

PC Software Guidance

For ALINCO
Portable DJ-D15/45E

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1 Preface

This instruction applies on ALINCO DMR Terminals, including DJ-D17/47MK2, DR-D18/48H, RS-D7/8.

Before you start programming, please make sure that you will have followings:

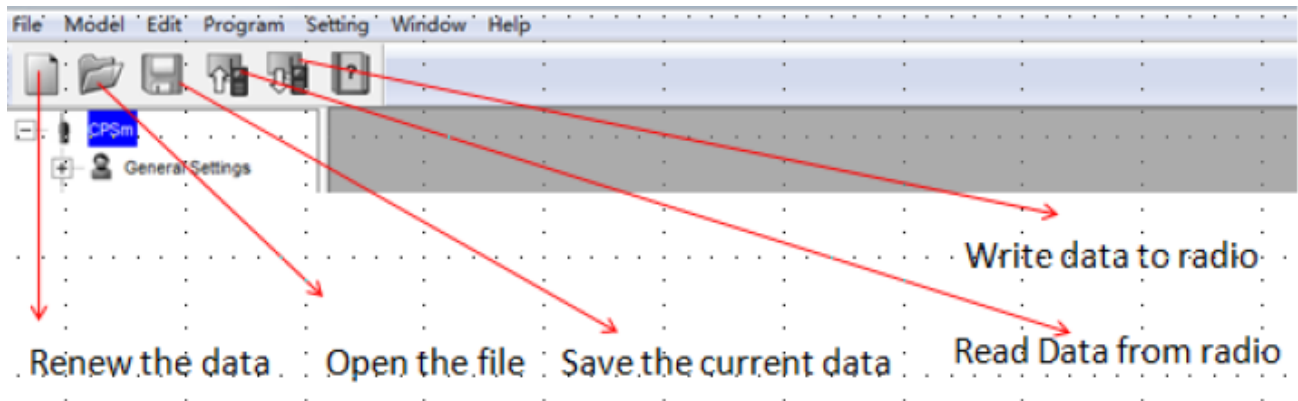
1. Working ALINCO brand radio terminals DJ-D15/45E.
2. ALINCO PC software “DJD15_D45_Clone_Utility_V4.36.exe”
3. Correct programming cable.
4. Windows 7,8 and 10 OS PC or laptop.

2 PC Software & USD Driver installation

- 1) Double click the programming software to start to install it
- 2) Keep clicking next to finish the installation

3 General Settings

4.1 Menu instruction

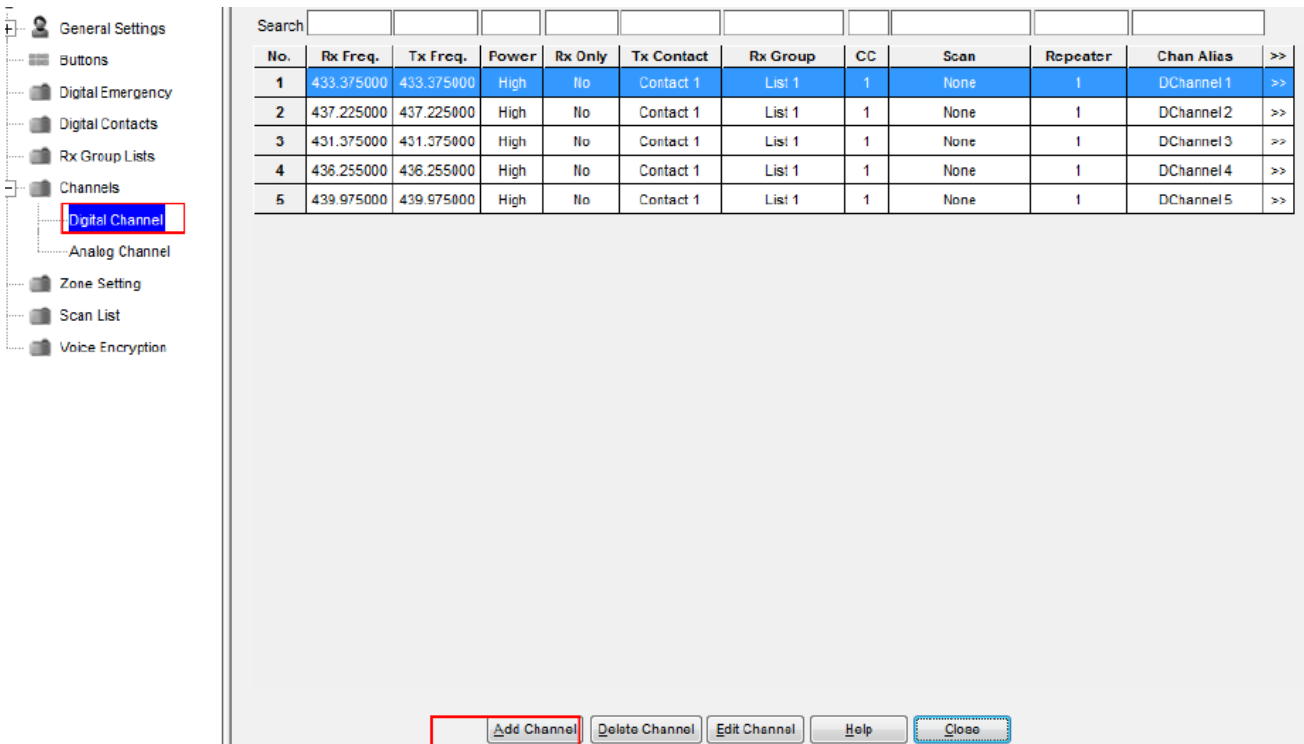


4.2 Programming a channel and a Zone

Program a channel

Please follow the following steps to program a channel.

1) Add a digital channel



General Settings

Buttons

Digital Emergency

Digital Contacts

Rx Group Lists

Channels

Digital Channel

Analog Channel

Zone Setting

Scan List

Voice Encryption

No.	Rx Freq.	Tx Freq.	Power	Rx Only	Tx Contact	Rx Group	CC	Scan	Repeater	Chan Alias	>>
1	433.375000	433.375000	High	No	Contact 1	List 1	1	None	1	DChannel 1	>>
2	437.225000	437.225000	High	No	Contact 1	List 1	1	None	1	DChannel 2	>>
3	431.375000	431.375000	High	No	Contact 1	List 1	1	None	1	DChannel 3	>>
4	436.255000	436.255000	High	No	Contact 1	List 1	1	None	1	DChannel 4	>>
5	439.975000	439.975000	High	No	Contact 1	List 1	1	None	1	DChannel 5	>>

Add Channel Delete Channel Edit Channel Help Close

Digital Channel Edit

Digital Channel Edit

Channel No	<input type="text" value="1"/>	Repeater Slot	<input type="text" value="1"/>
Chan Alias	<input type="text" value="DChannel 1"/>	Scan List	<input type="text" value="None"/>
Colour Code	<input type="text" value="1"/>	<input type="checkbox"/> Auto Start Scan	

