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ICE 6500
Hardware and Installation
Operator's Manual

Document Revision B

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The Global Leader in Electronic Transaction Solutions

WORLDWIDE
PAYMENT SOLUTIONS

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Trademarks

FCC Part 15 (ICES-003)

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 (ICES-003) 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 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.

FCC Part 68 Requirements Notice

This equipment complies with the Federal Communications Commission's (FCC) Rules and Regulations 47 CFR Part 68 and the Administrative Council on Terminal Attachments (ACTA) adopted technical criteria TIA/EIA/IS-968, Telecommunications – Telephone Terminal Equipment – Technical Requirements for Connection of Terminal Equipment To the Telephone Network, July 2001. On the bottom of this equipment is a label that contains the ACTA Registration number. You must, upon request, provide this information to your telephone company.

This equipment uses RJ11 jack.

A telephone cord and modular plug compliant with TIA/EIA/IS-968 are provided with this equipment. This equipment is designed to be connected to the telephone network or premises wiring using a compatible modular jack, which is Part 68 compliant. See installation instructions for details.

The REN is useful to determine the quantity of devices you may connect to your telephone line and still have all those devices ring when your telephone number is called. In most, but not all areas, the sum of the REN's of all devices connected to one line should not exceed five (5.0). To be certain of the number of devices you may connect to your line, as determined by the REN, you should contact your local telephone company to determine the maximum REN for your calling area. **(NOTE: REN are associated with loop-start and ground-start ports. Do not use for E&M or digital ports)**

If your telephone equipment causes harm to the telephone network, the telephone Company may discontinue your service temporarily. If possible, they will notify you in advance. But if advance notice is not practical, you will be notified as soon as possible. You will be informed of your right to file a complaint with the FCC.

Your telephone company may make changes in its facilities, equipment, operations or procedures that could affect the proper functioning of your equipment. If they do, you will be notified in advance to give you an opportunity to maintain uninterrupted telephone service.

If you experience trouble with this telephone equipment, please contact your equipment supplier for information on obtaining service or repairs. The telephone company may ask that you disconnect this equipment from the network until the problem has been corrected or until you are sure that the equipment is not malfunctioning.

No user serviceable parts contains in this equipment.

This equipment may not be used on coin service provided by the telephone company. Connection to party lines is subject to state tariffs.

CTR21

The equipment has been approved to Commission Decision, CTR21, for pan-European single terminal connection to the Public Switched Telephone Network (PSTN). However, due to differences between the individual PSTNs provided in different countries, the approval does not, of itself, give an unconditional assurance of successful operation on every PSTN network termination point. In the event of problems, you should contact your equipment supplier in the first instance.

Industry Canada (IC) Notice

NOTICE: The Industry Canada (IC) label identifies certified equipment. This certification means that the equipment meets telecommunications network protective, operational, and safety requirements described in the appropriate Terminal Equipment Technical Requirements documents. The department does not guarantee the equipment will operate to user satisfaction.

Before installing this equipment, ensure that it is acceptable for connection to the facilities of the local telecommunications company. The equipment must also be installed using an acceptable method of connection. Compliance with these conditions may not prevent degraded service in some situations.

A representative designated by the supplier should coordinate repairs to certified equipment. Any repairs or alterations to this equipment or any equipment malfunctions may cause the telephone communications company to request that the user disconnect the equipment.

Users should ensure for their own protection that the electrical ground connections of the power utility, telephone lines, and internal metallic water pipe system, if present, are connected together. This precaution may be particularly important in rural areas. **Caution:** Users should not attempt to make such connections themselves, but should contact the appropriate electric inspection authority or electrician, as appropriate.

“**NOTICE:** The Ringer Equivalence Number (REN) assigned to each terminal device provides an indication of the maximum number of terminals that may be connected to a telephone interface. The termination on an interface may consist of any combination of devices subject as long as the sum of the Ringer Equivalence Numbers of all the devices does not exceed five.

REN: 0.3B

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Introduction

The *ICE 6500 Hardware and Installation Manual* is a comprehensive guide to working with the Hypercom® ICE 6500 terminal.

This manual includes information on the ICE 6500 (Dial) and ICE 6500 (Ethernet) terminals. Instructions throughout this manual pertain to both terminals, unless otherwise specified.

The ICE 6500 terminal is part of the Hypercom Interactive Consumer Environment (ICE)™ family of touch-screen-based terminals and peripherals. All ICE terminals support traditional terminal functions as well as PIN pad and signature capture functionality. The ICE family employs a modular concept. The basic ICE unit is a multifunction peripheral for either a T7x terminal or Electronic Cash Register (ECR). With its printer and modem module attached, it becomes a fully functional terminal and PIN pad.

