Unication

Two-Way Radio Programming Software

User Manual

(Supports U3/ U4/ M2 Two-Way Radios and BR02 Repeater Station)

V1.0

Index

PART A. Radio Programming Software Introduction

A1 Welcome to use the Unciation Radio Programming Software

Welcome to use the Unciation Radio Pre-Programming Software (PPS). The radio devices need to be programmed by the PPS to function normally.

This document describes the functions provided by the PPS so as to assist with correct programming operation. This is available for the Unication handheld radios (U3/ U4), mobile radios (M2/ M2R) and the repeater station (BR02).

A2 Content of the Radio Pre-Programming Software User's Guide

Content of the Radio Pre-Programming Software User's Guide includes:

1. How to install and start the PPS?
2. How to create the channel knob setting of Conventional Mode and program the radio device?
3. How to create the channel knob setting of R&R Mode and program the radio device?
4. How to create the channel knob setting of Full Duplex Call Mode and program the radio device?
5. How to create the channel knob setting of AM Modulation and program the radio device?
6. How to create the channel knob setting of P25 Trunking (a talk group) and program the radio device?
7. How the create the channel knob setting of P25 Trunking System Scan (simultaneously listen to multiple talk groups) and program the radio device?
8. How to create the channel knob setting of Multi-Band Scan and program the radio device?
9. How to create the channel knob setting of Full Band Scan and program the radio device?
10. How to set up the parameter of Mandown Alert by PPS?
11. How to set up the parameter of the GPS related function (position report and indication) by PPS?
12. How to set up the parameter of voice control transmission by PPS?
13. How to set up the turn on/ unlock radio password by PPS?
14. How to set up the radio programming password by PPS?
15. How to set up the parameter of BR02 repeater station and program it?

A3 How to contact us?

- If there are any description mistakes, information missing or any suggestions, you are welcome to contact with us by the following methods.

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PART B User's Guide of the Radio

B1 How to install and start the PPS?

- **Acquire PPS software installation package**

Please open the installation package and install the PPS. The PPS installation package can be downloaded from Unication's official website.

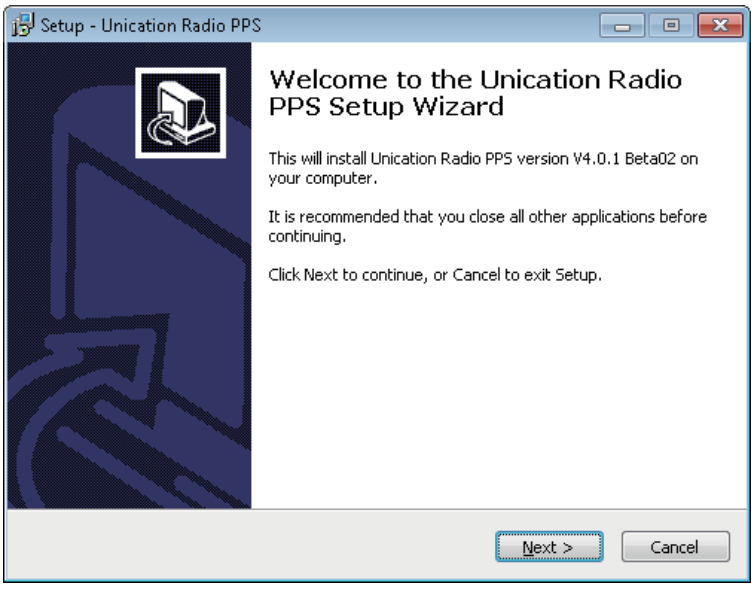
To successfully install and utilize the PPS, please make sure the installed computer supports the following system requirement:

1. **The PPS supports the following Windows versions and operation environments:**

Supported Windows Versions	.NET Framework
Windows 7	.NET Framework 4.x
Windows 8.1	.NET Framework 4.x
Windows 10	.NET Framework 4.x
Windows 11	.NET Framework 4.x

2. **There is Microsoft Internet Explorer 8.0 or above in the Windows system;**
3. **There is USB interface in the computer;**
4. **Install the PPS with the system administrator's approval.**

