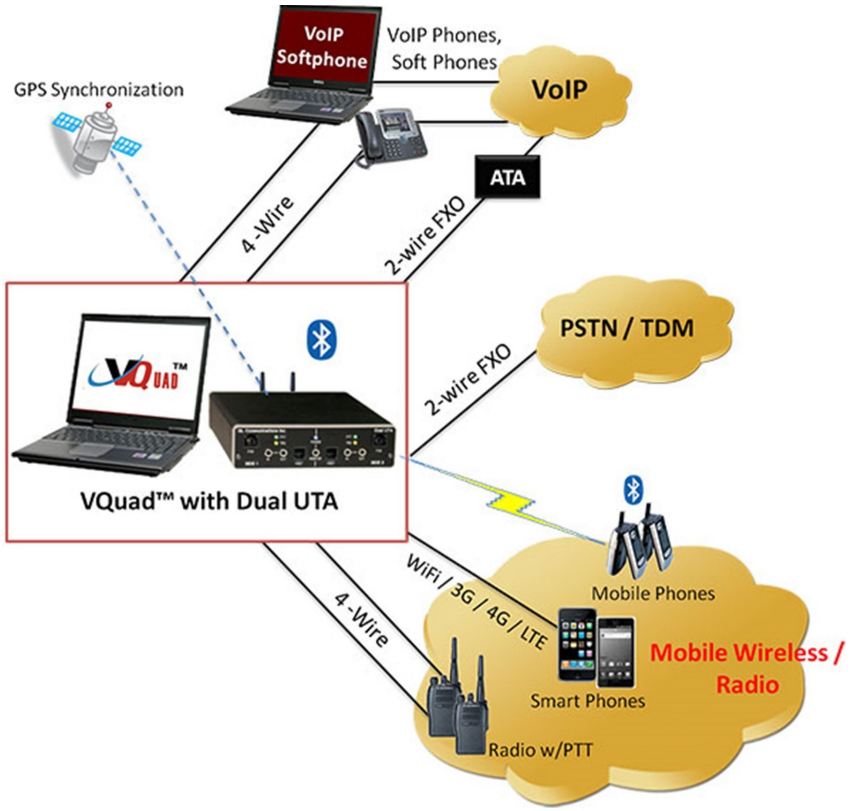
Dual Universal Telephony Adapter (UTA) (Older Generation)



Overview

GL's Dual Universal Telephony Adapter (Dual UTA) is a versatile hardware/software device designed to universally adapt to any telephony instrumentation including 2-wire Analog Phones, Mobile Phones, Bluetooth® Phones/Devices, Smartphones (iPhone, Android), Military Radios, VoIP phones, and 4-wire handsets.

As the name implies the Dual UTA contains a Side 1 and a Side 2. These sides are completely independent of each other so interfacing with endpoints of a single network or interfacing with two completely separate networks are practical scenarios.

Used in conjunction with GL's VQuad™ software, the Dual UTA simplifies end to end testing of voice quality, echo, noise, and other impairments of TDM, VoIP, and Wireless networks. A GPS sync port permits precise synchronization of sending and receiving audio functions, Voice Quality and Echo Measurements, Data Testing, One-Way Delay (OWD), and Round Trip Delay (RTD).

The Dual UTA can be directed to automatically send and record sample voice files between nodes of a telephony network. These files can then be submitted to GL's Voice Quality Testing (VQT) software application for analysis according to widely accepted International Telecommunications Union (ITU) voice comparison algorithms. These algorithms include PESQ, and POLQA

Data Testing is performed using Remote iPhone application or from the PC Network port (wire, WiFi, 3G or 4G Broadband card).

Fax Testing using the Dual UTA 2-wire FXO or 4-wire analog interfaces. Supports up to 4 simultaneous T.30 faxes. Support for additional interfaces such as T1/E1 and VoIP (T.38).

VQuad™ Probe (VQT270), self contained unit includes VQuad™, Dual UTA and PC. Control via Ethernet Remote Desktop (with support for mouse/keyboard). The Dual UTA system is older generation hardware application.

For next generation application, visit Dual UTA HD webpage.

GL Communications Inc.

