Designed, Manufactured and Supported in the USA

VIKING PRODUCT MANUAL

COMMUNICATION & SECURITY SOLUTIONS

1600-IP Series
ADA Compliant VoIP
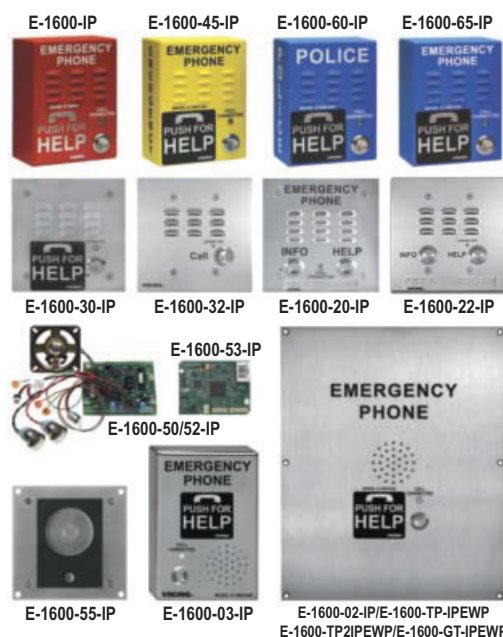Emergency Phones
May 3, 2017

ADA & CE Compliant VoIP Emergency Phones with Built-In Dialer and Digital Voice Announcer

The **1600-IP Series** ADA Compliant VoIP Emergency Phones are designed to provide quick and reliable handsfree communication for SIP VoIP phone systems with PoE. All **1600-IP Series** phones meet ADA requirements for elevator/ emergency telephones, and can be programmed from any Touch Tone phone or PC on the same LAN or remotely using a static IP address. The phones can dial up to 5 programmable emergency numbers. In addition, the **E-1600-20-IP, E-1600-22-IP**, **E-1600-52-IP** and **E-1600-TP2IPEWP** feature a second "**INFO**" button that will dial up to 5 non-emergency numbers. Two amp relay contacts are provided for strobe light, camera, door/gate control, etc.

The **1600-IP Series** phones can be programmed to automatically deliver a digital announcement to identify the location of the emergency call. Alternatively, a DTMF Touch Tone code may also be delivered. A "Call Connected" LED can be initiated manually or automatically. All programming parameters, including phone numbers and location numbers, are stored in non-volatile memory, requiring no batteries. All units are PoE powered.

For outdoor installations where the unit is exposed to precipitation or condensation, select **1600-IP Series** phones are available with Enhanced Weather Protection (**EWP**). EWP products feature foam rubber gaskets and boots, sealed connections, gel-filled butt connectors, as well as urethane or thermal plastic potted circuit boards. For more information, see **DOD# 859**.

⚠ **Installation requires the assistance of a Network Administrator / IT Technician.**

