date and Time
    • **Line Card Programming**: To program the line card
        - 1C - Busy Out   05
    • **CPM Options**
        - Set com settings
        - 07 – Baud rate: 9600
        - 08 – Data bits: 8
        - 09 – Parity: 0
        - Set heartbeat timer from   30 to 15
        - 12 – heartbeat timer: 15
        - Set number of line cards
        - 2E – number of line cards
        - 2F - Automation Mode   04

Configuring Bosch D6600 DACR Options

1. After connecting the DACR(s) to the TSW PC, turn the power ON.
2. Press **M/E** to log on.
3. Enter **6600** and then **M/E** at the access code screen.
4. Use the arrow keys to scroll and **M/E** to select the desired menu item:

    • 2 CPU Configuration
    • **Global**
        - Time Setup
        - Date Setup
    • **COM3 Automation Configuration**
        - Baud Rate: 9600
        - Data Bit: 8
        - Parity: 0
        - Stop Bit: 1
        - Link Test: 30

Configuring AES Intellinet 7705i Receiver Options

1. The AES Intellinet 7705i Reciever is preset with the following COM configurations:
        - Baud Rate: 1200
        - Data Bits: 7
        - Parity: ODD
        - Stop Bits: 2
2. Refer to the "AES Intellinet 7705i Receiver" document 40-7705I-IS for setup information for the receiver.
3. For UL Central Station Burglar Alarm Applications, opening/closing signals require an alternate communications means that provides for premises acknowledgement/ringback. Refer to the Intellinet Installation Instructions for details.

Chapter 7. Jumpers, Interrupts, and Switch Settings

Introduction

Note: This chapter applies specifically to Simplex UL864 Listed PC stations.

This chapter provides information about installing boards (cards) on the TSW PC running the TSW software. The TSW PC is usually shipped with the cards installed. However, if you do need to install a card or modify a configuration, you may find this information helpful. The jumper, switch and IRQ settings for the following cards are described in this chapter:

- Media cards for RS232 and wired configurations
- UL I/O Card
- 4120 Fire Network Interface Card(s) (NICs)

In this Chapter

This chapter discusses the topics listed in the following table.

Topic	See Page #
Interrupt (IRQ) Settings	7-2
Jumper Settings	7-4
Switch Settings	7-5
Configuring the Devices	7-6
Interfacing with the Simplex 4120 Fire Network	7-10
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Installing the 4190-6051, -6056 and -6057 Ethernet Switches	7-23
Installing the 4190-6050, 4190-6054 and 4190-6055 FAES	7-25

Interrupt (IRQ) Settings

Recommended Interrupt (IRQ) Settings

This section describes the interrupt settings for the TSW PC. Table 7-1 lists the recommended IRQ settings for the TSW PC.

Note: Make sure that COM1 and COM2 are enabled. Use the **Ports** icon in the Control Panel Group to make these changes.

TrueSite Workstation IRQ Settings

Table 7-1 shows the recommended TrueSite Workstation IRQ settings.

Table 7-1. Device IRQ Settings for Configurations Basic through 23

	Configuration																							
	Basic	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
PS/2 Mouse	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
Parallel Port	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
PC COM1	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	**	**	**	**	**	**	**	**
PC COM2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	**	**	**	**	**	**	**	**
Serial Touchscreen*																	**	**	**	**	**	**	**	**
UL I/O ** (see Note 4)									11	11	11	11	11	11	11	11					11	11	11	11

Note: **1.** The TSW Configurator will request an IRQ value for the 4120 Fire Network Interface Card, and the value 10 can be entered. However, the Configurator will later ignore this entry because it is the PCI card and the PC that manage the IRQ assignment.

2. *If the Serial Touchscreen is used on PC COM1, use IRQ 4. (PC COM1 is now unavailable for other use.) If the Serial Touchscreen is used on PC COM2, use IRQ 3. (PC COM2 is now unavailable for other use.)

3. **Port A and Port B are not available.

4. For the ISA UL I/O card 565-283 (4190-6006), IRQs 11 should be set to **Reserved** in the BIOS settings. IRQs 11 should **not** be set to **Reserved** if the USB UL I/O card 746-189 (4190-6014) is used. The exact setting depends on the options available in the BIOS.

Interrupt (IRQ) Settings, *Continued*

Possible IRQ Settings

Table 7-2 lists the possible IRQ settings for the TSW PC.

Table 7-2. TSW PC - Reference IRQ Settings (see Table 7-1 for recommended settings)

TrueSite Workstation Device	Possible IRQ Settings								
	2/9	**3**	**4**	**5**	**7**	**10**	**11**	**12**	**15**
Parallel Port					X				
PS/2 Mouse								X	
Serial Touchscreen		X	X						
4120 Fire Network Interface Card or Repeater (ISA)	X					X	X		X
UL/IO (see Note)	X			X		X	X	X	X
PC Serial COM1			X						
PC Serial COM2		X							

Note: Applicable only to the ISA UL I/O card (565-283). Excludes the USB UL I/O card (746-189).

Jumper Settings

RS232 Media Card (P/N 565-327)

Table 7-3 lists the jumper configurations for all RS232 media cards.

Table 7-3. RS232 Media Card - Jumper Positions

Jumper	Function	Position
P3	4120 Fire Network Media Motherboard	1-2 (default)
	Service Port	2-3
P4	Media Mother Board	1-2 (default)
	4120 Fire Network and Service Port	2-3
P5	Supervised	1-2 (default)
	Unsupervised	2-3

Wired Media Card (P/N 566-336)

Table 7-4 lists the jumper configurations for all wired media cards.

Table 7-4. Wired Media Card - Jumper Positions

Jumper	Description	Cable Size and Length	Jumper Position
P2	Matches impedance of Communication lines	18 AWG (0.823 mm^2) Cable	1-2, 3-4, 5-6, 7-8
		24 AWG (0.205 mm^2) Cable	All jumpers out
P3 P4	Used to improve shortened line sensing with shorter Communication lines. Present on Rev B (and later) of the Media Module (566-336)	18 AWG (0.823 mm^2) Cable, 5 kft or less	2-3
		24 AWG (0.205 mm^2) Cable, 2 kft or less	2-3
		Longer lines	1-2

Fiber Optic Media Assembly

Fiber Media Jumper Settings - 746-110 Only

JW1 is used to adjust the link power budget. If communication problems are encountered, verify that fiber connections comply with ANSI/TIA/EIA 568-B-3 industry standards. The low power setting is preferred for all 62.5 um fiber links less than 11 dB and 50 um fiber links less than 6.6 dB.

Link Power Budget Settings (62.5 um fiber/50 um fiber)

Low 11 dB / 6.6 dB
Med 16 dB / 11.6 dB
High 20.4 dB / 17 dB

JW1 Launch Power Setting
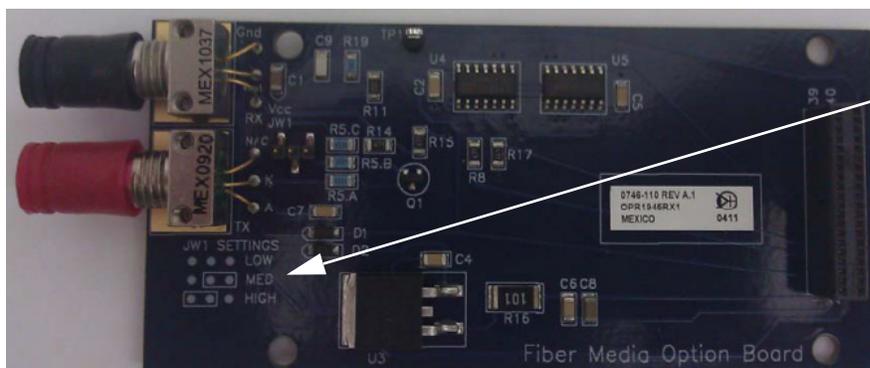
Figure 7-1   Fiber Media Card

Switch Settings

UL I/O Card (P/N 565-283) 4190-6006

This section explains how to configure the UL I/O Card (Model 4190-8403 TSW only). Ensure that the switches are set on the UL I/O Card as listed in Table 7-5 and Table 7-6.

Table 7-5. UL I/O Card - Host Address I/O Selection Via SW1

Switch	State
SW1-1	OFF
SW1-2	OFF
SW1-3	OFF
SW1-4	OFF

Table 7-6. UL I/O Card - Configuration Via SW2

Switch	No COM Ports (No Daughter Cards - Default)
SW 2-1	OFF
SW 2-2	OFF
SW 2-3	OFF
SW 2-4	OFF
SW 2-5	OFF
SW 2-6	OFF
SW 2-7	OFF
SW-8	OFF

UL I/O Card (746-189) 4190-6014

The 4190-6014 USB UL I/O Card contains only one switch. Set it to the OFF position. This is used in the 4190-8403 or the 4190-8405.

Configuring the Devices

Configuring Device Drivers

To configure device drivers, complete the following steps:

1. Start the **TSW Configurator**.

2. Load Job Configuration.

3. Select the **Registry Configuration** from the **Configure** menu.

   • When the **Configuration** dialog box appears, click the **Apply** button, exit the **TSW Configurator**, and reboot the computer.

   • If it is the first time a configuration is done on the system and a ULCard is present in the job, the ULCard driver will be installed. Wait for the completion of the installation, exit the configurator and reboot the computer.

Installing the Quad Serial Port Card Driver

1. Copy driver files **oemport.inf**, **ser15x.inf** and **ser15x.sys** to C:\Users\<user>\Desktop\Windows 7 or another preferred location.

2. Power down the computer.

3. Install the Comark Quad Serial Card in a free PCI slot.

4. Power-up the computer and make sure Windows auto detects the new PCI card, as shown in Figure 7-2 below.
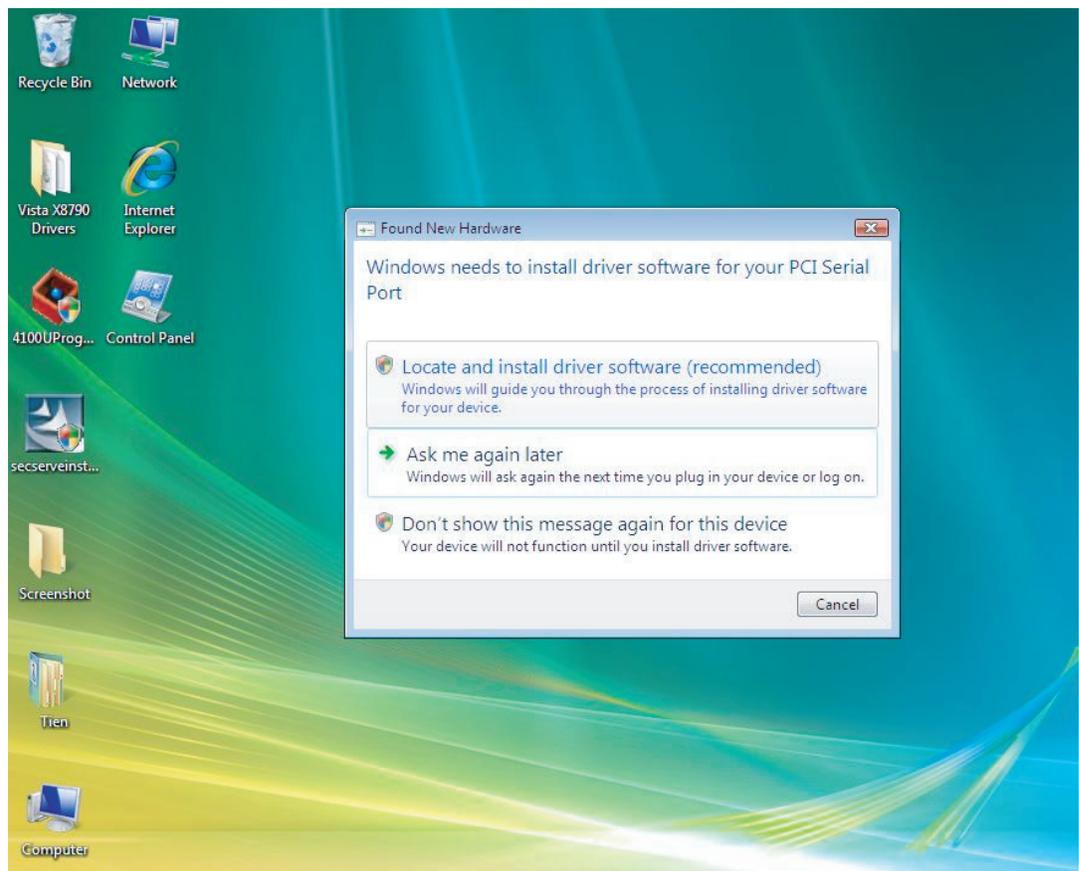
Figure 7-2   "Found New Hardware" Wizard

Configuring the Devices, *Continued*

Installing the Quad Serial Port Card Driver

Note: If the dialog box is not automatically displayed on reboot, invoke the Device Manager (Figure 7-3) by clicking on **Control Panel** and then on **Device Manager**. Select the **PCI Serial Port card**, right click and select **Update Driver Software**.
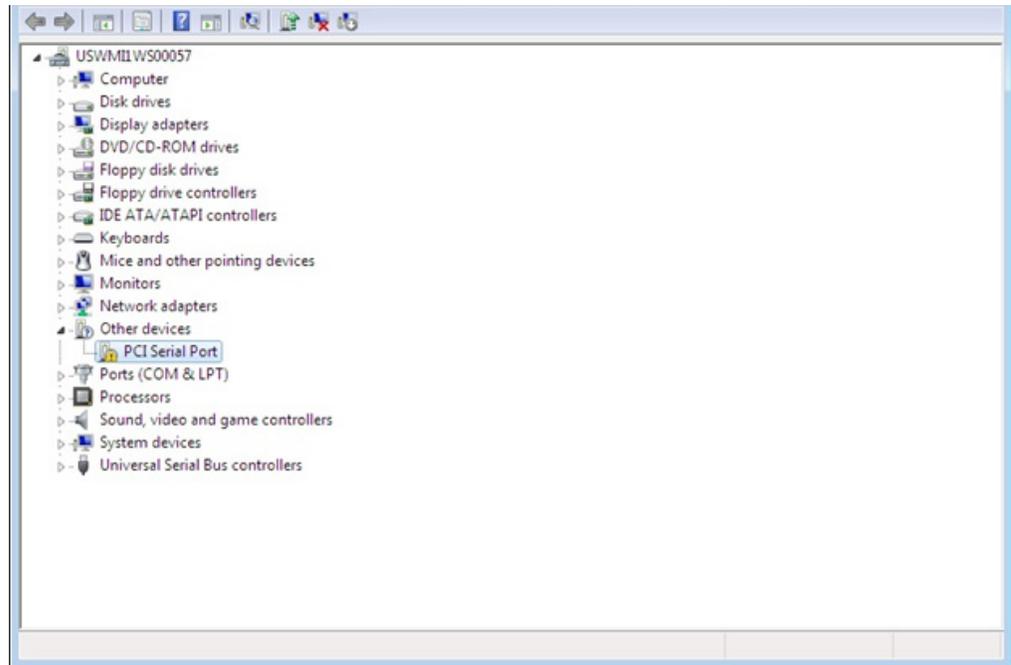
Figure 7-3   Device Manager Window

5. Select the option **Locate and install driver software (recommended)**

6. On the next screen, select the option **I don't have the disc. Show me other options**, as shown in Figure 7-4.
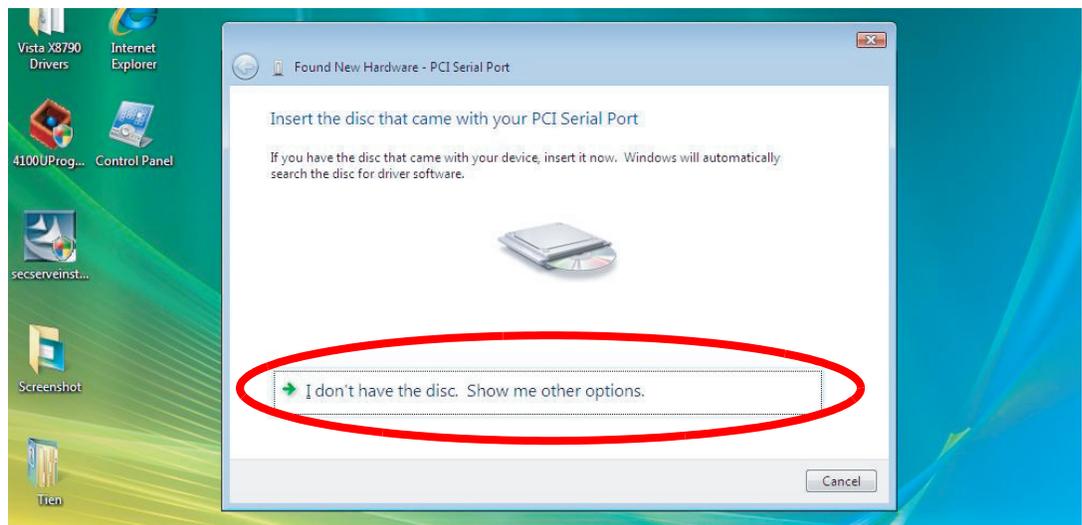
Figure 7-4   Driver Installation Screen

7. In the dialog box that appears, select **Browse my computer for driver software** (see Figure 7-5). Enter the location of the driver.

**Installing the Quad
Serial Port Card
Driver**

Figure 7-5   Update Driver Software - PCI Serial Port (Windows 7)

8. If the **Windows can't verify the publisher on this driver software** warning screen appears, select **Install this driver software anyway** to proceed.

9. Repeat steps 1 through 8 for each of the four ports.

Installing the Quad Serial Port Card Driver

10. After the Comark 54-X8790 driver installation has been finalized, Windows will detect a new malfunction device and steps 1-8 will need to be repeated to install the Communication Port for this driver. Figure 7-6 shows the **Device Manager** screen after all installations are completed.
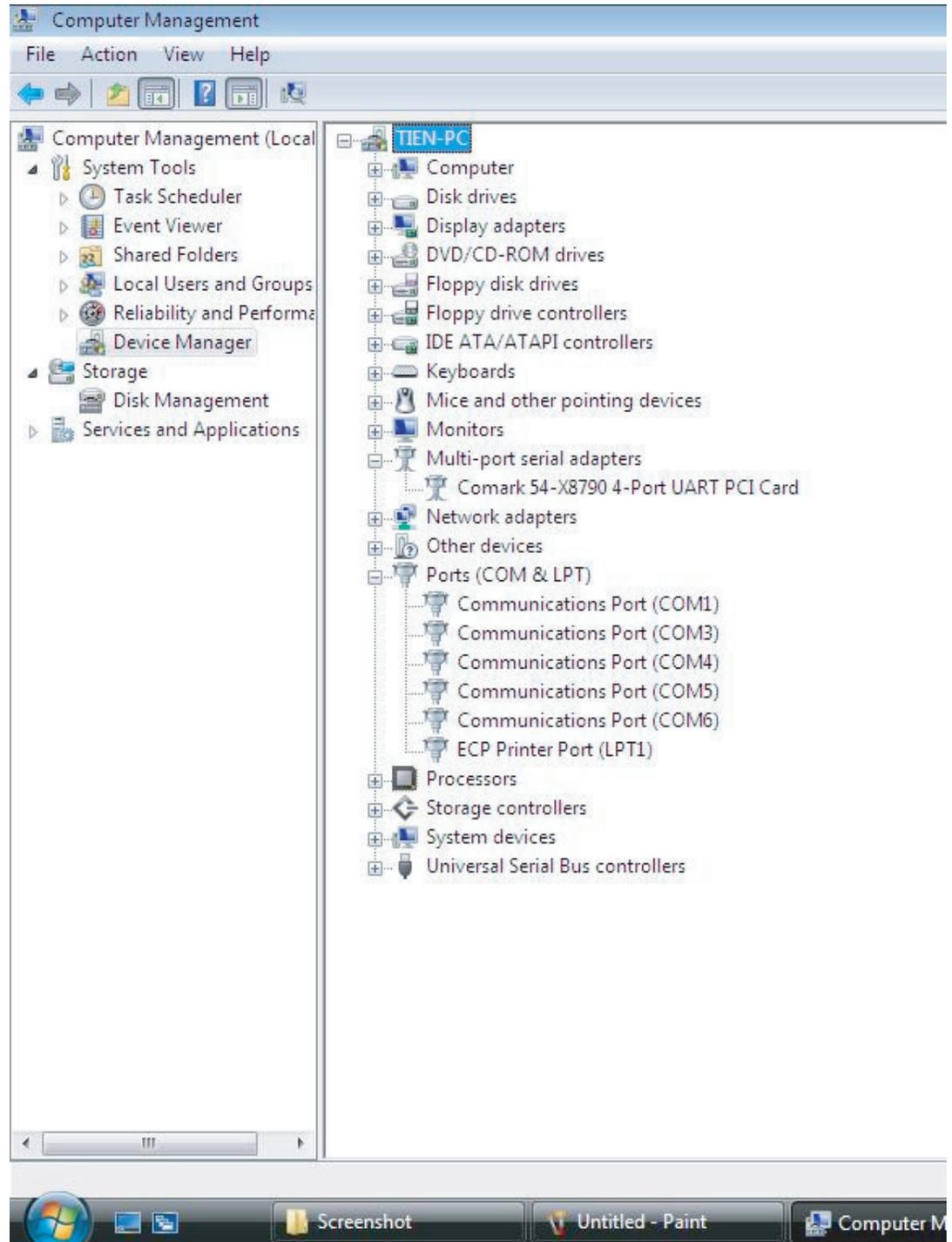
Figure 7-6   Device Manager After the Driver Installation

Interfacing with the Simplex 4120 Fire Network

4120 Fire Network Interface Card

This section explains how to install the 655-273 4120 Fire Network Interface Card (Wired) or the 655-272 4120 Fire Network Interface Card (Modular).

