

DJ-MD5X

Operation Manual

For the basic operation of the radio, please refer to the DJ-MD5 manual.

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Appendix.

OVERVIEW OPERATION	5
1. LED Indications	5
2. Programmed Key	5
3. Default function	8
4. Hot Key	8
5. Basic Operations	10
5.1 Power on the radio.....	10
5.2 Adjust Volume	10
5.3 Battery Voltage Test.....	10
5.4 Main band/Sub band switch	10
5.5 VFO/Channel switch	10
5.6 Set up VFO frequency.....	10
5.7 Select a Zone	11
5.8 Select a Channel	11
5.9 Receiving and Responding to a Radio Call	11
5.10 Monitor.....	13
5.11 Digital Monitor.....	13
1. On/ Off	13
2. DigiMoni cc	13
3. Digi Id	13
4. Slot Hold	13
5.12 Response and Save a call in Digital Monitor mode.....	14
6. Advanced Features for Private Call.....	14
6.1 Advanced Features	14
1. Call Alert	14
2. Measure	15
3. Moni (Remote Monitor)	15
4. Check.....	15
5. Kill	15
6. Wake	15
7. Turn on GPS.....	16
7.1 Check the GPS Information	16
7.2 Send GPS Information.....	16
7.3 Area SQL	17
8. Recording Feature	19
8.1 Play the Record	19
8.2 Send the Record	19
9. Contacts.....	20
9.1 Messages	20
9.2 Call Log.....	20
9.3 Scan List.....	21
9.4 Settings	21
Radio Set	21
1. Beep.....	21
2. Back Light.....	21
3. Light Time.....	21
4. Ch. Name.....	21
5. Key Lock.....	21
6. Power Off	22
7. TX Timer.....	22
8. Max Vol	22
9. Ear Vol	22
10. Voice Fte (MIC Feature)	22
11. Language	22

12. Exit Time (Menu Exit Time).....	22
13. Intro Dis (Intro Display).....	23
14. Background	23
15. Main CH.....	23
16. Sub Channel	23
17. Msg Note	23
18. Call Ring	24
19. Freq Step	24
20. SQL Level	24
21. Power Save.....	24
22. TBST Selection (Tone Burst).....	24
23. VOX	24
24. VOX Delay.....	24
25. Scan Mod	24
26. Mic Level	25
28. DTMF Speed.....	25
29. FM Radio	25
30. FM Radio Monitoring	25
31. Start Radio Password	25
32. Auto Repeater A.....	26
33. Auto Repeater B	27
34-37. Programmable key PF1, PF2.....	27
38. WX alarm	27
39. WX channel.....	27
40. SMS form.....	27
41. Time Zone	27
42. Time Display	27
43. Date time	28
9.5. Chan Set (Channel Setting)	28
※Chanel Setting (Digital Channel)	28
1. New Channel.....	28
2. Delete Channel	28
3. CH Type.....	28
4. TX Power	28
6. Band Width	29
7. RX Freq.....	29
8. TX Freq.....	29
9. Talk Around	29
10. Name	29
11. TX Allow	29
12. TX Prohibit.....	30
13. Radio ID	30
14. Color Code	30
15. Time Slot.....	30
16. Digi Encrypt	30
17. Encrypt Type	30
18. RX Group List.....	30
19. Work Alone	31
20. CH Measure	31
21. APRS receive	31
22. Reject RX.....	31
23. DMR Mode	32
※Chan Set (Analog Channel).....	32
1. New channel.....	32
2. Delete channel	32
3. Channel type.....	32

4.TCDT	32
5.RCDT	32
6.RTCDT.....	33
7.Optional Signal.....	33
8.TX power	33
9. Offset.....	33
10.Squelch mode	33
11.Band Width	33
12.Reverse	33
13. RX Frequency	33
14.TX Frequency.....	33
15.Talk Around	34
16.Name	34
17.Busy Lock	34
18. TX Prohibit.....	34
19. OWN ID	34
20. DTMF Enc	34
21. 2Tone Encode.....	34
22. 2Tone Decode	34
23. 5Tone Encode.....	35
9.6. Device Infor.....	35
9.7 Reset.....	35

OVERVIEW OPERATION

1. LED Indications

The top LED shows the current radio status.

LED Indication	Status
Flashes Red	Low battery voltage
Constant Red	Transmitting
Constant Green	Analog Receiving
Constant Cyan	Digital Receiving
Flashes Green	Scan

2. Programmed Key

There are two programmable keys ([PF1], [PF2]) at the right side of radio. it can be assigned functions by manually set in radio or set by PC software.

Manually set by radio: Press  (MENU) key then move cursor to setting → Radio Set → move to Menu set 34-37 select the [PF1] or [PF2] then assign functions, there are 2 definition of assigning a key, short press and long press (hold they key for a while).

Set by PC software: Open software, go to Public → Optional → Key function then select the desired functions. Assigned different functions are listed in the list below.

