PMP Replacement for Veeder-Root® RS-232 Module

Thank you for purchasing the enclosed PMP Serial Communications Module.

This module is designed and manufactured by PMP as a direct replacement for the Veeder-Root® TLS-350 Serial RS-232 Module 847490-301 or 330719-011 (which replaced 329362-001). This installation requires specific knowledge of the TLS-350 and you may need to refer to the following OEM manuals to complete the installation:

576013-623   TLS-XXX System Setup Manual
576013-610   TLS-XXX Operators Manual
576013-635   TLS-XXX Serial Interface Manual

Tools required:
- T-15 Torx® driver
- Flat bladed screwdriver
- DB25 to DB9 Serial Data cable may be required to verify functionality

READ THIS GUIDE BEFORE YOU BEGIN
- **Service station equipment has both electricity and hazardous, flammable and potentially explosive liquid. Failure to follow the precautions below and instructions in this guide may result in serious injury and death. Follow all rules, codes and laws that apply in your area.**
- **Veeder-Root requires training certifications for contractors who install and setup equipment related to the TLS-350. The minimum certification level for installation of this board is Level 2/3. Be sure that you have familiarized yourself with these requirements and determined if you are qualified to perform this installation.**
- **PMP shall not be liable for errors contained herein or for incidental or consequential damages in connection with furnishing, performance or used of this publication.**
- **PMP reserves the right to change product features or the information contained in this publication.**

SAFETY PRECAUTIONS FOR INSTALLATION AND MAINTENANCE
- **Only a person with knowledge and experience with service station equipment should perform this work.**

- **Always make sure ALL power to the equipment you are working with is turned OFF before starting any maintenance.**

- **Note that more than one disconnect switch may be required to de-energize the equipment for maintenance and servicing. Use a voltmeter to make sure ALL circuits in the dispenser are de-energized. Failure to do so may result in serious injury.**

- **Observe precautions for handling electrostatic sensitive devices and avoid ESD.**

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IMPORTANT:
To avoid data loss, follow instructions provided by the OEM to print out a Setup Data Report and archive the existing console data prior to module installation and setup.

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① Archiving TLS Data

If you are not sure when data was last archived in the TLS, we recommend using the Archive Utility in the TLS to back-up data and console settings prior to preforming any work on the system.