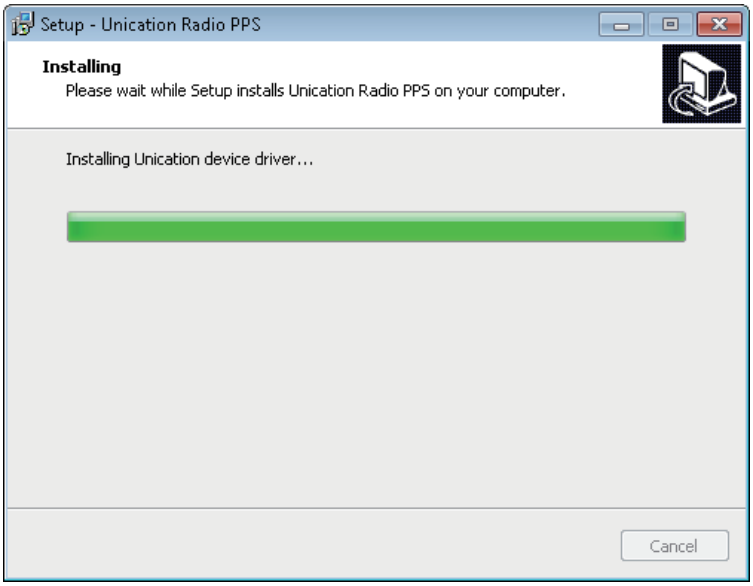
- **Click the PPS installation file (.exe)**



PPS installation is indicated.

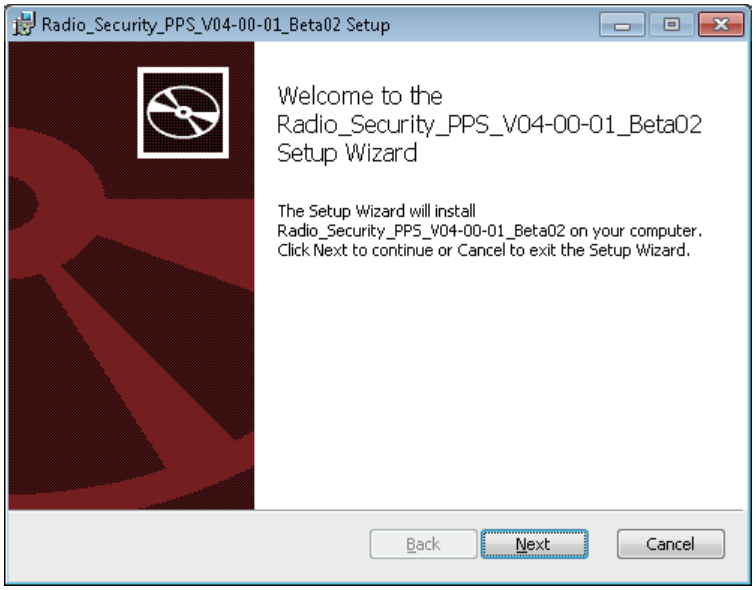
B1 How to install and start the PPS?

- **Click "Next" and start the automatically install the USB driver. All you need to do is wait until the installation done.**



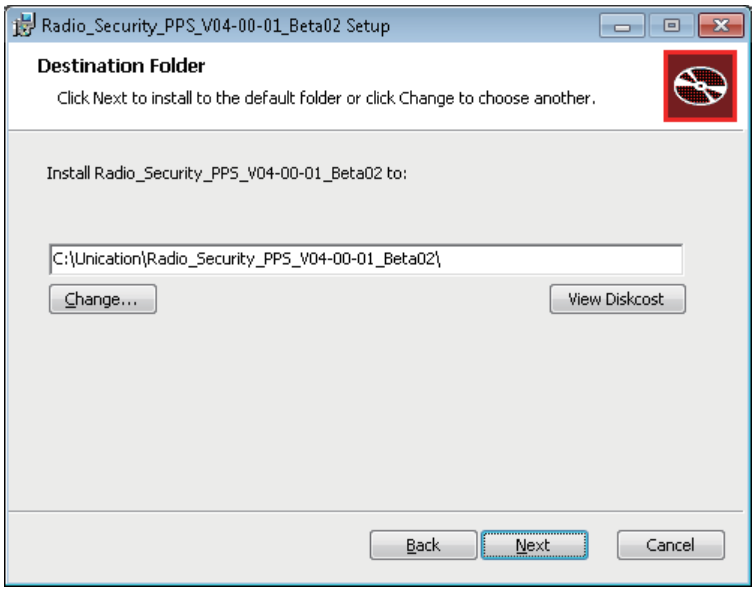
USB driver will be automatically installed by the PPS installation.