Guide Organization

The guide contains the following chapters:

- ***Chapter 1 Hardware Information:*** descriptions of hardware required to operate the ICE 6500 terminal
- ***Chapter 2 Installation Procedures:*** instructions for starting the ICE 6500 terminal
- ***Chapter 3 Dial Connection Setup Procedures:*** instructions for configuration, program load, and initialization using the Dial configuration
- ***Chapter 4 Ethernet Connection Setup Procedures:*** instructions for configuration, program load, and initialization using the Ethernet configuration
- ***Chapter 5 Printer Loading:*** instructions for loading paper into the printer

Who Should Use This Guide

This guide is intended for network administrators, merchants, operators, and technicians or those who oversee the configuration and daily maintenance of the various networks.

Guide Conventions

This section provides information to help you understand the procedures and concepts presented in this guide. The following special terms and style conventions are used throughout this document:

Component names: Special bold text highlights certain items including the names of window and dialog box components. This text appears in instructions for specific actions such as clicking buttons, typing in text boxes, and selecting from lists. For example:

From the **Main** tab page of the **Group Definition** dialog box, click **List**.

Emphasis: Emphasis is indicated by indented text. For example:

NOTE: A note contains neutral or positive information supplementing the main text. It is often information that applies only to special cases.

IMPORTANT: Important statements draw attention to information crucial to using the product successfully. Pay special attention to Important statements.

Procedures: Numbered procedures have a special graphic appearing in the margin of the text. The words *Step-by-Step* also appear in bold at the beginning of the procedure. For example:

Step-by-Step

To perform a procedure:

1. Follow the steps outlined in the procedure.
2. Most procedures have at least two steps.
   a. This is a substep.
   b. Substeps must be completed in the order given.

Step	Action	Terminal response
1	Follow the steps outlined in the procedure.	
2	Most procedures have at least two steps.	

Caution and **Warning** boxes: When you see a Caution or Warning message, read the information promptly and carefully before proceeding. The formats for the boxes follows.

CAUTION

Caution advises that a negative result such as a loss of data may occur.

WARNING

Warnings provide information that is essential to the safety of the user, the equipment, or both. Failure to do as instructed may result in physical damage.

1

Hardware Information

This chapter provides important information to properly set up and test the ICE 6500 terminal. To prevent damage to the POS terminals and possible personal injury, be sure to read this document before installing the ICE terminals.

General Safety Precautions

This section describes general safety precautions that must be followed to ensure proper installation and maintenance of the POS product family.

CAUTION

Electrical Safety: Observe all normal electrical safety practices when operating any equipment attached to an active power source.

Authorized Service: Only a Hypercom authorized service technician or an authorized repair station can perform equipment servicing, adjustment, maintenance, or repairs on the POS products.

Electrostatic Damage: Before performing any maintenance on POS products, ensure that you wear a static strap and are grounded to the POS products.

To ensure protection of the telecommunications port against lightning damage, this product requires connection to the building protective earthing. Therefore, the integrity of protective earthing must be ensured. Use only the Hypercom provided power supply and power cord. Ensure that power is supplied from a suitable power outlet to the supply when the terminal is connected to the telephone line.

WARNING

Electromagnetic Compatibility: This is a Class A product. In a domestic environment, this product may cause radio interference, in which case the user may be required to take appropriate measures.

Danger of explosion: If the battery is installed incorrectly, it could explode. Replace only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer instruction.

警告使用者：
這是甲類的資訊產品，在居住的環境中使用時，可能會造成射頻干擾，在這種情況下，使用者會被要求採取某些適當的對策。

Security

Tamper resistance is provided through the use of intrusion detectors and a secure CPU/RAM module that is housed in a sealed metal case. PIN encryption, MACing, encryption key storage, and management are performed in a separate secure co-processor with its own internal RAM. The ICE 6000/ 6500 terminals support as many as four integrated Security Access Modules (SAMs) for various smart card solutions.

Keyboard

The keyboard consists of 12 or 16 keys: 10 numeric and 2 or 6 control keys.

The keyboard provides:

- Buttons sized to meet various cardholder needs
- Audible signals that notify the cardholder of the action being taken

PIN Pad

The ICE 6500 is both a terminal and a PIN pad. The terminal contains all the necessary security features required for secure PIN encryption and message authentication. By allowing transaction entry and PIN entry through the same device, the ICE 6500 reduces cost and footprint. Additionally, the ICE 6500 features a touch-screen that enables the customer to activate complex applications.

The ICE 6500 (Dial) includes a PIN pad port allowing the attachment of either a traditional PIN pad or the internal PIN pad.

NOTE: The ICE 6500 (Ethernet) does not have a PIN PAD port.

Touch-Screen Display

The ICE 6500 terminal is built around a full-color graphic touch-screen that provides a high degree of flexibility and an intuitive user environment. Additionally, the graphics screen can deliver advertising and other promotional messages directly to the consumer.

The easy-to-operate nature of the touch-screen reduces the need for cashier training. It allows trouble-free operation by consumers in the PIN pad and signature capture pad modes. It also allows the support of complex new applications such as loyalty, which on a traditional terminal requires many keystrokes and long transaction entry times.

For operation in dimly lit environments such as restaurants, the screen is equipped with a backlight.

The standard configuration for the ICE 6500 terminal includes a graphic passive matrix touch-screen that is capable of character, graphics, and signature display. Graphic keys displayed on the screen initiate most functions.