- Remove the top and bottom T-15 Torx screws on the left-hand side of the printer door to gain access to the printer compartment.
- Open the door and confirm the Battery Backup Switch is set to the "ON" position (see Figure 1)
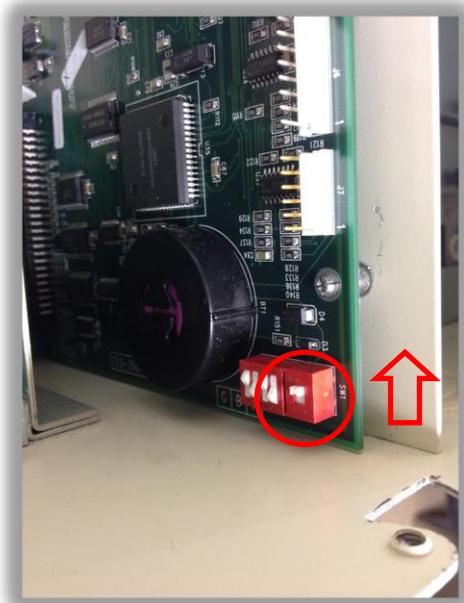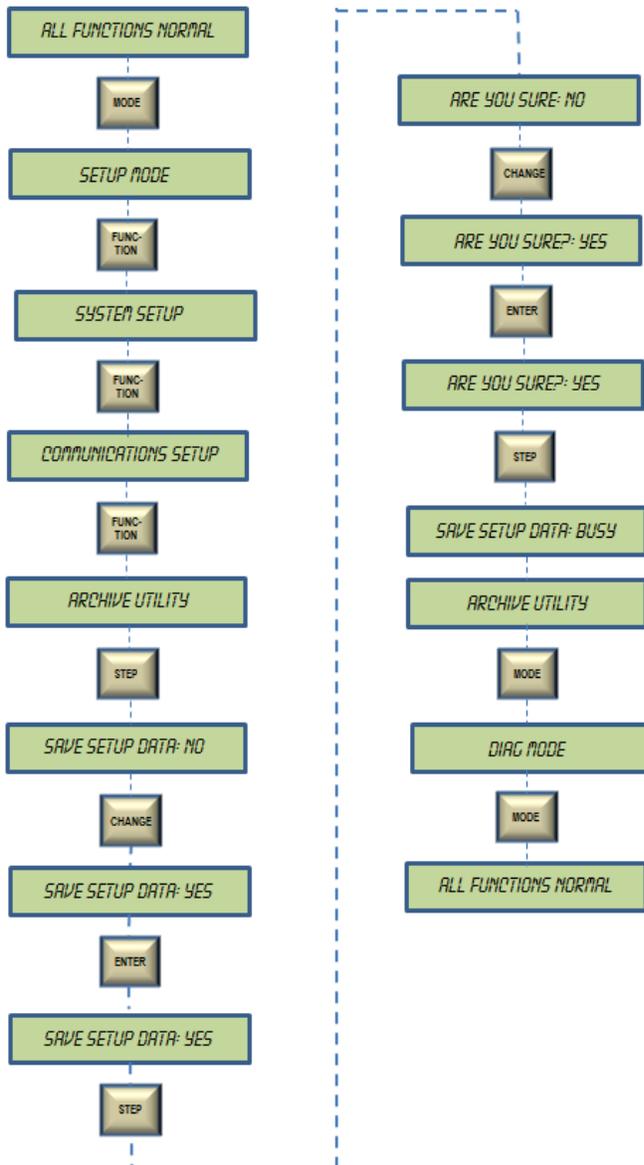- Archive the data by using the following key strokes from the TLS front panel:

Note: Photos and programming steps shown are specifically for the TLS-350 with ECPU Ver. 128 software. Depending on the site configuration, switch locations and programming steps may differ.

ALL FUNCTIONS NORMAL
MODE
SETUP MODE
FUNCTION
SYSTEM SETUP
FUNCTION
COMMUNICATIONS SETUP
FUNCTION
ARCHIVE UTILITY
STEP
SAVE SETUP DATA: NO
CHANGE
SAVE SETUP DATA: YES
ENTER
SAVE SETUP DATA: YES
STEP

ARE YOU SURE: NO
CHANGE
ARE YOU SURE?: YES
ENTER
ARE YOU SURE?: YES
STEP
SAVE SETUP DATA: BUSY
ARCHIVE UTILITY
MODE
DIAG MODE
MODE
ALL FUNCTIONS NORMAL

❷ Power Down the console

Remove the top and bottom T-15 Torx screws on the left-hand side of the printer door to gain access to the printer compartment.

