About VQuad™ mTOP™ Appliance

VQuad™ mTOP™ appliance can either be a **single rack system** (one mTOP) or **dual rack system** (two-stacked mTOPs).

In case of two mTOPs system, the 1U mTOPs (MT001, MT002); one with SBC (MT001) and the other without SBC (MT002) are stacked and are connected together via USB, to use same SBC, thus extending the number of Dual UTA HDs within (from 3 to 6 Dual UTAs). Each mTOP™ contains 3 Dual UTA HD units on the front panel. The back panel of MT001 includes Embedded Single Board Computer (SBC) with all the necessary PC interfaces, Windows® 10 Pro OS (64-bit), Dual UTA HD device, VQuad™ software and licenses pre-installed.

**SBC Specs**: 19” 1U Rackmount Enclosure, Intel Core i3, Win10 Pro OS (64-bit), 8G Memory, 128GB Hard drive, USB 3.0 Hub, ATX Power Supply.

Hardware Connection

**VQuad™ mTOP™ single rack system**

- Connect GPS receiver to the RJ45 port (GPS IN) on back of MT001
- Plug-in the monitor, keyboard, mouse to MT001.
- Connect the network appliance to power adapter and connect the power adapter to the AC power outlet. Switch ON the power at the outlet.
- Switch ON the mTOP™ hardware appliance using the switch at the back panel.
  - Power On – Hold switch up for about 3 seconds
  - Power Off (normal) – Hold switch down until LED goes off (about 3 seconds), then release switch. LED will come back on and then go off when operating system completes shutdown
  - Power Off (emergency) – Hold switch down until power goes off – about 8 seconds
- Verify that the CPU LED is glowing on the Hardware appliance, indicating that power supply is correct.

**VQuad™ mTOP™ dual rack system (two-stacked mTOPs)**

- Place the MT001 (with SBC) on top of the MT002 (without SBC).
- Connect a cable from the Type B USB port (square USB port) on the back of MT001, to the standard Type A USB port on the back of the MT002. So essentially, creating a serial connection of all 6x Dual UTAs with one SBC. Daisy chain option allows to extend number of Dual UTA HDs (from 3 to 6 Dual UTAs), and all units to be controlled using a single software.
- Connect GPS receiver to the RJ45 port (GPS IN) on back of MT001.
- Then connect GPS Out on the first mTOP (MT001) to the IN on the second mTOP (MT002) using straight RJ45 cable. This allows a single GPS receiver to support all six DUAL UTA HDs on both mTOP systems.
- Plug-in the monitor, keyboard, mouse to MT001.
• Connect both the network appliances to power adapter and connect the power adapter to the AC power outlet. Switch ON the power at the outlet.
• Switch ON the mTOP™ hardware appliances using the switch at the back panel.
  ➢ Power On – Hold switch up for about 3 seconds
  ➢ Power Off (normal) – Hold switch down until LED goes off (about 3 seconds), then release switch. LED will come back on and then go off when operating system completes shutdown
  ➢ Power Off (emergency) – Hold switch down until power goes off – about 8 seconds
  ➢ No SBC in slave unit - Leave power turned off; Power will automatically turn on based on USB connection
• Verify that the CPU LED is glowing on the Hardware appliance, indicating that power supply is correct.

Quick Checkout

To verify the software installation, perform the following steps:

Note: This quick check out procedure is performed using the Balanced Audio I/O Interfaces on Dual UTA. It requires the Balanced 3.5mm Audio In/Out cables included in the package.

• Using the included balanced cables, connect the Dual UTA USB port to the USB port of the PC with VQuad™ using USB 2.0 complaint cable.
• Connect the Audio IN of Side #1 to the Audio OUT of Side #2 and similarly, the Audio OUT of Side #1 to the Audio IN of Side #2 using 3.5mm In/Out Jacks (Balanced Audio - Side 1 & 2).
Device Configuration

- To invoke the VQuad™ application, right-click on the VQuad icon created on the desktop and choose to Run as Administrator.
- Click Setup VQuad Device button from the VQuad™ Control Panel (Left Pane)
  - Select Number of Device as 2 from the drop-down list
  - Select Device Type from the drop-down list and set it as Dual UTA for device1 and device2
  - Select UTA Type as Balanced for both device1 and device2
  - Enter the Device Name as Bal1 for device1 and Bal2 for device2
  - Verify the Dual UTA Port # displayed, select (SN: 15XXXX Port1) on device1 and (SN: 15XXXX Port2) on device2.
  - Exit from the Device Configuration screen to save the configuration; click Yes for the Alert message displayed.
- On the left side Control Panel in the VQuad™ main screen, confirm that you now see two Balanced devices.