<input type="checkbox"/> Rx Only	<input type="checkbox"/> Lone Worker
<input checked="" type="checkbox"/> Default to Talkaround	<input type="checkbox"/> Whisper

<p>Rx</p> <p>Frequency (MHz) <input type="text" value="433.375000"/></p> <p>Rx Group List <input type="text" value="List 1"/></p> <p><input type="checkbox"/> Emergency Call Indication</p> <p><input type="checkbox"/> Emergency Alarm Indication</p> <p><input type="checkbox"/> Emergency Alarm Ack</p>	<p>Offset (MHz)</p> <p><input type="text" value="0.00000"/></p> <p><input type="button" value="Copy>>"/></p> <p><input type="button" value="<<Copy"/></p>	<p>Tx</p> <p>Frequency (MHz) <input type="text" value="433.375000"/></p> <p>Admit Criteria <input type="text" value="Chan Free"/></p> <p>Tx Contact <input type="text" value="Contact 1"/></p> <p>Power Level <input type="text" value="High"/></p> <p>Emergency System <input type="text" value="None"/></p> <p>Tx Time-out Time (s) <input type="text" value="60"/></p> <p>TOT Pre-Alert Time (s) <input type="text" value="0"/></p> <p>TOT Re-Key Time (s) <input type="text" value="0"/></p> <p>TOT Reset Time (s) <input type="text" value="0"/></p>
---	---	--

<p>Encryption</p> <p><input type="checkbox"/> Encryption</p> <p>Encryption Key <input type="text" value="Key 1"/></p>	<input type="checkbox"/> Private Call Confirmed
--	---

Repeater Slot:

Radios or Groups that need to talk together must be assigned to the same frequency and time slot.

Colour Code

Different color codes are used to identify different systems. Radios and repeaters that need to communicate with each other must be assigned to the same cc

Scan List

All the channels on select scan list will be scanned during scan operation.

Rx Group List:

Associates any available RX Group list to the channel for reception. The user can listen to any Group in this list when there is any activity on it and talk back within the Group

Call hang time.

Admit Criteria:

Defines the transmit criteria when channel is busy.

Always Allow: The radio can transmit at any time when PPT press. It don't care channel is free or busy now.

Channel Free:

When radio can transmit only when channel is free. Color code free: When channel is busy, the radio can transmit only when the color code is different with itself.

Tx Contact

This option defines the call that may be initiated on the channel by pressing the Push-to-Talk (PTT) button

Emergency system:

Associates any available digital emergency system to this channel for use during an emergency.

Encryption key: Selects encryption key on the channel, the related key, please refer to encryption setting. Here only can be clicked after you enable encryption in Voice encryption interface. DJ-D15E/D45E is using ARC4 40 bits encryption standard.

Analog Channel Edit

Channel No

1

Chan Alias

AChannel 1

Scan List

None

☐ Auto Start Scan

☐ Lone Worker

☐ Whisper

☐ Rx Only

☐ Default to Talkaround

Bandwidth (kHz)

25

CTCSS Tail Elimination (Radians)

120

☒ Dcs Turn Off Code

Rx

Frequency (MHz)

434.475000

Rx CTCSS/CDCSS

None

Offset (MHz)

0.00000

Copy>>

<<Copy

Tx

Frequency (MHz)

434.475000

Tx CTCSS/CDCSS

None

Tx Time-out Time (s)

60

TOT Pre-Alert Time (s)

0

TOT Re-Key Time (s)

0

TOT Reset Time (s)

0

Power Level

High

Admit Criteria

Always Allow

QT/DQT:

This is the designated frequency received when a QT/DQT encode and decode on this channel. The qt/dqt frequency is modulated into the carrier frequency during transmission.

Admit Criteria:

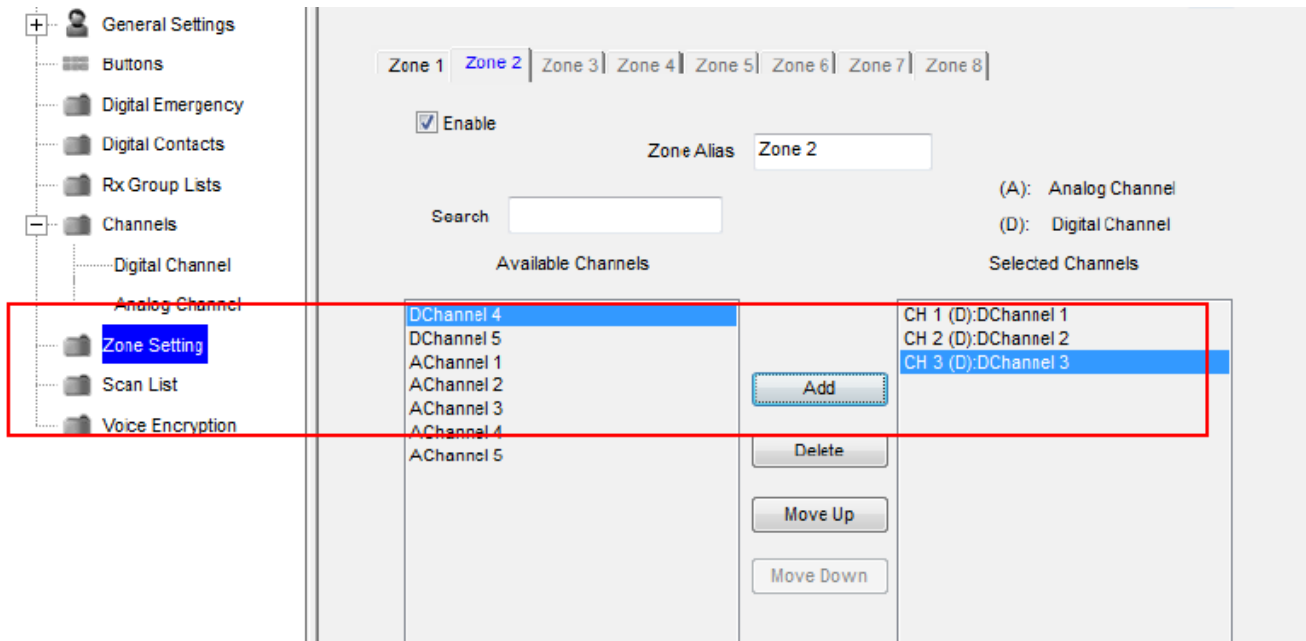
Defines the transmit criteria when channel is busy. Always Allow: The radio can transmit at any time when PPT press. It don't care channel is free or busy now.

Channel Free: When radio can transmit only when channel is free. CTC/DCS: When channel is busy, the radio can transmit only when the color code is matched with itself.

