

## I. Introduction

This Quick Installation Guide provides instructions for installation of the **VOIP-500 Series Phone**. It is recommended to read this instruction set completely before starting any installation.

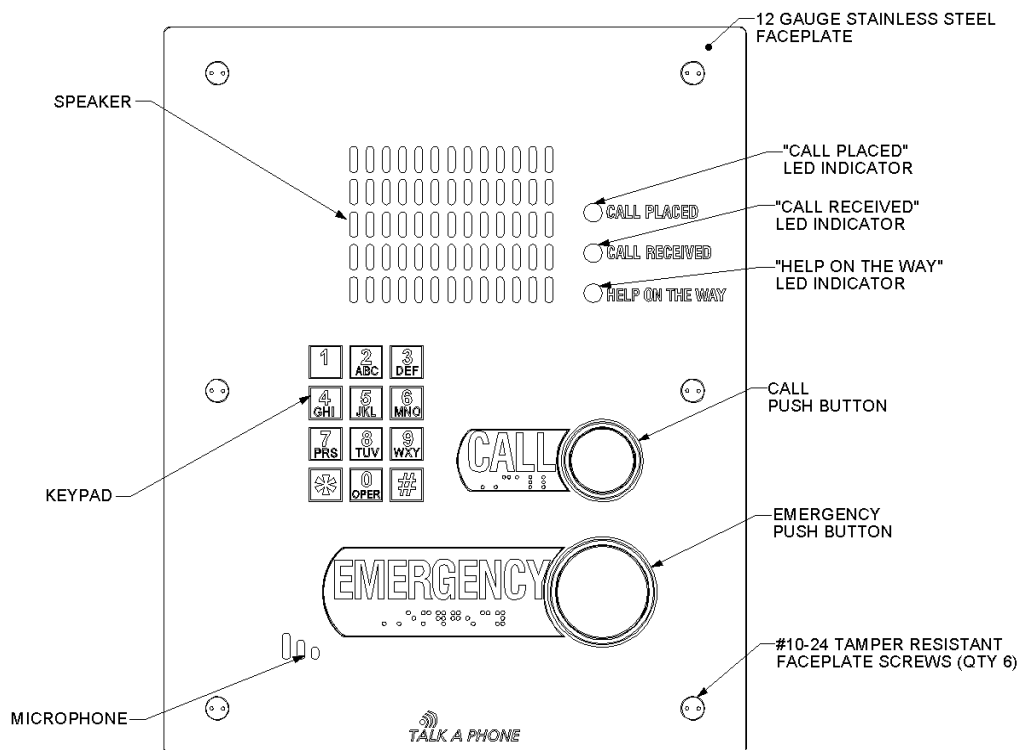
## II. Contents

Please ensure receipt of each of the included **VOIP-500 Series Phone** components:

QTY	Part Number	Description
1	VOIP-500***	VOIP-500 Series Phone
6	42867	#10-24 Tamper Resistant Screws
1	86392	Ferrite Core

Optional components include:

