

RGA30-DV Serial

Rack-mounted Digital Step Adjustable Amplifier



- Gain : 0 ~ 30dB, Digital display step adjustable .
- Digital gain: LED digital display, clearly shows the current amplifier gain.
- Serial command control.
- Pass DC or block DC settings.
- Frequency Range: 1150~1650MHz
- Response For
 - GPS:L1,L2,L2C,L5;
 - Glonass:G1,G2;
 - Galileo:L1,E1,E2,E5(E5a,E5b),E6;
 - Beidou2:B1,B2,B3;
 - IRNSS:L1,L5;
 - OmniStar

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Description

RGA30-DV Serial is rack-mounted single stage of the low noise amplifier, its technical characteristics are as follows:

1. Digital display gain: LED digital display, clearly display the current amplifier gain;
2. Touch-tone gain adjustment: through the upper and lower key, you can adjust the gain when needed;
3. Power control: toggle the power switch, easy control power supply state;
4. Serial command control.
5. Input port power setting.
6. Output ports:
 - ◆ RGA30-DV 1
 - ◆ RGA30-DV4 4
 - ◆ RGA30-DV8 8

Cover GPS, Galileo, and GLONASS, Beidou2 frequencies etc. The device features 0-30dB gain and a noise figure less than 3dB. Since the product consumes less than 100mA, both the equipment and the receiving antenna are vertically mounted.

Specifications

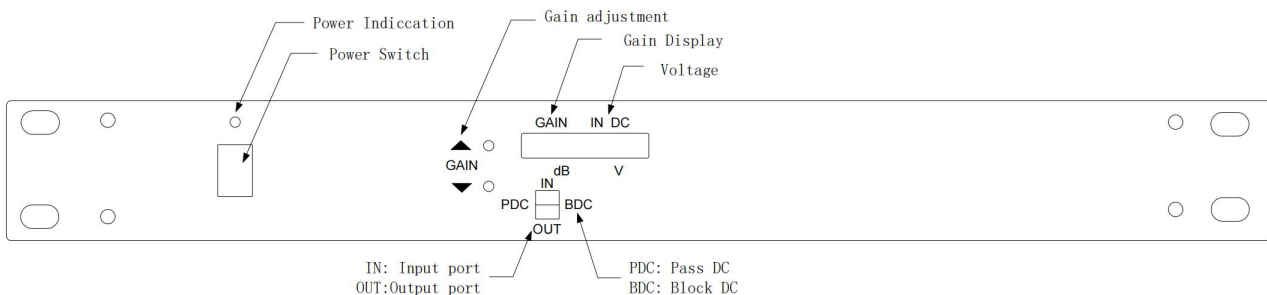
Parameter	Conditions	Min	Typ	Max	Units
Freq. Range	In- Output ports, 50Ω	1150		1650	MHz
In & Out Imped	In, all output ports		50		Ω
Gain	In- Output ports -45dBm Input Level		0~30		dB
1207MHz		(0~30)-1.5	0~30	(0~30)+1.5	
1227MHz		(0~30)-1.5	0~30	(0~30)+1.5	
1561MHz		(0~30)-1.5	0~30	(0~30)+1.5	
1575MHz		(0~30)-1	0~30	(0~30)+1	
1609MHz		(0~30)-1.5	0~30	(0~30)+1.5	
Input SWR				2.5:1	-
Output SWR				2.5:1	-
Noise Figure				3	dB
Gain Flatness				3	dB
Amp. Balance				0.5	dB
Phase Balance				1.0	deg
Group Delay Flatness				1	ns
AC input		100	220	264	VAC
Current	Device only, Internal 12V DC			200	mA
Max RF output power	RGA30-DV8		-25	0	dBm
	RGA30-DV4		-23		

	RGA30-DV		0		
1dB press	RGA30-DV8		-4		dBm
	RGA30-DV4		-29		dBm
	RGA30-DV		-29		dBm
RF output ports	RGA30-DV		1		
	RGA30-DV4		4		
	RGA30-DV8		8		
DC pass or DC block setting	IN		✓		
	Output port: RGA30-DV		✓		
	Output ports: RGA30-DV4 and RGA30-DV8		x		
Operating Temperature		-40		85	°C

Functional description

Used to adjust system gain, 0-30 dB adjustable, you can control when needed. The input can be set to energize 5V DC or not energized.

