20-3000MHz VIP Bomb Jammer

User Manual

Preface

Thanks for choosing our Waterproof VIP Protection(RCIED) Bomb Jammer System.

In order to ensure that you can be familiar with the operation of this machine as soon as possible, this user manual could provide you the details, which includes product introduction, using method, system setting, attention points and variable notices.

This jammer has passed the strict inspection and gotten the certification from The Ministry of Public Security Safety and Police Electronic Product Quality Inspection Center, Electronic Products Quality Control Center, and The Electromagnetic Leakage Transmission Safety Protection Product Testing Center.

We are very careful while making this manual to ensure the information provided be correct and reliable, but if there is any mistakes, we hope for your forgiveness and instruction. Thanks.

 This Jammer is used for the place where the wireless signal is not allowed.

Contents

System Overview

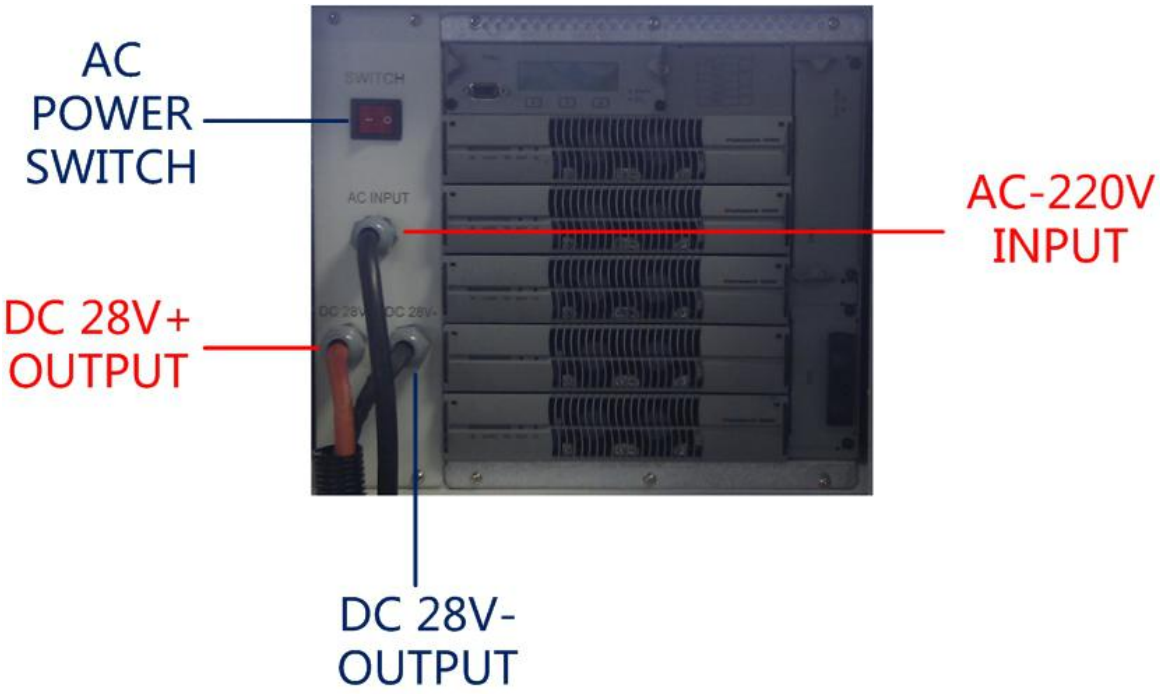
Now, let us introduce this jammer system to you, let you understand the position of all buttons, Component and any other hardware features.

