



PCI-EPP UPGRADE PROCEDURES (MODELS 91XX/97XX)

VERSION 1.0
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PCI-EPP UPGRADE

INTRODUCTION

This guide covers the steps for removal of your existing Triple DES SPED (* **not VEPP**) and the installation of the PCI-EPP upgrade kit. The models covered are 91XX and 97XX. Also covered is the software download procedures using the TriComm for Windows program. These procedures include a list of tools and hardware required for the conversion.

** Replacement and /or upgrade from a VEPP to a PCI-EPP is a one-for-one swap (no kit required). This guide covers units that still have the original Triple DES SPED board (open PCB).*

SCOPE

These procedures apply to all Triton certified service personnel involved in the process of maintaining or converting Triton ATMs.

* NOTE *

The 9XXX Software CD included in kit contains Install Guides and software for various upgrade kits. Refer to the “**README**” and “**UPGRADE KIT INDEX**” to locate your kit, guide, and software P/Ns required for your upgrade installation.



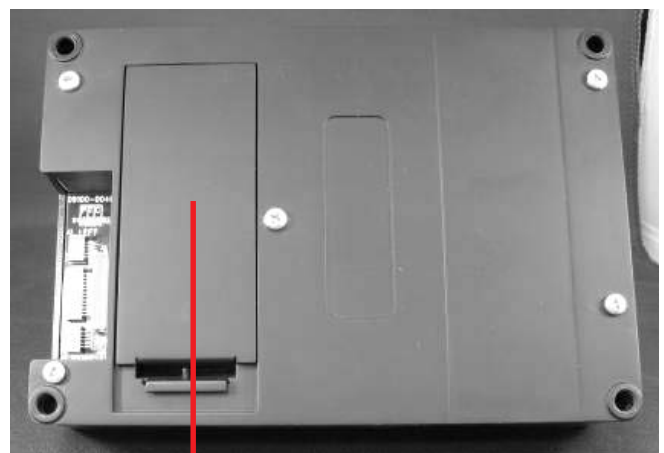
** Important **

The upgrade procedures require removal and replacement of electrostatic sensitive devices such as integrated circuits, boards, and assemblies. ESD wrist straps should be worn and connected to a common ground point to prevent hazardous electrostatic discharge to sensitive components. Failure to follow proper handling or use of these items may result in damage from ESD.

TRITON T6 EPP



PCI 1.0 COMPLIANT



FIELD REPLACEABLE BATTERY

MODEL 9100 - INTRODUCTION

Follow these steps to install the PCI-EPP and associated hardware in your 91XX ATM. The table below lists the accessories and other components included in the 91XX PCI-EPP upgrade kits.

TOOLS REQUIRED		
Phillips Screwdriver (Magnetic)	PLCC Chip Puller	
1/4" (6 mm) Nut Driver	ESD Wrist Strap	
PC or Laptop		
PCI-EPP UPGRADE KIT (91XX)		
(P/N 06200-08127 - ENGLISH)		
(P/N 06200-08128 - FRENCH)		
PARTS SUPPLIED		
PART NUMBER	DESCRIPTION	QUANTITY
¹ 03016-10200	Encrypting PIN Pad Assy -PCI (English)	1
² 03016-10201	Encrypting PIN Pad Assy -PCI (French)	1
09120-00707	Cable, Function Keys	2
09130-01047	EPROM, Version KD01.09	1
09120-00636	Cable, SPED Comms	1
02054-00203	Screw, 8-32 x 1-1/2" Phillips Round	4
09120-00310	Ground Harness, Upper	1
05200-00399	9XXX Software CD (includes kit #'s, install guides, software)	1
¹ Included in 06200-08127 Upgrade Kit ² Included in 06200-08128 Upgrade Kit		

For customers loading the latest software, please note the following:

The Triton software download cable (P/N 09800-0010 - not included, purchasable) requires a PC/laptop to be equipped with a 9-pin serial COM port. Most new computers do not have serial COM ports, just USB ports. For those new computers, Triton offers an adapter kit (P/N 01260-00019) containing a USB-to-serial interface, Windows driver software, and a 1-meter USB cable. Contact Triton Sales department at 1-800-367-7191 if ordering this adapter cable kit (or download cable).

INSTALLING THE PCI-EPP ASSEMBLY, CABLES, AND EPROM FOR MODEL 91XX

1. Open the control panel hood. Turn the power switch on the power supply to the OFF (0) position.
2. Locate the main board assembly shown in Figure 1. Disconnect all the cables/wires located on each side of this assembly. Detach the black cable harness from the 2 clips secured on the Main board panel.
3. Remove the three (3) phillip-head screws that secure the Main board assembly to the control panel. Remove the Main board assembly from the control panel and place on a flat surface.
4. Remove the top and bottom screws from the Main board assembly using either a flat-tip screwdriver or 1/4" nut driver (Figure 2).



Figure 1. Cables/harness disconnected.

***Note* (UK units)**
The top screw will be replaced later with the brass standoff currently used to secure the TVS pack for the EMV card reader.



Figure 2. Remove screws.

