CG-4500

Administration & Setup Guide

THE POSSIBILITIES ARE ENDLESS

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1.0   Product Overview

1.1   Product Description

The CG-4500 is a dedicated purpose multi-channel, standalone SIP gateway device capable hosting numerous connections from ETC's CS-74 SIP endpoint and also support numerous connections from ETC's web client.

1.2   Product features

- **LED's** – LED's on the front panel provide visual indication of network Link/Activity and power.

- **Ethernet** – The CG-704 is equipped with a single Ethernet port for connecting to your network.

- **Upgrade Port** – The CG-704 can be licensed for as little as 1 port or up to 8 ports of SIP to Multicast.

- **Browser Access**- The CG-704 is configured via browser interface with configurable username and password login secure access.
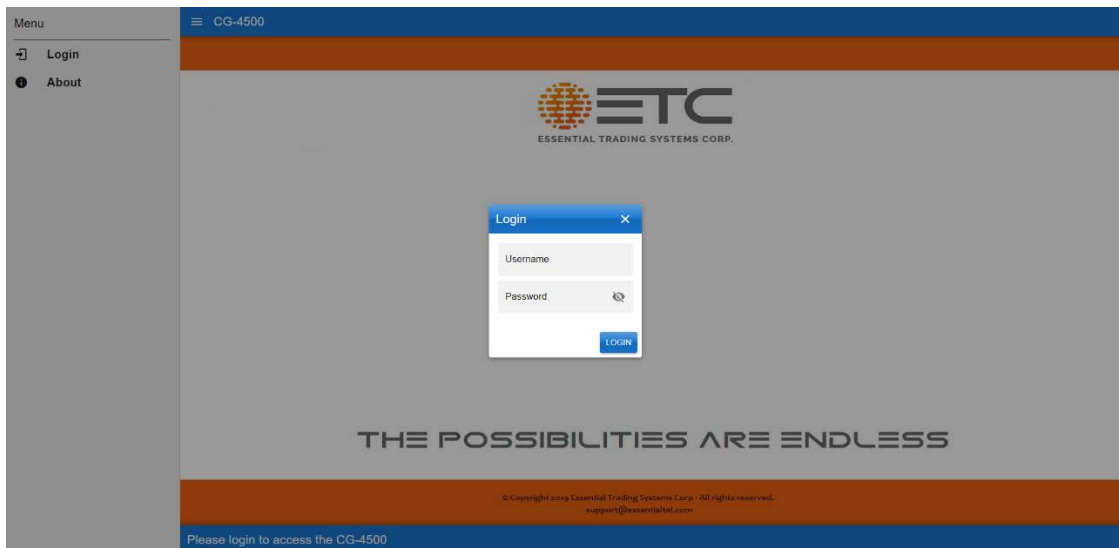
2.0 Administration

2.1 Login

The CG-4500 is configured via browser interface. CG-4500's ship set to IP Address 192.168.0.240 as default. Once able to browse to device, the administrator can set the gateway to a different IP or set to DHCP. See Network Settings later in this document.

ETC recommends using Chrome or Firefox to ensure best browsing experience. IE9 and above can be used as well.

Once the IP address has been determined, open a browser from a PC that is networked with this machine. Type the IP address into the URL bar of the browser and press enter. The CG-4500 Login screen is shown in Figure 1.

Default Username is: **admin**, default password is: **admin**. Upon logging in, administrative login credentials can be changed to ensure security of system configuration. Also of note, for security purposes, only one administrator can be logged in the CG-4500 at any given time.

Figure 1

2.2 System Settings

After logging in, you are brought to the System Information page where administrative functions of the CG-4500 are presented as tabs along the left side of the window. See Figure 2.

Figure 2

2.3   Menu Options

The menu selections are displayed as tabs across the top of the web page. Each section will be explained in detail, later in the guide. Figure 3 shows the options available.

