
EQUIPMENT SETUP GUIDE FOR TXP LINE EXPANSION (TLE) UNIT



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Telecore, Inc. is a telecommunications research and development company. The company's unique vision supports both fundamental research and commercialization activities within one organization, funded by both private resources and programs. The company will achieve its long-term mission -- to be one of the world's telecommunications leaders -- by building on its track record of outstanding technical successes.

Telecore's products will produce a fundamental change in communications, in much the same way that the integrated circuit revolutionized data processing. Telecore's blend of world-class researchers and product developers place it at the forefront of the telecommunications industry.

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READ THIS FIRST

Safety Information

Caution

ELECTRICAL SHOCK HAZARD. This equipment is to be serviced by trained personnel only.

DANGER/HAZARDOUS VOLTAGES INSIDE. Voltage or current hazard sufficient to cause shock.

To avoid the risk of electrical shock, do not disassemble the unit.

There are no user serviceable parts inside. Refer servicing to qualified service personnel. Additionally, opening the unit, changing or modifying the equipment shall void the warranty. If a failure occurs, please return through the RMA supply chain.

At the first sign of smoke, an unusual smell or other problems indicating breakdown, disconnect external power cords. Should any solid or liquid fall into the unit, disconnect the unit and have the unit professionally checked before operating the unit again. Continued use risks damage to the unit, fire and possible electrical shock.

Ventilation openings must not be blocked or covered. Air intake and exhaust openings are provided for ventilation and to ensure reliable operation of the product and to protect it from overheating. Clean as necessary using a dry, lint-free cloth to prevent blockage.

FCC COMPLIANCE

Note: 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.

The user is cautioned that any changes or modifications not expressly approved by Telecore could void the user's authority to operate the equipment.

The equipment is supplied with an Ethernet cable for connection to a TXP or another TLE, an external power supply module and an AC power cord. These accessories must be used in operations of the phone equipment for continued FCC compliance.

Product Description

The Touchscreen Executive Phone (TXP) Line Expansion (TLE) unit is a 50-button touchscreen panel used in conjunction with a TXP to increase the number of line buttons available to TXP users. A single TXP will support up to 4 TLEs for a total of 236 line buttons. The TLE lines will use the same graphical layout and provide the same functionality as TXP line buttons.

The first TLE is connected to the TXP via the TXP nonsecure Ethernet interface; a second TLE is connected to the first TLE, and so on. Each TLE for a given TXP configuration must have a unique IP (Internet Protocol) address, and the TXP must be configured with each TLE IP address.

This TLE Equipment Setup Guide refers to the TLE as an expansion unit for the TXP. The TXP User's Guide is Telecore Part Number 2AA-01399-0200. This TLE guide also applies when the TXP is configured as Milstar Command Console (MCC). The MCC User's Guide is Telecore Part Number 2AA-01395-0100.

Equipment Characteristics

Table 1 lists the physical, environmental and electrical characteristics of the TLE. The physical dimensions include the desk stand.

Table 1 TLE Characteristics

Characteristic	Specification
Physical:	
Height	4.25 inches
Width	7.8 inches
Depth	9.25 inches
Weight	7 lbs
Environmental:	
Operating Temperature	10 to 50 degrees C
Non-operating Temperature	-20 to 70 degrees C
Humidity	10 to 90 %, non-condensing
Cooling	Ambient air
Electrical:	
AC input voltage	100-240 VAC, 50/60 Hz
AC input power	20 Watts, maximum

Installation

The TLE may be either desk mounted or wall mounted with its TXP using its reversible stand. The stand has three mounting holes for wall mounting. The TLE comes equipped with an adjoining plate that allows the TLE to be attached to the TXP or another TLE. As shipped, the plate is attached with two screws to one side of the TLE. The TLE has two Ethernet ports that function as a switch/hub, allowing multiple TLEs to be connected to a given TXP. The TLE comes equipped with a short 2 foot Ethernet cable to facilitate these connections.

Each TLE comes equipped with its external power supply module and AC power cord. The power supply module has an attached DC cable that connects to J1 of the TLE unit. Figure 1 below illustrates the connection of four TLEs to the TXP. The four TLEs are daisy-chained together via the supplied short Ethernet cables.

