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# Introduction

This manual, *SmartICE Hardware and Installation Manual*, is a comprehensive guide to working with the Hypercom SmartICE Terminal.

## Document Organization

This book is designed to provide you with information relevant to Hypercom equipment. This book is divided into two chapters:

- Chapter 1 Equipment Information: describes the SmartICE terminal in detail
- Chapter 2 Equipment Installation: describes how to install the SmartICE terminal

## Document Conventions

This manual contains the following special terms and style conventions.

### Notes

Notes are indented for emphasis, as follows:

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

### Component Names

This manual uses special bold text formatting to highlight terminal key names and field description names, as follows:

Manually enter the card account number and press Enter.

The Surcharge field option increments the total purchase amount by the value set in Term-Master.

# Procedures

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. An example of procedure formatting follows.

## Step-by-Step

To perform a procedure:



1. Follow the steps outlined in the procedure.
2. Each procedure has at least two steps.

# Warning and Caution Messages

When you see a Warning message or Caution message, read it promptly and carefully before proceeding further. The format of these messages is shown in the following examples.



### 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.

### CAUTION

A caution advises users that a negative result such as a loss of data may occur if they do not follow the instructions provided.



# Equipment Information

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This chapter provides an overview of the Hypercom SmartICE terminal. Included are the features and benefits of the device.

## Terminal Information

The Hypercom SmartICE terminal is a fully functional terminal that supports draft capture, check verification and guarantee, authorization, and debit.

When communication with the host is interrupted, the terminals support offline transaction capture. These transactions are then communicated to the host before settlement each day.

At settlement time, all terminal totals are matched with host totals. In the rare instance of non-matching totals, automatic batch uploading allows accurate matching of terminal and host transaction details, and provides rapid automated arbitration and balancing.

Settlement functions are either password protected for manual activation or are handled automatically at a time pre-set to meet merchant needs.

The SmartICE terminal provides application-level statistical and diagnostic information to the host at the end of each settlement period. This information enables the network operator or processor to be actively involved in maintenance and service.

For software maintenance, the Hypercom SmartICE terminal uses application downloading from the Hypercom PC-based Term-Master, terminal-to-terminal loading (fast loading), or loading from the processing host.

The Hypercom Term-Master software manages the SmartICE terminal. Term-Master is a PC application that can store, retrieve, update, and transmit a custom configuration for any terminal in a customer terminal population. Term-Master also handles terminal software loading using an optional dial-up request, remote diagnostics, and retrieval of terminal operation statistics.

For initial configuration, the user enters terminal-specific information using Term-Master before the terminal goes online for full initialization of operating parameters from the processing host.



Figure 1-1. SmartICE terminal

## Features

- Integrated thermal printer
- 256K and 512K memory, optional 1 MB available
- Integrated PIN and signature capture pads
- Optional dial, LAN, or leased-line operation
- Optional smart card support
- High-contrast 160 x 160 FSTN display with integrated 12-bit resolution
- Full track 1 & 2 simultaneous card reader
- Multi-host application support
- Multi-tasking operating system
- Electronic receipt capture
- On-screen advertising available

# Terminal Connection Ports

The following is a description of the ports on the SmartICE terminal.

## LAN Port

The RS485 LAN port allows up to 16 terminals to be installed in environments using the Hypercom MiniNAC-II, NAC-1A, or NAC-6A LAN controller.

## PIN Pad Port

The PIN pad port supports a range of PIN pads including Hypercom Models S7, S7-C, and S8.

PIN encryption is according to ANSI X 9.8. The capability to generate ANSI X 9.9 Message Authentication Code (MAC) is optional. The PIN pad port supports multiple master and working keys.

## Power Port

The power port supports two types of Hypercom power packs. The Linear power pack is used within the United States of America. The Switcher power pack is used outside of the United States.

## Contrast Control Dial

Rotating the Contrast Control Dial, located on the left side of the terminal, changes the contrast of the display screen.

## Terminal Modem

The optional internal modem, the FastPOS 9600, is compatible with the Bell 212A modem and the CCITT V.22 interface and provides for Asynchronous or Synchronous operation at 9600 bps. The optional modem is suitable for both dial and leased-line operation.

## Terminal Radio

The SmartICE supports four radios types: CDPD (cellular digital packet data), Mobitex, GSM, and the 900 MHz.

## Terminal Power Adaptors

Hypercom offers two types of terminal power adaptors: The Linear power adaptor is used within the United States of America. The Switcher power adaptor is used internationally.

# Transactions and Functions

The SmartICE terminal supports the full transaction set required for authorization, draft capture, debit, check verification and guarantee, proprietary cards, and mail and phone.

Term-Master supports automated terminal configuration, terminal interrogation, automated program changes, and merchant installation.

## Terminal Initialization

Automated Terminal Configuration is downloaded from the host or from the Hypercom Term-Master application. Term-Master terminal profiles are downloaded through terminal initialization to meet the specific requirements of merchant categories such as restaurants (tips), retail, supermarkets, and the hospitality industry.

## Terminal Diagnostics

Term-Master supports terminal interrogation and the reporting of status and statistics such as response time measurements, communication errors, re-dials, card-read errors, and password review.

## Application Program Changes

Program changes are automated and downloaded through either a host-resident process or Term-Master.



# Features

## Financial Integrity

The SmartICE terminal generates automatic reversals to achieve total financial transaction integrity. These reversals ensure that communications and processing errors do not result in lost transactions, duplicate processing, or the failure of terminals to balance. The SmartICE terminals also enable simple terminal balancing and settlement, while eliminating network overloads caused by end-of-day batch transfers.