Figure 3
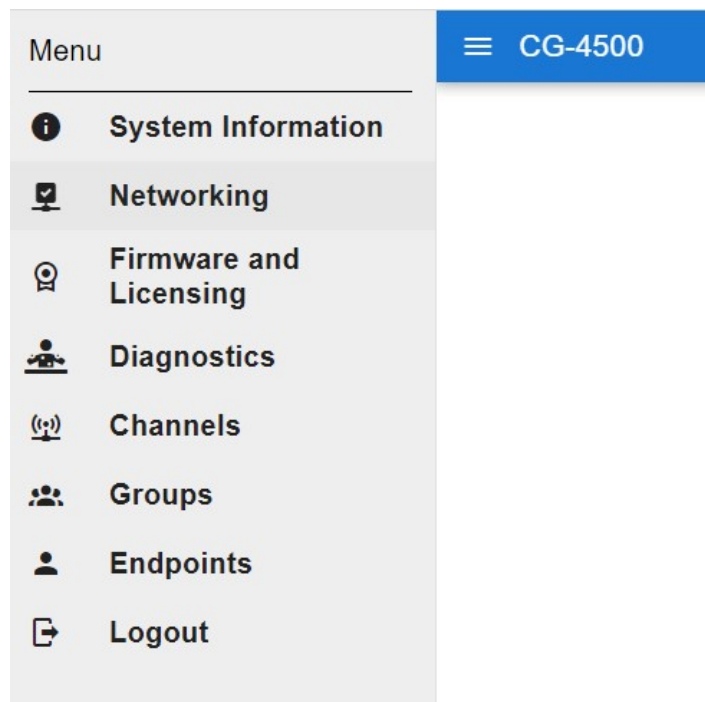
- **System Information** – This page displays device information and admin definable fields for device name and login credentials.
- **Networking** – This page allows the administrator to configure IP settings for the device and select static or DHCP.
- **Firmware & licensing** – This page allows the administrator to update firmware of the device and also change licensing details such as number of channels & number of web clients.
- **Diagnostics** – This page allows the administrator access to diagnostic tools such as activity log, packet capture & device reboot.
- **Channels** – This page allows the administrator to enable/disable, identify and set pin code for any channels the device is licensed to access
- **Groups** – This page allows the administrator name groups identified for access to specific channels. Administrator can add channels to groups (profiles) for managing channels to which web client users have access.
- **Endpoints** – This page allows the administrator to create & manage endpoints both CS-74's and web clients
- **Logout** – Clicking this logs the administrator out of the gateway.

2.4 System Information Page

The System Information page displays pertinent information about the device such as IP related information, serial number, firmware version, licensing details, etc. The only changeable field on this page is the device name. See Figure 4 below.

Figure 4

- **Device Name** – Enter any alpha-numeric sequence to uniquely identify the device.

Upon making changes you must click **Update Name**.

2.5   Networking Page

The Network Settings page allows the administrator to configure the device with a static IP address or configure using DHCP. Device is default DHCP and IP address will be indicated on the display during boot up. See Figure 5 below.

Figure 5

- **DHCP/Static** – Select static or DHCP depending on your particular application. Default is static.
- **IP Address** – Enter static IP address for the gateway, default is 192.168.0.240.
- **Subnet Mask** – Enter the Subnet Mask for the gateway.
- **Default Gateway** – Enter the Default Gateway for the gateway.
- **DNS Server 1** – Enter the IP address of the primary DNS server if DNS will be utilized.
- **DNS Server 2** – Enter the IP address of the secondary DNS server if DNS will be utilized.
- **NTP Server** – Enter the IP address of the desired NTP server. If field left blank device will not send NTP requests
- **STUN Server** – Enter IP or DNS name for applicable STUN server if needed

When finished entering IP information click the **Update** button at bottom of screen. Once finished with the reload, click the **Reboot** button.

Rebooting is required after making device IP address changes, see diagnostics Tab.

2.6　Firmware & Licensing

The Firmware & Licensing page allows the administrator to install firmware upgrade in the form of "Hot Fixes" or "Full Firmware Update.". See Figure 6 below.

Figure 6

- **Current Firmware Version** – This field displays firmware currently running on the gateway.
- **Select Firmware File** – This field allows the administrator to select a file to perform a "Hot Fix" firmware update. In the event such an update is required ETC shall send any related files to customers via email.
- **Full Firmware Update** – Clicking this button initiates a full system upgrade to include not only CG-4500 firmware but also OS kernel updates.

Note: Full Firmware Updates are only possible via USB flash drive formatted for FAT32.

Note1: While performing a Full Firmware Update, the CG-4500 will be offline for 2-3 minutes.

- **Licensing** – This field allows administrator to configure the port for establishing a SIP connection.
- **Current License Details** - This field displays the CG-4500 current license details. On the CG-4500, ETC licenses Channels, up to 8 and Web Clients, up to 200. There is no limitation on the number of CS-74's which can connect to the CG-4500.
- **Select License File** – This field allows the administrator to update the license file should it be desired to expand current licensing. ETC shall send any updated license files via email. Contact sales@essentialtel.com for further details and pricing.
- **Update License** – Clicking this button initiates the license update from the file provided by ETC.