- Open the door
- **Ensure the backup battery switch is in the 'On' position (see Figure 1).**
- Remove power from the console by un-plugging the two position connector (see Figure 2 & 3) in the printer compartment.
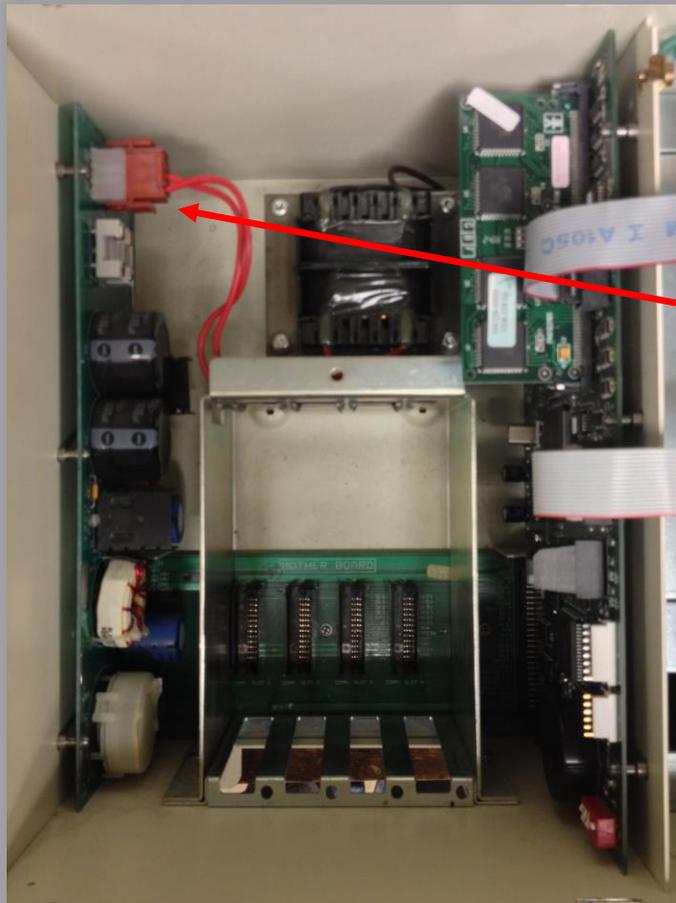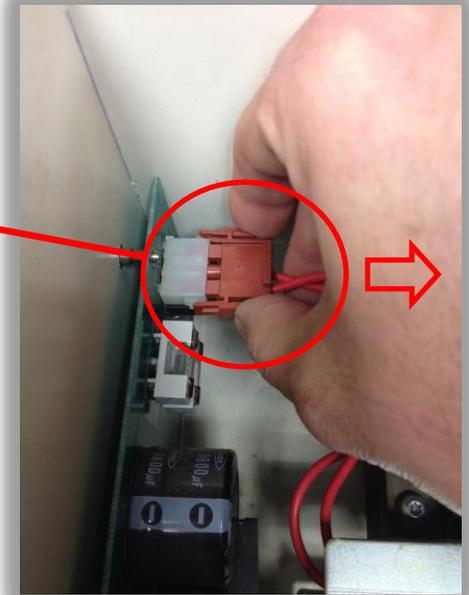

Figure 3 – Squeeze the two tabs to un-plug the power connector

Figure 2 - Inside the TLS-350 Printer compartment

Figure 4 - Remove blank cover plate

❸ Installing a new module:

- **The TLS will only recognize the RS-232 module in slots 1, 2 or 3**
- Remove the cover plate from slots 1, 2 or 3 (see Figure 4).
- Depending on the age of the console, the blank cover plate may be designed as a knockout or held in place with a screw or plastic fastener.
- If replacing an existing RS-232 module, remove the old module.
  Slide the new RS-232 Module into the open slot making sure the plastic fastener is lined-up with the mating hole in the card cage and the 24 position connector aligned with the mating connector on the backplane. (see figures 4 & 5)
- Push down on the plastic plunger to snap the fastener in place
- Connect / re-connect the necessary cables
- Restore power to the console
- The red LED will blink, the display will show "System Warm Start" and return to "All Functions Normal"
- Secure door with T-15 Torx screws.

④ Replacing an existing module or one of a different type:

Note: This procedure will initiate a system "Cold Start". Be sure you have archived any necessary data per the OEM manuals prior to proceeding.

