



Kydera®

DMR REPEATER

User Manual



TR-6000DM

FCC Statement

This equipment has been tested and found to comply with the limits for part 90 of FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates and can radiate radio frequency energy. If not installed and used in accordance with the instructions, it may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. Verification of harmful interference by this equipment to radio or television reception can be determined by turning it off and then on. The user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna. Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a different circuit to that of the receiver's outlet.
- Consult the dealer or an experienced radio/TV technician for help.

Operation is subject to the following two conditions:

- This device may not cause harmful interference.
- This device must accept any interference received, including interference that may cause undesired operation.

Note: Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Compliance with RF Exposure Standards

New Century's reporter complies with the following RF energy exposure standards and guidelines:

- United States Federal Communications Commission, Code of Federal Regulations; 47 CFR § 1.1307, 1.1310 and 2.1091
- American National Standards Institute (ANSI) / Institute of Electrical and Electronic Engineers (IEEE) C95.1:2005; Canada RSS102 Issue 5 March 2015.
- Institute of Electrical and Electronic Engineers (IEEE) C95.1:2005 Edition

FCC Radiation Exposure Statement:

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

This equipment should be installed and operated with minimum distance 250cm between the radiator& your body.

-  This device may only operate using an antenna of a type and maximum gain 12.8dBi approved by New Century. Antenna types difference or having a gain greater than the maximum gain indicated for that type are strictly prohibited for use with this transmitter.

Content (I)

Foreword.....	1	Anti-thunder protection.....	4
Product safety and radio frequency radiation introduction.....	1	Equipment grounding.....	5
Document copyright.....	1	Mechanical installation.....	5
Disclaimer.....	1	Unpacking the equipment.....	5
Trademark information.....	1	Move the repeater from carton to the rack or cabinet.....	5
Installation requirement for meeting RF radiation safety standard.....	1	LED indicators and keyboard & connectors.....	6
Installation requirement.....	2	Front panel.....	6
Installation overview.....	2	Keyboard/knobs /socket operation and function statement.....	7
Environment condition of working field.....	2	Back panel.....	8
Working temperature range.....	2	Electrical connection.....	9
Humid	3	Power supply connection.....	9
Air quality.....	3	Grounding connection.....	9
Equipment ventilation.....	3	RF antenna connection.....	9
Requirement for AC input power.....	3	Duplexor selection.....	9
Circuit overload	4	Antenna selection.....	10
Installation method.....	4	Checking after installation.....	10
Grounding and anti-thunder protection.....	4	Powering on.....	10
Electrical grounding.....	4	How to use this manual.....	11
RF grounding.....	4	Identify icon for repeater initiative call.....	11
		Identify icon for repeater forwarding.....	11

Preparation

Foreword

This manual introduce the installation and instruction for Kydera TR-6000DM repeater forwarding and dispatching radio products.

Safety and RF radiation introduction

Please refer to the detail introduction of "Installation requirement for meeting RF radiation safety standard" on page 1.

Document Copyright Information

No part of this manual may be copied, modified, translated, or distributed in any manner without the express written permission of New Century.

Disclaimer

All information in this manual is checked carefully to make sure it is reliable. Quanzhou City New Century Communication Electronics Co., Ltd strives to achieve accuracy and completeness of this manual, but no warranty of accuracy or reliability is given. All the

specifications and designs are subject to change without notice due to continuous technology development. No part of this manual may be copied, modified, translated, or distributed in any manner without the express written permission of New Century.

Trademark information

Kydera is registered trademark of Quanzhou City New Century Communication Electronic Co., Ltd in the PRC and/or other countries or areas. New century retains the ownership of its trademarks and/or product names that may be used in this manual are properties of their respective owners.

■ Installation requirement for meeting RF radiation safety standard

Note:

- This repeater is only applied to occasions for extending communicating coverage and dispatching, during using, you have to acquaint entirely the possibility of RF radiation, and take measures to control the radiation to comply with relevant regulations.

