

iRGS208

BBU pool synchronization clock active allocation host



- ✧ Automatic or Manual Antennas Switching Capability;
- ✧ Gain : 0~31dB step adjustable , 1dB step (Optional) ;
- ✧ Antenna status monitoring and warning;
- ✧ Send alarm mail;
- ✧ Dry node alarm;
- ✧ Buzzer alarm function;
- ✧ Output Ports electrified setting , status monitoring and alarm function (Optional);
- ✧ Show information of GPS/Beidou in time;
- ✧ Dual 48V DC ,12V DC dual power support;
- ✧ In large indoor coverage in GPS application;
- ✧ Software management , network management monitoring;
- ✧ High Isolations >30dB;



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Description

The iRGS208 GPS Splitter is a dual-input, eight-output GPS device. The dual input ports connect two GPS receive antennas. The outputs ports grant up to 8 GPS receives signal access at one time.

When entering the GNSS signal system management terminal to set the IP, the software can display the power of each port, the number of GPS visible satellites and the value of C / No, the number of Beidou visible satellites and the value of C / No.

iRGS208 equally divides the signals received by the active GPS receiving antenna into eight outputs and supplies the GPS receiving equipment with a gain of 0-30dB. The two antennas are optional to ensure the integrity of the system. In this scenario, iRGS208 can be configured with its output port to be DC-connected to operate an active GPS antenna connected to the input ports. Other output ports will have a 200 Ohm DC load to simulate the DC loss of any receiver antenna connected to these ports.

The iRGS208 supports dual 48V DC and 12V DC inputs. When powered by a dual 48V power supply, an alarm will be given when one or both of the power supply is disconnected. When powered by a 12V power supply, the power supply is disconnected without warning.

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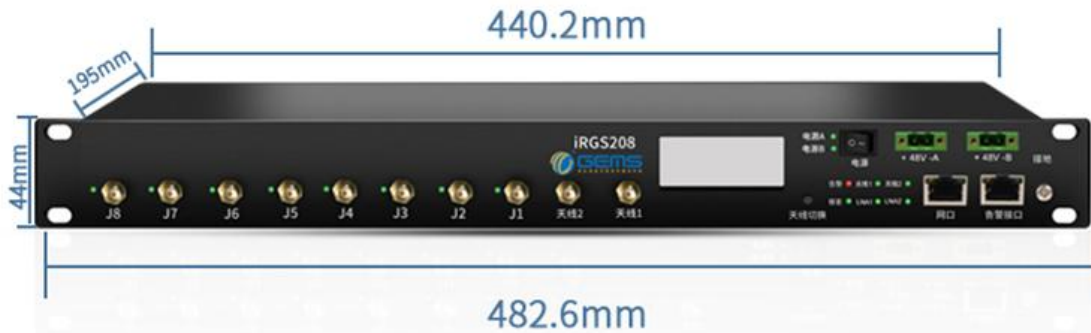
Email: sales@gemsnav.com

Specifications

Electrical Specifications, Operating Temperature -20 to 65°C ; Storage Temperature -30 to 80°C.

Parameter		Conditions	Min	Typ	Max	Units
Freq. Range		Ant – Any Port	1.1		1.7	GHz
Optional frequency range			1.557		1.588	GHz
In &Out Imped.		In, all output ports		50		Ω
Gain	0dB	In- Output ports, Unused Ports - 50 Ω terminations	-1	0	1	dB
	10dB		9	10	11	
Input SWR 1.1-1.7GHz		All Ports- 50 Ω terminations			2.0:1	-
Input SWR 1.557-1.588GHz					1.5:1	-
Output SWR 1.1-1.7GHz		All Ports- 50 Ω terminations			2.0:1	-
Output SWR 1.557-1.588GHz					1.5:1	-
Noise Figure(Amplified)		Ant- Any Port, Unused Ports-50 Ω terminations			6	dB
Gain Flatness(Amplified)		L1-L2 ,Ant- Any Port, Unused Ports-50 Ω terminations			3	dB
Amp. Balance		Ant- Any Port, Unused Ports-50 Ω terminations			0.5	dB
Phase Balance		Ant- Any Port, Unused Ports-50 Ω terminations			1.0	deg
Group Delay Flatness					1	ns
Isolation	Amplified	Adjacent Ports: In - 50 Ω terminations	30			dB
		Opposite Ports: In – 50 Ω terminations	34			
	Gain:10dB	Adjacent Ports: In - 50 Ω terminations	30			
		Opposite Ports: In - 50 Ω terminations	34			
AC IN		Wall Mount transformer		230		VAC
DC IN		DC Block, All ports with a 200 Ω Load			14	VDC
		Powered, (12V)	11.5	12	14	Std
		Powered, (48V)	43	48	58	Optional
Device Current					80	mA
Current		12V DC IN, PASS DC inputs, Block DC outputs			500	mA
		12V DC IN, PASS DC inputs, Block DC outputs			2000	mA
		48V DC IN,PASS DC inputs, BLOCK DC outputs			120	mA
		48V DC IN,PASS DC inputs, Block DC outputs			500	mA
Max RF Input (Amplified)		Max RF input without damage			-35	dBm

The adjacent port and the opposite port refer to:



Type(Depending on the placement of the internal power divider)	Port
Adjacent Port	J1、J3
	J5、J7
	J2、J4
	J6、J8
Opposite Port	Which is not adjacent to the port is the opposite port

Characteristic parameter:

Parameter	Parameter values
Frequency range	1557.5-1587.5MHz
Nominal maximum output power	-25 ± 2dBm
Maximum gain	30 ± 1dB
Frequency error	≤ ± 5 × 10 ⁻³
Fluctuation in the band	≤ 1dB
Noise Figure	≤ 6dB
Input voltage standing wave ratio	≤ 1.5
Output voltage standing wave ratio	≤ 1.5
Spurious Working band outside	9KHz-150KHz:-36dBm/1KHz
	150KHz-30MHz:-36dBm/10KHz
	30MHz-1GHz:-36dBm/100KHz
	1GHz-12.75GHz:-30dBm/1MHz

Performance Index

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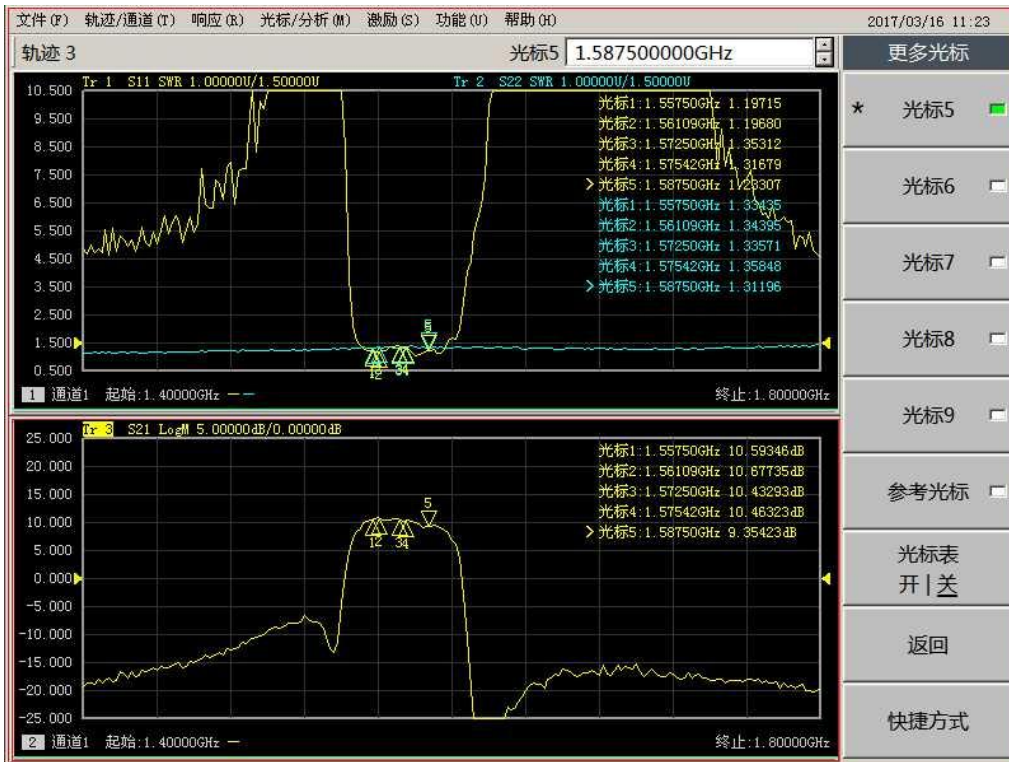
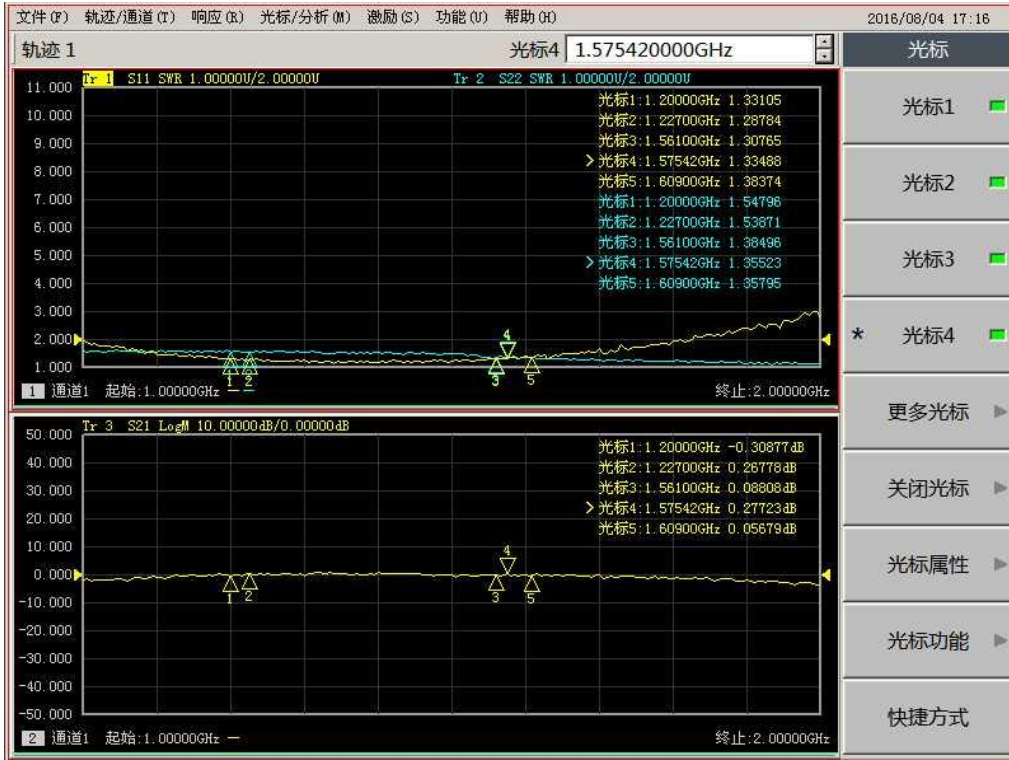
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Serial number	Function	Description	Remarks
1	Timing system compatibility	Support Beidou / GPS two timing system, in any system failure, you can automatically switch to another time system, do not need manual intervention.	
2	Carrying capacity	Able to connect up to 36 BBU (a host + four from the machine), the number and stability of the search star and a single GPS antenna contrast no change.	
3	Expansion capability	After the full expansion of the equipment system (a host + a number of slave) to support BBU synchronization signal port number of not less than 36.	
4	Antenna fault detection function	The first step of the power supply 1 channel into the antenna, the device will be displayed on the LCD "antenna 1 : normal"; the second step to unplug the 1 channel antenna, LCD will display "antenna 1 : open." To meet the above operation is the antenna is normal, not satisfied for the antenna failure. 2-channel operation with 1 channel.	