With AC220 power adapter, supply power to system and itself.



Gain Button: You can adjust the gain size , you can adjust the controller gain increase or decrease.

Digital Display: The display can be on the gain value, input voltage display.

DC Setting:

- IN: Input port DC setting
- OUT: Output port DC setting
 - Just only available for RGA30-DV;
 - RGA30-DV4/8 do not be setting the DC via the button.
- PDC: Pass DC ;
- BDC: Block DC;

To use the serial port:

Connect the device to the computer. Use a serial cable to connect the device's serial port to the computer's serial port or USB port.

Open the serial debugging assistant software on your computer. Select the correct serial port in the software settings. This will allow you to monitor the data received from the device, including the timestamp information.

Configure the software to display the received data in hexadecimal format. This will make the data more readable.

Use the software to send commands or data in hexadecimal format to the connected device. You can type the hexadecimal values directly or use the software's interface.

Click "Open" to establish the connection between the computer and the device through the serial port.

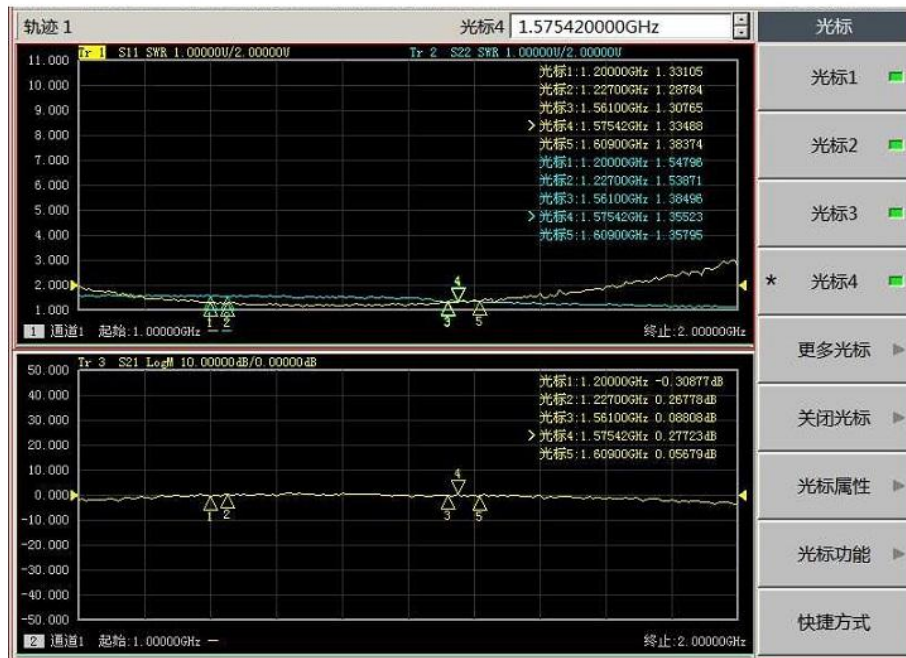
Power on the device by plugging it into a power source and turning on the device's switch. This will enable the device and allow you to start controlling the product's gain.

Please note that the exact steps may vary depending on the specific serial debugging assistant software and device you are using. Always refer to the device's documentation and the software's user manual for detailed instructions on using the serial port.

