

RG 20.xDSL Noise Generator for xDSL



TEST LINE ELECTRONICS



Features

- *Noise profiles for SHDSL to ITU-T G.991.2 Annex B (for Europe), Annex A (North America) in preparation*
- *Coupling side (STU-R or STU-C), test loop number, noise model, line length and payload rate are all taken into account*
- *Noise components: NEXT, FEXT, background noise, white noise, broadcast RF noise, amateur radio RF noise, impulsive noise*
- *Large frequency range, narrow spectral line spacing*
- *Future spectra can be downloaded*
- *Balanced output circuit*
- *Manual setting using front panel push buttons*
- *Remote control via RS 232*
- *Easy to use, small size, low weight*

Application

- The RG 20.xDSL Noise Generator is specially designed for testing xDSL components
- Generates complex noise models according to ETSI and ITU-T specifications
- Can be used as a stand-alone unit, or with LS 10.xx series Line Simulators, or as part of a complete test loop simulator for xDSL.
- Applications range from research and development through production and on to acceptance and conformance tests
- Can also be used as an universal noise generator thanks to flexible device architecture and download capabilities

The RG 20.xDSL generates uncorrelated noise using three powerful signal processors and FPGAs. Various noise spectra are determined using mathematical draft procedures. Despite the large frequency range, the spacing between spectral lines is very small.

The noise generator has a balanced, transformer-coupled output circuit. Coupling capacitors ensure a high degree of DC voltage immunity.

The noise generator has download capability, ensuring future viability. New spectra can be loaded without any problems.

Particular demands are placed on a noise generator when it is used as part of a test loop simulator. The noise models for SHDSL vary depending on the following parameters according to ITU-T G.991.2:

- Test loop number
- Line length
- Coupling side
- Noise profile
- Payload rate.

The level must also be variable.

The RG 20.xDSL Noise Generator meets all these requirements.



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Specifications

Noise generation to ITU-T G.991.2 for SDSL/SHDSL

Noise components SDSL/SHDSL

- NEXT (for STU-C and STU-R)
- FEXT (for STU-C and STU-R)
- Back ground noise
- White noise
- Broadcast RF noise
- Amateur radio RF noise
- Impulsive noise

Settings SDSL/SHDSL

Test loops to ITU-T G.991.2 1 to 7
Test loop length 0 to 10 000 m
Coupling side STU-C or STU-R
Noise profiles A, B, C, D
Payload rate 192 to 2312 kbps
Level variation -6 to +6 dB
(reference to ITU-T G.991.2)

Further technical data SDSL/SHDSL

Frequency range 1 kHz to 1 MHz
Spectral line density <0.001 Hz
Level resolution <0,1 dB
Crest factor >5
"Thevenin" output impedance > 4 k Ω

Noise generation to ITU-T G.996.1 for ADSL in preparation

General technical data

Electric strength (output) 400 V
Output sockets 2 \times CF (rear)
2 \times RJ-45 (front)
Remote connector RS 232, 9 pin Sub-D
Display 6 lines, each 20 characters,
with back light
Dimensions 455 \times 220 \times 100
(l \times w \times h in mm)
Weight approx. 6 kg
Power supply AC 230 V \pm 10%
or (changeable to)
AC 110 V \pm 10%, 50/60 Hz
Power consumption approx. 35 VA

Ambient conditions

Operating temp. range +5 to +45 $^{\circ}$ C
Storage and transport -40 to +70 $^{\circ}$ C
Air humidity max. 85%, non-condensing

Ordering Information

Noise generator RG 20.xDSL TLRG20.00

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