You can install up to seven 4120 Fire Network Interface Cards into one PC to support a multi-network configuration. Each 4120 Fire Network Interface Card can support one 4120 fire network containing up to 98 nodes. TSW software can support up to seven 4120 fire networks consisting of up to 392 nodes. Ensure that the jumpers are set to the positions listed in Table 7-7 for each 4120 Fire Network Interface Card used.

Table 7-7. 4120 Fire Network Interface Card - Jumper Positions

	655-272 & 273 4120 Fire Network Card	
Jumper	**Position**	**Function**
P1	1-2	57600 Baud
	2-3	9600 Baud
P2	1-2	9 bit
	2-3	8 bit
P6	1-2	Bypass Disabled
	2-3	Bypass Enabled (default)

4120 Fire Network Interface Card Installation Sequence

To properly install the 4120 Fire Network Interface Card, follow one of the two sequences presented below based on the scenario.

Note: Starting with the TSW Installation Version 1.02.00, the drivers will be installed during the installation of the software (through launching the TrueSite_Workstation_XXX.exe file) and the steps below can be skipped

PRIMARY SCENARIO

If the user does not have the "3.3/5V PCI Card Driver" CD-ROM, follow this procedure:

1. Backup the system and notify all building personnel and occupants that the IMS is going offline until system upgrade is completed.
2. Shut down the Simplex UL864 Listed PC.
3. Disable the power supply of the Simplex UL864 Listed PC by pushing switch situated at the back of its tower.
4. Strip off the case of the tower by doing the following:
    a. Remove the screws in the back of the unit. Keep them in a bag or a container to avoid losing them.
    b. Once the screws are removed, slide the case forward.
5. Lift up the case to expose the components inside the PC tower.
6. Insert the 4120 Fire Network Interface Card in the PCI slot and power the PC back up.
7. Wait for **Found New Hardware** dialog box to appear.
8. The dialog appears and displays: **Can Windows connect to Windows Update to search for software?** In the prompt, select **No, not this time**.
9. Select **Install from a list or specific location (Advanced)**.
10. Select the **Don't search** radio button, then click **Next**.
11. There are two possibilities:
    a. If the message "Simplex PCI Network Interface Card 3.3V" does not show up in the list of compatible hardware, go to Step 12.
    b. Otherwise if the message appears, click **Next**.
12. Click **Have Disk**.
13. Browse to C:\Simplex\TrueSite\TSW\NetworkCardDriver\simplex.inf, click **Open**, then **Next**.
14. Click **Yes** for the **Update Driver Warning**.
15. You will receive a message telling you that "Windows can't verify the publisher of this driver software". Click the option that lets you continue anyway ().

Figure 7-7   Option to Continue Anyway

16. Once the installation is complete, click **Finish** and restart the PC.

4120 Fire Network Interface Card Installation Sequence

SECONDARY SCENARIO (applicable before the TSW installation)
If the user has the "3.3/5V PCI Card Driver" CD-ROM, follow this procedure:

1. See Steps 1 through 5 above.
2. Insert the 4120 Fire Network Interface Card in the PCI slot and power the PC back up.
3. Place the "3.3/5V PCI Card Driver" CD-ROM in the CD-ROM drive.
4. Wait for **Found New Hardware** dialog box to appear.
5. The dialog appears and displays: "Can Windows connect to Windows Update to search for software?" In the prompt, select **No, not this time**.
6. Select **Install Software Automatically (Recommended)**.
7. After the wizard finds the PCI Network Interface Card, you will receive the following message: *"*has not passed Windows Logo testing". Choose **Continue Anyway**.
8. Once the installation is complete, click **Finish** and restart the PC.

Installing Cards and Jumpers

Inserting and Connecting Cards in the TrueSite Workstation

This section explains how to insert cards and connect the cables to the TSW PC, running TSW Desktop Model 4190-8403. Table 7-8 and Table 7-9 list the correct slot positions in the TrueSite Workstation backplane.

Table 7-8. TrueSite Workstation Desktop Models - Card Slot Positions

Card	Slot #
SBC	Slot #2
4120 Fire Network Interface Card	See page 2-6

4190-8403 - Card Slot Positions

This section provides information about installing the cards and connecting the cables for the 4190-8403. Table 7-10 lists the correct slot positions in the TSW PC backplane for the 4120 Fire Network Interface Card(s), Controller Card and UL I/O Card. Refer to Figure 7-8.

*** Fire Network cards added in locations shown if used. If not used, then Quad Serial, or Video Card can be added in that slot.
**** USB bayonet can be moved to unused slot or removed if space for Fire Network, Quad Serial, or Video Card is needed.

* Looking from right to left, Network Card 3 is followed by Network Card 2, 1 and 4 respectively. This layout varies, depending on the application. Verify the card (loop) number during installation.

** Bracket may be pre-mounted or shipped in the box with the PC. Existing screws are then used to mount it.

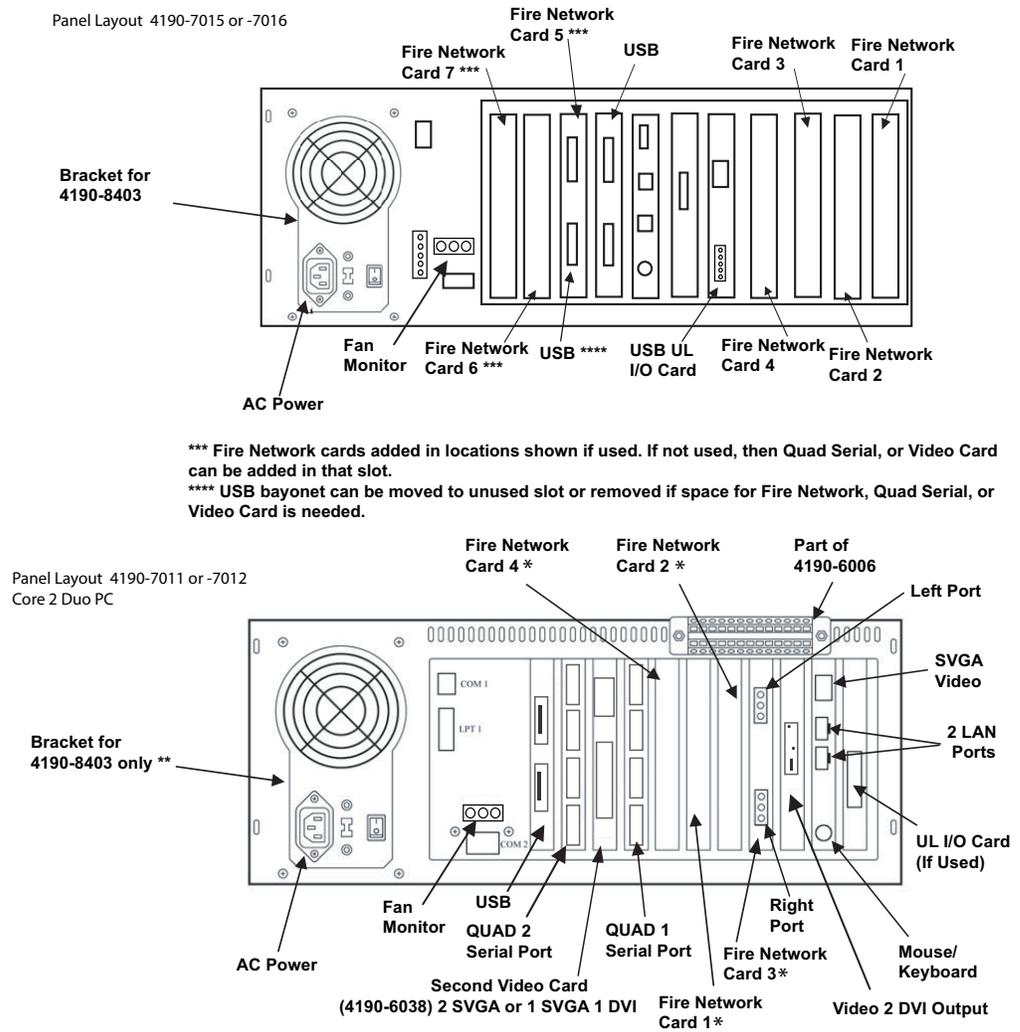**Figure 7-8   Card slot positions**

Installing Cards and Jumpers, *Continued*

4190-8403 - Card Slot Positions

Table 7-9. TrueSite Workstation Desktop Models - Card Slot Positions

Card	Slot #
SBC	Slot #2
UL I/O Card (see Note)	Slot #1 (furthest from P.S.)
4120 Fire Network Interface Card	See page 2-6

Note: The USB UL I/O card uses the bayonet slot, instead of the PC slot.

Continuity Check for Model 4190-8403 with UL I/O Card 565-283 (4190-6006) Installed

For the TSW PC running the 4190-8403 TSW systems, with the terminal block mounted to the PC chassis:

1. Verify the information in Table 7-10 if UL I/O card 565-283 (4190-6006) is used.
2. Verify the information in Table 7-11 if UL I/O card 746-189 (4190-6014) is used.

Table 7-10. UL I/O Card 565-283 (4190-6006)

Location	Value	Function
TB1-2 to TB1-4	Short (<1 ohm)	P132 ON, P205 TBL
TB1-8 to TB1-10	Short (<1 ohm)	P133 ON, P360 TBL
TB1-4 to TB1-6	Open Circuit	P136 Abnormal
TB1-10 to TB1-12	Open Circuit	P137 Abnormal

Continuity Check for Model 4190-8403 with UL I/O Card 746-189 (4190-6014) Installed

Table 7-11. UL I/O Card 746-189 (4190-6014)

Location	Value	Function
TB1-1 to TB1-2	Short (<1 ohm)	P37 ON, P205 TBL
TB1-3 to TB1-4	Short (<1 ohm)	P38 ON, P360 TBL
TB1-5 to TB1-6	Short (<1 ohm)	P39 ON
TB1-7 to TB1-8	Short (<1 ohm)	P40 ON
TB1-1 to TB1-2	Open Circuit	P18 Abnormal
TB1-3 to TB1-4	Open Circuit	P19 Abnormal
TB1-5 to TB1-6	Open Circuit	P20 Abnormal
TB1-7 to TB1-8	Open Circuit	P21 Abnormal

Reboot Watchdog

If a UL I/O Card (P/N 565-283 or 746-189) is installed and you want to exit the TSW application because you plan to run other applications, check the option "Suppress UL I/O card sound and PC Reboot" (see Figure 7-9) in the TSW **Exit** dialog box to prevent the PC from sounding/rebooting.

Installing Cards and Jumpers, *Continued*

Reboot Watchdog   **Note:**   If the "Suppress UL I/O card sound and PC Reboot" checkbox is not selected, the Reboot Watchdog application can be used instead. Refer to the section "Disabling the Reboot Watchdog" section later in this chapter for more details
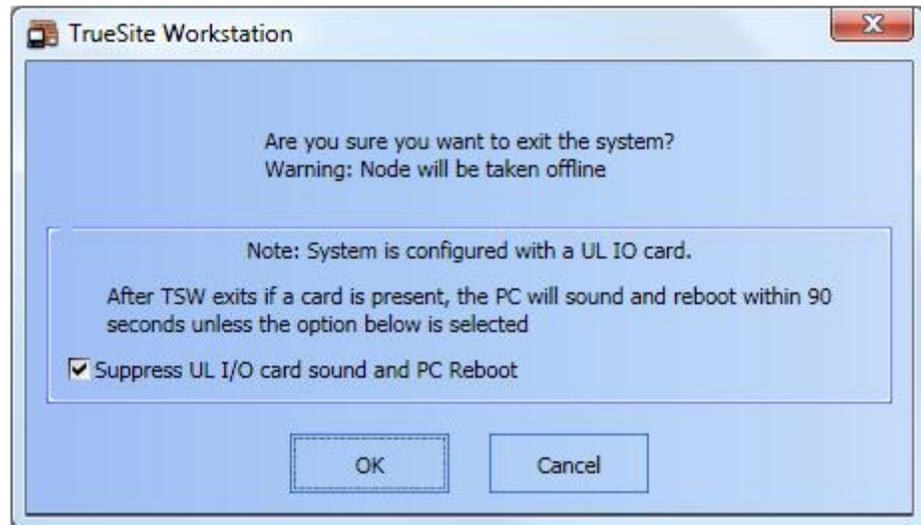

Figure 7-9   TSW Exit dialog box

Installing the Second Video Card

Installation Procedure

1. Start the PC.
2. Hold down the **Delete** key to interrupt the boot process. This bypasses the boot sequence and redirects you to the BIOS (not required for 4190-7015 or 4190-7016).

For the 4190-7007 or 4190-7008 PC:

    a. In BIOS, select **Advanced Chipset Features**.

    b. Set **Init Display First** to **[PCI Slot]**.

    c. Set **On-Chip VGA** to **[Disabled]**.

    d. Save and exit BIOS.

    e. Shut down the PC.

    f. With the unit powered off, disable the on-board VGA by placing a jumper on pin 2-3 for jumpers of J5 to J11 of the Single Board Computer (SBC) (see Figure 7-10). Insert the 4190-6038 video card in PCI slot 3-3.
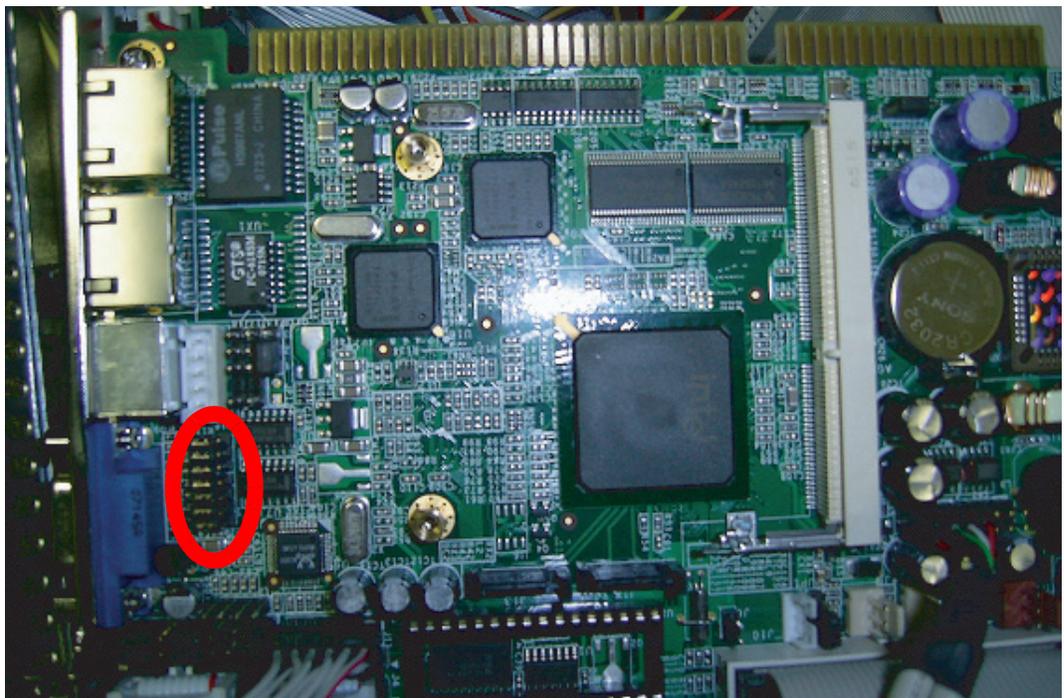

Figure 7-10   Placing a Jumper on Pin 2-3

Installation Procedure

<u>For the 4190-7009 through -7012</u>

    a. In BIOS, select **Advanced Chipset Feature**

    b. Select **VGA** setting

    c. Select **Onchip VGA Control**

    d. Change Setting to **Disabled**, or "PEG port" if the PC is a 51-tsp16-001 Rev. J or higher.

3. Attach the monitor to the top video connector on the 4190-6038 video board. Attach the DVI to RGB connector to the middle connector, as seen in Figure 7-11.
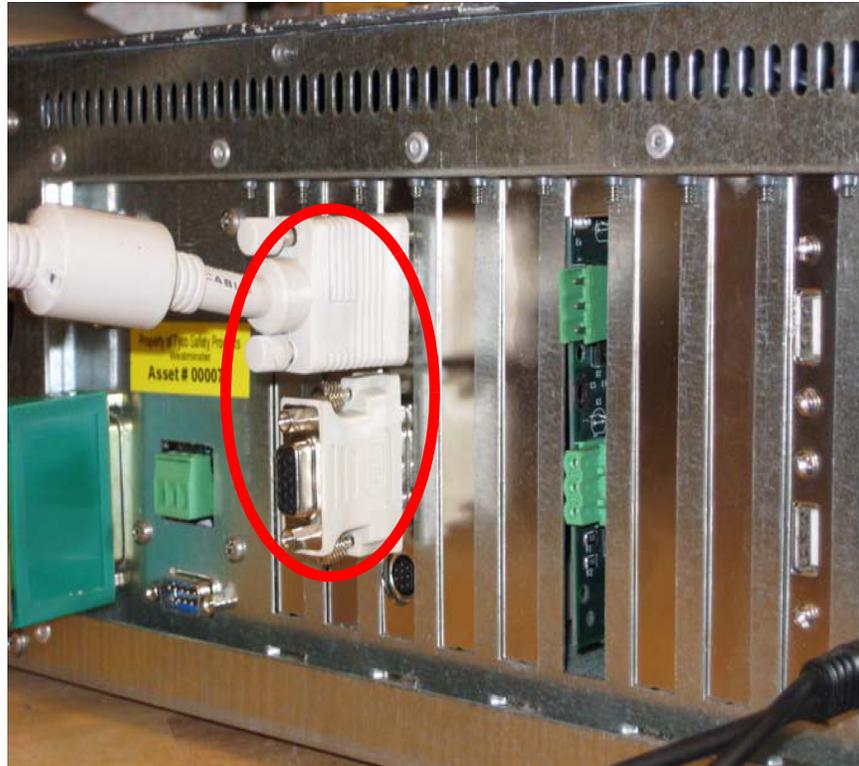
Figure 7-11   Attaching the DVI to the RGB Connector

4. Start the computer and log in. Then, exit TSW if it is set up to start automatically. (TSW may not start as the message will be displayed indicating the TSW requires 1024 x 768 resolution minimum).

