

HYDAX

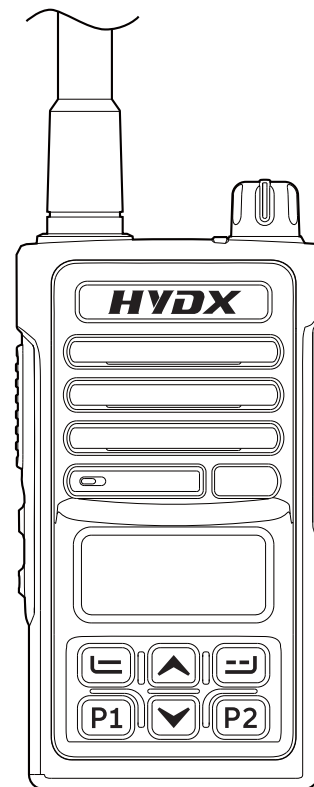
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HYDAX

D1000

Digital DMR Two-way Radio

User's Manual



DMR
DIGITAL MOBILE RADIO ASSOCIATION

Brief Introduction

Thank you for buying handheld two-way radio. We believe this simple, stable, beautiful and widely used in all industries and area of professional wireless communications equipment will give you a great surprise. This product is for professional commercial or amateur frequencies, it is necessary to apply for permission to the wireless administrant organization of the provinces and autonomous regions in there local country.

Please read this manual carefully in order to know how to properly operate the radio before use.

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Unpacking and Checking Equipment

Welcome to use handheld radios, before using we suggest you:

- Please check the packing box of this product and see if there are signs of damage.
- Please open the packing box carefully. We recommend that you identify the items listed in the following packing list. If you find that our product and its accessories in handling are lost or damaged during the shipment. Please immediately contact dealers.

Parts List

Item	Quantity
Radio	1
Rubber Antenna	1
Li-ion Battery Pack	1
Desktop Charger	1
Power Adapter	1
Belt Clip	1
Hand-Strap	1
User's Manual	1

Preparation

■ Using the Battery

The battery is not completely charged at the factory, please charge it before using.

To extend the battery life time, please power off the batteries when you don't use two way radio, and save battery in a cool (temperature less than 25°C) and dry place.

■ Precautions of Charging Equipment

1. Do not expose the charger to rain or snow.
2. Do not operate or disassemble the charger if it has received a sharp blow, or has been dropped or damaged in any way.
3. Never alter the AC cord or plug provided with the unit. If the plug will not fit the outlet, have the proper outlet installed by a qualified electrician. An improper condition can result in a risk of electric shock.
4. To avoid damaging the power cord or socket, pull the plug out of the socket with a hand plug. Do not pull the plug out by pulling the power cord.
5. To reduce the risk of damage to the cord or plug, pull the plug rather than the cord when disconnecting the charger from the AC receptacle.
6. Use of an attachment not recommended or sold may result in a risk of fire, electric shock, or personal injury.
7. Make sure the cord is located so it will not be stepped on, tripped over, or subjected to damage or stress.
8. An extension cord should not be used unless absolutely necessary. Use of an improper extension cord could result in a risk of fire and/or electric shock. If an extension cord must be used, please make sure that:

Preparation

Extension line cord use the same pins.

Use 18AWG wires less than 30 meters in length and use 16AWG wires within 45 meters.

9. Do not replace charger's power cord. If the power cord damages, you must stop using charger immediately.

■ Charging the Battery

Please use the battery charger designated to charge battery. After purchase or extended storage (more than two months), the first time to charge battery cannot make battery reach its normal operating capacity. After repeating charge/discharge it two or three times, the operating capacity will increase to its normal capacity.

■ Please Charge the Radio According to Operation Steps as Follows:

1. Insert power adapter into power supply socket.
2. Insert output terminal of power adapter into DC Jack behind the charging kit, now the charging orange indicator lights about 2 seconds then goes out.
3. Insert the battery or radio equipped with battery into the charging kit.
4. Confirm the battery and charger kit terminal contact reliably, when charging indicator light turns into red and charging starts.
5. After completion of charge (charging time is about 4 hours), light turns to be green.