- **After the driver is installed, the PPS installation will be shown.**



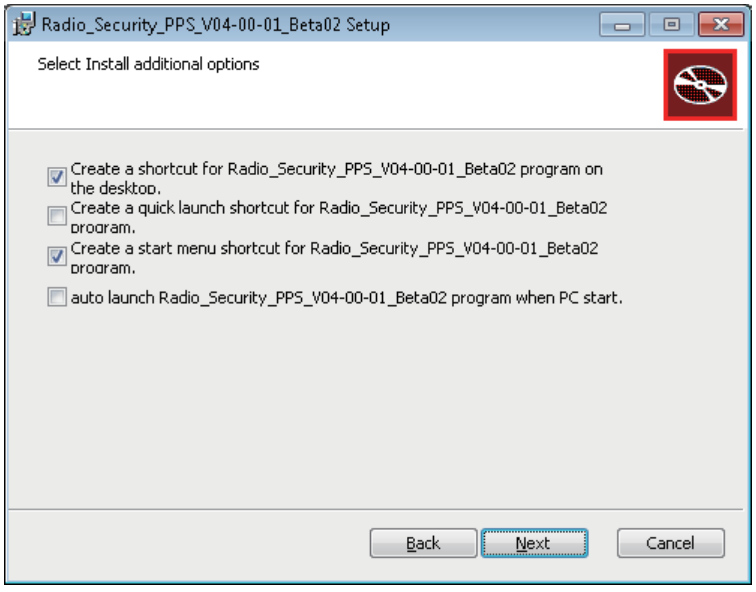
B1 How to install and start the PPS?

- **Click "Next" to set the installation location.**



PPS installation program will provide default installation path, click "Next" if there is no change with the default path.

- **Click "Next" to set the other installation settings.**

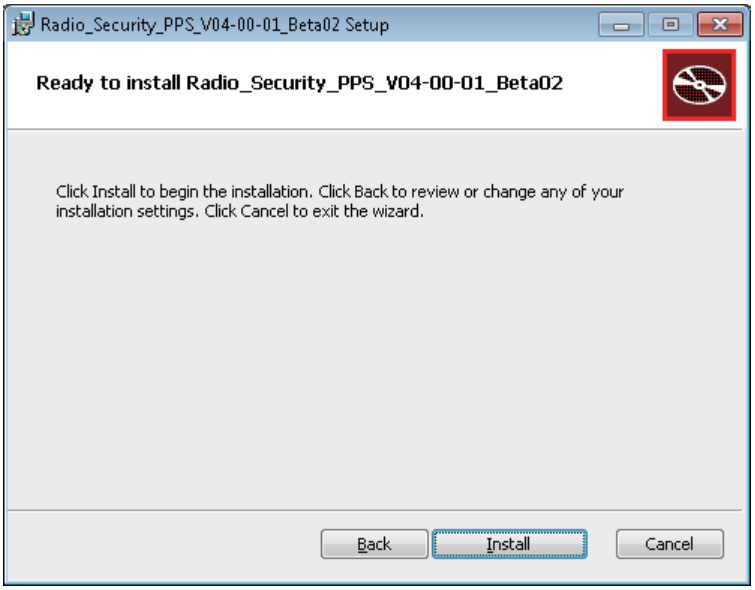


PPS installation program will provide some installation options, choose the options according to your need.

Note - Installation options includes:
1. Create shortcut on desktop (selected by default)
2. Create a quick launch shortcut
3. Create a start menu shortcut
4. Automatically launch the PPS when the PC starts

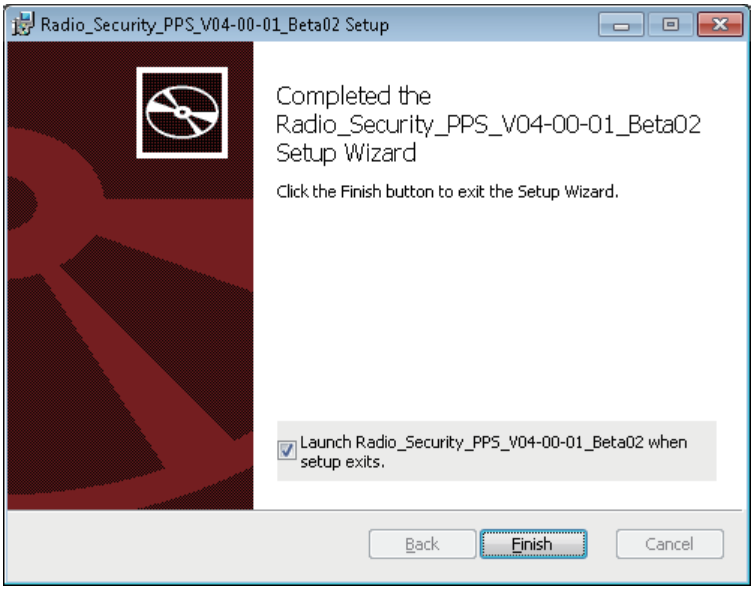
B1 How to install and start the PPS?