5. The following steps involve separating the Main board housing. The housing for the Main board is actually two (2) panels that fit together.
 - A. Place the Main board assembly on one end. Holding the housing assembly as shown in Figures 3 and 4, **gently** apply pressure outward on the green circuit board connectors until the panels start to separate.
 - B. Repeat the procedure on the other end of the assembly. Once panels have started to separate, work the sides alternately until the 2 panels are completely separate. **Caution: Avoid handling the small contrast adjust component at top of circuit board.** Place the panel with the circuit board on a flat surface.



Figure 3. Housing separation. Avoid contrast adjust!

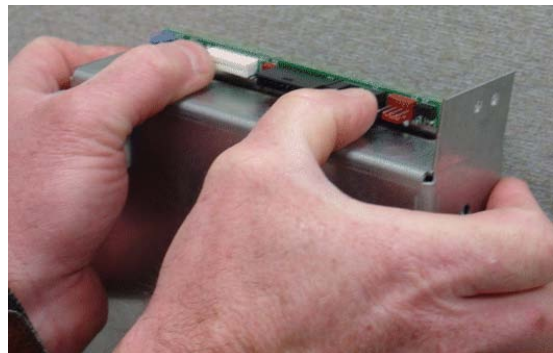


Figure 4. Housing separation.

6. Locate the Eprom chip shown in Figure 5. Using the chip puller (Figure 6), remove and replace with the **KD01.09** chip included. Reassemble the main board panels but do not install the main board assembly at this time.



Figure 5. Eprom chip location.



Figure 6. Remove Eprom chip.

7. Disconnect the two (2) function keys ribbon cables and the Data/Comm cable from the SPED board shown in Figure 7. Remove the power/data cable.

Disconnect and remove the other end of the 2 function keys ribbon cables from their respective circuit boards. Figure 8 shows the “*Left*” side ribbon cable as a reference (viewed from inside control panel). The Data/Comm and ribbon cables will be replaced with cables included in kit.

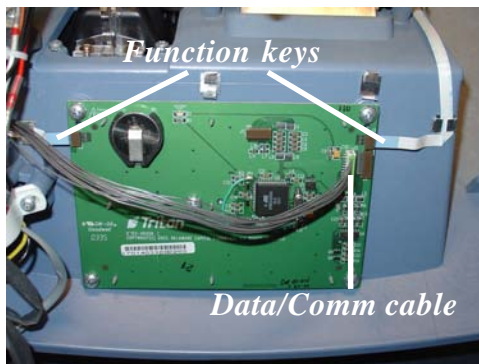


Figure 7. Disconnect cables from SPED.



Figure 8. Disconnect/remove ribbon cable.

8. Remove the four (4) phillip screws that secure the SPED board. Remove the SPED board assembly.



Figure 9. Remove SPED screws.

***Note* (UK units)**

Remove the TVS pack for the EMV. Remove the brass standoff used for the TVS pack. Remove the top screw from the main board assembly. (Figure 2). Relocate the brass standoff to this screw hole. Secure the TVS pack to the standoff (Figure 10). Install the ground cable harness included (P/N 09120-00310) to the L-bracket screw that secures the main board assembly (Figure 11). The EMVs ground cable is also connected to the same screw. Connect the other end of the ground cable harness to the screw that secures the power supply.

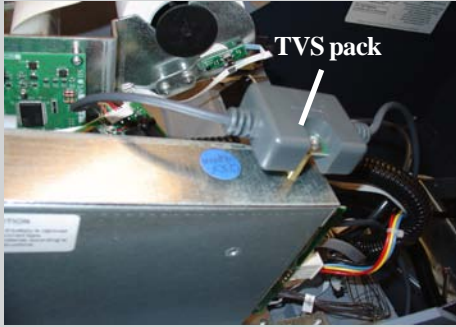


Figure 10. Brass standoff relocated.



Figure 11. Grounds connected.

9. Install the new PCI-EPP keypad assembly and secure with the four (4) 8-32, 1-1/2" phillips-head screws provided. Connect the new SPED Comms cable (P/N 09120-00636) and the function keys ribbon cables (P/N 09120-00707) to the EPP assembly. Figure 12 shows the EPP and cables connected.

NOTE: Ensure the function keys cables are correctly orientated (blue tracer on ribbon cable facing out).
Figure 12 shows the connectivity for the 2 cables.

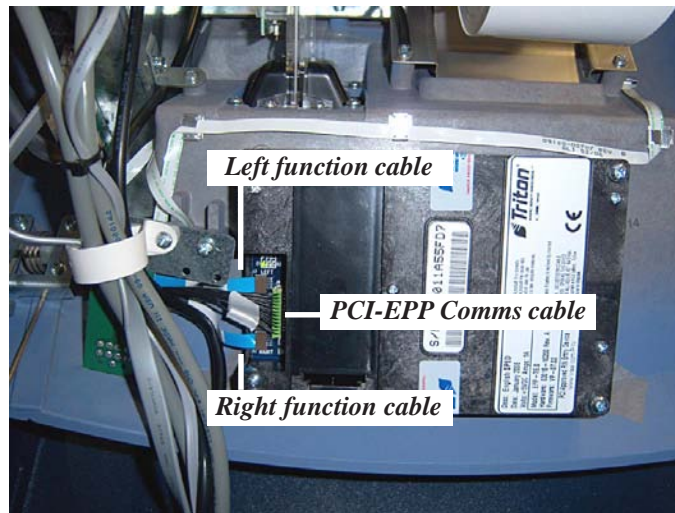


Figure 12. PCI-EPP and cables installed.