Preparation

■ Indicators Display As Following

Status	Indicator
Power Connected	Orange light is on about 2 seconds then goes out
No battery (Temperature end judges)	All go out
Charge Normally	Red light is on
The battery is fully charged	Green light is on
Fault(over temperature, battery short circuit or over discharge state)	Red light flashes

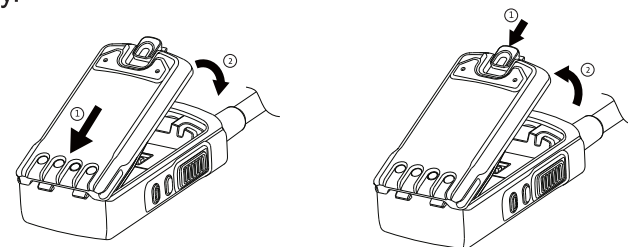
Note: Before charging, please turn off radio power equipped with battery. When charging, using radio will interfere with normal charge of battery and transceiver effect.

Preparation

■ Installing/Removing the Battery

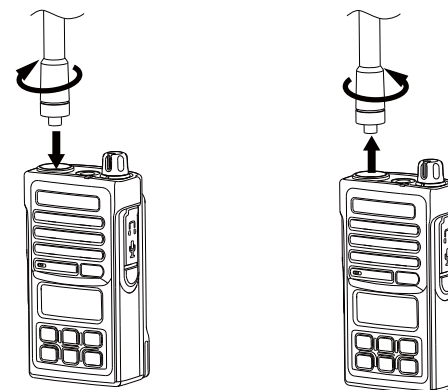
Insert the battery pack into the corresponding slots on the back of radio and push it. Then press the upper end of the battery until you hear a “click”.

To remove the battery pack, make sure the radio off, and then unlatch the buckle, the battery from emerge from the radio, and then remove the battery.



■ Installing/Removing the Antenna

Align the threaded of the antenna with the radio's antenna connector. Turn the antenna clockwise to fasten it. To remove the antenna, please turn the antenna counter-clockwise until you can remove it.

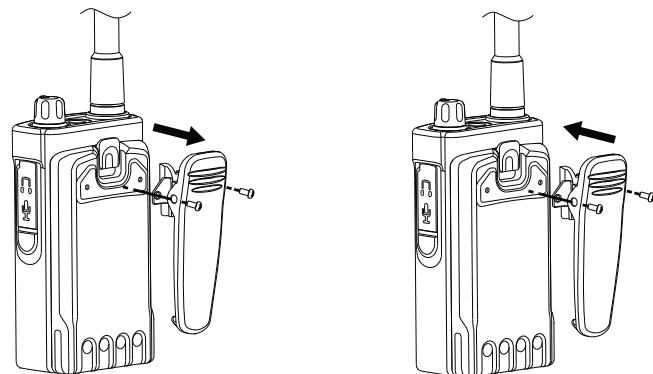


Preparation

■ Installing/Removing the Belt Clip

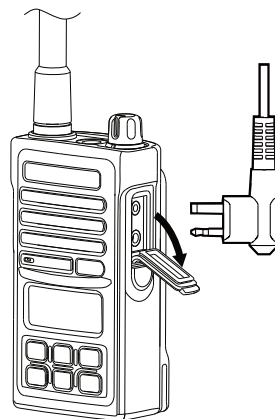
If necessary, the randomly configured belt clip can be inserted into the slot on the back of the battery pack for easy carrying.

To remove the belt clip, simply press the buckle out and push it up.