E-1600-IP E-1600-45-IP E-1600-60-IP E-1600-65-IP

E-1600-30-IP E-1600-32-IP E-1600-20-IP E-1600-22-IP

E-1600-53-IP

E-1600-50/52-IP

EMERGENCY PHONE

E-1600-55-IP E-1600-03-IP E-1600-02-IP/E-1600-TP-IPEWP
E-1600-TP2IPEWP/E-1600-GT-IPEWP

Features

- Self diagnostic reports via email (testing com, mic, speaker & switch)
- Automatic polling and programming software included
- 2 Amp relay contacts for door/gate or SL-2 strobe light control
- SIP compliant (see pg 2 for list of compatible IP-PBX phone systems)
- PoE powered (class 1, <4 watts)
- Automatic Noise Canceling (ANC) feature for proper operation in noisy environments
- VoIP eliminates the need for "Push to Talk" mode
- Network downloadable firmware
- Meets ADA requirements for Emergency Phones:
  - Automatically lights the Red "Call Connected" LED
  - Transmits a unique location I.D. code or voice announcement
  - Grade 2 Braille label for the visually impaired
- Non-volatile digital voice announcer with 28 seconds of voice memory
- T-10 Torx Security Screws for added security
- Handsfree operation
- Marine grade 316 stainless steel prevents corrosion on the stainless steel models
- Laser etched graphics on stainless steel models
- Dials up to 5 emergency numbers
- **E-1600-20-IP**, **E-1600-22-IP, E-1600-52-IP,** and **E-1600-TP2IPEWP** dial up to 5 non-emergency "INFO" numbers
- Cycles through backup phone numbers on busy or no-answer
- Optional Enhanced Weather Protection (EWP), EWP products are designed to meet IP66 Ingress Protection Rating, see **DOD# 859**
- Hangs up on busy signal, time-out or touch tone command
- Extended temperature range (-40°F to 140°F)
- 11 different chassis or board only available
- Available in 42" tower phone model **E-1600-BLTIPEWP** (**DOD# 249**)
- Optional **LV-1K** Line verification Panel (**DOD# 246**)
- Optional **PB-100** Polling System available (**DOD# 232**)
- Optional **SL-2** or **BLK-4-EWP** strobe light kit available (**DOD# 242/654**)
- Optional **E-1600A-MK-GNP** Pedestal Mounting Kit (**DOD# 227**)
- Optional **PB-1** Panic Button Kit (**DOD# 233**)

Applications

- Elevators
- Parking ramps/lots
- Emergency pool phones
- ATM machines
- Medical centers
- Silent hold-up alarm dialer with an optional **PB-1** Panic Button Kit (**DOD# 233**)
- Area of refuge locations
- Lobbies
- Entryways
- Campus emergency stations
- Stadiums
- Convention centers
- Public access areas

* Americans with Disabilities Act of 1992 contains federal regulations regarding elevator telephones (Public Law 101-336).

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Specifications

Power: PoE class 1 (<4 watts)
Maximum Sound Pressure: 95 dB SPL @ 1m.
Dimensions: See Installation and Specifications
Operating Temperature: -40° C to 60° C (-40°F to 140°F)
Humidity - Standard Products: 5% to 95% non-condensing
Humidity - EWP Products: Up to 100%
Audio Codecs: G711u, G711a, G722
Network Compliance: IEEE 802.3 af PoE, SIP 2.0 RFC3261, 100BASE-TX with auto cross over
Connections: (1) RJ45 10/100 Base-T, (3) gel-filled butt connectors

Viking VoIP SIP System Compatibility List

NOTE: *Exclusion from this list means only that compatibility has not been verified, <u>it does not mean incompatibility</u>.*

For detailed configuration instructions for certain vendors below, see **Configuring Viking VoIP Phone and SIP Servers**, **DOD# 944**.

Vendor	Infrastructure Class				
	Softswitch	**PBX**	**Proxy**	**SBC** (session border controller)	**Service Provider**
3COM VCX		X			
3CX		X			
Aastra		X			
Asterisk		X			
Atcom		X			
Avaya Aura Communication Manager	X				
Avaya IP Office		X			
BlueBox		X			
Brekeke		X			
Callcentric					X
Cisco Unified Communications Manager (CUCM)	X	X			
Cisco Unified Communications Manager Express (CUCME)	X	X			
Elastix		X			
Freeswitch		X			
Grandstream		X			
Interactive Intelligence	X	X			
iPECS (Ericsson-LG)		X			
iptel.org					X
Kamailio			X	X	
MetaSwitch				X	X
NEC		X			
OfficeSIP		X			
OpenSIPS		X			
Panasonic** (with SIP Extension Card)		X			
Samsung Communications Manager (SCM)	X	X			
ShoreTel*		X			
Siemens Communications Server (SCS)		X			
SIP Express Router (SER)			X	X	
sip.antisip.com					X
Snom PBX		X			
Sonus				X	
Switchvox		X			X
Teksip			X		
Toshiba		X			
VoIP.ms					X

* Note: Not compatible with ShoreTel Ring Group/Hunt Group (unit can be programmed to ring an extension 2 or 3 times then roll to the next number, for a total of 5 numbers).

** Note: Relay operation commands are Not compatible with Panasonic Phone Systems (Panasonic does not transmit DTMF between station ports).

Known Incompatible System or Service Provider: Ring Central (Requires Authorization ID and Proxy address).

Overview of Chassis and Mounting Options

Note: When European CE compliance is required, mount open board models within a metal enclosure.