5	Working status indication	The device can indicate the status of the field through the liquid crystal display (LCD), indicating whether the main road, backup road is working properly and providing a fault alarm.	
6	Dry node alarm	At least four dry node alarm signals can be provided to support power failure alarm. The alarm information can be displayed to the network management center. The alarm information can be prompted by: antenna 1, channel 1, host output, slave output, antenna 2, channel 2, power supply 1, power supply 2.	No slave output alarm(Temporarily)
7	Buzzer alarm function	Able to use voice prompts the machine if there is a fault, and can manually turn off the fault alarm sound.	
8	With network monitoring function	Mainly used in the network management server to monitor the working status of the machine.	
9	Positioning information indication	The device can indicate the main road location information through the LCD, such as longitude, latitude.	Do not show the main path (only when you switch to the backup path to display the location information)
		The device can indicate the location information of the road through the LCD screen, such as longitude and latitude.	
10	Connect the BBU indication function	When the BBU device is connected to the system interface, the system can automatically indicate that the connection is working properly.	
11	Host output connection indication function	With the host output connection indication function, through the lights were able to reflect the host output port connected to the BBU, from the machine, floating state.	
12	Power output port of host	The power output of the host output port can be remotely controlled by software. When the host output from the machine or BBU, only through the software to change the power situation can be used, the use of more convenient and more efficient.	