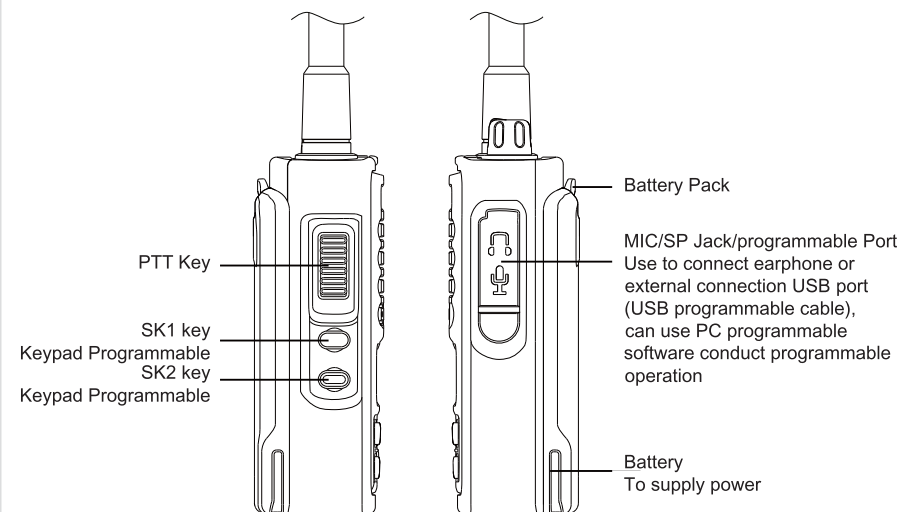
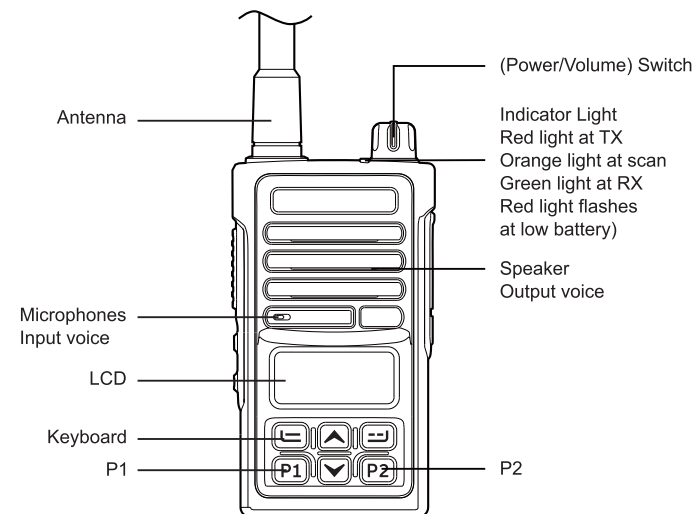


■ Installing Speaker/Microphone

Lift the headphone cover and insert the speaker/microphone headset directly into the speaker/microphone Jack.



Getting Familiar



Getting Familiar

Basic Use of Keyboard:

-  Menu key, confirm key.
-  Up key.
-  Down key.
-  Return key, long press back to Menu.
-  P1 Defined programming Key (can be set long/short press function).
-  P2 Defined programming Key (can be set long/short press function).

Note: Under the emergency situation, long press the programmable key (sk1 key) can open the emergency call function.
Before the machine is activated, it is necessary to run the DMR programming software (upper computer) to set up the walkie talkie.

Getting Familiar

Primary Menu	Secondary Menu	Illustration	Remark
Contact	Contact	Contact list, programming software edit, new contact add or call record contact add, store up to 1024 group contacts. Select the call ID number of the other side (up to 8 digits, the full page ID is fixed to 16777215), then press the confirm key, can be call prompt, inter-phone detection, remote monitor, Active, Kill. Whether the above functions is open to the PC Programmable.	Only digital channel
	Name Display	Turn off: Digital channel incoming/outgoing does not display name, it only displays ID number. Turn on: Digital channel incoming/outgoing display name.	
Message	Inbox	Receive list: received the most recent SMS, maximum storage 16, if continue to receive, loop overwrite storage.	Only digital channel
		Delete all: delete all received message.	
	Outbox	Save the newest send message, can be store up to 16 pieces of sending messages.	Only Digital channel. PC Programmable

Getting Familiar

Primary Menu	Secondary Menu	Illustration	Remark
Message	Preset short message	The PC can write directly, and can store up to 32 short messages. Each short message can input 144 characters or 72 Chinese characters.	Only Digital channel. PC Program-mable
Call Record	Dialed call	List of dialed calls: up to 32 latest dialed call records can be stored, which can be accessed or stored to contacts through operations. Delete all: clear list of all records.	Only Digital channel. PC Program-mable
	Received call	List of incoming calls: recent received call records can be stored up to 32, which can be accessed or stored to a contact by operation. Delete all: clear list of all records.	
	Missed call	Missed call list: 32 recent received call records can be stored up to 32, which can be accessed or stored to a contact by operation. Delete all: clear list of all records.	