5. Microsoft Windows may detect this new video card and places the appropriate display drivers from its system folder automatically. To maximize the video board acceleration and increase the performance, install the latest 4190-6038 driver. You can download it at http://db.jaton.com.tw/DownloadSelect.aspx?P_ID=84338KL-T256

6. Accept the license upon launching the driver installation program. Leave the default installation folder intact.

7. Once the installation is completed, restart the computer.

8. When the system restarts, log in and exit TSW if it is set up to start automatically. (TSW may not start as the message will be displayed indicating the TSW requires 1024 x 768 resolution minimum.)

Installation Procedure

9. Follow the steps below:

   a. Right click on the desktop and select **Screen resolution**.

   b. Set the resolution to 1024 by 768 pixels or higher. Click **Apply** and then **OK**.

   c. Right click on the desktop and select **Personalize**. Click on **Screen Saver**.

   d. In the **Screen Saver Settings** window, click on **Change power settings**.

   e. In the **Power Options** window, click on **Choose when to turn off the display**. select **Never** and click on **Save changes**.

   f. Power down the computer

10. Plug in the second monitor to the adapter plug, on the 4190-6038 video card. Follow the steps below.

    a. Start the computer and log in. Exit TSW if it was setup to start automatically.

    b. Right click and select **NVIDIA Control Panel** to change the display settings, such as the resolution and multi-monitoring (Figure 7-12).

       Note: TSW supports up to four monitors on Windows 7. As such, up to two Video Monitor cards can be added.

    c. The four available monitors are displayed. Select numbers 2,3, and 4. Set the resolution to 1024 by 768 pixels or higher. Click **Apply** and then **OK**.

Note: It is recommended to use the same resolution for the primary and the three secondary monitors.

11. Click the **Extend the desktop onto this monitor** checkbox to enable. Click **Apply**, and then **OK**. You can now move windows from one monitor to another.

For Clone Mode

12. Double click on any one of the three secondary monitor icons (2, 3, or 4) to invoke the "Monitor Properties" dialog box.

13. Click on the **GeForce 6200** tab and then on **Start the NVIDIA Control Panel**.

14. Click **Display** and then **Change display configuration**.

15. Click **The same on both displays (Clone)**.

16. Click **Apply** and close the window.

Installing the Second Video Card, *Continued*

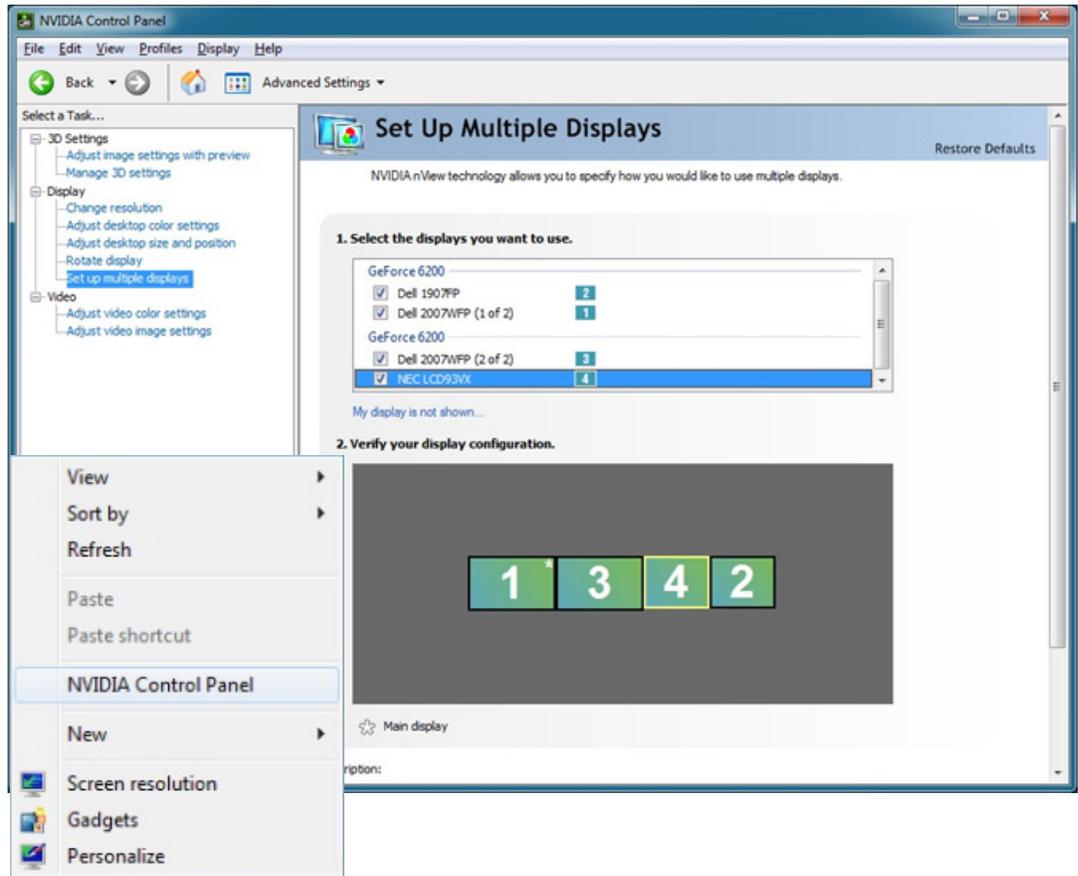**Installation Procedure**

Figure 7-12   NVIDIA Control Panel

Installing the USB UL Card

Installation Procedure

By default, the USB UL Card should be installed on all machines. However, for upgrades of systems which were using ISA cards, the instructions to install are as follows:

1. Turn off the computer.
2. Disconnect any USB-to-Serial cables or devices from the computer.
3. Connect the USB card to the CPU card using the internal USB cable (this will use one USB port internally) and mount it to the PC. Attach the reset line to the PC.
4. Turn the computer back on.
5. After boot-up, the **Found New Hardware** Windows dialog box appears. Click **Next**.
6. A dialog appears saying: **Can Windows connect to Windows Update to search for software?** Click **No, not this time**.
7. Select **Install from a list or specific location (Advanced)**.
8. Select the **Don't search** radio button. Click **Next**.
9. There are two possibilities:
    a. If the message **Comark USB UL Port** does not appear in the list of compatible hardware, go to step 12.
    b. If the message **Comark USB UL Port** appears, click **Next**.
10. Click **Have Disk**.
11. Browse to **C:\Simplex\Truesite\TSW\ULCard Driver\mchpcdc.inf** and click on **Open.** Then click **Next**.
12. Click **Yes** in the **Update Driver Warning** dialog box.
13. Depending on your operating system, you will either receive a message telling you that the software **has not passed Windows logo testing** or **Windows can't verify the publisher of this driver software**. Click the option that lets you **continue anyway**.
14. Once the installation is complete, click **Finish**.
15. Reconnect any USB-to-Serial cables that were attached to the computer.
16. To perform configuration of the card, see document *579-835: TrueSite Workstation Operation & Application Instructions* under section "Application Setup".

Disabling the Reboot Watchdog

Reboot Watchdog   If a UL Card (565-283) is installed and you want to exit the TSW application because you plan to run other applications, run the Watchdog32 application from C:\Simplex\TrueSite\TSW\config\Watchdog32.exe to disable the reboot on the UL card. Disabling the reboot watchdog prevents the PC from rebooting.

If a UL Card (746-189) is installed and you wish the TSW application not to run for an extended period, run the USB UL Watchdog application from **C:\Simplex\TrueSite\TSW\Client\USBULWatchdog.exe** to disable the reboot on the USB UL card. Disabling the reboot watchdog will prevent the PC from rebooting. You should see a command prompt box which informs you if the watchdog was successfully disabled. Press any key to close the window.

Ethernet Switches

Overview
An Ethernet switch is a device joining multiple computers together on a single Ethernet network. To connect the computers to the Ethernet switch, their Ethernet (network) ports are linked with an RJ-45 network cable.

> **Note:** When a TSW PC uses an Ethernet (LAN) port and they are located in separate rooms, a LAN Suppressor (4190-6010) must be installed. Refer to document *579-900: 4190-6010 LAN Suppressor Installation Instructions* for installation instructions for the LAN Suppressor.

An Ethernet switch works by inspecting the data packets exchanged between the different workstations. This enables the Ethernet switch to determine the source and destination address of each packet, and to forward it accordingly. An Ethernet switch can work in a half or full-duplex mode. Half-duplex mode means the switch cannot both send and receive data packets at the same time. Full-duplex mode means that the switch can receive and send data packets simultaneously. In addition, Ethernet switches are capable of connecting network devices operating at different network speeds. For example, when an Ethernet switch is listed as a 10/100, this means that it is capable of connecting to 10Mbit/s and 100Mbit/s network devices on the same Ethernet ports.

The Simplex Fire Alarm Ethernet Switch (FAES) is an Ethernet switch that is UL-listed for fire alarm use (UL864, 9th edition). It will be used with the TSW Remote Clients with control capabilities (Ack/Silence/Reset). This device connects multiple compliant PCs together to form an Ethernet network. The network makes it possible to monitor and control the functions of a fire alarm system from the different TSW Remote Clients connected to the network. There are three FAES models:

1. Model 4190-6050 which supports eight copper Ethernet ports.
2. Model 4190-6054 which supports four copper and two single-mode fiber Ethernet ports.
3. Model 4190-6055 which supports four copper and two multi-mode fiber Ethernet ports.

The 4190-6051, -6056 and -6057 Ethernet switches will be used with TSW Remote Clients with view-only capabilities. It will be able to perform the same tasks as the 4190-6050, 4190-6054 and 4190-6055 FAES, except without the earth fault detection functionality.

Installing the 4190-6051, -6056 and -6057 Ethernet Switches

Specification and Installation

Please see "EISwitch Installation Guide" for details on the installation and configuration of this Ethernet switch.

A UL1481-listed, regulated, power-limited 24 VDC power supply, or the aux power output of a UL-listed Simplex fire alarm control unit, is required to power the Ethernet switch.

The connection between the EISwitch Ethernet switch and the TSW workstations is shown in Figure 7-13 and Figure 7-14. The LAN Suppressors are used to protect the LAN against transients in the wiring. Up to eight nodes can be connected to the switch, one for each Ethernet port. All wiring is power-limited.

Note: The 4190-6051, -6056 and -6057 switches are not listed to be used for control panel functions.

Notes:
- The TSW and the Remote Client PCs are AC-rated for 120V and 2A, at 60Hz.
- The network SLC (Signaling Line Circuit) rating is 5V, 60 mA, 57.6K baud. The maximum distance between nodes is 10,000 feet, using 18 AWG wires.
- The wiring is style 4 or 7 (Class B or Class A). The wire size is 12 - 18 AWG.
- The connection is supervised and power-limited.
- If the Supervised Remote Client is located within 328 feet, the Ethernet Switch is not required.
- If the Remote Client is located within the same room as the TSW, the 4190-6010 is not required.

Typical connection shown. Any port 1 through 8 can be used
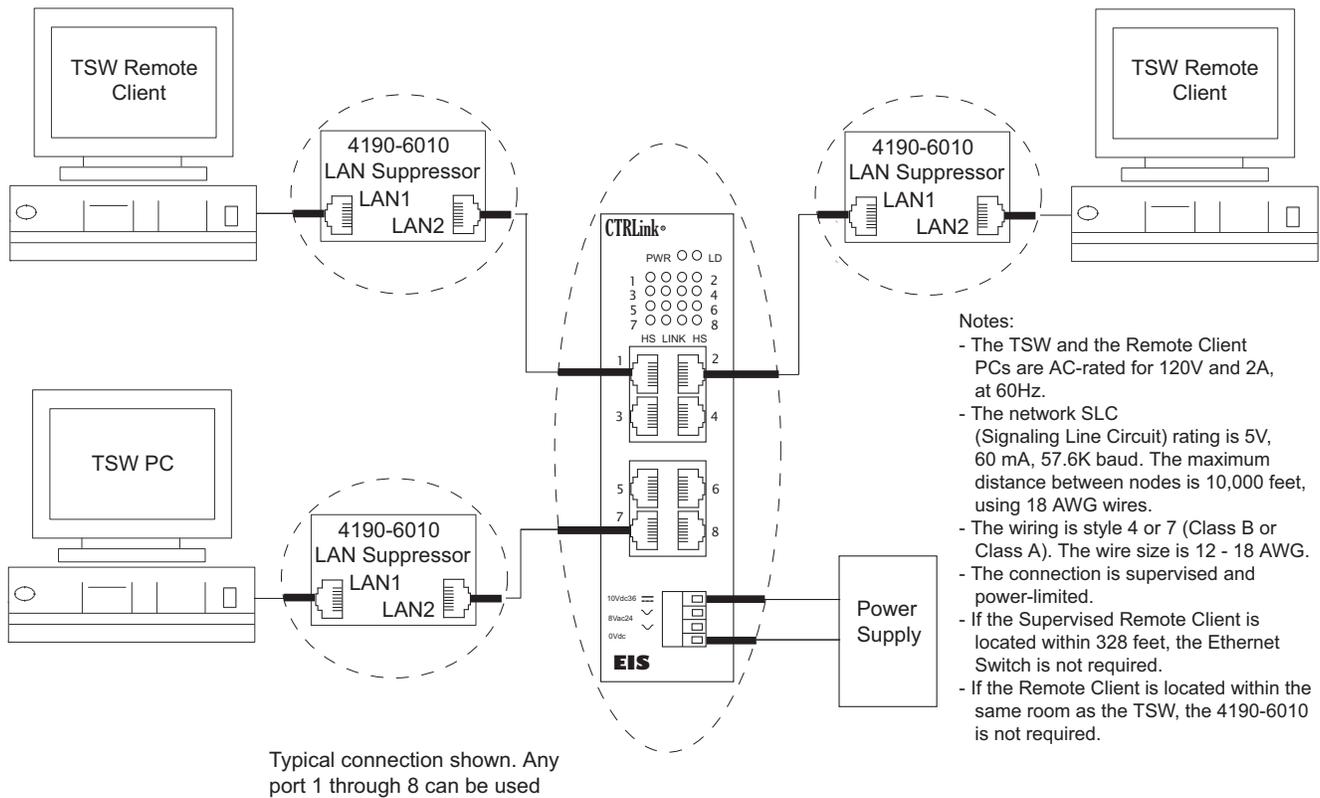
Figure 7-13   Connection Between the EIS8-100T Switch with Eight Copper Ethernet Ports and the TSW

Before you start connecting, you need to identify any circuits that must be co-located in the same room. That will help you determine if the Ethernet switch is needed.

Specification and Installation

Notes:
- The TSW and the Remote Client PCs are AC-rated for 120V and 2A, at 60Hz.
- The network SLC (Signaling Line Circuit) rating is 5V, 60 mA, 57.6K baud. The maximum distance between nodes is 10,000 feet, using 18 AWG wires.
- The wiring is style 4 or 7 (Class B or Class A). The wire size is 12 - 18 AWG.
- The connection is supervised and power-limited.
- If the Supervised Remote Client is located within 328 feet, the Ethernet Switch is not required.
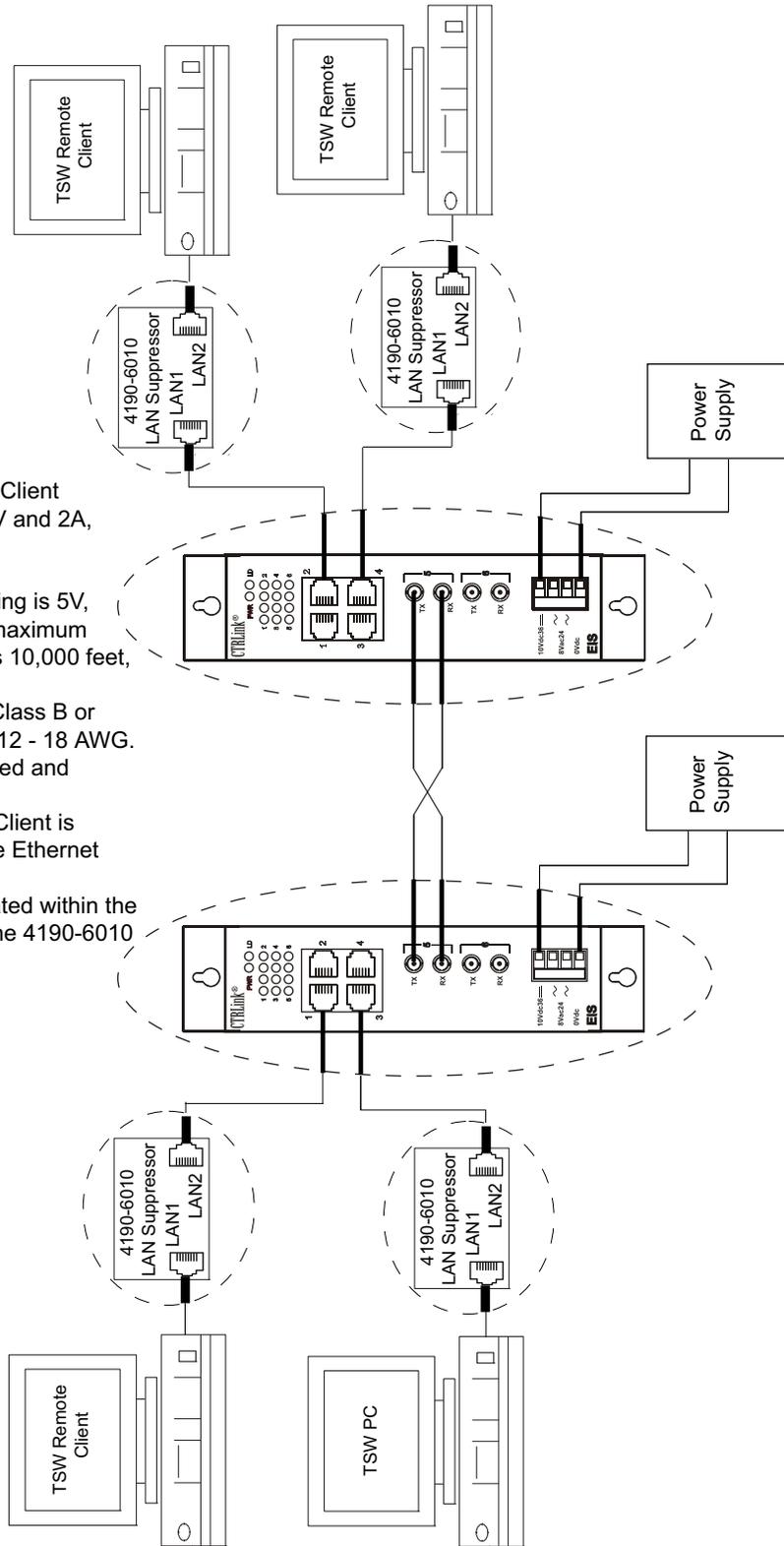- If the Remote Client is located within the same room as the TSW, the 4190-6010 is not required.

