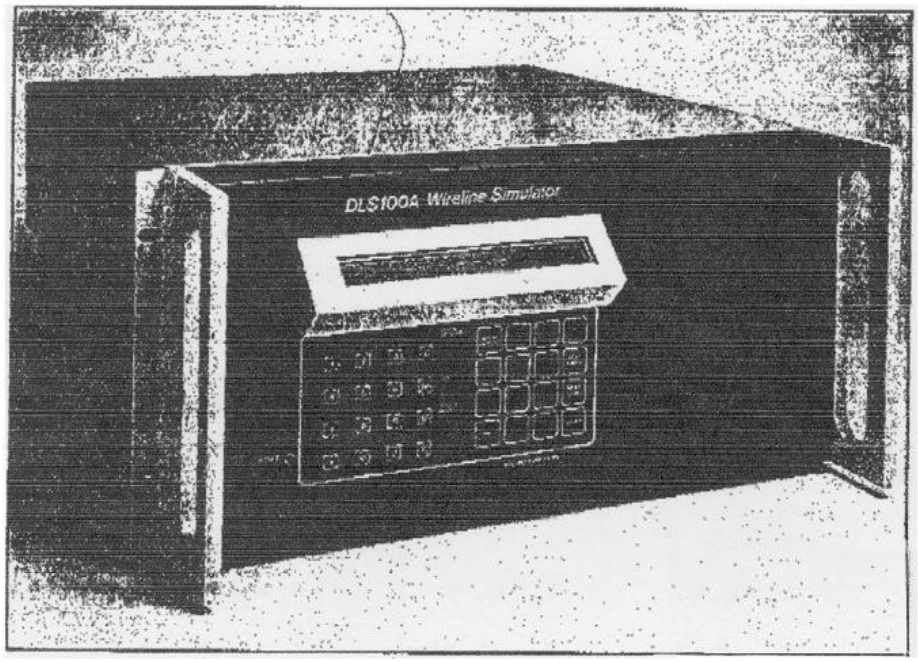
DLS 100A

WIRELINE SIMULATOR FOR ISDN, DDS, WIRELINE DRIVERS



Throw away those reels of cable. Using the DLS 100A wireline simulator, you can test DDS and ISDN equipment, high speed wireline modems and similar devices. It provides complete, accurate simulation of the wireline circuits. You can easily set up complex test loops with mixed gauges, bridge taps and added noise.

- Accurately generates attenuation and delay distortion, signal delay, impedance and echo effects
- Adds random noise, impulse noise and tones
- ISDN versions provide wireline simulation to over 500 kHz
- Provides bridge taps, mixed gauges and the "passive bus"
- Simulates the 15 standard test loops recommended by T1.601
- DDS versions generate 4 wire circuits up to 120 kft
- American and metric calibration
- Computer control via the IEEE488 bus, software provided

Consultronics

DLS 100A WIRELINE SIMULATOR FOR ISDN, DDS, WIRELINE DRIVERS

The DLS 100A can be controlled manually, or from a computer via the IEEE488 bus. The software allows you to set wireline lengths, system configurations and added noise levels. You can call up complete complex test loops from a menu, including the 15 test loops, recommended by *ANSI T1.601.

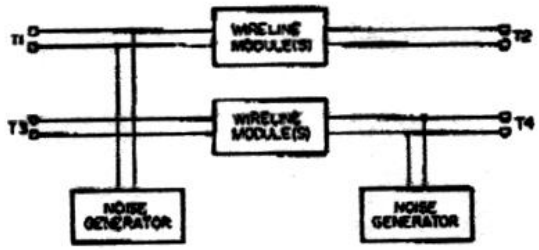
Modular construction allows the equipment to be configured for a very wide range of applications. The majority of needs can be satisfied by one of three basic models, or a user may specify his own mix of modules.

The DLS 100A system consists of wireline modules, noise generators and connection terminals. Each wireline module is like a section of twisted pair cable of adjustable length and modules can be interconnected exactly as real line sections to build up complex networks.

