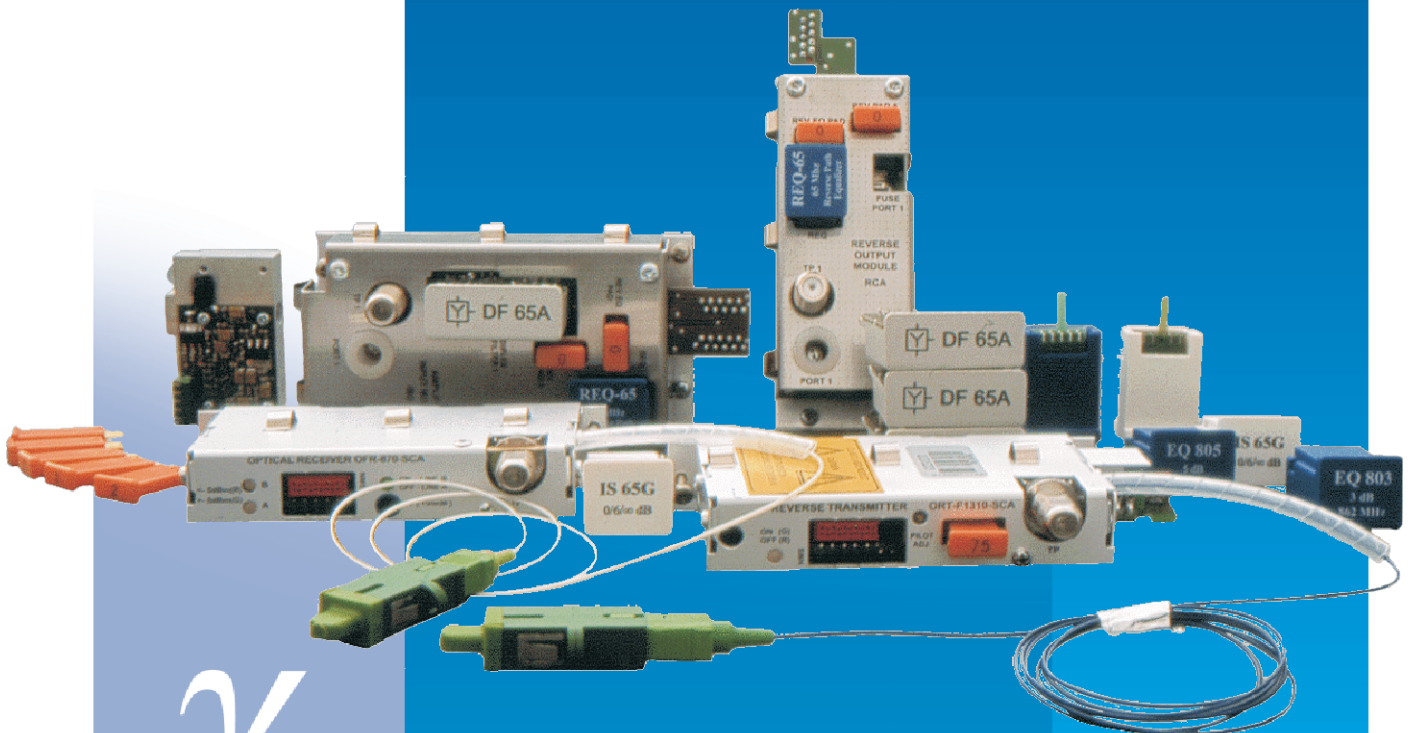




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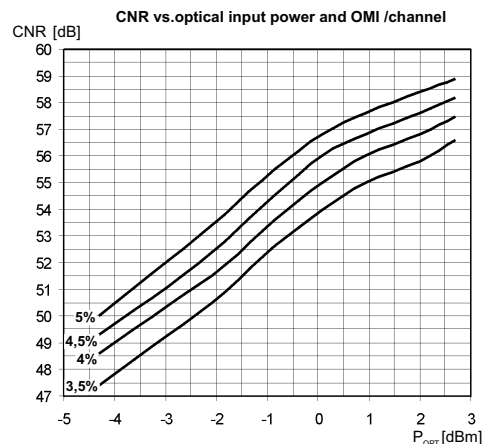
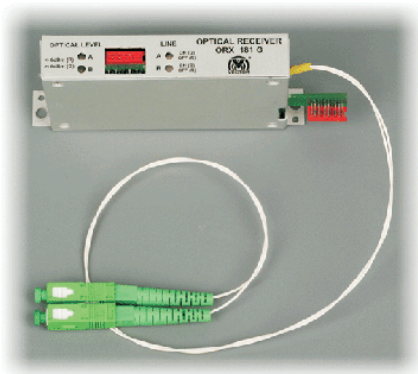
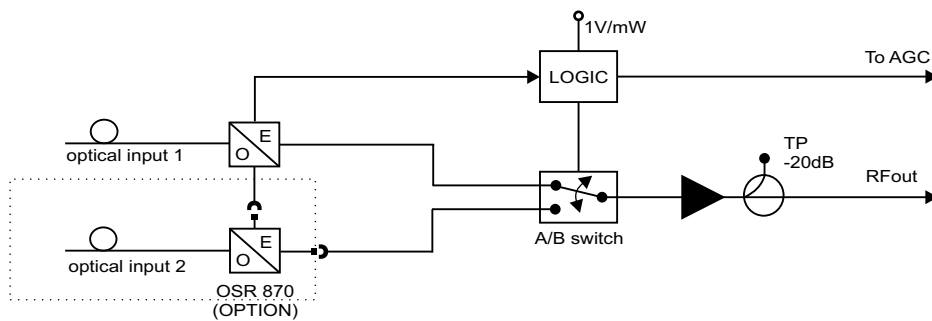
***broadband distribution node
GAMMA - PLUG-IN MODULES***

OFR 870-SCA , OSR 870-SCA

Optical receiver and optical redundant receiver module

PARAMETER	VALUE	COMMENT
Wavelength [nm]	1100 ÷ 1600	
Optical input power range [dBm]	-5 ÷ +2	
Bandwidth [MHz]	47 ÷ 870	
Equivalent input noise [pA/√Hz]	≤ 8	
Optical connector	SC/APC	Others on request
Optical power test point [V/mW]	1 ± 10%	