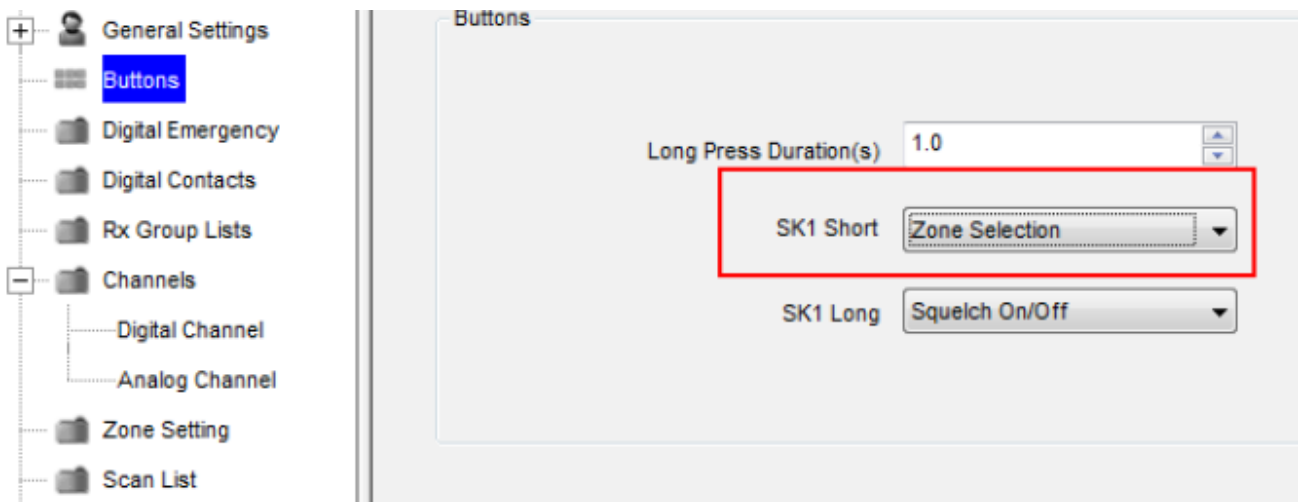
Add channel to Zone

Note, Only edited the channels which have add to a zone, it can be select by channel knob in that zone.

After you edit channel, please enter to zone edit interface, enter to a zone. Selects the channels from left box to right box, then you can select these channels in the zone.



In the Button setting, you can configure a button to zone select. By press this button, you can switch zones. The zone channel will be heard when you press the button.

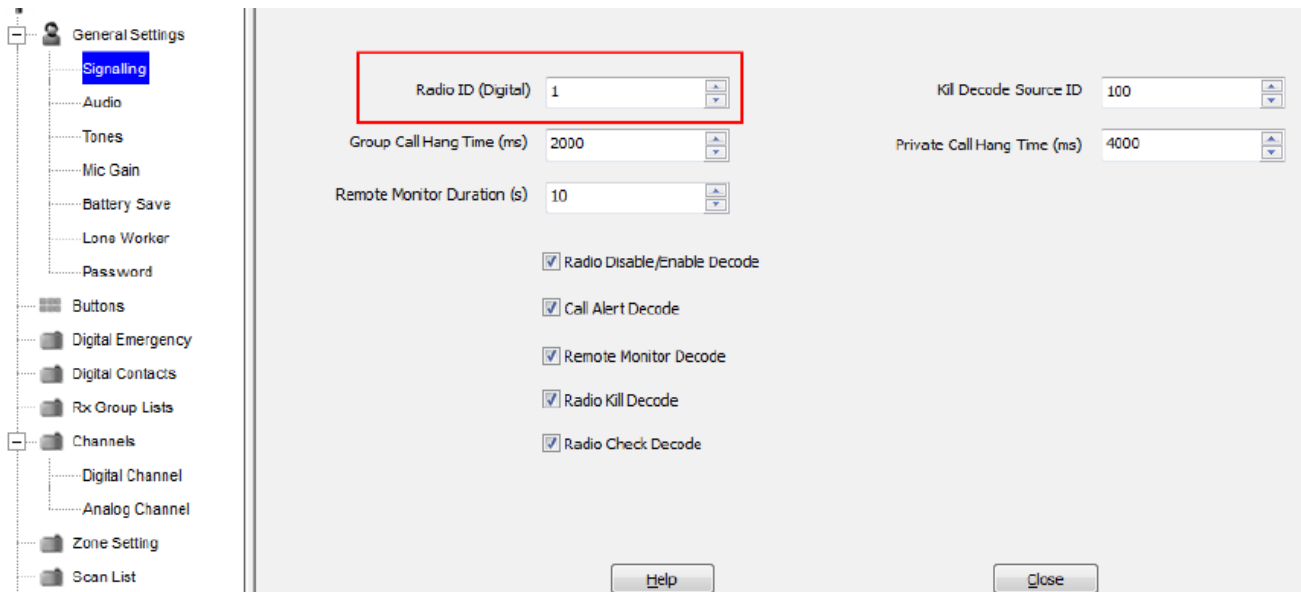


4.3 Programming a Digital Call

For a digital voice call, you should program a radio ID, contact list, RX group, and digital channel information.

1) Step1: You should program a radio ID for your radio.

Radio ID: For digital call, each radio must be defined a unique ID for it. The radio ID can be set in general setting. Range: 1 to 16776415.



General Settings

- Signalling
- Audio
- Tones
- Mic Gain
- Battery Save
- Lone Worker
- Password
- Buttons
- Digital Emergency
- Digital Contacts
- Rx Group Lists
- Channels
- Digital Channel
- Analog Channel
- Zone Setting
- Scan List

Radio ID (Digital) 1

Group Call Hang Time (ms) 2000

Remote Monitor Duration (s) 10

Kill Decode Source ID 100

Private Call Hang Time (ms) 4000

☒ Radio Disable/Enable Decode

☒ Call Alert Decode

☒ Remote Monitor Decode

☒ Radio Kill Decode

☒ Radio Check Decode

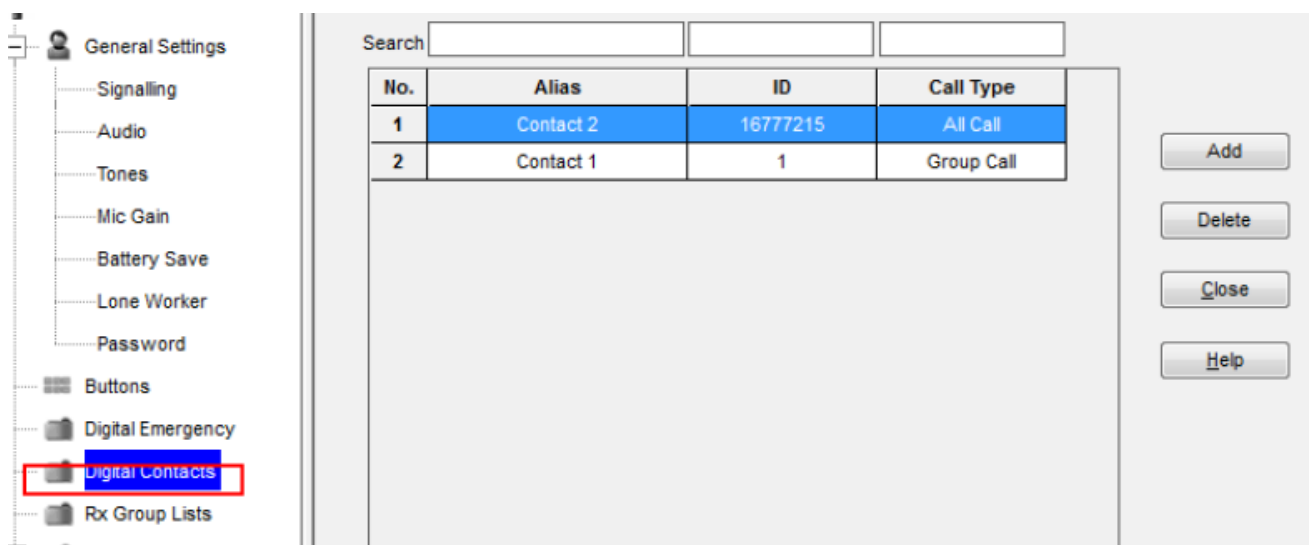
Help Close

2) Step2: You should program the contacts you will use for you radio. Please program contacts in digital contact.

