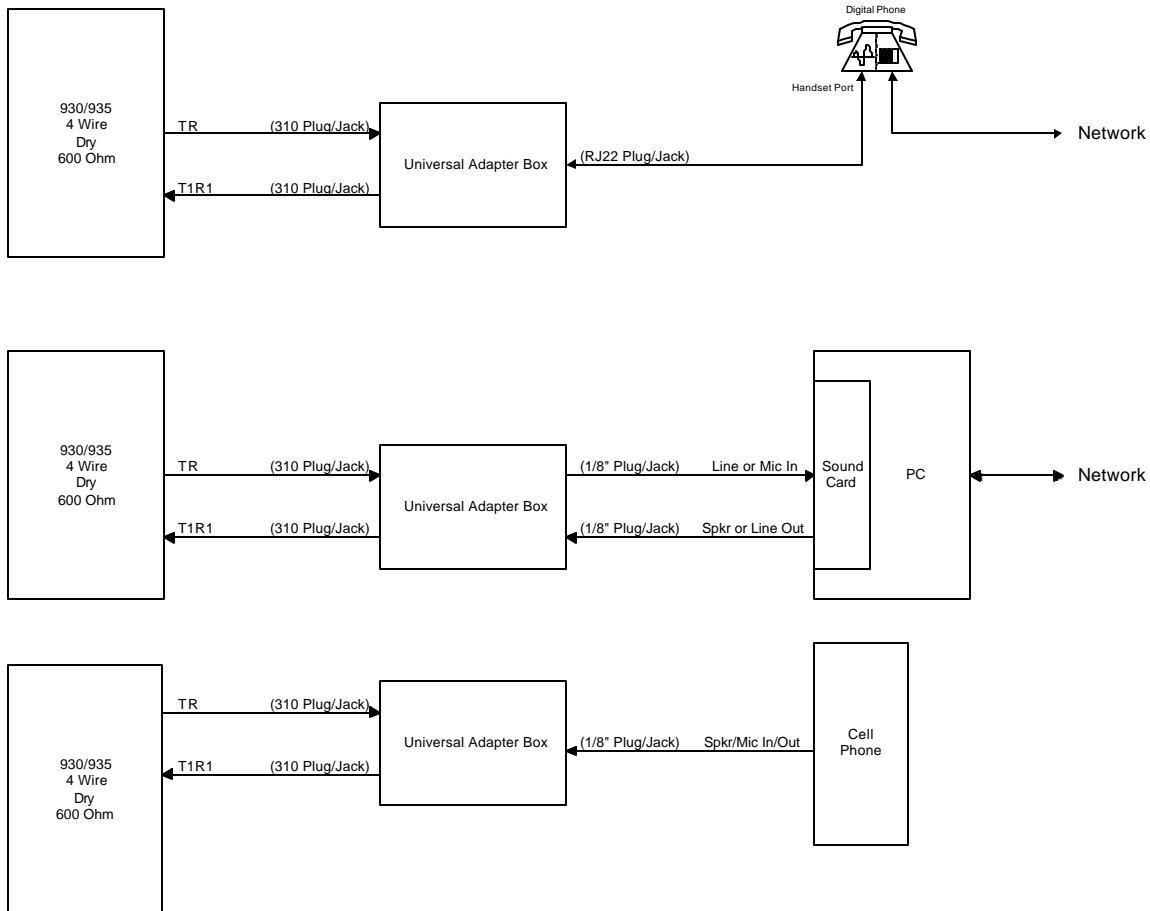




## Universal Analog Interface Adapter

The Universal Analog Interface Adapter provides a means of connecting a 93X series of Sage equipment to a digital phone or PC sound card. Besides blocking DC, the box provides amplitude equalization between the 93X and a digital phone or sound card or cell phone.