Getting Familiar

Primary Menu	Secondary Menu	Illustration		Remark
Setting	Inter-phone setting	CTCSS/DCS	CTCSS: directly set UP and DOWN key decoding and encoding; Decoding: only change decoding, coding unchanged; Coding: only coding change, decoding unchanged; Press P1 key to switch CTCSS or DCS, and then press Confirm key. Press the P2 key or Return key to return.	Only analog channel
		Squelch	Strict/normal optional, factory default normal.	PC Program-mable
		TX Power	High/low optional, high power: UHF 4W low power: 1W	
		Talk Around	Talk around on/off. Workable of being chosen by PC program for the current channel	
		Wide/Narrow band	Wide/Narrow band can be optional in analog channel mode. Wide band: 25KHZ, Narrow band: 12.5KHZ.	Only analog channel

Getting Familiar

Primary Menu	Secondary Menu	Illustration		Remark
Setting	Inter-phone setting	Busy Channel Lockout	Off/Carrier (CTCSS/color code optional, Off: no busy channel lockout, Carrier: matched carrier prohibit PTT: CTCSS/color code: matched CTCSS/color code prohibit PTT.	
		TOT	OFF/15s/.../495s optional, close to the launch time limit of 10 seconds early warning, time to stop launch.	
		VOX	Off/on, voice control sensitivity "the PC sets the overall sound control transmission sensitivity level (1-10 level)" can be set, level 1 is the highest level of sensitivity, and level 10 is the lowest level of sensitivity.	PC Program-mable
		Digital Encryption	Turn off/on. Only both parties match encryption to communicate.	Only Digital channel. PC Program-mable
		Power Save	Off/on, power saving ratio 1:4	

Getting Familiar

Primary Menu	Secondary Menu	Illustration		Remark
Setting	Inter-phone setting	Beeper	All /call permission/keypad	
		Back-light	Keeping /Off /5 seconds/ 10 seconds/optional.	PC Program-mable
		Keypad lock	Manual/5 seconds/10 seconds/15 seconds. Choose manual mode, long press return key 2 seconds to lock, press return key unlock.	
		Indicator	On/off .No indicator for TX, RX and scanning when choose off .	
		Mode	Serial number (channel serial number)/name (host computer channel name can be edited/frequency (display received transmission frequency).	
		Boot screen	Picture/Preset character (two lines. PC programmable).	

Getting Familiar

Primary Menu	Secondary Menu	Illustration		Remark
Setting	Inter-phone setting	Language optional	Korean/English and/ Chinese/English optional, Korean/English and Chinese/English display changeable including all interface of menu, call indication and call record etc.	PC Programmable
	Radio Information	Local Number	Eight bits self-number, maximum 16776415.	Only Digital channel
		Equipment Information	Model information, serial number, CPS version, hardware version, firmware version, DSP version, programming time.	
	Radio Configuration	RX Frequency	Only can see.	
		TX Frequency	Only can see.	
		Channel name	Only can see.	
		Color Code	Color code 0-15 selectable.	Only digital channel, analog channel can't be set
		Time Slots	Time slot 1or 2 selectable.	

Getting Familiar

Primary Menu	Secondary Menu	Illustration		Remark
Setting	Keypad Programmable	Short press SK1 key	There have some functions can be choose: 1.None function 2.Hint on/off 3.Emergency mode on 4.Emergency mode off 5.High/low frequency selection 6.Monitor(support analog, digital can monitor different ID number) 7.Noise channel temporary deletion 8.one touch to access 1 9.One touch to access 2 10.One touch to access 3 11.One touch to access 4 12.One touch to access 5 13.One touch to access 6 14.Repeater/talk around 15.Scan on/off 16.Encryption on/off 17.VOX launch on/off 18.Zones switchable 19.Battery power indicator 20.Alone worker on/off 21.Exit phone	
		Long press SK1 key		
		Short press Sk2 key		
		Long press Sk2 key		
		Short press P1 key		
		Long press P1 key		
		Short press P2 key		
		Long press P2 key		

Getting Familiar

Primary Menu	Secondary Menu	Illustration	Remark
Zone	Zone Name	Area list, can be support up to 250 zones(each zone most can be set 16 channels).	Can be add digital channel and analog channel
Scan	Switch	On/off, Only when channel PC programmable the scan list can turn on the scanning function, the scanning switch can be set to "Scan" by programming Sk1, Sk2, P1, P2, or by entering the scan function from menu.	PC Programmable
	Scanning list	Display the current scanning list, display only.	