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Operation instructions

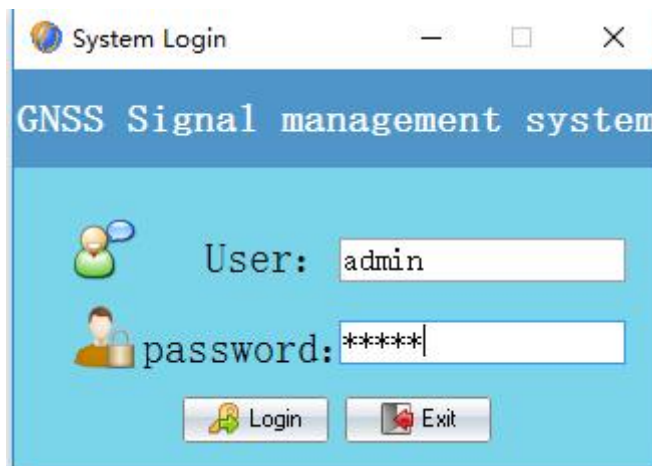
Open the power to access ANT2, ANT1 port antenna, connect the network serial port to the PC port.



Install and open “GNSS signal system management terminal” software, login.

User: admin

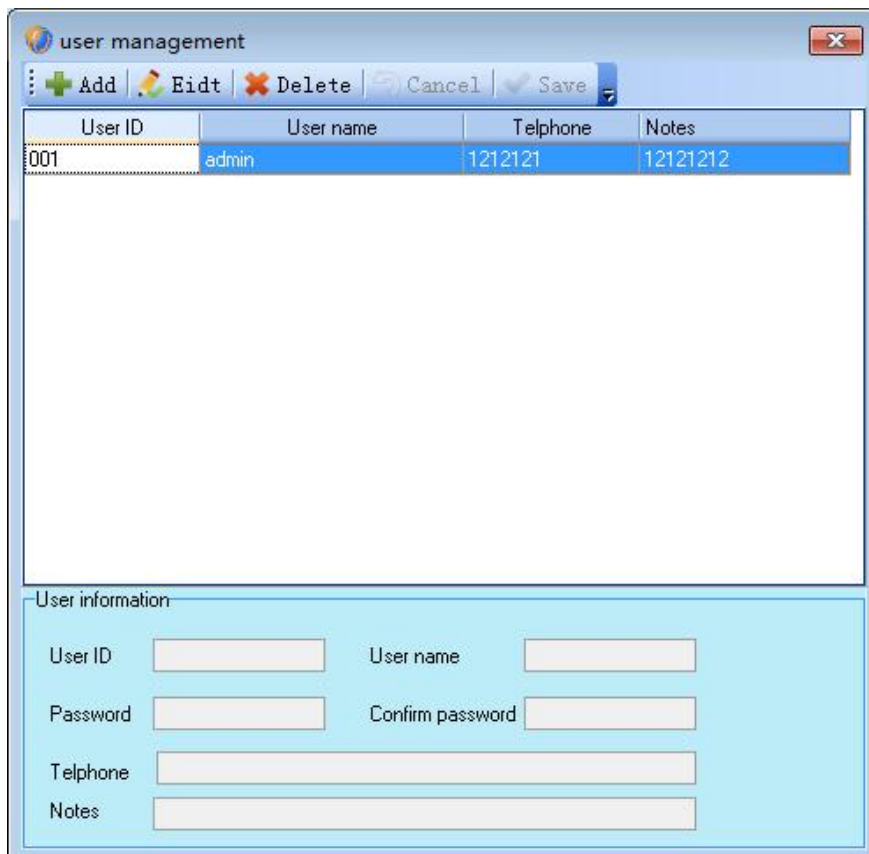
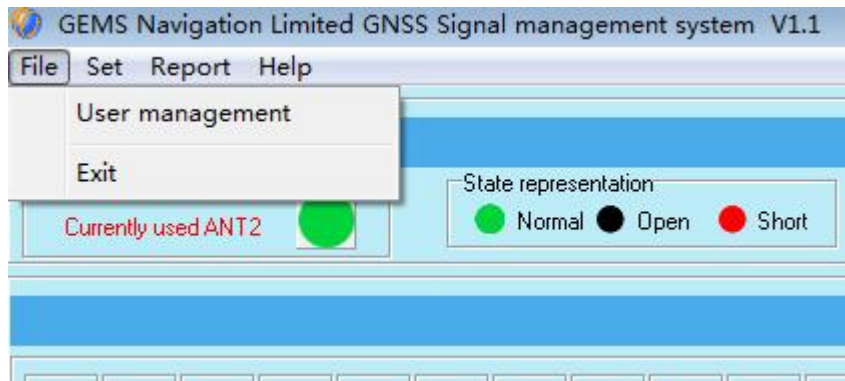
Password: admin



Click on the "Login" sign on; "Exit" exit.

1. User management

File → User Management

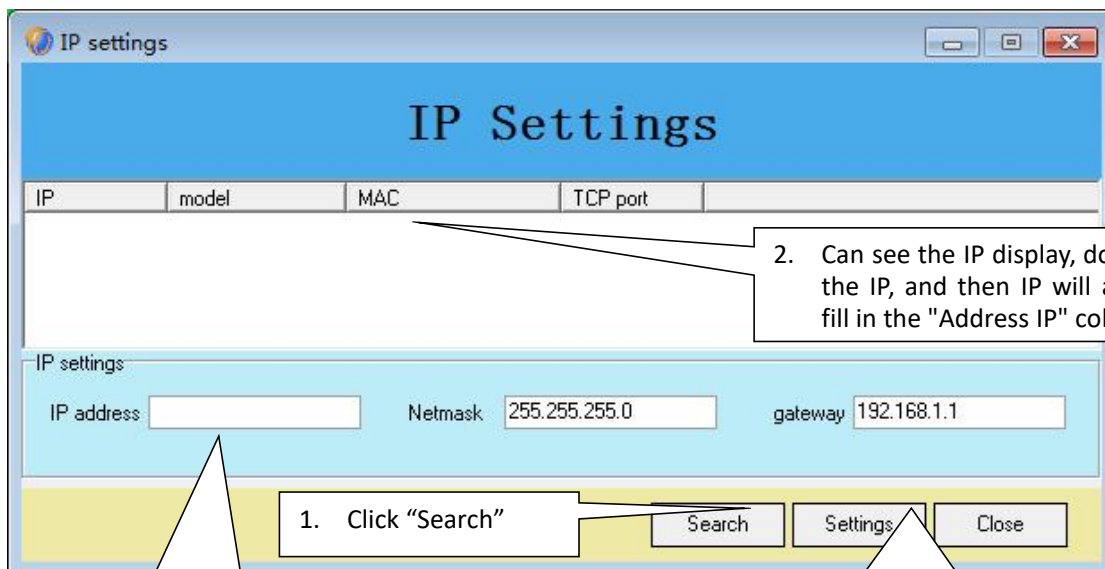


2. Set IP

Set → IP Set



Setting steps



IP set successfully, the network serial port can be used normally.

