P R O D U C T O V E R V I E W

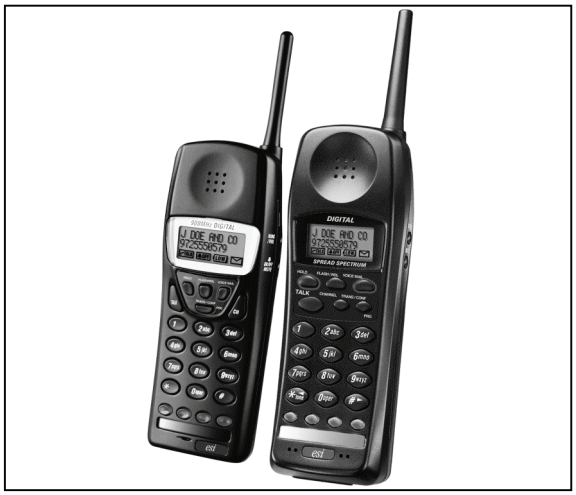
ESI Cordless Handset

Flexibility for mobile environments

Introduction

The **ESI Cordless Handset** uses proven, reliable 900 MHz technology to provide mobility to the user who is constantly on the move in the office. Users enjoy the same rich feature set as ESI's 24-Key Feature Phone in a compact, lightweight portable handset. Features such as the Quick Switch Key and the Volume/Mute/ Ringer switch make the ESI Cordless Handset the perfect office companion phone.

The ESI Cordless Handset is offered in **three models** — Digital, local IP, and remote IP. The Digital Cordless Handset works on the ESI-600, IVX X-Class, IVX E-Class Generation II, and IVX S-Class Generation II platforms. The local IP and remote IP models work with IP-enabled ESI-600 systems, and support the same features as the Digital Cordless Handset over an Ethernet® connection. Both IP models are compliant with all IEEE standards for QoS (Quality of Service).



Each Cordless Handset model is available in **two sizes**. The **small** Cordless Handset is compact enough to carry in a pocket and uses narrow-band transmission, while the **larger** Cordless Handset may be carried by its belt clip and uses spread-spectrum technology. Each IP Cordless Handset model is shipped with an Ethernet cable for connection of the base station to the customer's LAN (local) or broadband router (remote).

The **base station** operates as the RF transmitter for the Cordless Handset, relaying all system information and station call control over a 900 MHz signal. The base station of the **digital** Cordless Handset receives its power from the ESI phone system, eliminating the need for AC power. This reduces cabling and clutter, and enables it to be installed anywhere in the building that a station cable can be terminated, regardless of the availability of an electrical outlet. More importantly, it ensures that the ESI Digital Cordless Handset will still be functional during a power outage (if the phone system is on UPS backup).

The ESI IP Cordless Handset's base station is powered by its Ethernet connection. This model's full compliance with the IEEE 802.3af standard for **Power over Ethernet (PoE)** gives ESI Resellers a major competitive advantage.

The charging unit is equipped with a charge indicator LED that lights when the handset is seated in the charging unit. The battery of the larger Cordless Handsets may be "hot-swapped" during a call, without interrupting the conversation.

The Cordless Handset provides four fixed keys, as well as four programmable keys that may be defined by the user at installation.

Features at a glance

LCD display

Each ESI Cordless Handset includes a two-line, 32-character display, similar to that of a 24-Key Feature Phone. Additional visual indications advise the user of his talk/muted status, inactive ringer, low battery, or arrival of a new voice mail message.

Familiar fixed-function keys

These keys access the same recognizable ESI prompts and features as the desktop Feature Phones.

- **HOLD** — The **HOLD** key is outlined in red. Held calls can be accessed by pressing **HOLD** and the appropriate number for the CO line. Calls can be placed on exclusive hold by pressing and holding **HOLD** for more than two seconds.
- **FLASH/RDL** — The **FLASH/RDL** key functions the same as on a 24-Key Feature Phone. When on a call, this key gives the user the ability to toggle between the current call and another call. When the phone is idle, pressing **FLASH/RDL** dials the most recently called number.
- **VOICE MAIL** — Outlined in blue, this key gives the user the same one-touch functionality as the desktop phone, providing easy voice message retrieval. The handy "envelope" icon in the display shows when the user has new voice mail waiting.
- **TRANS/CONF/PROG** — This key has three specific functions, depending on the phone's state:
  - When the phone is idle, pressing this key places the phone into station **prog**ramming mode.
  - When the phone is in use on a call, this key allows **trans**ferring or **conf**erencing.