Note: Function keys ribbon cables are connected with the "blue" trace facing out when viewed.

10. Connect the other ends of the function keys ribbon cables to their respective circuit boards.
11. Install the main board assembly on the control panel. Reconnect all the cables previously removed. Figure 13 (below) shows cable connect points. Connect the Data/Comm cable from the PCI-EPP to the main board.
12. Load the 91XX-specific operating software into the terminal. Loading instructions are described at the end of this section.

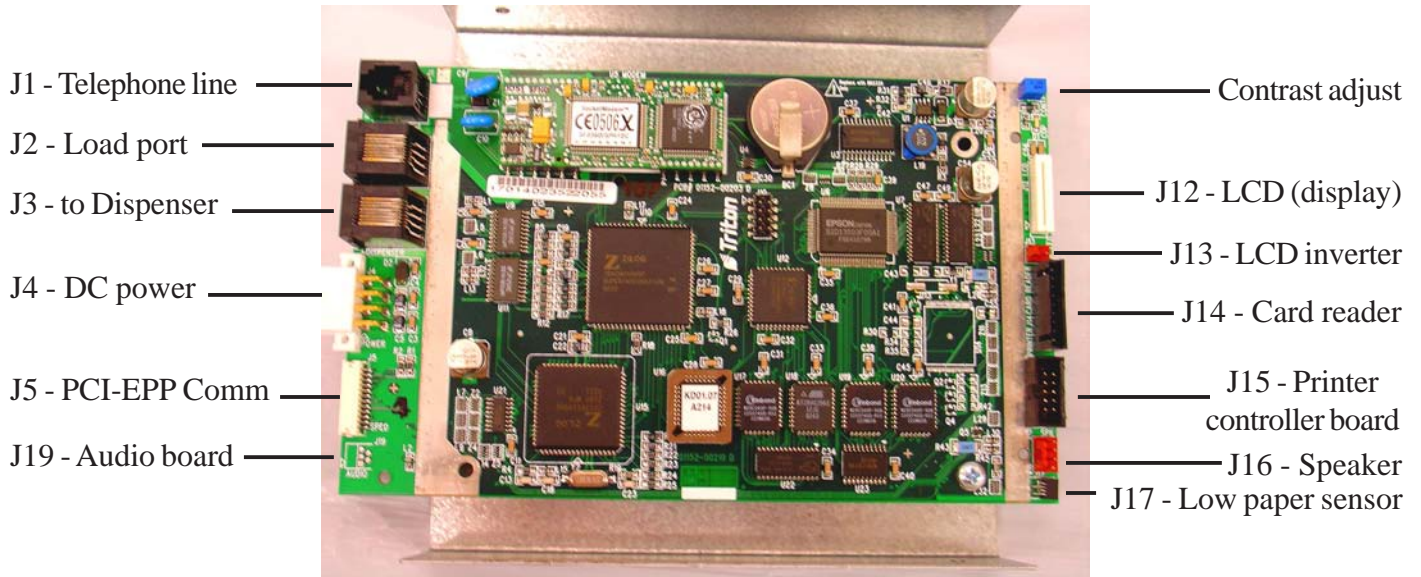


Figure 13. Main board connections.

EPROM ERROR RECOVERY

After initial installation and software download, you “*may*” experience a “hard” 205 or 239 Error Code. You will have to reboot the terminal of which you will get this screen (below, left).

If this screen has either the SPED Tamper Error Code **205** or SPED Serial Number Error Code **239**, the reset error button will not clear these 2 errors.

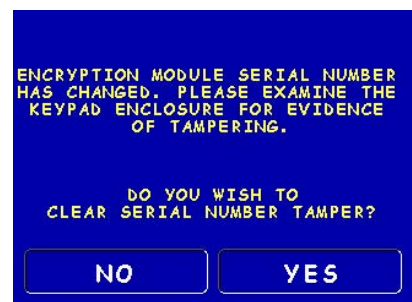
To clear the errors, enter **MANAGEMENT FUNCTIONS > DIAGNOSTICS > MORE DIAGNOSTICS > MORE(MORE) DIAGNOSTICS > KEYPAD**.

This menu option is dynamic. The clear error codes (Tamper or Serial) will only appear when either error is detected on the terminal.



CLEAR TAMPER - This option is only displayed if the terminal has detected a tamper condition from the SPED device.

CLEAR SERIAL TAMPER - This option is only displayed when the serial number of the SPED device does not match the SPED device serial number that the terminal has stored. **This is not a SPED device tamper** but an indication that the terminal may have been tampered with. When this error is cleared, the serial number of the connected SPED device is written to the terminal.



MODEL 97XX - INTRODUCTION

Follow these steps to install the PCI-EPP and associated hardware in your 97XX ATM. The table below lists the accessories and other components included in the 97XX PCI-EPP upgrade kits.