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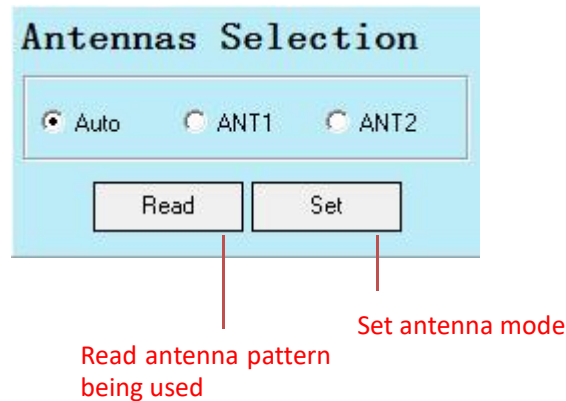
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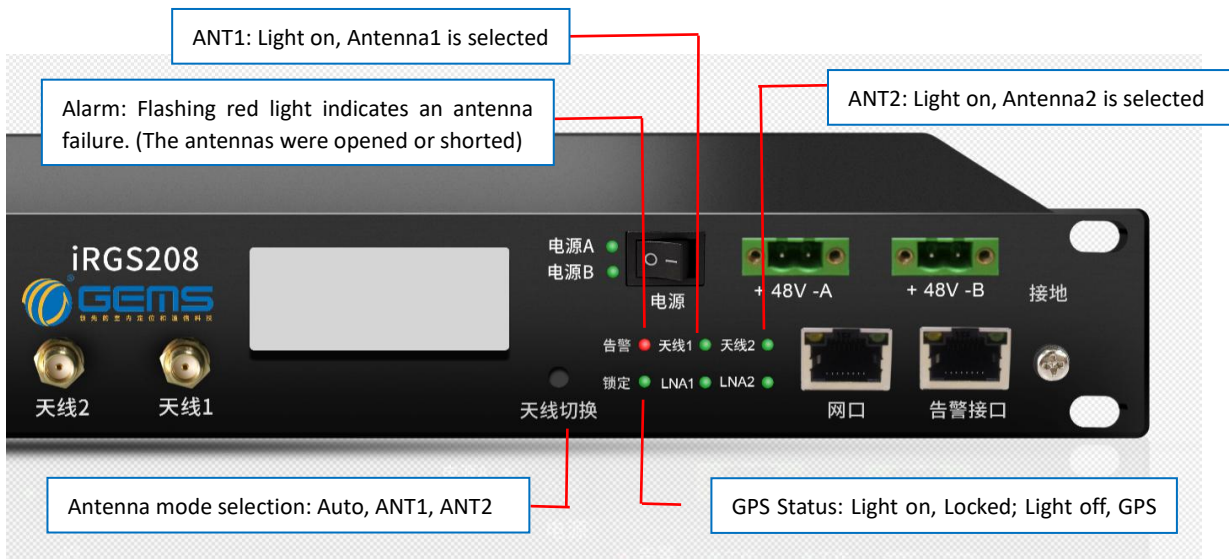
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3. Antenna selection and status display

In the below and to the right of the antennas selection bar for active antenna selection and state, read the "auto" selected automatically signal the better antenna access, Ant1 is specified using the wire 1 access, ant2 "for the specified using antenna 2 access, click the" read "read antenna can be seen when using the antenna pattern.

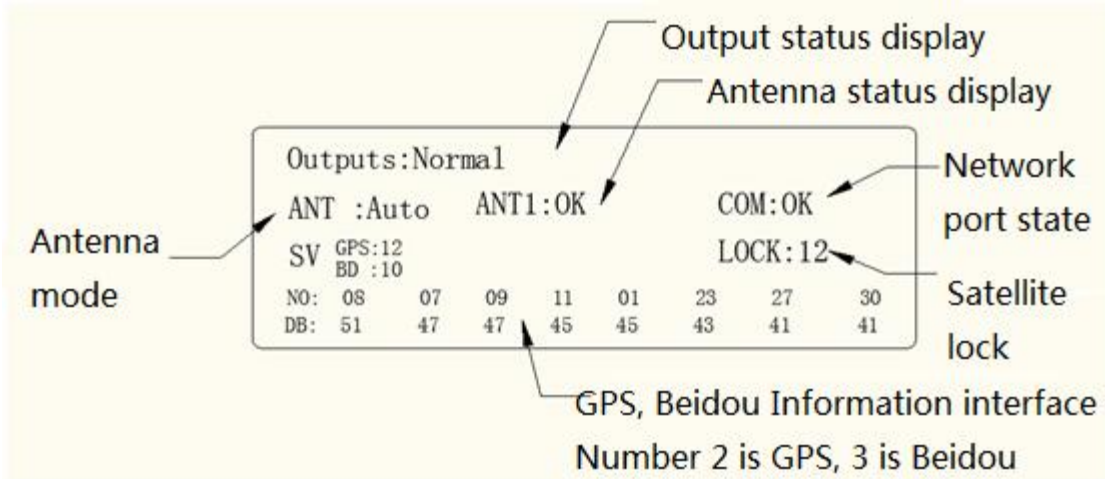


Active antenna mode select: Select "AUTO" or other antenna patterns Click "Set" prompt setup is successful, while the unit's front panel LCD displays the antenna pattern used in this case, if you select "AUTO" mode the unit's front panel "ANT1" bright blue light, select "ANT1" mode is "ANT1" lights up in blue, select "ANT2" mode "ANT2" lights up in blue, the active antenna selection mode can also be operated in the front panel buttons, press the button "Ant Switch", can rotate choose from three antenna mode, synchronous display mode antenna device used in this case on the LCD screen.



"AUTO" mode: automatic selection mode for the antenna when switching to this mode will automatically turn access antennas 1 and 2 compare the signal strength and then select a better signal antenna access. In this mode the device automatically switches the antenna will be delayed.

