STRATALINK 24 QUICK START GUIDE

INTRODUCTION

The StrataLink 24 comes preconfigured to establish a wireless link without any changes. Simply install the antennas and radios, apply power, align and the link will be available for passing traffic.

There are several items that typically need to be changed to fit into the customer network:

1) IP address of the radios for management.
2) Add VLAN membership per port to support any traffic with VLAN tags that will be used.
3) Install Capacity and Encryption license keys if purchased. **(If not already done by factory).**

The preconfigured setup of the radios is as follows:

PARAMETER	SIDE A	SIDE B
IP Address:	192.168.100.100	192.168.100.**101**
Subnet Mask:	255.255.255.0	255.255.255.0
Gateway:	192.168.100.1	192.168.100.1
IBM:	On	On
IBM/Data Port:	GE1	GE1
Transmit Frequency:	24085 MHz	24215 MHz
Channel BW:	60	60
Max Mod:	1024 QAM	1024 QAM
Min Mod:	QPSK	QPSK
Transmit Power:	-3 dBm	-3 dBm
Transmit enable::	On	On

Step 1 – Install Antennas and Coarse Align

Install the Antenna per the Antenna Installation Manual and visually align. Visually verify the path is not blocked and that the Fresnel Zone is clear. The Trango **PathCheck** App can assist with this function. Leave the protective tape on the antenna waveguide for now.

Step 2 – Prepare Cables and Power Up – Before Installing on Antenna

Cat 5e or Cat 6 **SHIELDED** Twisted Pair (STP) Cable **must** be used for connections to the RJ45 Copper Port to prevent CRC errors and provide a ground return path for the Power over Ethernet. Use the Shielded Connectors provided with the PoE Injector or Power Supply and ensure that the connector shield is electrically connected to the cable shield and preferably soldered. Cable runs when using PoE should not be longer than 250 ft/75 meters to prevent CRC errors.

NOTE: The PoE Wiring is non- standard. All 8 signal wires carry -48 VDC. Do not attempt to power this equipment with PoE enabled Switch ports or PoE injectors not approved by Trango.

Apply power to the radio via PoE or directly using -48 VDC power. Ensure the PoE or direct power ground is connected to the Shelter bus ground or the base of the tower leg using a ground wire. See the figures below for more information.

DO NOT use a + 48VDC power supply or any supply which has a grounded negative rail or damage may occur. Use Trango Power supply PSUPPLY-WP-48-L for best results.