TOOLS REQUIRED		
Phillips Screwdriver (Magnetic) ESD Wrist Strap	PLCC Chip Puller PC or Laptop	
PCI-EPP UPGRADE KIT (97XX) (P/N 06200-08131 - ENGLISH) (P/N 06200-08132 - FRENCH)		
PARTS SUPPLIED		
PART NUMBER	DESCRIPTION	QUANTITY
¹ 03016-10250	Encrypting PIN Pad Assy - PCI (English)	1
² 03016-10251	Encrypting PIN Pad Assy - PCI (French)	1
09120-00707	Cable, Left Function Keys	1
09130-01031	EPROM, Version ZD01.15	1
09120-00108	Cable, SPED Comms	1
02054-00203	Screw, 8-32 x 1-1/2" Phillips Round	4
07100-00034	Encrypting PIN Pad (EPP) Upgrade Procedures	1
¹ Included in 06200-08131 Upgrade Kit ² Included in 06200-08132 Upgrade Kit		

For customers loading the latest software, please note the following:

The Triton software download cable (P/N 09800-0010 - not included, purchasable) requires a PC/laptop to be equipped with a 9-pin serial COM port. Most new computers do not have serial COM ports, just USB ports. For those new computers, Triton offers an adapter kit (P/N 01260-00019) containing a USB-to-serial interface, Windows driver software, and a 1-meter USB cable. Contact Triton Sales department at 1-800-367-7191 if ordering this adapter cable kit (or download cable).

INSTALLING THE PCI-EPP ASSEMBLY, CABLES, AND EPROM FOR MODEL 97XX

1. Open the control panel hood. Turn the power switch on the power supply to the OFF (0) position.
2. Locate the main board assembly shown in Figure 1. Unplug the telephone line.
3. Remove the phillip-head screw that secure the Main board assembly and ground harness to the control panel (Figure 2). Carefully unplug the Main board from the PCI connector on the Backplane assembly (Figure 3). Place the Main board on a flat surface.

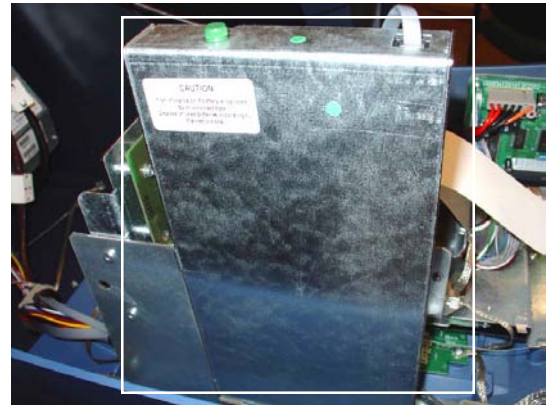


Figure 1. Main board assembly.

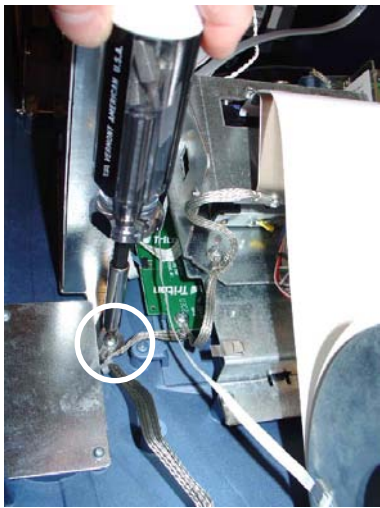


Figure 2. Remove screw.

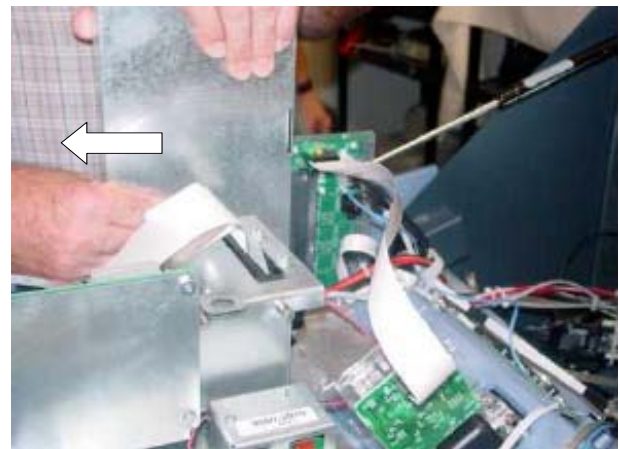


Figure 3. Disconnect Main board from Docking board assy.

4. Remove the green thumbscrew (shown insert) that secures the top cover to the Main board mounting bracket. Separate the top cover from the assembly (Figure 4).



Figure 4. Main board assembly separated.

5. Locate the Eprom chip shown in Figure 5. Using the chip puller (Figure 6), remove and replace with the **ZD01.15** chip included. Reassemble the main board cover but do not install the assembly at this time.