2.7   Diagnostics

The Diagnostics page allows the administrator to start, stop & download a packet capture, download log file and reboot the gateway. See Figure 8.

Figure 8
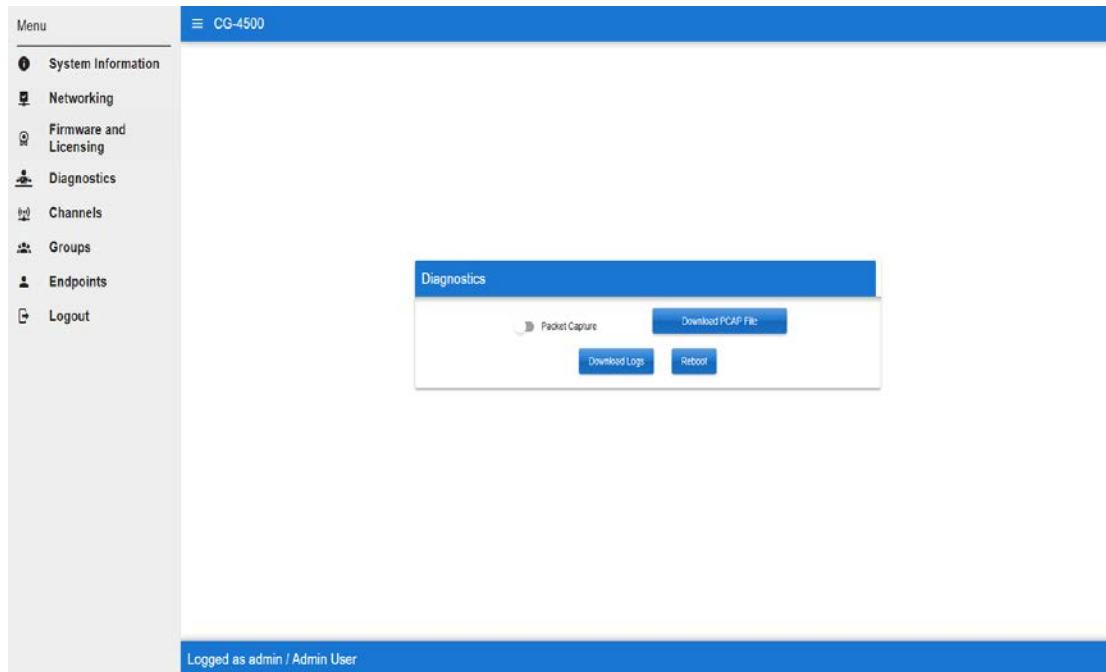
- **Packet Capture** – Click this button once to start packet capture on the CG-4500, a pop up will present indicating packet capture is active. Click button again to stop packet capture, a pop up will appear indicating packet capture is stopped.
- **Download PCAP File** – Click this button to download the packet capture file to your PC. Wireshark or equivalent application is required for viewing capture data. You can also send capture file to ETC for diagnosis.
- **Download Logs** – Click this button to download activity logs to your PC. Upon downloading you will need to send file to ETC for review & evaluation.

2.8   Channels

The Channels Page allows an administrator to define Channel names, enable/disable channels, set PIN code and view Channel ID (used for dial in access) for enabled channels. You can only enable channels up to the number of channels the CG-4500 is licensed to use. See figure 9 below.

Figure 9

- **Channel ID** – This displays each channels ID or SIP extension per se. Any SIP endpoints, such as ETC's CS-74, connecting to the CG-4500 will need to be configured to dial out to the respective Channel ID.

- **Channel Name** – This field allows the administrator to enter a name for each channel. Note: channel name must be provided in order to enable a given channel.

- **Enabled** – Clicking this slider enables or disables the respective channel. You can only enable as many channels as the CG-4500 is licensed to provide.

- **PIN Code** – This field allows the administrator to set a PIN code for security purposes. If a PIN code is set, any SIP endpoint attempting to connect to a channel will need to provide the security PIN for access to channel.

- **Reload Channel** – Click this button to save & reload any changes made to a channel.

2.9 Groups

The Groups page allows an administrator to create groups and assign various channels to each group. Groups are used exclusively with the Web Client application. When an endpoint is created (see Endpoints Tab) you can assign a user to a group with preset channels assigned. See Figure 10.