Model: E-1600-53-IP
Description: 1600-IP board (PCB) only kit. Can be used to convert any analog Viking 1600A-Series phone to a VoIP version

Model: E-1600-IP
HxWxD: 5.25 x 4.0 x 2.0
Mounting: Surface mount
Description: 16 gauge steel with textured red powder paint

Model: E-1600-45-IP
HxWxD: 5.25 x 4.0 x 2.0
Mounting: Surface mount
Description: 16 gauge steel with textured yellow powder paint

Model: E-1600-60-IP
HxWxD: 5.25 x 4.0 x 2.0
Mounting: Surface mount
Description: 16 gauge steel with textured blue powder paint and "POLICE" verbiage

Model: E-1600-65-IP
HxWxD: 5.25 x 4.0 x 2.0
Mounting: Surface mount
Description: 16 gauge steel with textured blue powder paint

Model: E-1600-55-IP
HxWxD: 5.0 x 5.0 x 2.0
Description: Universal emergency phone kit to install behind elevator panels or when a custom panel is used

Model: E-1600-20-IP
HxWxD: 5.0 x 5.0 x 2.25
Mounting: Flush mount with included rough-in box (will not fit in a double gang box), or surface mount with a **VE-5x5**
Description: Two button, 14 gauge marine grade 316 stainless steel with #4 brushed finish,T-10 Torx Security Screws

Model: E-1600-22-IP
HxWxD: 5.0 x 5.0 x 2.25
Mounting: Flush mount in a standard double gang electrical box or surface mount with a **VE-5x5**
Description: Two button, 14 gauge marine grade 316 stainless steel with #4 brushed finish, T-10 Torx Security Screws
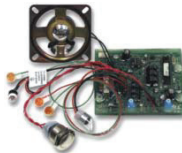
Model: E-1600-30-IP
HxWxD: 5.0 x 5.0 x 2.25
Mounting: Flush mount with included rough-in box (will not fit in a double gang box), or surface mount with a **VE-5x5**
Description: 14 gauge marine grade 316 stainless steel with #4 brushed finish, T-10 Torx Security Screws

Model: E-1600-32-IP
HxWxD: 5.0 x 5.0 x 2.25
Mounting: Flush mount in a standard double gang electrical box or surface mount with a **VE-5x5**
Description: 14 gauge marine grade 316 stainless steel with #4 brushed finish, T-10 Torx Security Screws

Model: E-1600-50-IP
Description: Single button 1600-IP parts kit without chassis

Model: E-1600-52-IP
Description: Two button 1600-IP parts kit without chassis

Model: E-1600-03-IP
HxWxD: 7.22 x 5.36 x 1.55
Mounting: Surface mount
Description: 14 gauge marine grade 316 stainless steel with #4 brushed finish

Model: E-1600-02-IP
HxWxD: 13.0 x 10.5 x 2.0
Mounting: Flush mount
Description: 12 gauge marine grade 316 stainless steel with #4 brushed finish

Model: E-1600-TP-IPEWP
HxWxD: 11.75 x 9.5 x 2.0
Mounting: Flush mount
Description: Direct physical replacement for Talk-A-Phone models ETP-400V or VoIP-500

Model: E-1600-TP2IPEWP
HxWxD: 11.75 x 9.5 x 2.0
Mounting: Flush mount
Description: Direct physical replacement for Talk-A-Phone models ETP-400DV or VoIP-500D

Model: E-1600-GT-IPEWP
HxWxD: 12.0 x 10.0 x 2.0
Mounting: Flush mount
Description: Direct physical replacement for GAI-TRONICS Red Alert Model 397-700

Definitions

Client: A computer or device that makes use of a server. As an example, the client might request a particular file from the server.

DHCP: Dynamic Host Configuration Protocol. In this procedure the network server or router takes note of a client's MAC address and assigns an IP address to allow the client to communicate with other devices on the network.

DNS Server: A DNS (Domain Name System) server translates domain names (ie: www.vikingelectronics.com) into an IP address.

Ethernet: Ethernet is the most commonly used LAN technology. An Ethernet Local Area Network typically uses twisted pair wires to achieve transmission speeds up to 1Gbps.

Host: A computer or device connected to a network.