Magnetic Stripe Read Card Reader

The ICE 6500 magnetic stripe read (MSR) card reader uses Track 1 and 2. Track 3 is optional.

Thermal Printer

The ICE 6500 terminal integrates a high-speed, six lines per second, thermal printer that provides quiet and trouble-free operation. Since the thermal printer does not use a ribbon, its support requirement is reduced. The small number of moving parts results in improved reliability.

The thermal paper allows high-quality printing with a long receipt life. When using the correct paper, receipt life or the time before fading exceeds five years.

Auto Receipt Cutter

The most troublesome component of any POS terminal is the printer. The auto receipt cutter on the ICE 6500 is designed to eliminate the need to manually tear the receipt. The first receipt prints and cuts, then the second receipt prints and cuts. Users do not have to manually tear the paper from the terminal, eliminating paper jams.

High-Speed Modem for Dial Connections

The ICE 6500 (Dial) terminal incorporates the new Hypercom FastPOS™ 9600 bps modem for dial connections. The terminal is fully compatible with the current 300, 1200, and 2400 bps modems, the FastPOS modem, when working with a FastPOS network node, provides 9600 bps throughput for transactions, batches, and software downloading.

FastPOS uses a new technology to achieve 9600 bps throughput and 0.5 second training times at a cost that is comparable to the cost of 2400 bps modems.

FastPOS results in faster transactions and lower transaction costs. For example, at a 5-cents-per-minute 800 dial rate, with a 1-second billing interval, a FastPOS transaction costs less than 0.5 cents. More importantly, FastPOS enables large data blocks to be transmitted without a cost penalty. Many of the new opportunities created by the touch screen of the ICE 6500 become more practical when high-speed communications are available.

Ethernet Connection

The ICE 6500 (Ethernet) terminal connects to an Ethernet network through a 10BaseT connection with active hub, RS485 synchronous and asynchronous.

Memory

The ICE 6500 terminals contain a minimum of 1.0 MB of RAM. Upgrades to 1.5 MB or 2 MB of RAM are optional.

Power Requirements

The power requirements for the ICE terminals are 24V., 6A, 85-250 VAC, 50/60 Hz, 15 VA.

Installation Procedures

This section contains important information for installing the ICE 6500 (Dial) and ICE 6500 (Ethernet) terminals.

Powering-Up the ICE Terminal

Use the following procedures to power up the ICE 6500 terminal.

Step-by-Step

To power up the ICE terminal:

1. Connect the +24 VDC power cable from the AC Adapter to the three-pin terminal socket labeled *PWR* on the back panel of the ICE 6500 terminal.

2. Plug the AC Adaptor into a 110-Volt grounded power receptacle. Be sure the connector is firmly seated. When the power is connected successfully, the terminal beeps twice and then performs a self-test and diagnostic routine.

WARNING

Disconnect the AC electric power before replacing the printer module.

Do not use an adapter, a power extender adapter, a power extender cable, or an AC outlet that does not have a grounded connection.

Do not disassemble the AC adapter. Only a qualified service technician should service the adapter.

The AC adapter was designed for indoor use only. Do not expose to rain or snow.

Do not immerse in fluid.

The reliability of electronic equipment is significantly reduced when it is powered from an ungrounded outlet. Power is connected to the terminal through a low-power AC adapter. Connect only one terminal to each AC adapter.

Connecting the Telephone Line

Use the following procedures to connect a telephone line to the ICE 6500 (Dial) terminal for a Dial connection.

Step-by-Step

To connect a telephone line:

1. Insert the telephone line shipped with the ICE 6500 (Dial) terminal into a dedicated analog modular telephone receptacle. The use of a different line might result in improper operation.

WARNING

Do not insert the telephone line into the PIN pad port.

2. Insert the other end of the telephone line into the opening labeled *LINE* on the back panel of the terminal.

3. Ensure that the telephone line latches are firmly locked into the jacks on both the terminal and wall receptacle.

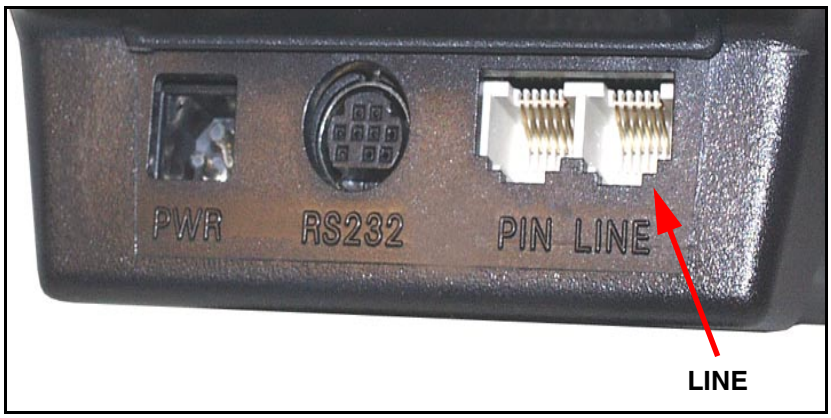

Figure 2-1. Connecting the telephone line

Connecting the Ethernet Line

Use the following procedures to connect an Ethernet line to the ICE 6500 (Ethernet) terminal for an Ethernet connection.