- Remove the two T-15 Torx screws on the left side of the printer door.
- Set the Battery Backup switch to the "OFF" position
- Remove power from the console by un-plugging the two position connector (see Figure 2 & 3) in the printer compartment.
- Remove the existing module.
- Slide the new module into the open slot until the connector is fully seated with the mating connector on the "Mother Board" and the plastic retaining fastener is aligned with the mating hole in the console.
- Push down on the plastic plunger to snap the fastener is place
- Re-connect the necessary cables
- Restore power to the console
- The console will "cold start" and display, "Clearing All Ram", "System Self Test" and "System Startup Complete"
- The alarm will sound. Press the ALARM/TEST key to silence the alarm
- You may now complete the setup procedure by following the System Setup procedures outlined in the OEM manuals.
- Secure the printer door by replacing the two T-15 Torx screws
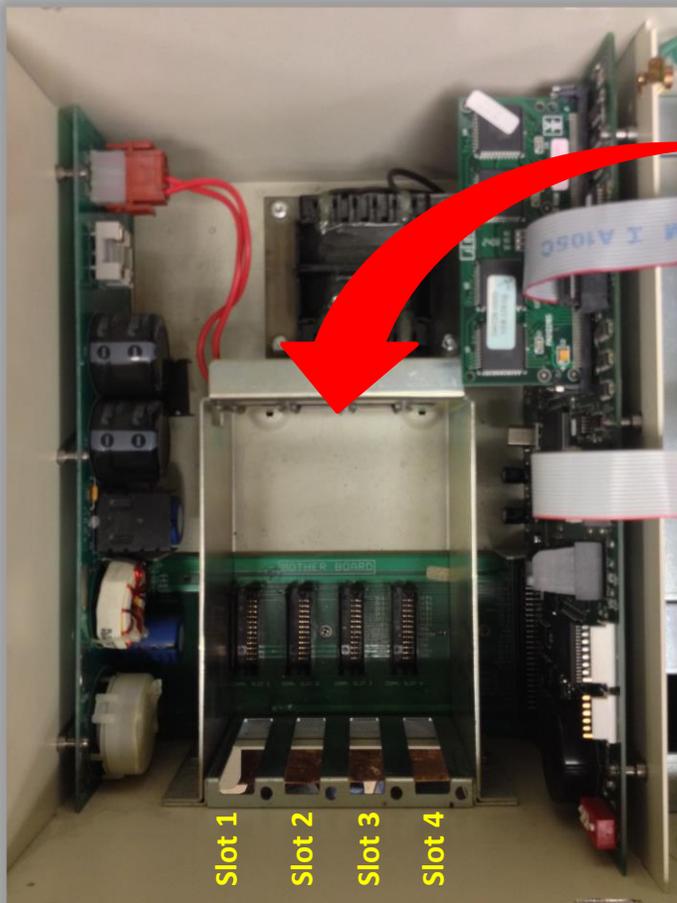- Reprogram the console or restore archived data per Step 6

Slot 1 Slot 2 Slot 3 Slot 4
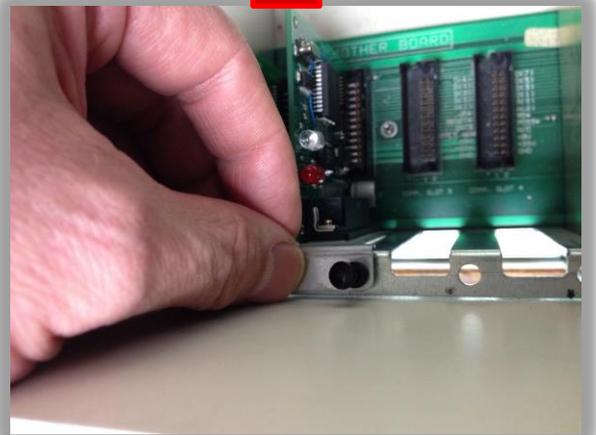
Figure 5 – Inside the TLS-350 Printer compartment