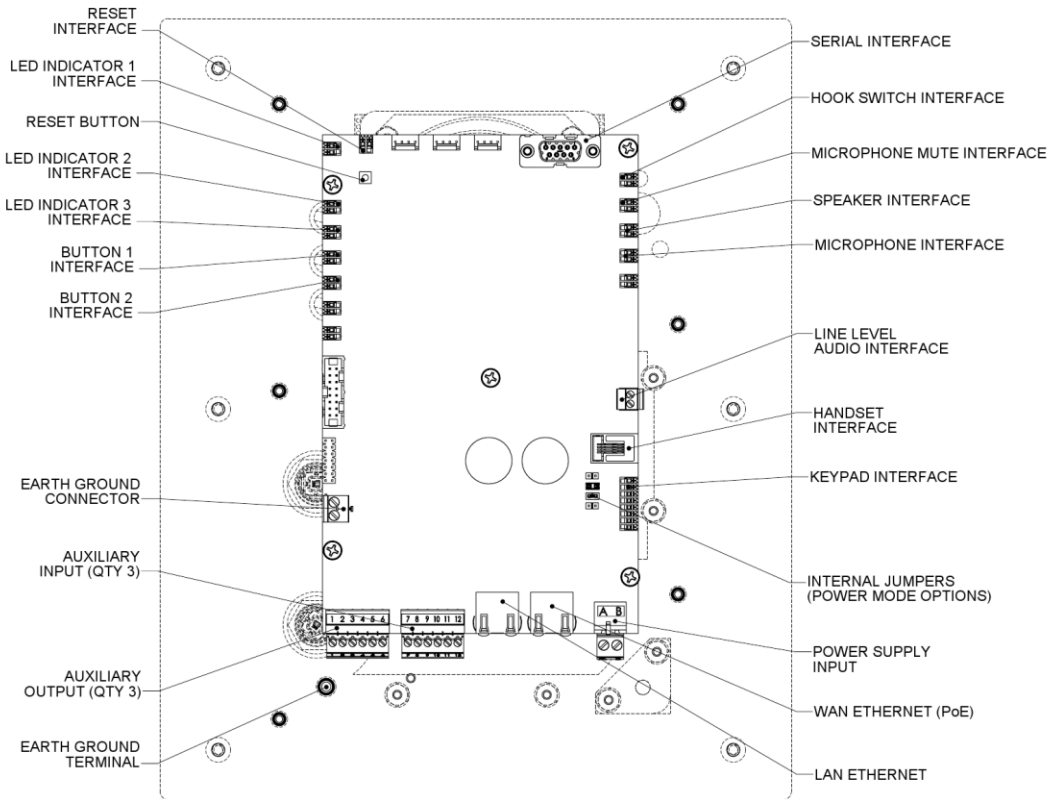
Part Number	Description
42834d	#10 Tamper-resistant Screwdriver
42834b	#10 Tamper-resistant Bit



**Figure 1 - Front view of a VOIP-500K**

### III. Field Wiring Installation

1. Remove and set aside the **VOIP-500 Series Phone** assembly.
2. Remove the back box from the **VOIP-500 Series Phone** assembly by unfastening the six (6), #6-32 nuts and washers.
3. For PCB (Printed Circuit Board) wiring details, refer to **Figure 2**.