Main System and Power Supply

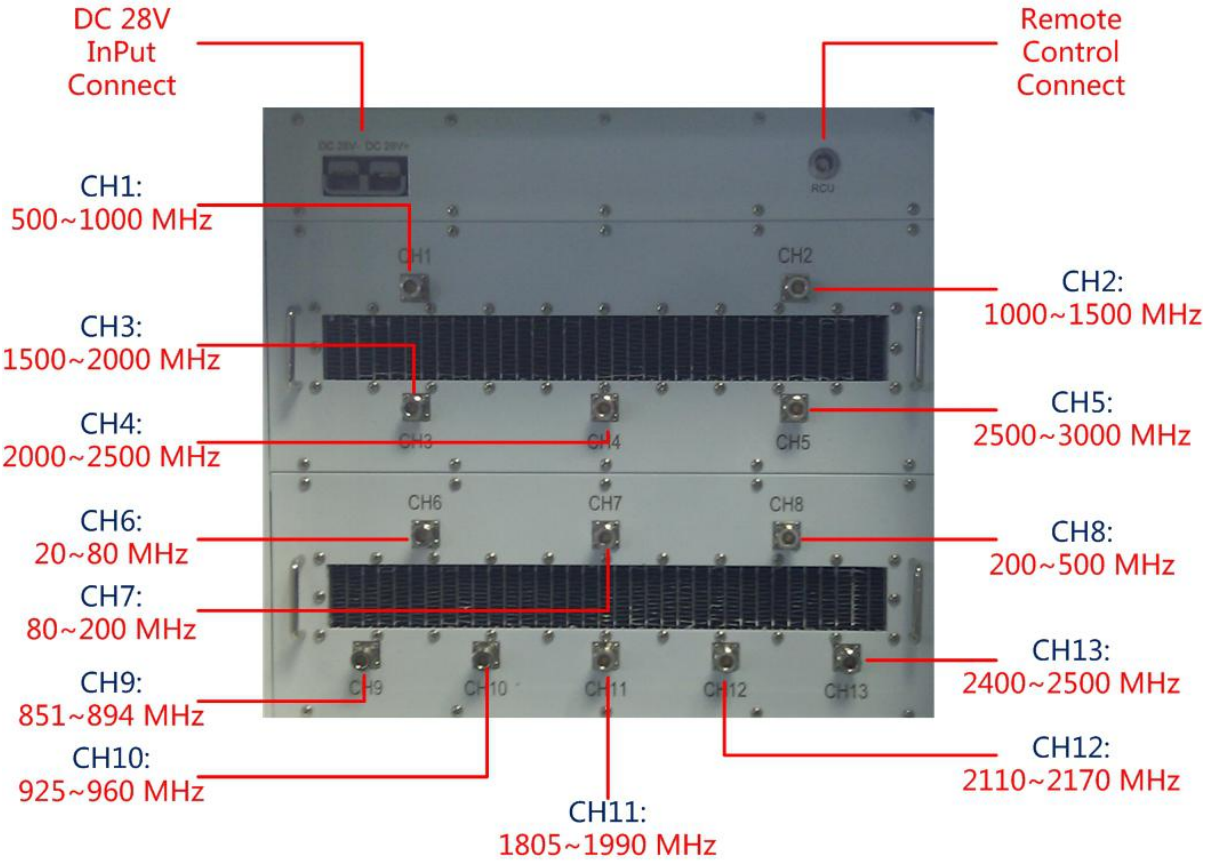
Main System （Front Cover open）

Power Supply (Front Cover open)

i. **Power Supply Front View**



ii. **Host Front View**



Product Features

1. Technical Specification

Channel	Frequency Range	Output Power（±1dBm）
CH1	500-1000 MHz	50 dBm
CH2	1000-1500 MHz	50 dBm
CH3	1500-2000 MHz	50 dBm
CH4	2000-2500 MHz	50 dBm
CH5	2500-3000 MHz	50 dBm
CH6	20-80 MHz	50 dBm
CH7	80-200 MHz	51.3 dBm
CH8	200-500 MHz	51.3 dBm
CH9	851-894 MHz	51.3 dBm
CH10	925-960 MHz	51.3 dBm
CH11	1805-1990 MHz	51.3 dBm
CH12	2110-2170 MHz	51.3 dBm
CH13	2400-2500 MHz	50 dBm
Power Supply:AC220V **Jamming radius: 50-500M depending on the environment signal strength**		
Power Consumption: 3900W		**Host Weight :79.5Kg**
Host Size(L×H×W)::660×480×520 mm		
Power Supply Weight: 49.3Kg		**Power Supply Size:466×385×420 mm**
Humidity: 30%-95%		**Working temp: -10 to +55 degree Celsius**

2. Technical Feature

Using DDS Jamming technology to make the Frequency setting more precise

Highly Efficiency output power, long jamming radius

Slow start up design of circuit to make the device work stably.