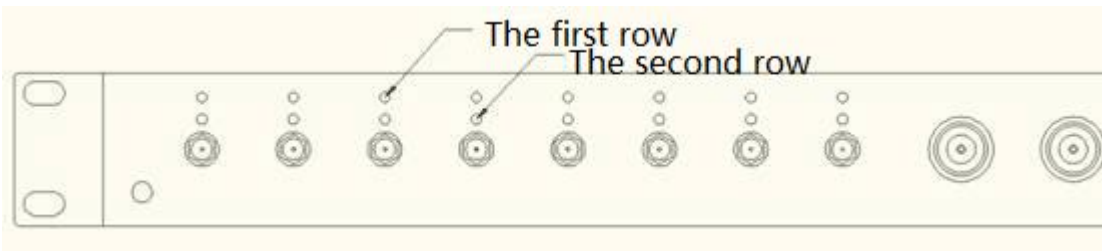
If the antenna is open or shorted, the machine front panel "satellite lock" green light goes out, "alarm" flashing red light that alarm, PC side read antenna running state is short or open.
If the output port of the Outputs "Normal" is normal or not electrified port port; "Open" said open, did not pick up the equipment output; "short" for short circuit, output access equipment output short circuit, short circuit or open circuit alarm device.



Turn off the sound, the fault does not rule out the warning lights will not go out.

Output port status indication:

The output port status indicates that the first row of light that is connected to the BBU connection state, when the host output is not powered, the output is connected to the BBU normal red light, not a normal red light off the second row of lights connected to the machine when the connection state, Slave normal light green, short circuit light red, open light orange, no power when the lights off.



Backplane description:



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Power:

Dual power supply design, power supply 48V DC and 12V DC power supply support, to choose from, such as access to work when the 48V power supply, the 12V power supply is not access; while 48V and 12V power supply has reverse polarity protection, namely when the power is negative reversed, the device will not burn, it has a protective function.

Power Connecting:

- -48V DC:
 - -48v connect to -;
 - GND connect to +;
- +48V DC:
 - +48V connect to +;
 - GND connect to -;
- 12V DC

4. Dry node alarm

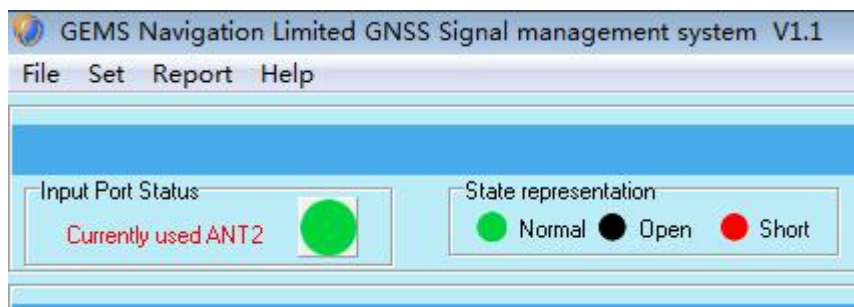
The dry contact points are divided into two parts: power supply and port :

(1) .when the dual 48V power is properly connected, the device will not alarm, NC will disconnect, and NO will turn on. When the 48V power supply is disconnected or disconnected, the NC is turned on and the NO is disconnected

(2) .when two antennas are properly connected, the device will not alarm, NC will disconnect, and NO will turn on. When one or two of the antennas are not connected or short-circuited, the NC switches on, NO is disconnected, and the red light flashes.

5. Antenna operation status display

At the top left of the interface of the software, input port status bar for the antenna operating status, real-time displaying the access for which antenna and access antenna operation and state representation bar sketch for antenna operating status, Green said normally, red represents a short circuiting, Black said the road.



If the antenna open or short circuit, the front panel of the machine GPS Locked green light is off, Alarm red light flashes to indicate alarm, PC-side reading antenna operating state shorted or opened.

6. Output port status settings

Software on the "output port state" that the device output power, you can set the power of each port, iRGS208 8 output so to enable the 1-8 port, click on the "read" you can know the port at that time the connection status, green That is normal, red that short circuit, black that open, only in the case of power to show the port state.

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Power settings:

The first row of ports is not checked, and then click the "port settings" set to the port power;

No power settings:

The first row of the port check and then click the "port settings" set to the port is not powered;

Note:

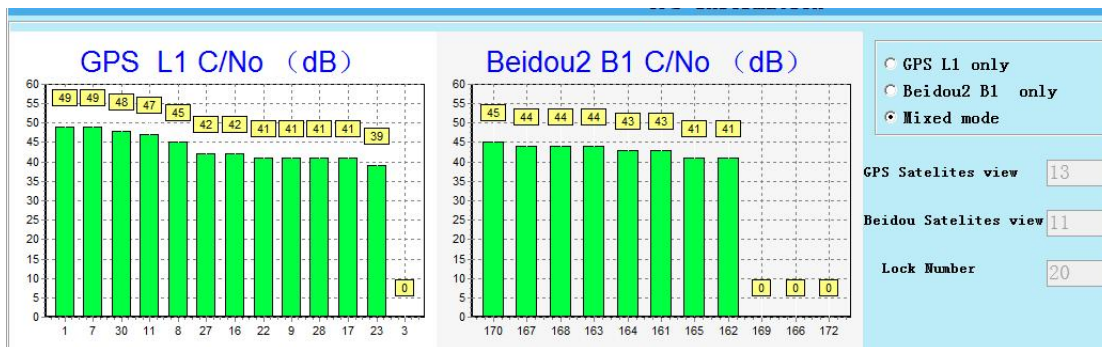
The first row of check that does not power, do not check that power.