**Figure 2 - Internal PCB (Printed Circuit Board) view**

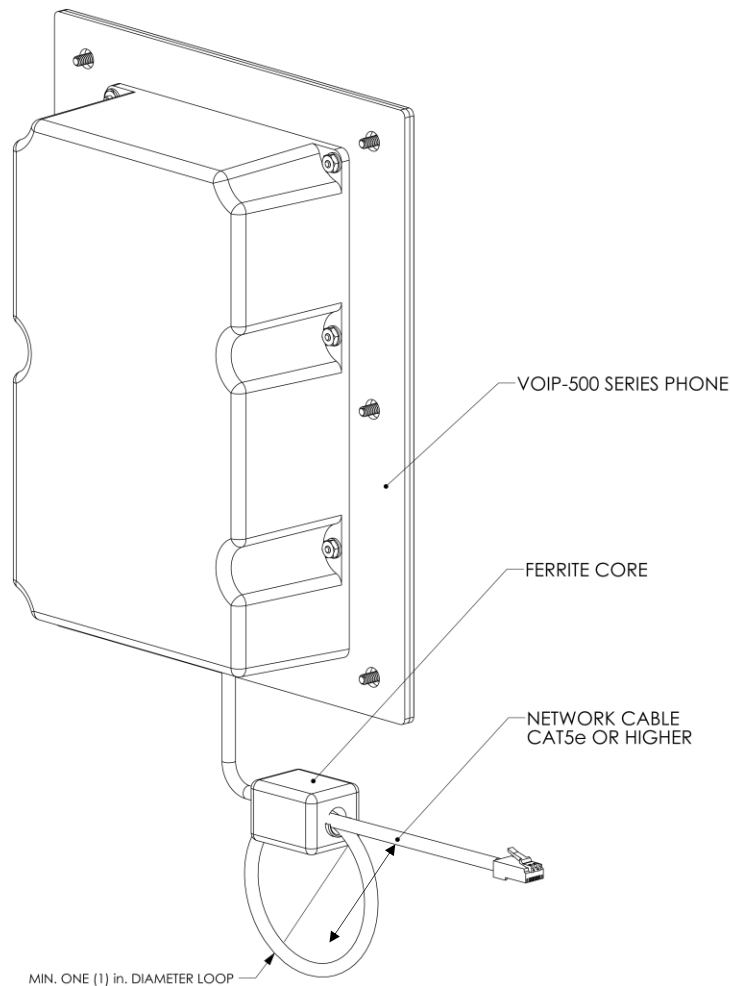
### IV. Network Connectivity

The **VOIP-500 Series Phone** is equipped with two (2) Ethernet ports. The WAN Ethernet (PoE) port should be used as the primary port for data communications. The WAN Ethernet port can be used to power the phone via an IEEE 802.3af, Class 3 compliant PoE supply.

The **VOIP-500 Series Phone** has a layer 2 switchport labeled LAN Ethernet which can provide network connectivity to an auxiliary device e.g. (IP Camera, Card Reader, etc). The LAN Ethernet port is a pass-through port and cannot be used to access the phone.

When installing the Network cable, it is essential to have a ferrite core (provided with the phone), installed on to the cable as close as possible to the connector. Make sure the network cable is passed twice through the ferrite core, forming a loop of not less than one (1) inch in diameter.

*A cable with a rating of Cat5e or higher with an RJ45 connector is typical for all network cables.*



**Figure 3** - Installation of the ferrite core on the network cable

## V. Power Requirements

The **VOIP-500 Series Phone** can be powered over Ethernet or through a dedicated, line-regulated power supply that meets the following specifications:

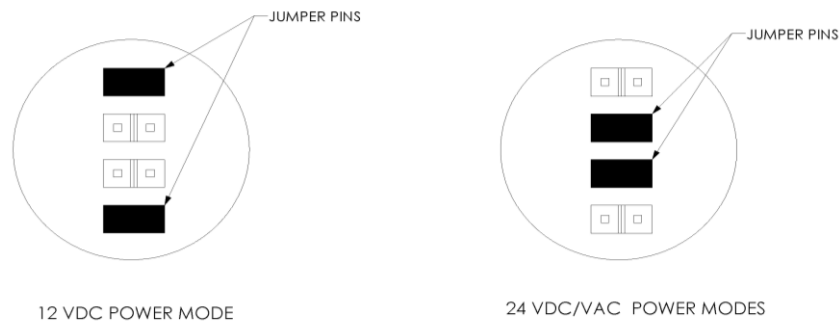
Power Input	Description	Acceptable Voltage	Power Consumption
Ethernet WAN	PoE – IEEE 802.3af Class 3	+36-57 VDC	150 mA
Power Supply Input	12 VDC	+10-14 VDC	500-800 mA
Power Supply Input	24 VDC	+21-27 VDC	300-500 mA
Power Supply Input	24 VAC	+21-27 VAC	300-500 mA

## VI. Power Installation

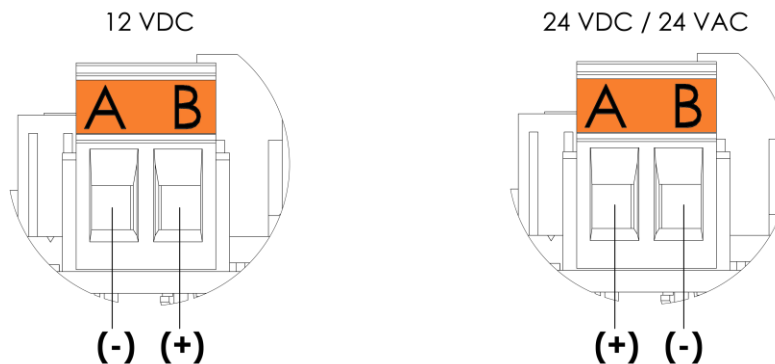
**Power over Ethernet:** Connect the Ethernet cable (Power + Data) to the WAN Ethernet port on the PCB as shown in **Figure 2**.