Preparation

To ensure compliance with the RF radiation safety standard:

- Please install our approved antenna and accessories only!

Before operating the repeater, the operator must be acquainted with the accessories and RF energy information & safety instruction on RF radiation manual to ensure compliance with RF radiation limitation.

Installation requirement

Proper installation can ensure optimum performance and reliability of the repeater. It is better to make preinstallation plan, which contains requirement for installation location, input power and antenna, as well as environment condition of working field, detailed installation and necessary tools and equipment.

Prompting: If it is the first time to install such equipment, please read the installation and notes contents carefully before installation.

■ Installation overview

The overview for installing the repeater is as following:

- Before installation, please pay special attention to

the environment condition of working field, ventilation requirement, and grounding and anti-thunder protection.

- Unpack and check devices carefully.
- Make mechanical installation for the equipment.
- Make electrical and cable connections, including following:
 - ◆ AC input cable
 - ◆ Connect coaxial feeder to TX and RX antenna.
- After installation, make functional test to verify it is installed correctly.
- Set repeater parameter according to user requirement (such as, working frequency, code, color code, etc).

■ Environment condition of working field

If the environment condition doesn't exceed the equipment specification (temperature, humid and air quality), the repeater can be installed at any field suitable for electrical equipment.

Working temperature range

Temperature range is from -30°C(-22°F) to +60°C(+140°F)

- This temperature is measured nearby the repeater

Preparation

- For example, if the repeater is installed inside a cabinet, the temperature is measured in the cabinet.

■ Humid

- The humid can not exceed 95% at 50°C (122°F).

■ Air quality

- If the repeater is operated in suitable environment condition, the air particles level can not exceed 25 μ g/m³.
- If the repeater is operated in improper environment condition, the air particles level can not exceed 90 μ g/m³.

Note:

If the environment condition for installing the repeater is dirty or dusty or not conforms to air quality requirement, the proper filtration system must be used to cool the air for repeater, as dirt or dust accumulated on the inner PCB and mould is hard to clear, which may result in failures like over-heating and electricity intermittently connected, etc.

Equipment ventilation

There is cooling fan for the repeater connective cooling. Please comply with the following ventilation notes during installing:

- There must be ventilation slot or opening on the front panel (air in) and rear panel or side panel (air out) of the installed cabinet. If several repeaters are installed in one cabinet, make sure there is ventilation opening around each repeater to ensure sufficient cooling.
- There must be at least 20CM opening space between ventilating opening and any wall panel or other object.
- If several repeaters are installed in a cabinet at closed region, there must be proper ventilation, air condition or other environment devices should take into account to meet temperature requirement listed in this manual.

Requirement for AC input power

The repeater is provided with a power supply with working voltage range from 110V-240V (47-63HZ AC input power). Besides, a standard 3 pins cable is provided for connecting to the AC power.

Prompt: Grounded socket with standard 3 pins is recommended to use for connecting to the AC power.



Caution: The repeater should be better to install nearby the AC power socket.

Preparation

The socket should be able to connect to AC power with maximum 280W power. For nominal 110/120VAC power input, the AC power must be 5A, and have breaker protection with 15A rated current. And for nominal 220/240VAC power input, the AC power must be 3A, and have breaker protection with 10A rated current.

■ Circuit overload

The overload on over-current protection device and power supply circuit should be taken into account. To solve such problem, the rated value for the device should be considered properly.

■ Installation method

The repeater can be installed on the rack or in the cabinet.

■ Grounding and anti-thunder protection

 Caution: Grounding and anti-thunder protection during installation is necessary and important. Improper anti-thunder protection may cause permanent damage to the repeater.

Warning: One of the most important notes during installation is grounding and anti-thunder protection. Correct grounding technology is closely related to anti-thunder protection, there are two parts for common grounding:

● Electrical grounding

The grounding line for transmitting current from on-site circuit or equipment is electrical grounding. Such as AC or DC power cord for on-site equipments, circuits or cable connecting on-site alarming or sensor.

