



PS-33A

Level Generator

The PS-33A Level Generator is a signal source for measurements on balanced and coaxial FDM transmission systems or at the baseband levels of radio-links and satellite systems with up to 300 channels. The instrument's lower frequency range also allows measurements in the VF and AF frequency ranges. Together with a level meter (e. g. SPM-32A, -33A, -34A, -35A), the PS-33A forms a test setup for measuring level, gain, attenuation and crosstalk. The test setup is the ideal tool for verifying the local loop performance of services such as ISDN, PCM and xDSL.

Highlights

- Straightforward operation with large digital display
- Synthesizer for high frequency accuracy
- Balanced and unbalanced outputs with common standard impedances
- Battery operation up to 8 hours

Signal source for line qualification tests (ISDN, PCM, xDSL) and measurements on analog transmission systems from 50 Hz to 2 MHz

High frequency accuracy

The built-in synthesizer ensures high frequency accuracy. Such accuracy is required for in-service measurements using channel gaps for test signals. The output level blanking function also helps avoid disrupting systems in operation.

Field applications

The instrument is ideal for field applications (e. g. in-service testing, maintenance) due to its simple operation, wide temperature range, rugged design and flexible powering options (a. c. line or batteries).

Straightforward operation

The keypad allows rapid frequency/level setting and the digital display indicates results with excellent accuracy. The display resolution is 1 Hz. The LC display provides a quick overview of current parameter settings.

Specifications

Outputs

Coaxial output* Versacon 9 Universal Connector System, adapts to all standard connector systems

Output impedance (Z_{out}) approx. 5 Ω (+ 0.5 μ H); 50 Ω , 75 Ω

Balanced output¹⁾ 3 pole CF connector (BN 2071/01)

Output impedance (Z_{out}), switchable approx. 10 Ω (+ 1.1 μ H); 75, 150^{*}, 600 Ω ^{*}) 135 Ω for BN 2071/02

Output signal balance to ITU-T 0.9

$Z_{out} \geq 75 \Omega$, f 620 kHz ≥ 40 dB

Frequency

Frequency range 50 Hz to 2 MHz

Frequency setting via keypad, resolution 1 Hz or stepwise, smallest increment 1 Hz

quasi-analog via up/down keys, in steps, frequency display 7 digit, LCD

Frequency error $\pm 3 \times 10^{-6} \pm 1$ Hz

Output level

Absolute level, display units dB, dBm

Level referred to 0 dB, display units dB0, dBm0

Relative level, display units dBr

Voltage, dependent on range, displayed in μ V, mV, V

Level setting:

via keypad, resolution 0.1 dB

or stepwise, smallest increment 0.1 dB

or quasi-analog via up/down keys, level display 3 digit, LCD

Output level ranges (operating range)

Highest level L_{max} or U_{max}

coaxial output	dBm	dB	V
$Z_{out} = Z_L = Z_0 = 50 \Omega$	+11	0	0.8
$Z_{out} = Z_L = Z_0 = 75 \Omega$	+9	0	0.8
$Z_{out} = Z_0 \approx 5 \Omega, Z_L \gg R$	+6	+6	1.6

balanced output	dBm	dB	V
$Z_{out} = Z_L = Z_0 = 75 \Omega$	+15	+6	1.6
$Z_{out} = Z_L = Z_0 = 124$ to 150 Ω	+12	+6	1.6
$Z_{out} = Z_L = Z_0 = 600 \Omega$	+6	+6	1.6
$Z_{out} = Z_0 \approx 10 \Omega, Z_L \gg Z_0$	+12	+12	3.2

Spurious voltages

Harmonic ratio

a_{k_2} and a_{k_3} ; 200 Hz to 1.62 MHz ≥ 50 dB

Memory 100 user programmable setups

General specifications

Power supply

Dry batteries (fitted) 2 \times 9 V IEC 6 LF 22 (6LR61)

NiMH batteries (2 required) e.g. Varta V 7/8 H

Battery pack (attaches to device) BAZ-33

Line operation separate LNT-2 adapter/charger

Operating time

with dry batteries/NiMHs approx. 8 h/2 h

with BAZ-33 battery pack approx. 8 h

Ambient temperature

Operating time 0 to +50 °C

Limits operating range -10 to +55 °C

Storage and transport -30 to +70 °C

Dimensions

(w \times h \times d) in mm 110 \times 60 \times 200

Weight

with batteries approx. 1 kg

with BAZ-33 approx. 1.5 kg

⁽¹⁾ BN 2071/02:

connector (135 Ω) compatible with WECO 241A

connector (600 Ω) compatible with WECO 310

BN 2071/03:

connector compatible with I-214

⁽²⁾ Refers to the limits of operating error (IEC 359) without

the nominal operating ranges for the influence quantities

and the measurement ranges of the measurands.

Includes variation due to the specified influence quantities

and intrinsic error.

Ordering information

PS-33A Level Generator*

(with TF-Buchse) BN 2071/01

PS-33A Level Generator*

(WECO-Anschlüsse) BN 2071/02

PS-33A Level Generator*

with socket for I-214 connector BN 2071/03

Supplied accessories:

2 dry batteries, carrying strap

Options¹⁾

124 Ω instead of 150 Ω BN 2071/00.61

135 Ω instead of 150 Ω BN 2071/00.62

140 Ω instead of 150 Ω BN 2071/00.63

Accessories

BAZ-33 battery pack,
can be recharged with LNT-2 BN 2033/00.10

NiMH-Akku (two required) BN 0820/00.50

with charger contact

LNT-2 A.C. adapter/charger BN 2071/90.02

Please specify type of power cord required²⁾

Power cord with

European plug K 490

US plug K 491

UK plug K 492

Australian plug K 493

MK-1 Equipment case BN 2090/09

for PS-33A with BAZ-33,
additional LNT-2 or BAZ-33

MK-4 Equipment case BN 2092/21

for two devices with BAZ-33,
two additional LNT-2 or BAZ-33

No. 10 Leather pouch,

for one device and BAZ-33 BN 0926/23

^(*) Fitted with the Versacon 9 75 Ω basic connector and BNC insert.

Other types of insert (see Versacon 9 data sheet) should be ordered with the PS-33A.

^(†) To be ordered with the PS-33A (can only be factory fitted)

^(‡) For BN 2071/03 on request

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