Step-by-Step

To connect an Ethernet line:

1. Insert the Ethernet line shipped with the ICE 6500 (Ethernet) terminal into a dedicated Ethernet access port. The use of a different line might result in improper operation.

2. Insert the other end of the Ethernet line into the opening labeled *PORT B* on the back panel of the terminal.

3. Ensure the line latches are firmly locked into the jacks on both the terminal and Ethernet access port.

Figure 2-2. Connecting the Ethernet line

Self-Test and Diagnostics

Immediately after powering up the terminal, a double beep indicates that the terminal has automatically initiated its self-diagnostic routine.

The software and download status of the terminal is displayed during the self-test, which lasts approximately four seconds.

Table 2-1. Self-test and diagnostics with software loaded

Terminal response	Description
IDENTIFICATION SOFTWARE XX_XXXXXX DLL 00 OS T5KBOOTXXX TERMINAL NNNNNNNN WAIT SELF TEST	SOFTWARE: Software name and version. DLL: Tracks the number of downloads. This is controlled by Term-Master. OS: Operating System and version. TERMINAL: Terminal ID number.
MEMORY PAGE STATUS: BOOT: XXXX 01: AAAAAAAAAFFFFFF 17: FFFFFFFFFFFFFF	Installed memory is displayed. The display indicates one megabyte of memory installed.

A memory page may be in one of the states shown in the following table.

Table 2-2. memory page states

Status	Description
A	Active: application resident
C	Corrupt: checksum error
F	Free
L	Lost communication
I	Inactive
U	Unknown
-	No fit: not available for use

If the terminal is not loaded with software, the displays shown in the following table are typical.

Table 2-3. Self-test and diagnostics when software is not loaded

Terminal response	Description
T5KBOOTXXX **WAIT SELF TEST**	T5KBOOT: Boot program name XXX: Boot program release
MEMORY PAGE STATUS: **BOOT: XXXX** **01: FFFFFFFFFFFFFF** **17: FFFFFFFFFFFFFF**	The memory page status indicates that no program is loaded.
CONFIGURE TERMINAL **or CALL HELP - PE** **0: Restart** **1: Merchant Programming** **2: Program Load** **3: Clear Page Memory** **4: Maintenance Functions** **5: Fast Load**	PE indicates Program Error. In this case, the program is not loaded.

3

Dial Connection Setup Procedures

This chapter provides setup procedures for the Hypercom ICE 6500 (Dial) terminal, including the steps necessary for terminal configuration, program load, and initialization using a Dial connection. Please refer to the *PIN Pad Loader Operators Manual* when configuring a terminal for debit processing.

NOTE: An Ethernet connection is not supported on the ICE 6500 (Dial) terminal.

Configuring the ICE 6500 (Dial) Terminal for a Dial Connection

This section completes the configuration for Dial communications between the Term-Master PC and the ICE 6500 (Dial) terminal. When the configuration is complete, the terminal is able to receive the terminal application software.

Step-by-Step

To configure the ICE terminal:

Step	Terminal response	Action
1	**PLEASE INITIALIZE** **OR CALL HELP - PE** **0: RESTART** **1: MERCHANT PROGRAMMING** **2: PROGRAM LOAD** **3: CLEAR PAGE MEMORY** **4: MAINTENANCE FUNCTIONS** **5: FAST LOAD**	The Main Menu appears after applying power to the terminal. Press **1** on the terminal keyboard.
2	**MERCHANT PROGRAMMING** **TERMINAL ID NUMBER** **XXXXXXXXX** **Q W E R T Y U I O P** **A S D F G H J K L** **←Z X C V B N M SPACE** **CANCEL CLEAR ENTER**	Type the terminal ID, then touch **Enter** on the terminal display, or press **ENTER** on the terminal keyboard. **NOTE:** Some terminal IDs require 8 or 9 digits. If the check digit (ninth digit) is missing or incorrect, the terminal does not allow the entry of that ID. Verify the check digit with your Help Desk.

Step	Terminal response	Action
3	MERCHANT PROGRAMMING INIT. TELEPHONE NO ← A B C D E F CANCEL CLEAR ENTER	Type the initialization number, then touch or press **Enter**. This is the phone number the terminal dials for initialization.
4	MERCHANT PROGRAMMING NMS TELEPHONE NO ← A B C D E F CANCEL CLEAR ENTER	Type the NMS number, then touch or press **Enter**. This is the phone number the terminal dials for software program load.
5	MERCHANT PROGRAMMING DIAL 0-TONE 1-PULSE ← A B C D E F CANCEL CLEAR ENTER	Press **0** for tone dialing or **1** for pulse (rotary) dialing, then touch or press **Enter**.
6	MERCHANT PROGRAMMING PABX ACCESS CODE ← A B C D E F DEL CANCEL CLEAR ENTER	Type a PABX code, if necessary, then touch or press **Enter**. **NOTE:** If you need an 8, 9, or any other access code to dial out, type it here.
7	MERCHANT PROGRAMMING TERMINAL ID NUMBER XXXXXXXXX Q W E R T Y U I O P A S D F G H J K L ←Z X C V B N M SPACE CANCEL CLEAR ENTER	Touch **Cancel**. The terminal displays the Idle prompt.