● RF grounding

This grounding refers to useless RF energy grounding. Such as, use the shield to keep out the harmful RF energy from the communication equipment and cable or to make the harmful RF energy to be smallest.

● Anti-thunder protection

Enough anti-thunder protecting is crucial to safety and reliable communication on-site. RF transmitting cable, AC and DC power cord must be protected to avoid the thunderstrike at the working field.

Although grounding technology and anti-thunder protection are not stated in this manual, there are many

Preparation

excellent industrial power supply conformed to requirement of grounding and anti-thunder protection at the communication field.

- **Equipment grounding**

On the repeater side, there is screw hole for connecting to the field ground. All antenna, AC & DC power cord should be anti-thunder protected correctly and properly to meet above referring regulation and notes. Improper anti-thunder protection may cause permanent damage to the repeater.

Mechanical installation

This chapter introduces unpacking and steps for mechanical installation. Installation method is changeable based on the selected the rack or cabinet (if any) for fixing.

 **Caution:** If you must disassemble any mould from the repeater, please make sure you comply with correct precaution for ESD (Electronic Static Discharge).

- **Unpacking the equipment**

The following items are included in the packing:

- Repeater
- AC power cord
- User manual for repeater (CD)

Note: after unpacking, please check if the equipment is intact; any damage, please report the situation to the transporting company and your dealer.

- **Move the repeater from carton to the rack or cabinet**

The repeater is packed in a carton for transportation, for installation, you need to move it out from the box to the rack or cabinet.

Note: The cabinet or rack provided for installing the repeater should equip with guide rail and span, which conforms to EIA general specification 48.3CM (19 inches). Besides, the cabinet must equip with enough ventilation (please refer to Environment Condition Of Working Field), and comply with minimum standard as following:

- Depth: 36.6CM (14.4 inches)
- Width: 48.3CM (19 inches)
- Height: 8.8CM (3.5 inches)

Preparation

■ LED indicators and keyboard & connectors

■ Front panel



LED indicator instruction

LED indicator	Status	Description
POW	Solid RED	Power on
	OFF	Power off or outage
T2	Always ON	Repeater operating on slot 2
A	Always ON	Repeater operating in Analog Mode
D	Always ON	The current working channel detects digital signal or detects analog and digital signal simultaneously
T1	Always ON	Repeater transmitting (analog) on slot 1, Repeater transmitting (digital) on slot 1
S/A	Always ON	Indicates forwarding at same frequency (based on models)
	OFF	Indicates single forwarding (based on models)
UHF	Always ON	Repeater operating in UHF
ST1	Always ON	Repeater receiving (analog) on slot 1, Repeater receiving (digital) on slot 1
	OFF	No voice was received on slot 1
ST2	Always ON	Repeater receiving (analog) on slot 2, Repeater receiving (digital) on slot 2
	OFF	No voice was received on slot 2
ST1、ST2	Always ON	Repeater receiving on slot 1 and 2
	OFF	No voice was received on slot 1 and 2.
IP	Always ON	IP feature is turned ON
	OFF	IP feature is unavailable?
N	Always ON	Repeater function disabled
	OFF	Repeater in normal operational mode