Perfect Self Protection:

Over Heat protection – Thermal protector

Over current protection

High input Voltage and low Voltage protection

VSWR protection: against antenna miss-match including open and short circuit

Waterproof, suitable for using at outdoor.

3. Connecting Port

13pcs RF Output Ports for Connecting Antennas;

2pcs (AC-220V&DC-28V) Input Port;

1 RCU Port for Wire Control Panel.

Chapter 3 System accessories

The jammer full set is made up of host, antennas and remote controller.
Host contains 13 modules. Each module can adjust power, warning standing wave indicator and warning temperature indicator separately .

1. Remote Controller

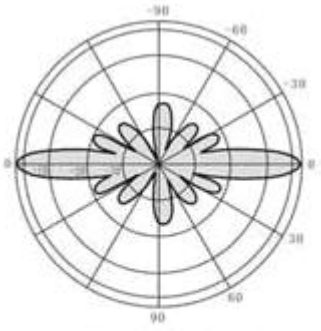
All the operations are integrated in the remote controller, the user can operate it far from equipment, very convenient.

Remote controller and connecting cable

2. Antenna

Type1：Omni-directional antenna

Gain: 3dBi



Vertical Plane

impedance	50Ω
VSWR	≤1.8
Gain	3dBi
Power	150W
polarization	Vertical
intermodulation	<-107dBm
Connector	7/16 or N-K
lightning protection	Ground
wind barrier	60(m/s)
Diameter	φ40(mm)

Type2：Directional Board antenna

Interface： N Female

Gain: 13-15dBi

Connect cable

Start to use

Step1 Open the boxes

Open the boxes, retain the boxes that have been unglued for moving or transporting in the future.

Check the opened equipment and accessories to make sure whether they are intact or not. Please contact with your supplier soon if you find our products have any missing parts or damage.

Step2 Connect the electric cable and antennas

1.Coaxial-cable is mainly used in connecting the antenna and jammers, and the antenna must be fixed before connect it.

Notice: The jammer must be started after its antenna has been connected with it, or the jammer will be damaged badly. All costs and consequences which caused by user's this action will bear liability on his own.

2.Please use cables to make the Antenna and Host Port one-to-one connection well.

3.Connect the host and remote control box.

Notice: When you begin to connect the main engine and remote control box, the Red Dot on connecting line's plug must be match with the Red Dot on port's plug, or they cannot be inserted (As shown in the following picture);

4.Please put the 3pin AC INPUT power line which in the power box join up into electric supply through air switch.

Air Switch

Notice: The nominal parameter of air switch must be greater than 10KW/45A, any index of air switch that under this nominal parameter may cause power supply or equipment damage badly, and all costs and consequences which caused by user's this action will bear liability on his own.

Step3 Turn on the jammer

1.Put the air switch to ON position.

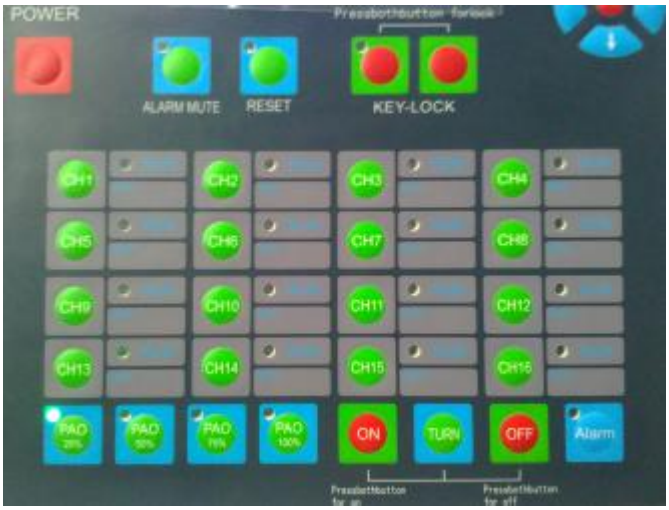
2.Open the front cover of power box, and put the ship type switch to "I" position

3. Acquiesce 25% output power while jammer is working, and you can regulate the power size by yourself, and the adjustment method will be illustrated next step.