Program Loading the ICE 6500 (Dial) Terminal

A program load is required when no software is currently in the terminal. Depending on the software application, an average program load takes approximately 40 minutes to complete. The initialization process loads the merchant-specific information in a terminal.

MAC software is required when the ICE 6500 (Dial) supports debit processing. Please refer to the *PIN Pad Loader Operators Manual* for further details.

Step-by-Step

To load a program into the ICE terminal:

Step	Terminal response	Action

1	`PLEASE INITIALIZE`
	`OR CALL HELP - PE`
	
	`0: RESTART`
	`1: MERCHANT PROGRAMMING`
	`2: PROGRAM LOAD`
	`3: CLEAR PAGE MEMORY`
	`4: MAINTENANCE FUNCTIONS`
	`5: FAST LOAD`
		The Main Menu appears after applying power to the terminal.
		
		Press **2** on the terminal keyboard.

2	`PROGRAM LOAD`
	`CORRECT?  YES OR NO`
	
	`CANCEL  NO  YES`
		Touch **Yes** on the terminal display, or press **ENTER** on the terminal keyboard. The following screens appear.

	`PROCESSING YOUR`
	`REQUEST`
	`Please wait and`
	`watch for message`	

	`CHECKING LINE`	The terminal checks the dial line.
	`WAITING FOR DIAL TONE` `DIALING NOW`	The terminal dials the host.
	`WAITING FOR ANSWER`	The terminal waits for the host to answer.
	`TRAINING MODEM`	The terminal connects to the host.
	`PROCESSING NOW`	The terminal sends request information to the host.
	`LOADING MEM XX XXXX`	The program load begins.
	`PROG. LOAD` `PROG. LOAD GOOD`	The terminal has successfully downloaded the software application from the host.
	`PLEASE INITIALIZE` `Initialize`	After receiving the software application, initialize the terminal for the host to download the merchant profile. See “Initializing the ICE 6500 (Dial) Terminal” on page 3-4.

Initializing the ICE 6500 (Dial) Terminal

After the terminal receives a new program load, an initialization is required to start the terminal operations. In other cases such as a new card type, an initialization is requested to update the terminal parameters. An initialization takes approximately 30 seconds to complete.

During an initialization, the terminal automatically connects to the initialization host to receive the downloading of the initialization parameters, known as the *terminal profile*.

Step-by-Step

To initialize an ICE terminals:

Step	Terminal response	Action

1	`PLEASE INITIALIZE`
	
	`Initialize`
		Touch **Initialize** on the terminal display.

2	`[INITIALIZE]`
	
	`CORRECT?`
	
	`YES OR NO`
		Touch **YES**. The following screens appear.

	`[COMMS]`
	
	`Dialing now`
		The terminal dials the host.

	`[COMMS]`
	
	`Processing now`
		The terminal sends request information to the host.

	`Transaction Complete`	The transaction is complete. The terminal displays the Idle prompt.

Ethernet Connection Setup Procedures

This chapter provides setup procedures for the Hypercom ICE 6500 (Ethernet) terminal, including the steps necessary for terminal configuration, program load, and initialization using an Ethernet connection. Please refer to the *PIN Pad Loader Operators Manual* when configuring a terminal for debit processing.

NOTE: A Dial connection is not supported on the ICE 6500 (Ethernet) terminal.

Configuring the ICE 6500 (Ethernet) Terminal for an Ethernet Connection

This section completes the configuration for Ethernet communications between the Term-Master PC and the ICE 6500 (Ethernet) terminal. When the configuration is complete, the terminal is able to receive the terminal application software.

If the Host PC is a DHCP server you must get the Local IP Address, Gateway IP Address, and Subnet IP Address from the server.

Getting Network IP Addresses from a DHCP Server

A DHCP server automatically assigns the Local IP Address, Gateway IP Address, and Subnet IP Address to each terminal. Use this section to get the IP addresses when the Host PC is a DHCP server.

Before starting obtain the Terminal ID Number.

NOTE: All IP addresses use the standard IP format of xxx.xxx.xxx.xxx where xxx is a positive integer between 0 and 255.