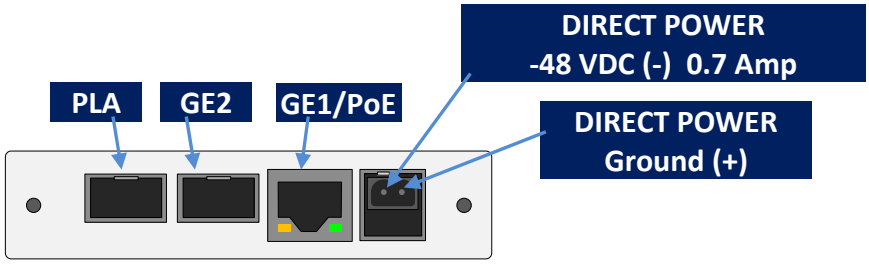


Figure 1. StrataLink 24 Interface Panel Layout

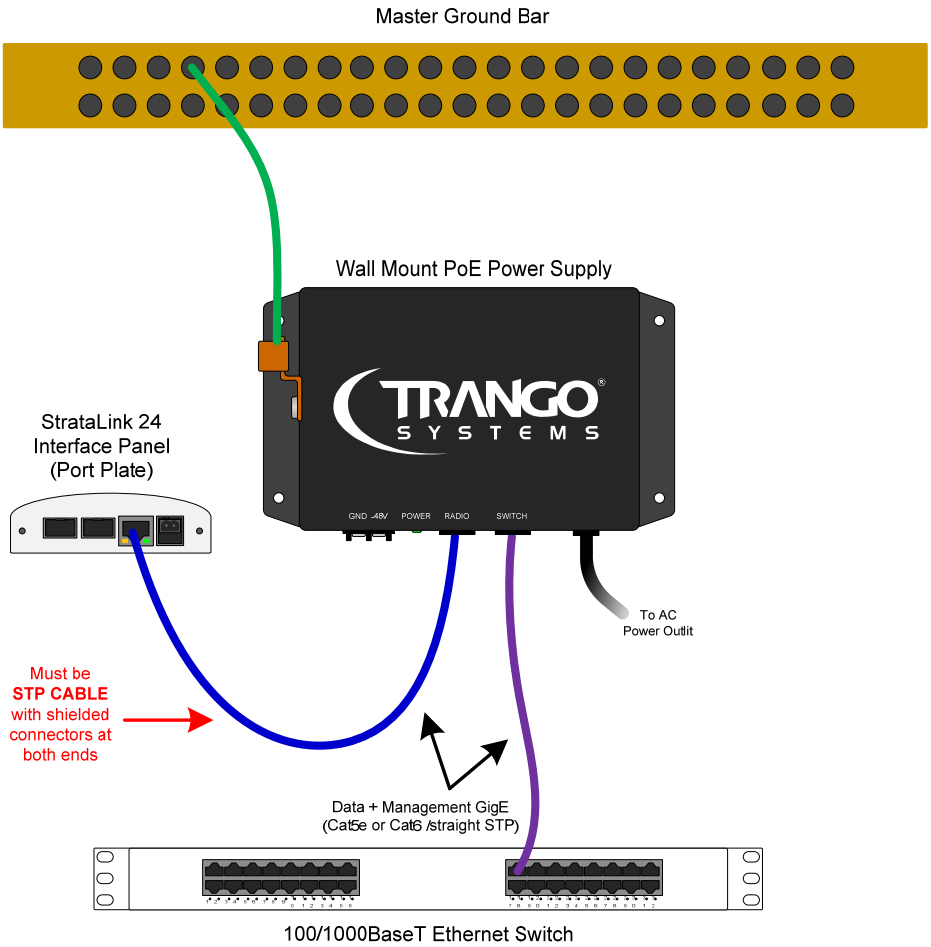


Figure 2. Basic PoE Wiring WITHOUT Surge Suppression

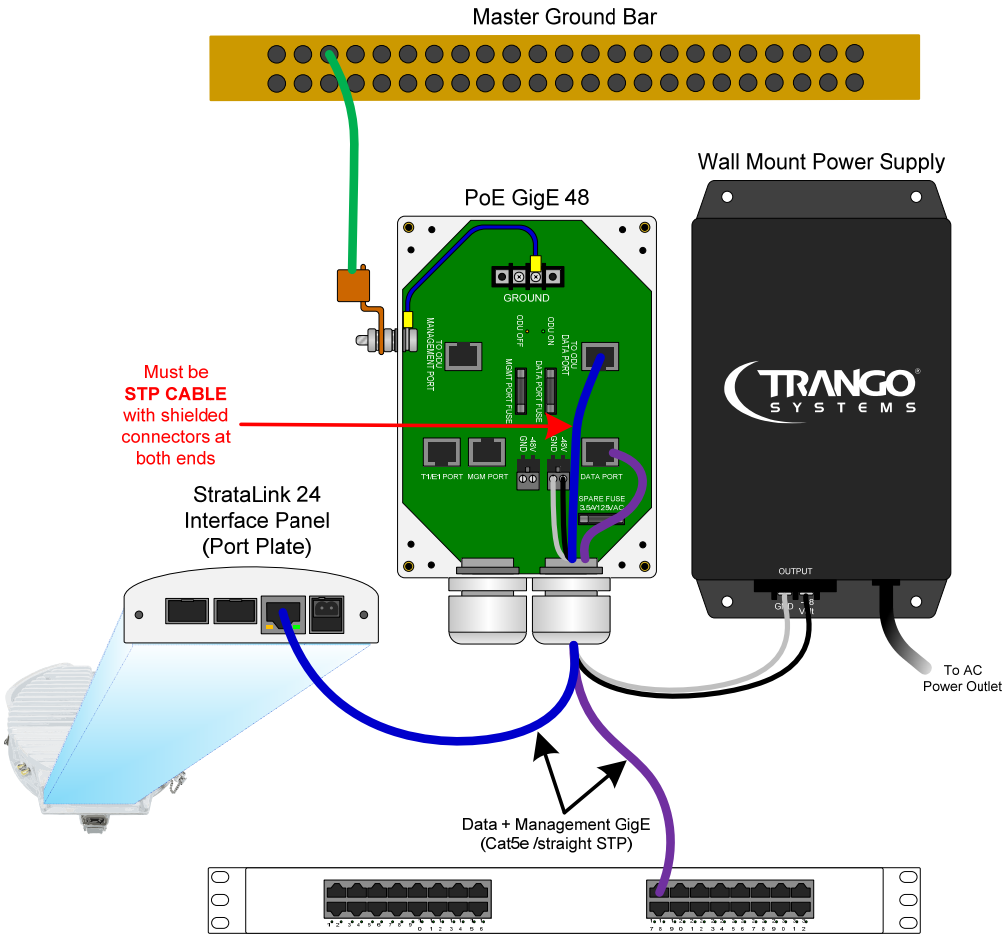
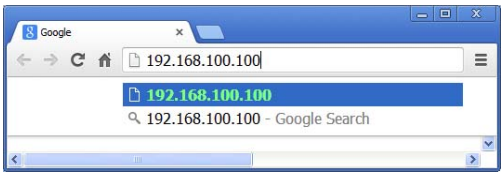