Note: SK1 key/SK2 key/P1 key /P2key can use programming software to define long press and short press function. There are some several functions that can be defined:

- 1.No function
- 2.All alert on/off
- 3.Emergency mode on
- 4.Emergency mode off
- 5.High/low Power selection
- 6.Monitor (accept analog, digital can monitoring different ID number)
- 7.Noise channel temporary deletion
- 8.One touch to access 1
9. One touch to access 2
10. One touch to access 3
11. One touch to access 4
12. One touch to access 5
13. One touch to access 6
- 14.Repeater/talk around
- 15.scan on/off
- 16.Encryption on/off
- 17.VOX on/off
- 18.Zone switchable
- 19.Battery power indicator
- 20.Alone worker on/off
- 21.Exit phone

Safety

Product safety and RF Exposure for handheld two way radio

Before using this two way radio, please read carefully the attach manual instruction in the random incidental for the safe use of the product and radio-frequency manual.



This radio is limited to professional applications that meet FCC radio-frequency energy requirements. Before using this two way radio, Please read the manual which contains important operating instructions for safe usage, RF Energy/ Awareness, control information and operational instructions for compliance with RF Energy Exposure limits in applicable national and international standards. Also read the operational instructions for safe use.

Overview

■ Switch On

Clockwise to turn on the radio volume knob, there will be a “KADA” sound, message sound and the screen will show up “Welcome”, while the LED indicator lights up and becomes Green color if the battery ID full charged.

Note: if the volume function is forbidden, there will not any sound when power on. Here, need to power off the radio and anticlockwise with knob until a “KADA” sound. Boot custom character content of PC can be set.

■ Adjust Volume

Clockwise the volume knob to higher the volume or anticlockwise to lower.

■ Launch Calls

Private Call

This radio supports a confirm private call, if the check is confirmed, it is necessary to detect the presence of the target radio before calling the other party.

1. When the default communication address of the digital channel is set to single call ID, press PTT key to initiate a private call for the current contact.
2. On the contact menu, select the private caller to press the PTT key to call the selected private caller.
3. When the programming key is set as a one touch to access digital private call contact, press the corresponding button and then press the PTT key can launch private call.
4. Select the private call contact in the caller/received/unconnected

Overview

number, and press PTT key can launch a private call.

Group Call

1. When the default communication address of the digital channel is set as group call, can press the PTT key to launch group calling.
2. On contact's menu, select group ID then press PTT key to launch a group calling.
3. In the dialed records/received/unanswered number select group call, press PTT key can launch the group call.
4. When the programming key is set as a one touch to access digital single call contact, press the corresponding button and then press the PTT key can launch single call.

All Call

1. When the default communication address of the digital channel is set as all call ID, can press PTT key to launch all calls.
2. On the contact menu, select all call ID then press PTT key to launch all call.
3. In the dialed records/received/missed number select all call ID, then press PTT key can launch all call.
4. The receiver of all call can not answer all call.

Note: If the call prompt setting is enabled, press the PTT key for transmitting, the transmitter and receiver will hear a fixed hint tone.

■ Launch and Receive Calls

In the digital mode, received a private call and the interface display a private call, during the private call pending time, press PTT key can

Overview

respond the current private call. Beyond the pending time is record as missed call. Received the group call, the interface displays group call. In the group call pending time, press PTT key can respond the current group call, beyond the pending time is record as missed call. Received the all call and the interface display all call, the all call does not have hand up time, so can't respond the all call.

Note: 1. If set the channel free instructions, when transmitter press PTT key, receiver will hear a short hint tone.

2. when the name display in the digital contact is set to closed, the calling in/out of the digital channel will not show the name, but only show the ID number, when the setting is on, digital channel calling in/out display name.

Menu Operation

■ Contacts

Contacts can be viewed contact list (up to 1024 digital contacts can be added)

1. Group Call Type

When the selected the directory member type as group call, group caller can view group call ID or sent message.

2. Private Call Type

When the selected contact member type as private call, to the private caller contact can view contacts, send call prompt, the detection, the remote monitoring, the activation or remote killing operation.

- **Call prompt:** send a call prompt to assigned private call contact, requesting the other reply when communicating. The interface will display call prompt and prompting bell when the other receive the call prompt (there are 10 ring tones to choose). If the other party can not receive, it will prompt the cal prompt failure.