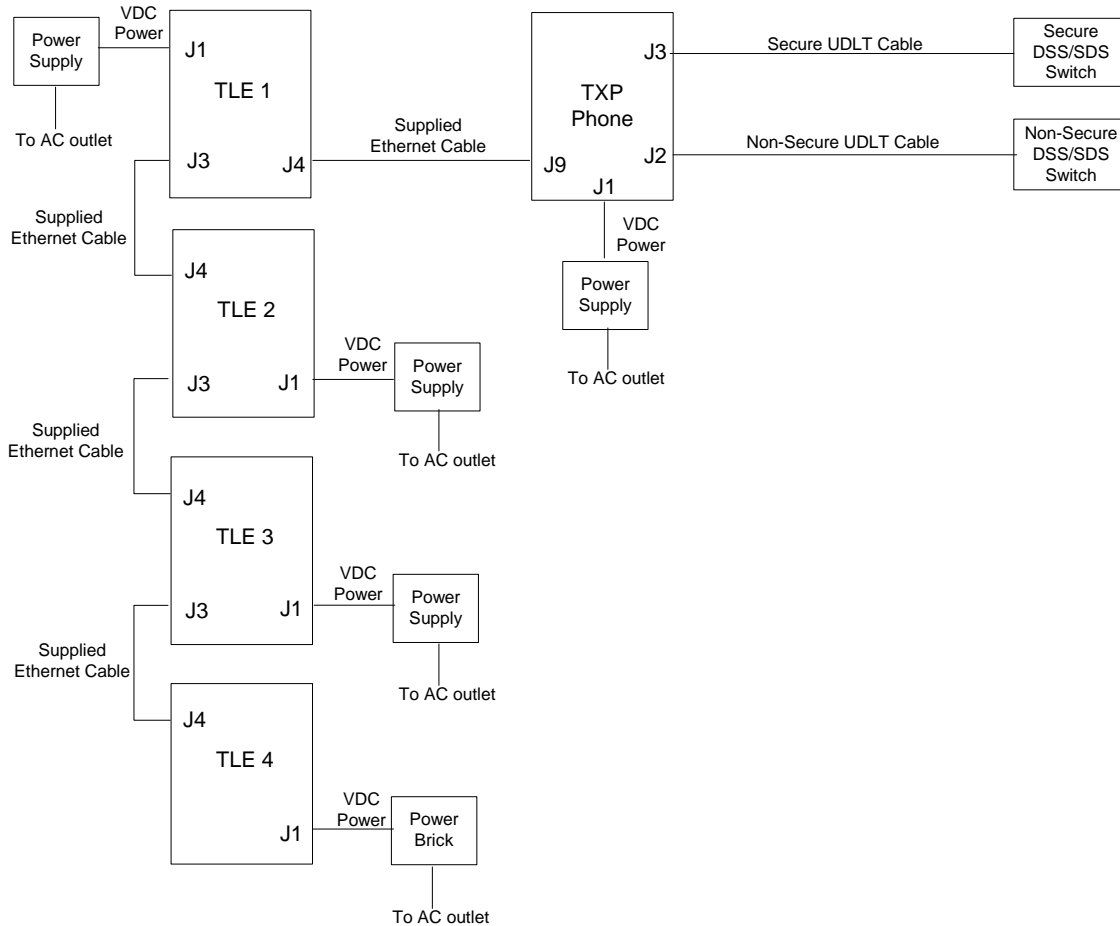


Figure 1 TLE Connection Diagram

Connectors/Pinout

Table 2 below lists the TLE connectors with associated part number and manufacturer. Connector reference designators are identified on the bottom of the unit. Connectors J5, J6 and J7 are not used for the current application. Connector J1 is used for DC power and connectors J3 and J4 are used for the connection of TLE units to the TXP as shown in Figure 1. Connector J2 provides a VGA video output for connection of a supplemental VGA monitor (video cable and monitor not supplied with TLE). The J2 connection to a VGA monitor uses a standard high density DB15 connector cable. The VGA monitor will display the same screen as the TLE touchscreen.