**Local Power:** For 12 VDC power mode place the internal jumpers on the two outermost terminals as shown in **Figure 4**. Once the jumpers are correctly set, connect the power supply to the Power Supply Input using a two conductor, No. 24 to 12 AWG cable as shown in **Figure 5**. For 12 VDC, ensure the Negative supply is connected to terminal **A**, and the Positive supply is connected to terminal **B**.

For 24 VDC/VAC power modes, place the internal jumper on the two innermost terminals as shown in **Figure 4**. Once the jumpers are correctly set, connect the power supply to the Power Supply Input using a two conductor, No. 24 to 12 AWG cable as shown in **Figure 5**. For 24 VDC/VAC, ensure the Positive supply is connected to terminal **A**, and the Negative supply is connected to terminal **B**.



**Figure 4** - Internal Jumper position for external power modes.  
Phone default setting is 24 VDC/VAC.



**Figure 5** – Power Supply Input connection polarity

**VII. Earth Ground**

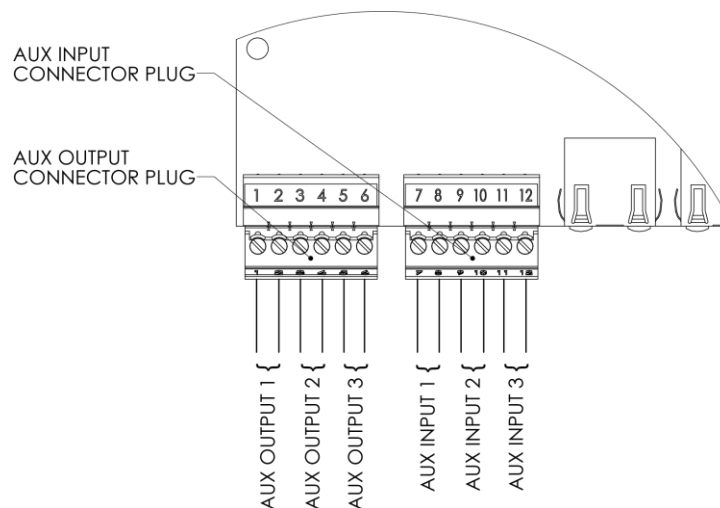
The faceplate of the phone must be connected to earth ground. Install a #10 ring terminal to the ground wire before connecting it to the earth ground terminal on the rear of the faceplate as shown in **Figure 2**.

**VIII. Auxiliary Input / Output**

1. The **VOIP-500 Series Phone** has three (3) Auxiliary Inputs (dry contact, 10 mA @ 8 VDC) and three (3) Auxiliary Outputs (dry contact, 120 mA @ 120 VAC/DC). Auxiliary Outputs allow peripheral equipment such as strobe lights, PTZ cameras, door entry systems, etc. to be activated when the push button is pressed.
2. Two (2) removable 6-pin connector plugs are provided for the auxiliary input and output as shown in the **Figure 6**.
3. The Auxiliary Input and Auxiliary Output connections are as follows:

Auxiliary Input Connection	Connector Plug Pin Position
Aux. Input 1	Position 7 and 8
Aux. Input 2	Position 9 and 10
Aux. Input 3	Position 11 and 12
Auxiliary Output Connection	Connector Plug Pin Position
Aux. Output 1	Position 1 and 2
Aux. Output 2	Position 3 and 4
Aux. Output 3	Position 5 and 6

*Use a two conductor, No. 28 to 16 AWG cable size for all auxiliary connections.*