Preparation

■ Keyboard / knobs / socket operation and function statement

Keypad	Instructions	Indicators
		
	Enter into main menu after press one time	Menu enter key
	Confirmation key at function setting or option	Enter key
	To receive voice landing at timeslot 1	LED-ST1 keeps on
	To receive voice landing at timeslot 2	LED-ST2 keeps on
	To receive voice landing at timeslot 1 & 2	LED-ST1 & ST2 keep on
	RE is for repeater priority	Indicating arrow shows "RE"
	CL is for initiative call priority	Indicating arrow shows "CL"
	Programmable key	Refer to detail on programmable keys
	Programmable key	Refer to detail on programmable keys
	Work as Back key with short pressing	Back to previous menu list
	Work as channel mode switch key with long pressing	Digital / Analog / Digital & Analog mode switch
	Fast exit key	Exit quickly to home screen
SELECT	Enter into Menu and confirmation after pressing	Menu enter key & Enter Key
	In menu mode, rotate the knob to browse menu options and select setting items	Browse and set options key
	In standby mode, rotate the knob to select channel No.	Channel No. selecting key
VOL	Rotate the knob to adjust the volume for voice landing	Adjustment for speaker output volume
	Work as Back key with short pressing	Back to previous menu list
	Work as channel mode switch key with long pressing	Digital / Analog / Digital & Analog mode switch
MIC	Speaker microphone socket for initiative call	Speaker microphone (accessory)
	Data editing socket for the repeater	For PC cable
USB	Data editing socket for the repeater	Based on models(USB PC cable)

Preparation

■ Back panel



Parts on back panel

Marks	Items	Explanation
RX-IN	RX antenna N type (Hole pattern)	Connect single RX antenna (working without duplexor)
ON/OFF	AC power input switch	Turn on/off AC power for repeater
AC110-240V/IN	Connector for main power (AC power input)	Jack for AC power in
TX-OUT	TX antenna N type (Hole pattern)	Connect single TX antenna (working without duplexor)
TX/RX	TX & RX antenna N type (Hole pattern)	Connect RX & TX antenna (working with duplexor)

Note: The accessories interfaces are depended on real model and attached accessories.

Preparation

■ Electrical connection

After mechanical installation of the repeater, you need to start electrical connection to make it work.

Connection includes the following:

- AC power cord
- Coaxial line

Power supply connection

AC power supply input connection

1. Each repeater is equipped with a 3-pin power cord for connecting to 110/120/220/240V AC power.

2. Insert the 3-pin plug to the 110/120/220/240V socket.

Caution: please don't power on at this moment, you should make sure the circuit breaker for connecting related AC power socket is disconnected.

Notes:

- ◆ The AC power supply should be easy to operate and installed nearby the repeater
- ◆ Please purchase proper antenna cable (with impedance 50Ω) from qualified electrical parts supplier, and use the connector audited by National Security Testing Institution's auditing.

Grounding connection

On the side of the repeater, there are screw holes for grounding connection. Connect the repeater to the ground cable with provided screws.

RF antenna connection

Connect to the single RX and TX RF antenna with two separate ports. Coaxial line of RX and TX antenna should connect to N type (RX-IN) and N type (TX-OUT) ports. To make repeater to have better performance, there must be enough space between antennas. If equipped with a TX & RX antenna, the external or internal of the antenna must comply with TX & RX frequency of the duplexer, and make sure there is enough space between RX and TX ports.

■ Duplexer selection

Selection of the duplexer is crucial for repeater performance. This duplexer must be able to work continuously at minimum 50W. To have best system performance, the insertion loss should be less than 2dB. It is recommended to use band-pass and band-

Preparation

stop duplexor if the repeater is working in high RF and high density place.

■ Antenna selection

Selection of the duplexor is crucial for repeater performance. It is necessary choose a antenna with 50Ω impendence and at least 50W capacity. You can use gain antenna to expand the working coverage. When you choose gain antenna, please note there may be limitation for antenna gain or system EPR in some service and area. It must use 50Ω advanced transmission line (hard wire) to connect to antenna and duplexor, where the interfaces on the line and antenna / duplexor must match to each other.

 **Note:** it is very important that all antennas must be grounded to the building.

■ Checking after installation

After mechanical installation and electrical connection, please connect to the power to check if the repeater can work correctly.

■ Powering on

- Before powering on, please check if all interfaces are

well and correctly fixed and all RF cables are firmly connected.

- Connect the circuit breaker of controlling AC socket to supply power to repeater power module.