OFF	No Function
Voltage	Check the current battery capacity voltage
Power	Switch the power between super high, high, middle and low

	power
Repeater	Switch between talk around and repeater mode
Reverse	Turn on/off the frequency reverse function
Digital Encryption	Choose the encryption group to encrypt the call conversation
Call	In Analog mode, send the DTMF/5TONE/2TONE encode. This function is only valid for analog channel
VOX	Set up the VOX level
V/M	Switch between VFO mode and memory channel mode.
Sub PTT	Sub channel PTT, press to start the call on sub channel
Scan	Scan on/off
FM	FM radio on/off
Alarm	When select alarm, long press the key to start alarm, short press again to exit the alarm.
Record switch	Enable/disable the recording function when TX or RX a call conversation
Record	Start/stop recording as a recorder. When stop recording, the radio will remind repeat or send the record
SMS	In digital mode, press to enter into message box, only private call and group call can send and receive a message
Dial	Start the manually dial
GPS	Check the GPS position information
Monitor	Monitor the weak signal in analog mode or the signal with unmatched ID or color code in digital mode
Main channel switch	Choose channel A or channel B as the main channel
Hot key 1~6	Press the key to perform the programmed function in hot key setup
Work Alone	Turn on/off the work alone function
Nuisance Delete	During scanning, press the key to skip the unwanted channel
Digital Monitor	In DMR mode, press the key to turn on/off monitor a target radio

Sub CH Switch	Turn on/ off the sub channel
Priority Zone	Switch to Priority Zone
Programming Scan	Press the key to start the scan in VFO channel. The scan start and frequency end frequency shall be programmed in PC software.
MIC Sound Quality	In digital channel, switch the microphone tone to normal or enhanced mode
Last Call Reply	In digital channel, press the key to access the last call and press PTT to call back
Channel Type Switch	Switch the channel type(Analog, Digital, Ana+Dgi, Dgi+Ana)
Ranging	When the radio receives a call and the suspension time is on, press the key programmed as" Ranging" to obtain the caller's position and distance. (Both party need GPS positioned, or will receive only GPS information)

Roaming	In standby, press the key programmed as "Roaming" to search and lock on the repeater with strongest signal. (Note: After lock on a repeater, the radio will return to last frequency only after channel or frequency is changed. The repeater frequency list must pre-programmed in CPS.)
Channel ranging	In standby, if the call contact type for a channel is "Single call" , press the key programmed as " Channel Ranging" to turn on this function. The radio will automatically start ranging function when turn to this channel.
Max volume	In standby, press the key programmed as" Max Volume", will enable users to set the maximum RX volume.
Slot switch	Choose Slot for current channel, this function is only valid in repeater mode.
APRS type switch	Choose Aprs Type for current channel.
Zone select	In standby, press the programmed "Zone Select" key, it will allow you input the zone number and then press confirm key will switch to the zone.
timed roaming set	Sets Roaming Function
APRS set	Sets APRS Function
Mute timing	Set the radio mute in a pre-setting time
CTC/DCS set	Set CTCSS/DCS funtion

3. Default function

The table below shows the functions as default functions were assigned to programmable keys.

Key	Default Function
[PF1] Short Press	Main channel Switch
[PF1] Long Press	V/M
[PF2] Short Press	Monitor

4. Hot Key

In PC software → Public → Hot key, it is able to set different functions for hot key  ~  and the combine  (MENU)+ number key. For details please refer to the PC software.

Call	Analog	Should edit the analog quick call first, then choose analog in
		the hot key set. Press the key to transmit 2Tone/5Tone/DTMF
		to start the analog quick call.
	Digital	It allows to select a contact from the digital contact list, press
the key to switch the channel to the contact temporary. It will		
switch back to the original contact after the group/personal call hold time.		
Menu	SMS	Quick access to Messages in the menu
	New Msg	Quick access to New Msg in the Menu - Messages
	Quick Text	Quick access to Quick Text in the Menu - Messages
	Inbox	Quick access to Inbox in the Menu - Messages
	Outbox	Quick access to Out box in the Menu - Messages
	Contact list	Quick access to Contact list in the Menu - Contacts
	Manual dial	Quick access to Manual Dial in the Menu - Contacts
	Call Log	Quick access to Call Log in the Menu
	Sent Calls	Quick access to Dialed Calls in the Menu - Call Log
	Answered Calls	Quick access to Answered Calls in the Menu - Call Log
	Missed Calls	Quick access to Missed Calls in the Menu - Call Log
	Zone	Quick access to Zone in the Menu
	Radio set	Quick access to Radio Set in the Menu - Settings

Combine  (MENU) + number key operation:

Press  (MENU) key until the LCD display “Next Please Push Dial Key”, press the number key, it will perform the programmed function.

5. Basic Operations

5.1 Power on the radio

Turn on the radio by turning the [Power/Volume] knob clockwise till a click is heard, radio displays “ Booting please wait!” on and the LCD, then the ALINCO logo will be displayed and you will hear a beep, program loading takes about after 8 seconds.

5.2 Adjust Volume

Rotate the [Power/Volume] knob to adjust the volume. Turn clockwise to increase the volume and counterclockwise to decrease the volume. The LCD display will show volume status during an adjustment.

5.3 Battery Voltage Test

Press the programmed key “Voltage” to check the current battery voltage, then press the key again to turn off.

5.4 Main band/Sub band switch

Press [PF1] key to switch the main channel and sub channel. Both channels are shown on the screen but channel with bigger size is identified as main channel.

5.5 VFO/Channel switch

Press and hold [PF1] key to switch between VFO and memory channel mode display. Be noted that VFO only can be switched when radio display mode is set as frequency.

5.6 Set up VFO frequency

Turn the radio to VFO mode, press the assigned key to switch and select main channel, the VFO frequency can only be set up when the channel is the main channel.