Figure 3. PoE Wiring WITH Surge Suppression

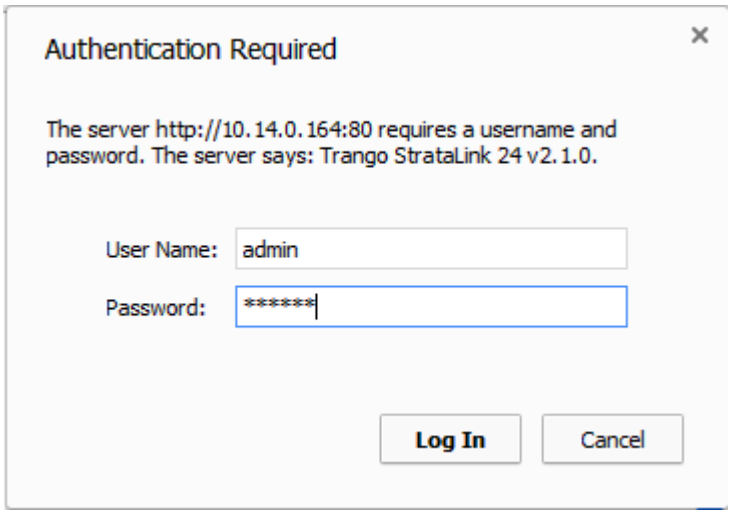
Step 3 – Configure IP Address – Before Installing on Antenna

Configure the IP Address of each radio using the web browser such as Google Chrome™. Make sure the computer being used has its IP address and subnet set properly to allow access to radio IPs 192.168.100.100 and 192.168.100.101.

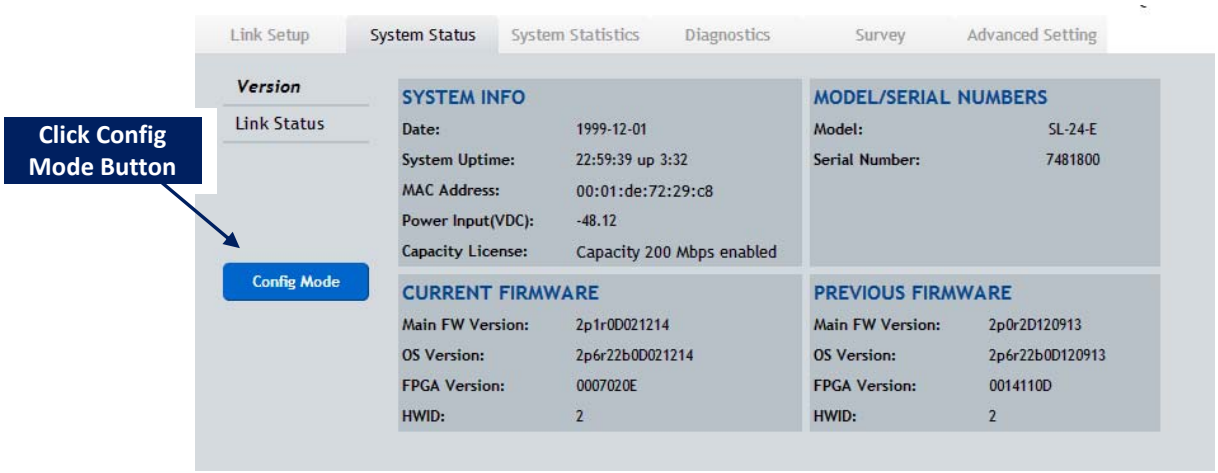
Enter the radio IP Address into the browser interface to reach the radio unit.



