



# Abacus Phone Adapter

## Abacus 5000 Phone Adapter

### Overview

The Abacus Phone Adapter — PAD-5000 — can be used with Abacus 5000 to perform voice quality measurements on an IP phone.

The Abacus Phone Adapter provides an interface between the handset connector of an IP phone and one of the channels of the Enhanced Analog Subscriber (ECG3) to perform PSQM, PSQM+ or PESQ measurements on an IP phone.

The PAD-5000 converts the analog signal of a 2-wire POTS line into a 4-wire interface (speaker and microphone) compatible with an IP phone handset connector. The PAD-5000 gives the user flexibility to simulate a wide range of applications associated with VoIP and analog testing.

The Abacus Phone Adapter when combined with the ECG3's analog subscriber, PCG3/TCG3's TDM and ICG3's VoIP features, provides a truly integrated Analog/VoIP platform to test converged IP Telephony networks.



PAD-5000

### Applications

#### IP Phone

- Measure voice quality
- True traffic modeling
- End-to-end test
- Verify transmission quality

#### IP Phone/IP PBX/MG

- Measure voice quality
- True traffic modeling
- End-to-end test
- Verify transmission quality
- Assess voice quality

### Features

#### 2-to-4-Wire Hybrid Interface

- Convert an analog signal from 2-wire PSTN line into 4-wire signal at IP phone handset connector

#### Selectable Gain Adjustment

- Selectable gain adjustment with 6-position rotary switches for both 'SPKR' and 'MIC'
- Adjust to IP phones with varying sensitivity of the microphone amplifier and different signal levels at the speaker

#### End-to-End Testing

- End-to-end testing with the ICG3 (VoIP) and ECG3 (Enhanced Analog Subscriber) circuit generators

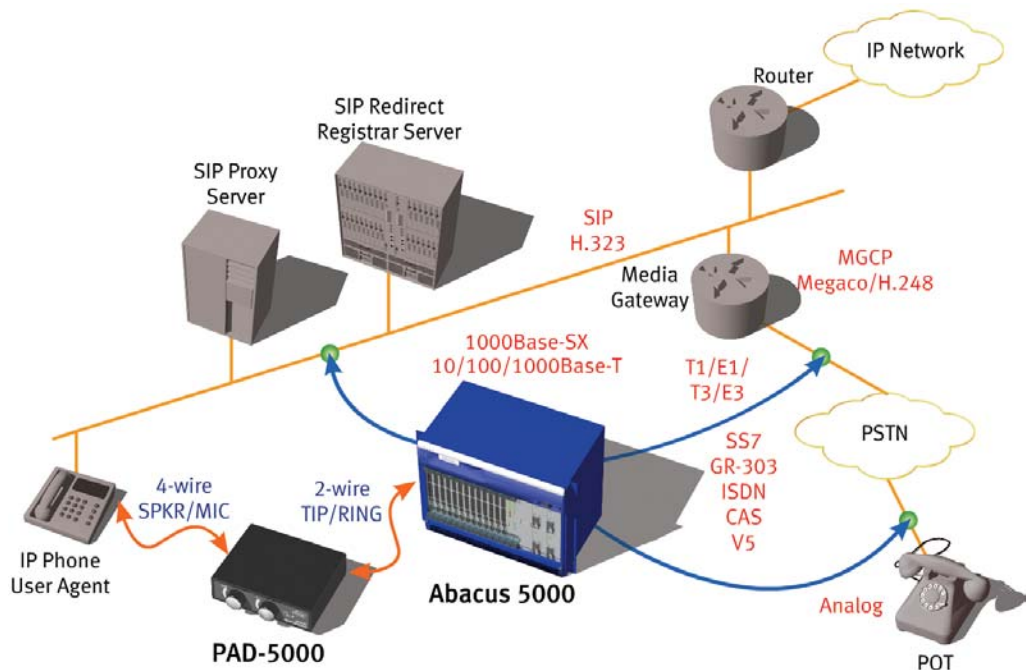
#### Voice Quality Testing

- Perform voice quality measurements with Abacus 5000 using PSQM, PSQM+ or PESQ on IP phones

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## Test Methodology

### Analog Call Generation

- The ECG3 (Enhanced Analog Circuit Generator) subsystem originates the calls
- The PAD-5000 converts an analog signal from 2-wire PSTN into 4-wire signal compatible with signals at the IP phone handset connector
- The IP phone is connected via 10/100 Ethernet cable to the ICG3 (IP Telephony Signaling and Media Traffic Generator) subsystem
- The IP phone (manually) dials into the ICG3 subsystem and the ICG3 terminates the call.
- The Abacus 5000 executes path confirmation PSQM, PSQM+ or PESQ voice quality measurements through an IP phone