There are 2 operations to select a desired frequency.

Operation 1: Input the VFO frequency directly by the keyboard.

Operation 2: Turn the channel knob to adjust the VFO frequency steps. The frequency step size can be set in setting menu.

5.7 Select a Zone

A Zone is a group of channels grouped together. The radio has 250 zones, each zone can have the maximum of 160 analog and/or digital channels.

Select the zone only valid in memory channel mode, be noted that there are more than 2 zones in zone list.

Operation 1: Press  /  directly to switch zones, LCD will display the selected zone number or zone name.

Operation 2: Press  (MENU) key then select zone, move the cursor to select the desired Zone.

Edit Zone Name: Press to select Edit Name, input zone name, then press confirm, select save to save edited zone name.

5.8 Select a Channel

Press assigned key to switch radio to memory channel mode. . (memory channels must be pre-programmed)

Operation 1: Turn the channel knob to select a channel.

Operation 2: Input the channel numbers by the keyboard. For example, if you want switch to channel 99, input 0 0 9 9 a total of 4 digits, and it will switch to channel 99.

5.9 Receiving and Responding to a Radio Call

When the radio is in the digital mode, it can receive and respond to a call with the same frequency/color code/ slot.

1. If radio is programmed with callers radio ID number in digital contact list, when receiving a call, depend of the setting radio will ring.
2. LED lights green up (Analog channel mode), or LED lights cyan up (Digital channel mode).
3. Left top corner of LCD shows **RSSI** icon, radio also displays DMR ID/ name/ city/ state/ country /call type and incoming icon base on setting.
4. When a call ends, radio displays “Call end” message.

Making a Call

In Analog:

Create memory channels or directly dial the channel knob to choose the VFO channel then press PTT to make a call. Make sure that if the option signals like CTCSS/DCS/

5 TONE/ DTMF...are selected it must be matched between transmitter and receiver to hear their voice.

In digital

There are 3 call types in digital channels are:

Private call: We provides the capability for a user to place a Private Call directly to another radio, even if they are not in the same group. However, for this action to take place both radios need to be on the same channel and time slot. This feature allows a radio user to carry a one-to-one conversation that is only heard by the two parties involved. For example, an employee may use a Private Call to privately alert a specific manager about a security incident, rather than placing a Group Call that would be heard by the whole group.

Private Call does not necessarily imply the use of encryption or scrambling.

Group call: The digital group is a way of enabling groups to share a channel without distracting and disrupting one another. Because two-way radios are well suited for “one-to-many” types of calls, the Group.

All call: All Call is a one way voice call between a privileged operator and all users on a logical channel. The transmitting radio utilizes a special All Call group that every radio on the same system and logical channel (regardless of group) will receive.

There are 3 ways to select a target radio when make a call in digital mode.

In digital mode there are 3 types of call.

Operation 1: from the Channel knob.

Turn the channel knob to choose your desired channel then press PTT to make a call.

Operation 2: from contact list.

Press  (EXIT) to enter the contact list then press  /  key a stored contact then press PTT to make a call.

Operation 3: from the keypad.

Press  (MENU) key to enter the menu setting, select “Talk group” then select “Manual Dial ”. Input the ID number of target radio by keypad, press  key to switch group ID or Private radio ID then press PTT to make a call.

Hold the radio vertical 2.5-5 cm from your mouth is recommended, press the [PTT] key to start the call, the red LED lights up, the receiver ID/name/city/state/country/ call type and call out icon will be display on the LCD.

Release [PTT] key to receive the reply.

5.10 Monitor

Press and hold [PF2] key to enter the monitor function. Release to turn off.

In analog channel: you can hear background noise and monitor even an incoming weak signal. Release [PF2] key, squelch is mute.

In digital channel: it allows radio to receive an incoming signal without matching color code or different talk group ID.

5.11 Digital Monitor

This function allows user monitor the incoming signal without matching color code or different talk group ID or even monitor both time slots by setting.

Press  (MENU) key to enter main menu, then select Digi Moni.

1. On/ Off

Off: Turn off Digital Monitor

Single Slot: Monitor the current using time slot of an incoming signal.

Double Slot: Monitor both time slot 1 and time slot 2 of an incoming signal.

2. DigiMoni cc

Any Cc: Allows to monitor any color code of an incoming signal.

Same Cc: Allows to monitor only the color code that match to current setting of radio channel.

3. Digi Id

Any Id: Allows to monitor any talk group ID of an incoming signal.

Same Id: Allows to monitor only the group talk ID, which same as current setting of radio channel.

4. Slot Hold

Off: Turn off the slot hold

On: Turn on the slot hold

A recommend to turn on slot hold function when monitoring both time slots. When an incoming signal disappears and your radio is monitoring a time slot, instead of switching to monitor the other time slot, radio will hold on some seconds and wait until incoming signal disappears.

5.12 Response and Save a call in Digital Monitor mode

Response:

During Digital Monitor is on, when radio receives an incoming call with unmatched ID, press  key, on the screen will display "Monitor Response Setup Successfully", press [PTT] key will response to the call.

Save the call:

During Digital Monitor is on, when radio receives an incoming call with unmatched ID, Press  key, the radio will remind you choose a Zone, press  /  key to choose a Zone, press select key to save the new channel to the Zone.

6. Advanced Features for Private Call

There are 2 ways to select a private call.