Figure 7-14   Connection Between the EIS6-100T/FC(S) Switch with Four Copper and Two Fiber Optic Ethernet Ports and the TSW

Installing the 4190-6050, 4190-6054 and 4190-6055 FAES

Specifications

<u>**Electrical**</u>

- Input Voltage: 24VDC nominal
- Current: 300mA
- Power: 7W
- Earth Fault Impedance: 10K
- Trouble relay rating: 0.3A at 125V resistive and 1A at 30VDC resistive

<u>**Environmental**</u>

- Operating Temperature: $0^{o}C$ to $49^{o}C$
- Operating Relative Humidity: 93% @ $32^{o}C$ (non-condensing)
- Storage Temperature: $-40^{o}C$ to $85^{o}C$

<u>**Regulatory Compliance**</u>

- UL864 (9th edition)
- ULC S527
- FM
- FCC Part 15, Class A

<u>**Functional**</u>

- Provides eight copper Ethernet ports, or four copper and 2 fiber optic, 1300nm, ports, on models with fiber optic ports
- Network connections are done through RJ-45 jacks for copper, and SC connectors for fiber optic ports
- Signaling: 10 Base-T, 100 Base-TX and 100 Base-FX for models with fiber optic ports
- Data Rate: 10/100 Mbps
- Supports up to 100m (328ft) at 10Mbs, with Cat3 cable
- Supports up to 100m (328ft) at 100Mbs, with Cat5 cable
- Multi-mode fiber model (4190-6055) supports up to 2 km of fiber with an optical budget of 13dB
- Single-mode fiber model (4190-6054) supports up to 15km of fiber with an optical budget of 19dB

Installation   The FAES is a square, wall-mount type cabinet with sides measuring 13.5" and that is 3.5" deep (34.29 x 8.89 cm). It can be attached to the wall with four # 10 screws or bolts (not supplied with the cabinet). To install the cabinet:

1. Remove the ground strap from the cabinet door by loosening the wing nut.
2. Lift the door up and away: the four fastening holes (two tear-drop and two regular) are located in the corners, at the back of the FAES cabinet (Figure 7-15).
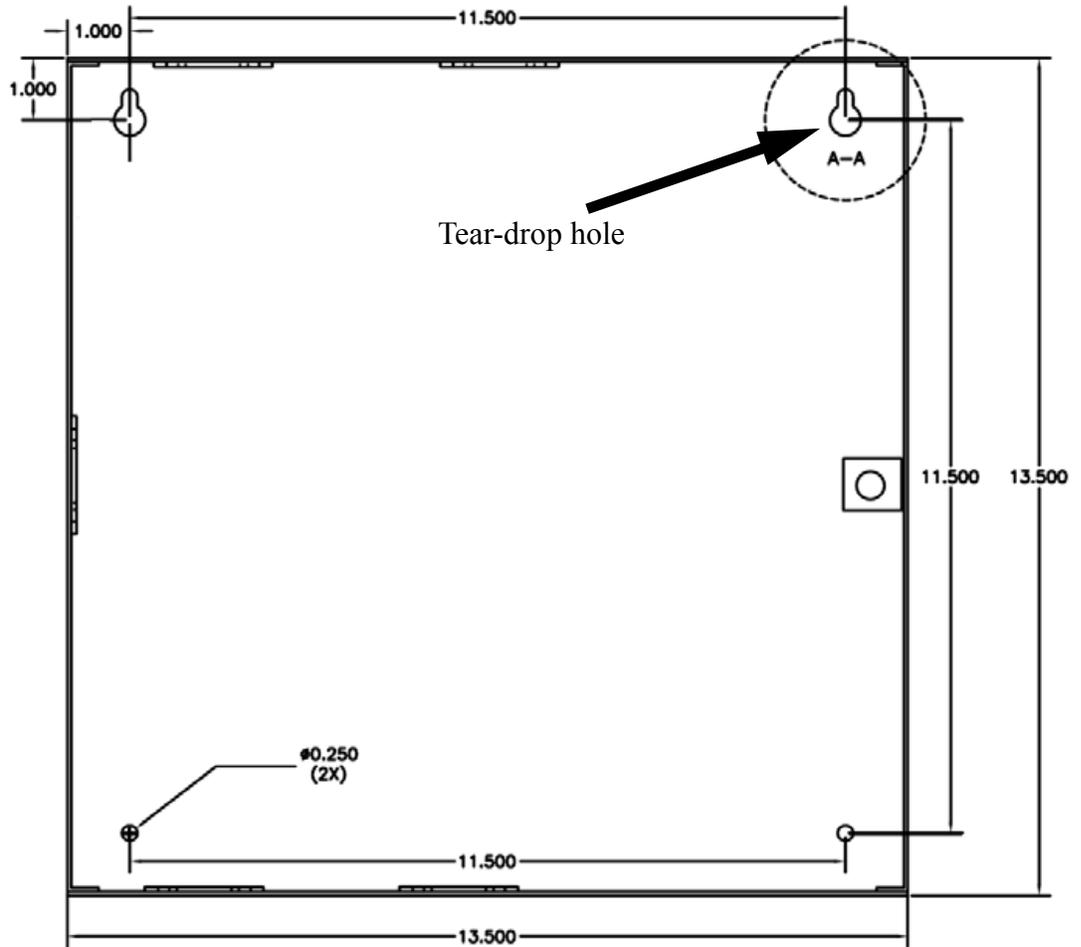

Figure 7-15   FAES Cabinet

Installing the 4190-6050, 4190-6054 and 4190-6055 FAES, *Continued*

Installation

3. Mount the cabinet flush to the wall, level and plumb. The tear-drop holes must be at the top.
4. Drill pilot holes where the tear-drop holes touch the wall.
5. Insert screws into pre-drilled holes and tighten them so that roughly 1/4" (0.64 cm) remains protruding from the wall.
6. Mount the cabinet on the screws, using tear-drop holes to clear the screw heads. It should now be hanging in such a way that the knock-out holes (Figure 7-16) for the Ethernet jacks and other connectors are facing downward.
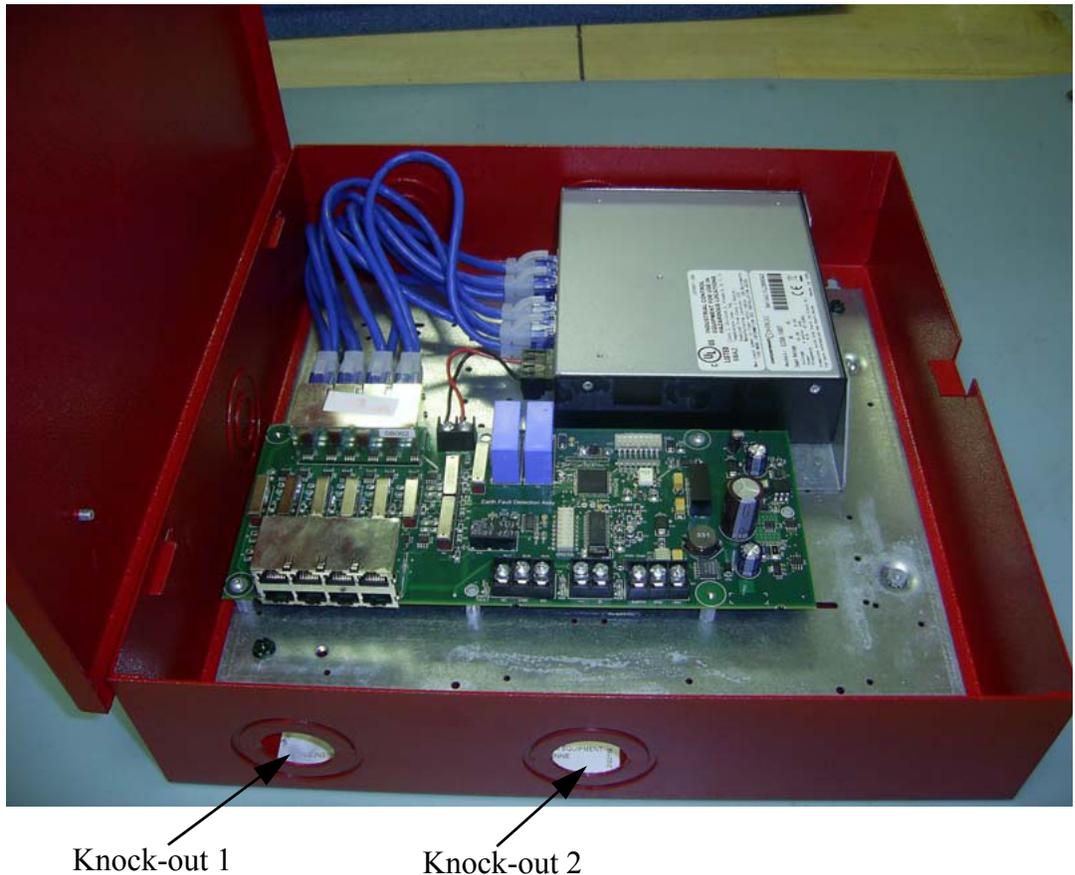

Knock-out 1   Knock-out 2

Figure 7-16   FAES Wall-Mount Enclosure

7. Tighten the screws snugly against the cabinet and insert screws in the two remaining holes at the bottom of the cabinet.
8. Put the cabinet door back on and re-attach the ground strap.

Wiring   All field wiring connections to the FAES, except for the fiber optic cables, are made using terminal blocks and RJ-45 jacks located on the EFDM board inside the FAES (see Figure 7-18 and Figure 7-24). Fiber optic connections on models with fiber optic ports are done through SC connectors, located directly on the EIS6-100T/FC or EIS6-100T/FCS Ethernet switch inside the FAES (Figure 7-19). The different field wiring connections are for:

- the network
- the power
- the IDNet
- the trouble relay

All cables are routed through the two knock-out holes located at the bottom of the enclosure.

Important: For radiated and conducted electromagnetic disturbances immunity to CE specified levels, ferrite beads are required on each of the Ethernet cables (with the exception of the fiber optic cables), Power, and IDNet cables. All the ferrite beads must be placed in a three gang junction box (H3BD 3/4 1 from Thomas & Betts Limited, or equivalent) closed with a cover (3 GCB from Thomas & Betts, or equivalent). All field wiring must pass through the beads in the junction box and then go to the FAES.

Use the ferrite bead's kit 4100-5129 for each cable. Loop the cable once through the bead as shown in Figure 7-17. If pre-terminated Ethernet cables are used, the connector will have to be removed and reinstalled after the cable is passed through the bead.
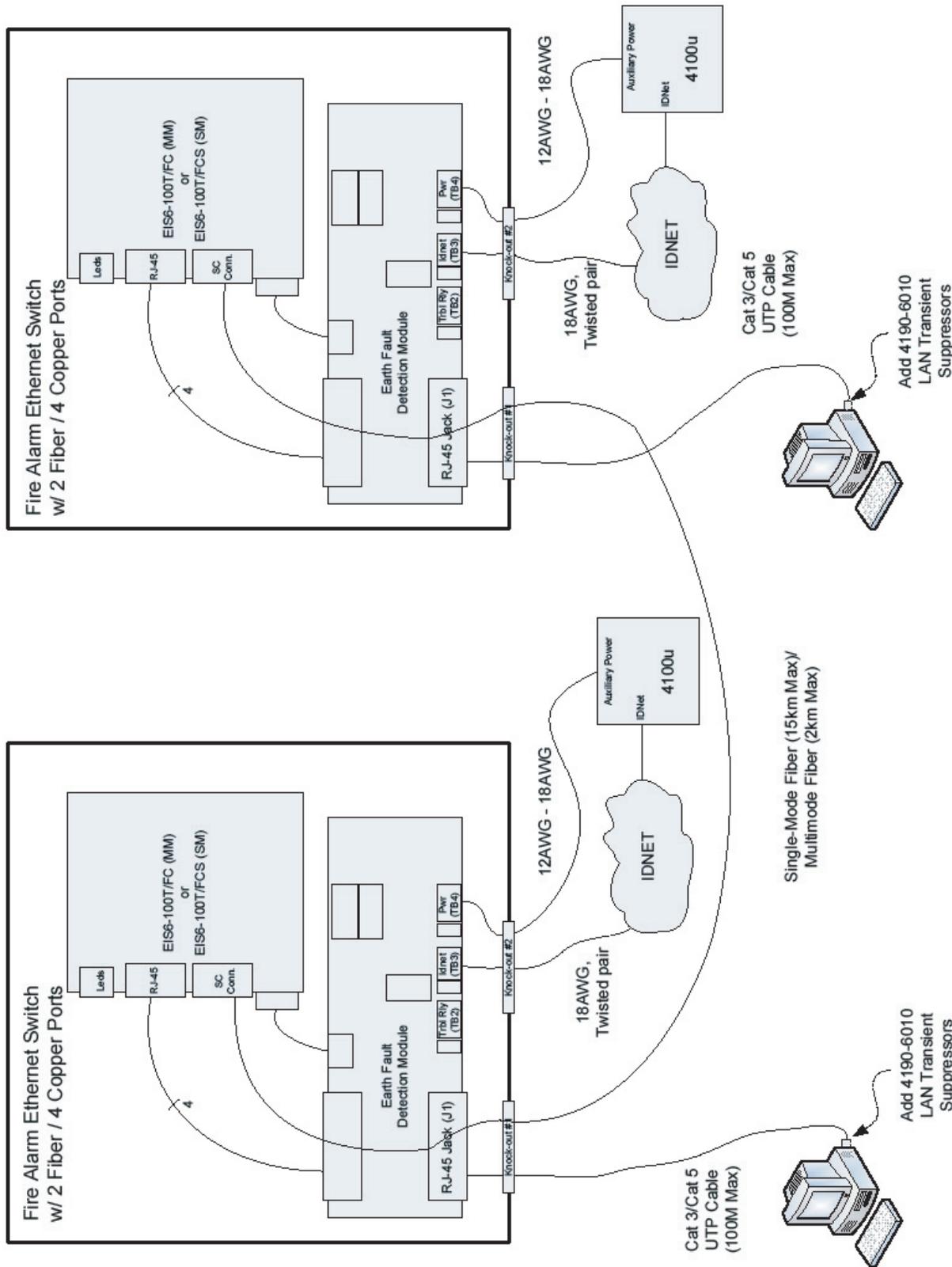
Figure 7-17   Ferrite Bead

Wiring

Notes:
- The TSW and the Remote Client PCs are AC-rated for 120V and 2A, at 60Hz.
- The network SLC (Signaling Line Circuit) rating is 5V, 60 mA, 57.6K baud. The maximum distance between nodes is 10,000 feet, using 18 AWG wires.
- The wiring is style 4 or 7 (Class B or Class A).
- The connection is supervised and power-limited.
- If the Remote Client is located within the same room as the TSW, the 4190-6010 is not required.

Figure 7-18   Wiring Diagram for FAES with Eight Copper Ethernet Ports

Wiring

Figure 7-19   FAES with Two Fiber Ports and Four Copper Ports Wiring Diagram

Wiring　　　　　<u>Network Connection</u>

The eight **RJ-45** ethernet jacks (J1) on the EFDM (Figure 7-20) are used to connect the TSW PC to its Remote Client PCs. If a model with fiber optic ports is used, only RJ-45 jacks 1 through 4 are used. The fiber optic SC connectors located on the EIS6-100T/FC(S) switch are used to connect the fiber optic cables to the fiber optic ports. All of the network connections should pass through the knock-out hole 1.

The Network circuits have the following characteristics:

- Supports up to 8 copper ports or 4 copper and 2 fiber optic, 1300nm, ports, on models with fiber optic ports.
- The models with fiber ports support either multimode or single-mode fibers, according to the FAES model selected.
- Each copper port supports 10Mb/s (10 base-T) and 100Mb/s (100 base-Tx) connections.
- Each fiber port on models with fiber ports supports 100 Mb/s (100 BASE-FX) connections.
- The Ethernet copper connections are supervised and power-limited.
- The Ethernet copper connections are supervised for a 10K earth impedance.
- The earth fault detection time is up to 32 seconds (excluding the trouble report time to the FACP).

Table 7-12 shows the minimum cable category required and the maximum segment distance for network connections in accordance with the network data rate.

Table 7-12. Minimum Cable Category Required for Network Connection

Signaling and Data Rate	Minimum Required Cable	Maximum Segment Distance
10 Base-T 10 Mbps	Category 3 UTP	100 m (328ft)
100 Base-TX 100 Mbps	Category 5 UTP	100 m (328ft)
100 BASE-FX/100 Mbps (4190-6055)	Multi-mode Optical Fiber	2km, optical budget: 13dB
100 BASE-FX/100 Mbps (4190-6054)	Single-mode Optical Fiber	15km, optical budget: 19dB

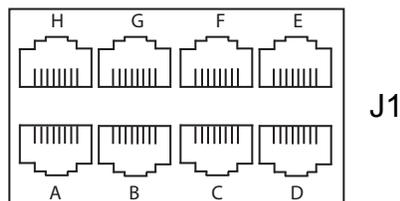The Ethernet port numbering on J1 is shown in Figure 7-20

Figure 7-20　　Eight EFDM RJ45 Ethernet Jacks

Note:　　For electromagnetic disturbance immunity to CE specified levels, ferrite beads are required on each Ethernet cable, except for fiber optic cables. Refer to the note on page 7-28 for the ferrite beads installation instructions.

Wiring <u>**Power Connection**</u>

The FAES's power is supplied through the power terminal block (TB4) on the EFDM (Figure 7-21). Power cables should be passed through the knock-out hole 2.

The supervised power input has the following characteristics:
- Input voltage: 24 VDC nominal
- Current: 300 mA at 24 VDC
- Power: 7W
- All wiring must be between 18 AWG and 12 AWG
- A UL1481 (UTRZ) regulated, power-limited power supply is required to power the FAES. A Simplex power supply or a UL1481 regulated, power limited power supply for fire protective services from another manufacturer, such as Altronix AL642ULADA, can be used.
- The power supply must be installed in the same room as the FAES

To connect the FAES to the power supply,

1. The +24 VDC and the 24C terminals of the power terminal block (Figure 7-21) must be connected to the power supply.

2. The FAES must be connected to EARTH through the EARTH terminal on the **Power** terminal block.
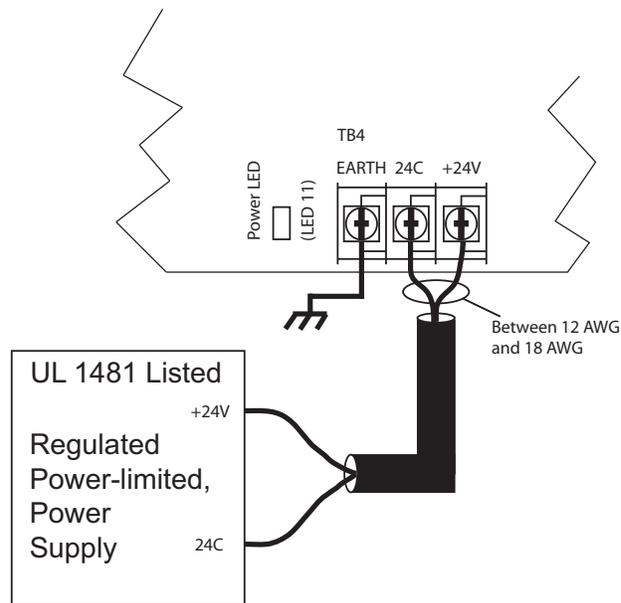

Figure 7-21   Power Connection Diagram

Note: **1.** If the power supply used to power the switch does not provide a power reset function, a relay IAM module (model 4090-9002) or a similar device must be used on the switch power line to allow the power cycling.

2. For electromagnetic disturbance immunity to CE specified levels, a ferrite bead is required on the power wiring. Refer to the note on page 7-28 for the ferrite bead installation instructions.

Wiring

<u>**Supervised IAM Circuit Connection**</u>

Earth fault detection on Ethernet copper lines can be reported to a fire alarm panel through the IDNet. The IDNet is connected to the FAES on the IDNet terminal block (TB3).

The IDNet circuit has the following characteristics:

- The IDNet wiring is supervised and power limited
- The wire should be 18 AWG, twisted pair

When connecting the supervised IAM circuit to the IDNet network, the IDNet cable should be passed through the knock-out hole 2. The IDNet wire must be attached to the + and - of the **IDNet**'s terminal block (TB3) on the EDFM, as shown in Figure 7-22.