Figure 6 - Insert module ensuring the connector is fully seated in the mating connector and that the plastic fastener is aligned with the hole in the card cage
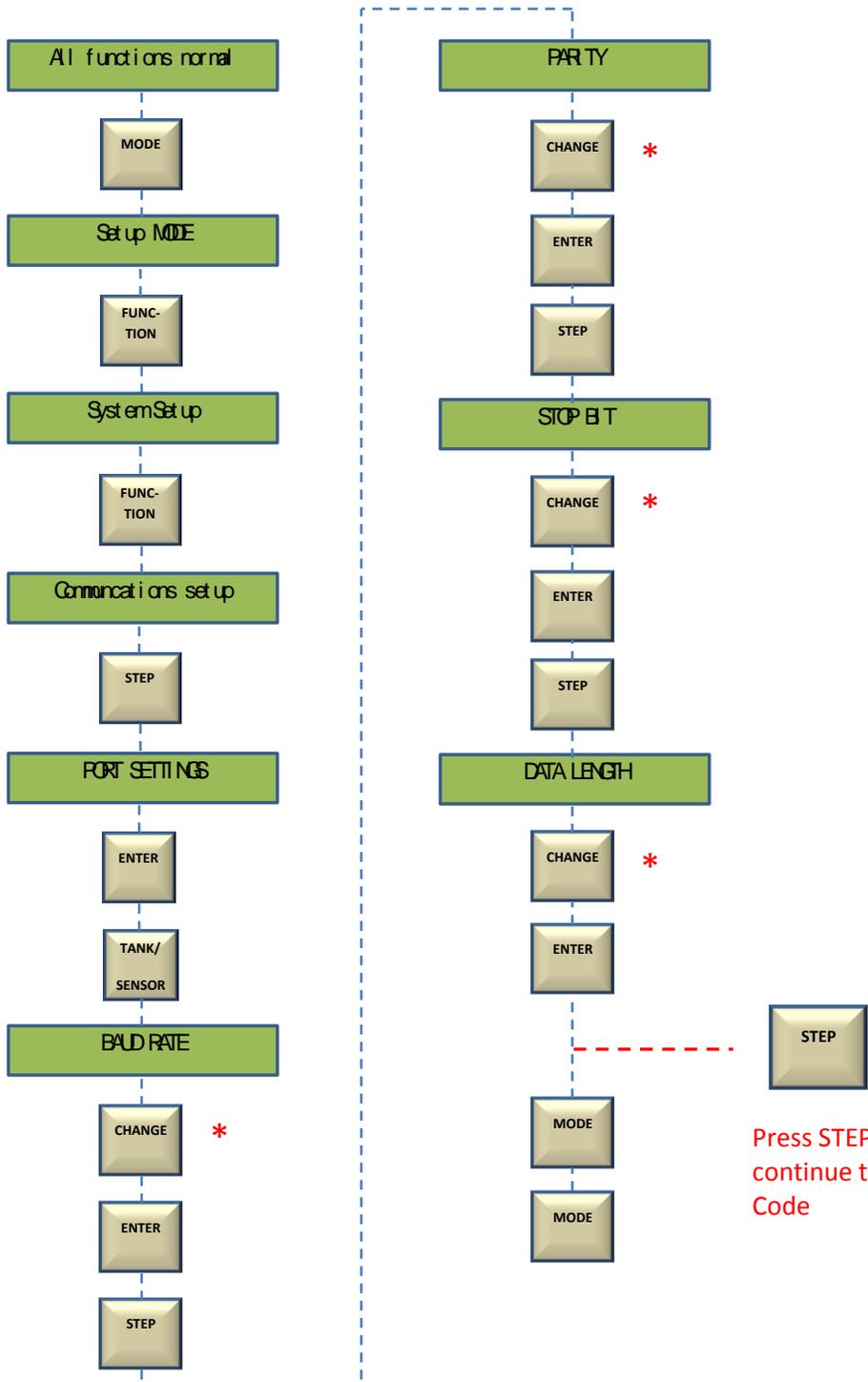
❺ Programming the RS-232 Comm settings:

Depending on your system configuration, you may need to program the TLS with the required RS-232 settings to complete the installation. The programming steps below are for reference. Refer to the OEM manuals for more detailed instructions.