Operation 1: Access from Contact list.

1. Press the  (EXIT) key to enter the Contact list, press  /  key to a private call ID name.
2. Press Select to View Contact, press Select to see the contact information.
3. Press Edit to edit some advanced information then select Save to save the changes.

Operation 2: Access from Manual Dial

1. Press the  (MENU) key to enter Contacts, press  /  key to Manual Dial.
2. Press Select to enter Manual Dial.
3. Input the Private ID, press Option to access the advanced features.

6.1 Advanced Features

Be noted that some advanced features can be set to show/not show on radio by PC software depends on user`s purposes. To use these functions you need select to enable each function by PC software. "Option setting"→ "Digital Function" then select some functions on.

Press the  (MENU) key to enter "Talk Group" then select a **Private contact**, press View then press  (MENU) key to see the details below.

1. Call Alert

Select Call Alert, it will send out a call alert, the target radio will sound a beep when receiving the call alert, and it will show a message with success call or failed call on the LCD of transmitted radio.

2. Measure

GPS function must be turned on and radio is catching GPS data.

This function allows radio to transmits and receives GPS coordinates automatically, and displays the distances between you and other users.

3. Moni (Remote Monitor)

Select Remote Monitor, the Remote Monitor feature allows a remote user to activate a target radio's microphone and transmitter for a period of time. A call is silently set up on the target radio, and its PTT is controlled remotely without any indications given to the end user. The duration that the target radio transmits after receiving a Remote Monitor command is set in the target radio through the PC software. When receiving the Remote Monitor command, the target radio initiates a Private Call back to the originator of the Remote Monitor command.

4. Check

Select Check Radio, and it will send out a radio check to the target radio, which will send back a message if it is available or not available to the transmit radio. With this feature, you can determine if another radio is active and powered on.

5. Kill

Select Kill, and it will send out a kill signaling to the target radio which will be killed (No display, no operation) when receiving the signaling and it will send back a kill successful message to the transmit radio.

6. Wake

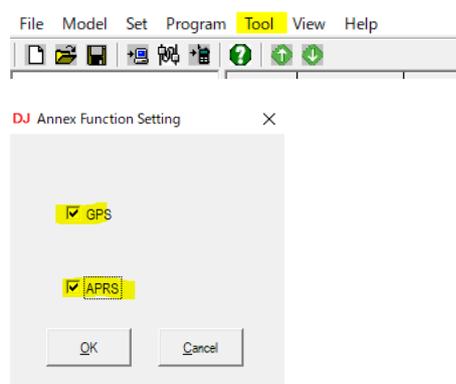
Select Wake, and it will send out a wake signaling to the killed radio and the target radio will return to standby when it receives this signaling and send back a Wake successful message to the transmit radio.

7. Turn on GPS

1. Press  (MENU) to enter the main Menu, press  /  key to select GPS.
2. Press the  /  key to select ON

Note: In the case your radio does not appear GPS function, check in PC software setting. Go to “Tool” → “Option” then select GPS as ON.

APRS Function is accessible only while the GPS function is selected as ON.



7.1 Check the GPS Information

There are 2 ways to check GPS information:

Operation 1: Check GPS info from Menu

Press  (MENU) key to enter main Menu, press  /  key to GPS, set GPS on then select “GPS infor” to check the GPS position.

Operation 2: Check GPS info from programmed key

In the PC software, Public Optional Setting Key function, program a key as GPS, press the programmed key to check the GPS position. If the GPS is not positioning, it will display “No Fixed Position”, and the GPS icon shows a grey color. Move the radio to an open window or outdoors, and it will take a few minutes to connects to the GPS Satellites.

7.2 Send GPS Information

1. When the GPS is positioning successfully, the GPS icon shows a red color. Follow the above step to check the GPS info, press edit key to Text edit.

2. Press Confirm, and it will display Send or Save. If you select Save, the GPS info will be saved as a draft message.
3. Choose Send and it will display Contact list or Manual Dial.
4. Select Contact list to choose a contact, press select to send the GPS info.
5. Select Manual Dial, input the radio ID, press **#†** key to switch group ID or private ID, press select to send the GPS info.

7.3 Area SQL

When entering areas of your preference, it automaticallu switches to preassigned CH zone(s) and channels. This function data need to set by PC software.

To use this function the GPS need to be turned on.

In PC software go to zone to create some zones, and assign the desried channels to each zone.

The screenshot shows a software interface for configuring zones and channels. It includes the following elements:

- Zone Name:** A text input field containing "Zone 1".
- A Channel:** A dropdown menu set to "Channel 1".
- B Channel:** A dropdown menu set to "Channel 2".
- Available Channel:** An empty table with two columns.
- Zone Channel Member:** A table with two columns and two rows:

1	Channel 1
2	Channel 2

Then you go to Area SQL to select

- Local Information
- Hot Key
- APRS
- Area SQL**

Set the area`s GPS data, and radius of the operating area.

OnOff

Zone

LatDegree

LatMinInt

LatKind

LongtDegree

LongtMinInt

LongtKind

Radius

By this setting, if your radio located in the area of the GPS data is set your raio always displays the deried zone that you set (there is a comparation of the online GPS data and pre-set data), even you try to select other zone in radio by manually eventually radio will automatically switches to the pre-assigned zone.