When prompted, enter the username "***admin***" and password "***trango***" for the View Mode .

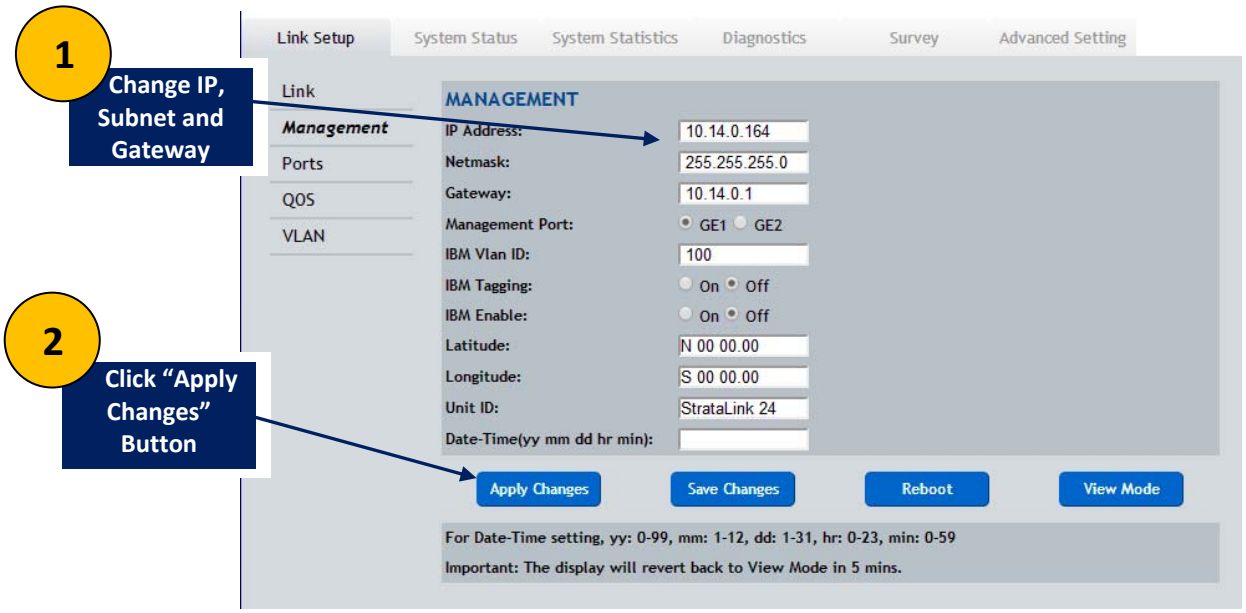


The System *Status >Version* page will be displayed as shown below:



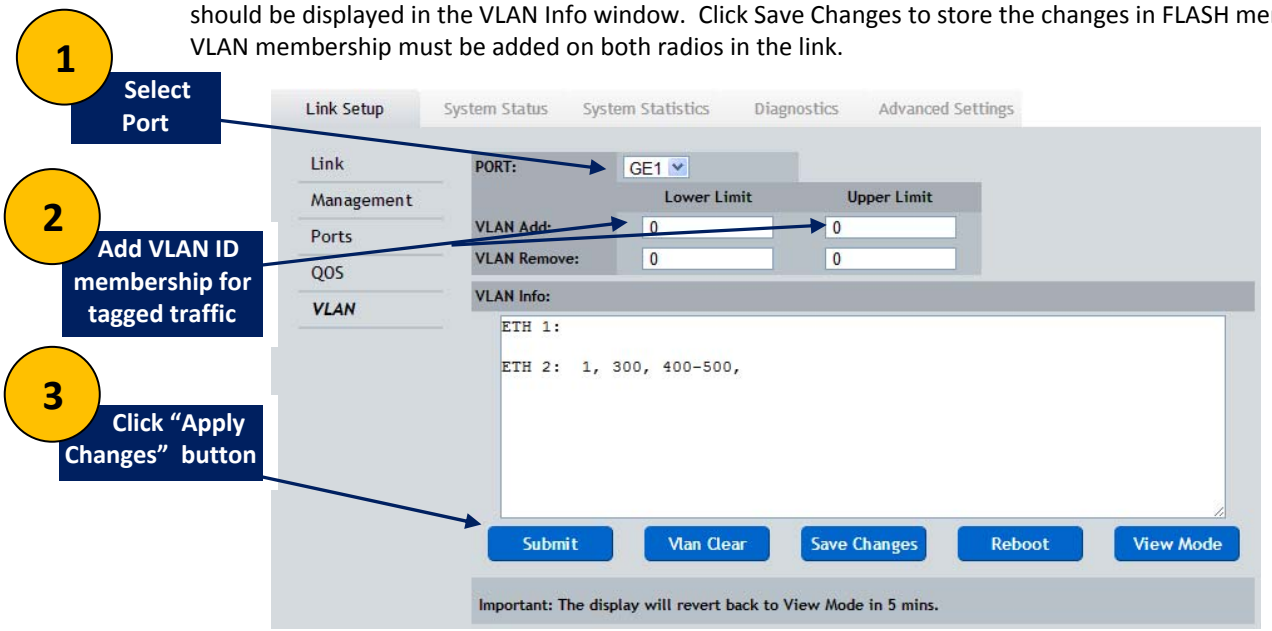
Click the Config Mode button on the left side of the browser to enter the Config Mode.

When prompted, enter the username "***config***" and password "***trango***". The *Link Setup>Link* page will be displayed. Select the *Link Setup>Management* page. Change the Gateway, IP address, subnet mask as shown below, then click "Apply Changes" to make the IP changes permanent. The connection will be lost and you must re-log into the radio unit using the new IP address.



Step 4 – Add VLANs– Before Installing on Antenna (SL-24-E, SL-24-EX only)

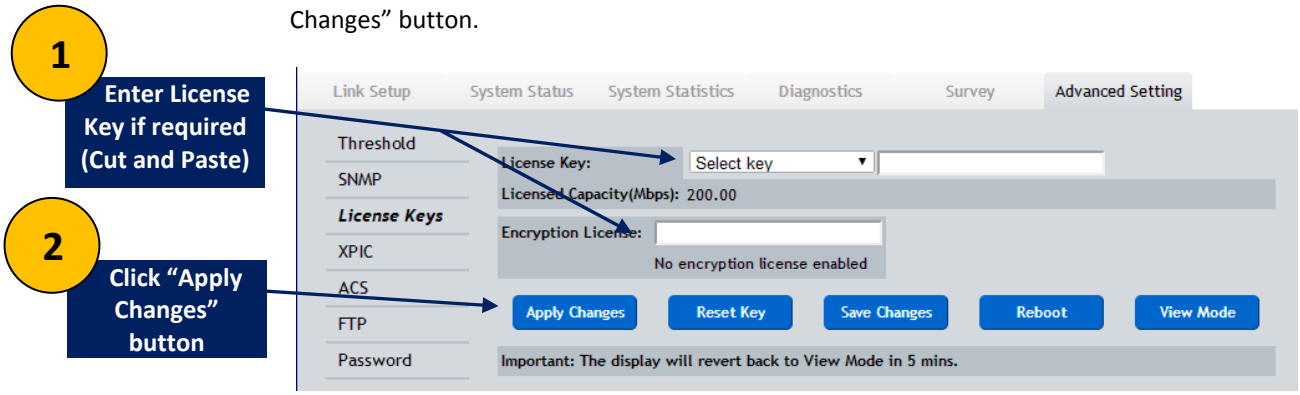
After changing IP Addresses, re-log into each radio and add VLAN membership by port for any VLAN tagged traffic that will be used in the datapath using the *Link Setup>VLAN* page in Config Mode as shown below. Add the VLAN ranges that will be used, if any, then click the Submit button. The VLANs added should be displayed in the VLAN Info window. Click Save Changes to store the changes in FLASH memory. VLAN membership must be added on both radios in the link.