RF level at the output of the module [dBμV]	78 ± 1	4,5% OMI/channel, 0dBm input optical power
Optical Power Indicator [dBm]	-5	Green - optical power > -5dBm Red - optical power < -5dBm
RF test point - directional [dB]	-20	Relative to module output signal

BLOCK DIAGRAM



VECTOR

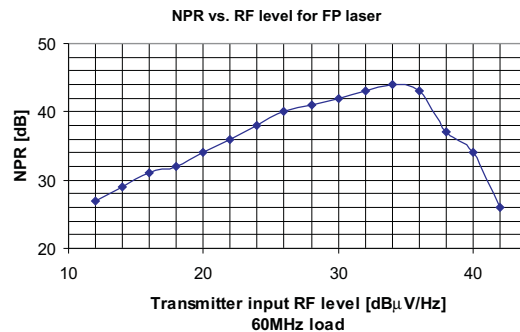
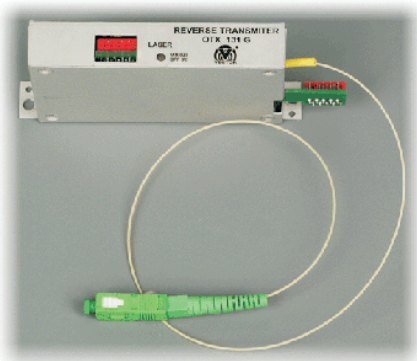
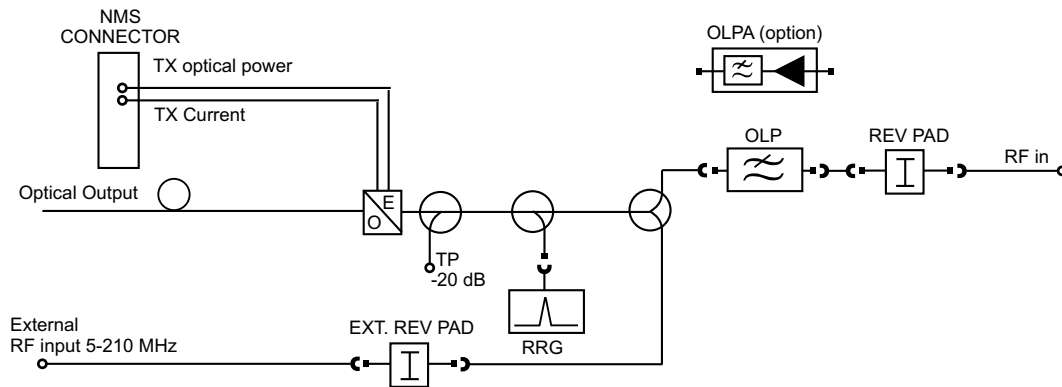
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 tel. +48 58 / 661 50 00, fax +48 58 / 620 75 50
 e-mail: vector@vector.com.pl; http:// www.vector.com.pl