818 West Diamond Avenue - Third Floor, Gaithersburg, MD 20878, U.S.A

(Web) www.gl.com - (V) +1-301-670-4784 (F) +1-301-670-9187 - (E-Mail) info@gl.com

Hardware Interfaces

- Mobile Phones:
  - Bluetooth® – Works with all Bluetooth® phones for both call control and send/record audio functions. Bluetooth® also performs RSSI, Battery level functions, Network verification. Supports Bluetooth Wideband (WB) with 16000 sampling rate (requires newer generation DUAL UTA hardware and firmware)
  - Monitor Jack - 23.5mm (typical) for mobile phones, and 3.5 mm terminations for Smartphones (Blackberry, iPhone, Android)
- Mobile Radios with Push-to-Talk functionality: Provides radio keying and sends/records audio
- RJ-11 POTS lines: Detect dial tone, go off hook, CallerID detection, send digits (two stage dialing), answer calls, detect a variety of Special Information Tones (SIT), and much more as well as send/record audio for Voice Quality measurement
- Handset Phones (POTS, Digital, VoIP): Replaces handset of any telephone (POTS, Digital, VoIP) that contains a coiled cord and handset
- Balanced I/O for connecting to a VoIP Softphone, Head and Torso Simulator (HATS), or any device supporting audio
- Dual UTA 2-wire FXO or 4-wire analog interfaces supporting Fax testing

Applications

Voice Quality Testing

Send/Record audio for Voice Quality Testing on all telecom networks including WideBand 16k Samples/sec.

Scenario 1: End points at same location

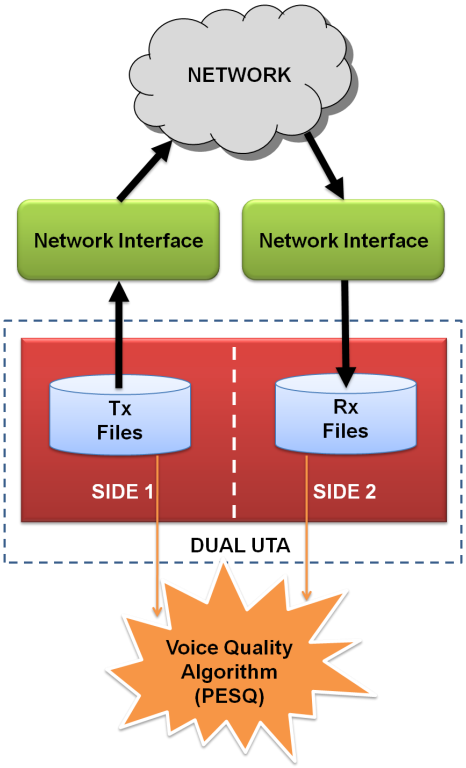


Figure: End points at same location

Scenario 2: End points at different location

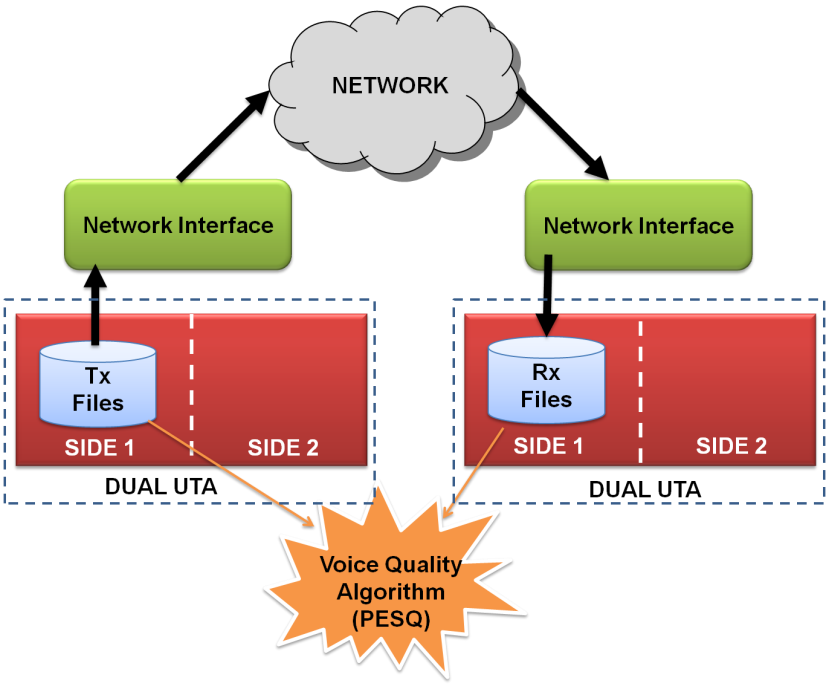


Figure: End points at different location

Network Delay Measurement – One Way Delay (OWD)

Perform One-way delay (OWD) measurements at collocated or geographically separated locations.