Step4 Operate Jammer

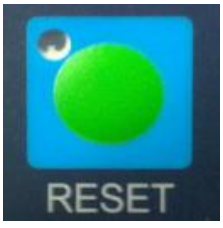
Our jammers have no any interface about operation or control, all operating is realized through the remote control boxes.

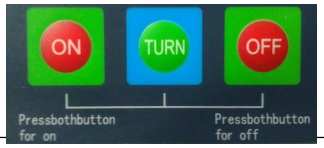
1)The Application Method of Function Key Shortcut.



The Picture of Function Key Shortcuts

All the Shortcut keypad functions as follow:

Key name	Function	Detailed description	Corresponding buttons
POWER	Remote control box Switch	5 seconds long press, remote control box into the sleep state and does not respond to any key operation, this time the equipment keeps the working situation that before sleep state(including all of the operation and set); Long press again 5 seconds, the remote control box can be aroused from sleep state.	
ALARM MUTE	Alarm buzzer Switch	When the jammer device give a fault alarm, the buzzer will be tingling no break, if user don't need buzzer to tingle, please press this button, the buzzer will stop working, and at the same time, the buzzer switch indicator light red color(Note: on left upper corner of this key); Press this button again, the buzzer continue to work, the buzzer switch indicator lights out;	
RESET	Reset Switch	5 seconds long press, all the parameters of jammer device revert to factory default; **Warning: this operation irreversible, once revert to factory default, all the parameters need reset according to the actual situation.**	

KEY-LOCK	Key lock Switch	This Key is double key switch, please press the two buttons of KEY-LOCK in the same time 3 seconds above, then all the buttons of the remote control box will be locked, including the screen keyboard affiliated area, all buttons no longer response to any key operation; Once again press the two buttons of KEY-LOCK in the same time 3 seconds above, the keyboard will be unlock；	
CH1~CH16	Channel 1 ~ Channel 16 corresponding power amplifier Switch	Here total 16 key buttons, one button corresponding to one power amplifier (Note: it corresponding to the CH1-CH16 port of the jammer device reverse side RF OUT port), press "CH*"(Note: * representative 1 ~ 16 any number) button, the corresponding power amplifier module start work, the "RUN" working indicator on right side of CH* button light green color; Press CH* button again, the corresponding power amplifier stop working and RUN working indicator out; Note: not all jammer device contains 16 units power amplifier, definite units of power amplifier subject to the order contract.	
PAO25%	The output power adjusting Switch	Press this key，the jammer device working at 25% output power(Note: the factory default is 25% output power)；	
PAO50%		Press this key，the jammer device working at 50% output power；	
PAO75%		Press this key，the jammer device working at 75% output power；	
PAO100%		Press this key，the jammer device working at 100% output power；	
TURN ON	Complete machine power amplifier	Double key switch. Press the **TURN** and **ON** two keys in the same time, all power amplifiers of jammer device start working;	

	ON		
TURN OFF	Complete machine power amplifier OFF	Double key switch. Press the **TURN** and **OFF** two keys in the same time, all power amplifiers of jammer device stop working;	
ALARM	Alarm indicator light	When the jammer device give fault warning, ALARM indicator light red color; Normal state, ALARM indicator light out; (Note: this area have only one red warning light, no button key)	

2). The usage of Menu and Affiliated Keypad

screen and affiliated keyboard picture

screen and affiliated keypad function as below:

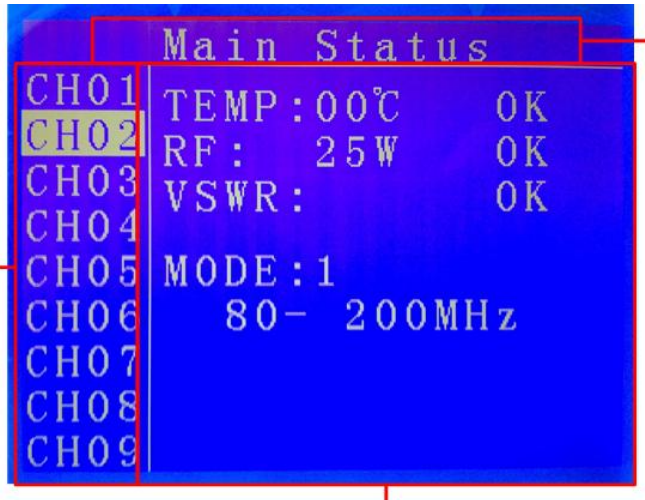
Key name	Function	Detailed description	Corresponding buttons
ESC	Escape	Exits current screen operation, only valid in frequency setting；	
STATE	State query	Enter into state query menu, it can query all Channel current working state and alarm information of the jammer device on screen; (Note: the state menu is the screen default	