ORT-F1310 SCA

Optical transmitter module

PARAMETER	VALUE	COMMENT
Laser type	FP	
Wavelength [nm]	1310 ± 40	
Optical output power [dBm]	0 ± 1	
Bandwidth [MHz]	5 ÷ 210	For external input - port 1
Bandwidth [MHz]	5 ÷ 65	For internal RF input
Minimum input level for NPR > 30dB [dBμV/Hz]	16	RF drive for laser @ 25°C, 5dB optical loss, 60MHz load
NPR > 30dB dynamic range [dB]	20	@ 25°C, 5dB optical loss, 60MHz load
Optical connector	SC/APC	Others on request
Laser power status indicator [dBm]	-3	Green - optical power > -3dBm Red - optical power < -3dBm
RF test point - directional [dB]	-20	Signal level to laser
Insertion loss for external RF input [dB]	-3,5	For external input - port 1
OMI variation over temperature [dB]	±2	

BLOCK DIAGRAM



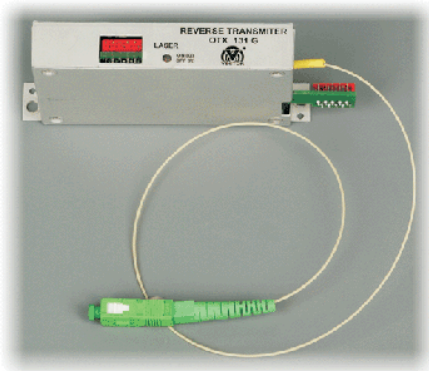
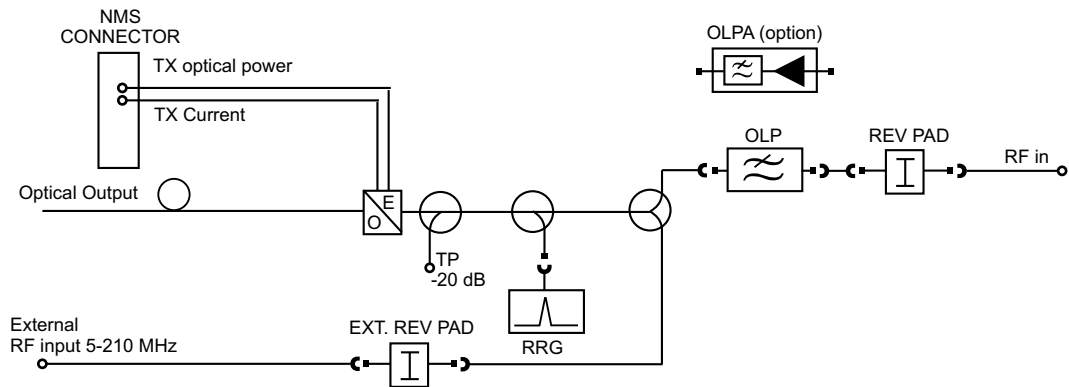
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ORT-D1310-SCA

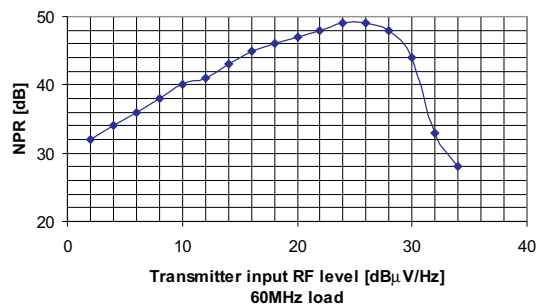
Optical transmitter module

PARAMETER	VALUE	COMMENT
Laser type	DFB	
Wavelength [nm]	1310 ± 40	
Optical output power [dBm]	0 ± 1	
Bandwidth [MHz]	5 ÷ 210	For external input - port 1
Bandwidth [MHz]	5 ÷ 65	For internal RF input
Minimum input level for NPR > 35dB [dBμV/Hz]	10	RF drive for laser @ 25°C, 5dB optical loss, 60MHz load
NPR > 30dB dynamic range [dB]	20	@ 25°C, 5dB optical loss, 60MHz load
Optical connector	SC/APC	Others on request
Laser power status indicator [dBm]	-3	Green - optical power > -3dBm Red - optical power < -3dBm
RF test point - directional [dB]	-20	Signal level to laser
Insertion loss for external RF input [dB]	-3,5	For external input - port 1
OMI variation over temperature [dB]	±2	