### VoIP Call Generation

- The ICG3 (IP Telephony Signaling and Media Traffic Generator) subsystem originates the calls
- The IP phone is connected via 10/100 Ethernet cable to the ICG3 subsystem
- The PAD-5000 converts the 4-wire signal from the IP phone handset connector into an analog 2-wire PSTN signal

- The ECG3 will be off-hook in the beginning of the test
- The IP phone should be manually taken off-hook when it rings
- Since ECG3 is already off-hook, Abacus 5000 can perform PSQM, PSQM+ or PESQ voice quality measurements through an IP phone

## Specifications

### Interface connections

- One FXO connector: RJ-11
- Handset connector: RJ-22
- Isolated (1500 Vrms) off-hook relay connector:
  - NC (normally closed) contacts pair
  - NO (normally open) contacts pair

### Physical Dimensions

- Height: 1.25" (31.75 mm)
- Length: 3.6" (91.44 mm)
- Width: 4.5" (114.3 mm)

### Power

- External Power Supply 24VDC/100mA
- Power connector: Power jack 2.5mm, center positive
- External AC/DC 10W interchangeable adapter with USA, EUR, AUST and UK universal plug kit:
  - Voltage/frequency: 90 to 267 VAC; 47 to 63Hz
  - Dimensions: 2.83 x 1.81 x 1.38" (71.88 x 45.97 x 35.05 mm)

- Regulatory compliance: Phone Adapter (CE)

### LED Indications

- Front panel: off-hook indication LED
- Rear panel: Power OK indication LED

### FXO Impedance

- 600 ohms

### FXO Loop Current

- 20mA

### Analog Gain

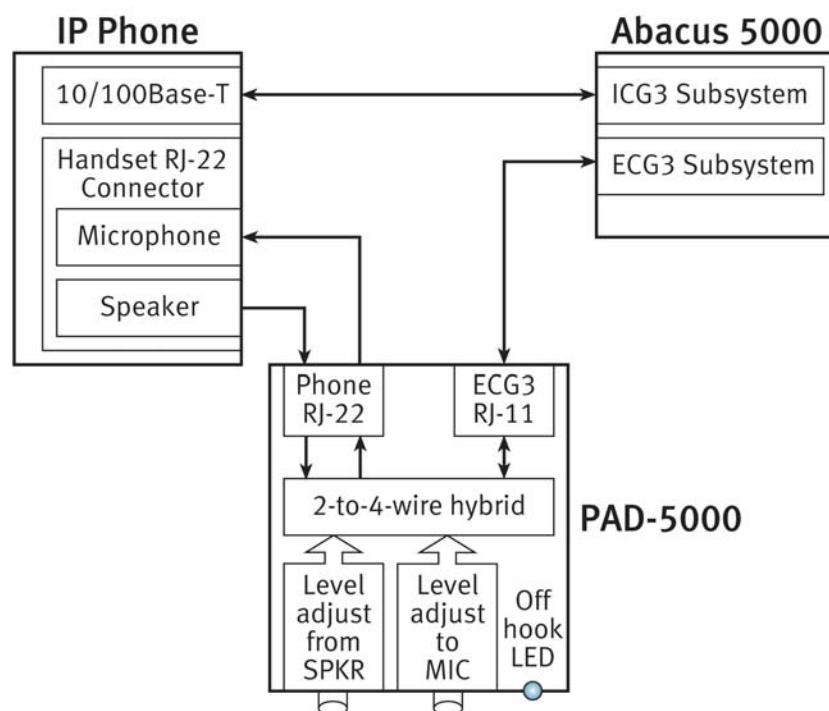
- Speaker gain: Adjustable from -12dB to +3dB in 3dB steps with rotary switch
- Microphone gain: Adjustable from -38dB to -26dB in approximately 2dB steps with rotary switch

## Ordering

- PAD-5000 - Abacus Phone Adapter

## For More Information

Access Abacus 5000 information at Spirent Communications' Web site: [www.spirentcom.com/voice](http://www.spirentcom.com/voice) where you can learn more about Spirent IP Telephony test systems and services, download product literature, white papers and test methodologies. Or contact your local sales representative for more details.



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