Figure 10
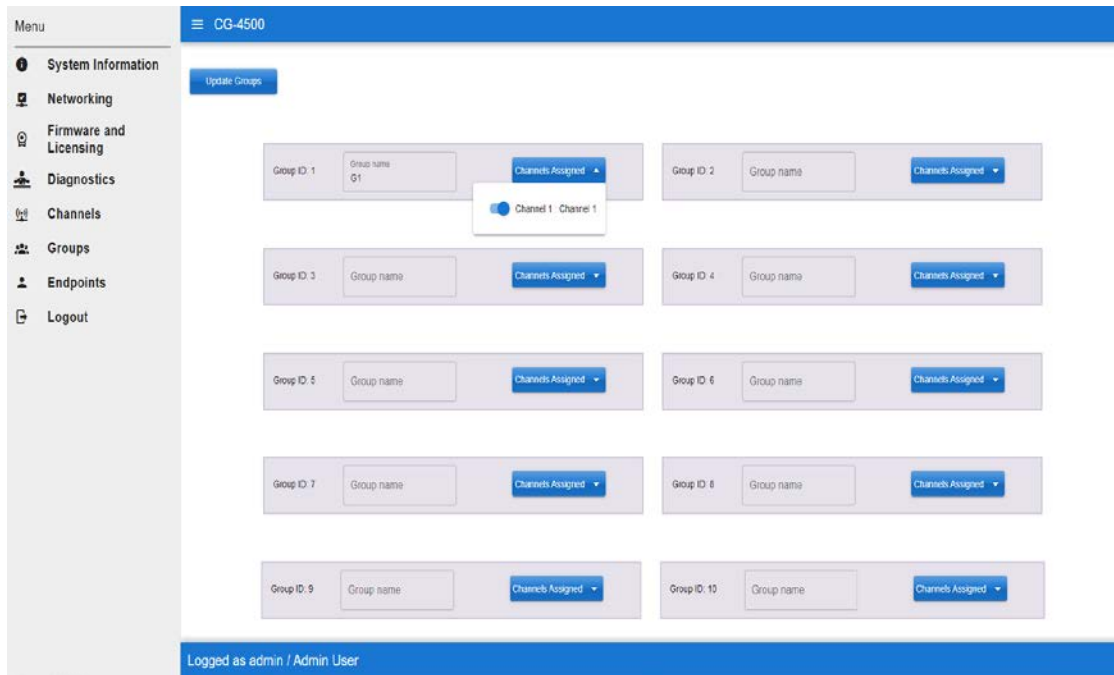
- **Group ID** – Displays group number which can be assigned when creating endpoints as applicable.
- **Group Name** – This field allows the administrator to assign a name to the group for easier identification.
- **Channels Assigned** – Clicking this button will display a pop up showing available channels. Click a channel once to add (turns Blue) click again to remove (turns white).
- **Update Groups** – This button, located in top left corner of panel, saves & activates any changes to the Groups page.

2.10 Endpoints

The Endpoints page is where the administrator creates, edits & deletes users/endpoints as necessary. Any endpoint device connecting to the CG-4500 be it CS-74 or Web Client must be created here to allow it to register/authenticate. If connecting CS-74's each channel of each CS-74 must be created here. If connecting a Web Client, only the single user must be created. The page shown in figure 11 displays examples of endpoints already created and details about each endpoint. See Figure 11.
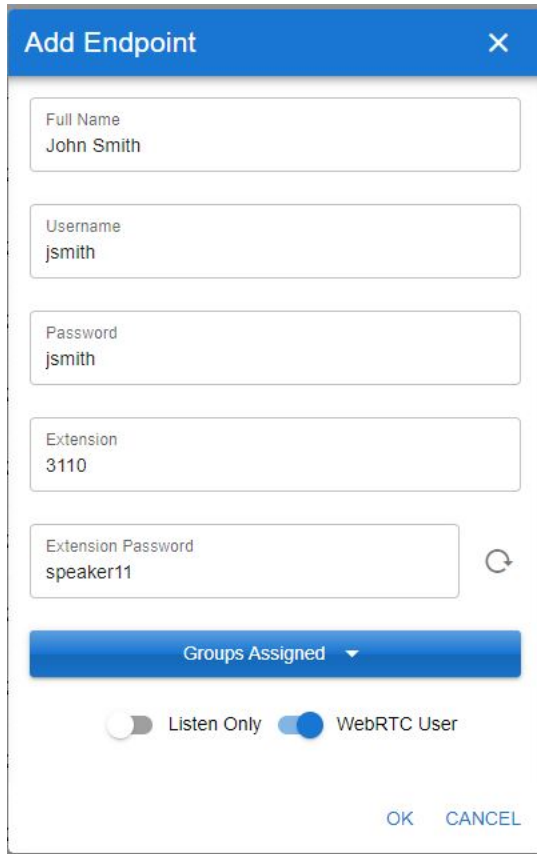
Figure 11