BLOCK DIAGRAM



NPR vs. RF level for DFB



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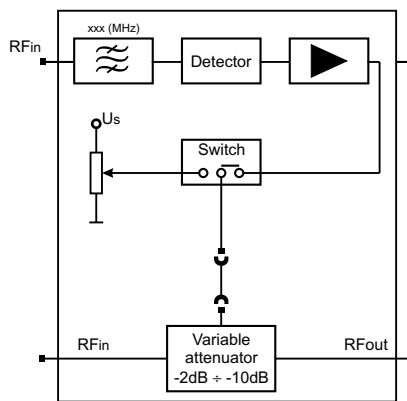
AGC xxx - 6

Automatic gain control module controlled by pilot tone

TECHNICAL PARAMETERS

Bandwidth [MHz]	85 ÷ 862	Dynamics [dB]	8
Pilot frequency [dB]	xxx	AGC insertion loss [dB]	2
Video carrier to pilot tone ratio [dB]	0 ÷ 16	Level stability over 8 dB input level change [dB]	± 1
3 dB bandwidth (minimum) [MHz]	4		
20 dB bandwidth [MHz]	15		

BLOCK DIAGRAM



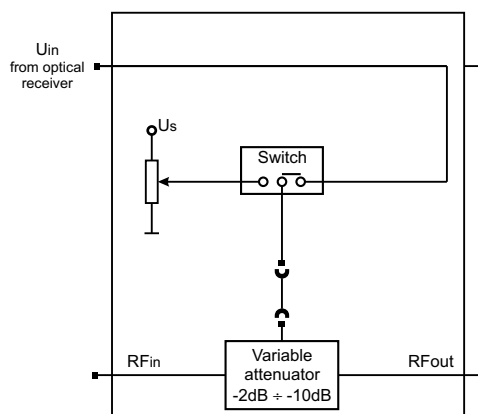
AGC 000 - 6

Automatic gain control module controlled by input optical power level to optical receiver

TECHNICAL PARAMETERS

Bandwidth [MHz]	85 ÷ 862	AGC insertion loss [dB]	2
Dynamics [dB]	8	Level stability over 8 dB input level change [dB]	± 1

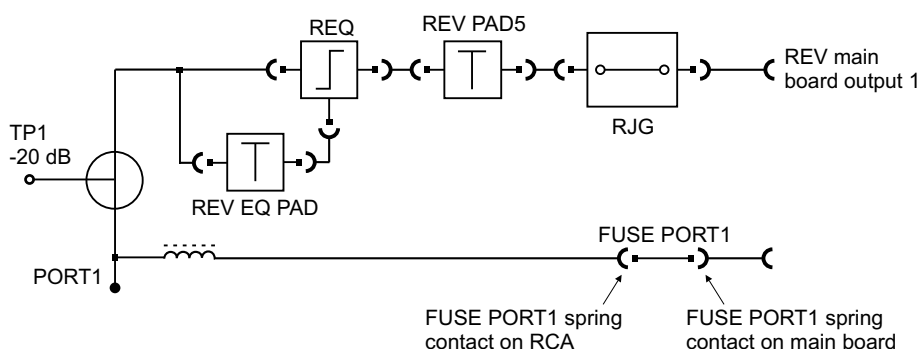
BLOCK DIAGRAM



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RCA

Output module for coaxial reverse output



CKG 01

Optical Node Conversion Kit

Kit includes:

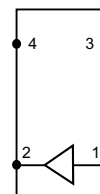
- optical input adapter PG-16
- cover plate
- fibre holders
- mounting screws