8. Recording Feature

There are 2 recording features.

a. Record a Call Conversation

This feature will record the conversation during transmitting and receiving a signal automatically.

Press  (MENU) to enter main Menu, press  /  key to Record. Select on or off to turn on or off the Record. When the function is on, the radio will automatically record the call conversation during transmitting and receiving.

b. Record as a recorder

This feature allows to record as a voice recorder, it will record sound in the vicinity of the radio.

In the PC software, Public  Optional Setting  Key function, program a key as Record.

Press the programmed Record key to activate the recording feature, the radio will start to record. Press the key again to stop record, then the radio will display Record Play or Record Send. Select Record Play to play the record or select Record send to send out.

The Recording feature is only valid in digital channel.

8.1 Play the Record

1. Press  (MENU) to enter main Menu, press  /  key to Record.
2. Select Record List to enter Record list, select a Record list to enter the Record file.
3. Select a Record to see the detail information.
4. Press Select to choose the record option.
 - 4.1 Record Play, it will play one record at a time, you can press  /  key to switch the recording without return to previous menu.
 - 4.2 Loop Playback, it will play all records in the record list.

8.2 Send the Record

1. Press  (MENU) to enter main Menu, press  /  key to Record.
2. Select Record List to enter Record list, select a Record list to enter the

Record file.

3. Select a Record to see the detail information.
4. Select Record Send, and it will display the Contact list or Manual Dial.
5. Select Contact list to choose a contact, press select to send the Record.
6. Select Manual Dial, input the radio ID, press **#1** key to switch group ID or private ID, press select to send the Record

9. Contacts

Contacts List: Will display the digital contact list which had been programmed in the PC software. This list is used as a look-up table to display the contact person information when receiving a call.

New Contact: Allows to create a new digital contact.

Manual Dial: Input the group ID or private ID to access a contact quickly.

9.1 Messages

New Msg: Create a new message and send to a contact.

InBox: Shows all the received messages, and allows forward or delete the message.

OutBox: Shows all the sent messages, and allows resend, forward or delete of the message.

Quick Text: Pre-saved messages, and allows to send, edit or delete the message.

Draft: Draft messages, and allows send, edit or deleting of the message.

9.2 Call Log

Sent: Shows all the dialed calls, and allow deleting the call record or saving the ID as a new contact.

Answered: Shows all the answered calls, and allows deleting the call record or saving the ID as a new contact.

Missed: Shows all the missed calls, and allows deleting the call record or saving the ID as a new contact.

9.3 Scan List

In the PC software →Public → Scan list, it allows to save 250 scan lists, and to program the required scan lists and write it into radio.

Switch the radio to channel mode, as the scan list is only valid in the channel mode.

Select a Scan list as current scan list, then you can also reset the priority channel 1 and priority channel 2 in the scan list.

9.4 Settings

Radio Set

Press  (MENU) key to enter the main menu setting then select settings → Radio Set.

1. Beep

Beep On: The radio will beep when you press the keypad

Beep Off: No beep when you press the keypad

2. Back Light

LCD backlight intensity is adjustable in 5 steps

3. Light Time

Always: The backlight is always on.

5S-5Min adjustable.

Note: This function is valid when turn off the power save.

4. Ch. Name

When radio works in the memory channel mode. Normally there are 2 ways to shows a channel on the screen, shows as channel name and show as frequency.

CH (Channel name): Select to display the channel name on screen.

FREG (Frequency): Select to display the frequency of channel on screen.

5. Key Lock

Manual: press and hold the  key to active the key lock, when key lock is on the  (MENU) key is locked. Press  (MENU) key, then press the  key to unlock the keypad.

Auto: Radio will auto lock the keypad when standby for a while. Press  (MENU) key, then press the  key to unlock the keypad.

There are some key lock types (separated operation) can be selected in the PC software to set go to: Optional settings->Key function->(Knob lock/ keyboard lock/ side key lock)

6. Power Off

Allow to set power off automatically when not used for a period of time, selectable in 10 minutes, 30 minutes, 1 hour or 2 hours.

Off: Turn off the function.

7. TX Timer

Selectable 30S-240S: The TX will be limited the transmission in a set time period. When this set time is reached, the radio will automatically stop transmission.

OFF: Turn off the TX timer, there is no limit in transmission time.

8. Max Vol

Indoor: Very low volume, suitable for the indoor use.

Level 1-8: Set up the maximum volume level.

9. Ear Vol

Indoor: Very low volume, suitable for indoor use.

Level 1-8: Set up the maximum volume level for earphone. When the radio connect with earphone, it will auto change to earphone maximum volume.

10. Voice Fte (MIC Feature)

It will allow you set up the microphone audio pitch.

Normal: Low pitch.

Mic Enhance: High pitch.

Indoor: Very low volume, suitable for indoor use.

Outdoor: High volume, suitable for outdoor use.

11. Language

Select the language for radio, Currently version, radio supports only English.

12. Exit Time (Menu Exit Time)

5S-60S: Selectable.

When enter the menu, the radio will stay at menu in the set time period. When the time period is reached, the radio will auto exit the menu.

13. Intro Dis (Intro Display)

Picture: The radio will display an ALINCO picture when powered on.

Character: The radio will display the characters set up in PC software when powered on.

Customer`s: User able to change to desired picture.

Note: to upload the picture into radio go to PC software :Tool-> boot Image-> open image-> Write into radio.

