



Grandstream GXW450x SIP to PRI Installation Guide



Revision History

| Revision | Date | Description | Initials |
|----------|---------|--------------------------|----------|
| 1.0 | 6/30/23 | First published version. | JN |
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Overview

This document is to assist in the installation of the Grandstream GXW 450x SIP to PRI Gateway.

Network Design Considerations

Double – NAT (Network Address Translation)

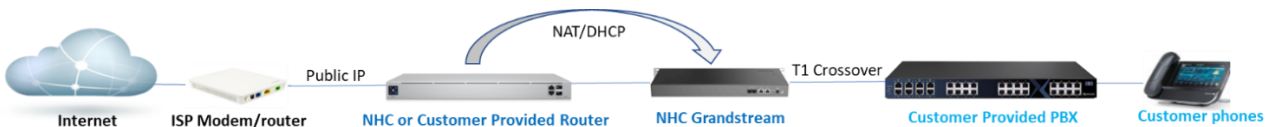
- Whenever possible the phones should be connected to your ISP's (Internet Service Provider) Modem/Router if that Modem/Router is providing NAT and DHCP service. If the voice traffic is routed through more than one device providing NAT, this can cause several issues. Symptoms of double NAT include but are not limited to: Endpoint registration issues, one-way audio, and no audio. Double NAT is not a supported LAN Topology for VoIP.
- If you are utilizing your own router or firewall, please arrange with your ISP to set the modem in bridged mode to hand off the Public IP to your router or firewall.

Grandstream with direct ISP connection:



A Static public IP would be assigned to the Grandstream, directly from the ISP Modem.

Grandstream behind a router or firewall



A Static or DHCP Private IP would be assigned to the Grandstream from the NHC or Customer provided router or firewall.



Deploying Grandstream GXW450X behind a Firewall

Firewalls are designed to protect you from unauthorized traffic and to secure your data. With this principle in mind, rules may need to be configured in your firewall to ensure NHC newVoice traffic is allowed.

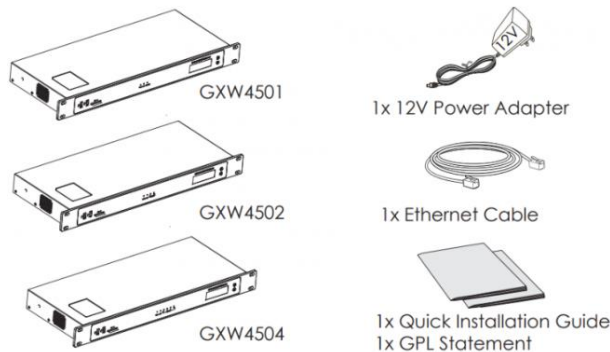
Disable SIP aware Functionality.

- Disable SIP ALG, SIP NAT, Stateful Packet Inspection (SPI), SIP Fix up, and SIP Transformations.
- Configure rules to allow Traffic for New Horizons Service (see table below)

| Ip Address | Protocol | Port | UDP/TCP | Service |
|---|----------|----------------------|---------|-------------------|
| 192.58.90.20/23 | SIP/RTP | All | UDP | NHC VoIP Network |
| 128.138.141.172 | NTP | 123 | UDP | Time Server |
| 35.161.51.90 (www.gdms.cloud) | UDP/TCP | 80,443 | UDP/TCP | GDMS Provisioning |
| 144.202.94.88 (us.download.gdms.cloud) | UDP/TCP | 80,443 | UDP/TCP | GDMS Provisioning |
| 34.215.167.138 (syslog.gdms.cloud) | UDP/TCP | 3478,6514 | UDP/TCP | GDMS Provisioning |
| 34.210.35.207 (gdms.cloud) | UDP/TCP | 80,443 | UDP/TCP | GDMS Provisioning |
| 45.32.83.51 (nat- a.gdms.cloud) | UDP/TCP | 3478,32768- 65535 | UDP/TCP | GDMS Provisioning |

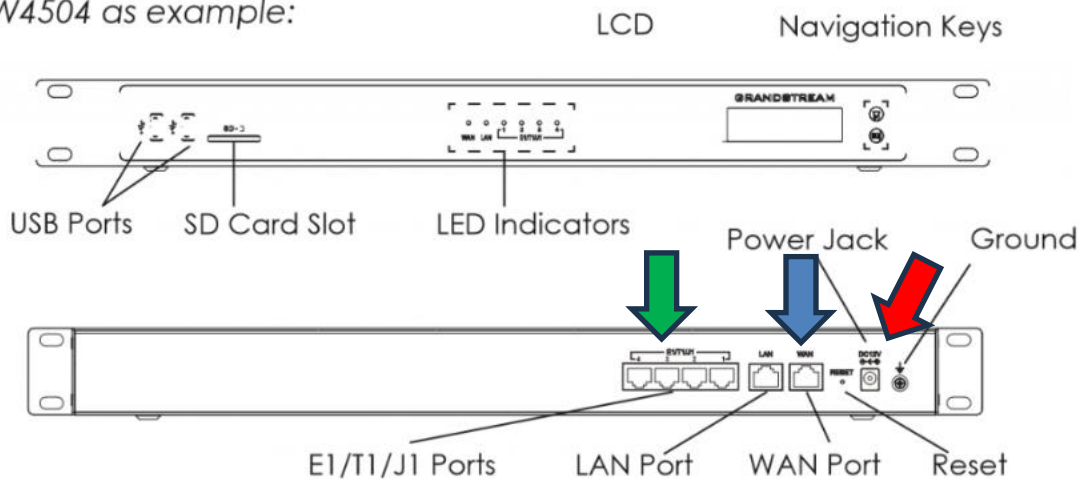


What's in the box?



GXW450x Ports

GXW4504 as example:



**GXW 4504 is above example. GXW 4501 will have 1 T1 port, GXW 4502 will have 2 T1 ports*

Installing GXW 450X

1. Connect one end of a straight through RJ45 Ethernet cable into the WAN port (*Blue Arrow in diagram*) of the GXW450X; connect the other end into the uplink port of an Ethernet switch/hub.
**Device can be set to DHCP or a static Ip depending on your order.*
2. Connect the 12V DC power adapter into the DC 12V power jack on the back of the GXW450X. Insert the main plug of the power adapter into a surge-protected power outlet.
3. Connect one end of the **T1 crossover cable** into the E1/T1/J1 port of the GXW450X; connect the other end into the T1 jack of your Telephone System (PBX).
4. Wait for the GXW450X to boot up. The front LCD display will show the GXW450X hardware information when the boot process is completed.
5. Once the GXW450X is successfully connected to the network via WAN port, the Network LED indicator will be lit green, and an IP address will be shown on the LCD display.



911

Your NHC 911 Service is attached to the BTN at your location on your initial installation. If you move your service or your phone to another location, please contact NHC Customer service at 866.241.9423 to have your address of record updated. Failure to do so may prevent emergency services from reaching you in a timely manner. Loss of power or network connectivity may render 911 emergency service inoperable on NHC NewVoice.

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