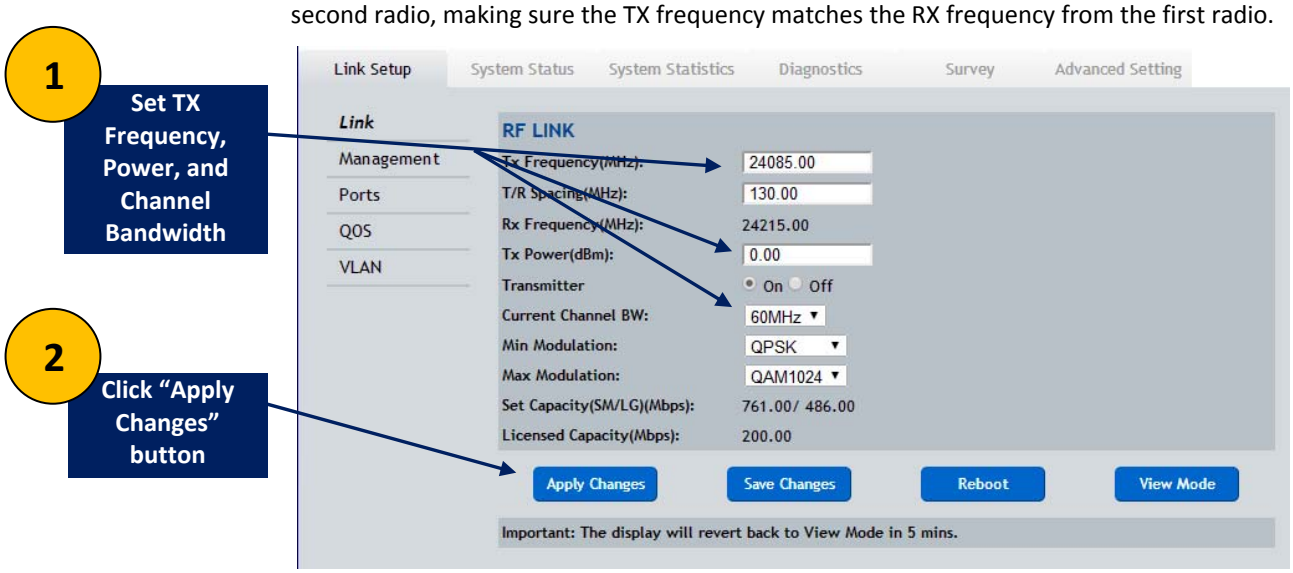
Step 5 – Configure Radios-Before Installing on Antenna (If required)

Set the following items via the web or through the CLI if not previously done at the factory

1) Enter any license keys from the *Advanced Setting>License Keys* page. If encryption is used, select the encryption "on"button which will appear after the license is entered. Click the Apply Changes" button.