14. Background

Default Picture: In standby, the radio will display default picture.

Customer's Picture: The radio will display the picture uploaded by PC software.

Note: to upload the picture into radio go to PC software :Tool-> boot Image-> open image-> Write into radio.

15. Main CH

Main channel is a channel with showing size is bigger and just main channel able to be transmitted when press hand hold PTT.

Channel A: The upper displayed channel will be set as main channel.

Channel B: The lower displayed channel will be set as the main channel.

16. Sub Channel

Sub Channel On: Turn on the sub channel, and the radio will display both main channel and sub channel on the display.

Sub Channel Off: Turn off the sub channel, only main channel is displayed on the display.

17. Msg Note

Different prompt options when receive a new message.

Off: No prompt when a new message comes.

Ring: Radio will ring a sound when a new message comes.

18. Call Ring

Different prompt options when receive a new call.

Off: No prompt when a call is coming

Ring: Radio will ring a sound when a call is coming

19. Freq Step

Selectable: 2.5K, 5K, 6.25K, 10K, 12.5K, 20K, 25K, 30K, 50K, a total of 9 frequency steps.

20. SQL Level

Selectable 5 squelch levels to receive signal with different signal strength. This function is only valid for analog channel.

21. Power Save

Turn on to active the power save function, to prolong the battery life.

Save 1:1, work 30ms, dormant 30ms.

Save 2:1, work 60ms, dormant 30ms

When turn on the power save, it may not receive the message in time.

22. TBST Selection (Tone Burst)

Tone burst frequency is used to activate some dormant repeaters, 1000Hz, 1450Hz, 1750Hz, 2100Hz a total of 4 options are offered. Press PTT and PF1 key together to transmit the tone burst.

23. VOX

Enable the VOX, you can speak into the microphone to start transmitting instead of pressing the [PTT] key. A total of 3 levels of sensitive VOX are provided.

24. VOX Delay

When the VOX is enabled, set up the VOX delay to delay a period of time to avoid unwanted transmission so early. Selectable time period 0.5s-3s, a total of 26 levels are offered.

25. Scan Mod

This function is only valid for a VFO scan.

SCM TO: When an incoming signal is caught, radio stops scan and stays at the channel 5s before resuming the scan.

SCM CO: When an incoming signal is caught, radio stops scan and stays at the channel until the signal disappears, and resumes scan approx 2s later.

SCM SE: When an incoming signal is caught, radio terminates the scan.

26. Mic Level

There are 5 levels to selectable the Microphone gain, level 1 is the lowest, level and 5 is highest gain.

27. Time mute

Select On to turn the radio mute in a pre-setting time. During the pre-setting time the radio will mute the sound of keypad and the voice of incoming call. After the pre-setting time radio will become normal status. To set the duration of mute time, go to PC software-> Other->Mute Timing.

28. DTMF Speed

Offers DTMF encode speed selectable for receiver decode speed is more suitable, 50~500ms are the options.

29. FM Radio

Turn On/Off the FM radio.

30. FM Radio Monitoring

Mon On: During FM radio is On, radio still allows to receive or transmit signal on the channel.

Mon Off: During FM radio is Off, radio will not allow to receive and transmits signal on the channel.

31. Start Radio Password

On: Set up the password for start up. You need to input the password to power on the radio.

Off: No password is required for the radio power on start up.

Note. In Case you forgot the password. Using the PC software to read data and it is able to check password on PC software interface.

The password shall be set up in PC software ->Optional Setting->Power on->Power-on Password Char.

32. Auto Repeater A

Turn on the Auto Repeater function, the TX frequency in VFO mode will be increased or decreased frequency on the channel A base on the set up offset frequency.

Off: Turn off the function

Positive: TX frequency= RX frequency + Offset frequency.

Negative: TX frequency= RX frequency - Offset frequency.

33. Auto Repeater B

Turn on the Auto Repeater function, the TX frequency in VFO mode will be auto increased or decreased frequency on the channel B base on the set up offset frequency.

Off: Turn off the function

Positive: TX frequency= RX frequency + Offset frequency.

Negative: TX frequency= RX frequency - Offset frequency.

34-37. Programmable key PF1, PF2

You also can program these keys for different functions by set manually in radio.

Press  (MENU) key, move cursor to Settings, then select Radio Set then choose programble key that you want to program. After selecting the key a list of functions are shown, select the function then press  (MENU) key to confirm and exit.

This function also can be assigned by PC software.

38.WX alarm

Selet to turn ON/ Off the weather channel.

39. WX channel

Select the disired weather channel.

40. SMS form

There are 2 format types of a message. If the transmit radio is set as M-SMS/ H-SMS that require receiver radio must set as correspond M-SMS/H-SMS to receive message. (M-SMS is set as default setting)

M-SMS: Compatible to Motorola radio type.

H-SMS: Compatible to Hytera radio type.

41. Time Zone

Set up the time zone of your location.

42. Time Display

Select to display or does not display the date time in screen.

43. Date time

Time Check: Allows to set up the date and time manually. Use the  /  key to set the current year. Move to the month by pushing the [PF1] key. Set the month, and use the [PF1] key to move forward each step. Once done, click the Menu key to save the date and time.

GPS Check: When GPS is positioning successfully, enter this menu, select GPS check to calibrate date & time correction automatically.