Contact Name: This displays the name of this contact.

Call Type: Select the call type.

ID: Set the call ID for this contact.



General Settings

- Signalling
- Audio
- Tones
- Mic Gain
- Battery Save
- Lone Worker
- Password
- Buttons
- Digital Emergency
- Digital Contacts
- Rx Group Lists

Search

No.	Alias	ID	Call Type
1	Contact 2	16777215	All Call
2	Contact 1	1	Group Call

Add

Delete

Close

Help

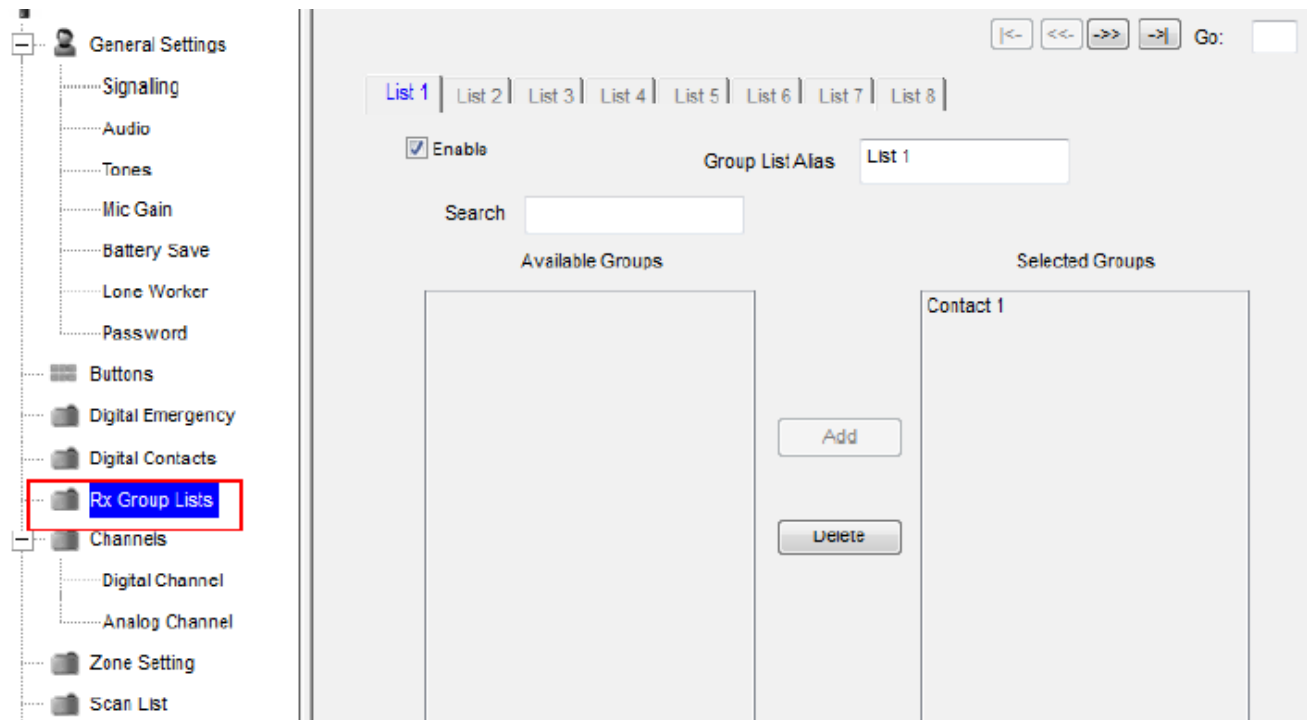
3) Step3: You should program the RX group list. Rx group list option is used to program the group calls which can be received on the channel.

Available Groups:

Display all the group contacts which you have pre-programmed in digital contacts.

Group List Name: You can program a Alias for this rx group list.

Selected Group: Lists all Digital Groups which the radio is a member of (or subscribed to) on channels which the list is attached to. When the channel selected has this list attached, if the radio receives a group call that is addressed to any one of its subscribed groups, the radio will participate in that group call (i.e. it will unmute for incoming transmissions and talkback when the PTT is pressed).



The screenshot displays the 'Rx Group Lists' configuration window. On the left, a sidebar lists various settings, with 'Rx Group Lists' selected and highlighted. The main window features a tabbed interface at the top with tabs for List 1 through List 8. Below the tabs, there is an 'Enable' checkbox which is checked. To the right of the checkbox is a 'Group List Alias' field containing 'List 1'. Below this is a 'Search' field. The main area is divided into two columns: 'Available Groups' on the left and 'Selected Groups' on the right. The 'Selected Groups' column currently contains 'Contact 1'. Between these two columns are 'Add' and 'Delete' buttons. At the top right of the window, there are navigation buttons (back, forward, etc.) and a 'Go:' field.

4) Step4: Program digital channels. Please refer to channel edit.

Digital Channel Edit

Channel No
1

Chan Alias
DChannel 1

Colour Code
1

Repeater Slot
1

Scan List
None

☐ Auto Start Scan

☐ Rx Only

☒ Default to Talkaround

☐ Lone Worker

☐ Whisper

Rx

Frequency (MHz)
433.375000

Rx Group List
List 1

☐ Emergency Call Indication

☐ Emergency Alarm Indication

☐ Emergency Alarm Ack

Offset (MHz)
0.00000

Copy>>

<<Copy

Tx

Frequency (MHz)
433.375000

Admit Criteria
Chan Free

Tx Contact
Contact 1

Power Level
High

Emergency System
None

Tx Time-out Time (s)
60

TOT Pre-Alert Time (s)
0

TOT Re-Key Time (s)
0

TOT Reset Time (s)
0

Encryption

☒ Encryption

Encryption Key
Key 1

☐ Private Call Confirmed

4.4 Programming a Emergency Call

For digital emergency call, you should program emergency call type and features in emergency dialog, and you should enable emergency system in channel edit.

1) Define emergency options. You should select revert channel to selected or a designed channel to enable the current digital system. Please refer to following to see the explanation for each option.

System Alias: Set an alias for current emergency system.

Alarm Type: An alarm is a non-voice signal that triggers an alert indication on another radio. This feature specifies the behavior of the initiating radio's alarm when the emergency button is pressed.

Regular: The radio transmits an alarm signal and provides audio and visual indication that it is in Emergency mode.