Table 2 TLE Connectors

Ref	Description	Part Number	Manufacturer
J1	Primary Power	KPJ-4S-S	KYCON
J2	VGA (Analog)	1-788624-1	AMP
J3	Primary Ethernet	JFM24011-0101	MIDCOM
J4	Secondary Ethernet	JFM24011-0101	MIDCOM
J5	RS-232 (Isolated) – Not used	KMB-SMT-5S-S-30TR	KYCON
J6	RS-232 (Secondary) – Not used	KMB-SMT-5S-S-30TR	KYCON
J7	USB Host – Not used	896-30-004-00-000000	MIL-MAX

Table 3 J1 Connector I/O Descriptions

Connector-Pin	Signal Name	I/O	Comment
J1-1	12V	I	12V Power (used for LCD Backlight)
J1-2	5V	I	Primary 5V power
J1-3	GND	-	GND
J1-4	GND	-	GND

Table 4 J2 Connector I/O Descriptions

Connector-Pin	Signal Name	I/O	Comment
J2-1	VGA Red	O	Red Video Signal
J2-2	VGA Green	O	Green Video Signal
J2-3	VGA Blue	O	Blue Video Signal
J2-4	VGA ID0	I	Monitor type ID control bit (not used)
J2-5	Analog GND	-	Ground Reference for Analog Video Signals
J2-6	Analog GND	-	Ground Reference for Analog Video Signals
J2-7	Analog GND	-	Ground Reference for Analog Video Signals
J2-8	Analog GND	-	Ground Reference for Analog Video Signals
J2-9	N/C		(No connection)
J2-10	Analog GND	-	Ground Reference for Analog Video Signals
J2-11	VGA ID1	I	Monitor type ID control bit (not used)
J2-12	VGA ID2	I	Monitor type ID control bit (not used)
J2-13	VGA HSYNC	O	Video Horizontal Sync
J2-14	VGA VSYNC	O	Video Vertical Sync
J2-15	N/C		(No connection)

Table 5 J3 Connector I/O Descriptions

Connector-Pin	Signal Name	I/O	Comment
J3-1	TX+ DATA	I/O	Ethernet TX+ Data
J3-2	TX- DATA	I/O	Ethernet TX- Data
J3-3	RX+ DATA	I/O	Ethernet RX+ Data
J3-4	<cable termination>		50-Ohm Termination
J3-5	<cable termination>		50-Ohm Termination
J3-6	RX- DATA	I/O	Ethernet RX- Data
J3-7	<cable termination>		50-Ohm Termination
J3-8	<cable termination>		50-Ohm Termination

* Note the Ethernet port supports Auto-MDIX and will detect and switch to the appropriate I/O configuration.

Table 6 J4 Connector I/O Descriptions

Connector-Pin	Signal Name	I/O	Comment
J4-1	TX+ DATA	I/O	Ethernet TX+ Data
J4-2	TX- DATA	I/O	Ethernet TX- Data
J4-3	RX+ DATA	I/O	Ethernet RX+ Data
J4-4	<cable termination>		50-Ohm Termination
J4-5	<cable termination>		50-Ohm Termination
J4-6	RX- DATA	I/O	Ethernet RX- Data
J4-7	<cable termination>		50-Ohm Termination
J4-8	<cable termination>		50-Ohm Termination

** Note the Ethernet port supports Auto-MDIX and will detect and switch to the appropriate I/O configuration.*

TLE IP Address Setup

Each TLE unit has an Ethernet IP address assignment as delivered from the factory. This IP address will be 192.168.0.xx where xx is based on the last two digits of the unit serial number. If the serial number ends in “00” such as serial number 00100 or 00500, the factory IP address will be 192.168.0.100.

At power up the TLE performs a memory self test and reports the results to the screen. Also displayed on the screen is the current IP address of the TLE unit. The IP address entered at the TXP, accessed via the TXP Maintenance screen, for the particular TLE must match the TLE IP address as shown at start-up.

The TXP’s Phone IP screen will display four TLE IP addresses, corresponding to TLE unit-1 through TLE unit-4 per the Figure 1 TLE configuration. If the TLE’s IP address as read on the TLE’s power up screen does not match (for its configured position) the TXP’s IP address, the TXP’s IP address must be changed to match that of the TLE. Use the control buttons on the TXP’s IP Phone screen to make the IP address change. See section 5.8 of the TXP User’s Guide 2AA-10399-0200 for additional information on setting TLE IP addresses. Once the TXP’s TLE IP address matches that of the TLE, the TLE can then communicate with the TXP for TLE line button expansion functionality. This must be done for each configured TLE of the TXP. Note: each TLE must have a unique IP address when connected to a TXP. If multiple TLEs have the same IP address, disconnect the Ethernet cable for subsequent TLEs having the same IP address.