Digital Telephone, Sound Card, and Cell Phone Interfaces for the 930/935

### 1. Setup:

- a. Set 930A/935AT for 4 wire “dry” operation.
- b. Connect 930A/935AT to Interface Box with 2 “310” cords.
- c. For Digital Phone Operation: Connect the RJ22 cable to the Interface Box and the Digital Phone. (**Caution:** Make sure Cell Phone switch is in the off position)
- d. For Sound Card Operation: Connect the 1/8” Stereo Plugs into the Interface Box and into the Sound Card. (**Caution:** Make sure Cell Phone switch is in the off position)



e. For Cell Phone Operation: Connect the 1/8 Jack Cell Phone cable into the Interface Box and place the Cell Phone Switch to the on position

2. Digital Phone Operation: Set the MIC/LINE switch on the Interface Box to the MIC position. This attenuates the output of the 93X for the sensitive microphone input on the telephone. The MIC/LINE switch ONLY affects the "TO MIC"/"DIGITAL PHONE" input paths. If possible, *turn up the volume on the telephone* – this will improve the low level being returned to the 93X from the telephone (what it would normally send to its earphone).

If the telephone can be digitally looped, adjust it so that a –16 dBm tone sent from the 930/935 causes a –16 dBm tone to be received on the 930/935.

Alternatively, if the telephone can dial a POTS line with 930/935 attached, adjust the Digital Telephone so that a –16dBm tone sent through the Digital Telephone causes a –16 dBm + line loss tone to be received by the POTS 930/935. Likewise, send a –16 dBm tone from the POTS 930/935 and adjust the Digital Telephone so that the receiving 930/935 measures –16 dBm + line loss on the 930/935.

Sound Card Operation: Set the MIC/LINE switch on the Interface Box according to the input used on the Sound Card – Microphone Input or Line Input. Adjust the level controls on the computer as necessary to maximize input/output dynamic range and signal-to-noise.

Cell Phone Operation: Set the Cell Phone switch on the Interface Box to the "On" position. Adjust the level controls on the cell phone as necessary to maximize input/output dynamic range and signal-to-noise.



## Universal Analog Interface Adapter Specifications

### Electrical

#### Impedance

Input Impedance, "FROM 930/935 TR"	600 Ω ± 2%, Balanced
Input Impedance, "FROM SPKR" and "DIGITAL PHONE" (Pins 2 and 3)	1200 Ω ± 2%, Balanced
Output Impedance, "TO MIC" and "DIGITAL PHONE" (Pins 1 and 4) Switch in 50 mV position	120 Ω ± 10%
Switch in 5 mV position	50 Ω ± 10%
Output Impedance, "TO 930/935 T1R1"	600 Ω ± 2%, Balanced

#### Attenuation

"FROM 930/935 TR" to "TO MIC" and "DIGITAL PHONE" (Pins 1 and 4)	
Switch in 50 mV position -16 dBm (600Ω) input yields	-7.8 dB ± 0.5 dB 50 mV
Switch in 5 mV position -16 dBm (600Ω) input yields	-27.8 dB ± 0.5 dB 5 mV
"FROM SPKR" and "DIGITAL PHONE" to "TO 930/935 T1R1"	-6.0 dB ± 0.3 dB

#### Frequency Response

104 to 4004 Hz, Both Directions	± 0.05dB, ref. 1004 Hz
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#### DC Withstand Voltage

"FROM 930/935 TR"	± 63 V
"TO MIC" and "DIGITAL PHONE" (Pins 1 and 4)	± 25 V
"FROM SPKR" and "DIGITAL PHONE" (Pins 2 and 3)	± 63 V
"TO 930/935 T1R1"	± 63 V

Test Conditions

Impedances and levels are measured at 1004 Hz with sources or terminations as follows:

“FROM 930/935 TR”	600 Ω
“TO MIC” and “DIGITAL PHONE” (Pins 1 and 4) Switch in 50 mV position	10,000 Ω
Switch in 5 mV position	2000 Ω
“FROM SPKR” and “DIGITAL PHONE” (Pins 2 and 3)	≈ 0 Ω
“TO 930/935 T1R1”	600 Ω

**Mechanical**

93X Input and Output Jack SPKR, MIC, CELL PHONE Jacks	310, Tip and Ring Contacts Only 1/8” (3.5mm) Stereo, Sleeve and Tip Only
Telephone Interface Jack	RJ22
Dimensions (includes jacks, switches, and feet)	5.5” W X 2.5” H X 2.5”
Weight	12 oz.