■ Check if it is working correctly

You can check the working condition of the repeater thru following steps:

- Check the power LED and related mode indicator status on front panel.
- Advective cooling fan on back panel is working normally or not.
- Display on LCD is correct or not.
- Operate the repeater to see if TFT LCD instruction is changed accordingly.

 During working, the repeater may be very ho. After turning off, it is better to touch it after it is cool completely to avoid being injured.

Software Programming

You can program the channel data and related parameter for the repeater at your computer with specialized CPS.

Content (II)

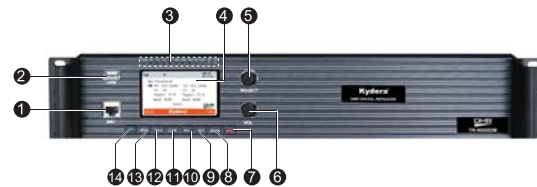
Please review the following subdirectory firstly:

Acquaintance.....	13
Repeater front control panel.....	13
Repeater back control panel.....	14
Microphone.....	15
Microphone Jack.....	15
Programmable keys.....	15
Repeater functions can be preset by programmable keys.....	16
Other settings and utility functions can be pre-set by programmable keys.....	16
Access to features preset.....	16
PTT button.....	17
Switching among Analog, Digital and Analog & digital modes.....	17
Repeater status indicators.....	17

Study repeater's control setting

■ Acquaintance

■ Repeater front control panel



1. MIC

Please plug the equipped microphone into the jack. To convenient to initiate a call, users can plug qualified microphone to the MIC jack.

To plug the programming cable into the jack if required. (General)

2. USB

To plug the programming cable into the jack if required. (Depending on products model)

3. LED

To indicate the working status.

4. 3.5" TFT screen display

To display repeater working mode and relative information etc.

5. Selector (360° adjustment control knob)

Rotate the knob to do options for operating frequency or memory channel, change scan direction etc. To choose menu items if enter to menu mode.

Once press the knob, it is used as menu and confirmation key.

6. Volume adjustment

Once open voice landing working mode, users rotate the knob clockwise to increase volume level; vice versa.

Short press is to work as Back or Exit key.

Long press is to switch the current channel mode.

7.

Exit quickly to home screen.

8.

Short press it to work as back key.

Long press it to switch current channel mode.

9.

Definable key.

10.

Definable key

11.

RE — To priority repeater.

Study repeater's control setting

CL — To priority initiative call.

12. **TS1/2**

Choose receiving voice landing — Timeslot 1

Choose receiving voice landing — Timeslot 2

Choose receiving voice landing — Timeslot 1 and 2

13.

Press one time to enter into menu interface.

If to program setting or do options, it is used as confirmation key.

14.

Long press it before power ON, then power it ON, repeater will get into upgrade mode.

1. RX-IN

To connect to receiving antenna. (N type)

2. ON/OFF

Turn ON or OFF the repeater power.

3. AC-110-240IN

Connect to AC power wire outlet.

4. TX-OUT

Connect to transmitting antenna jack. (N type)

5. TX/RX

Connect to RX and TX antenna jack. (N type)

Note: Only when the repeater with duplexer, the jack can be used.

■ Repeater back control panel



Study repeater's control setting

9. Cooling fan

When repeater to be power ON, the cooling fan will be activated to cool down the temperature, to prevent damage equipment relevant part.

■ Microphone



1. PTT switch

Press the button to do voice transmission from microphone.

2. Keyboard

Users can issue DTMF call, input frequency or characters through these keypads.

3. PF-A

Users can define desired function through software.

4. PF-B

Users can define desired function through software.

5. PF-C

Users can define desired function through software.

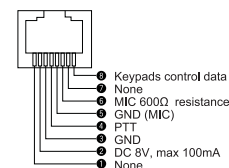
6. PF-D

Users can define desired function through software.