Scenario 1: End points at same location

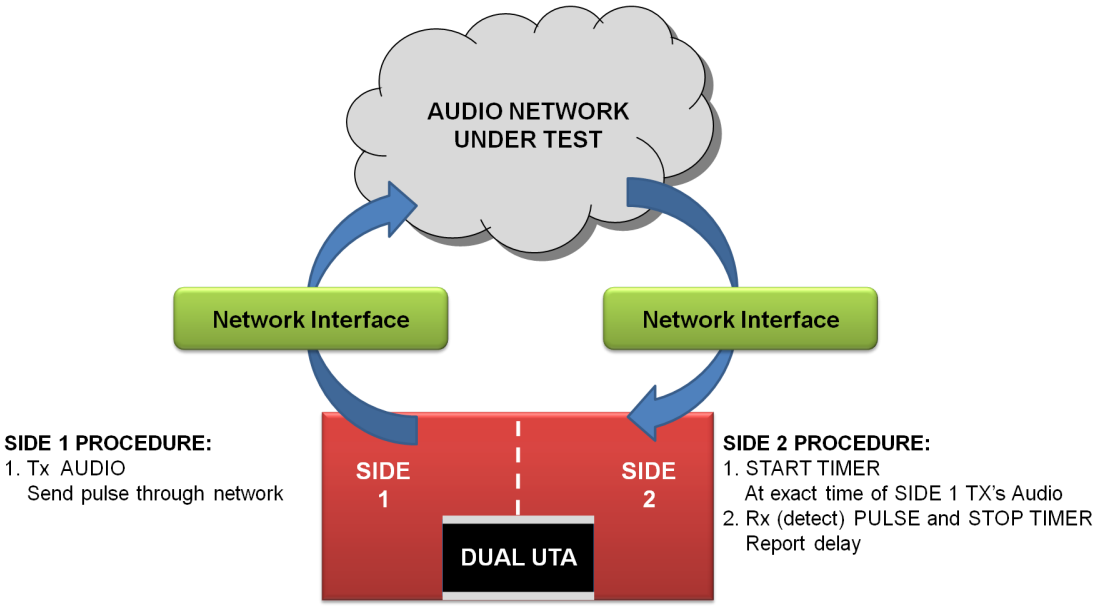


Figure: End points at same location

Network Delay Measurement – One Way Delay (OWD) (*Contd.*)

Scenario 2: End points at different location

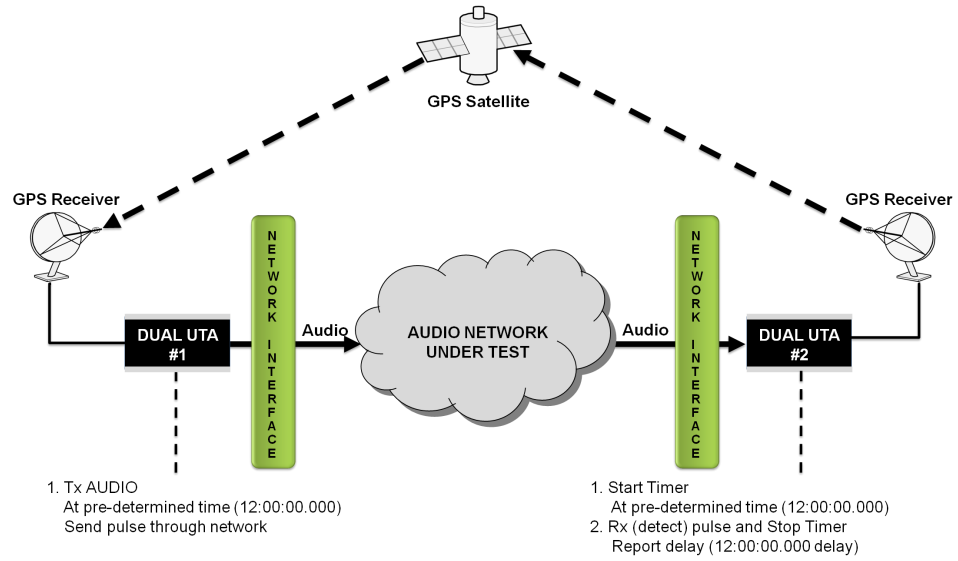


Figure: End points at different location

Echo Identification

Perform echo identification and analysis.