Note: Refer to documents *579-331: 4100U Redundant Master Controller Installation Instructions* and *579-572: 4090-9051 Supervised IAM Installation Instructions* for installation instructions and for more information on supervised IAMs.
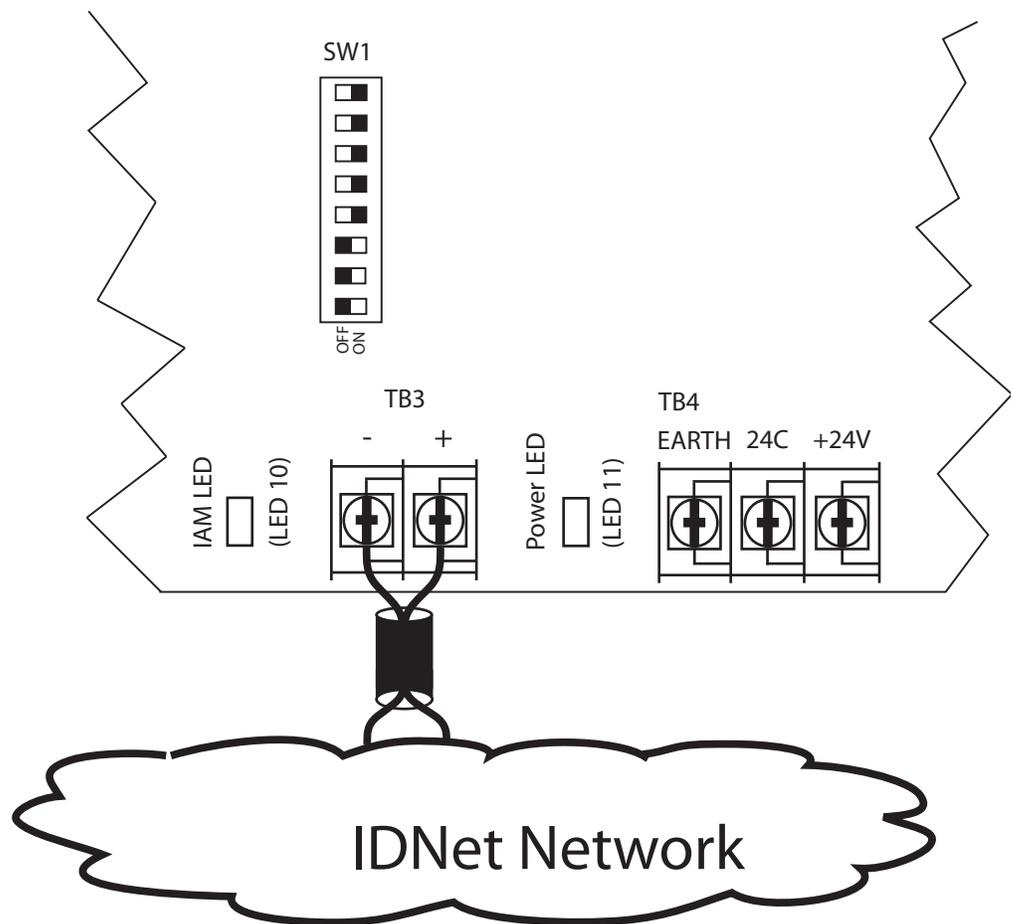

Figure 7-22   Supervised IAM Circuit Connection

Note: For electromagnetic disturbance immunity to CE specified levels, a ferrite bead is required on the IDNet wiring. Refer to the note on page 7-28 for the ferrite beads installation instructions.

Wiring   <u>**Common Trouble Relay Connection**</u>

An earth fault can also be reported through the trouble relay's dry contacts, which are available on the trouble relay terminal block (TB2). The **trouble relay** terminal block (Figure 7-23) on the EFDM is composed of the **NO** (normally open), the **CMN** (common), and the **NC** (normally closed) connections. When an earth fault is detected, the **NO** contact shorts with the **CMN** contact. When there is no fault detected, the **NC** contact shorts with the **CMN**.

The trouble relay circuit has the following characteristics:

- It must be used with a power-limited power supply.

- The relay contact electrical ratings are 0.3A at 125 VAC resistive and 1 A at 30 VDC resistive.

- The wire size on the **trouble relay** terminal block should be from 12 AWG to 18 AWG.
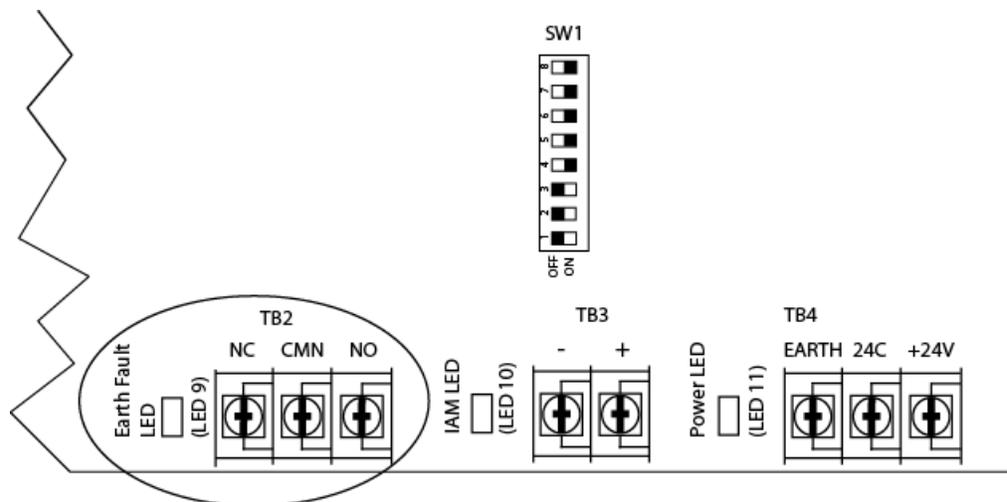

Figure 7-23   Trouble Relay Connection

Operation   The FAES is UL-listed as a control unit accessory. It is a level 2 Ethernet switch classified as a switching hub. It acts as a bridge between the various data links and has the ability to segment the Ethernet network in separate collision domains. It allows the provision of simultaneous data exchange on different data links, which results in more network throughputs.

The FAES works in a half or full-duplex mode. Half-duplex mode means the switch can either send or receive data packets at a time. Full-duplex mode means that the switch can both send and receive data packets at the same time. The FAES will first inspect the data packets exchanged between the different workstations to determine the source and destination address of each packet. It can then forward them accordingly.

The FAES supports 10Base-T/100Base-TX, and optionally 100Base-FX, signaling which means that it can connect network devices operating at 10 and 100Mbps speeds. The FAES provides eight 10/100 Mbps Ethernet copper ports, or four 100/100 Mbps copper and two 100 Mbps fiber optic ports on models with fiber optic ports. If additional ports are required or if the network's reach needs to be extended, two or more FAES can be connected together.

Operation

The FAES integrates an Original Equipment Manufacturer (OEM) Ethernet switch from Contemporary Controls Systems Inc., models EIS8-100T, EIS6-100T/FC or EIS6-100T/FCS depending on the FAES model, along with an Earth Fault Detection Module (EFDM) into a single enclosure. The EIS8-100T, or other Ethernet switch models, performs all Ethernet related functions and the EFDM performs the earth fault monitoring on the Ethernet RX and TX copper pairs. An earth fault is detected when the impedance between the Ethernet copper lines and the earth is 10K or less. The FAES reports earth faults through LEDs, through a built-in supervised IAM and through a relay's dry contacts.

Note: No software management is required to configure the FAES. Jumpers are available in the EIS8-100T (EIS6-100T/FC(S)) switch to allow some basic Ethernet configurations. The EIS8-100T (EIS6-100T/FC(S)) box has to be opened to access those jumpers. Refer to the EISwitch Installation Guide (TD000500- 0IK) for information about user-adjustable jumpers.

Functionalities

The FAES is composed of status LEDs and two configuration DIP switches. LEDs are found on both the EFDM board and on the EIS8-100T, or EIS6-100T/FC(S), switch. The configuration Dip Switches are found on the EFDM board (refer to Figure 7-24).

EFDM LEDs Description

Table 7-13. LED Identification

Name	Color	Description
PWR LED	Green	The power LED (LED11) is located to the left of the power terminal block and lights up when power is supplied to the FAES.
IAM LED	Red	The IAM LED (LED10) is located to the left of the IDNet terminal block. It flashes approximately once every three seconds to indicate valid communication with the FACP.
Earth Fault LED	Yellow	The Earth fault LED (LED9) is located to the left of the trouble relay terminal block and lights up when an earth fault is detected on any of the 8 Ethernet ports.
Earth Monitoring Disable LEDs	Yellow	The earth monitoring disable LEDs (LED1 to LED8) are located under the earth monitoring disable switch. • If earth monitoring is disabled on a port (by using the "Earth Mon Dis Switch"), the corresponding LED will be steadily lit. • Earth monitoring is enabled on a port. The corresponding LED flashes when an earth fault is detected on that port. • LED 1 corresponds to the Ethernet port 1 and LED 8 corresponds to the Ethernet port 8.

EIS8-100T, EIS6-100T/FC(S) LEDs - The verification of the Ethernet links status can be performed using the visual indicators located on the EIS8-100T, or EIS6-100T/FC(S), switch front panel. Refer to the EISwitch Installation Guide (TD000500-0IK) for more information on those LEDs.

Functionalities

Earth Mon Dis Switch (SW2)

Earth Mon Dis LEDs

IDNet Add Switch (SW1)

RJ45 Ethernet Jacks (J2) from Switch

Power (TB4)

Power LED (LED11)

IDNet (TB3)

IAM LED (LED10)

Trouble Relay (TB2)

Earth Fault LED (LED9)

RJ45 Ethernet Jacks (J1) to field
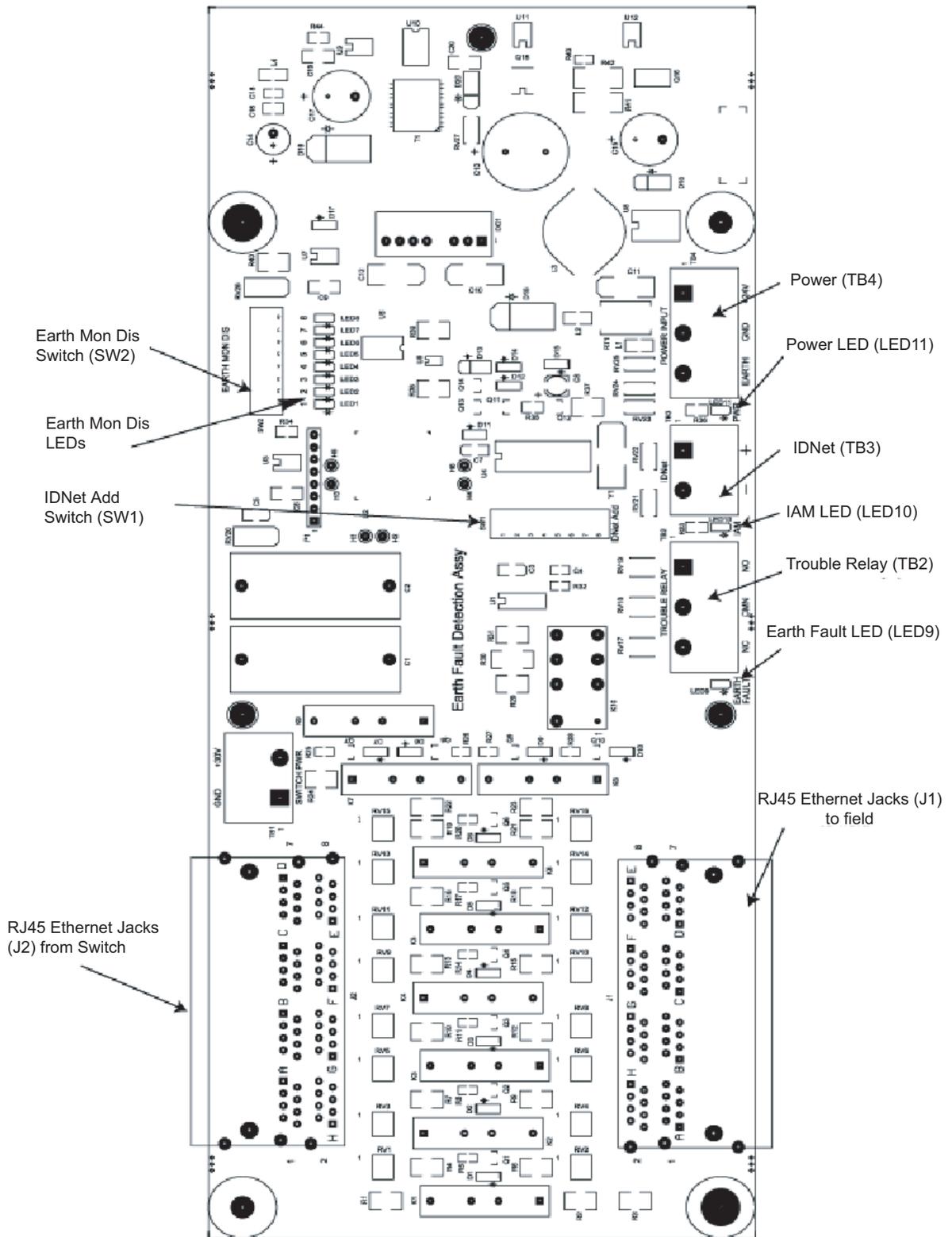
Figure 7-24   EFDM Card

Functionalities

EFDM Configuration: IDNet Address DIP Switch (SW1)

The 8-position **IDNet** address dip switch (SW1) is used to assign an IDNet network address to the supervised IAM circuit. The IDNet address for the supervised IAM circuit is set in accordance with the supervised IAM address chart shown in Figure 7-25.

Note: 1. Refer to documents *579-331: 4100U Redundant Master Controller Installation Instructions* and *579-572: 4090-9051 Supervised IAM Installation Instructions* for installation instructions and for more information on supervised IAMs.

2. The supervised IAM circuit should be programmed into the 4100U/4100ES job as a Trouble Point and should be given a custom label to identify it as an FAES trouble.
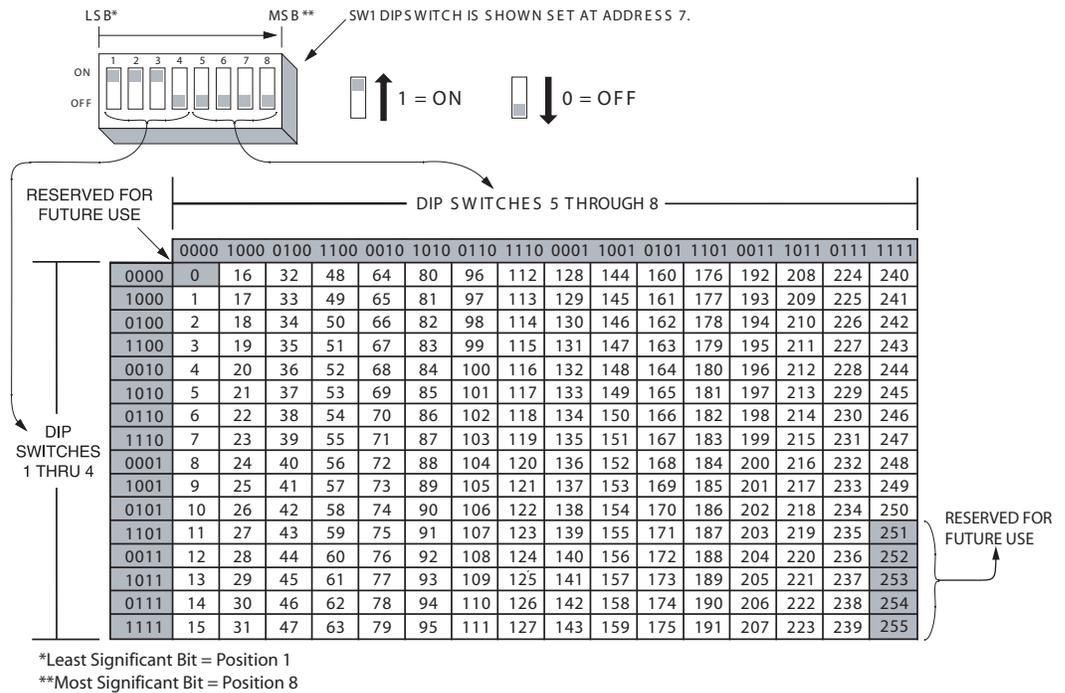

*Least Significant Bit = Position 1
**Most Significant Bit = Position 8

Figure 7-25   Supervised IAM Address Chart

Functionalities

<u>**EFDM Configuration: Earth Monitoring Disable Switch (SW2)**</u>

The **earth mon disable** (SW2) switch (Figure 7-26) on the EFDM is used to enable or disable the earth fault monitoring for each **RJ-45** Ethernet port. Position 1 on the switch corresponds to Ethernet port 1 and position 8 corresponds to Ethernet port 8. When the switch is set to ON, the earth fault monitoring is disabled.
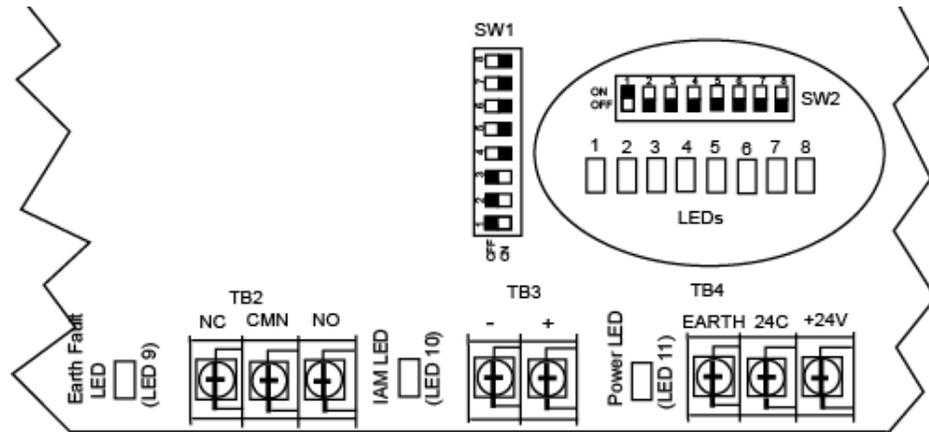

Figure 7-26   Earth Monitoring Disable Switch and Earth Monitoring Disable LED

Note: **1.** If two FAES are connected together, the earth fault monitoring needs to be disabled for the port connecting the two switches. This only needs to be done on one of the two switches.

2. The Earth Fault Detection must also be disabled on the four unused copper ports (5-8) of a model with fiber ports.

<u>**EIS8-100T, EIS6-100T/FC(S) Configuration**</u>

Refer to the Installation Guide (TD000500-0IK) for information about the user adjustable jumpers. The EIS8-100T, or the EIS6-100T/FC(S), box will have to be opened to access those jumpers.

Testing and Maintenance

Periodic earth fault testing is recommended to verify the FAES's operation. The use of special Ethernet cables with TX and RX copper pairs connected to the earth is required to force an earth fault.

Troubleshooting

Table 7-14. Troubleshooting

No communication through the switch	1. Verify that the Power LED is ON on the Earth Fault Detection Board • If it is set to OFF, verify the power connection between the FAES and the power supply 2. Verify the LINK LEDs on the EIS8-100T • If the LEDs are set to OFF, verify the Ethernet cable connection between the switch and the TSW workstation
No IDNet communication with the panel (IAM LED is not flashing)	• The IAM wiring is backwards or missing • The IAM IDNet address is wrong • The 4100U/4100ES job is not configured properly

Chapter 8. Simplex 4190 TrueSite Workstation Checkout

Introduction   This chapter describes how to checkout the Simplex 4190 TSW system, to show you how the system will work when it is programmed and operating.

In this Chapter   This chapter discusses the topics listed in the following table.

Topic	See Page #
Simplex 4190 TrueSite Workstation Checkout	8-2

Simplex 4190 TrueSite Workstation Checkout

How to Checkout the TrueSite Workstation

You can use the simulation function provided to check out the system. The simulation function shows you how the system will work when it is finally programmed and operating.

Note: Refer to Chapter 6 of document *579-835: Operation and Application Instructions* for the instructions to the Simulator.

Testing Circuit Supervision

Use the following procedures in the table below to confirm that the 4120 fire network is supervising for opens, shorts and grounds. The right column in this table shows what is displayed on the TSW monitor screen when an open, short, or ground occurs on a circuit.