## Fast Response Times

The fast response time of the SmartICE terminal is the direct result of the efficient SDLC protocol, which permits pre-dialing and message compression. At a speed of 9600 bps, EFT messages of 150 characters are transmitted in 0.8 seconds, increasing throughput four to ten times over traditional 300 bps Asynchronous terminals.

## Reduced Communications Costs

The SmartICE terminals reduce transaction costs by taking advantage of recent advances in communications and networking technology. Using an optional modem, the savings are generated through short dial-up online times, local area networking, and concentration using the Hypercom regional Network Access Controllers (NACs), reducing long distance costs and improving network economics. These terminals actively interface through the Hypercom NACs with SNA, X.25, and BISYNC networks already in place.

## Networking Efficiency

The SmartICE terminals are totally compatible with the Hypercom family of Network Access Controllers (NACs), providing end-to-end network optimization and concentration to keep communication costs low.

## Term-Master

The SmartICE terminals support parameter and software downloading. Parameter downloading does not affect merchant totals due to the sophisticated architecture of the terminal. Term-Master collects Management Information System (MIS) statistics and can be interrogated online for speedy problem resolution. The PC-based Term-Master package supports software download requests from terminals even when the PC is unattended, ensuring terminal software is automatically kept up to date.

Using an optional modem, a merchant can install the SmartICE terminal through the menu-driven procedure that identifies the telephone line profile (tone or pulse, PABX access code), prompts for the telephone numbers for initialization and network management, and prompts for a unique terminal identification number with optional check digit.



# Equipment Installation

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This chapter describes how to install the SmartICE terminal.

## Installing the SmartICE Terminal

This chapter describes how to install the SmartICE terminal and port locations.

The SmartICE under panel connectors include power, PIN, and line ports.



Figure 2-1. SmartICE under panel connectors



**WARNING**

When using the Mobitex and CDPD version, the user must ensure that the device is not positioned in such a way as to put the side of the terminal near the antenna and above the credit card slot less than 3cm (1 1/8") from any part of the body for a period of six minutes or more.

Not complying with this warning may expose the user or customer to levels of electromagnetic radiation exceeding the FCC guidelines.

# Turning On the Terminal

The SmartICE terminal operates using a +12 Vdc power cable in conjunction with a 110-Volt grounded power receptacle.



## Step-by-Step

To turn on the smartICE terminal:

1. Connect the +12 Vdc power cable from the AC adapter to the terminal power socket labeled *PWR*.
2. Plug the adapter 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

Do not use an adapter, a power extender adapter, a power extender cable, or an AC outlet that does not have a ground connection.  
Do not disassemble the AC adapter. Only qualified service personnel 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 whenever it is powered from an underground outlet. A low-power AC adapter connects power to the terminal. Connect only one terminal to the AC adapter.

## Installing the SmartICE Paper Roll

The SmartICE uses a paper roll for receipt printing.



### Step-by-Step

To install the SmartICE paper roll:

1. Open the paper bucket cover and remove the paper roll.
2. Place the paper roll in the bucket so the paper feeds from under the roll, not over the top, and has a straight-line path into the printer paper-feed mechanism.
3. Feed the paper evenly into the paper feed slot at the rear of the SmartICE terminal.
4. When the paper appears, close the paper bucket cover. The printer is now ready to print receipts.

## Installing an External PIN Pad

The SmartICE supports an external PIN pad.



### Step-by-Step

To install an external PIN pad on the SmartICE terminal:

1. Insert the PIN pad connector into the opening marked *PIN* on the under panel of the SmartICE terminal. The use of a different cable might result in improper operation.
2. Ensure that the PIN pad cable latches are firmly locked into the jack on the SmartICE terminal.

# Accessing the Battery Pack

The SmartICE uses a lithium battery pack.



## Step-by-Step

To access the battery pack on the SmartICE terminal:

1. Place your finger on the top portion of the Battery Pack access panel.

**NOTE:** See Figure 2-1.

2. Slide the access panel down.
3. Remove the battery pack.

# Adjusting the Display Contrast

The SmartICE uses a contrast control dial to adjust the display.



## Step-by-Step

To adjust the contrast on the SmartICE terminal:

1. Place your finger on the Contrast Control Dial.

**NOTE:** See Figure 2-2.

2. Slide the access clockwise to darken or counter-clockwise to lighten the contrast.

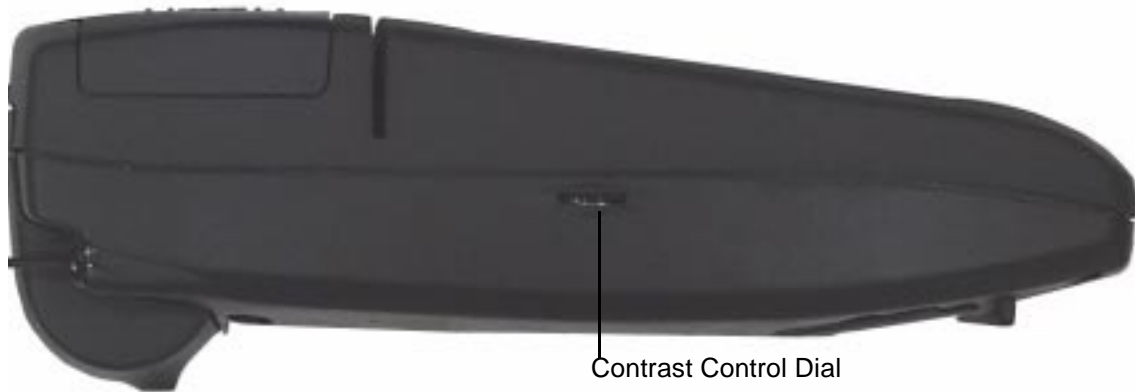


Figure 2-2. SmartICE side view



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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.
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**Additional comments:**

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