Step-by-Step

To get IP addresses from a DHCP server:

Step	Terminal display	Action
1		Put the Terminal in **Boot mode**: -Ensure terminal power cord is connected to a grounded outlet but *not* connected to terminal. -With terminal power cord disconnected, press and hold **CLEAR** and **ENTER**, then connect power cord into **POWER** connector on Port Adapter or back of terminal. When text is displayed on terminal screen, release **CLEAR** and **ENTER**. Terminal does a self test then displays Main Menu.
2	PLEASE INITIALIZE OR CALL HELP - FE 0:RESTART 1:MERCHANT PROGRAMMING 2:PROGRAM LOAD 3:CLEAR PAGE MEMORY 4:MAINTENANCE FUNCTIONS 5:FAST LOAD	Press **1** on keyboard.
3	MERCHANT PROGRAMMING TERMINAL ID NUMBER XXXXXXXXX Q W E R T Y U I O P A S D F G H J K L ← Z X C V B N M SPACE CANCEL CLEAR ENTER	Type the terminal ID, then touch **ENTER**, or press **ENTER** to accept the existing ID. The terminal ID is usually the terminal serial number.
4	MERCHANT PROGRAMMING Manual IP Entry State X 0:Obtain an IP Address fm the DHCP Server 1:Manually Enter an IP Address ← CANCEL CLEAR ENTER	Press **0** on keyboard, press **ENTER**, then touch **CANCEL**. The Main Menu appears. Go to "***Configuring the ICE 6500 (Ethernet) Terminal***" *Step 2*, on page 4-3.

Configuring the ICE 6500 (Ethernet) Terminal

Use this section to complete the configuration for Ethernet communications between the Term-Master PC and the ICE 6500 (Ethernet) terminal.

Before starting obtain the following information, if used:

- Terminal ID Number
- IP Address and Port Number of Host PC used to download terminal applications
- IP Address and Port Number of Host PC used to initialize terminal applications
- Local IP Address of this terminal
- Local Subnet IP Address of this terminal
- Local Gateway IP Address of router used by this terminal
- IP Address of Primary DNS server used for domain name resolution
- IP Address of Secondary DNS server used for domain name resolution

NOTE: All IP addresses use the standard IP format of xxx.xxx.xxx.xxx where xxx is a positive integer between 0 and 255.

All Port Numbers use the standard TCP format of a positive integer between 0 and 65535.

Step-by-Step

To manually setup the terminal to receive software:

Step	Terminal display	Action
1		Put the Terminal in **Boot mode**: -Ensure terminal power cord is connected to a grounded outlet but *not* connected to terminal. -With terminal power cord disconnected, press and hold **CLEAR** and **ENTER**, then connect power cord into **POWER** connector on Port Adapter or back of terminal. When text is displayed on terminal screen, release **CLEAR** and **ENTER**. Terminal does a self test then displays Main Menu.
2	PLEASE INITIALIZE OR CALL HELP - FE 0:RESTART 1:MERCHANT PROGRAMMING 2:PROGRAM LOAD 3:CLEAR PAGE MEMORY 4:MAINTENANCE FUNCTIONS 5:FAST LOAD	Press **1** on keyboard.
3	MERCHANT PROGRAMMING TERMINAL ID NUMBER XXXXXXXXX Q W E R T Y U I O P A S D F G H J K L ← Z X C V B N M SPACE CANCEL CLEAR ENTER	Type the terminal ID, then touch **ENTER**, or press **ENTER** to accept the existing ID. The terminal ID is usually the terminal serial number.

Step	Terminal display	Action
4	MERCHANT PROGRAMMING Manual IP Entry State X 0:Obtain an IP Address from the DHCP Server 1:Manually Enter an IP Address ← CANCEL CLEAR ENTER	Press **1** on keyboard, then press **ENTER**.
5	MERCHANT PROGRAMMING NMS DEST. IP ADDRESS XXX.XXX.XXX.X 7 8 9 0 4 5 6 . ← 1 2 3 Del CANCEL CLEAR ENTER	Type the NMS Destination IP Address on the screen, then press **ENTER**. This is the IP address of the Host PC used to download applications. **IMPORTANT:** Ensure that you include the periods (.) in the IP address.
6	MERCHANT PROGRAMMING NMS DEST. PORT NUMBER X ← CANCEL CLEAR ENTER	Type the NMS Destination Port Number, then press **ENTER**. This is the TCP port number of the Host PC used to download applications.
7	MERCHANT PROGRAMMING INIT. DEST. IP ADDRESS XXX.XXX.XXX.X 7 8 9 0 4 5 6 . ← 1 2 3 Del CANCEL CLEAR ENTER	Type the INIT Destination IP Address on the screen, then press **ENTER**. This is the IP address of the Host PC used to initialize applications.
8	MERCHANT PROGRAMMING INIT. DEST. PORT NUMBER X ← CANCEL CLEAR ENTER	Type the INIT Destination Port Number, then press **ENTER**. This is the TCP port number of the Host PC used to initialize applications.
9	MERCHANT PROGRAMMING LOCAL IP ADDRESS XXX.XXX.XXX.X 7 8 9 0 4 5 6 . ← 1 2 3 Del CANCEL CLEAR ENTER	Type the Local IP Address, then press **ENTER**. This is the IP address of this terminal.
10	MERCHANT PROGRAMMING LOCAL SUBNET IP ADDRESS XXX.XXX.XXX.X 7 8 9 0 4 5 6 . ← 1 2 3 Del CANCEL CLEAR ENTER	Type the Local Subnet IP Address, then press **ENTER**. This is the subnet IP address of this terminal.