Silent: The radio transmits an alarm signal but gives no audio or visual indication that it is in Emergency mode. In addition, it will not unmute to any received audio.

Silent w/ Voice: The radio transmits an alarm signal but gives no audio or visual indication that it is in Emergency mode. The radio then unmutes to qualified channel activity.

Alarm Mode: Defines the radio's behavior when the radio's emergency button is pressed.

Emergency Alarm: The radio sends an emergency alarm and exits the emergency mode. This alarm is a non-voice signal that triggers an alert indication on another radio.

Emergency Alarm w/ Call: An emergency alarm is sent, after which an emergency call can be transmitted by pressing the Push-To-Talk (PTT) button.

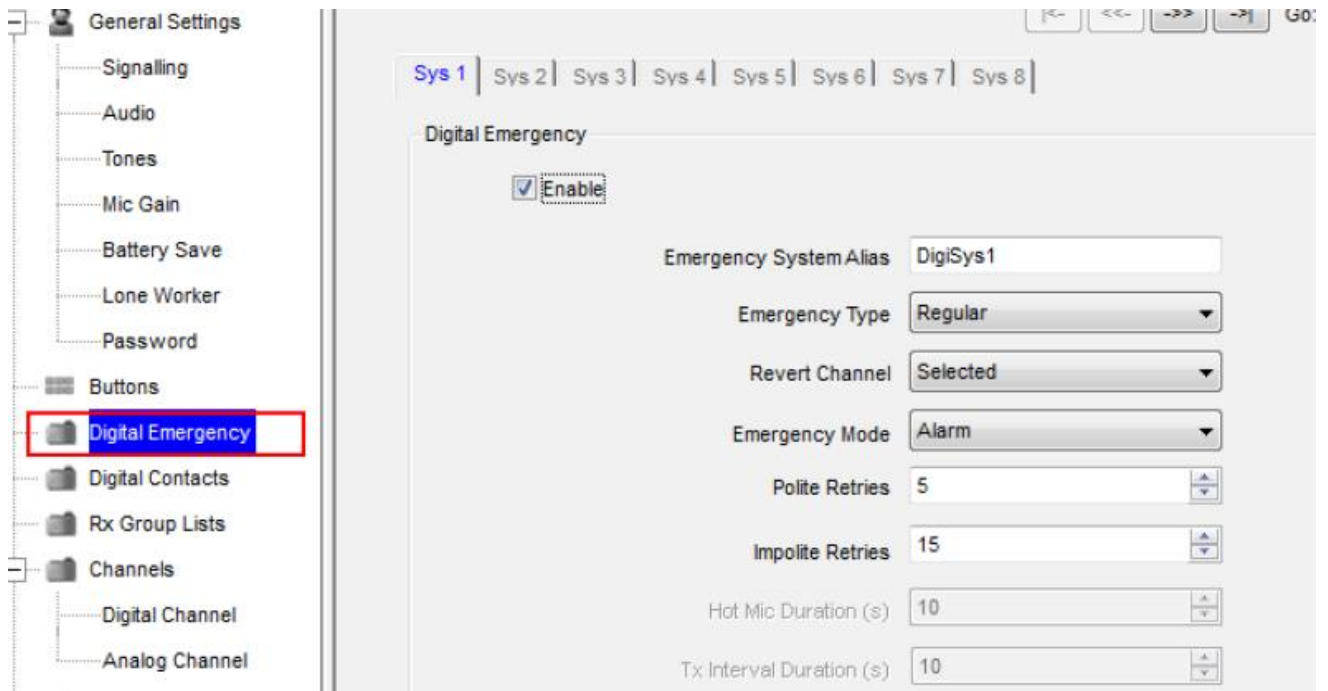
Emergency Alarm w/ Voice to Follow This option enables the Hot Mic feature, allowing for the programming of the Hot Mic related features, i.e. Hot Mic Duration. An emergency alarm is sent and the microphone is activated for an emergency call. Voice is transmitted without the need to press the Push-To-Talk (PTT) button

Revert Channel: This is the channel used for digital emergency alarm or voice.

Impolite Retries: An impolite transmission is a transmission that occurs even when there is activity on the current channel. The radio tries a number of impolite transmissions to get an acknowledgement and then goes on to try a number of polite transmissions. This feature sets the number of attempts to transmit an emergency alarm impolitely.

Polite Retries: A polite transmission is a transmission that occurs only when the current channel is free of activity. The radio tries a number of impolite transmissions to get an acknowledgement before trying a number of polite transmissions. This feature sets the number of attempts to transmit an emergency alarm politely.

Hot Mic: Set the mic valid duration during emergency call when the Alarm mode set to Emergency Alarm w/ Voice to Follow.