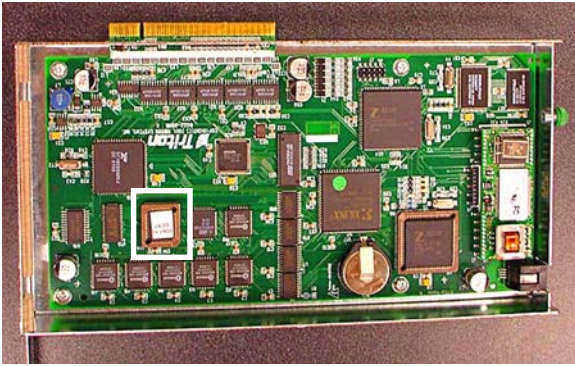


Figure 5. Eprom chip location.

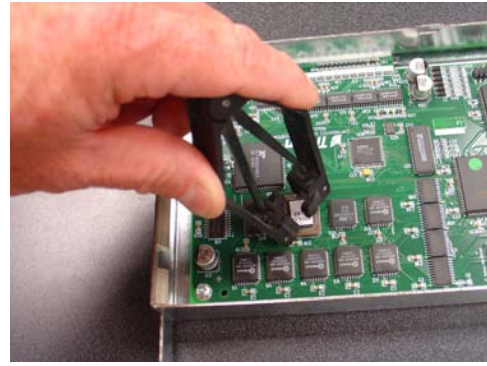


Figure 6. Remove Eprom chip.

6. Disconnect the two (2) function keys ribbon cables and the Data/Comm cable from the SPED board shown in Figure 7. Disconnect the other end of the **LEFT** side Function keys ribbon cable from the circuit board shown in Figure 8 and remove cable. Disconnect the other end of the Data/comm cable from the Docking board (Figure 9) and remove the cable. The Data/Comm and ribbon cable will be replaced with cables included in kit..

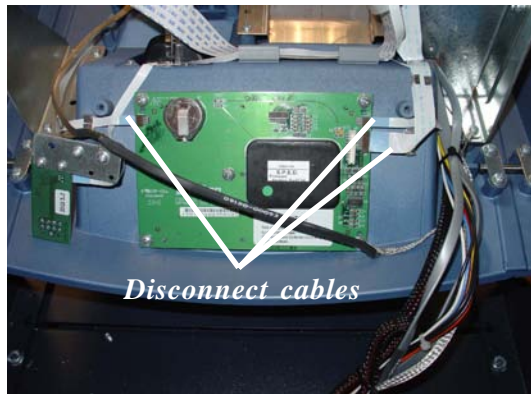


Figure 7. Disconnect cables from SPED.

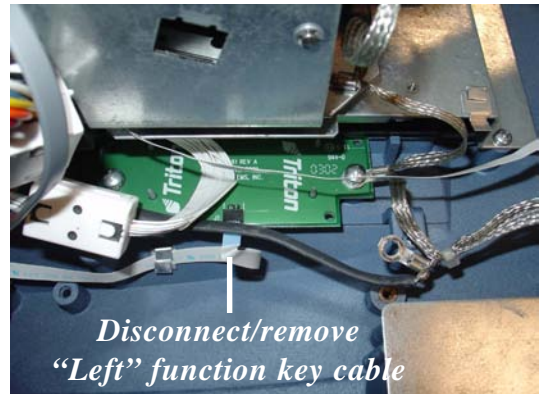


Figure 8. Left function keys cable.

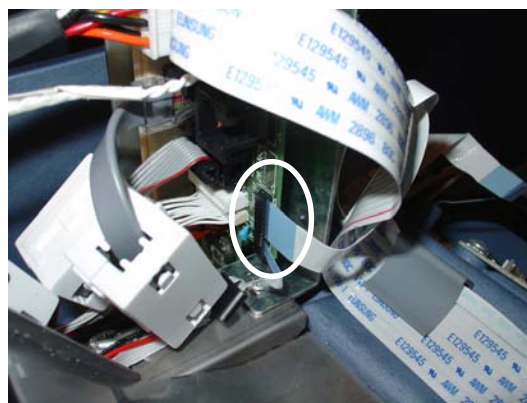


Figure 9. SPED data cable

7. Disconnect the ground harness cable from the three (3) screws shown in Figure 10. Lay the harness out away from the SPED board.
8. Remove the remaining screws (Figure 11) on the SPED board and remove the SPED board assembly. The SPED and screws will be replaced with the new EPP and screws provided in kit.

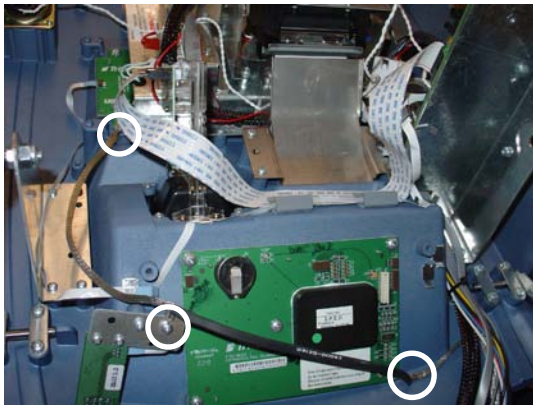


Figure 10. Disconnect ground harness.



Figure 11. Remove screws and SPED board assy.