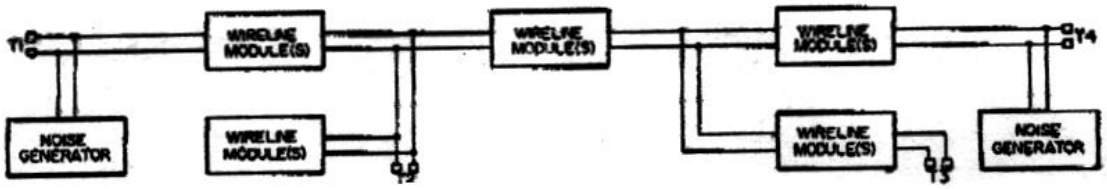
Interconnections can be made using (I) the main chassis, (II) a "configuration adaptor" or (III) an expansion chassis.

I) The Main Chassis can be switched to provide either 2 separate lines with noise added to each (4 wire connection) or one line with up to 2 bridge taps, with noise added to both ends (2 wire connection).

Main Chassis — 4 wire connection



Main Chassis — 2 wire connection



Detailed Descriptions

The Main Chassis — Can house up to ten wireline modules, two noise generators and the passive bus module. Contains the system power supplies, manual and IEEE488 bus control.

Expansion Chassis — Holds up to 6 extra wireline modules and a configuration switching card. This card selects one of ten programming modules, each of which can interconnect wirelines, noise generators and terminals from either chassis in any combination. Any of the ten programming modules can be changed by the user at any time. In the standard expansion chassis five programming modules are required to simulate the fifteen standard test loops.

Configuration Adaptor — Allows a wide range of configurations using the main chassis alone. Configurations are altered by changing a user-wired programming plug. The main chassis can accept either a configuration adaptor or an expansion chassis.

ISDN Wireline Modules — Provide true wireline characteristics from DC to 500 kHz. Available in 26, 24, 22 and 19 AWG versions. Metric sizes also available. The length of each wireline module can be switched from 0 to 7.5 kft in 500 ft steps, or 0 to 2.35 km in 50 meter steps.

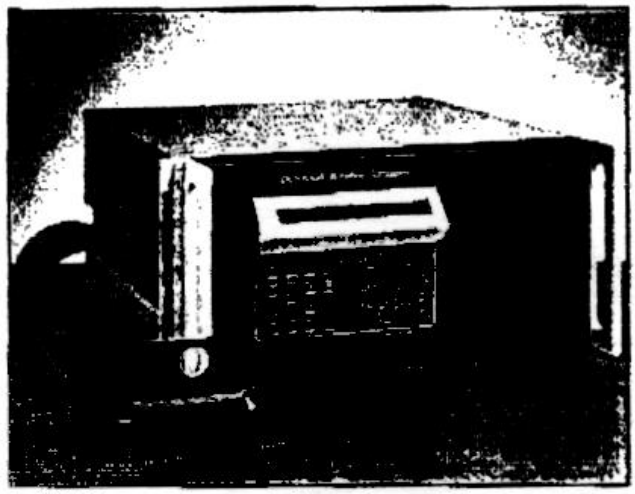
DDS Wireline Modules — Provide true wireline characteristics from DC to 120 kHz. Available in 26, 24, 22 and 19 AWG versions. The length of each wireline module can be switched from 0 to 39.5 kft in 500 ft steps.

Loaded Line Modules — Simulate wirelines loaded with H88 type loading coils. Available in 22, 24 or 26 AWG versions. Simulates up to 48,000 ft of cable in 6000 ft steps.