Serial Port Instructions

Gain	Instruction	Gain	Instruction
30dB	10 02 D0 1E 10 03 30 31	14dB	10 02 D0 0E 10 03 46 31
29dB	10 02 D0 1D 10 03 30 30	13dB	10 02 D0 0D 10 03 46 30
28dB	10 02 D0 1C 10 03 46 46	12dB	10 02 D0 0C 10 03 45 46
27dB	10 02 D0 1B 10 03 46 45	11dB	110 02 D0 0B 10 03 45 45
26dB	10 02 D0 1A 10 03 46 44	10dB	10 02 D0 0A 10 03 45 44
25dB	10 02 D0 19 10 03 46 43	9dB	10 02 D0 09 10 03 45 43
24dB	10 02 D0 18 10 03 46 42	8dB	10 02 D0 08 10 03 45 42
23dB	10 02 D0 17 10 03 46 41	7dB	10 02 D0 07 10 03 45 41
22dB	10 02 D0 16 10 03 46 39	6dB	10 02 D0 06 10 03 45 39
21dB	10 02 D0 15 10 03 46 38	5dB	10 02 D0 05 10 03 45 38
20dB	10 02 D0 14 10 03 46 37	4dB	10 02 D0 04 10 03 45 37
19dB	10 02 D0 13 10 03 46 36	3dB	10 02 D0 03 10 03 45 36
18dB	10 02 D0 12 10 03 46 35	2dB	10 02 D0 02 10 03 45 35
17dB	10 02 D0 11 10 03 46 34	1dB	10 02 D0 01 10 03 45 34
16dB	10 02 D0 10 10 10 03 30 33	0dB	10 02 D0 00 10 03 45 33
15dB	10 02 D0 0F 10 03 46 32		

Performance Data



Gain :0dB



Gain :10dB



Gain :20dB

Order Informations And Available Options

RGA30-DV8 -SF-BO

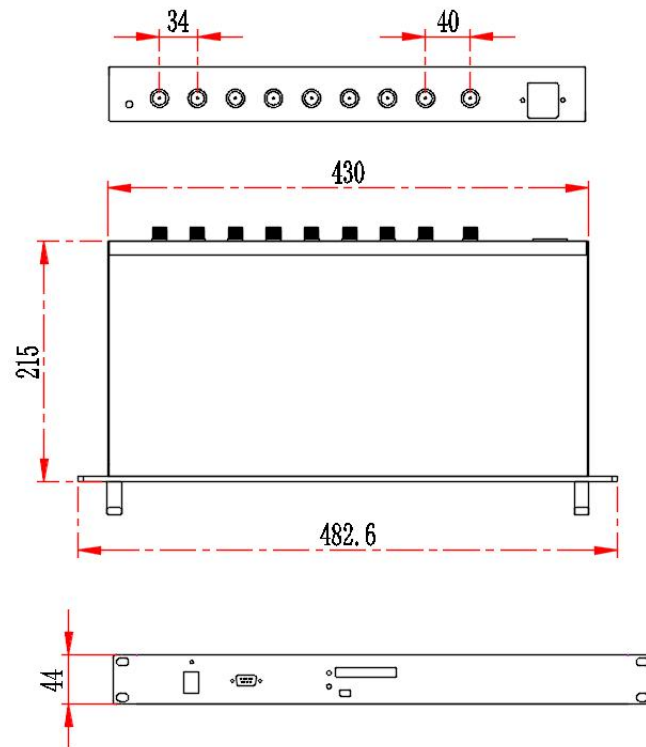
PDC or BDC Options for output ports
Blank (Standard)- Setting via button on panel
 BO- Block DC output ports
 PO- pass DC output ports

Connectors:
Blank (Standard)-N Female
 SF-SMA Female
 TF-TNC Male
 BF-BNC Female

Output port numbers
Standard blank: 1 port
 4: 4 ports
 8: 8 ports

Please contact us for more configurations and application supports. Email: Sales@gemsnv.com.

Mechanical



Frequency reference table

Global/Compass Navigation Satellite Systems(GNSS/CNSS)	5					2					6/3			6			1													
Frequency (MHz)	1164	1176	1188	1192	1207	1215	1219	1227	1239	1245	1252	1259	1266	1268	1278	1290	1535	1540	1545	1550	1558	1561	1563	1575	1587	1592	1602	1609	1616	2491
GPS(USA) L1,L2,L2C,L5	L5+/-12					L2/L2C+/-12											L6+/-5						L1+/-12							
Glomass(Russia) G1,G2										G2+/-7																		G1+/-7		
Galileo(Europian) L1, E1, E2, E5(E5a,E5b),E6	E5+/-15 E5a+/-12 E5b+/-12												E6+/-12				L6+/-5					E2	L1+/-17		E1					
Compass (Beidou 2,China)				B2+/-10									B3+/-10									B1+/-2								
Beidou 1 (China,Tx(LHCP)/Rx(RHCP))																													L	S
IRNSS (India)			L5+/-15																				L1+/-12							S+/-15
OmniStar																	O+/-14--->													