Table 8-1: TrueSite Workstation Display Conditions

Condition	TrueSite Workstation Monitor Screen
Open -- Open a line on a supervised circuit to make circuit impedance infinite.	Trouble Statement
Short -- Apply a zero ohm jumper across the circuit.	Trouble Statement
Earth Ground -- Place a 10k or smaller value resistor from the 4190 network supervised wiring to Earth Ground.	If it is placed on the left port, a Ground Fault statement occurs. If it is placed on the right port, a Trouble Statement from Node X occurs.

Verify Printer Operation

To verify event printing at a supervised printer, the simulator can be used to bring in an alarm and verify that the event is printed. It is also recommended that a test sheet (screen print, report, etc.) be printed from the TSW to any available configured Windows printer, including any network printers if the TSW PC has a TCP/IP card connected to a Windows network, to verify proper operation.

Chapter 9. Connecting to TFXnet

Introduction This chapter discusses the general requirements for the TFXnet support at the TSW. The TSW PC (and not the remote client PC) provides the physical connection to a TFXnet network.

In this Chapter This chapter discusses the topics listed in the following table.

Topic	See Page #
Connecting the TSW to a TFXnet	9-2

Connecting the TSW to a TFXnet

Overview

The TSW replaces the FireGraph workstation on a TFXnet fire network. The TFX/TFXnet points are integrated within the TSW. The TFX/TFXnet-related UI, annunciation, and control functionality apply to both the TSW and the remote client software.

Configuration Prerequisites

The following FireGraph system information is required.
- A copy of the compiled Grab-It project file set for the FireGraph currently installed and running at the customer site.

Note: The Grab-It project file set will be converted by the FireGraph Conversion Wizard into a form ready for Simplex configuration tools and the TSW.

- Optionally, the CONSYS files associated with the FireGraph currently installed and running at the customer site.
- The configuration file sets must meet a minimum revision level for Grab-It and CONSYS. Refer to Table 9-1.

Table 9-1: Minimum Revision Label

Configuration Tool	Version
CONSYS	V 12.4 or V 13.1
Grab-It	3.45

Creating a TSW to Job Replace the FireGraph

For a TSW to work on a TFXnet, you must first convert a FireGraph Grab-It project into a TSW configuration format. There are some limitations and pre-conditions for the conversion. For example, you can add a TFXnet as one of seven loops to an existing TSW job. The following 10 steps are a quick start guide on how to create a TSW job to replace the FireGraph. Refer to document 579-1035 for the detailed steps.

If you already have an existing Simplex network, go directly to step 4. Otherwise:

1. Install the TSW software and configuration tools.
2. Install the Network Programmer
3. Copy to the PC the compiled version of the Grab-It project file set representing the FireGraph to convert):
4. Create a fire network using the Network Programmer

   Result: A new network database for TFXnet is created

5. Convert a Grab-It project file set representing the FireGraph to replace, by launching the Conversion Wizard from the Network Programmer. The Conversion Wizard creates the TSW configuration database and adds the TFXnet port to the TSW's configuration.

   Result: Job configuration data usable by Simplex tools, which represents the TFXnet network, the TFX nodes, and the TSW node replacing the FireGraph

6. Once the conversion is done, you can view the resulting set of nodes for the TFXnet:
   a. Launch the TFXnet Editor to view or edit the public points available for use at TSW, the mapping of FireGraph Priorities to TSW Response, etc.
   b. Adjust, if required, the network-related settings such as TFXnet packet options, subnet settings, etc.
7. Finalize the configuration by launching the TSW Configurator to:
   a. Tag external TFX points to monitor (Use *Point Config's "Add Externals"* feature).
   b. Optionally update the TSW job configuration to support other Simplex features. Example of Simplex features are Simplex fire network loops and external 4100U points, DACR, TCP/IP client/server, etc.
   c. Launch the Graphics Editor for linking external TFX points to graphic icons by importing the site-specific AutoCAD files to the TSW job configuration and assigning the converted TFX points to device icons on the graphics screens.
   d. Set up for TFXnet network supervisor, as appropriate, and System Reset operation
   e. Build the TSW job.
8. Disconnect the FireGraph PC from the TFXnet network.
9. Install the TSW PC with the built TSW job and connect the TLT-530 (part of 4100-6068) card to the PC serial port.

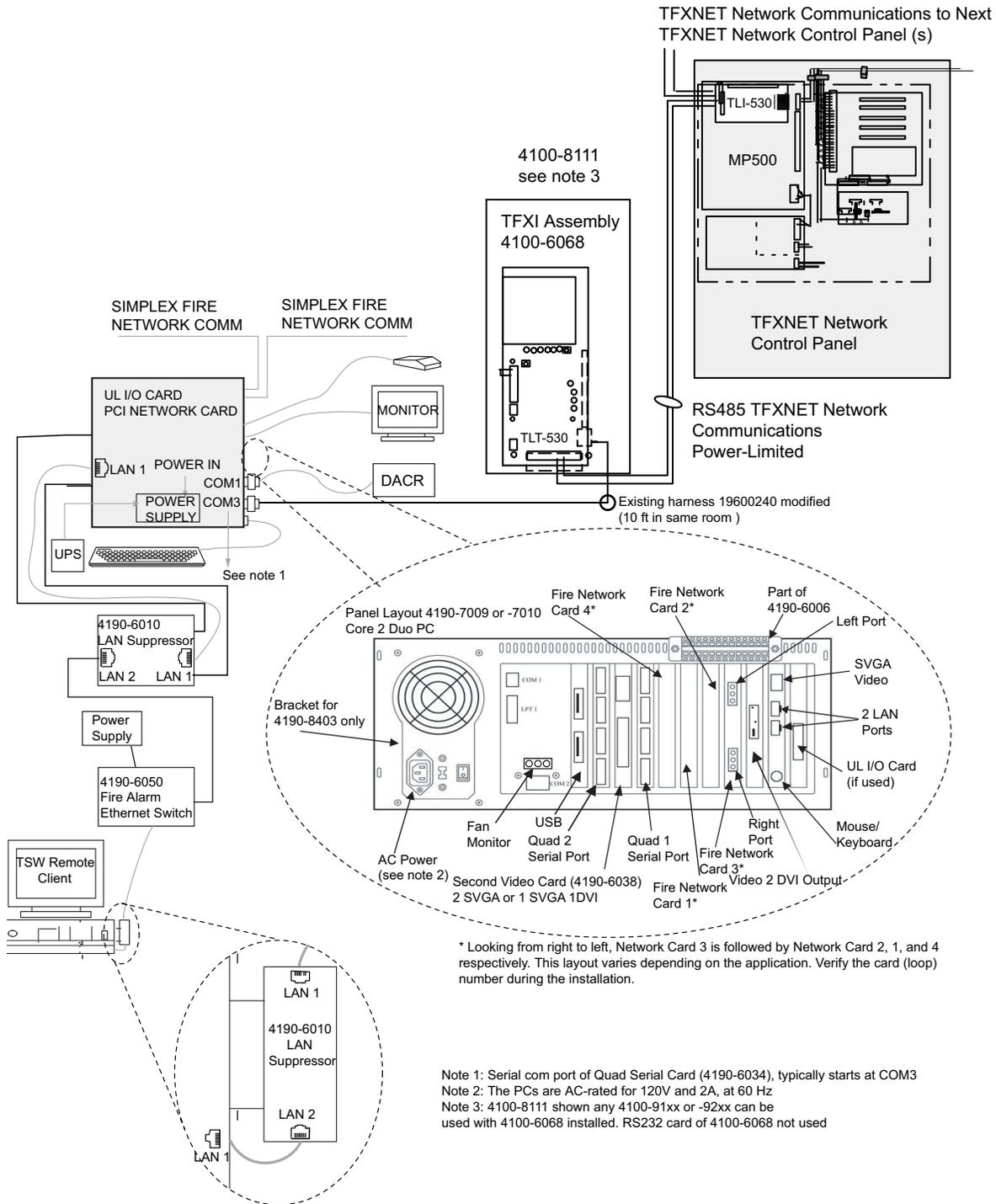# Connecting the TSW to a TFXnet, *Continued*

TFXnet Connection to the TSW

TFXNET Network Communications to Next
TFXNET Network Control Panel (s)

TLI-530

MP500

4100-8111
see note 3

TFXI Assembly
4100-6068

TFXNET Network
Control Panel

SIMPLEX FIRE
NETWORK COMM

SIMPLEX FIRE
NETWORK COMM

UL I/O CARD
PCI NETWORK CARD

MONITOR

LAN 1   POWER IN

COM1

POWER
SUPPLY

COM3

DACR

UPS

See note 1

TLT-530

RS485 TFXNET Network
Communications
Power-Limited

Existing harness 19600240 modified
(10 ft in same room)

4190-6010
LAN Suppressor

LAN 2   LAN 1

Power
Supply

4190-6050
Fire Alarm
Ethernet Switch

TSW Remote
Client

Panel Layout 4190-7009 or -7010
Core 2 Duo PC

Fire Network
Card 4*

Fire Network
Card 2*

Part of
4190-6006

Left Port

SVGA
Video

2 LAN
Ports

UL I/O Card
(if used)

Bracket for
4190-8403 only

COM 1

LPT 1

COM 2

Fan
Monitor

USB
Quad 2
Serial Port

AC Power
(see note 2)

Quad 1
Serial Port

Second Video Card (4190-6038)
2 SVGA or 1 SVGA 1DVI

Fire Network
Card 1*

Right
Port
Fire Network
Card 3*

Mouse/
Keyboard

Video 2 DVI Output

* Looking from right to left, Network Card 3 is followed by Network Card 2, 1, and 4
respectively. This layout varies depending on the application. Verify the card (loop)
number during the installation.

Note 1: Serial com port of Quad Serial Card (4190-6034), typically starts at COM3
Note 2: The PCs are AC-rated for 120V and 2A, at 60 Hz
Note 3: 4100-8111 shown any 4100-91xx or -92xx can be
used with 4100-6068 installed. RS232 card of 4100-6068 not used

LAN 1

4190-6010
LAN
Suppressor

LAN 2

LAN 1

Figure 9-1   Installation Diagram

Physical Network Setup

The TSW can be configured to support multiple fire networks at the same time and thereby stand as the common node providing general status from all networks. The TSW allows a configurable combination of Simplex fire network, a TFXnet, and DACR. The TFXnet network is counted as part of the seven fire network capacity of the TSW.

Appendix A. Setting Up a Dedicated Fire Alarm LAN

Overview When using one of the Simplex Ethernet Switches (4190-6050, 4190-6051, 4190-6054, 4190-6055, 4190-6056, or 4190-6057) or wiring directly from the TSW to the unsupervised Remote Client, the following instructions explain how to connect TSW Client PCs to the TSW Server PC using Microsoft Windows Networking.

Note: The Ethernet switches can provide up to 8 wired Ethernet connections. The TSW Server PC can use one connection and the TSW Client PCs can use the remaining connections as necessary.

1. Connect all the TSW PCs to the Ethernet switch or wire directly from the TSW to the unsupervised Remote Client using Cat-5 Ethernet cables.

Note: The Simplex Configured PC has 2 LAN ports. Either port can be used.

2. If necessary, change the name of the PCs (each PC is done separately):

Note: This step can be skipped if your PCs already have unique names.

   a. Invoke Control Panel (Windows Start Settings / Control Panel).
      i. Double Click on the System icon.
      ii. Under **Computer name, domain, and workgroup settings**, select **Change Settings**.
      iii. A tabbed dialog is displayed; select the **Computer Name** tab.
      iv. Select **Change…**
      v. The **Computer Name/Domain Changes** dialog is displayed.
         • The default name for Simplex configured PC is **Simplex-**. Change the name to something meaningful for the TSW PC.

      Note: The TSW Client PC name(s) must be different than the TSW Server PC name.

      vi. Optionally, change the name of the Windows Workgroup. By default, the workgroup name is "WORKGROUP". If you choose another name, it must match on all PCs.
      vii. Click on **OK** and Windows requires a reboot.
            After reboot, the PC will now have the new name.

3. After the PCs have been renamed and rebooted, use Windows to view the Network.

   a. Invoke Windows Explorer (Start Programs / Accessories / Windows Explorer) and double-click on the Network icon (under Folders on the left hand pane).

      Note: Network Discovery and File Sharing must be turned ON for all the PCs in order to view the Network. Windows Explorer will display a status message (near the top of the window) if Network Discovery is OFF. If you see this message, click the message to change the setting to turn it ON. This must be done on all of the TSW PCs in the dedicated network.

Overview   4.   Verify all PCs have valid/unique IP addresses (automatically assigned from the Ethernet switch):

   a.   Invoke **Control Panel** and click on **Network and Internet**.

   b.   Click on **Network and Sharing Center.**

   c.   Click on **Change adapter settings** in the left-hand pane.

   d.   In the **Network Connections** window, double click the icon for the active (connected) LAN.

   Note: The status may appear as "Limited or no connectivity". This is normal since the connection is limited to this dedicated network.

   e.   In the **Local Area Connection Properties** dialog box, highlight the item **Internet Protocol Version 4 (TCP/IPv4)**. Click on **Properties**.

   f.   In the dialog box **Internet Protocol Version 4 (TCP/IPv4) Properties**, verify that the following options are selected:

   • **Obtain an IP address automatically**

   • **Obtain DNS server address automatically**

   Click **OK** in the **Internet Protocol Version 4 (TCP/IPv4) Properties** dialog box. Click **Close** in the **Local Area Connection Properties** dialog box.

   g.   Right click on the icon for the active (connected) LAN and select **Status**.Verify that the IP address appears in the new window.

   Note: When the PC first boots up, you may see a pop-up prompt in the Windows status bar area "Acquiring Network Address". This is normal; you may have to wait for this to complete before you will see a valid IP address displayed.

5.   The TSW PCs are now ready for client/server operation. Proceed with instructions for configuring the TSW server for client connections.

Appendix B. Installing a 42" Monitor with the Mounting Bracket

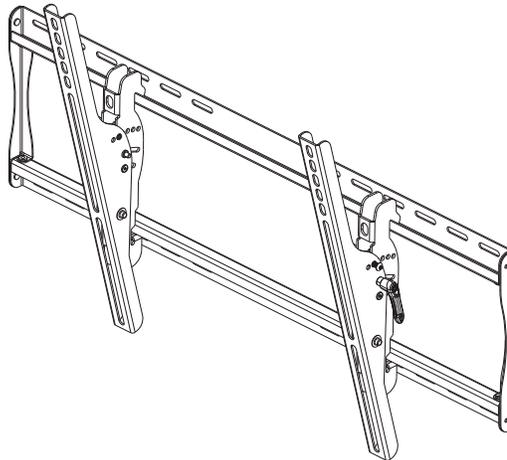**This appendix consists of document 202-9255-5, included here with the permission of Peerless Industries, Inc.**

peerless®
M O U N T S

Installation and Assembly:
Smartmount® Universal Tilt Wall Mount for LCD and Plasma 32" - 56" (81 - 142 cm) Flat Panel Screens

Models: ST650, ST650-S, ST650P, ST650P-S, SWS320/BK, SWS320/SI

Max Load Capacity: 175 lb (79kg)

Features:
• Open wall plate design allows for additional wall access, increasing electrical access and cable management options
• Universal screen mounting brackets hook onto the wall plate for quick, easy, and safe installation
• Adjustable up to 15° of forward tilt and up to -5° backward tilt
• One-touch tilt for effortless adjustment
• Pre-tensioned universal tilt bracket allows for tilt angle adjustment in one easy motion.
• Easy grip handle locks the screens position into place
• Optional IncreLok feature offers fixed tilts at -5°, 0°, 5°, 10° and 15° increments
• Includes Sorted-For-You™ fastener pack for installation to wood studs, concrete and cinder block
• Optional horizontal adjustment of up to 8" (203 mm) (depending on screen model) for perfect screen placement
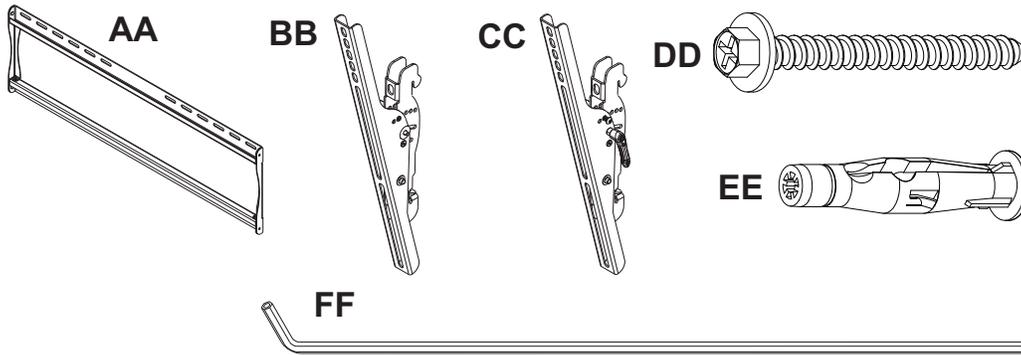• Available in Black and Silver

ISSUED: 11-21-07   SHEET #: 202-9255-5   05-12-10

Installing a 42" Monitor with the Mounting Bracket, *Continued*

NOTE: Read entire instruction sheet before you start installation and assembly.

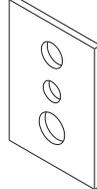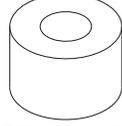| ⚠ WARNING |
|---|
| • Do not begin to install your Peerless product until you have read and understood the instructions and warnings contained in this Installation Sheet. If you have any questions regarding any of the instructions or warnings, for US customers please call Peerless customer care at 1-800-865-2112, for all international customers, please contact your local distributor. |
| • This product should only be installed by someone of good mechanical aptitude, has experience with basic building construction, and fully understands these instructions. |
| • Make sure that the supporting surface will safely support the combined load of the equipment and all attached hardware and components. |
| • Never exceed the Maximum Load Capacity. See page one. |
| • If mounting to wood wall studs, make sure that mounting screws are anchored into the center of the studs. Use of an "edge to edge" stud finder is highly recommended. |
| • Always use an assistant or mechanical lifting equipment to safely lift and position equipment. |
| • Tighten screws firmly, but do not overtighten. Overtightening can damage the items, greatly reducing their holding power. |
| • This product is intended for indoor use only. Use of this product outdoors could lead to product failure and personal injury. |
| • This product was designed to be installed on the following wall construction only; |

WALL CONSTRUCTION	HARDWARE REQUIRED
• Wood Stud	Included
• Wood Beam	Included
• Solid Concrete	Included
• Cinder Block	Included
• Metal Stud	Do not attach except with Peerless Metal Stud Accessory Kit - ACC415; (not evaluated by UL)
• Brick	Contact Qualified Professional (not evaluated by UL)
• Other or unsure?	Contact Qualified Professional

Tools Needed for Assembly
• stud finder ("edge to edge" stud finder is recommended)
• phillips screwdriver
• drill
• 5/16" (8 mm) bit for concrete and cinder block wall
• 5/32" (4 mm) bit for wood stud wall
• level

Table of Contents

Installing a 42" Monitor with the Mounting Bracket, *Continued*

Before you begin, make sure all parts shown are included with your product.

Parts List				SWS320/BK	SWS320/SI
Description	**Qty.**	**ST650 Part Number**	**ST650-S Part Number**	**ST650P Part Number**	**ST650P-S Part Number**
AA	wall plate	1	201-1504	201-4504	201-1504	201-4504
BB	right tilt bracket	1	201-1472	201-4472	201-1471	201-4471
CC	left tilt bracket	1	201-1470	201-4470	201-1469	201-4469
DD	#14 x 2.5" wood screw	4	5S1-015-C03	5S1-015-C03	5S1-015-C03	5S1-015-C03
EE	concrete anchor	4	590-0320	590-0320	590-0320	590-0320
FF	4 mm allen wrench	1	560-1727	560-1727	N/A	N/A

Parts may appear slightly different than illustrated.