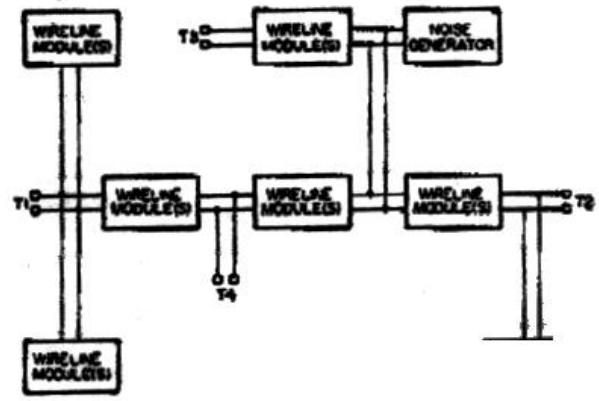
Noise Generator — Generates white noise (DC to 400 kHz), Impulse noise and single tone interference, all with differential or common mode injection. Levels are separately adjustable over a wide range.

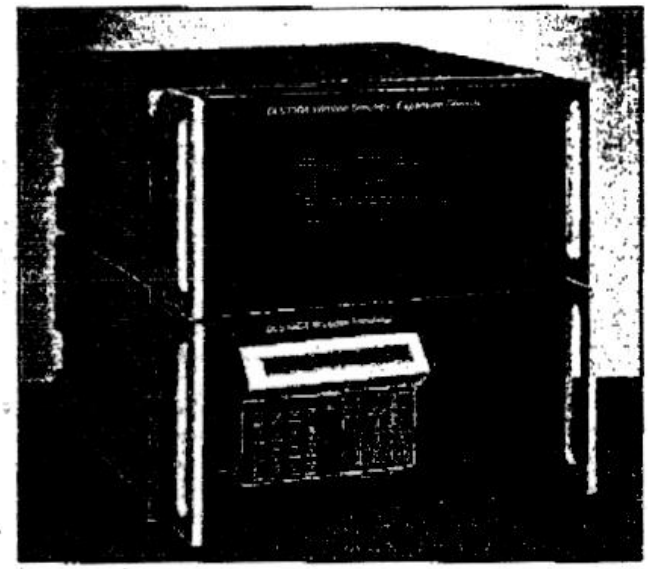
Passive Bus — Provides two separate lengths of line (100 m or 200 m), each with 9 user selectable taps. Complies with CCITT recommendation I430. Select 75 or 150 ohm version.

II) A "Configuration Adaptor" is used with the main chassis to manually provide a wide range of line configurations without requiring the expansion chassis. Up to 7 line modules, 2 noise sources and 4 terminal pairs may be interconnected.



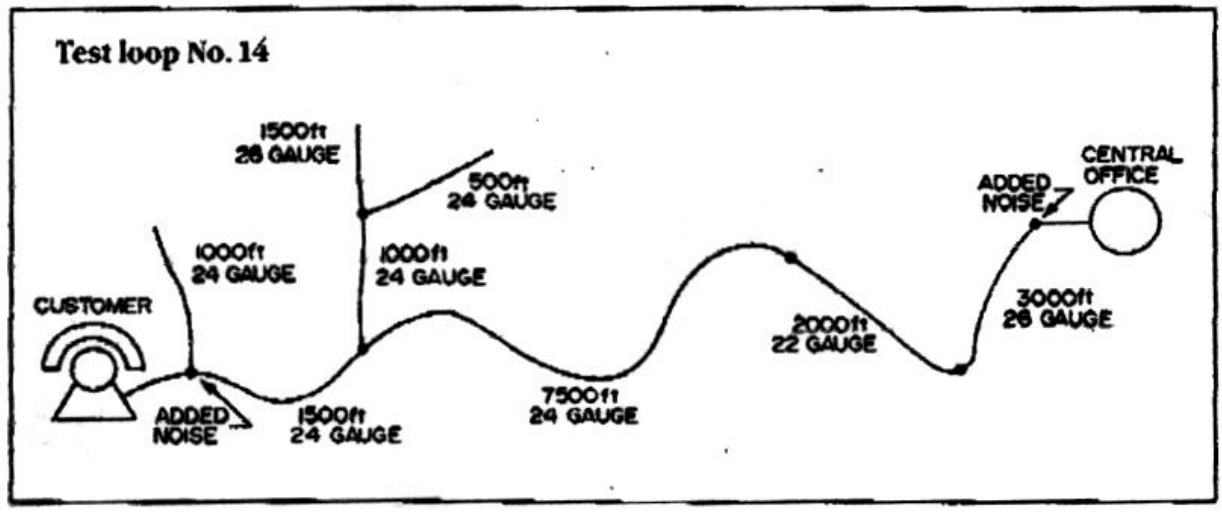
Configuration Adaptor — interconnection sample





III) The Expansion Chassis can be used to provide an extended range of test lines, including the 15 standard test loops, all under computer control.