The most common Comm settings are as follows. Your site requirements may be different;

Baud: 9600,
Parity: None
Stop Bit: 1 Stop
Data Length: 8 Data

*   Continue to press the CHANGE button until you see the desired parameter displayed

All functions normal	PARITY
↓ MODE	↓ CHANGE *
Setup MODE	↓ ENTER
↓ FUNC-TION	↓ STEP
System Setup	STOP BIT
↓ FUNC-TION	↓ CHANGE *
Communications setup	↓ ENTER
↓ STEP	↓ STEP
PORT SETTINGS	DATA LENGTH
↓ ENTER	↓ CHANGE *
↓ TANK/SENSOR	↓ ENTER
BAUD RATE	↓ STEP
↓ CHANGE *	↓ MODE
↓ ENTER	↓ MODE
↓ STEP	

STEP

Press STEP if you wish to continue to program a Security Code

6 • You can confirm that the Console Comm settings you've programmed match your site requirements by following the flow chart below to printout the Comm settings
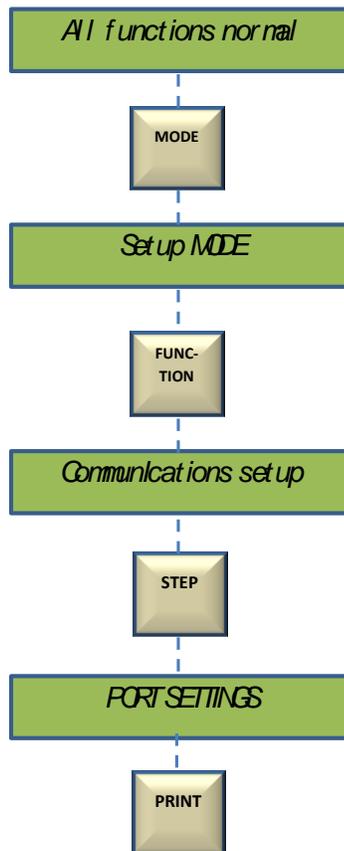


```
PORT SETTINGS

COMM BOARD: 1
BAUD RATE: 9600
PARITY: NONE
STOP BIT: 1 STOP
DATA LENGTH: 8 DATA
```

Figure 2 - Print out confirming configuration

Verifying operation

After completing the installation, you may want to verify functionality by connecting the console to a computer. The TLS console uses a standard RS-232 Null Serial cable (9 pin female to 25 pin male). Pin assignments are shown in the table below. Refer to OEM manual 576013-635 TLS-XXX Serial Interface Manual for a complete list of serial commands.
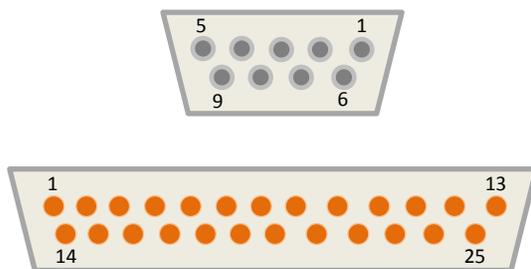
Views shown looking at cable ends