- **Radio detection:** radio detection allows user to determine whether the radio is in a state of activity in the system without any instructions to the radio user. If received the respond, the successful radio interface shows that the radio detection is successful. If the respond is not received in a certain time, there is a failure prompt and the interface shows radio detection failed.

- **Remote monitor:** send the remote monitor request, if received the remote monitor confirmation, it has successfully entered the reception interface display.

If not confirmation is received in a certain time, prompt the failure hint and the interface displays the remote monitor failed. Only when

Menu Operation

the device's signaling system "remote monitor decode" is checked, can be allowed to monitored voice activities.

● **Radio activated:** This function can activated the dead device and make the target radio resume its normal working statue.

● **Radio kill:** Sent radio kill command, if received the respond, the radio interface shows kill successfully and has a successful hint .If the respond is not receive in a certain time, the radio interface shows kill fail and has a failure hint.

When the signaling system receiving the radio configuration of device's kill decode is checked, can receive the radio's kill command. After being killed, the device disables all interfaces and only process the received telemetry command.

3. All Call Type

When selected contact type as all call, can view all call ID: 16777215.

Note: This radio allowed to add group call type's and single call type's contact. After input number (1~16777214), the maximum can input sixteen characters. Name input is completed, press the selected tone then press confirmation to save. After successful preservation on the interface notice: save succeed. New contact can be found in the contact list.

■ Name Display

When the name display in the digital contact is set to closed, the calling in/out of the digital channel will not show the name, but only show the ID number.

When the setting is on, digital channel calling in/out display name.

Menu Operation

■ Message

1. Inbox

The inbox can store up 16 received messages, which display on the top of the inbox menu(*/*), the front number is selected messages, and the number in back is the total number of messages of the inbox. Enter the pickup list, don't read message indicates , read messages indicated . Inbox messages have the reply, forward, delete options can operate. Delete all will delete all messages, it can save the trouble to delete message one by one.

2. Outbox

You can enter the outbox to check the content of sent message, and you can store up 16 messages. Text message can be resent, forward, edited and delete. Delete all will delete all messages, it can save the trouble to delete message one by one.

3. Preset Short Message

Through programmable software to add present short messages, and you can store up 32 present short messages, each short message can input 144 characters. Present messages can be sent directly.

Note: 1.Prefabricated messages can be allocated to one touch function call, and then sent prefabricated message quickly through programming keys.

2.Present message can't be deleted, only can through programmable software to delete.

Menu Operation

■ Call Records

1. Dialed Call

The radio will record the recently exhaled call, with a dial of up to 32 exhaled call. When the number is full, the earliest record will be delete automatically when have a new record.

2. Received Call

The radio will record the recently incoming call, the number of which has been received at most 32 incoming calls, when the number is full, the earliest record will be delete automatically when have a new record. And the received calls also can be viewed or deleted. Delete all will delete all received call records, it can save the trouble to delete message one by one.

3. Unanswered Call

The radio will record the recently unanswered call, the unanswered call most can store up 32 unanswered calls, when the unanswered call is full, the earliest record will be delete automatically when have a new record. And the answered call also can be viewed or delete. Delete all will delete all unanswered call records, it can save the trouble to delete one by one.

Function Settings

■ Radio Setting

This function provides some parts of radio's basic setting for user.

● **Infra-acoustic Frequency (Only support analog channel):** The radio analog channel supports the function to ensure the quality of the call ,when channels active ATRS function, it must be have the subsonic function (this function can be set in the programmable software). Voice output is allowed when the received subsonic is transmitting. Analog subsonic can be set, (press P1 key to switch digital subsonic, analog subsonic and close). Selected a subsonic value from the exiting list to encode or decode, (the specific subsonic value is referred to the CTCSS frequency table and CDCSS digital code table).

1.Decode: The radio of receiver will decode the sub-tone sent by the transmitter. The subsonic set up here matches the subsonic from the sender can open the loudspeaker and output the voice.

2.Code: Before sending the voice, the transmitter terminal sub-codes the subsonic, which is added to the voice and encode through the carrier. The receiver opens the speaker and outputs the voice when if receives the matching of the sub-tone set here.

Note: Analog channel support setting non-standard analog subsonic function (range 60Hz~259.9Hz) and non-standard digital subsonic (range 001~777), and the coding and decoding of the programmable software also can manually input non-standard subsonic values.