Microphone Jack

1. MIC

Plug the equipped microphone into the jack (on the repeater front control panel). To convenient to disconnect the repeater main board to front panel board, users can connect the microphone wire to the MIC jack.



Note:

4pcs definable key on microphone: [PF-A], [PF-B] (MICPF-B) and [PF-C](MICPF-C), [PF-D](MICPF-D). Users can define their desired function to the keys.

■ Programmable keys

You dealers can pre-set the programmable keys based on the length of a button press.

Study repeater's control setting

Pre-setting can be shortcuts of radio functions.

- ◆ Short press — Pressing and Releasing quickly (programmable range is from 50ms-750ms)
 - ◆ Long press — pressing and holding for programmed length (programmable range is from 500ms-5000ms)
- Note: The programmable duration for a key press can be used for all radio functions / utility functions or setting, except Emergency Call feature.

Repeater functions can be preset by programmable keys

Zone switch — Change the current working zone (allowed to select from a zone list)

Scan on/off — Turn on /off scanning feature

Contacts list — Direct access to the Contacts list

Other settings and utility functions can be pre-set by programmable keys

High/Low power selection — switch transmit power level between high and low

LED Backlight ON /OFF — turn display LED backlight ON or OFF

Keypad Backlight ON /OFF — turn display keypad backlight ON or OFF

Key up — Move to "Up" under menu operation.

Key down — Move to "Down" under menu operation.

Key Mi And Back — Used as Menu back key and * key under menu operation.

Key Right — Move to "Right" under menu operation.

Key Lock ON/OFF — switch key lock between ON and OFF.

■ Access to features preset

You can access to the different repeater features through one of the following ways:

◎ Short pressing or long pressing related preset keys.

OR

◎ Using the following menu button [MENU] or press [Select] button:

1. For accessing to Menu list, press [MENU] key or press [Select] button, then rotate [Select] button to access the menu features.
2. Press [MENU] key or press [Select] button to select the needed feature or enter into the needed submenu.

Study repeater's control setting

3. Press [MODE] key or press [VOL] button to return to the previous Menu or screen.

4. Press [RECALL] key, the radio returns to the home screen.

Note: If the radio is inactivity after a period of time, the radio will not automatically exit the menu and will stay in operation screen.

■ PTT button

There are two basic functions of PTT button:
Transmitting and Receiving.



- ◎ Press PTT button to transmit the signals to other radios
- ◎ Release PTT button to receive signals from other radios
- ◎ If the Individual /Group Call or Prompt Tones is activated, the PTT Sidetone will be heard when you press or release PTT button.
- ◎ If the Prompt Tone of Group Call is activated, you will hear the PTT Sidetone when you pressing the PTT button.

Note: You can use programming software to turn off

all radio alert tones and prompt tones or just disabled partial radio alert tones and prompt tone.

■ Switching among Analog, Digital and Analog & digital modes

For your convenience, each channel can be programmed as 3 modes.



◎ In standby mode, press [Digital/Analog] button for at least 2 seconds, the current channel will be switched among Analog, Digital and Analog & digital modes.

◎ There is also shared feature list for functions being available both in Digital and Analog mode.

Note: During scanning, the radio also can switch among Analog, Digital and Analog & digital modes, but scanning mode will be disabled.

■ Repeater status indicators

The repeater adopt 3.5" TFT colorful display and will

Study repeater's control setting

show radio status, character input and Menu items.
The below icons appears on LCD display.

☉ Receiving signals strength indicator.(RSSI)

📶 Indicates weakness or no signal is received

📶 The Number of signal strength bars indicates the signal strength of your repeater. Five bars indicate the strongest signal. This icon is only appeared in receiving.

☉ Monitor

📶 Indicates it is monitoring the selected channel

Power level

"L" means the repeater is set at low power

"H" means the repeater is set at high power

☉ Ringing tones are disabled.

🔊 Tones are turned off.