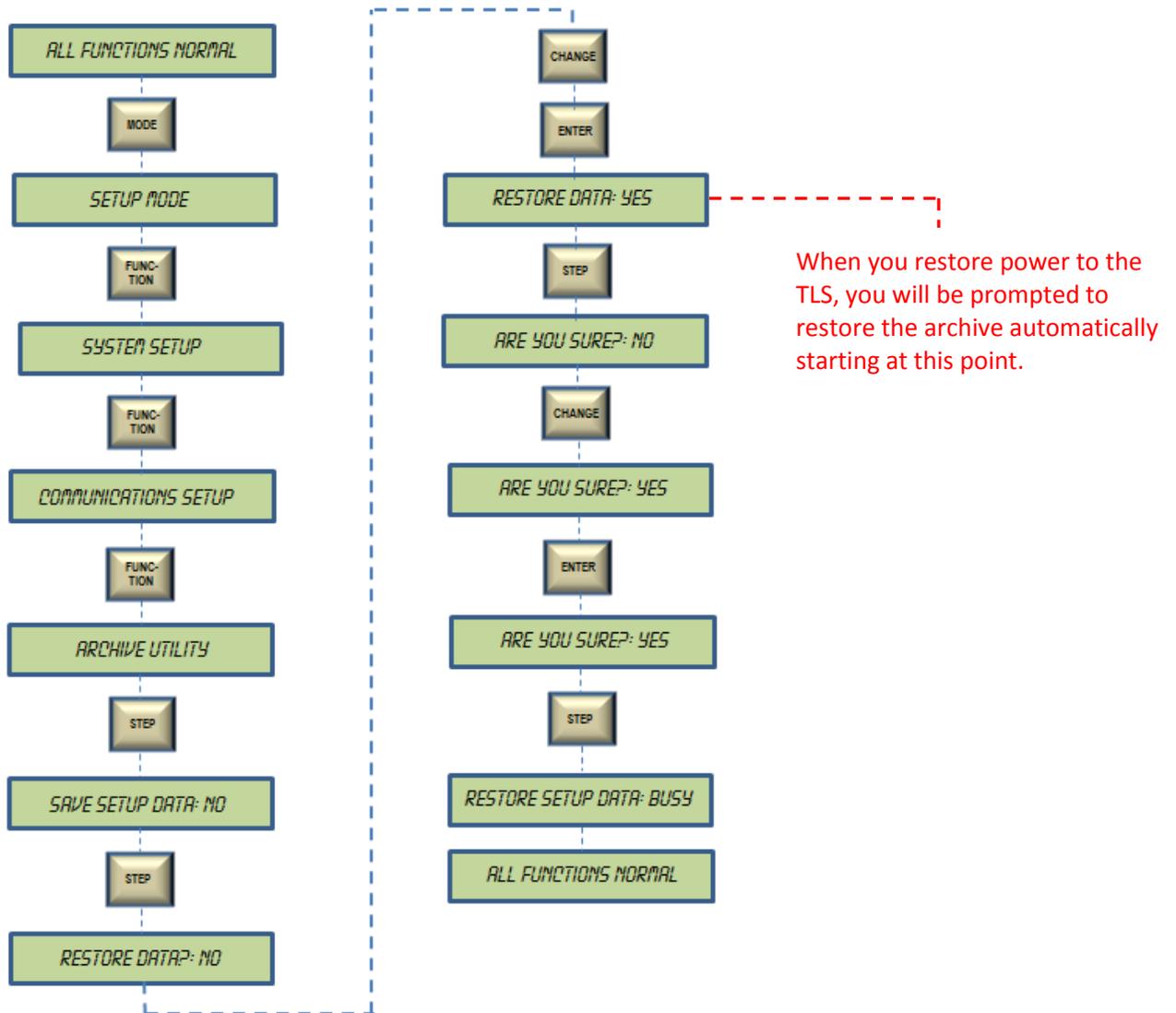| DB9 (female)	Signal	DB25 (male)	Signal
2	RD	2	TD
3	TD	3	RD
5	SGND	7	SGND

Cable pin assignments

❼ Restoring TLS Data (only if required)

Note: This step should only be necessary if the backup battery voltage was not sufficient to hold the setup data in memory.

- To restore the data saved in step 1, follow the steps outlined below and replace the backup battery

ALL FUNCTIONS NORMAL → [MODE] → **SETUP MODE** → [FUNCTION] → **SYSTEM SETUP** → [FUNCTION] → **COMMUNICATIONS SETUP** → [FUNCTION] → **ARCHIVE UTILITY** → [STEP] → **SAVE SETUP DATA: NO** → [STEP] → **RESTORE DATA?: NO**

[CHANGE] → [ENTER] → **RESTORE DATA: YES** → [STEP] → **ARE YOU SURE?: NO** → [CHANGE] → **ARE YOU SURE?: YES** → [ENTER] → **ARE YOU SURE?: YES** → [STEP] → **RESTORE SETUP DATA: BUSY** → **ALL FUNCTIONS NORMAL**

When you restore power to the TLS, you will be prompted to restore the archive automatically starting at this point.