

# Easy & convenient telecom demos and testing



## highlights

- Realistic, simulated CO/PBX lines in a compact, fully-featured unit
- Eliminate the cost and hassle of locating phone lines for your demos
- Ideal for use at industry expos, test labs or production environments

## tls-5

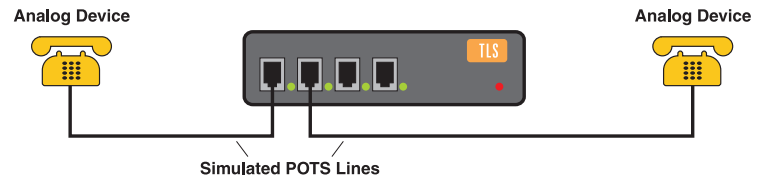
- Rugged desktop 4-line unit
- Programmable line parameters
- Convenient audio port
- Caller ID, CLASS and PBX features

## tls-3

- Portable 2-line unit
- Precise call progress tones, tone/rotary dialing
- Programmable line parameters
- Caller ID, Visual Message Waiting

Teltone's Telephone Line Simulators (TLS) make it easy to test or demonstrate equipment that connects to the North American telephone network (POTS), without requiring a phone company connection. Everything you need is in a compact, portable, AC-powered unit. Our simulators come in four-line and two-line versions, with Caller ID signaling.

Like a miniature central office or PBX, Teltone's simulators provide accurate dial tone, audible ring, and busy signals to the telephones or other devices connected to them. Many functions of the TLS-3 and TLS-5 are easily programmed with a touchtone phone.



Typical Simulator Application

## feature detail

### TLS-5C

- Four loop start lines with two talk paths
- Programmable parameters:
  - Primary/secondary phone numbers, up to 16 digits
  - Ring cadence (distinctive ringing)
  - Off-hook modes
  - Network response time delays
  - Test tone frequency and cadence
  - Line attenuation
  - Forced disconnect
- Dial up test tones
- Hot line ringdown – automatically rings another station(s) when the handset is lifted.
- Precise call progress tones:
  - Dial tone
  - Busy signal
  - Reorder tone
  - Ringback
  - Eight selectable waveforms
  - Programmable call processing delays
  - Selectable response to non-valid numbers
- PBX operations:
  - Call transfer
  - Call hold
  - Conference calling
  - Hunt group operation
  - "9" access to outside line.
- Forced Disconnect – disconnects either the caller or called party after a programmable delay

- Audio Port – standard 5-pin DIN jack for recording or playing voice or tones
- Caller ID:
  - Bellcore single and multiple data message formats
  - Type I (SDMF/MDMF)
  - Type II (SCWID/CIDCW)
  - Visual message waiting
  - Programmable names (CID)
  - Privacy blockage
  - Out-of-area calls
  - Transmission errors
  - Calling number
  - Caller name
  - Date, and time of call.
- CLASS:
  - Automatic call back
  - Automatic recall
  - Call forward
  - Call waiting tone & operation
  - Distinctive call waiting
  - Speed dialing
  - Three-way calling
- Programmable dial tone & stutter dial tone

### TLS-5D

Same feature set as TLS-5C, but with 230 VAC power supply for international use

### TLS-3B

- Two loop start lines with single talk path
- Calling party control
- Tone and rotary (pulse) dialing capabilities
- Secondary dial tone
- Hot line ringdown – automatically rings another station(s) when handset is lifted
- Programmable parameters:
  - Primary/secondary telephone numbers, up to 16 digits
  - Off-hook modes
  - Network response time delays
  - Test tone frequency and cadence
  - Line attenuation
- Dial up test tones:
  - Dial tone
  - Busy signal
  - Reorder tone
  - Ringback
  - Silence
- Precise Call Progress Tones
  - Dial tone
  - Busy signal
  - Reorder tone
  - Ringback
- Caller ID:
  - Type I (SDMF/MDMF)
  - Visual message waiting indication
  - Privacy blockage
  - Out-of-area calls
  - Transmission errors

## specifications

### TLS-5C / TLS-5D

#### Electrical

AC Power Input Voltage TLS-5C: 115 VAC  $\pm 15\%$ , 49 to 61 Hz  
 TLS-5D: 230 VAC  $\pm 10\%$ , 49 to 61 Hz

Power dissipation 20 Watts max

**Regulatory**  
 TLS-5C and TLS-5D meet U.S. Part 15 Class A requirements. TLS-5C meets UL 1244, and CSA, C22.2, No. 225 requirements.

#### Telephone Line Circuit (Loop Start)

Interfaces RJ-11  
 On-hook voltage  $-48 \pm 5$  Volts DC  
 Min. loop current 18 mA @ 500 ohms  
 Nominal impedance 900 ohms  
 Line attenuation Switchable between -3.4 dB and -16 dB  $\pm 2$  dB @ 1 kHz  
 Flash Hook Detect 280 mS to 1120 mS

#### Ring Source

Sine wave 78 VAC  $\pm 10\%$  AC @ 20 Hz  
 Square wave 72  $\pm 10\%$  VRMS @ 1 REN, 20 Hz  
 Ring frequency Selectable 20, 25, 30, 60  $\pm 5\%$  Hz  
 Drive capacity Up to 5 ringer equivalents (5 REN) total @ 20 Hz sine wave  
 Ring waveform Selectable step approximated sine or square wave

#### DTMF and Rotary Dialing Detection

DTMF Detect Rate 40ms min  
 Rotary Detect Rate 8 to 22 PPS

#### Programmable Ringing Cadence

Rings per cycle Up to 3 rings in 100 ms increments

#### Audio Input/Output Jack:

Audio In impedance 10 kohms  
 Audio In  $\sim -10.5$  dB (-10 dBm out with 1V in)  
 Audio Out impedance 600 ohms  
 Audio Out  $\sim 0$  dB

#### Mechanical

Dimensions 8.5"W x 2.3"H x 10.0"D  
 Weight 4 lb. 5 oz.

### TLS-3B

#### Electrical

Input Voltage 24 VDC nominal, 500 mA minimum\*

On-Hook Voltage -42 VDC nominal

Inter Interfaces faces RJ-11

**Regulatory** FCC Part 15 Class A

#### Signaling

Ring Frequency 20 Hz  
 Dial Tone Delay 0.1 seconds  
 Network Response Delay 0.2 seconds  
 Line Attenuation -6 dB, -16 dB (TLS-3B only)  $\pm 2$  dB @ 1 kHz

#### Call Progress Signals/Test Tones

Dial Tone 350 + 440 Hz continuous  
 Ringback 440 + 480 Hz follows ringing cadence  
 Busy 480 + 620 Hz 500 ms on/500 ms off  
 Reorder 480 + 620 Hz 250 ms on/250 ms off

#### Forced Disconnect

COD signal issued after 2 seconds of valid on-hook condition.

Signal duration: 850 ms  $\pm 25$  ms

Line Impedance: 900 ohms

#### Mechanical

Dimensions 5.5"W x 1.5"H x 9.0"D  
 Weight 1 lb. 5 oz.

\*AC to DC adapter included to support 115 VAC application

For the latest product info, complete specs, downloads and more, visit [www.teltone.com](http://www.teltone.com)

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