Host Name: A host name is a label assigned to a device connected to a computer network that is used to identify the device in various forms of network communication.

Hosts File: A file stored in a computer that lists host names and their corresponding IP addresses with the purpose of mapping addresses to hosts or vice versa.

Internet: A worldwide system of computer networks running on IP protocol which can be accessed by individual computers or networks.

IP: Internet Protocol is the set of communications conventions that govern the way computers communicate on networks and on the Internet.

IP Address: This is the address that uniquely identifies a host on a network.

LAN: Local Area Network. A LAN is a network connecting computers and other devices within an office or building.

Lease: The amount of time a DHCP server reserves an address it has assigned. If the address isn't used by the host for a period of time, the lease can expire and the address can be assigned to another host.

MAC Address: MAC stands for Media Access Control. A MAC address, also called a hardware address or physical address, is a unique address assigned to a device at the factory. It resides in the device's memory and is used by routers to send network traffic to the correct IP address. You can find the MAC address of your **1600-IP Series** phone printed on a white label on the top surface of the PoE LAN port.

Router: A device that forwards data from one network to another. In order to send information to the right location, routers look at IP Address, MAC Address and Subnet Mask.

RTP: Real-Time Transport Protocol is an Internet protocol standard that specifies a way for programs to manage the real-time transmission of multimedia data over either unicast or multicast network services.

Server: A computer or device that fulfills requests from a client. This could involve the server sending a particular file requested by the client.

Session Initiation Protocol (SIP): Is a signaling communications protocol, widely used for controlling multimedia communication sessions such as voice and video calls over Internet Protocol (IP) networks. The protocol defines the messages that are sent between endpoints, which govern establishment, termination and other essential elements of a call.

Static IP Address: A static IP Address has been assigned manually and is permanent until it is manually removed. It is not subject to the Lease limitations of a Dynamic IP Address assigned by the DHCP Server. The default static IP Address is: **192.168.154.1**

Subnet: A portion of a network that shares a common address component. On TCP/IP networks, subnets are defined as all devices whose IP addresses have the same prefix. For example, all devices with IP addresses that start with 100.100.100. would be part of the same subnet. Dividing a network into subnets is useful for both security and performance reasons. IP networks are divided using a subnet mask.

