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VQT Phone Adapter – J1996A

Technical Specification

Telephony Interfaces

- One E & M port: RJ-45
- One FXO port: RJ-11
- Interface to Sound cards:
  - Microphone Interface: Bantam Plug
  - Speaker interface: Bantam Plug
- Handset interface: RJ-22

Physical

Dimensions

Height :	1.25”
Length:	5.5”
Width:	5.5”
Weight:	1.35 kg(3 lbs)

Platform

Power:	
(into External Power Supply)	100-240 V~, 50/60 Hz, 0.7A
Regulatory compliance:	
(Phone Adapter)	CE, C-Tick
(External Power Supply)	CE, UL, CSA, TUV, MITI

Feature Summary

The J1996A Voice Quality Tester (VQT) Phone Adapter is used for testing digital telephone systems that do not use a standard E&M or FXO analog loop interface. The VQT Phone Apater provides a means of connecting to the handset cable of a telephone, or, line in and out from a PC sound card. It connects to the Voice Quality Tester E&M interface, or optionally, the VQT FXO interface. The Handset Interface provides for repeatable gain adjustments to and from the handset microphone and speaker circuits. The handset interface is designed for a typical telephone handset, ie a 200 Ohm dynamic ear piece and a electret microphone. The ear piece input has a +6dB gain and the microphone output is padded –30dB to match the typical voltage levels at the handset, relative to the phone line. Level adjustment are accomplished via DIP switches and are from -15 to +15 dB in 1 dB increments.

Operational Notes

1. The FXO hybrid mouth output is muted when not in use.

2. The side tone cross talk that most phones use will adversely affect echo and other duplex tests.

3. Handset level controlled by DIP Switch Settings.

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Functional Details

1. E&M RJ-45

The E&M interface is the primary connection to the Agilent Voice Quality Tester. The ear and mouth voice circuits are designed for 600-Ohm termination.

2. LED bar graphs

These two bar graphs indicate the signal levels on the two voice circuits at the E&M interface. They indicate a range of –35dB to 0dBm in 5 dB increments. Phone set side tone from the mouth to ear channels will likely be visible on the ear bar graph.

3. FXO RJ-11

The FXO interface is an alternate connection from the Agilent Voice quality tester. Due to the side tone crosswalk issues of the two-wire FXO interface, the four-wire E&M voice interface is generally a better choice. The FXO hybrid is designed to work with a 600-Ohm line. Setting the VQT to other impedance's will seriously compromise the ability of the hybrid to separate the mouth and ear signals.

4. Off Hook LED

Indicates a FXO device or E&M device (Agilent Voice Quality Tester) is connected to the FXS or E&M port and is off hock.

5. External power connector

The external power supply is 24 VDC and 1.25A. This is a 5.5mm x 2.1mm connector.

6. Power OK LED

This LED lights when the adapter is properly powered.

7. Line In

Line In provides an ear input for testing IP Soft-phones that use a computer sound card. Only the Left channel (mono connection) is used. The input circuit is balance to ignore ground noise from the computer system.

8. Line Out

The Line out provides a mouth output for testing IP Soft-phones that use a computer sound card. This is generally an alternative to connecting via the phone handset circuits, but can also be used to monitor handset mouth and ear signals on the left and right channels of this stereo connector. The signal level is the same as that on the FXO and E&M interfaces, with active ground noise isolation.

9. Mouth Gain

These dipswitches set the gain multiplier for the handset microphone signal. The 0dB setting corresponds to a –30dB pad of the E&M or FXO mouth signal. This compensates for the microphone amplifier gain in a typical telephone.

- Step DB level selector with printed mumber indicators for input level (-15dB to +15 dB) with 1 dB increments

10.Ear Gain

These dipswitches set the gain multiplier for the handset ear signal. The 0dB setting corresponds to +6dB gain from the ear circuit to the E&M and FXO lines. This compensates for the typical line to ear-piece loss in a typical telephone voice circuit.

- Step DB level selector with printed number indicators for output level (-15dB to+15 dB) with 1 dB increments

11. Handset Jack

This is a four position modular jack. It mates to the curly cord from the telephone under test. Disconnect the cord from the handset and connect it here.

Use Case of the VQT Phone Adapter

When testing with the VQT Phone Adapter to make Clarity measurements or other measurements, the user needs an Agilent VQT Server. The following are some sample use cases for this product.

Place a call between two IP phones or PC phones, measure voice quality.

1. User connects VQT FXO Port A and Port B to RJ11 sockets on external adapter device.
2. User connects two IP phones or PC soundcards to RJ-22 sockets on the VQT phone adapter.
3. User places telephone call from one phone/PC to the other.
4. User goes to VQT Port Selection; selects each FXO port.
5. User goes to VQT Call Control; does not enter a "called number". Selects "Call Now" button to take source port off-hook. Selects manual answer to take destination port off-hook.
6. User performs VQT measurements.
7. User goes to VQT Call Control; selects "hangup both".
8. User terminates phone call between phones/PCs.

Another use case involves teting voice quality on a call from an analog PSTN phone line to a PC running Netmeeting and operating as an H323 terminal. The PC is connected to an analog POTS line and engaged in dialup PPP session on the Internet.

1. Connect VQT FXO Port A to actual POTS line.
2. Connect VQT FXO Port B to the VQT phone adapter, which connects to PC sound card in PC running Netmeeting.
3. Place VQT in "Call & Answer", "Manual Answer" mode.
4. Place call from VQT FXO Port A to PC phone line.
5. When PC phone answers, select manual answer on VQT Port B.
6. Perform VQT measurements.

Selection of the right setting of the product will be left to the user and will depend on the telephone set they are using and their network.

In order to explain all the above to the user, a user guide discussing all the factors that may cause variances in the accuracy of the system will be included with each product shipped.

Power supply Connector

Indicators:
- Off hook indicator
- Signal strength indicator

Operating Conditions

Power Line

Input Voltage (External Power Supply)	100-240 V~, 50/60 Hz, 0.7A

Temperature

Operating	+5 to +40 °C
Non-Operating	-40 to +70 °C

Humidity

Operating	5% to 93% non-condensing
Non-operating	5% to 93% non-condensing

Altitude

Operating	305 to 4570 meters (-1000 to 15,000 feet)
Non-operating	-460 to 12,200 meters (-1500 to 40,000 feet)

Related Literature

Downtime is not an Option for Enterprise	Brochure	5988-2430EN
VQT Portable Analyzer J1981 A/B, VQT Network Server J1987A, Advisor VQT Undercradle J4630A	Product Overview	5968-7723E

Warranty

Hardware:1 year warranty

Notes

Notes

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Agilent Ordering Information

J1996A	VQT Phone Adapter

Warranty and Support Services

Hardware	1 year warranty

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http://www.agilent.com/find/assist

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