Non-Security Tilt Bracket Fasteners

M4 x 12 mm (6)
(504-9013)

M4 x 25 mm (4)
(504-1015)

M5 x 12 mm (4)
(520-1027)

M5 x 25 mm (4)
(520-9543)

M6 x 12 mm (4)
(520-1128)

M6 x 20 mm (4)
(520-9402)

M6 x 25 mm (4)
(520-1208)

M6 x 30 mm (4)
(510-9109)

M8 x 16 mm (6)
(520-9257)

M8 x 40 mm (4)
(520-1136)

M8 x 25 mm (4)
(520-1031)
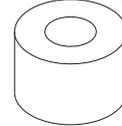
.75" spacer (4)
(540-1059)

.5" spacer (4)
(540-1057)
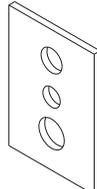
multi-washer (6)
(580-1036)

Security Tilt Bracket Fasteners

M4 x 12 mm (6)
(510-1079)

M4 x 25 mm (4)
(510-1082)

M5 x 12 mm (4)
(520-1064)

M5 x 25 mm (4)
(520-1122)

M6 x 12 mm (4)
(520-1050)

M6 x 25 mm (4)
(520-1211)

M8 x 15 mm (6)
(520-1068)

M8 x 40 mm (4)
(520-1152)

M6 x 20 mm (4)
(520-9554)

M6 x 30 mm (4)
(520-1067)

M8 x 25 mm (4)
(520-1101)

multi-washer (6)
(580-1036)

.75" spacer (4)
(540-1059)

.5" spacer (4)
(540-1057)

Installing a 42" Monitor with the Mounting Bracket, *Continued*

Installation to Double Wood Stud Wall

⚠ WARNING
• Installer must verify that the supporting surface will safely support the combined load of the equipment and all attached hardware and components.
• Tighten wood screws so that wall plate is firmly attached, but do not overtighten. Overtightening can damage the screws, greatly reducing their holding power.
• Never tighten in excess of 80 in. • lb (9 N.M.).
• Make sure that mounting screws are anchored into the center of the stud. The use of an "edge to edge" stud finder is highly recommended.
• Hardware provided is for attachment of mount through standard thickness drywall or plaster into wood studs. Installers are responsible to provide hardware for other types of mounting situations (not evaluated by UL).

1 Use a stud finder to locate the edges of the studs. Use of an edge-to-edge stud finder is highly recommended. Based on their edges, draw a vertical line down each stud's center. Place wall plate on wall as a template. The top mounting slots should be located 6.2" (157 mm) above the desired screen center as shown in figure 1.1. Level plate, and mark the center of the four mounting holes. Make sure that the mounting holes are on the stud centerlines. Drill four 5/32" (4 mm) dia. holes 2.5" (64 mm) deep. Make sure that the wall plate is level, secure it using four #14 x 2.5" wood screws (**DD**) as shown in figure 1.2.

NOTE: Wall plate may be mounted up to 4" (102 mm) off center as shown in figure 1.1.
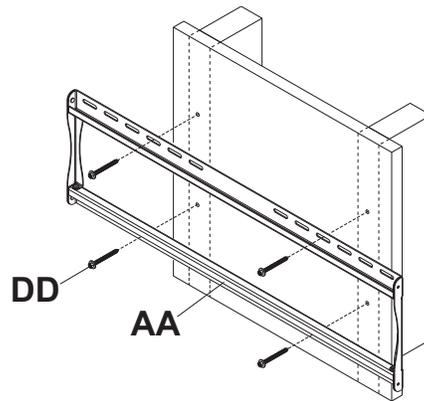
Skip to step 2.
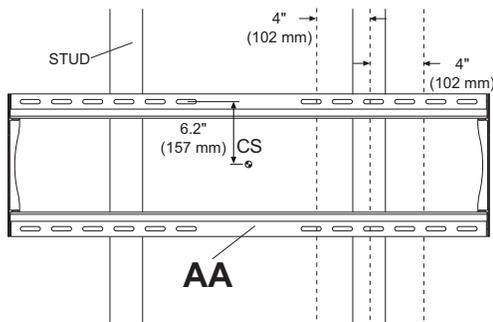
CS = center of screen

fig. 1.1

fig. 1.2

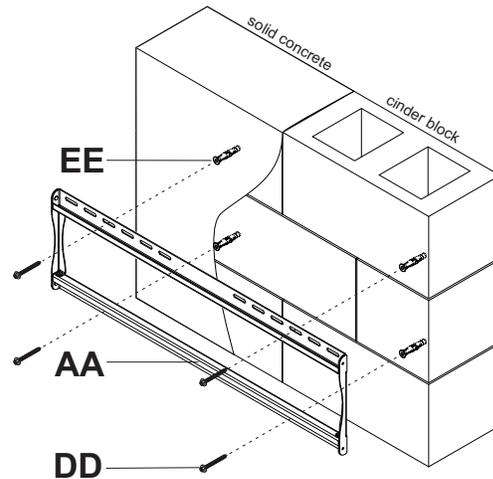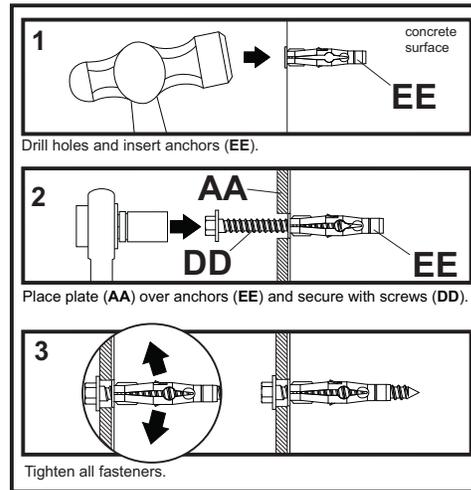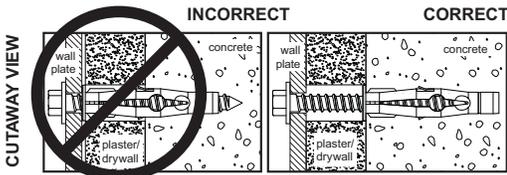## Installation to Solid Concrete or Cinder Block

⚠ WARNING

- When installing Peerless wall mounts on cinder block, verify that you have a minimum of 1-3/8" (35 mm) of actual concrete thickness in the hole to be used for the concrete anchors. Do not drill into mortar joints! Be sure to mount in a solid part of the block, generally 1" (25 mm) minimum from the side of the block. Cinder block must meet ASTM C-90 specifications. It is suggested that a standard electric drill on slow setting is used to drill the hole instead of a hammer drill to avoid breaking out the back of the hole when entering a void or cavity.
- Concrete must be 2000 psi density minimum. Lighter density concrete may not hold concrete anchor.
- Make sure that the wall will safely support four times the combined load of the equipment and all attached hardware and components.

1 Make sure that wall plate (**AA**) is level, use it as a template to mark four mounting holes. The top mounting slots should be located 6.2" (157 mm) above the desired screen center as shown in figure 1.1 on page 5. Drill four 5/16" (8 mm) dia. holes to a minimum depth of 2.5" (64 mm). Insert anchors (**EE**) in holes flush with wall as shown (right). Place wall plate over anchors and secure with #14 x 2.5" screws (**DD**). Level, then tighten all fasteners.

⚠ WARNING

- Tighten screws so that wall plate is firmly attached, but do not <u>overtighten</u>. Overtightening can damage screws, greatly reducing their holding power.
- Never tighten in excess of 80 in. • lb (9 N.M.).
- Always attach concrete expansion anchors <u>directly</u> to load-bearing concrete.
- Never attach concrete expansion anchors to concrete covered with plaster, drywall, or other finishing material. If mounting to concrete surfaces covered with a finishing surface is unavoidable (not evaluated by UL), the finishing surface must be counterbored as shown below. Be sure concrete anchors do not pull away from concrete when tightening screws. If plaster/drywall is thicker than 5/8" (16 mm), custom fasteners must be supplied by installer (not evaluated by UL).

1 Drill holes and insert anchors (**EE**).

2 Place plate (**AA**) over anchors (**EE**) and secure with screws (**DD**).

3 Tighten all fasteners.

CUTAWAY VIEW

INCORRECT — wall plate, concrete, plaster/drywall

CORRECT — wall plate, concrete, plaster/drywall

solid concrete — cinder block
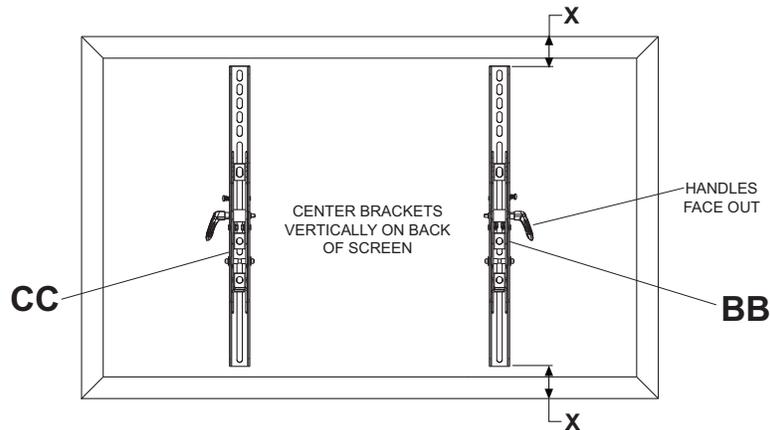EE — AA — DD

Installing Tilt Brackets

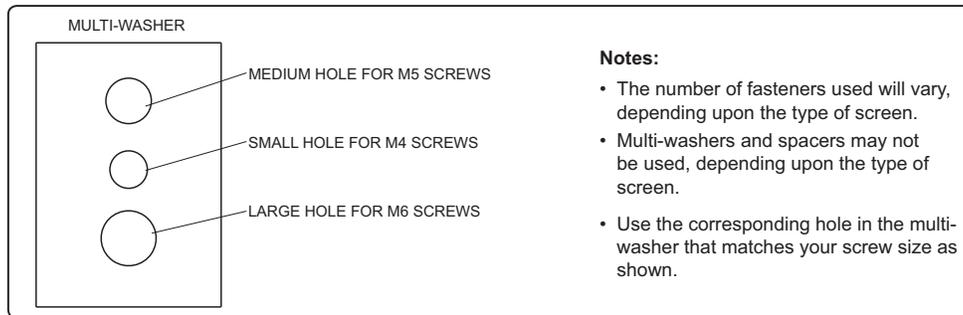| ⚠ WARNING |
|---|
| • Tighten screws so adapter brackets are firmly attached. Do not tighten with excessive force. Overtightening can cause stress damage to screws, greatly reducing their holding power and possibly causing screw heads to become detached. Tighten to 40 in. • lb (4.5 N.M.) maximum torque. |
| • If screws don't get three complete turns in the screen inserts or if screws bottom out and bracket is still not tightly secured, damage may occur to screen or product may fail. |

2 To prevent scratching the screen, set a cloth on a flat, level surface that will support the weight of the screen. Place screen face side down. If screen has knobs on the back, remove them to allow the adapter brackets to be attached. Place adapter brackets (**BB** or **CC**) on back of screen, align to holes, and center on back of screen as shown below. Attach the adapter brackets to the back of the screen using the appropriate combination of screws, multi-washers, and spacers as shown in figure 2.1 or 2.2.

NOTE: Top and bottom mounting holes on screen must be used for attaching brackets.

NOTE: Be sure to attach tilt brackets with handles facing outward as shown below. Verify that all holes are properly aligned, and then tighten screws using a phillips screwdriver.

CENTER BRACKETS VERTICALLY ON BACK OF SCREEN

HANDLES FACE OUT

CC

BB

X

X

NOTE: "X" dimensions should be equal.

MULTI-WASHER

MEDIUM HOLE FOR M5 SCREWS

SMALL HOLE FOR M4 SCREWS

LARGE HOLE FOR M6 SCREWS

Notes:
- The number of fasteners used will vary, depending upon the type of screen.
- Multi-washers and spacers may not be used, depending upon the type of screen.
- Use the corresponding hole in the multi-washer that matches your screw size as shown.

NOTE: For flat back screens proceed to step 2-1. For **bump-out or recessed back screen** skip to step 2-2.

Installing a 42" Monitor with the Mounting Bracket, *Continued*

For Flat Back Screen

2-1 Begin with the shortest length screw, hand thread through multi-washer and tilt bracket into screen as shown below. Screw must make at least three full turns into the mounting hole and fit snug into place. Do not over tighten. If screw cannot make three full turns into the screen, select a longer length screw from the baffled fastener pack. Repeat for remaining mounting holes, level brackets and tighten screws.

NOTE: Spacers may not be used, depending upon the type of screen.

fig. 2.1

SCREEN

MULTI-WASHER

SCREW

TILT BRACKET
(**BB** or **CC**)
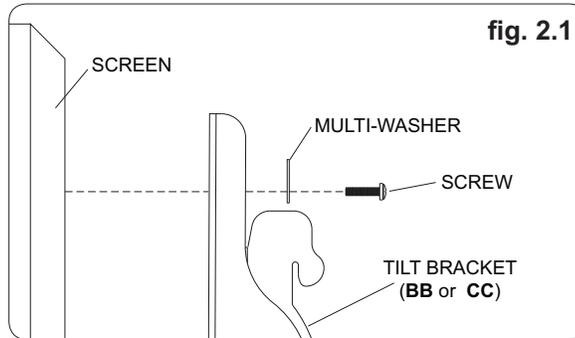
If you have any questions, please call Peerless customer care at **1-800-865-2112**.

For Bump-out or Recessed Back Screen

2-2 Begin with longer length screw, hand thread through multi-washer, tilt bracket and spacer in that order into screen as shown below. Screw must make at least three full turns into the mounting hole and fit snug into place. Do not over tighten. If screw cannot make three full turns into the screen, select a longer length screw from the baffled fastener pack. Repeat for remaining mounting holes, level brackets and tighten screws.

fig. 2.2

SCREEN

SPACER

MULTI-WASHER

SCREW

TILT BRACKET
(**BB** or **CC**)
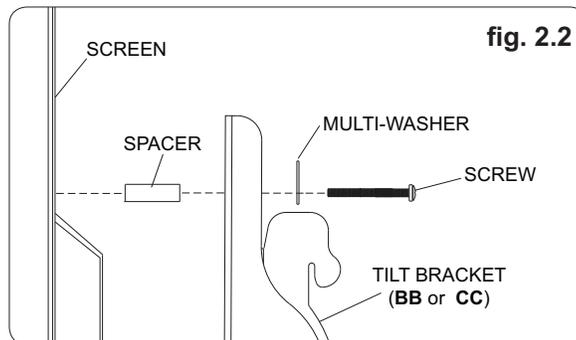
If you have any questions, please call Peerless customer care at **1-800-865-2112**.

## Mounting and Removing Flat Panel Screen

⚠ WARNING

- Always use an assistant or mechanical lifting equipment to safely lift and position the flat panel screen.

- Do not tighten screws with excessive force. Overtightening can cause damage to mount. Tighten screws to 40 in. • lb (4.5 N.M.) maximum torque.

- Be careful not to pinch fingers when pushing screen from the bottom.

3 **Tension Adjustment of Ratchet Handle:** Adjust tension in tilt brackets (**BB & CC**) by rotating ratchet handle. **NOTE:** If obstruction prevents ratchet handle from rotating, pull handle out while turning will allow handle to reposition without tightening. Release and turn handle to tighten or loosen.

Mounting Screen: Ratchet handle **must** be in the up or down position or interference will occur while hooking tilt brackets to wall plate (**AA**). Slowly hook tilt brackets (**BB & CC**) onto wall plate (**AA**) and swing screen down as shown in fig. 3.1. Tilt bracket hooks must fully engage wall plate as shown in detail 1. Using phillips screw driver or security allen wrench (**FF**), turn safety/security screws on tilt brackets (**BB & CC**) clockwise till screw tip securely contacts wall plate as shown in cross section.

Screen Adjustment: Screen can be adjusted horizontally by loosening safety/security screws on tilt brackets (**BB & CC**) three full turns. Adjust screen as shown in figure 3.2. Tighten safety/security screws on tilt brackets till screw tip securely contacts wall plate as shown in cross section.

Removing Screen: To remove screen from mount, loosen safety screws, swing screen away from mount, and lift screen off of mount.
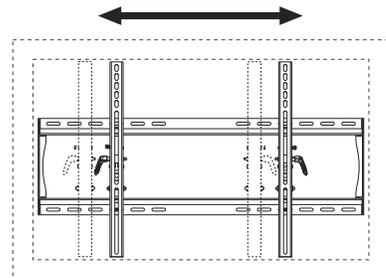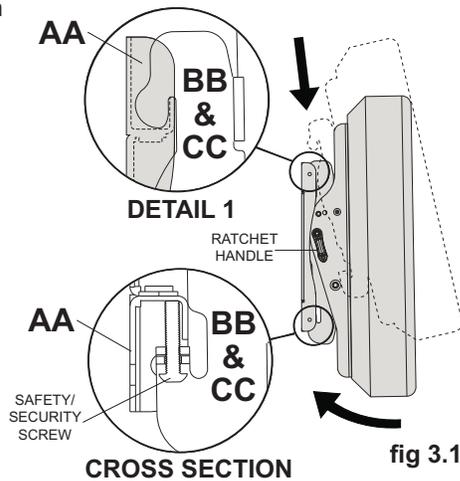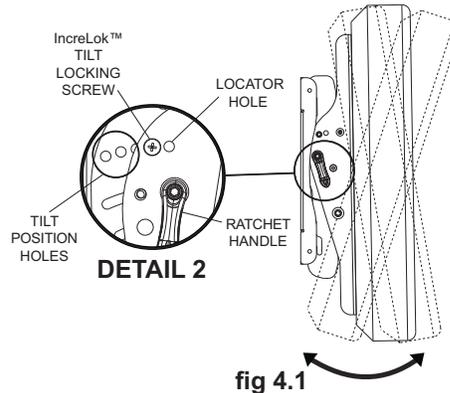
Adjusting the Tilt Angle of the Flat Panel Screen

4 For preset tilt angles use Increlok™ and for custom tilt angle use ratchet handle.

INCRELOK™: The screen can be locked into a pre-set tilt position of -5°, 0°, 5°, 10° or 15°. Use locator hole to find tilt position hole and tilt screen to align holes. Tighten IncreLok™ tilt locking screws on both tilt brackets to lock tilt as shown in detail 2.

Ratchet Handle: Loosen ratchet handle (refer to step 3 for tension adjustment of handle). Push or pull from top or bottom of screen to adjust tilt as shown in fig. 4.1. The tilt can be adjusted to a maximum of 15° forward or 5° backward.

AA **BB & CC**

DETAIL 1

RATCHET HANDLE

AA **BB & CC**

SAFETY/ SECURITY SCREW

CROSS SECTION

fig 3.1

fig 3.2

IncreLok™ TILT LOCKING SCREW

LOCATOR HOLE

TILT POSITION HOLES

RATCHET HANDLE

DETAIL 2

fig 4.1

Appendix C. TSW RAID 1 Support

TSW RAID 1 Overview

RAID is a general term for computer data storage schemes that can divide and replicate data among multiple hard disk drives. "RAID 1" is the RAID scheme that mirrors the contents of the disks, providing an identical copy of the data in the case of a catastrophic hard drive failure. Because the content of each disk in the RAID 1 scheme is identical to that of every other disk in the scheme, a system that has experienced a drive failure may continue to operate unimpeded, provided the other drive(s) in the RAID 1 scheme are not affected.

RAID 1 Support on the TSW is as follows:

- The TSW 2.02 or later software integrates RAID event monitoring, notification and logging when the TSW software is running on supported, RAID 1-equipped, Comark hardware.
- TSW 2.02 or later software detects and reports various RAID errors.
- All basic RAID functionality, including data copying and automatic switchover after a failure are actually handled in the RAID hardware and associated software instead of the TSW software itself.

Note: The TSW Comark PC is pre-installed with the VIA V-RAID Software Utilities (Rev V590A). In case of re-install, use the Peripheral Product Driver and install from the CD directory **\Driver\MP-6421\Windows_V-RAID_V590A**.