9. Install the new PCI-EPP keypad assembly and secure with four (4) 8-32, 1-1/2" phillips-head screws provided (Figure 12).
10. Remove the screw securing the audio/speech circuit board and move the assembly aside as shown in Figure 13. This allows access for connecting the cables to the EPP assembly. (You may perform this step prior to installing the EPP board)



Figure 12. Install the EPP.

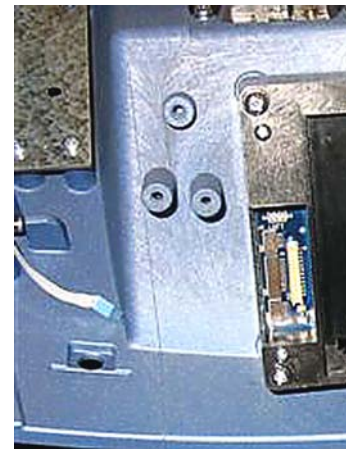


Figure 13. Disconnect audio/speech assembly.

11. Route the Left function keys ribbon cable (P/N 09120-00707) under the Docking board assembly bracket (Figure 14). Connect one end to the Function keys circuit board (Figure 15).

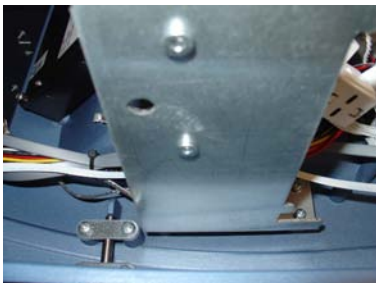


Figure 14. Route ribbon cable under Docking board bracket.



Figure 15. Left function keys circuit board.

12. Connect the new PCI-EPP Comms cable (P/N 09120-00108), Left function keys ribbon cable, and the existing Right function keys ribbon cable to the PCI-EPP. Figure 16 shows the PCI-EPP cables connected.

Note: *Ensure the function keys cables are correctly orientated. Figure 16 shows the connectivity for the 2 cables.*

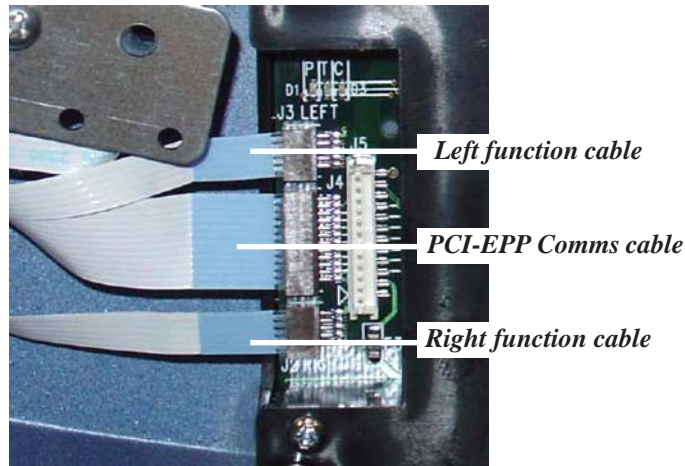


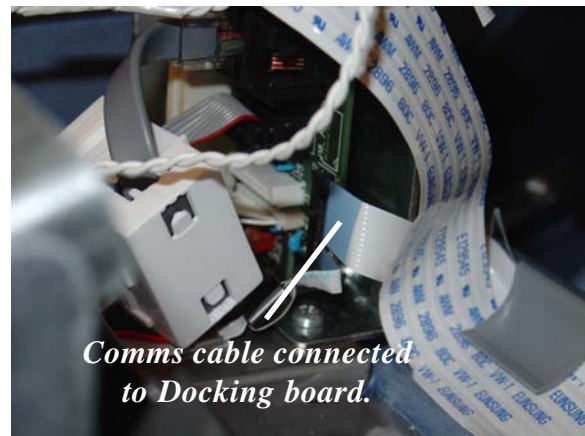
Figure 16. EPP and cables installed.

Note: *Function keys and SPED Comms ribbon cables are connected with the “blue” trace facing out when viewed.*

13. Connect the other end of the SPED Comms cable to the Docking board assembly (Figure 17). **Note:** *Ensure this cable is seated firmly/correctly at both ends! (Blue tracer on ends of cable are visible)*
14. Route/dress the cables through the cable holders provided. Reinstall the audio/speech circuit board assembly.
15. Reconnect the ground cable harness (Figure 18). Install the Main board assembly and secure to the control panel (Figure 19). Reconnect the telephone line.



Figure 18. Reconnect ground harness.



Comms cable connected to Docking board.

Figure 17. Comms cable connected.

16. Load the 97XX-specific operating software into the terminal. Loading instructions are described at the end of this section.

EPROM ERROR RECOVERY

After initial installation and software download, you “*may*” experience a “hard” 205 or 239 Error Code. You will have to reboot the terminal of which you will get this screen (below, left).