☉ GPS available 📶

📶 This icon appears when GPS is activated for locating
There is no icon appearing, if GPS is not available or out of range or not receiving data from satellite when GPS is enabled.

☉ Scan

🔄 Indicates Scanning is started

☉ Priority scan

"P" in scanning list, channels with "P" are set as priority
Scan channels

☉ Unread SMS 📶

📧 Indicates there is unread SMS in inbox

📧 Indicates the inbox is full

☉ Emergency alarm

🚒 Indicates the repeater is in emergency mode

☉ Safety 📶

🔒 Indicates communication encryption is activated

☉ **DC voltage**

Indicates currently connected battery level.

☉ **CTCSS** 📶

"QT" means CTCSS is activated

* In standby mode, "QT" appearing means CTCSS is available in receiving.

* In transmitting, "QT" appearing means CTCSS is available in transmitting

* In standby or transmitting, "QT" appearing means CTCSS is available in transmitting and receiving.

☉ **DCSS** 📶

"DQT" means DCS is activated

* In standby mode, "DQT" appearing means DCS is available in receiving.

* In transmitting, "DQT" appearing means DCS is available in transmitting

* In standby or transmitting, "DQT" appearing means DCS is available in transmitting and receiving.

Content (III)

Initiating Calls

After you understand how your repeater is configured, you are able to use it more deftly.

Use this directory to familiar with the basic call feature:

Choose Zone.....	20
Choose a Channel, User ID, Group ID.....	20
Initiate a Group Call.....	21
Using the Encoder Switch to Initiate a Call.....	21
Manual dial to initiate a group call.....	21

Initiating Calls

■ Choose a Zone

A zone is a group of channels. Your repeater supports up to 16 zones, with a maximum of 16 digital channels and 16 analogue channels per zone. (32 channels in total)

© Choose a working zone by following steps:

Procedure:

Press the preset "Zone Switch" key to switch in zones.
OR

Follow the steps below.

1. Press the "Menu" key or press [SELECT] button to access the main menu.
2. Rotate [SELECT] button to choose [Setting] , and press "Menu" or press [SELECT] button to access the sub-menu.
3. Rotate [SELECT] button to choose "Zone" in sub-menu, and press "Menu" or press [SELECT] button to access zone list (1-16 Zones).
4. Rotate [SELECT] button to choose a desired zone in zone list and press "Menu" or press [SELECT] button to confirm. Now you can see "Zone Settled" on the display.
5. After the repeater returns to the home screen, the

Zone No. displays at the bottom of the screen.

Note: The No. and names showing in Zone list need to be preset by your dealer or System Administrator. (The maximum No. is 16 zones)

■ Choose a Channel, User ID, or Group ID

After choosing the desired zone (provided that there is multiple zones preset in the repeater), choose a working channel, user alias or ID, or Group alias or ID with the channel selector.



Prompt:

- ◆ When choosing a channel, you can see the information of current channel is displayed on the screen, such as channel name, channel number, frequency, ID, etc. (it depends on the preset information and display mode the user choose).
- ◆ You can change current working channel mode by pressing [Analog / Digital] key.

Initiating Calls

■ Initiate a Radio Call

You can choose a channel, user ID, or group alias by following instructions:

1. Rotate [SELECT] button.
2. Choose from the Contacts list thru Menu or Preset buttons.
3. Manual Dial the user ID in the "Contacts"

■ Using the Encoder Switch to Initiate a Call

Initiating a Group Call

To initiate a group call, your repeater must be programmed as part of that group.

Procedure:

1. Rotate [SELECT] button to choose the channel with preset group alias or ID.
2. Hold the Microphone vertically 2.5cm to 5cm(1 to 2 inches) from your mouth.
3. Press the Microphone "PTT" key to initiate a call, the group call icon will appear on the display, also the group alias or ID will be shown on the display.
4. Release the PTT key and listen to the response, when the target radio answers. Then you see the display

appears the group call icon, the group alias or ID, and transmitting radio alias or ID.