Step	Terminal display	Action
11	MERCHANT PROGRAMMING LOCAL GATEWAY IP ADDRESS XXX.XXX.XXX.X 7 8 9 0 4 5 6 . ← 1 2 3 Del CANCEL CLEAR ENTER	Type the Local Gateway IP Address, then press **ENTER**. This is the IP address of the IP gateway used by this terminal.
12	MERCHANT PROGRAMMING PRIMARY DNS IP ADDRESS XXX.XXX.XXX.X 7 8 9 0 4 5 6 . ← 1 2 3 Del CANCEL CLEAR ENTER	Type the Primary DNS IP Address, then press **ENTER**. This is the IP address of the primary DNS server used for domain name resolution.
13	MERCHANT PROGRAMMING SECONDARY DNS IP ADDRESS XXX.XXX.XXX.X 7 8 9 0 4 5 6 . ← 1 2 3 Del CANCEL CLEAR ENTER	Type the Secondary DNS IP Address, then press **ENTER** then **CANCEL**. This is the IP address of the secondary DNS server used for domain name resolution. Leave this blank if there is no DNS server available. The Initialization screen appears.
14	PLEASE INITIALIZE OR CALL HELP - FE 0:RESTART 1:MERCHANT PROGRAMMING 2:PROGRAM LOAD 3:CLEAR PAGE MEMORY 4:MAINTENANCE FUNCTIONS 5:FAST LOAD	Press **4** on keyboard.
15	MAINTENANCE FUNCTIONS 1: OPTION PROGRAMMING 2: DISPLAY HW CONFIG DATA 3: MEMORY FUNCTIONS 4: CALIBRATE TOUCH PAD 5: DISPLAY PAGE STATUS 6: CONFIGURE PIN PORT 7: DUKPT TESTING PRESS (CLEAR) TO EXIT	Press **1** on keyboard.
16	OPTION PROGRAMMING 2,3-LAN 4-ETHERNET 4 ← CANCEL CLEAR ENTER	Ensure the default value of **4** is set. If necessary, press **4** on keyboard, then press **ENTER**.
17	OPTION PROGRAMMING CU ADDR 30 ← A B C D E F CANCEL CLEAR ENTER	Verify the CU Address = 30, touch **CANCEL** then **CLEAR**.

Step	Terminal display	Action
18	**PLEASE INITIALIZE** **OR CALL HELP - FE** **0:RESTART** **1:MERCHANT PROGRAMMING** **2:PROGRAM LOAD** **3:CLEAR PAGE MEMORY** **4:MAINTENANCE FUNCTIONS** **5:FAST LOAD**	Verify the hardware configuration. See "Viewing Ethernet Hardware Configuration" on page 4-7.

Viewing Ethernet Hardware Configuration

Use the following procedure to view the current Ethernet hardware settings on the terminal.

NOTE: All IP addresses use the standard IP format of xxx.xxx.xxx.xxx where xxx is a positive integer between 0 and 255.

Step-by-Step

To view the Ethernet hardware settings:

Step	Terminal display	Action
1		Put the Terminal in **Boot mode**: -Ensure terminal power cord is connected to a grounded outlet but *not* connected to terminal. -With terminal power cord disconnected, press and hold **CLEAR** and **ENTER**, then connect power cord into **POWER** connector on Port Adapter or back of terminal. When text is displayed on terminal screen, release **CLEAR** and **ENTER**. Terminal does a self test then displays Main Menu.
2	PLEASE INITIALIZE OR CALL HELP - FE 0:RESTART 1:MERCHANT PROGRAMMING 2:PROGRAM LOAD 3:CLEAR PAGE MEMORY 4:MAINTENANCE FUNCTIONS 5:FAST LOAD	Press **4** on keyboard.
3	MAINTENANCE FUNCTIONS 1: OPTION PROGRAMMING 2: DISPLAY HW CONFIG DATA 3: MEMORY FUNCTIONS 4: CALIBRATE TOUCH PAD 5: DISPLAY PAGE STATUS 6: CONFIGURE PIN PORT 7: DUKPT TESTING PRESS (CLEAR) TO EXIT	Press **2** on keyboard.

<table>
<tr><th>Step</th><th>Terminal display</th><th>Action</th></tr>
<tr><td>4</td><td>HARDWARE CONFIGURATION

Full View

PRESS (CLEAR) TO EXIT</td><td>Verify the Ethernet connection settings. Also verify that the MAC address on the screen matches the MAC address on the label on the back of the terminal., then press CLEAR twice.
NOTE: Values in the Full View below are for example only. Your terminal will have different values.</td></tr>
<tr><td></td><td colspan="2">HARDWARE CONFIGURATION

FTP00-000 DEV00
S/N 100003165145

FID90 Xilinx-FID:0A PST:CC
OS020604 6K5BPEM451
14.7MHZ FLASH 2048KB

FEI Xilinx-FEI:10 MAC:0040ef5d66ff
OS020201 !FEIBTa405

Local IP Address: 10.30.1.26
Gateway IP Address: 10.30.1.1
Subnet IP Address: 255.255.255.0