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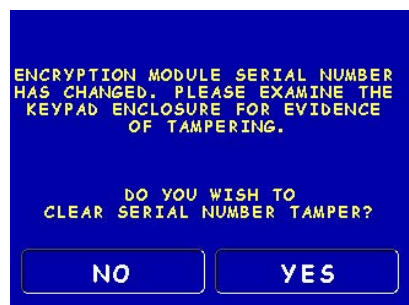
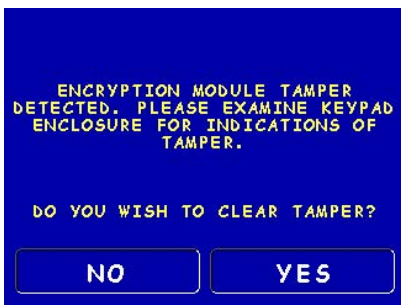
To clear the errors, enter **MANAGEMENT FUNCTIONS > DIAGNOSTICS > MORE DIAGNOSTICS > MORE(MORE) DIAGNOSTICS > KEYPAD**.

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SOFTWARE DOWNLOAD PROCEDURES

SOFTWARE DOWNLOAD

The terminal software must be loaded using the TriComm for Windows® executable program included on the Software CD (P/N 05200-00399). The following procedures describe accessing the terminal Eprom Diagnostic screen and running the TriComm for Windows program.

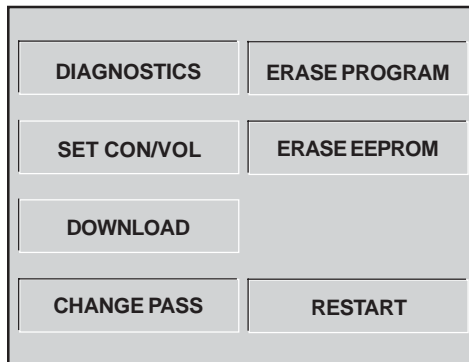
*** IMPORTANT ***

The EPROM chip and all associated hardware required must be installed and the EPROM must be erased prior to downloading the operating software included in the kit. DO NOT load an update file over current Triton Standard software running the machine.

ACCESSING THE EPROM DIAGNOSTICS

The **EPROM DIAGNOSTICS** menu will be used to prepare the terminal for the software download. To access the EPROM main menu you will need the EPROM Access Code.

1. While holding down the “1” key on the Terminal main keypad, reset the unit by turning the AC Power Switch OFF for a few seconds, then back ON again. The terminal will perform a series of boot-up diagnostics. At the conclusion of the boot-up sequence the unit should now display a screen requesting an EPROM access code. Release the “1” key.
2. Enter the EPROM access code. The factory default code is ‘123456’. The unit will display an EPROM Diagnostics menu:



3. Press the **ERASE PROGRAM** option. A warning screen is displayed:

**** WARNING ****

This selection will erase part of the unit’s memory and should be used only with caution!

Enter the erase code to proceed or cancel to end.

4. Enter the Erase Program code of **2455**. When the erase operation is completed the main menu will appear.
5. Press the **ERASE EEPROM** option. A warning screen is displayed, as in step 3.
6. Enter the Erase EEPROM code of **2455**. When the erase operation is completed the main menu will appear.

7. Press the key next to the **DOWNLOAD PROGRAM** option. The next screen will present a message prompting you to connect the PC to the Terminal and begin the software transfer:

**** PROGRAMLOAD ****

**Connect the PC to the unit or connect phone line.
Begin the transfer on the PC.**

CONNECT THE DOWNLOAD CABLE

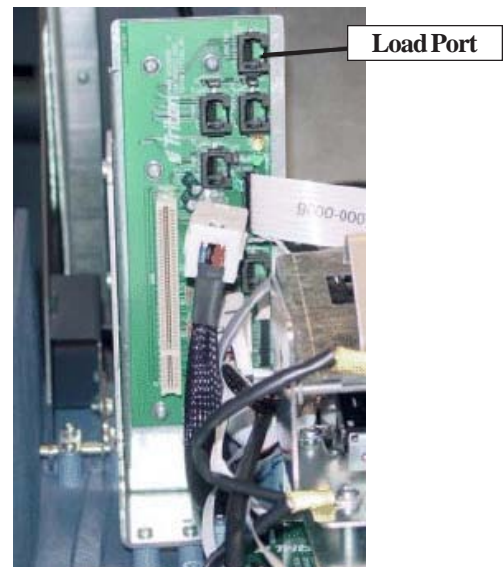
1. Connect the 9-pin adapter end of the download cable to the selected serial port on the PC. Note the serial port you are using (COM1 or COM2) for use in configuring the TriComm for Windows program. See the figures below for connector location:



2. Unlock and open the control panel of the terminal. Connect the other end of the download cable to the appropriate port on the terminal. Figures on next page show the download port locations for Models 9100 and 97XX ATMs.



