Growing demand for high bandwidth multimedia applications with integrated voice, data and video is one of the primary drivers for VDSL technology, the natural evolution from ADSL. To assist data rate performance testing in VDSL chipset and modem development, which are sensitive to bridged taps, Spirent Communication has launched the DLS 8110 VDSL Bridged Tap Simulator. Used with the DLS 8100 (or the DLS 8111) VDSL Wireline Simulator, the DLS 8110 helps to provide VDSL test loops that include variable bridged taps with small increments.

| Features | Benefits |
| --- | --- |
| Variable, long bridged tap simulation | The DLS 8110 simulates the TP1 (26 AWG) bridged tap that is variable from 0 to 250 feet in 10 foot increments. Long bridged taps are important in VDSL data rate and BER (Bit Error Rate) performance testing. Increments as short as 10 feet allow the testing to be very focused in identifying access device problems. |
| Flexible bridged tap(s) set-up | A basic VDSL loop simulation system includes a DLS 8100 chassis (or at least one DLS 8111 chassis) and at least one DLS 8110 chassis. A DLS 8100 (or DLS 8111) + a DLS 8110 system offers VDSL testloops with long variable bridged tap(s) in smaller increments. This helps to provide complex loops beyond the current VDSL standard T1E1.4/2001-009R2 and ITU-T G.993.1 (previously known as G.vdsl). |
| Continuous bandwidth | The DLS 8110 and DLS 8111 combination provides continuous bandwidth from DC to 30 MHz that is essential for the testing of VDSL co-existing with voice and ISDN application on the same twisted pair. |
| Low noise floor | Passive component design approach allows attenuation, input impedance and propagation delay of twisted pairs to be properly simulated while providing a low noise floor. |
| Multiple control interfaces | IEEE or RS-232 interfaces allow for integration into a customer's test environment and fully automated control. |
| Remote control | The DLS 8110 is configured for North American VDSL (as well as other xDSL) standards. All VDSL wireline, VDSL bridged tap, and noise impairment test cases are easily selected via the DLS 1100 GUI or integrated into an automated testing system via SCPI (Standard Commands for Programmable Interfaces) or Spirent Communications' ScriptCenter. |
| Key Spirent partner | The DLS 8110 VDSL Bridged Tap Simulator is a key component in the comprehensive xDSL test and analysis solution offered by Spirent Communications which includes its Smartbits, Adtech, Zarak and Hekimian products. |

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**SPIRENT**
Communications

## DLS 8110 VDSL Bridged Tap Simulator Specifications

**Technology**
- Bridged tap simulation using passive components.

**Cable Simulation**
- Twisted copper pair bridged tap.

**Cable Impedance**
- Complex, varies over frequency with length.

**Number of Conductors**
- Two.

**Types of Cables**
- TP1 (26 AWG) bridged tap.

**DC Rating**
- 200 V between Tip and Ring.

**Bandwidth**
- DC to 30 MHz continuous frequency response.

**Accuracy**
- ± (1 dB + 4% of attenuation in dB) for attenuation up to 60 dB.

## Mechanical Specifications

**Standard**
- T1E1.4/2001-009R2.
- ITU-T G.993.1.

**System**
- DLS 8110 chassis.
- DLS 1100 Series Control Software.
- Operating manual.
- Power adapter.
- Interconnecting cable.

**Options**
- National Instrument IEEE 488 card for the controlling PC.

**Electrical (AC Power)**
- External power supply: 100~240 VAC (50~60 Hz).
- DC voltage: 9~12 VDC / 300 mA.

**Environmental**
- Operating Temperature: +10ºC to +40ºC (50ºF to 104ºF).
- Storage Temperature: +10ºC to +40ºC (50ºF to 104ºF).
- Humidity: 90% (non-condensing) max.

**Mechanical**
- Weight: 4.5 kg. (10 lbs) per chassis.
- Dimensions: 44 mm x 432 mm x 384 mm (1¾" x 17" x 15") (H x W x D).

## North American VDSL Test Solution

Spirent Communications can offer our customers an end-to-end VDSL interoperability test solution. In a typical test setup, wireline simulation is provided by DLS 8000 series VDSL wireline simulators, and impairments are provided by DLS 5000 series impairment generators.
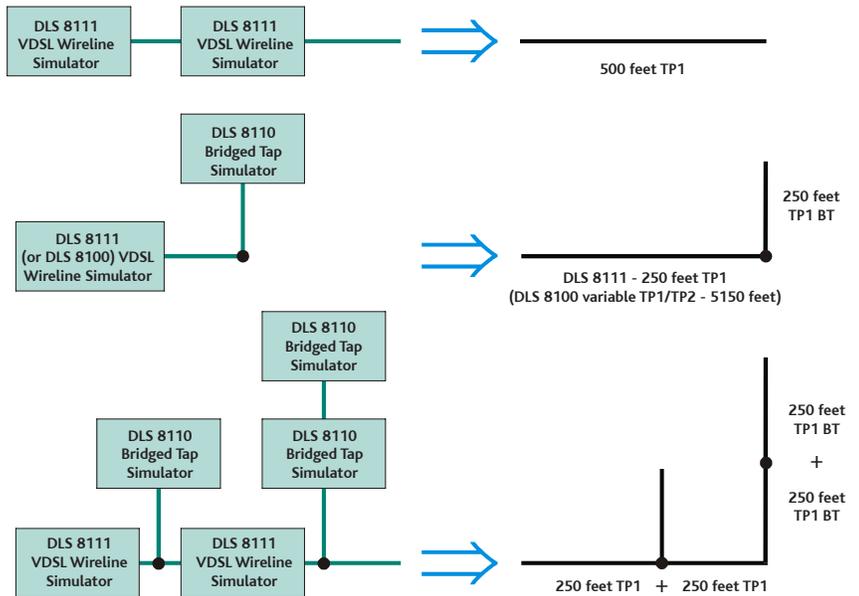
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### Combination Examples



### Loops Simulated



## Companion Products

**DLS 5200**
Custom Noise Generator.
**DLS 8100 or DLS 8111**
VDSL Wireline Simulator.
**DLS 3100**
In-home Wiring Simulator.

**Adtech AX/4000**
Allows for traffic generation and analysis.
**SmartBits SMB 200/2000**
Allows for network performance analysis.

**Spirent SciptCenter**
Allows easy automation with other Spirent products.