Note:

You also can initiate a group call through Contacts.

■ Manual dial to initiate a group call

Procedure:

1. Press preprogrammed "Contacts" key, and Rotate [SELECT] button to select sub menu-Manual dial.
2. Press "OK" key to enter Manual dial interface.
3. Input ID numbers directly.
4. Hold the Microphone vertically 2.5cm to 5cm(1 to 2 inches) from your mouth.
5. Press the "PTT" key to initiate a call, the private call alias or ID, and the private call icon will appear on the display.
6. Wait for the "Tx Begin Tone" to finish (if enabled), and speak clearly into the microphone.
Or if there is no voice activity in the preset time, then this call will be ended.
7. When the call is end, press "delete" key or press the [] key to returns to the Home Screen.

Content (IV)

View the setting of menu function and operation

Use this directory to familiar with more function menu:

Text Messaging.....23

Inbox	23
Receiving a Message	23
Reading a Message	23
Clear the Message List	23

Contacts23

Contacts List.....	24
Add Contacts	24
Delete Contacts	25
Initiate a call from Contact.....	26
"Manual dial" to initiate a private call.....	27

Call Log.....27

Checking the latest call activity.....	27
Clear Call Log list.....	28

Attachment.....28

GPS (Optional).....29

GPS ON/OFF	29
View GPS location.....	29
Time-zone Position Calibration.....	30

Settings.....30

Parameter.....	31
----------------	----

Zone Set.....	32
---------------	----

Time Set.....	33
---------------	----

Prompt Tone	34
-------------------	----

Key tone Set.....	35
-------------------	----

Low Battery Alert.....	36
------------------------	----

Message Prompt Tone.....	37
--------------------------	----

Group Call Tone.....	38
----------------------	----

Basic Information Set.....	38
----------------------------	----

Language.....	39
---------------	----

Keylock.....	39
--------------	----

Backlight.....	40
----------------	----

Version.....	41
--------------	----

Display Mode.....	42
-------------------	----

Factory Reset.....	42
--------------------	----

Function.....	43
---------------	----

Narrow / Wide.....	43
--------------------	----

CTCSS.....	44
------------	----

DCS.....	44
----------	----

FM voice companding decode.....	45
---------------------------------	----

Scan.....45

Start / Disable Scan.....	45
---------------------------	----

Scan Mode.....	46
----------------	----

Scan List.....	47
----------------	----

View the setting of menu function and operation

■ Text Messaging

Your repeater can receive text message from other radio. The maximum length of characters for a text message is 138.

Inbox

Receiving a Message

When your repeater is receiving message, the repeater will give a Message Tone (if enabled) and the display will show the message icon [].

Reading a Message

Procedure:

1. Press [Menu] Key or press [SELECT] button to access the menu.
2. Rotate [SELECT] button to select "Message" and press [OK] key or press [SELECT] button.
3. Rotate [SELECT] button to select "Inbox" and press [OK] key or press [SELECT] button.
4. Rotate [SELECT] button to choose messages, and press [OK] key or press [SELECT] button, then open message.
5. Press [Back] key to return to the Inbox.

Note:

If there have unread message or received new message in the inbox, the display will show message icon [].

Clear the Message List

Procedure:

1. Press [Menu] Key or rotate [SELECT] button to access the menu.
2. Rotate [SELECT] button to select "Message" and press [OK] key or press [SELECT] button .
3. Rotate [SELECT] button to select "Clear All" and press [OK] key or press [SELECT] button.
4. Rotate [SELECT] button to choose messages, and press [OK] key or press [SELECT] button.
5. The display will show "Confirm to delete?" Press [OK] key or press [SELECT] button to delete, the display will show "Deleted" Or press [Cancel] key to return to the previous menu.

Note: Lists cannot be restored after deletion.

■ Contacts

Contact provides "Address-book" for the repeater, Each