



NE5000-1G 1550nm Externally-modulated Transmitter (~1GHz)



Features

- 1 RU, 19" rack-mount format
- 45 to 1002 MHz forward bandwidth
- Patented RF predistortion circuit for excellent CNR and low distortion performance
- Adjustable SBS threshold (13, 16, 18 dBm)
- Unique simultaneously SBS/SPM suppressing for point-to-point and point-to-multiple application
- Microprocessor control and monitoring
- Automatic/Manual gain control mode
- Front panel LCD display
- RS485 or SNMP control interface

Applications

- CATV
- FTTx
- Broadband video and data transmission

Product Description

The Infomax NE5000 Series is a family of high performance 1550 nm externally-modulated transmitter for CATV applications. NE5000 is in a convenient 1 RU 19" format and it provides a cost effective solution with outstanding performance. It delivers up to 9 dBm with narrow optical linewidth.

When it is linked with one or more EDFAs, NE5000 offers high CNR for long distance transmission. With Infomax's patented RF pre-distortion circuit, NE5000 offers excellent CSO and CTB performance. Additional feature of adjustable SBS suppression control is available.

This family of transmitters is a part of the full complement of products developed by Infomax to support and enhance the deployment of traditional HFC, passive HFC, and fiber to the home (FTTH) Networks.



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Optical Specifications

Optical Wavelength	1550±10 nm or 100GHz ITU-T wavelengths between 1527.99 and 1564.68 nm
Optical Output Level	≥7 dBm or ≥9 dBm
Optical Output Ports	2
SBS Suppression Level	Fixed or adjustable 13/16/18 dBm

RF Specifications

Frequency Range	45~1002 MHz
Flatness	±0.75 dB (45~1002MHz)
Input RF Power Level	15-20 dBmV/ch with AGC control (OMI/ch=~-3±0.25%) or nominal 20 dBmV/ch (@77-ch loading) with MGC control
Input Impedance	75 ohm
Input Return Loss	≥16 dB
Test Point	-20±1 dB relative to RF input

General Specifications

Operation Temperature Range	0~50 degC
Storage Temperature Range	-20~60 degC
Power Supply	90~260 VAC, 50/60 Hz or -48 VDC
Power Consumption	≤75W
Dimension in mm	350Dx485Wx45H for RS-485/single AC or 447Dx485Wx45H for SNMP
Control Interface	RS-485 or SNMP
Weight	<6.5 Kg

Ordering Information

NE5000-1G-xx-yy-zz-pp-qq-rr

xx	Optical Connector	xx=SS: SC/APC with shutter; xx=FC: FC/APC;
yy	Optical Wavelength	yy=16~62: 100GHz ITU-T channel #yy; yy=nn: not specified;
zz	Optical Output Level	zz=07: ≥7 dBm; zz=09: ≥9 dBm;
pp	SBS Suppression Level	pp=13: 13 dBm; pp=16: 16 dBm; pp=18: 18 dBm; pp=AD: adjustable 13/16/18 dBm;
qq	Control Interface	qq=RS: RS-485; qq=SN: SNMP;
rr	Power Supply	rr=SA: single AC; rr=DA: Dual AC; rr=SD: single DC;



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Link Performance

	Link Condition	CNR	CSO	CTB
78-ch NTSC Analog Only	B-2-B	53.5	65/63	65
	SBS18	52.0		
	SBS16	52.0		
	SBS13-1	50.0		
78-ch NTSC Analog + 75-ch QAM (550~1002MHz)@-6dB	B-2-B	52.0	65/63	65
	SBS18	50.5		
	SBS16	50.5		
	SBS13-1	48.5		
59-ch PAL Analog Only	B-2-B	53.5	65/63	65
	SBS18	52.0		
	SBS16	52.0		
	SBS13-1	50.0		
59-ch PAL Analog + 56-ch QAM (550~1002MHz)@-6dB	B-2-B	52.0	65/63	65
	SBS18	50.5		
	SBS16	50.5		
	SBS13-1	48.5		

Link Conditions

	Launched Power after Booster EDFA	Fiber Length of 1st span	Launched Power after In-line EDFA	Fiber Length of 2nd span	Received Power
B-2-B	-	-	-	-	0 dBm
SBS18	18 dBm	50 km	-	-	0 dBm
SBS16	16 dBm	65 km	-	-	0 dBm
SBS13-1	13 dBm	50 km	13 dBm	50 km	0 dBm
SBS13-2	13 dBm	50 km	-	-	0 dBm

Notes:

- (1) The noise figure of EDFA is 5.0 dB.
- (2) The minimum power into booster EDFA and in-line EDFA are 7.0 dBm and 3.0 dBm, respectively.
- (3) The equivalent input noise of optical receiver is $<7 \text{ pA/Hz}^{0.5}$, and optical responsivity is $\geq 0.90 \text{ A/W}$.
- (4) SMF-28 or equivalent is used.