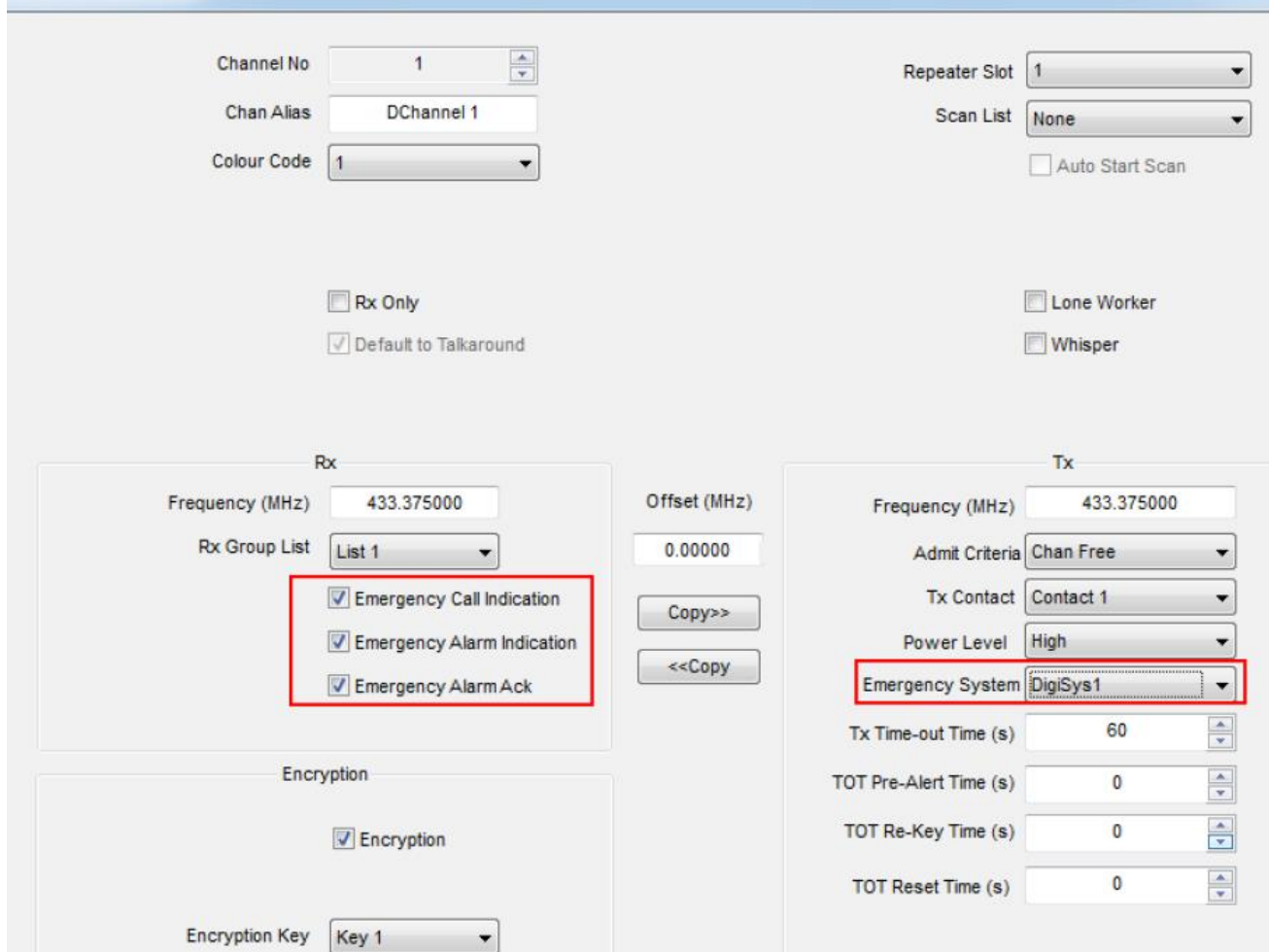


The screenshot displays the ALINCO configuration software interface. On the left, a tree view under 'General Settings' includes 'Signalling', 'Audio', 'Tones', 'Mic Gain', 'Battery Save', 'Lone Worker', 'Password', 'Buttons', 'Digital Emergency' (highlighted with a red box), 'Digital Contacts', 'Rx Group Lists', 'Channels', 'Digital Channel', and 'Analog Channel'. The main panel shows the 'Digital Emergency' configuration for 'Sys 1'. The 'Enable' checkbox is checked. The 'Emergency System Alias' is 'DigiSys1'. The 'Emergency Type' is 'Regular'. The 'Revert Channel' is 'Selected'. The 'Emergency Mode' is 'Alarm'. The 'Polite Retries' is set to 5. The 'Impolite Retries' is set to 15. The 'Hot Mic Duration (s)' is set to 10. The 'Tx Interval Duration (s)' is set to 10.

Setting	Value
Enable	<input checked="" type="checkbox"/>
Emergency System Alias	DigiSys1
Emergency Type	Regular
Revert Channel	Selected
Emergency Mode	Alarm
Polite Retries	5
Impolite Retries	15
Hot Mic Duration (s)	10
Tx Interval Duration (s)	10

2) Step 2: Enable emergency system in channel edit.

Digital Channel Edit



Channel No: 1
Chan Alias: DChannel 1
Colour Code: 1

Repeater Slot: 1
Scan List: None
☐ Auto Start Scan

☐ Rx Only
☒ Default to Talkaround
☐ Lone Worker
☐ Whisper

Rx
Frequency (MHz): 433.375000
Rx Group List: List 1
☒ Emergency Call Indication
☒ Emergency Alarm Indication
☒ Emergency Alarm Ack
Offset (MHz): 0.00000
Copy>>
<<Copy

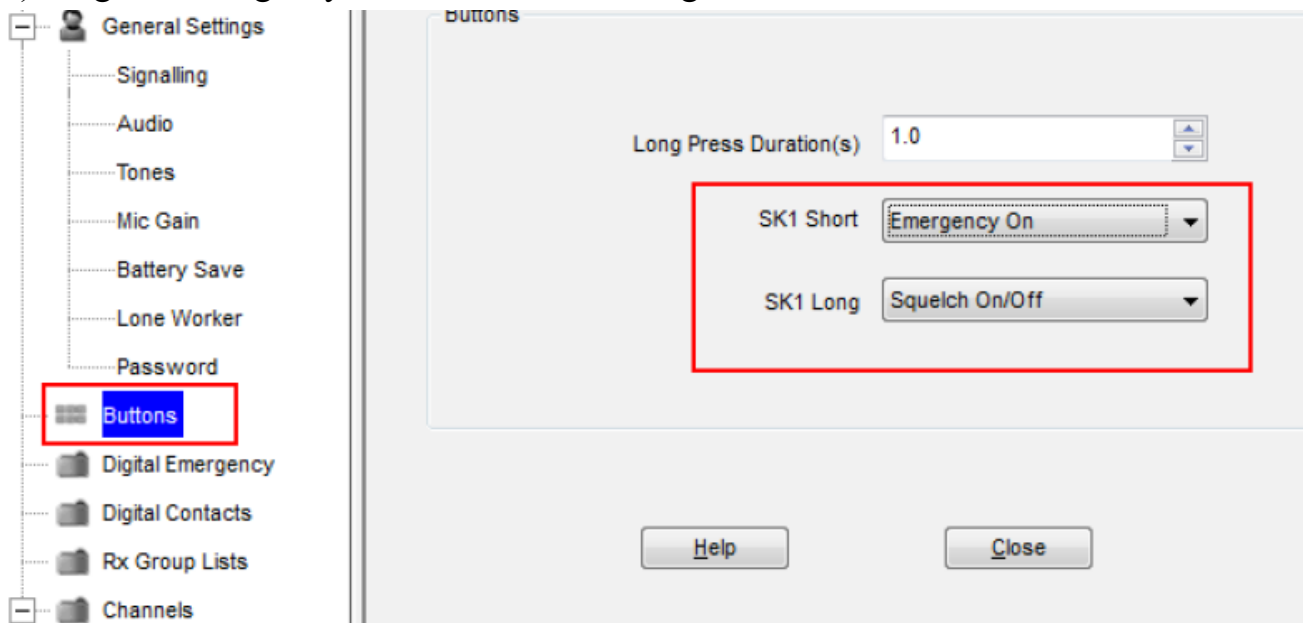
Encryption
☒ Encryption
Encryption Key: Key 1

Tx
Frequency (MHz): 433.375000
Admit Criteria: Chan Free
Tx Contact: Contact 1
Power Level: High
Emergency System: DigiSys1
Tx Time-out Time (s): 60
TOT Pre-Alert Time (s): 0
TOT Re-Key Time (s): 0
TOT Reset Time (s): 0

Emergency System: Associates any available digital emergency system to this channel for use during an emergency. Selecting the None option disables the user from transmitting an emergency call from this channel.

