

Easy, convenient product demos and testing

# analog phone line simulators

## 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
- Models available to suit any budget



## tls-5

- Four simulated analog phone lines
- PBX features (hunt groups, transfer, more)
- Convenient audio port
- Models available with Caller ID and CLASS features

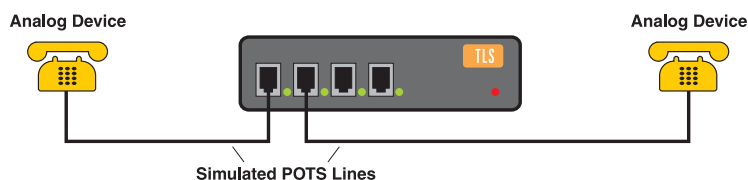


## tls-3

- Portable, 2-line unit
- Precise call progress tones, tone/rotary dialing
- Programmable line parameters
- Available with 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 optional 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

## tls-5 feature detail

### TLS-5X

The basic TLS-5 model. Features include:

- 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

### TLS-5C

All features of the TLS-5X, plus:

- Caller ID:
  - Belcore 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-3 feature detail

### 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
- Optional CE mark

## specifications

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

#### Electrical

AC Power Input Voltage TLS-5X and 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-5X, TLS-5C, and TLS-5D meet U.S. Part 15 Class A requirements. TLS-5X and TLS-5C meet 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.

## resources



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

#### Evaluation Units

Available from authorized manufacturers reps (in the U.S.) and distributors (outside the U.S.). Visit our website for a current list of sources.

#### Customer Service

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 (800) 426-3926 x1072

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