Manual Call Setup

- Click button from main window to open the manual call window for device1 and device2. By default, Device Name is displayed as Bal1 in both the Manual Call window.
- Choose from the Device Name drop-down and set Bal1 in Manual Call (1) window and Bal2 in Manual Call (2) window
- The Call Connected status for the devices is automatically displayed in both the Manual Call (1) and Manual Call (2) window
- In Manual Call (1) window, set traffic direction to Sending, traffic type to Send Digits, and set digit type to DTMF. Click on the icon in order to key in the desired digits.
- In Manual Call (2) window, set traffic direction to Receiving, traffic type to Detect Digits, and set digit type to DTMF.
- Click Start Rx option in Manual Call (2) and then click Start Tx option in Manual Call (1) window.
- Similarly, user can also send traffic from side 2 and receive traffic on side 1
- In the All Events pane (bottom of the Main VQuad screen), click Detected Digits tab to observe the digits detected and ensure that the digits are sent and received properly on both the sides.

Software Upgrade

- Plug-in the USB installation stick (pen drive) provided with the shipment package by GL Communications.
- From the USB installation stick (pen drive), navigate to folder (\VQuad-VQT\VQT010-VQT270-VQT241-VQuad-Related-Items\VQT010-VQuad-Software-verXX. Right-click on VQuad.exe and select "Run as administrator".
- Follow the onscreen instructions to complete the software installation.
- The software gets installed in ‘C:\Program Files (x86)\GL Communications Inc\VQuad’ directory and creates a shortcut icon on the desktop.
- It is recommended to reboot the system after the software installation.
License Installation (during upgrades)

VQuad™ licensing is either via the Hardware (Option A) or via USB Hardware dongle (Option B). Only with proper Dual UTA or Dongle licenses the software can be invoked. Either Option A or Option B needs to be done for installing license.

The following steps needs to be performed only during the FIRST TIME VQuad™ installation on a given PC.

**Option A: License via Dual UTA**

This step is required only if the customer has purchased Dual UTA hardware and licenses.

- Click **GLHwLicenseInstaller.exe** license installer from the installation USB stick (GL-Hardware-License-Installer) in **Run as Administrator** mode.
- Follow the on-screen instructions to complete the license installation.
- To verify License installation, invoke the VQuad™ icon application and verify that the VQuad™ Licensed Applications are enabled.
- For any troubleshooting during hardware dongle license installation, refer to ‘Installation Instructions for Hardware Programs’ document.

**Option B: License via Hardware Dongle**

This step is required only if the customer has purchased VQuad™ with hardware dongle and licenses.

- Run **GLDongleLicenseInstaller.exe** from installation USB stick (GL-Dongle-License-Installer) in **Run as Administrator** mode.
- Plug the dongle to the USB 2.0 port of your PC. Windows® should install all required drivers automatically. A red light should appear on the dongle indicating that it is functioning correctly from a physical point of view.
- For any troubleshooting during hardware dongle license installation, refer to ‘Installation Instructions for Dongle Programs’ document.

Troubleshoot

On launching mTOP™, if you get the following error message, troubleshoot using the steps below:

- Ensure that the Power Adapter is connected to the mTOP™ appliance and to the AC Power on the strip or Wall. Ensure that the Power Strip is ON.
  - Power On – Hold switch up for about 3 seconds
  - Power Off (normal) – Hold switch down until LED goes off (about 3 seconds), then release switch. LED will come back on and then go off when operating system completes shutdown
  - Power Off (emergency) – Hold switch down until power goes off – about 8 seconds
  - No SBC in slave unit - Leave power turned off; Power will automatically turn on based on USB connection
- Make sure that mTOP™ is launched in Administrator Mode. Follow the Quick Checkout section explained above, and make sure that the application is launched in Administrator mode (Right-Click and select "Run as Administrator").
- Press **Reset CPU** button manually (available on the front panel of the device) for no display or other related problems.
- If any of the optional software is not activated, you may not have installed the Hardware licenses or Dongle licenses properly. You can do so as explained in the above section at any time after installing the base software.

If you are still having issues or have other questions, please reach GL Communications Inc. for technical support at info@gl.com.