Level Generator PS-33A

New:
Extended frequency range
BAZ-33 Battery Pack

PS-33A

Signal source for measurements on analog transmission systems from 50 Hz to 2 MHz

- **Synthesizer for high frequency accuracy**
- **Straightforward operation using keypad and digital display for frequency and level**
- **Compact design, battery power for field use**
- **Battery operation up to 8 hours with BAZ-33**

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-link 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, SPM-33A, SPM-34A, SPM-35A), the PS-33A forms a complete test setup for measuring level, gain and attenuation.

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.

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.

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).

Outputs

Coaxial output * . . . Versacon 9 Universal Connector System, adapts to all standard connector systems
Output impedance (Z_{out}) . . approx. 5 Ω (+0.5 μH); 50 Ω, 75 Ω
Balanced output [1] . . . . . 3 pole CF connector (BN 2071/01)
Output impedance (Z_{out}), switchable . . . approx. 10 Ω (+1.1 μH); 75, 150 *) and 600 Ω
*) 135 Ω for BN 2071/02
Output signal balance to CCITT O.9
$Z_{out} \geqq 75\ \Omega$, $f \leqq 620$ 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 . . . . . μV, 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 V_{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
$Z_{out} = Z_0 \approx 5\ \Omega$, $Z_L \gg Z_0$		+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 $150\ \Omega$	+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	3.2

lowest level, relative to L_{max} . . . . . ≧75 dB
lowest voltage . . . . . $\leqq V_{max}/5000$
Output level can be soft blanked

Limites of error for $Z_{out} = Z_L = Z_0$ (when matched)

Operating error [2]

for L_{max} to $L_{max} - 64$ dB	coax.	balanced
200 Hz to 620 kHz	±0.22 dB	±0.27 dB
200 Hz to 1.62 MHz	±0.3 dB	±0.35 dB
50 Hz to 2 MHz	±0.6 dB	±0.6 dB

Frequency response
referred to 20 kHz, L_{max} to $L_{max} - 64$ dB

coaxial	±0.5 dB	±0.15 dB	±0.17 dB	±0.25 dB	±0.5 dB
balanced	±0.5 dB	±0.15 dB	±0.2 dB	±0.3 dB	±0.5 dB

50 Hz 0.2 kHz 20 kHz 620 kHz 1.62 MHz 2 MHz

Spurious voltages

Harmonic ratio
2nd and 3rd order; 200 Hz to 1.62 MHz . . . . . ≧50 dB

Memory . . . . . 100 user programmable setups

General specifications

Power supply
Dry batteries (fitted) . . . . . 2×9 V IEC 6LF22 (6LR61)
NiCd batteries (2 required). . . . . e.g. Varta V7/8R
Battery pack (attaches to device) BAZ-33
Line operation . . . . . separate LNT-1 adapter/charger
Operating time with dry batteries/NiCds . . . approx. 8 h/2 h
with BAZ-33 battery pack . . . . . approx. 8 h

Ambient temperature
Operating range . . . . . 0 to +50 °C
Limits operating range . . . . . −10 to +55 °C
Storage and transport . . . . . −40 to +70 °C
Size (in mm) . . . . . 110×200×60
Weight
with batteries/with BAZ-33 . . . . approx. 1 kg/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) within 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 * (CF connector)	**BN 2071/01**
PS-33A Level Generator * (WECO connector)	**BN 2071/02**
PS-33A Level Generator * with socket for I-214 connector [1]	**BN 2071/03**

Supplied accessories: 2 dry batteries, carrying strap

Options [2]

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-1	BN 2033/00.10
NiCd batteries (two required) with charger contact	BN 0820/00.50
LNT-1 A.C. adapter/charger	BN 2068/01

Please specify type of power cord required [3]:
Power cord with

European plug	K 490
US plug	K 491
UK plug	K 492
Australian plug	K 493

MK-1 Equipment case for PS-33A with BAZ-33, additional LNT-1 or BAZ-33	BN 2090/09
MK-4 Equipment case [4] for two devices with BAZ-33, two additional LNT-1 or BAZ-33	BN 2092/21
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.
1) On request cable K 438: I-214 (m)/CF, 1 m; K 474: 2×I-214 (m), 1.5 m
2) To be ordered with the PS-33A (can only be factory fitted)
3) For BN 2071/03 on request
4) See also IMK-43 data sheet