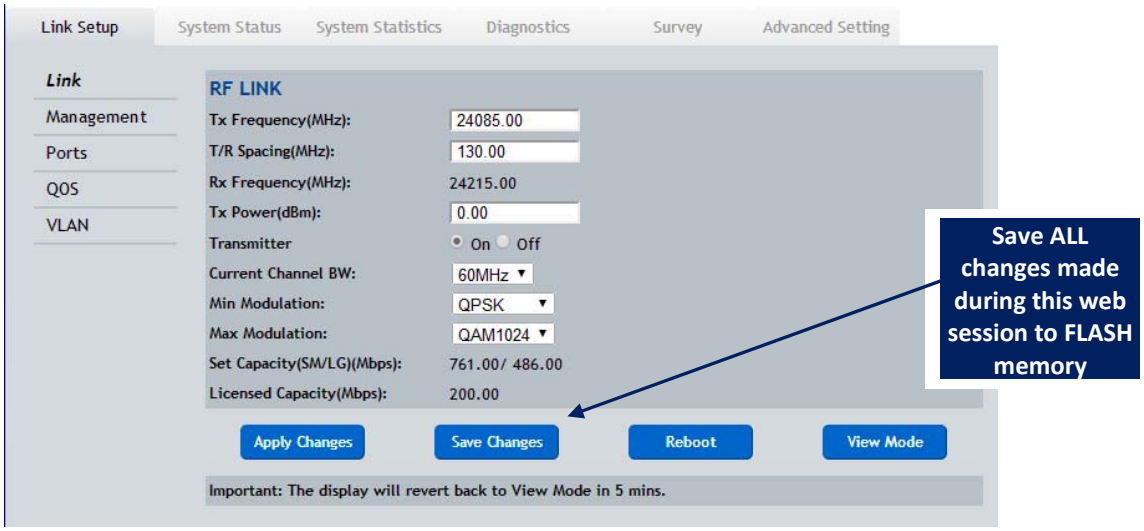


2) Change the TX frequency, TX Power, and Channel Bandwidth if desired – this is not required. Verify the Freq Duplex is matches on both radios. Click the "Apply Changes" button. Repeat on second radio, making sure the TX frequency matches the RX frequency from the first radio.



Step 6 – Save Changes

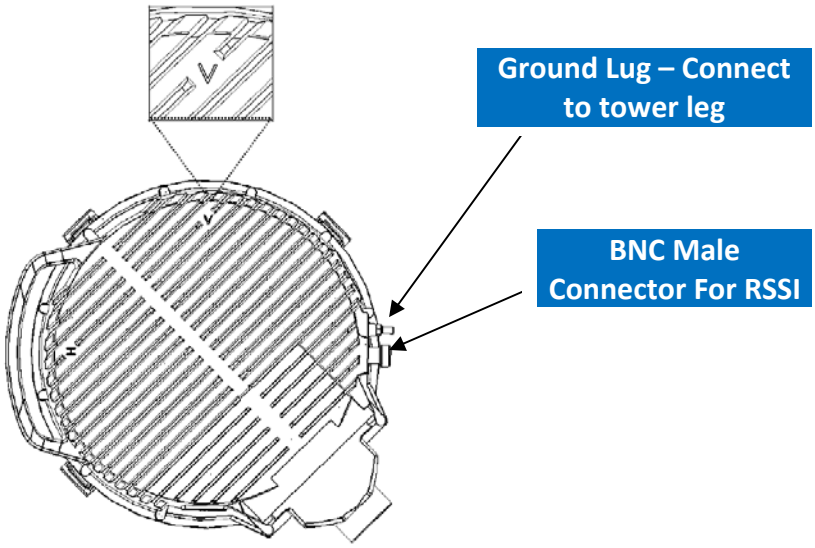
After all settings from step 5 are completed on both ends of the link, the link should be established if the units are mounted on a test fixture or simply have the antenna ports aligned with each other with about 1 foot of spacing between**. Save all the changes made from Steps 5** using the ***config save*** command from CLI or clicking the Save Changes button from the *any page* on the web interface.



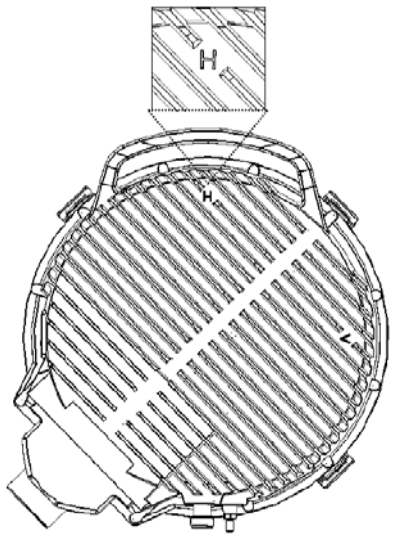
At this point power can be removed from the radios and they can be installed on the antennas. When power is applied next time, all the settings will be restored and the link will automatically be established after alignment is completed.