Programmable keys

CO lines, stations, mailboxes, departments, speed-dial numbers, Esi-Link locations, and feature keys can be assigned to the four **programmable feature keys**, which make useful ESI features available with a single touch. Here are some examples:

- Press *RECORD* to record a call in progress or create a personal memo. Store and retrieve the information as any other voice message.
- Program a Virtual Answer key to make personal call management easy. Virtual Answer lets a busy user advise another caller of his status without interrupting his current call. The Virtual Answer greetings give the option to leave a message, continue to hold, or be re-routed to another extension.
- A *DOOR UNLOCK* key lets you unlock an ESI Presence Management-secured door from anywhere in the building.

Special function keys

- **TALK** — Used to place an internal or external call. Incoming calls are answered by pressing **TALK** or removing the Cordless Handset from the charger.
- **MUTE** — Press to disable the Cordless Handset's microphone while on a conversation.
- **CHANNEL** — Used to find another frequency. A frequency channel is automatically set when the phone is first used. However, if interference is present, press **CHANNEL** to find a clear channel. The large ESI Cordless Handset has 10 different selectable channels available, while the small ESI Cordless Handset has 30 available.
- **Ring Volume Switch** — Ring volume and ring type, including vibrate mode, can be adjusted by pressing the **R/VOL** key (view at *left* is of smaller Cordless Handset model) on the side of the Cordless Handset when it's idle. During a call, the key adjusts earpiece volume of the Cordless Handset or a headset, whichever is being used at the time of the call.

> **Note:** Ringer cadences are slightly different than those of a desktop ESI phone.

- **Ringer On/Off Switch** — The ringer switch is used to turn the ringer on and off. On the larger phone, the switch is located on the Cordless Handset's opposite side from the **R/VOL** switch.

Quick Switch Key

The **Quick Switch Key** is a dual-purpose key specifically created for those who have **both** an ESI desktop phone **and** an ESI Cordless Handset. Providing seamless communications, this key[1] has two uses:

- **Ring option** — The user can select which of his phones rings, regardless of which extension the caller originally dialed.
- **Transfer control** — Calls can be transferred between the desktop phone and ESI Cordless Handset with the press of the Quick Switch Key. If a user is on his desktop phone, he can easily become mobile as his current call requires.

Headset operation

There's no need to program a headset key. Once the headset is attached to the ESI Cordless Handset, audio is immediately transferred to the headset. A headset is required to use any hands-free operations.

> **Note:** While other headsets may function to some degree when used with the ESI Cordless Handset, ESI can guarantee proper operation **only** when the ESI Cordless Handset headset is purchased and installed.

[1] Installer must program a relationship between the ESI Cordless Handset and user's desktop Feature Phone. Consult ESI system documentation for details.

Competitive advantage

The ESI Cordless Handset is tightly integrated with the ESI phone system. This enables the user to benefit from the features and functionality that are already offered with ESI's desktop phones. The tight integration positions the digital Cordless Handset's base station to be line-powered by the phone system, rendering an AC adapter unnecessary.

The IP Cordless Handsets support Power over Ethernet, and comply with the IEEE 802.3af standard. This ensures the IP handsets are compatible with all customers' networks, regardless of whether the LAN is PoE-enabled. If it isn't, an inexpensive PoE adapter can be installed between the customer's broadband connection and the ESI IP Cordless Handset base station.

Once the Installer has programmed a relationship between a user's Cordless Handset and desktop Feature Phone, the user can program a Quick Switch Key — at which time the user defines his personal ring and transfer control options. These enable a user with a desktop Feature Phone and Cordless Handset to set up the two individual extensions to appear as one, giving the user flexible mobility choices when communicating with coworkers and customers.

The ESI Remote IP Cordless Handset base station includes a jack into which the user can plug an analog CO line. This gives the home-based teleworker the convenience of using both home and business lines with one phone: the ESI Remote IP Cordless Handset.

The local IP Cordless Handset uses industry-standard G.711 voice compression. The Remote IP model uses G.729 voice compression. In the ESI-600 system, G.726 and G.729 compression standards are supported. Both are connected to an IVC channel.

900 MHz technology

900 MHz Cordless Handsets are the most widely used and dependable type of cordless phones for businesses. The ESI Digital Cordless Handset is designed to achieve the maximum possible range by transmitting and receiving according to the highest specifications set forth by the FCC and IC.

The ESI Cordless Handset takes advantage of both narrow-band technology and spread spectrum technology. The small ESI Cordless Handset uses narrow-band technology. While narrow-band offers a shorter range, it is less susceptible to interference from other low-power narrow-band signals (*e.g.*, other small Cordless Handsets) because they use different channels to communicate. The large ESI Cordless Handset uses spread spectrum technology. While this technology offers greater range, it may cause interference when multiple Cordless Handsets are used near each other.

Base station

Installation

A base station comes with each Cordless Handset and provides the communication link between the KSU and the Cordless Handset. The center LED represents the power status.