9.5. Chan Set (Channel Setting)

The channel set menu will change accordingly to the channel types. When the channel type is digital, it will automatically hide the analog menus.

Press  (MENU) key, move cursor to Settings then select Chan Set to enter channel setting list.

※Channel Setting (Digital Channel)

1. New Channel

Allows create a new channel and save current set up to the new channel.

- a. Select "New Chan", then input new channel number and confirm.
- b. Input channel name and confirm.
- c. Select a zone and confirm. The new channel will be saved to the selected zone.

2. Delete Channel

Go to Delete channel, select delete when you want to delete the current main channel displaying on screen.

3. CH Type

A-Analog : Set up to analog channel

D- Digital : Set up to digital channel

A+D TX A: Mixed analog, allow receive analog and digital signal, TX is analog.

D+A TX D: Mixed digital, allow receive analog and digital signal, TX is digital.

4. TX Power

Set up the TX power for current channel. There are 4 selections.

Small: 0.2W

Low: 1W

Middle: 2.5W

High: 5W

5. Offset

Press the  /  key to adjust frequency offset.

6. Band Width

Only narrow band 12.5KHz for digital channel.

7. RX Freq

Input the desired RX frequency by keypad, Press  (MENU) key to save the change. Be noted that if auto repeater is set with a offset frequency, when changing RX frequency the TX frequency will be changed by offset. If auto repeater with offset frequency is set Off. RX and TX frequency are set independence.

8. TX Freq

Input the desired TX frequency by keypad, Press  (MENU) key to save the change.

9. Talk Around

As normal a radio communicates to a target radio through a repeater (TX and RX frequency are set as different values). This option allows 2 radios communicate to each others but you don't want to change frequency settings when repeater is out of range or when the repeater is down. It works in both digital and analog channel. When talk around set the transmitting radio's TX and RX frequency are interchanged. Turn off Talk Around when you want to communicate through repeater as normal.

Note: In analog channel the RX CTCSS/DCS decode is TX CTCSS/DCS encode and vice versa.

10. Name

Allow edit the channel name via input character by keypad. This function is only valid in memory channel mode.

11. TX Allow

Always: Always allow to transmit.

Channel Free: Allow to transmit when the channel is free.

Different CC: Allow to transmit when radio receives a matching carrier signal but different color code.

Same CC: Allow to transmit when radio receives a matching carrier signal and it has same color code.

12. TX Prohibit

TX ON: Will allow to transmit on the current channel.

TX OFF: Will not allow to transmit on the current channel.

13. Radio ID

In Digital channel: it will show the radio ID which must be programmed in the PC software → Digital → Radio ID list → Radio ID.

It allows to edit and select an ID for the channel, each channel is allowed to select one ID.

14. Color Code

The digital channel should have the same color code for communication as defined by the repeater to be used. which can be programmed in the PC software or defined in the Menu setting.

If 2 radios are using the same frequency but different color code it could not communicate to each others.

15. Time Slot

Set up time Slot 1 or time Slot 2 for the current channel. The separated time slots often to be used with a repeater for 2 real time slots of 2 radios but must set them have the same color code.

16. Digi Encrypt

In Analog channel: it will show the radio self ID which is programmed in PC software → Analog → Analog Address Book → Number.

With the digital encryption, the communication will be secured and safe. Only the radios have set same encryption code can communicate to each other. A total of 32 digital encryptions is offered, and it can be programmed in the PC software or defined in the Menu setting.

17. Encrypt Type

There are 2 types of encryption. A normal encryption type and an enhanced encryption type which more secure.

18. RX Group List

It will allow edit the RX Group List and assign a new RX Group List to the channel.

Select: Select the current RX Group List.

Add Group: Add a talk group to the current RX Group List.

Remove : Remove a talk group from the current RX Group List.

19. Work Alone

In the PC software → Public → Alarm settings → Work Alone, you have to set up the response time, warning time and response method initially.

Turn on the work alone function for the current channel. When radio's

predetermined time has been reached, the radio will beep a sound. At the time user has to confirm by pushing the programmed work alone key to confirm continuing work alone, otherwise, the radio will start alarm when reaching its preset response time.

20. CH Measure

In standby, if the call contact type for a channel is "Private call", The radio will automatically start ranging function when turned to this channel. The other radio's location will be showed on screen at intervals. This function is used to measure the distance to the target radio on current digital channel. Before using this function turn GPS on, wait until radio catches GPS signal successfully then select channel ranging on. Radio will automatically send and receive signal to the target radio and then radio shows the distance on screen. When turn on the function it is available only on the current channel, if you turn to other channel you may need to turn on change ranging with corresponding channel.

21 APRS receive

Turn APRS Receive, if both radio GPS is positioned, the radio will display the other radio's distance and position when radio is receiving.

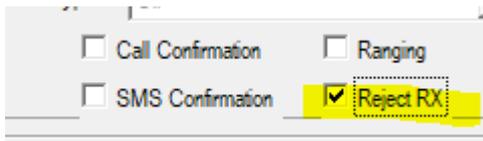
22. Reject RX

This function only works with Private call. And it is used to reject the incoming private calls even messages when user sets it is activated.

Can set it by both radio setting and PC software. When set this function it requires some settings in TX radio also.

At RX radio:

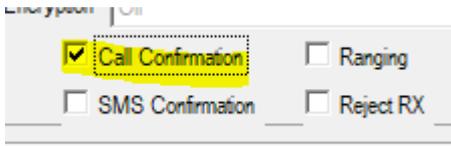
Go to settings → Chan set → Reject RX (menu 22) then select "Reject RX" as ON.