PRESS (CLEAR) TO EXIT</td></tr>
<tr><td>5</td><td>PLEASE INITIALIZE
OR CALL HELP - FE
0:RESTART
1:MERCHANT PROGRAMMING
2:PROGRAM LOAD
3:CLEAR PAGE MEMORY
4:MAINTENANCE FUNCTIONS
5:FAST LOAD</td><td>Press 0 to restart the terminal.</td></tr>
</table>

Program Loading the ICE 6500 (Ethernet) Terminal

A program load is required when no software is currently in the ICE 6500 (Ethernet) terminal. Depending on the software application, an average program load takes approximately 15 minutes to complete. The initialization process loads the merchant-specific information in a terminal.

MAC software is required when the ICE 6500 (Ethernet) supports debit processing. Please refer to the *PIN Pad Loader Operators Manual* for further details.

Step-by-Step

To load a program into the ICE terminal:

Step	Terminal response	Action
1	**PLEASE INITIALIZE** **OR CALL HELP - PE** **0: RESTART** **1: MERCHANT PROGRAMMING** **2: PROGRAM LOAD** **3: CLEAR PAGE MEMORY** **4: MAINTENANCE FUNCTIONS** **5: FAST LOAD**	The Idle prompt appears. Touch **2** on the terminal display.
2	**PROGRAM LOAD** **CORRECT? YES OR NO** **CANCEL NO YES**	Touch **YES** to continue. The following screens appear.
	CONNECTING TO IP ADDRESS **XXX.XXX.XXX.XXX / XXXX**	The terminal connects to the Term-Master PC through its IP address and four-digit port number.
	PROGRAM LOAD **LOADING MEM XX XXXX**	Loads memory, page and address.
	PROGRAM LOAD **PROCESSING NOW**	The program loads then restarts the terminal. The Initialization screen appears after loading terminal software for the first time.

Initializing the ICE 6500 (Ethernet) Terminal

After the ICE 6500 (Ethernet) terminal receives a new program load, an initialization is required to start the terminal operations. In other cases such as a new card type, an initialization is requested to update the terminal parameters. An initialization takes approximately 10 seconds to complete.

During an initialization, the terminal automatically connects to the initialization host to receive the downloading of the initialization parameters, known as the *terminal profile*.

Step-by-Step

To initialize an ICE terminals:

Step	Terminal response	Action

1	`PLEASE INITIALIZE`
	
	`Initialize`
		Touch **Initialize** on the terminal display.

2	`[INITIALIZE] X`
	`Correct?`
	`NO YES`
		Touch **Yes** on the terminal display to confirm. The following screens appear.

	`[COMMS]`
	
	`Processing now`
		The terminal sends request information to the host.

	`[RESPONSE]`
	
	`Transaction complete`
		The initialization is complete.
		
		The terminal displays the Idle prompt.

5

Printer Loading

This chapter provides printer setup procedures for the Hypercom ICE 6500 (Dial) and ICE 6500 (Ethernet) terminals.

Loading Printer Paper

Use the following procedures to install paper in an ICE 6500 terminal.

Step-by-Step

To load the printer paper in the ICE 6500:

1. Open the paper door on the back of an ICE 6500 printer.
2. Place the paper roll into the printer paper cover, making sure the printer paper unrolls from under the roll, not over the top, and has a straight-line path into the printer paper-feed mechanism.
3. Place the end of the paper in the paper guide. The printer automatically feeds the paper. If the printer does not automatically feed the paper, proceed with step 4. Otherwise, proceed to step 9.
4. Touch **Press here for Menu** on the terminal display.
5. Touch **Other**. The *Main* prompt appears.
6. Touch **Setup**. The *Other* prompt appears.
7. Touch **Printer**. The *Printer* prompt appears.
8. Touch **Paper Feed**. Continue to touch **Paper Feed** until the paper feeds through the printer tear bar.
9. Close the paper door.

We Welcome Your Comments

Please fax this page with your comments to Hypercom Corporation at 602.504.4990.

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1. In one word, how would you describe this guide? _____

2. How do you use this guide?

   - I read it from beginning to end.
   - I read only the sections that relate to my immediate needs.
   - I read only the sections that relate to my job.

3. Where do you usually look first to find information in this guide?

   - Table of contents
   - Index
   - Search through the pages until I find what I am looking for

4. How easily can you find information in this guide?

   1 (Not easily) 2 3 4 5 (Very easily)

5. How clear is the information in this guide?

   1 (Not clear) 2 3 4 5 (Very clear)

6. How easily can you follow the instructions described in this guide?

   1 (Not easily) 2 3 4 5 (Very easily)

7. How well did you understand the product before reading this guide?

   1 (Not well) 2 3 4 5 (Very well)

8. How well do you understand the product after reading this guide?

   1 (Not well) 2 3 4 5 (Very well)

9. The best aspect of this guide is _____.

10. The least useful aspect of this guide is _____.

Additional comments:

_____

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Document Number: 940278-001, rev. B

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