If there is a need to change the TLE’s IP address, such as when multiple TLEs have the same IP address, the IP address of the TLE can be changed. Once the TLE and TXP are connected and communicating using the TLE IP address, at the TXP’s Phone IP screen select or assign a new TLE IP address using the associated editing buttons to make the IP address change. The new TLE IP address will take affect when the TLE is reset or power cycled. The new IP address will be displayed momentarily on the TLE’s power up screen.

Once the first TLE's IP address is changed (where multiple TLEs had the same IP address), another TLE unit can be connected to the TXP/TLE string, allowing its TLE address to be changed, if necessary. This IP address change process is repeated for each TLE in order to achieve a unique IP address for each TLE of a TXP configuration.

Line Button Configuration

Once unique TLE IP addresses have been set up for all configured TLEs of a TXP, the TLEs will display line buttons that have been assigned to the TXP. Normally the TXP accommodates 36 line buttons, spread across three pages. The TXP/TLE provide a feature to move line buttons from the TXP to the TLE to avoid paging on the TXP. Specifying the first TLE line button via the last control panel of the Line Config screen will provide for this designation. See section 5.2.4, in the TXP User's Guide for instructions. The first TLE line button may be in the range of 1 to 37, where with a setting of '1', all lines buttons have been moved to the TLE and with '37' no lines have been moved to the TLE. If the first TLE line is set to a value of 17 or less, the TXP will be shown with all TXP lines on one page without page buttons. For a first TLE line of greater than 16 (and line assignments greater than 16), the page buttons will be presented, but they will be grayed out for pages with no lines because the lines have been moved to a TLE and/or there are no line assignments for that page.

TLE Operations

The TLE simply provides additional line buttons for the TXP. All line button functionalities of the TXP are extended to the TLE. As a TXP user navigates to various screens on the TXP, the TLE will be updated to show its corresponding screen, if any. If the TXP does not have a corresponding screen, a blank screen indicating the same mode, by background color, will be presented. The TXP brightness controls will affect any connected TLEs in unison with the TXP. In Line Configuration mode, selecting lines on a TLE will allow it to be configured identically to the lines at the TXP. The settings for TLE lines are stored in the TXP; so changing out TLE units will not affect line configuration information for TLE lines.

Warranty Terms and Conditions

Telecore, Inc. provides a manufacturer's warranty that for a period of ninety days commencing on date of shipment: Goods are and will be free from defects in design, material, and workmanship; will conform to and perform in accordance with the Specifications, if any; that it will convey good and valid title to all Goods; and that all Goods are being provided free and clear of any and all liens and encumbrances. This warranty will survive inspection, acceptance, and payment. This warranty shall be null and void in the event the Buyer or any third party attempts to repair or alter the Goods in

any way without Telecore, Inc. advanced written authorization, or in the event the Goods are misused, including termination of non-compliant third party equipment on Telecore's interfaces, or damaged by Buyer, or shipped to any country other than that originally specified in Buyer's Purchase Order. Goods not meeting this warranty will be promptly repaired or replaced, at Telecore's option, upon return to Telecore's facility freight prepaid; provided, however, that Buyer has first obtained a return materials authorization number ("RMA Number") from Telecore authorizing such return. The RMA Number shall be placed on the exterior packaging of all returns. Telecore will pay shipping costs to return repaired or replacement Goods to Buyer. THE FOREGOING WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTIES OF TITLE, MERCHANTABILITY, OR FITNESS FOR A PARTICULAR PURPOSE HOWSOEVER ARISING.

Shipping Return Address

Equipment will be shipped to the following Supplier address as directed by the Supplier's Customer Service Department at the time the RMA number is assigned:

ADDRESS:

Telecore Inc
1800 North Glenville Dr.
Suite 116
Richardson, TX 75081-1953
ATTENTION: Customer Service