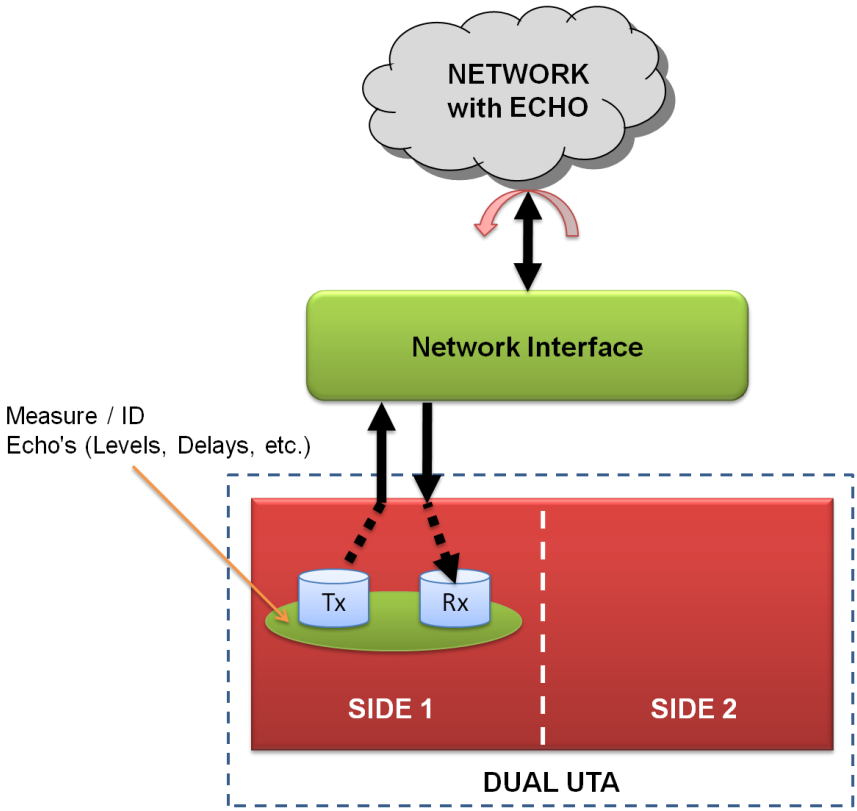


Figure: Echo Identification

Acoustic Echo Canceller Testing

Test Acoustic Echo Cancellers across various network interfaces.

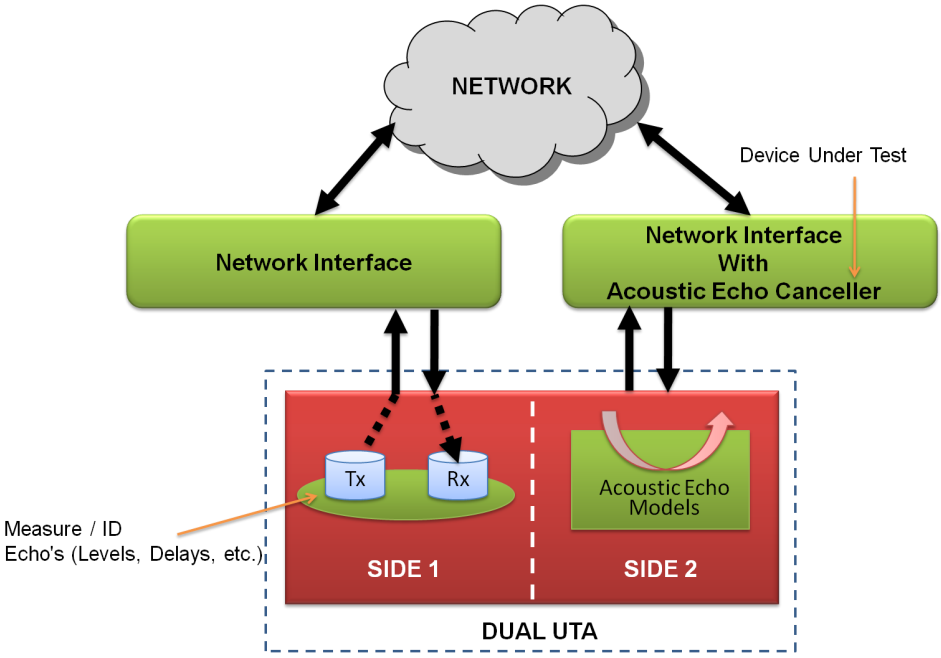


Figure: Acoustic Echo Canceller Testing

Specifications

Compliance

- CE, FCC, TBR21 compliant

Physical Dimensions:

- Height: 1.60 (40.64 mm)
- Width: 5.55 (140.97 mm)
- Depth: 7.45 (189.23 mm)
- Weight: 1.72 lb (.778 kg)

Power Requirements:

- Input Voltage: +5VDC (derived from USB bus)
- Current load: 200mA

Frequency Range Compliance:

- FXO PCI card (VQT012) - 300-3400Hz
- Dual UTA FXO 2-wire interface (8K samples/sec) - 100-3500Hz
- Dual UTA FXO 2-wire WB interface (16K samples/sec) - 100-4000Hz
- Dual UTA Balanced, Mobile, PTT, Handset interfaces (8K samples/sec) - 100-3500Hz
- Dual UTA Balanced, Mobile, PTT, Handset WB interfaces (16K samples/sec) - 100-7000Hz
- Dual UTA Bluetooth® interface (8K samples/sec) - 200-4000Hz

Specifications *(Contd.)*

External Connections:

- USB 2.0: Type B USB Jack (Communication with PC and Power)
- 3.5mm In/Out Jacks (Balanced Audio - Side 1 and 2)
  - Input Impedance – 600Ohms, 1000Ohms and user definable
  - Output Impedance - 600Ohms, 1000 Ohms and user definable
- RJ-11 Jacks (FXO - Side 1 and 2)
- RJ-22 Jacks (Handset/Handset Base - Side 1 and 2)
- 3.5mm (Monitor)
- Dual RJ-45 Stacked Jacks (GPS In/Out and PTT - Side 1 and 2)
  - PTT - Side 1 and 2 Input Impedance - 600Ohms, 1000Ohms and user definable
  - PTT - Side 1 and 2 Output Impedance - 600Ohms, 1000Ohms and user definable
- Bluetooth Antennas - Side 1 and 2

4-Wire (Balanced, HSET Base, PTT):

- Input:
  - Impedance 600Ohms, 1KOhm selectable
  - Maximum 1Vrms or 0dBm
    - Narrow Band:
      - Rx Frequency Range: 204Hz to 3404Hz
      - RX Output Level Range: 0dBm to -60 dBm
      - RX Level Accuracy: ± 1dB
    - Wide Band:
      - Rx Frequency Range: 204Hz to 6808Hz
      - RX Output Level Range: 0dBm to -60 dBm
      - RX Level Accuracy: ± 1dB
- Output:
  - Impedance 600Ohms, 1KOhm selectable
  - Maximum 1Vrms or 0dBm
    - Narrow Band:
      - Frequency Range: 204Hz to 3404Hz
      - TX Output level Range: 0dBm to -50 dBm
      - TX Level Accuracy: ± 1dB
    - Wide Band:
      - Frequency Range: 204Hz to 6808Hz
      - TX Output level Range: 0dBm to -50 dBm
      - TX Level Accuracy: ± 1dB

Specifications *(Contd.)*

2 Wire (FXO):

- Input:
  - AC Impedance 600Ohms
  - Maximum 1Vrms or 0dBm
- Narrow Band:
  - Rx Frequency Range: 204Hz to 3404Hz
  - RX Output Level Range: 0dBm to -60 dBm
  - RX Level Accuracy: ± 1dB
- Output:
  - AC Impedance 600Ohms
  - Maximum 1Vrms or 0dBm
- Narrow Band:
  - Frequency Range: 204Hz to 3404Hz
  - TX Output level Range: 0dBm to -50 dBm
  - TX Level Accuracy: ± 1dB

Bluetooth

- Narrow Band:
  - Frequency Range: 204Hz to 3404Hz
  - TX Output level Range: 0dBm to -60 dBm
  - TX Level Accuracy: ± 1dB
- Wide Band:
  - Rx Frequency Range: 204Hz to 7200Hz
  - RX Output Level Range: 0dBm to -60 dBm
  - RX Level Accuracy: ± 1dB

VQuad™ Software

- Tone Generation - 200-4000Hz
- Tone Detection - 0-4000Hz

Power Measurement

	w/o Bluetooth	Bluetooth
Power up	200mA	216mA
After Power up	187mA	216mA
4W	187mA	189mA
PTT	186mA	189mA
2W	186mA	189mA
Bluetooth	NA	190mA
Switching from 4W to 2W	200mA	211mA

Buyer's Guide

Item No	Product Description
VQT241	Dual Universal Telephony Adapter (UTA) w/ RTD and OWD
VQT251	Next generation Dual UTA HD with FXO Wideband
VQT252	Dual UTA HD with Bluetooth Option
VQT010	VQuad™ Software (Stand Alone)
VQT270	VQuad™ Probe with Dual UTA
VQT013	VQuad™ with SIP (VoIP) Call Control
VQT015	VQuad™ with T1 E1 Call Control
VQT002	Voice Quality Testing (PESQ only)
VQT006	VQT w/ POLQA Server License
VQT040	WebViewer™

For next generation application, visit Dual UTA HD webpage.

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