Emergency Alarm Ack: Determines if the radio is allowed to acknowledge an emergency alarm

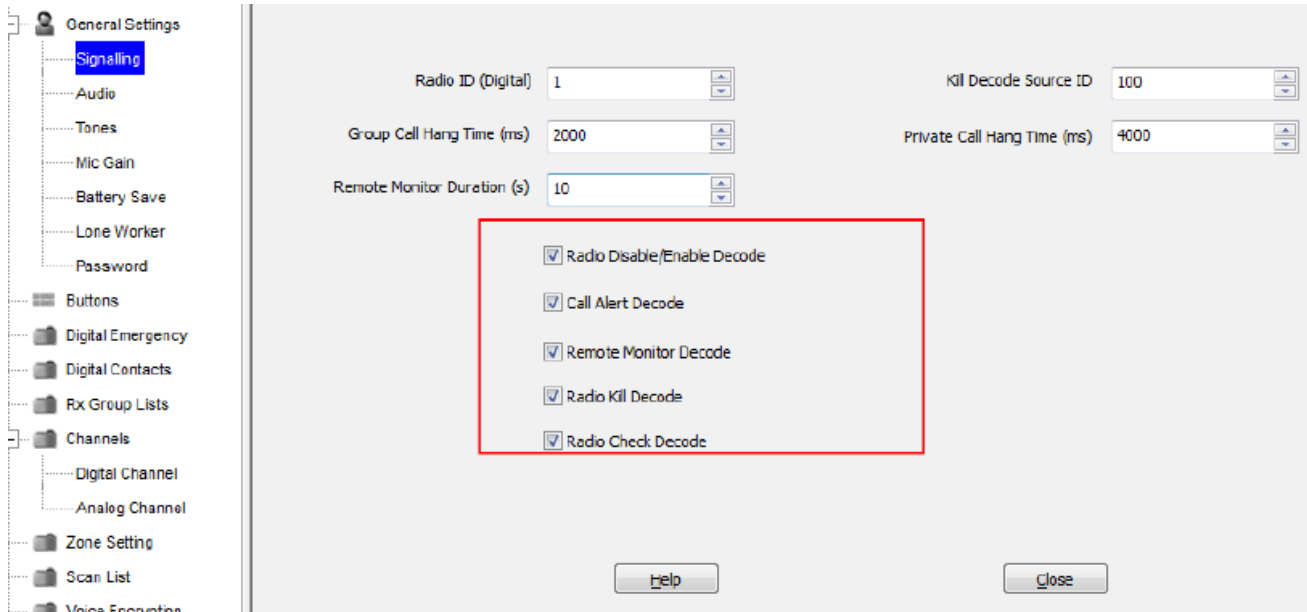
3) Program emergency button in button setting.



4.5 Programming a Digital Remote Call

DJ-D15/D45E allows user to receive multiple kinds of remote control calls, including radio check, call alert, remote monitor, radio enable and radio disable.

1) If you want to receive a remote control call, you should enable it in Signaling setting.



General Settings

- Signalling**
- Audio
- Tones
- Mic Gain
- Battery Save
- Lone Worker
- Password

Buttons

- Digital Emergency
- Digital Contacts
- Rx Group Lists
- Channels
 - Digital Channel
 - Analog Channel
- Zone Setting
- Scan List
- Voice Function

Radio ID (Digital): 1

Kill Decode Source ID: 100

Group Call Hang Time (ms): 2000

Private Call Hang Time (ms): 4000

Remote Monitor Duration (s): 10

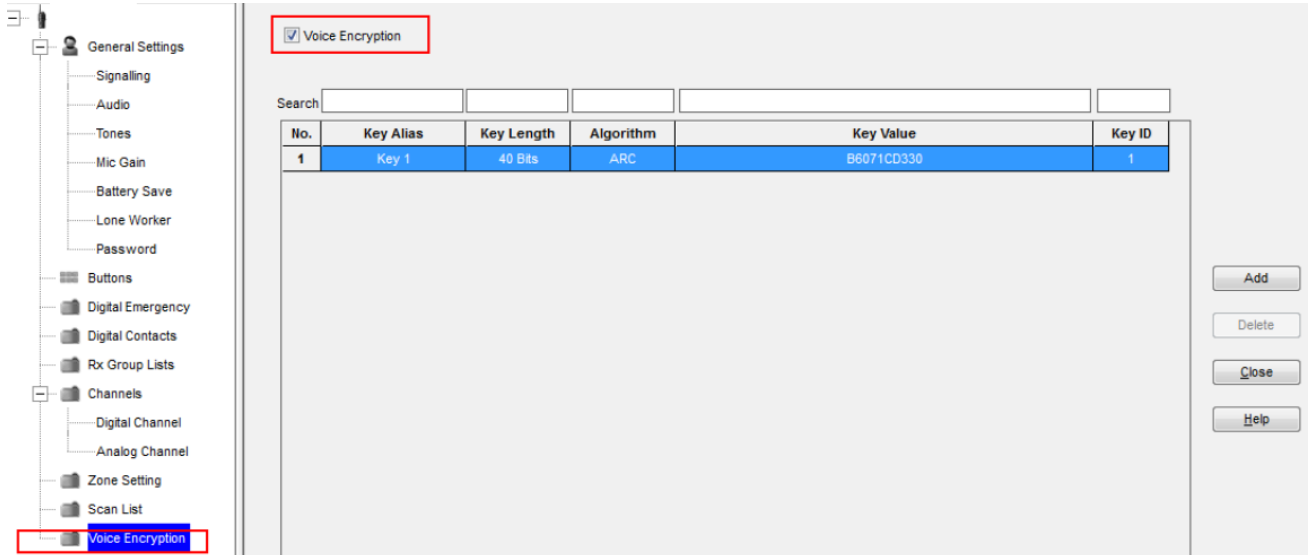
- ☒ Radio Disable/Enable Decode
- ☒ Call Alert Decode
- ☒ Remote Monitor Decode
- ☒ Radio Kill Decode
- ☒ Radio Check Decode

Help Close

4.6 Programming the Digital Encryption

DJ-D15/D45E supports 40-bit ARC4 encryption in digital mode. For encryption function, you should program encryption list first, then enable it in channel information.

1) Program an encryption list. Please enable encryption in voice encryption interface.