- **Add Endpoint** – Allows the administrator to add a new endpoint to the CG-4500.
- **Bulk Add Endpoints** – Allows administrator to upload a spreadsheet with preset configuration data
- **Edit Endpoint** – Allows administrator to edit a previously created endpoint. You must first select the endpoint to edit by clicking the checkbox to the left of each endpoint.
- **Delete Endpoint** – Allows administrator to delete end points. You must first select the endpoint to delete by clicking the check box to the left of each endpoint.
- **Full Name** – Allows administrator to define full user name as necessary for easy identification. This is not used for authentication/registration
- **Username** – Displays username utilized for endpoint authentication/registration.
- **Extension Password** – Displays password utilized for endpoint authentication/registration.
- **WebRTC** – Displays whether the endpoint is a web client or not, 1 = Web Client, 0 = generic endpoint device..
- **Listen Only** – Displays if endpoint is listen only or not, 1 = Listen only, 0 = 2-way, primarily for Web Clients.
- **Groups** – Displays any groups the endpoint is assigned to, 1-10.

2.11   Creating/Editing Endpoints
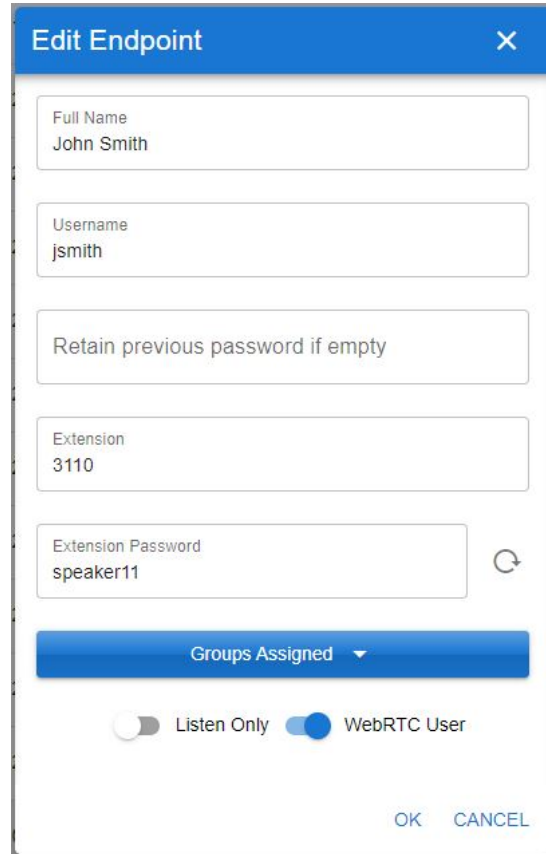
The figures below show the Create & Edit Endpoint configuration pop up

Figure 12   Figure 13

Full Name – Enter users full name if applicable.

Username – Enter username to be used for authentication/registration

Password – Enter password for authentication (Web Client Only).

Extension – Enter unique extension for this endpoint

Extension Password – Enter a password to be used for SIP registration, for use with CS-74's and other generic SIP endpoints.

2.12 Bulk Add Endpoints

The CG-4500 has the feature to 'bulk add' endpoints by means of importing a spreadsheet. A sample spreadsheet is provided below to demonstrate cell configuration.

Name1	agodlewski	agodlewski	3100	speaker11	0	0	1
Name2	jeff	jeff	3101	speaker11	0	0	1
Name3	username3	password3	3102	speaker11	0	0	1
Name4	username4	password4	3103	speaker11	0	0	1
Name5	username5	password5	3104	speaker11	0	0	1
Name6	username6	password6	3105	speaker11	0	0	1
Name7	username7	password7	3106	speaker11	0	0	1
Name8	username8	password8	3107	speaker11	0	0	1
Name9	username9	password9	3108	speaker11	0	0	1
Name10	username10	password10	3109	speaker11	0	0	1

3.0   Frequently Asked Questions

Q: What is the IP address of device?