Step 7 – Install Radios on Antennas

Remove the protective tape from the antenna before attaching the radio and use silicone grease provided with the antenna around the antenna o-ring. Carefully slide the antenna port of the radio onto the antenna and make sure that the O-ring is seated properly and not torn. At site "A" of the link install radio with "V" at top as shown below – This radio is transmitting a **Vertical** polarized signal and receiving a horizontal polarized signal.



At site "B" of the link install radio with "H" at top as shown below – This radio is transmitting a **Horizontal** polarized signal and receiving a vertical polarized signal.



Ensure that all 4 latches are securely snapped into place. Attach a ground wire from the Radio grounding lug to the Tower leg using grounding kit.

Step 8 – Fine Align Antennas

Carefully align the antennas and ensure that the expected RSL +/- 3 dB is obtained using a multimeter connected to the BNC male connector with CBLDAT-RSSI and adjusting the antenna until the expected voltage is read on the multimeter per the chart below.

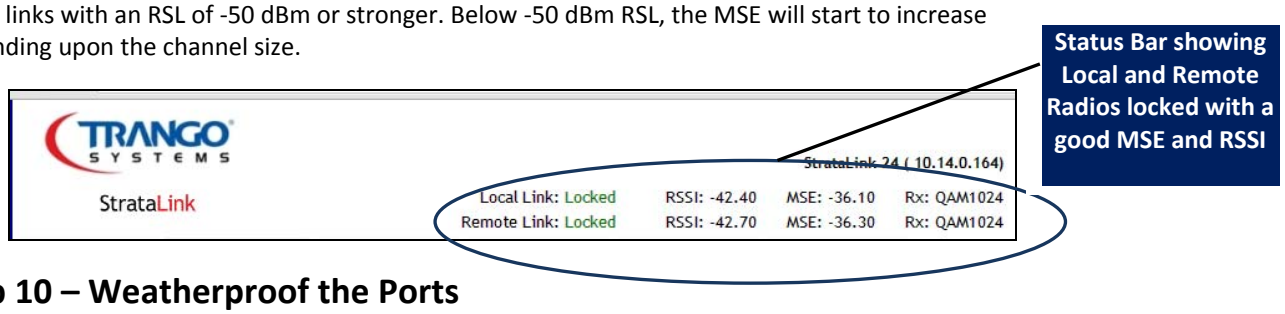
RSL(dBm)	-90	-85	-80	-75	-70	-65	-60	-55	-50	-45	-40	-35	-30	-25	-20
BNC Voltage (V)	0.10	0.30	0.50	0.70	0.90	1.10	1.30	1.50	1.70	1.90	2.10	2.30	2.50	2.70	2.90

The Trango **PathCheck** App can assist with determining the correct RSL for the antenna size, distance and transmit power used. The green LED should be solid when the link is locked. Tighten all bolts on antennas and verify RSL voltage is unchanged.

NOTE: The voltage is updated 2 times per second so **turn the alignment bolts on the antenna slowly** to avoid missing a peak.

Step 9 – Verify Link

Make sure that there are still no CRC errors on the input Ethernet ports and that the ports are running at Gigabit speed, the BER is 0. From the web, the status bar at the top of the page (see below) should show locked and an RSSI and MSE based on the calculated numbers. The linktest command can be used from the command line to see the local link information. As a general rule the MSE should be lower than -36 for all links with an RSL of -50 dBm or stronger. Below -50 dBm RSL, the MSE will start to increase depending upon the channel size.



Step 10 – Weatherproof the Ports

After verifying the link is good and traffic is flowing, tighten the port cover down onto the radio using the two flat head stainless steel screws and ensuring a tight fit. Fill unused holes on the cable gland with provided rubber dowel and tighten around the cables to prevent water from intruding. See the figure below.

Full USER MANUAL available at support.trangosys.com