The Radio Systems* TI-101 Telephone Interface is designed specifically for the connection of professional audio equipment to telephone lines in broadcast and production operations. The TI-101 employs a carefully engineered electronic hybrid circuit which creates a maximum trans-hybrid loss, yielding effective isolation between the studio's send to the telephone line and caller return feed. The net result is clear, intelligible telephone audio fully compatible with today's high quality broadcast and studio systems.

The TI-101 is designed to be simple to connect, set-up and operate. An output buss or mix minus feed from the console connects to the TI-101 and sends studio signal down the telephone line. The TI-101 allows optimization of the send level for maximum intelligibility. At the same time, the unit's built-in send limiter can be adjusted to prevent overdrive of the telephone line. This effectively confines the return signal from the TI-101 to the console to just the caller's voice. The DJ or host voice has been effectively nulled out, eliminating any potential feedback or echo.

Impedance and level matching to and from the telephone line and console are optimized to preferred levels by the TI-101. In addition, the caller's voice can be monitored on the studio monitor speakers without feedback. There is no need for the operator to wear headphones.

One of the most important features of the TI-101 is that it is a true hybrid. This means that there is no objectionable gating as in “speaker phone” type phone boxes. You get natural, two-way conversation between host and caller.

*manufactured prior to 1993 by Symetrix, Inc.
Features

**Caller equalization**
A two band equalizer with 8 dB of boost and cut at 400 Hz and 2.5 kHz brightens up the caller and enhances intelligibility.

**Send Limiter**
The send signal passes through a limiter with user adjustable threshold level. When properly adjusted, this limiter maximizes host level, prevents overdrive of the phone line, and helps improve the send and receive circuit isolation.

**Receive compressor/expander**
This circuit also has a user adjustable threshold level. Above threshold, the compressor rides gain on the caller helping to maximize level, and most importantly, keeps things under control during caller-host “shouting matches”. Below threshold a noise reducing expander takes over and is especially valuable for keeping long distance noise down during caller pauses.

**Caller mute**
A user-provided remote contact closure mutes the caller instantly without clicks or pops.

**LED clipping indicators**
Provided for simple optimization of send and receive levels. When setting levels, there's no guesswork involved. The user simply increases the level controls until the LED's flash on and then backs off on the setting slightly for the optimum operation point.

**Conference Linking**
Two TI-101’s may be selectively linked together for two incoming telephone lines and the host.

**Level Compatibility**
Back-panel gain switches permit the TI-101 to operate with virtually any professional mixer or console.

**Bandpass filtering**
A sophisticated elliptical filter is provided on the TI-101's send section which prevents studio generated signals outside of the telephone passband from interfering with telephone company signaling frequencies. On the receive section, sharp “Chebychev” filters limit the passband from 300 to 3 kHz preventing spurious signals on the telephone line from interfering with your broadcast audio.

Specifications

**Input impedance**
16.7 K ohms (electronically balanced)

**Telephone port impedance**
>600 ohms (transformer balanced)

**Nominal input and output level ranges**
Back panel switchable between -10 dBm and +8 dBm

**Maximum output level**
+20 dBm

**Maximum input level**
+21 dBm

**Typical THD**
0.1%

**Controls**
Send level, send limit, receive level, receive compress/expand, 400 Hz and 2.5 kHz equalization, conference link, coarse, low frequency, and high frequency null adjust

**Visual Indicators**
LED’s for indication of send clip, send limit, receive clip, receive compress/expand, receive mute, and power on

**Frequency response**
(measured from telephone port to output port) 300 Hz to 3 kHz +/- 3dB

**Typical transhybrid loss**
20 dB over the specified frequency band width

**Connectors**
3 pin “XLR” type for input and output ports, dual banana posts for telephone tip and ring, 1/4” phone jack for external mute and conference interconnect cables

**Physical size**
1 3/4” high, 19” wide, 6” deep (4.45 x 48.3 x 15.2 cm.)

**Shipping weight**
7 lbs. (3.18 kg)

**Power requirements**
60 Hz, 120 VAC standard, 50 Hz 220 VAC, upon request

**Construction**
Aluminum front panel, plated steel chassis, all connectors pc mounted for maximum reliability

In the interest of continuous product improvement and development, Radio Systems, Inc. reserves the right to change or modify any of the above specifications or features.