A: The CG-4500 shall be shipped set to a static IP address of 192.168.0.240.

Q: The device is not powering up?

A: Check to make sure the provided power supply is plugged into 120VAC outlet and the corresponding DC input of the device. If you do not see link or activity lights on the Ethernet port, contact ETC Support.

Q: How do I change the device IP?

A: Once the device has booted up open a browser and browse to the device's IP address, Login and go to Network settings page to change the network settings. Note: this will most likely require you to change the IP of your PC to match that of the device, example: device IP = 192.168.0.240, PC IP = 192.168.0.100.

Q: IP address of device does not change?

A: The device requires a reboot after changing the IP address. A 'Save & Reload' does not activate IP address changes. Click the reboot button on the web page. Note: after reboot, you will most likely need to refresh your web page (F5).

Q: Why is my SIP endpoint unable to register to CG-4500?

A: The device must be configured to use port 4500 instead of the standard SIP port 5060 for registration.

Q: How do I access the Web Client (WebRTC) portal?

A: Users are able to access the web client portal by browsing to the IP address of the CG-4500 and logging in using a valid user's credentials configured by the administrator.

Q: Where is the Save Configuration button?

A: All settings are stored automatically. Any change on the Channels page requires and reload of the respective channel (Reload button).

Q: How can I drop all active calls on a channel(conference)?

A: Pressing the Reload button on the respective channel will drop all active calls

4.0 Appendix

4.1 Specifications

Channels
- (1-8) SIP Channels/Conferences

Call Types
- SIP

Signaling
- SIP

Interfaces
- NIC, (1) RJ45, 100Mb Ethernet,
- USB, 1-8 ports of Analog audio (optional)

Network Requirements
- 100 Base T, (full duplex)
- Protocols – SIP, RTP, UDP, TCP, HTTP, DHCP, NTP, DNS, SFTP, HTTPS

Dimensions
- Width – 4.5" / 114 mm
- Depth – 4.5" / 114 mm
- Height – 1.68" / 43 mm
- Weight – 1.04 lbs / 560g

Media
- Bandwidth - supports codecs: G.711 80 kbps, G.729 20kbps.
- RTP, UDP, SIP, WebRTC
- Linux OS,

Management
- Browser based - Internet Explorer, Google Chrome
- Support HTTP & HTTPS (self signed certificate)
- Upgradeable device firmware via file upload (minor bug Fixes) Major upgrades via flash drive
- Flexible licensing via file upload

Power
- 19VDC @ 3.4 Amps, via provided power supply

Thermal
- 65 Watts
- 243 BTU/hr
- Cooling – Built in chassis fan

CG-4500 Hardware Product Limited Warranty

ETC warrants that your ETC hardware product shall be free from defects in material and workmanship for One Year, beginning from the date of purchase. Except where prohibited by applicable law, this warranty is nontransferable and is limited to the original purchaser. This warranty gives you specific legal rights, and you may also have other rights that vary under local laws

ETC's entire liability and your exclusive remedy for any breach of warranty shall be, at ETC's option, (1) to repair or replace the hardware, or (2) to refund the price paid, provided that the hardware is returned to the point of purchase or such other place as ETC may direct with a copy of the sales receipt or dated itemized receipt. Shipping and handling charges may apply except where prohibited by applicable law. ETC may, at its option, use new or refurbished or used parts in good working condition to repair or replace any hardware product. Any replacement hardware product will be warranted for the remainder of the original warranty period or thirty (30) days, whichever is longer or for any additional period of time that may be applicable in your jurisdiction. This warranty does not cover problems or damage resulting from (1) accident, abuse, misapplication, or any unauthorized repair, modification or disassembly; (2) improper operation or maintenance, usage not in accordance with product instructions or connection to improper voltage supply; or (3) use of consumables, such as replacement batteries, not supplied by ETC except where such restriction is prohibited by applicable law.

Before submitting a warranty claim, we recommend you contact ETC support at support@essentialtel.com for technical assistance. Valid warranty claims are generally processed through the point of purchase during the first thirty (30) days after purchase; however, this period of time may vary depending on where you purchased your product – please check with ETC for details. Warranty claims or other product related questions should be addressed directly to ETC. The addresses and customer service contact information for ETC can be found in the documentation accompanying your product and on the web at www.essentialtel.com.

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