The back of the base station is slightly different for each model:

- **Digital** — Provides one jack into which a digital station port is connected; the other jack is unused.
- **Local IP** — A two-port data switch is built into the local IP Cordless base, and provides two RJ-45 Ethernet jacks. One jack is used for connecting the base station to the LAN. The other is used for connecting the PC or other LAN-based hardware into the base station.
- **Remote IP** — provides one RJ-45 jack into which an Ethernet cable can be connected and an RJ-11 jack into which an analog CO line may be connected.

> **Note:** Power over Ethernet provides power for all ESI IP Cordless Handsets. In an environment where PoE is not available, a PoE adapter must be used.

Power

The base station (transceiver) of the digital ESI Cordless Handset receives its power from the ESI phone system. The charger requires a power adapter, which is included with each ESI Cordless Handset.

There are two **power modes** associated with the ESI Cordless Handset:

- **Power-saving** — This helps achieve full battery life; however, if full-time status monitoring is required, the power saving mode may be disabled. In this mode, the system blocks all traffic to the Cordless Handset when it's been idle for 30 seconds. Pressing its keys or receiving an incoming call discontinues power-saving mode.
- **Low-power** — When the handset has received no traffic for five minutes, the Cordless Handset enters this mode, during which the display is blank and LEDs are not illuminated. Any traffic sent to the Cordless Handset will cancel low-power mode.

Packaging

Each ESI Cordless Handset comes with:

- Base station
- Belt clip
- Battery pack
- Charger and power adapter
- Wall plate

Each IP Cordless Handset (local or remote) also includes an Ethernet cable.

Available accessories

Note: To purchase keypad overlays for these and other ESI phones, visit *www.desi.com*.

Accessory kit for small ESI Cordless Handset

Description	Part number
Charger (w/o AC Adapter)	5060-7701
AC Adapter for Charger	
Wall Mount for Charger Unit	
Wall Mount Plate for Base Unit	
AC Adapter for Base Unit	
Belt Clip	

Other accessories for small ESI Cordless Handset

Description	Part number
Headset	5060-7703
Battery, five-pk. — Ni-MH, DC3.6v (750mAH)	5060-7705

Accessory kit for large ESI Cordless Handset

Description	Part number
Charger (w/o AC Adapter)	5060-7702
AC Adapter for Charger	
Wall Mount Plate for Base Unit	
Belt Clip	

Other accessories for large ESI Cordless Handset

Description	Part number
Headset	5060-7703
Leather Carrying Case	5060-7706
Battery, five-pk. — hot-swappable, Ni-MH (1300mAH)	5060-7704

Specifications and requirements

	Small Handset	Large Handset
Fully charged battery life	Approx. 7 hrs.	Approx. 10 hrs.
Recharge time	Approx. 5 hrs.	Approx. 5 hrs.
Standby time	Approx. 5 days	Approx. 4 days
Approximate range[1]	200 ft.	400 ft.
Weight (including battery)	5.2 oz.	8.8 oz.
Size, W × D × H (in.)	2 × 1.25 × 5.5 without antenna	2.2 × 1.67 × 8.67 with antenna

Hardware requirements

The ESI Digital Cordless Handsets may be installed on **only** the ESI-600, IVX X-Class, IVX E-Class Generation II, and IVX S-Class Generation II systems. The ESI IP Cordless Handsets may be installed on **only** the ESI-600. Compatible port cards are listed below; consult your ESI sales representative for details.

Port Card	Part number
E2-612	5000-0315
E2-684	5000-0316
E2-DLC12	5000-0348
E2-D12	5000-0317
IVC	5000-0318

Software requirements

Minimum operating software for each system type is:

System type	Software version
ESI-600	15.1.0
IVX X-Class	10.8.0
IVX E-Class **Generation II only**	2.7.0
IVX S-Class **Generation II only**	4.7.0

[1] Interference may result if cordless base stations are installed within 10 feet of each other. Ranges are approximate, and are dependent on each site's unique characteristics. Feedback may result if the Cordless Handset is within three inches of the ESI desktop phone.

Note: Due to the unique and sometimes complex nature of VoIP technology, ESI requires that Resellers complete certain levels of training to purchase and install IP equipment. Passing the Remote IP Web test is necessary to install either the local or remote IP Cordless Handset on an ESI system. Consult your ESI Sales Representative for more information.

About ESI

ESI (Estech Systems, Inc.) is a privately held corporation based in Plano, Texas.

Founded in 1987, ESI specializes in telephone systems for the small to mid-size business. Since its days as a small start-up, ESI has enjoyed exceptional stability and growth while maintaining its dedication to small company values — including the need to take care of the most important part of the equation: your business.

ESI pioneered the all-in-one telephone and voice mail system. The original IVX, introduced in 1996, represented a radical breakthrough in system design: the inclusion of a full suite of features within a single integrated telephone design.

Committed to excellence, ESI is an ISO-9001:2000-certified company — assuring that quality is fundamental.