		display menu)；	
SET	Frequency setting	Enter into frequency setting menu, it can set each channel working frequency separately according to the actual situation;	
NUM 0 ~NUM 9	Numeric keypad	Numeric keypad for the specific frequency of the number of inputs, and only valid in frequency setting;	
DOT	No use now		
MHz			
UP	Positioning buttons	Move up and down cursor to select Channel, or to set frequency, selecting the frequency segmented model;	
DOWN			
LEFT		Move the cursor left and right, choose to set a specific frequency range, only effective when frequency setting;	
RUGHT			
ENTER	Confirming button	Confirmation of the setting, shielding the current operating parameters , save to the built-in permanent memory;	

a). Main Status Query Menu

Main Status query menu is used to query the jammers Channel , current working status, such as temperature, output power, standing wave alarms and other information;

The default display status when the jammers start the Query menu as follow, you can also press the STATE key to enter ;



Status

Channel Selection Area

Status Display Area

Query Menu Analytic Map

A. Channel selection operation:

UP / DOWN keys move the cursor, select the Channel to the query of CH ** with the back of the jammers, RF OUT port marked CH * one-to-one correspondence;

Note 1: CH ** means CH01 ~ CH09, any of the Channel on the menu;
CH * CH1 ~ CH9, any RF OUT port

Note 2: The Channel3 can be segmented, so, CH03 corresponds to shield the back of CH3A and CH3B two RF OUT port; when the CH03 in segmentation work, CH3A, CH3B are output, regardless of CH03segment, only CH3A has output signal, CH3B no output signal.

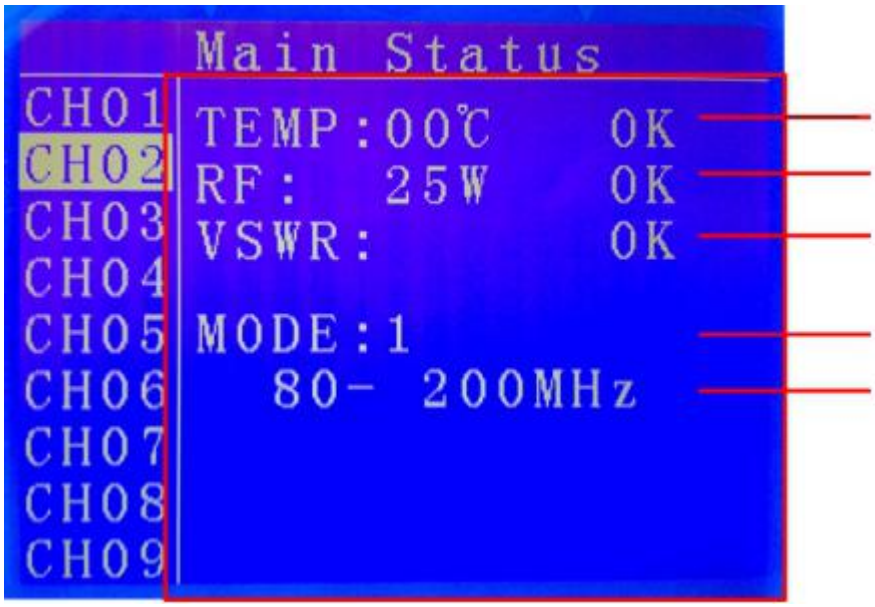
B. The Main Status Area analysis:

When the cursor stays in a Channel, status display area will show the Channel's current working status, as shown below:

Current working Temp.
RF Output Power

VSWR Status

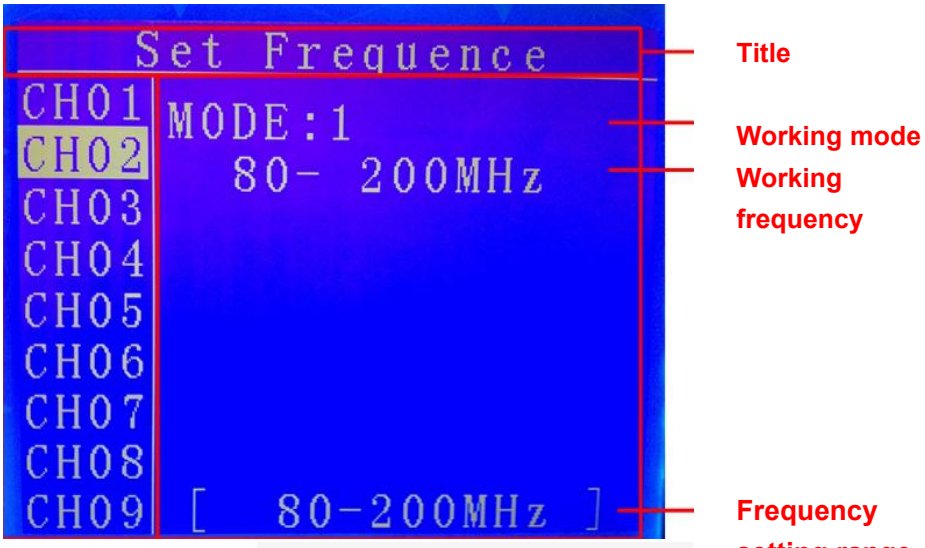
Current working mode
Working frequency



Main Status area diagram

4.3.2. Frequency setting

Press the SET button to enter the frequency as below:



Frequency Setting

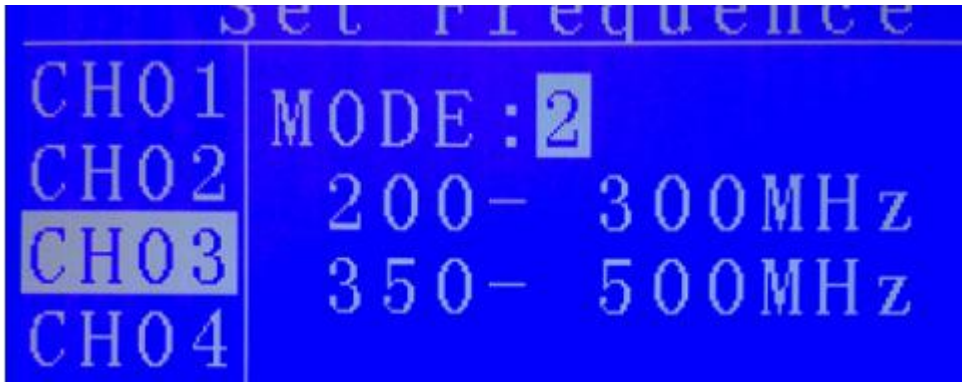
A. Channel selecting area operation:

On Main Status query menu, using UP / DOWN keys to move the cursor up and down, when the cursor stays in a Channel, status display area will show the Channel's current working status including the Channel frequency setting information.

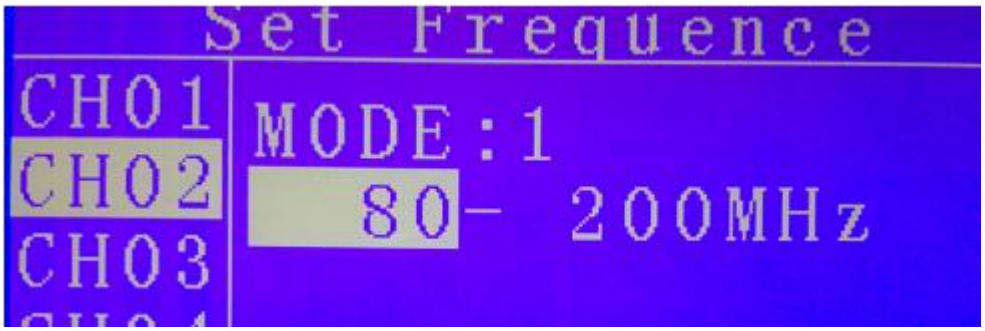
B. Frequency Setting operation:

After selected Channel, press ENTER to the Channel's operating frequency seted;