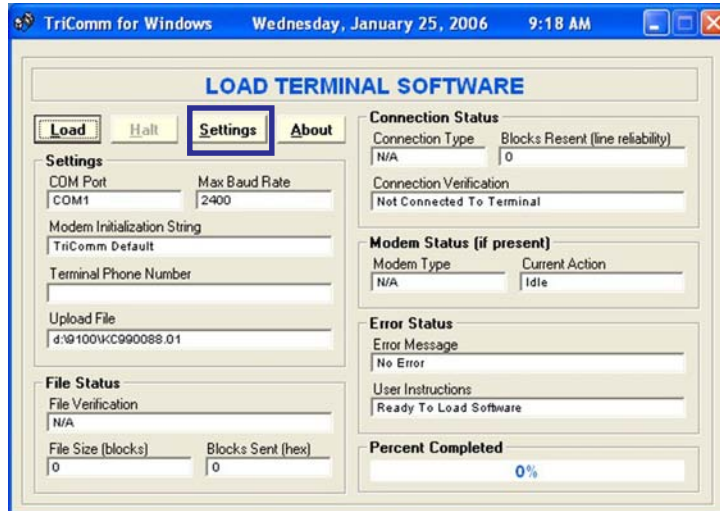
91XX



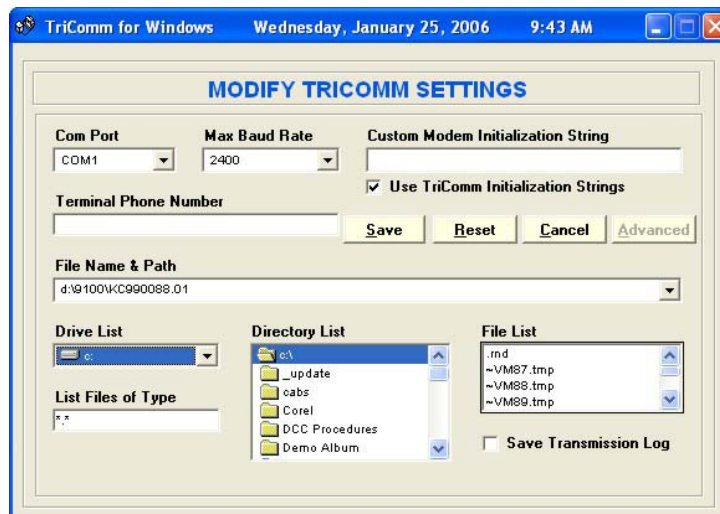
97XX

CONFIGURE TRICOMM FOR WINDOWS PROGRAM

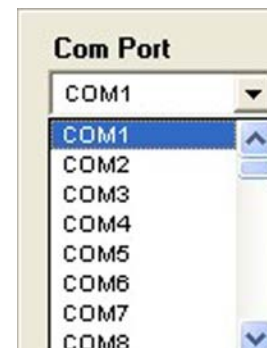
1. Insert the Software CD load disk into the CD drive of the PC.
2. Access the **Windows Start\Programs** menu and select the **TriComm** option. Select the *WTriComm.exe* file. The program will start. The program's main window will be displayed:



3. Click the **Settings** button. The following dialog window will be displayed:



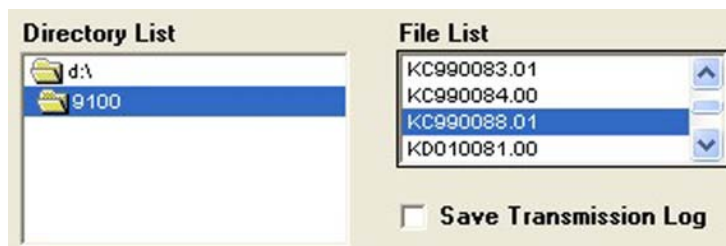
4. Choose a Com Port setting that matches the port on the PC. Click the down arrow on the **Com Port** control to see additional selections, as shown here:



5. Use the **Drive List** control to select the CD drive, which should contain the Software CD load disk. This will usually be the <d:> or <e:>drive, as shown here:
6. Once the drive is selected the **Directory List** box will show what directories are present on the disk. In most cases, additional directories below the root directory (i.e. d:\) will be present, as shown here:



7. The **File List** box will show the contents of the currently selected directory on the drive. Here is an example:



8. The kinds of load files that will be displayed in the list will depend upon the ATM model type and the type of load file (Full Load or Update Load) present on the disk. Highlight the appropriate file and click the **Save** button to save the current settings and return to the TriComm main window.



Start Software Download

1. Click the **Load** button on the TriComm main window. The software loading process begins. The Percent Completed progress bar will indicate the degree of completion of the file transfer. A corresponding progress indicator will appear on the terminal display during the file transfer, along with the words, “TRANSFER INITIATED.”
2. Once the file transfer is complete (has reached 100%), the terminal will perform a check of the received data, as indicated by the words, “CHECKING FLASH CRC” on the unit’s display.
3. When the words, “DOWNLOAD COMPLETED” appear on the terminal display, the software load is complete. **REMOVE THE DOWNLOAD CABLE** and close the control panel of the terminal.
4. Press the **Cancel** key on the keypad to exit the diagnostics menu area and run the terminal program. The terminal will run a series of verification tests, after which the terminal’s Top Menu will be displayed.

From this menu, select Management Functions to configure the unit. Refer to “**Management Functions**”, for specific setup and configuration procedures.

5. Close the TriComm for Windows program by clicking on the close button in the upper-right corner of the program window, or by clicking on the title bar icon in the upper-left corner of the program window and selecting the Close option from the pop-up menu. Remove the download cable connection at the PC Com Port. Remove the software load disk from the CD drive of the PC.