TCP/IP: Transmission Control Protocol/Internet Protocol is the suite of communications protocols used to connect hosts on the Internet. TCP/IP uses several protocols, the two main ones being TCP and IP. TCP/IP is built into the UNIX operating system and is used by the Internet, making it the de facto standard for transmitting data over networks.
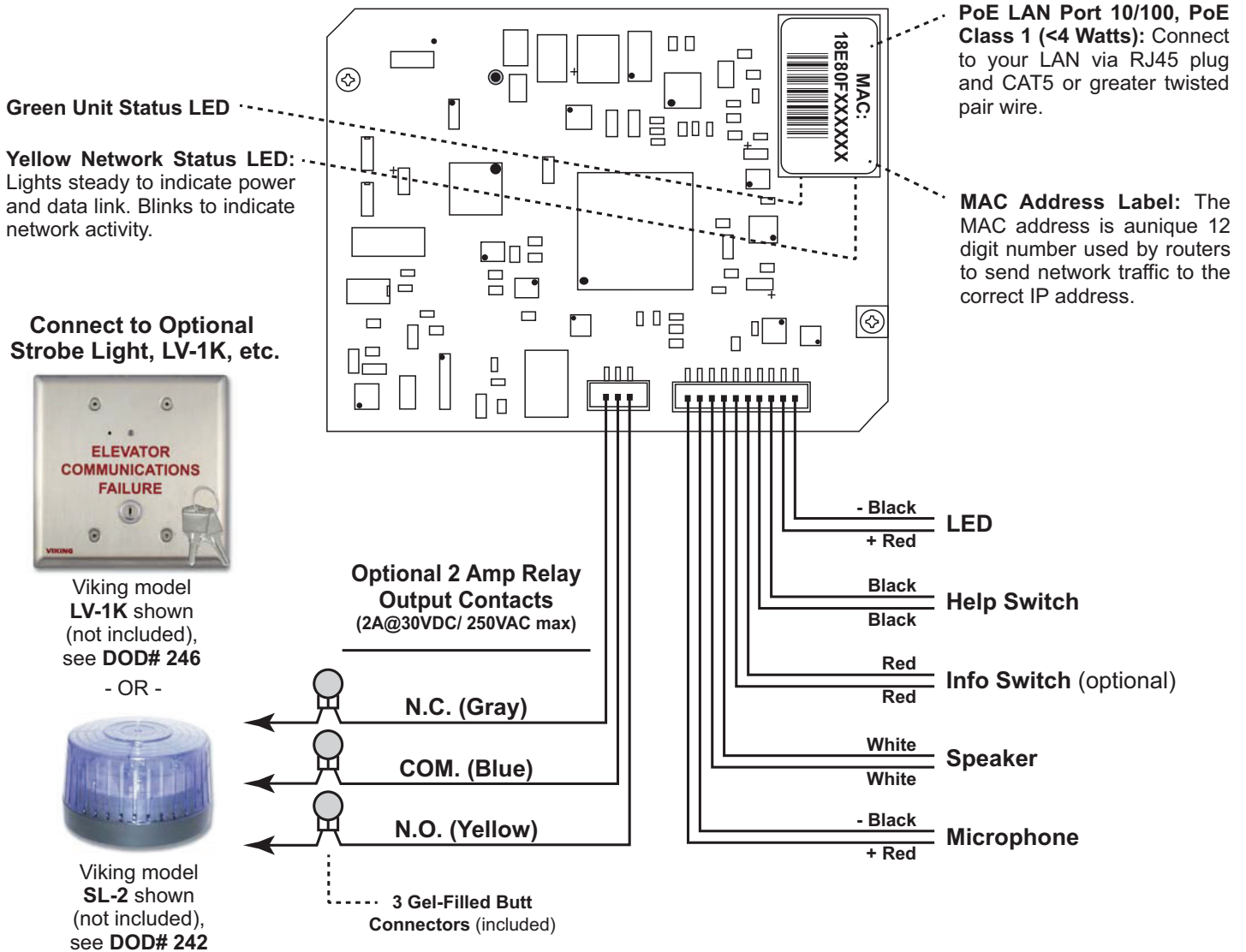
TISP: Telephone Internet Service Provider

WAN: Wide Area Network. A WAN is a network comprising a large geographical area like a state or country. The largest WAN is the Internet.

Wireless Access Point (AP): A device that allows wireless devices to connect to a wired network using Wi-Fi, or related standards. The AP usually connects to a router (via a wired network) as a standalone device, but it can also be an integral component of the router itself.

Wireless Repeater (Wireless Range Extender): takes an existing signal from a wireless router or access point and rebroadcasts it to create a second network. When two or more hosts have to be connected with one another over the IEEE 802.11 protocol and the distance is too long for a direct connection to be established, a wireless repeater is used to bridge the gap.

Rear (PCB) View of 1600-IP Series Emergency Phone

Green Unit Status LED

Yellow Network Status LED: Lights steady to indicate power and data link. Blinks to indicate network activity.

PoE LAN Port 10/100, PoE Class 1 (<4 Watts): Connect to your LAN via RJ45 plug and CAT5 or greater twisted pair wire.

MAC: 18E80FXXXXXXX

MAC Address Label: The MAC address is aunique 12 digit number used by routers to send network traffic to the correct IP address.

Connect to Optional Strobe Light, LV-1K, etc.

ELEVATOR COMMUNICATIONS FAILURE

VIKING

Viking model **LV-1K** shown (not included), see **DOD# 246**

- OR -

Viking model **SL-2** shown (not included), see **DOD# 242**

Optional 2 Amp Relay Output Contacts
(2A@30VDC/ 250VAC max)

N.C. (Gray)

COM. (Blue)

N.O. (Yellow)

3 Gel-Filled Butt Connectors (included)

- Black
+ Red
LED

Black
Black
Help Switch

Red
Red
Info Switch (optional)

White
White
Speaker

- Black
+ Red
Microphone

Note: *The gel-filled (water-tight) butt connectors are designed for insulation displacement on 19-26 gauge wire with a maximum insulation of 0.082 inches. Cut off stripped wire ends before terminating.*