At this point, if the Channel has multiple frequency operation, the cursor will remain at MODE, waiting to set the mode, if you do not want to change the frequency mode of operation , you can use LEFT / RIGHT keys moving the cursor to the operating frequency around the bar, and modify specific work frequency; otherwise, the cursor will stay directly in the operating frequency bar, waiting to enter a specific frequency data; such as the following shown:



Channel 3 has two operating modes



Channel 2 has only one mode

a. The frequency mode setting:
When the cursor stay in MODE Section, up and down the UP / DOWN button to switch between different operating modes, selected, press ENTER to confirm, then set the operation to display the middle of the district to the FREQ SETTING ... "text message, and stay about one second, indicating the operating mode has been set and saved;

b. The operating frequency setting:
When the cursor stay in the operating frequency column, use the LEFT / RHGHT button to switch between the start and stop frequencies, use the number keys to enter a specific operating frequency, and then press ENTER to confirm, this time set operation in the middle of the display area will appear"FREQ SETTING ..." text messages, and stay for about one second, the operating frequency has been set and saved;
Note: Set the operation to show the range of frequency settings for the Channel District, the bottom bar, the specific operating frequency of the input must be in the range, otherwise, setting up the operation display area in the middle of the error message "Out of Range ..." and stay for about one second, while waiting for the user to correct the frequency value;

c. Exit frequency setting menu:
After frequency setting, press ESC to log out the menu.

Step5 Turn off the Jammer

- Turn off the red switcher on “off” position
- Switch off the power supply.
- Move away 220V power at the back of main machine
- Move away panel antenna.
- The jammer is out of work.

Chapter 5 Overview of the Jamming performance

1. The theoretical basis

Wireless communications is necessary to ensure sufficient carrier to interference ratio (SNR), in order to effectively receive, complete communication. The mobile communication of signal jammers to destroy the mobile reception conditions, cut off the communication link between mobile phones and base stations by producing the same frequency interference signals received from the phone. To shield the effect of communication.

Interference power jammers, blocked space shield radius is a common decision by the path loss and receiver base station signal level. The following table gives the distance and path loss table. Shielded output channel power, the base station signal level, covering the line gain can determine the radius of coverage. The following equation:

Pch+Gat-L0≥Prx

Pch	Min of output chancel power
Gat	Antenna gain
L	Path attenuation
FAF	Path loss value-added, take 6dB
Prx	BTS signal strength

2. Distance attenuation control table

L0=32.4+20logd +20logf +FAF

Note: d (the distance in kilometers), f (frequency of megabytes), L0 is the free space loss in dB

Distance （m）	900MHz Loss（dB）	1800MHz Loss（dB）	Distance （m）	900MHz loss（dB）	1800MHz loss（dB）
1	38	44	4	50	56
2	44	50	5	52	58
3	47	53	6	53	59

Distance （m）	900MHz loss（dB）	1800MHz loss（dB）	Distance （m）	900MHz loss（dB）	1800MHz loss（dB）

7	55	66	40	70	81
8	56	67	45	71	82
9	57	68	50	72	83
10	58	69	60	73	84
15	61	70	70	75	86
20	64	74	80	76	87
25	66	76	90	77	88
30	67	78	100	78	89
35	69	80	200	84	90

Distance （m）	900MHz loss（dB）	1800MHz loss（dB）	Distance （m）	900MHz Loss (dB)	1800MHz Loss(dB）
250	86	92	500	92	98
300	87	93	600	93	99
400	90	96	800	96	102
450	91	97	1000	98	104