RAG 29-1

Reverse amplifier module with low pass filter for single reverse path

TECHNICAL PARAMETERS

Maximum gain for configuration module RCG 04 [dB]	30 ± 0,75	Intermodulation distortions:	
Bandwidth [MHz]	5 ÷ 65	• third order beat IMD3 [dBc] @ 110dBμV [dBc]	≤ -60
Flatness [dB]	± 0,7dB	• second order beat IMD2 [dBc] @ 110dBμV [dBc]	≤ -60
Noise figure for configuration module RCG 04 [dB]	≤ 6dB	Power consumption [W]	2,4
NPR for 60 MHz load @ 27dBμV/Hz [dBc]	≤ -60dBc		



RAG 29-2

Reverse amplifier module with low pass filter for dual reverse path

TECHNICAL PARAMETERS

Maximum gain for configuration module RCG 04 [dB]	2 x 30 ± 0,75	Intermodulation distortions:	
Bandwidth [MHz]	5 ÷ 65	• third order beat IMD3 [dBc] @ 110dBμV [dBc]	≤ -60
Flatness [dB]	± 0,7	• second order beat IMD2 [dBc] @ 110dBμV [dBc]	≤ -60
Noise figure for configuration module RCG 04 [dB]	≤ 6	Power consumption [W]	2,4
NPR for 60 MHz load @ 27dBμV/Hz [dBc]	≤ -60		



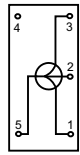
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RCG 01

Reverse configuration module

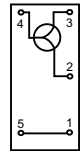
Used for 3-outputs distribution amplifier or 3-outputs optical node with single reverse path.
Provides equal sum of ports 2, 3 and 4.



RCG 02

Reverse configuration module

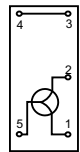
Used for 3-outputs optical node with dual reverse path.
Provides equal sum of ports 2 and 3. Port 4 is configured as an independent reverse path.



RCG 03

Reverse configuration module

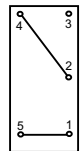
Used for 2-outputs distribution amplifier or 2-outputs optical node with single reverse path as well as for 3-outputs optical node with dual reverse path.
Provides equal sum of ports 3 and 4. Port 2 is configured as an independent reverse path (for 3-outputs optical node).



RCG 04

Reverse configuration module

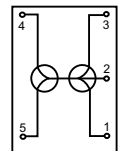
Used for 2-outputs optical node with dual reverse path.
Ports 3 and 4 are configured as independent reverse paths.



RCG 05

Reverse configuration module

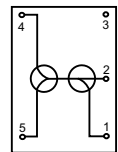
Used for 3-outputs optical node with dual reverse path.
Allows redundant transmission while using redundant optical transmitter.



RCG 06

Reverse configuration module

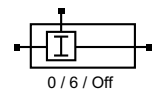
Used for 2-outputs optical node with dual reverse path.
Allows redundant transmission while using redundant optical transmitter.



ISG 65

Ingress switch module

Used while interacting with Network Management System via NMS transponder.
Allows ingress source detection/preventing by remote control of 3-state ingress switches insertion loss 0 / 6 / 30 dB. There is no need to plug any additional modules, while ingress switch module is not installed - autolink circuit provides connectivity automatically.



OLPA 65

Active band-pass filter module 15÷65 MHz for optical transmitter

Provides gain of 20 dB.

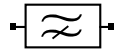


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RHP 15

High pass filter 15MHz module for reverse path



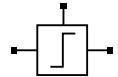
RRG xxx

Single tone reference generator module
xxx - frequency tone [MHz]



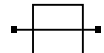
REQ 65

Reverse path equalizer module
Equalization is determined by ATG 8xx attenuator (REV EQ PAD)



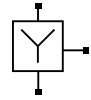
RJP

Reverse jumper



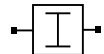
DF 65 A

Diplex filter module
Frequency range: 5 ÷ 65 / 85 ÷ 862 MHz



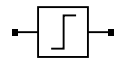
ATG 800 ÷ ATG 820

Attenuator module
Used in forward and reverse path. Attenuation range 0 ÷ 20dB with 1dB step



EQ 801 ÷ EQ 824

Forward path equalizer module
Equalization range 1 ÷ 24dB with 1dB step



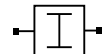
AT 800

Forward jumper
Installed in place of diplex filters and/or forward equalizers if they are not used



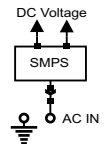
ATG 075

Terminator 75 Ω



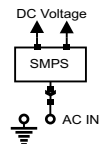
PSG 65

Switch mode power supply (SMPS) module
35 ÷ 65 VAC



PSG 90

Switch mode power supply (SMPS) module
40 ÷ 90VAC



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