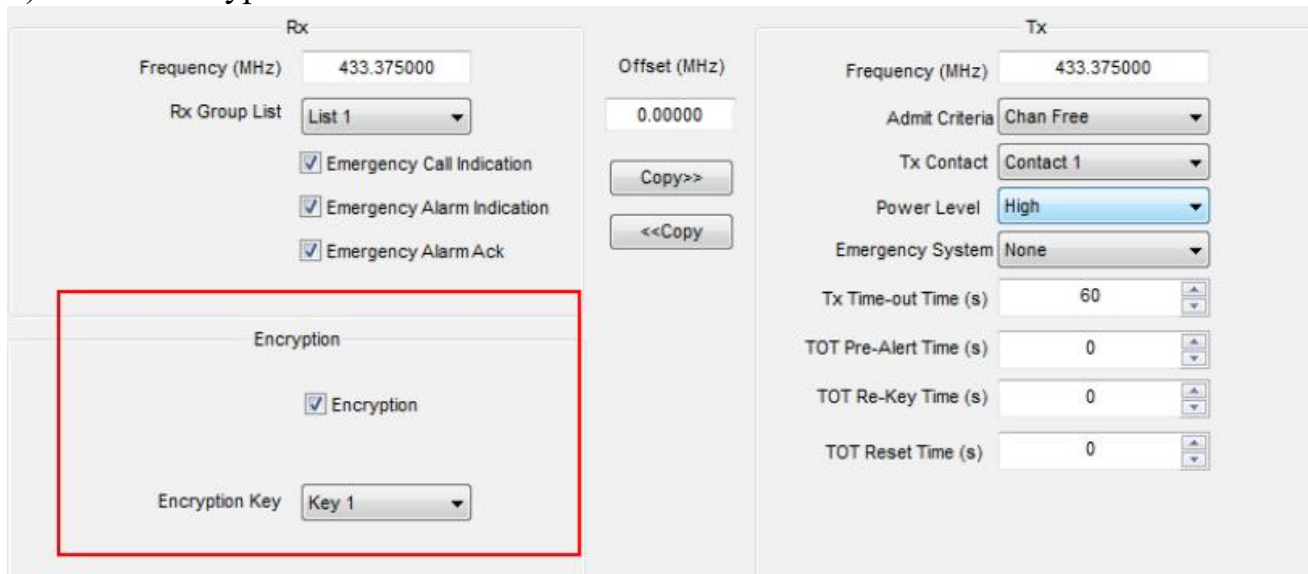


No.	Key Alias	Key Length	Algorithm	Key Value	Key ID
1	Key 1	40 Bits	ARC	B6071CD330	1

No. : Privacy list No.

Key Value: Encryption key code.

2) Enable encryption in channel



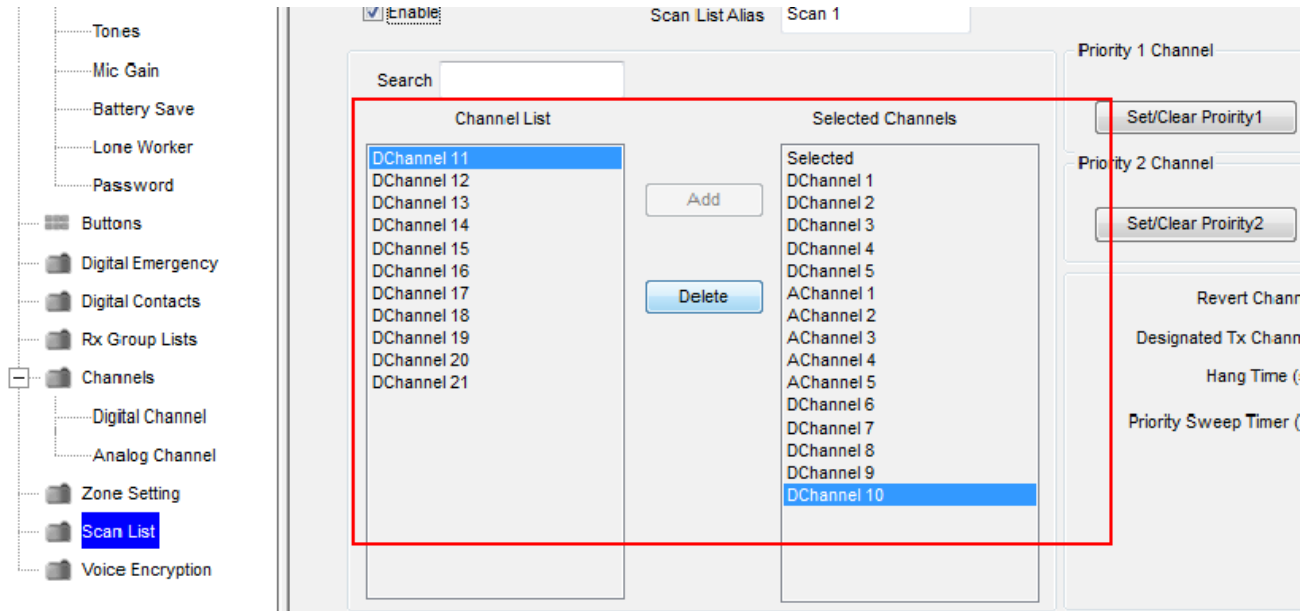
Encryption: Enable encryption on current channel. You can select encryption list which has been programmed in encryption list.

Encryption Key: Select the preset encryption list which you have programmed in encryption list.

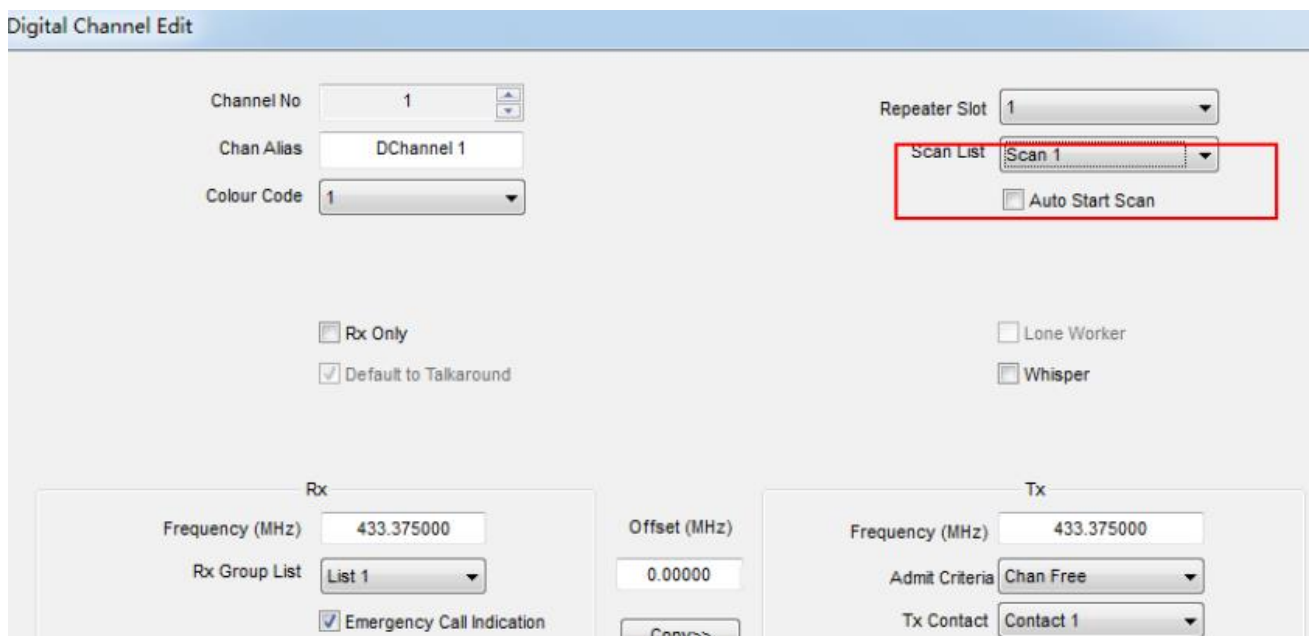
4.7 Scan

DJ-D15E/45E supports up to 8 scan list. Each scan list supports up to 16 channels.

1) First, you should define scan features in scan list.



2) You should select the scan list you will use on a channel.



Scan list: Attaches a Scan List to the Channel

Auto Scan: Activates scan for this channel.

When enabled, the radio will enter to scan automatically when switch to current channel.