RAID Error Messages and Fixes

Table C-1. RAID Error Examples, Sources and Fixes

Examples of Error Messages	Error Source	Error Fix
`Device has been hot-plugged out: WDC WD1600AAJS-00B4A0 WD-WCAT20725262 on Controller 0, Channel 1, Master`	Cable disconnected	Check cable connections and re-attach if necessary
`Array0 (RAID1) is Broken !!! Source Disk (WDC WD1600AAJS-00B4A0 WD-WCAT30331391) on Controller 0, Channel 0, Master is out of synchronization!`	Disk fail	Replace the RAID drive, according to the procedures in this appendix

Figure C-1 shows how to identify Drive C (CH_0) and Drive D or E (CH_1).

Continued on next page

Single Board Computer

Plug-in SATA Controller card

Typically comes up as connected to CH_0 (normally C drive)

Typically comes up as connected to CH_1 (normally D or E drive)
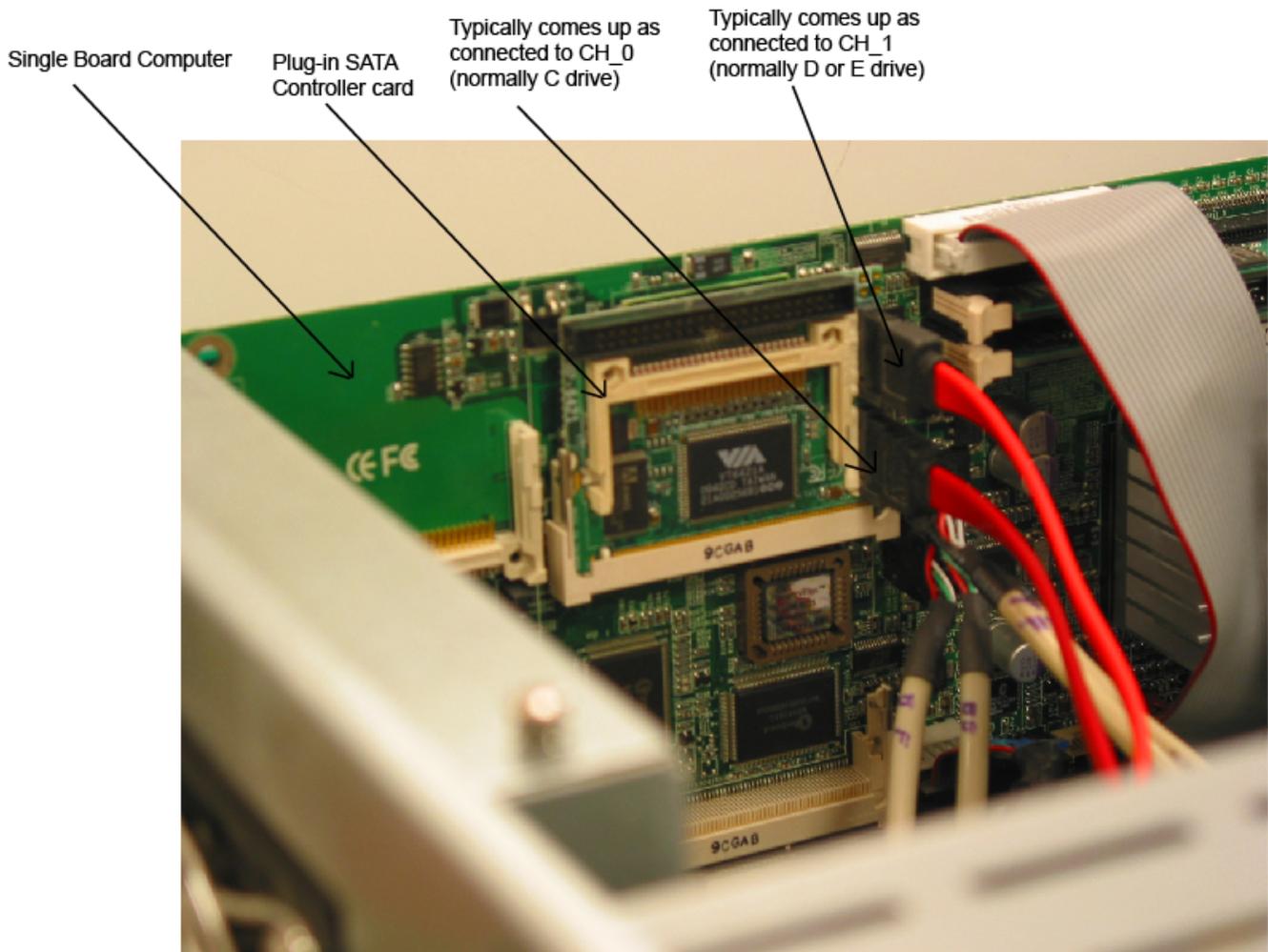

Figure C-1   Identifying Hard Disks on the TSW Comark PC

Replacing the RAID Drive from Outside Windows

1. Turn the computer on.

2. If one of the RAID drives has failed, you will receive a message stating "Broken Raid 1" (# 2 in Figure C-2).

Replacing the RAID Drive from Outside Windows
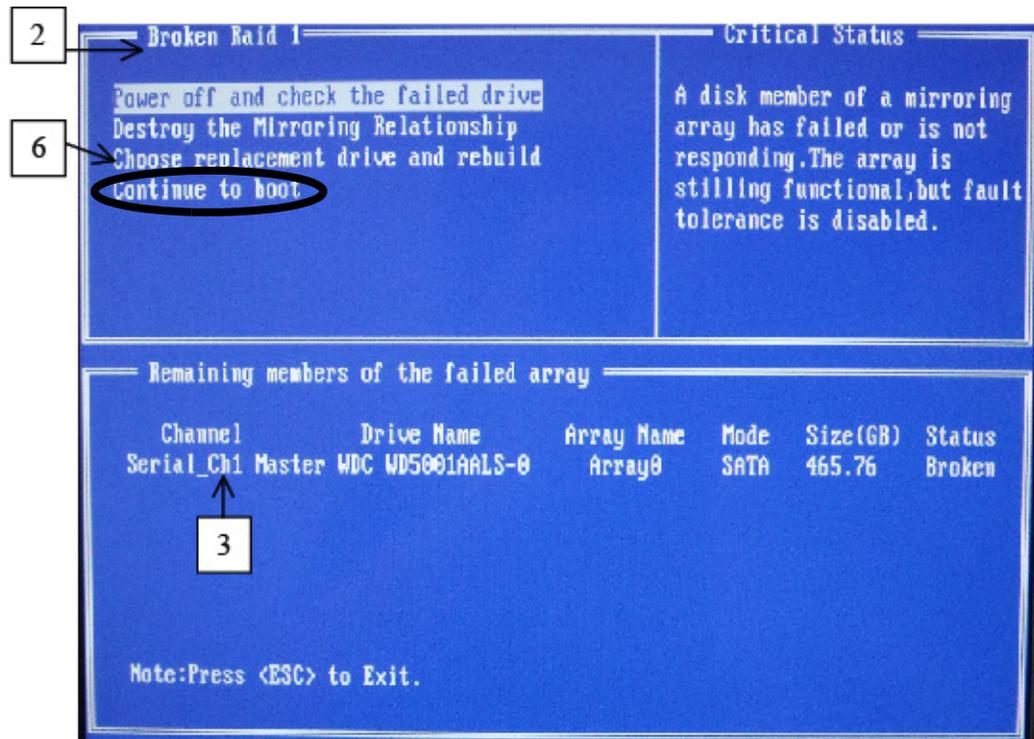
Figure C-2   Broken Raid Message

3. Identify the working drive remaining along with its channel (either Ch1 or Ch0). Replace the other channel. If the remaining drive is a mirror of Ch1, then replace the drive labeled "Source Ch0" (# 3 in Figure C-2).

4. Turn the computer off and replace the failed drive.

5. Turn the computer back on.

6. The same window as in Figure C-2 appears. Select the option "Choose replacement drive and rebuild" (# 6 in Figure C-2).

7. The available drive is highlighted. Press **Enter** on the keyboard to select it.

8. A warning appears asking if you would like to continue. Select "Y".

9. The drive begins duplicating. Do not cancel the operation at this point.

10. Once this operation is completed, the computer can be restarted and Windows recognizes the new drive.

Replacing the RAID Drive from Within Windows

1. Turn the computer on.

2. If one of the RAID drives has failed, you will receive a message stating "Broken Raid 1" (# 2 in Figure C-2).

Note: If the VIA V-RAID software is not installed on the PC, use the CD labeled: "Peripheral Product Driver" and install the software by launching the install from the CD at \Driver\MP-6421\Windows_V-RAID_V590A\SETUP.EXE. This CD ships with the Comark PC.

3. Select "Continue to boot" (# 6 in Figure C-2).

4. Select "N" when asked to enter the utility and wait for Windows to finish booting.

Replacing the RAID Drive from Within Windows

Once Windows has started, the VIA V-Raid Utility will normally auto-start. However, you can also launch the utility by clicking on **Start**, **All Programs**, **VIA**, **RAID** and then on **VIA V-Raid Utility** (Figure C-3). After the V-Raid Utility has initialized, follow the steps below to replace the RAID drive.

Figure C-3   Accessing the RAID Utility

1. Click on the **Yes** button when the screen in Figure C-4 appears. Replace the drive when prompted.

Figure C-4   Disk Failure Message

2. Select ">>". The new drive automatically populates the appropriate drive location.

Warning: Make sure that the new drive does not contain any vital information as performing the next steps will remove that information from the drive.

3. Select **Next**. A warning appears saying that all data will be lost.
4. Select **Next**.

The drives begin to synchronize. Do not restart the system while this is under way.

Creating a RAID1 Array if PC has SATA Controller but RAID is not Enabled

In order to Enable RAID Monitoring, the PC must contain the required Serial ATA Controller card. If the PC contains the SATA Controller but RAID is not configured, then the second hard disk (D: or E:) may be used as an additional data drive. In order to use the second hard disk for RAID, follow the procedures below:

1. Backup all data from the second drive to a different location.
2. Launch the VIA V-RAID Utility by clicking on **Start**, **Programs**, **VIA**, **RAID** and then on **VIA V-RAID Utility**. The available drives are displayed in the upper left window (Figure C-5).

**Creating a RAID1
Array if PC has
SATA Controller
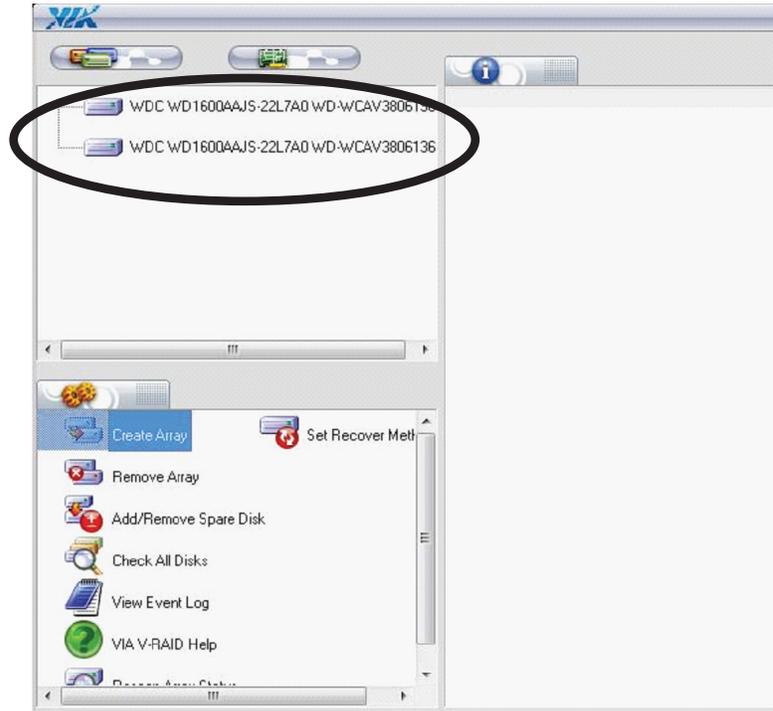but RAID is not
Enabled**

Figure C-5   VIA V-RAID Utility

3. Select the option **Create Array**. The **VIA Create-Array Wizard** appears.
4. Select the "RAID Mode" as **RAID1 (Mirror)** and click **Next**.
5. Select the option **Controller 0** and **Automatic**. Click **Next**.
6. On the new screen, do not change the default settings and click **Next**.
7. A dialog box saying "The disk will be used as a Source Disk" appears. Click **OK**.
8. The new screen confirms that the source disk also contains the operating system. Click **Next**.
9. A dialog box confirming the final step and advising a backup appears. Save all the necessary files from the second drive and click **Next**.

A window displaying the progress of the RAID Array creation appears (Figure C-6). This procedure can take over an hour to complete.

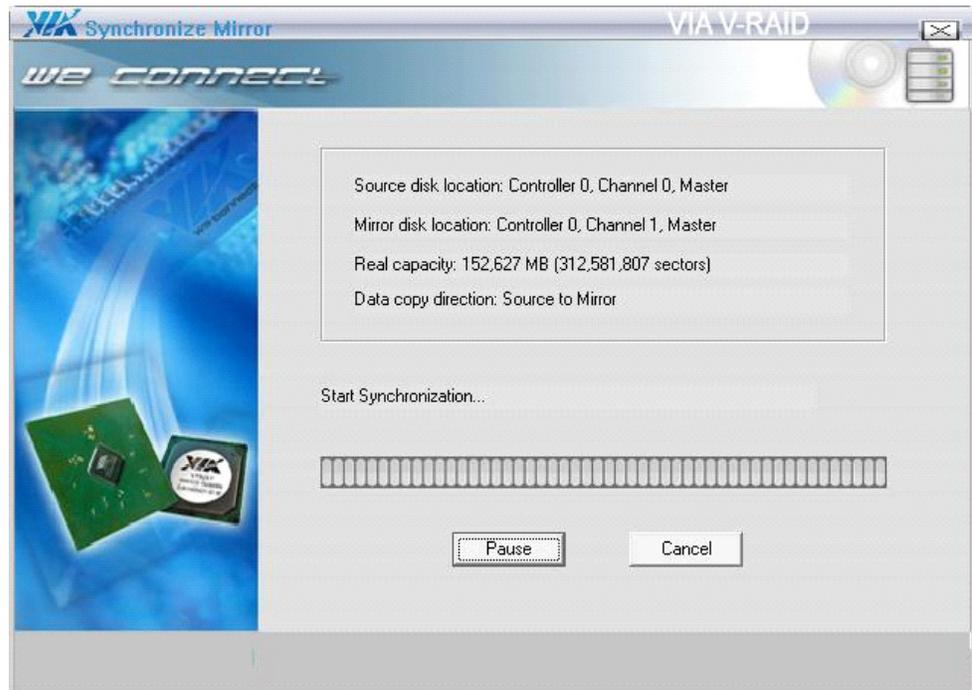**Creating a RAID1 Array if PC has SATA Controller but RAID is not Enabled**

Figure C-6   RAID Array Creation Progress

10. A new dialog box appears when a RAID1 Array has been successfully created (Figure C-7). Click **OK** to continue.
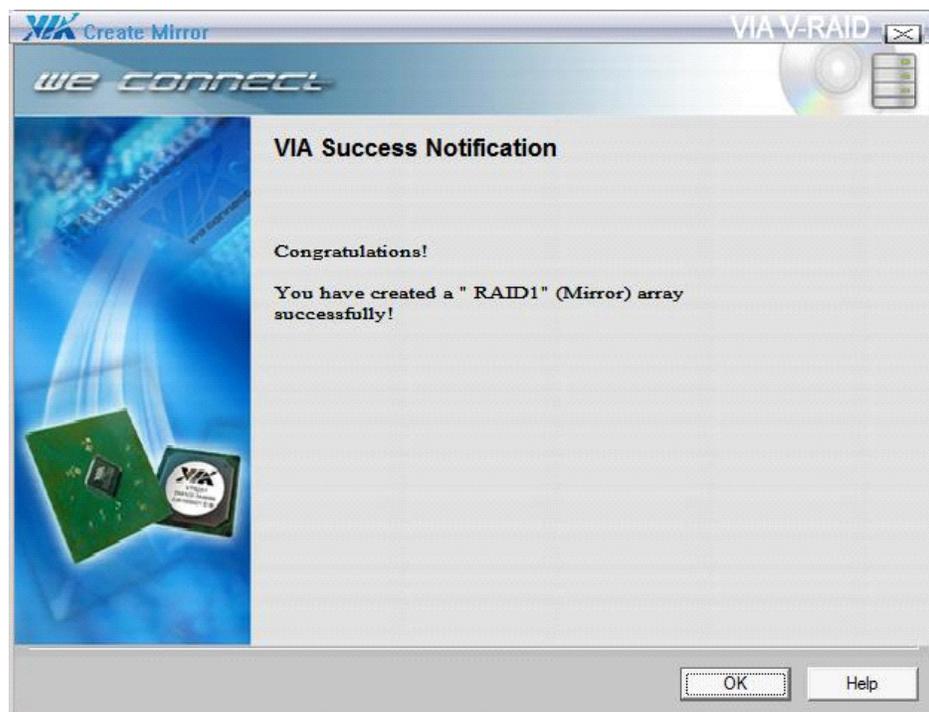

Figure C-7   RAID1 Array Successfully Created

TSW RAID 1 Support, *Continued*

Creating a RAID1 Array if PC has SATA Controller but RAID is not Enabled

The V-RAID Utility now displays the RAID1 Array with the source and mirror discs (Figure C-8). The second drive is no longer available for use in Windows Explorer since it is now used as the mirror disk. The disks are now synchronized through RAID. If you wish to re-enable the second drive at some point in the future, invoke the V-RAID utility and select **Remove Array**.
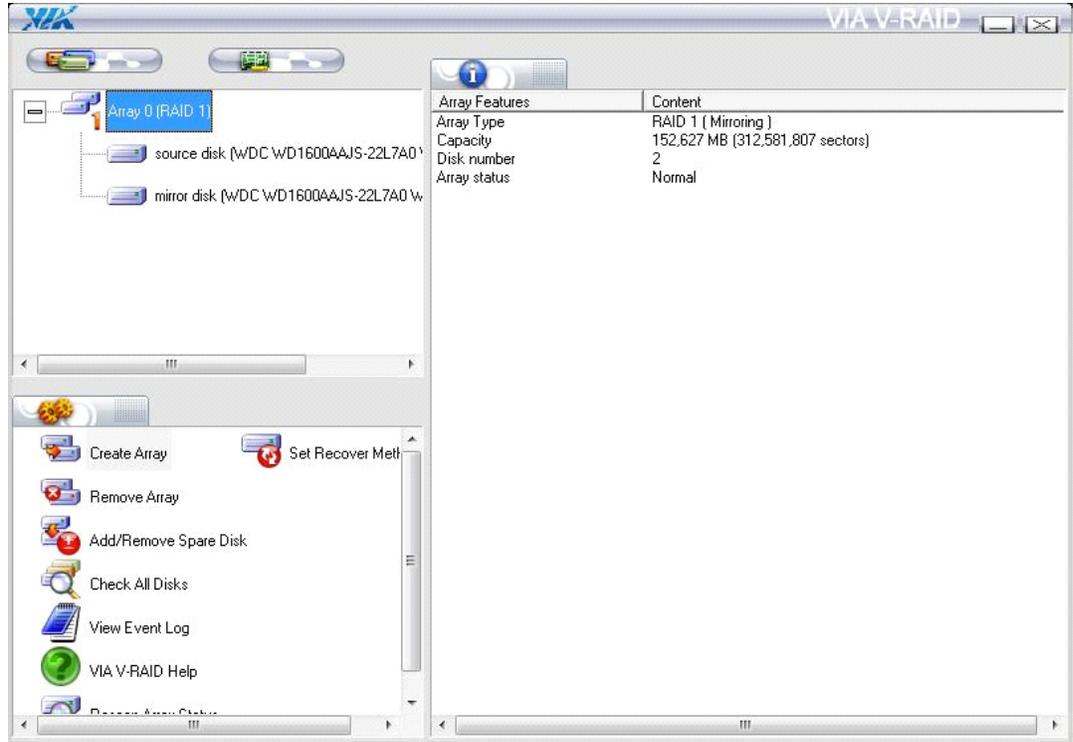

Figure C-8   RAID1 Array

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