The second row check indicates that it is not enabled, and unchecked to enable it.



7. GPS Information

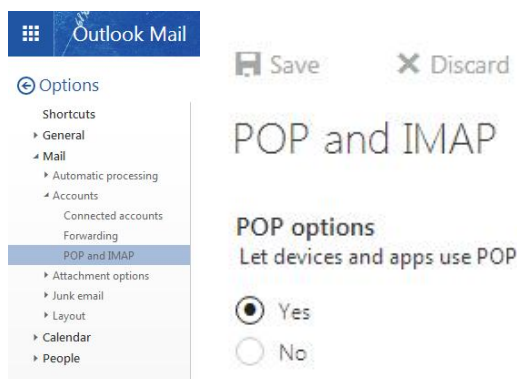
GPS information bar graph for the received satellite signal real-time display and the right edge of the chart three options "GPS L1 only" to show only the GPS L1 satellite signal chart, "Beidou2 B1 only" to show only the compass B1 satellite signal chart, "mixed mode" for the two charts show.



8. Send alarm mail

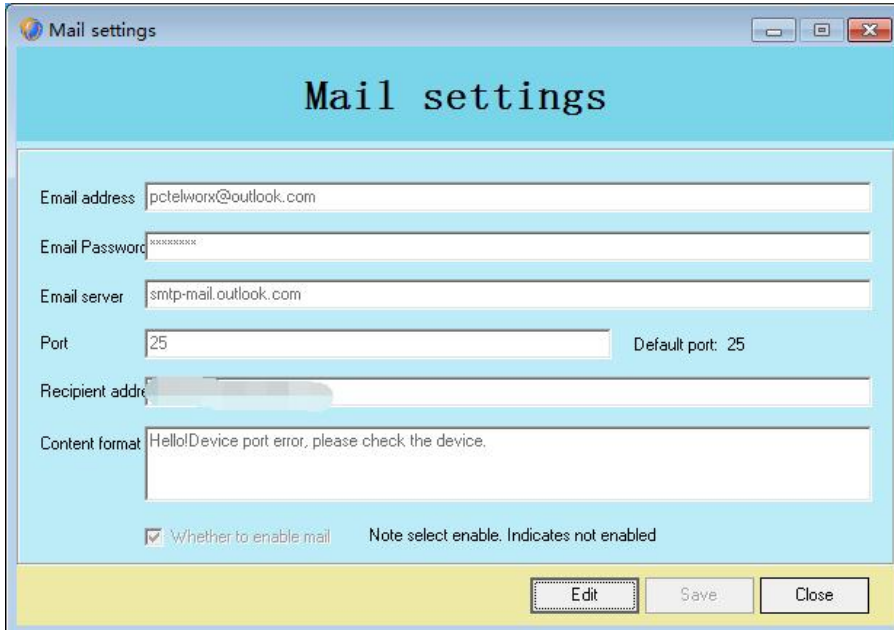
(1) E-mail settings

Use Outlook as a sending mailbox, you need to allow the device and application to use the "POP" function, set the mailbox "POP" function, check "yes" and save the settings.



(2) Client mail settings

Go to "Mail Settings" Click "Edit".



E-mail address: Send the email address of the message;

Mailbox password: Mailbox login password;

Mail server: smtp-mail.outlook.com;

Port: 25;

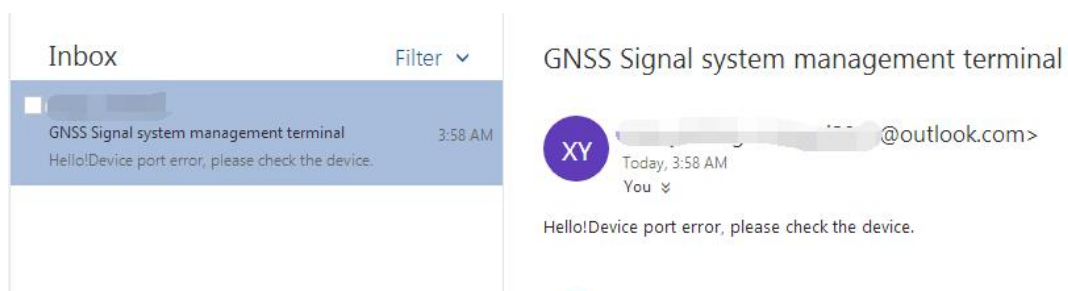
Recipient address: The email address of the incoming mail;

Content format: Can edit the contents of the message;

Whether to enable mail click check, click "Save" mail settings are complete.