**Figure 6 - Auxiliary Input/Output and Power connectors**

**X. Line Level Audio**

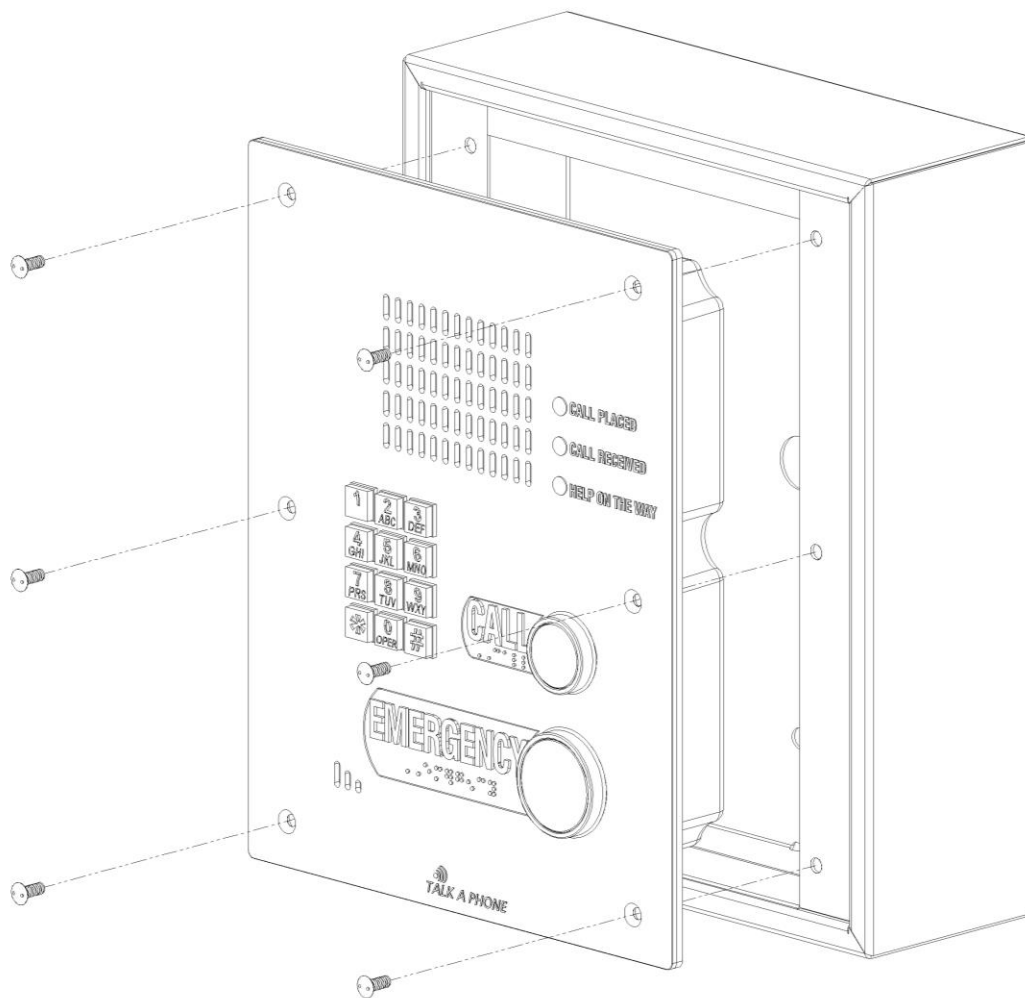
Connect the Line Level Audio connector on the PCB as shown in the **Figure 2**, to the respective device on the other end, such as the WEBS® paging amplifier, recording device, speaker, etc.

**XI. Final Assembly**

After completing the field wiring installation, fasten the back box on to the faceplate with the six (6) hardware nuts and washers.

**NOTE:** It is the installer’s obligation to ensure that the wiring should pass through the cable entry hole at the bottom of the back box. Please exercise caution when reinstalling the back box and ensure that no cables are crushed during the process.

Install the **VOIP-500 Series Phone** into its appropriate mount (e.g. **ETP-SM**, as shown in **Figure 7**), with the six (6) tamper resistant #10 faceplate screws provided.



**Figure 7 - Installation of VOIP-500K into an ETP-SM**