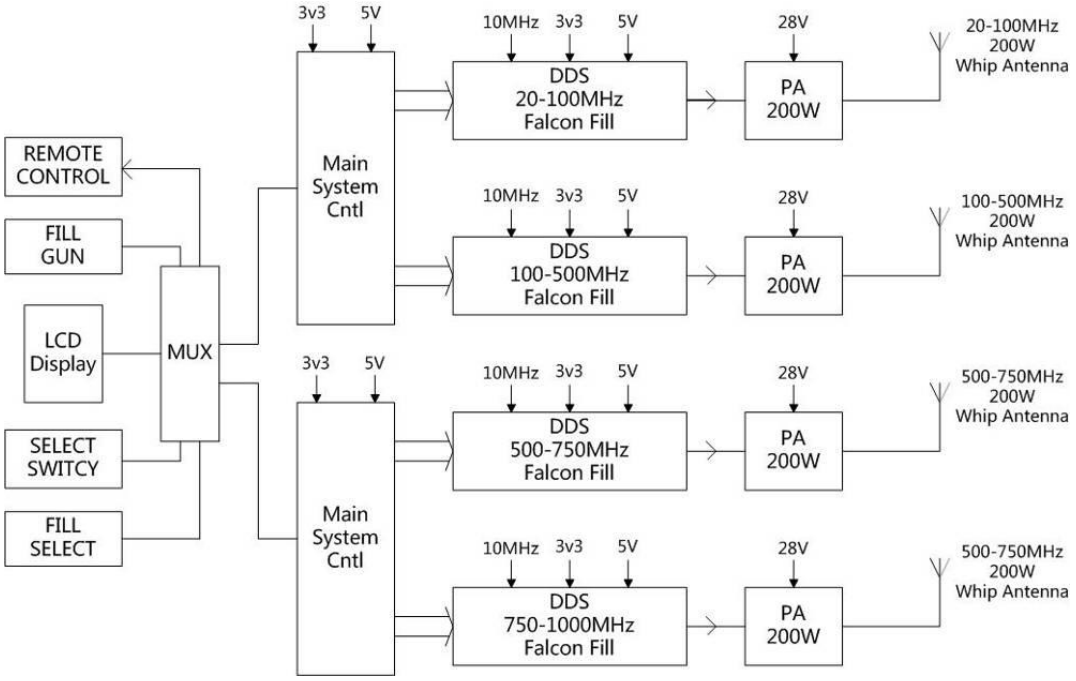
3. Typical testing equipment

ADVANTEST U4941 Spectrum analyzer

ERICSSON TEST Road tester

MOTOROLA V8088 testing phone

4. Jammer Principle Diagram



Notices

- Be sure to connect all the antenna before the power supply is switch on. Please do not take off antenna when the machine is working.
- Antenna shall be used vertical to the ground, working more efficiently.
- Please don't put the jammer in the water and fire to avoid using in the bad condition of over-wet, over-hot, high voltage and high magnetism.
- If the jammer can not be charged or other unconventionality(the indicator light doesn't light up), please contact with the distributor in local place. Any refit and incorrect repair is not allowed.
- Any ruin and disrepair caused by incorrect operation and disassembly will be excluded from the repair with free of charge.

Questions and answers

◎ **Will jammer interfere the other electronic equipment to work in normal condition?**

No. Because the electromagnetic signal sent by jammer are totally used in the band that regulated by government and just have interception effect to cell phone communication.

◎ **Is jammer harmful to the human body and cell phone?**

Please do not need to worry about it. The intensity of electromagnetic signal sent by jammer is in compliance with the national standard of environmental electromagnetic wave health. The signal sent by jammer is relatively small and unharmful to human body according to the testing result. Meanwhile, this device just damage the receiving condition to the cell phone and makes the normal connection between cell phone and base station impossible. Therefore, no damage will occur on cell phone itself.

◎ **Is there any difference of distance between using jammer indoor and outdoor?**

Yes. Generally speaking, outdoor signal is bigger than the indoor signal. Thereby, the shielding effect is worse outdoor. Strictly speaking, whether using indoor or outdoor, the effective distance of interference is related to the surrounding around, for example the distance between different base stations, positions of installation etc.

◎ **Is the jammer has the same effect to GSM cell phone and CDMA cell phone?**

The capacity of anti-interference of CDMA is much better than GSM cell phone. So the interference effect for GSM cell phone is better than CDMA cell phone.

◎ **The shell of jammer will become hot after working for some times. Does the long working time will damage the machine itself?**

It is very normal. When designing, we are thinking of taking use of the conductivity of metal shell to help the heat sinking during our designation. By this way, the machine can be kept in good working condition for long time.

Services Endless

The manual brings all of the company's products jammer together , Due to time constraints, it is inevitable omissions. If any ambiguities, please forgive me and correct me, at the same time we will answer and serve for you at any time.

We sincerely hope that this manual will give you the convenience, in view of this manual involved in standards, technical requirements and each product specifications, it maybe change by technology advances and time over. So,we keep the right to amend, subject to change without notice.