(3) Functional demonstration

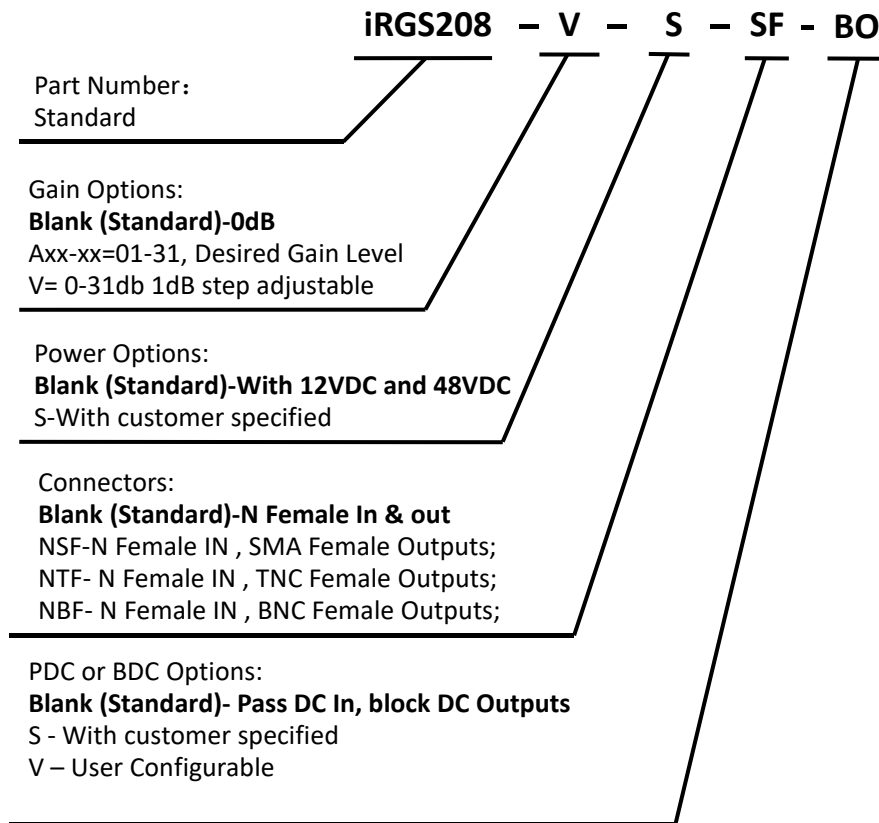
After the setup is complete, the client will automatically send the mail to the receiving mailbox when the device port is faulty, such as when the current input antenna is open, shorted or output is powered on and shorted.



(4) Alarm mail sending mechanism

When the device port failure will immediately send a message to the specified mailbox, if the fault is not removed and failure will not send mail again until the troubleshooting, the system will run immediately after the failure will immediately send an e-mail to the designated e-mail; Mailbox sometimes intercepts short messages, please set up a collection of mailboxes white list, in the mailing mailbox to set the mail box to set the mailbox, to prevent the alarm message mistakenly blocked.

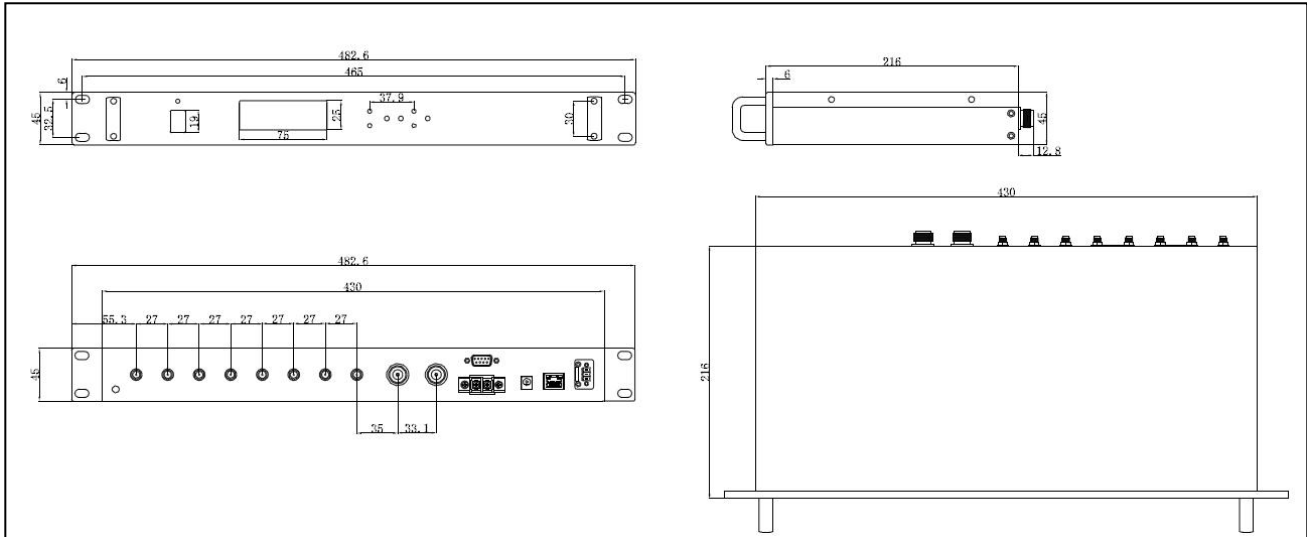
Order Information And Available Options



Please contact us for more configurations and application supports. Email:

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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	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										
Glionass(Russia) G1,G2																																
Galileo(European) 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-->																