Or can go to PC software in channel setting and select check box of Reject RX.

AT TX radio:

Go to channel setting then select the check box of "call confirmation" and "SMS confirmation".



How it work.

When an incoming private calls/messages comes at the RX radio it will reject the calls, and messages.

At the RX radio user able to press PTT to another monitor radio, after received a call at monitor radio, then they press PTT to talk back (at monitor radio) at RX radio will receive the call sin a specific time (normally within 10 secs after the call end) after this period of time even try to press PTT at monitor radio but the RX radio will not receive the call.

When “Reject RX” is selected as on in RX radio or power off the RX radio and selected “call conformation” in TX radio press the PTT in TX radio but radio will not transmit, the RED LED flashes only one time then the call will end.

23. DMR Mode

Select Simplex or Repeater or Double Slot:

※Chan Set (Analog Channel)

When the channel type is analog, it will auto hide the digital menus, instead, the channel set will show the analog menus.

The below listed menus are for analog channel only, other not listed menus are same as the digital channel.

1.New channel

Refer to digital channel setting

2.Delete channel

Refer to digital channel setting

3. Channel type

Refer to digital channel setting

4.TCDT

Set up the CTCSS/DCS code for the TX.

5.RCDT

Set up the CTCSS/DCS code for the RX.

6.RTCDT

Set up the CTCSS/DCS code for both TX and RX CTCSS code: 62.5Hz~254.1Hz, a total of 51 groups DCS code: 000N~7771, a total of 1024 groups.

7.Optional Signal

Allows the set up of DTMF/5TONE/2TONE encode and decode for the analog channels.

8.TX power

Refer to digital channel setting

9. Offset

Allow to set the offset frequency for transmit frequency

10.Squelch mode

When the analog channel is set up for both CTCSS/DCS decoding and optional signaling, you can set up the RX condition in this menu.

SQ: You can hear the call when the channel receives a matched carrier.

CDT: You can hear the call when the channel receives a matched CTCSS/ DCS signal

TONE: You can hear the call when the channel receives a matched signaling.

C&T: You can hear the call when the channel receives a matched CTCSS/ DCS and matched tone signaling.

C|T: You can hear the call when the channel receives a matched CTCSS/ DCS or matched signaling

11.Band Width

Choose wide band or narrow band for the analog channel.

12.Reverse

When this function is enabled, the RX frequency, TX frequency and CTCSS/DCS encode/decode will be reversed.

13. RX Frequency

Refer to digital channel setting

14.TX Frequency

Refer to digital channel setting

15. Talk Around

Refer to digital channel setting

16. Name

17. Busy Lock

Always: Always allows transmissions

Repeater: Will not allow transmit when receiving matched carrier but unmatched CTCSS/DCS.

Busy: Will not allow transmit when receiving matched carrier.

18. TX Prohibit

Off: Allow transmit in current channel.

On: Prohibit transmit in current channel.

19. OWN ID

When the analog channel set up with optional signal, you can check the radio ID number in this menu. The ID number should be set up in PC software → Analog → Analog Address Book.

20. DTMF Enc

Set a DTMF ID as the default call ID for the current channel.

Press the PTT key to transmit the selected DTMF ID.

Edit the DTMF ID in Menu or with the PC programming software.

21. 2Tone Encode

Set 2Tone is an optional signal for the current channel by using PC software. Set “call” is a function of a programmed key.

Press the programmed key to transmit the selected 2Tone. When squelch is opened at the receiver side press [PTT] to talk

22. 2Tone Decode

Set the 2Tone Decode to decode the tone.

23. 5Tone Encode

Set 5Tone is an Optional Signal for the current analog channel by using PC software. Set “call” is a function of a programmed key.

Press the programed key to transmit the selected 5Tone. When squelch is opened at the receiver side press [PTT] to talk.

24. Work alone

In the PC software →Public → Alarm settings → Work Alone, you have to set up the response time, warning time and response method initially.

Turn on the work alone function for the current channel. When radio`s

predetermined time has been reached, the radio will beep a sound. At the time user has to confirm by pushing the programmed work alone key to confirm continuing work alone, otherwise, the radio will start alarm when reaching its preset response time.

9.6. Device Infor

Show the Radio ID, Radio name, model name, frequency range, firmware version, hardware version, radio data version, latest program date, picture version, language version etc.

9.7 Reset

One you select to reset all the data of memory channels, setting menus and all saved data such as recording data, messages will be clear and reset to the manufactory default setting.

Step 1. Power off the radio firstly.

Step 2. Press and hold [PTT] and the [PF1] button then turn power knob to power on at the same time to enter the reset mode.

Step 3. The radio will start up with a note on the display “Are you sure you want to intialize radio.?”

Press Exit to exit the reset and power on the radio.

Press Confirm to proceed the reset, it will come with a note - Initialize Radio.

Step 4. After a re-start the radio will display the setting of time zone and the date and the time. Use the up-down key to set the current year. Move to the month by pressing the PF1 key. Set the month, and use the PF1 key to move forward each step. Once done, click  (MENU) key to save the date and time.

Please remember set up the time zone to avoid the date/time error. Make sure the codeplug is saved to PC before your do the update and reset.