The 15 standard test loops represent "worst case" conditions covering nearly all of the local loops existing within the USA. They are recommended by *ANSI document T1.601-1988. See, for example, a representation of loop 14, shown below.



System Specifications

Wireline Modules

- Attenuation Accuracy*

  ISDN

  0.2 dB + 4% of the nominal dB's, measured at 100 kHz

  DDS

  0.3 dB + 5% of the nominal dB's, measured dc to 100 kHz

  LOADED

  1.0 dB + 5% of the nominal dB's, measured dc to 4 kHz

- Attenuation Distortion Accuracy (ISDN only)

  1 dB — dc to 200 kHz

  2 dB — dc to 300 kHz

- Resistance and Propagation Delay Accuracies 5%

- Voltage Rating — 300 v peak differential

*(accuracies compared to AT&T characteristics for PIC cable at 70°F)

Noise Generators

- Random Noise

  spectrum ..... *ANSI NEXT or flat 50 Hz to 500 kHz

  level ..... -30 to -95 dBm

  accuracy ..... ± 2% of setting

- Impulse Noise

  shapes ..... 2 bipolar + 7 user

  level ..... 0 to -65 dBv

  rate ..... single to 100 pps internal, to 2000 pps external

- Powerline Harmonics/Single Tones

  freq ..... *ANSI harmonics (50 Hz or 60 Hz)

  or single frequency ... (1000 Hz internal/300 kHz external)

- Longitudinal Voltage

  type ..... 50 Hz or 60 Hz triangular wave, 0-60 V rms

- *ANSI refers to ANSI T1.601-1988. This specification (original and revised) is fully complied with.

- The Level of all Features can be independently varied.

How To Order

The modular construction allows for a large variety of systems. To simplify the selection task, we offer the following standard versions:

DLS 100A/3 — Advanced ISDN Test Set: This model provides the 15 standard test loops. It consists of a main and expansion chassis. The main chassis has six 26AWG and three 22AWG ISDN modules plus two noise modules. The expansion chassis has six 24AWG ISDN modules. May be ordered with the passive bus.

German Wireline Simulator — This model provides simulation of cable as used by German authorities for type approval of ISDN and PCM terminal equipment. The Unit consists of a Main Chassis, 5 × 0.6 mm modules, 3 × 0.4 mm modules and a modified Noise Module.

*ANSI is a registered trademark of the American National Standards Institute

French Wireline Simulator — This model provides simulation of cable as recommended by French authorities for type approval of ISDN Equipment. The Unit consists of wireline modules to cover the 6 standard line configurations, plus a Noise Module.

DLS 100A/4 — Basic DDS Test Set: This model consists of the main chassis with six DDS wirelines of identical gauge and two noise modules. In the 4 wire mode it provides two identical lines of length up to 118.5 kft. In the 2 wire mode it provides one line of length up to 158 kft with two bridge taps, each up to 39.5 kft. The wireline gauge should be specified.

Special Configurations — May be ordered as well. Contact your local representative for details.

Other Products

Voiceband Telephone Channel Simulators, Modem/Fax Test Systems, Transmission Impairment Measuring Sets (TIMS), Audio Analysers, PCM and Data Test Equipment.

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Our products are sold in over 30 countries. To find your local distributor, contact our Canadian office.

YOUR LOCAL REPRESENTATIVE:

SEPTEMBER 1991

PRINTED IN CANADA