- **Click "Next" to start the PPS installation.**



The program will show the installation begin notice.

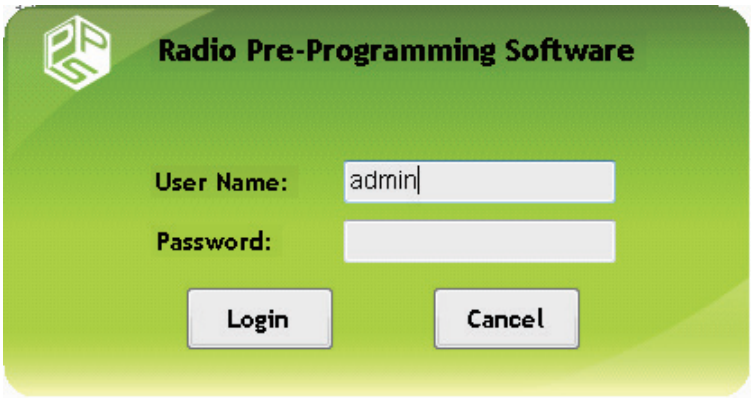
- **Click "Install"to begin the installation and wait until it finished.**



When the PPS installation is complete, the screen of "Installation complete" will be shown. Click "Finish" to close the software. You may choose whether to start the PPS right after exiting the installation program. This option is selected by default.

B1 How to install and start the PPS?

- **Select and start the PPS immediately and click "Finish", or click on the PPS icon on desktop to start the PPS.**



PPS login screen is shown.

- **Enter the correct user name and the password to login the PPS.**

Enter the correct user name and password to login the PPS. If this is the first time of using the PPS, the default user name and password are both "admin". The PPS homepage will be shown when it logged in successfully.

B2 How to create the channel knob setting of Conventional Mode and program the radio device

- **Start the PPS and connect the radio with the PC**

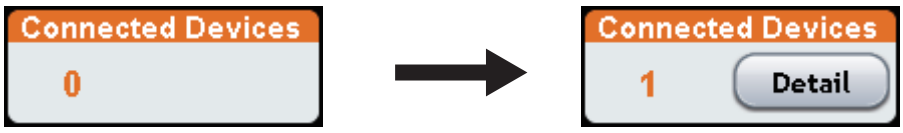
Connect the radio with the computer through USB cable. Connect the USB cable with the radio and switch the knob to tighten the connection. Plug the other end of USB cable into the PC.

Note: Connect the U4 radio with the PC by inserting the USB cable to the Micro USB interface on the left side of the radio.

Note: Connect the M2 radio with the PC by using M2 programming cable. Insert the cable into the connection port on the bottom left from the connection panel.

Note: Connect the BR02 repeater station with the PC by using BR02 programming cable. Insert the cable into the connection port on the bottom left from the connection panel.

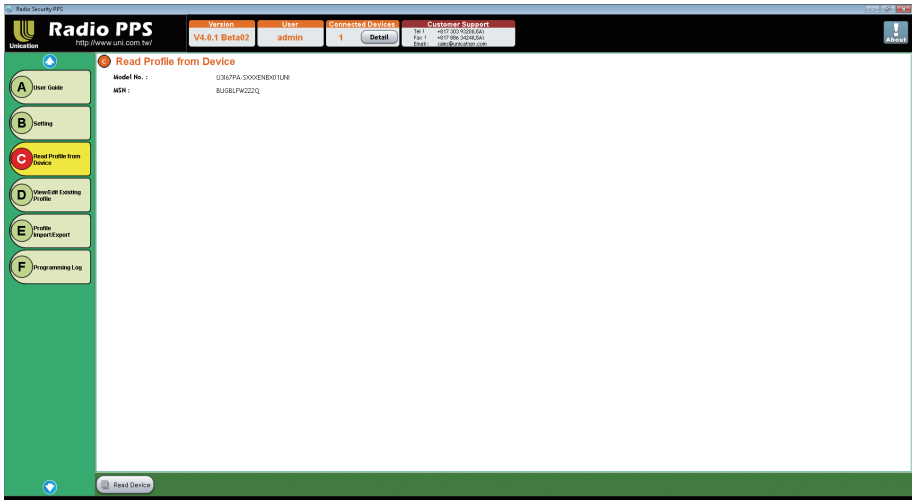
Wait until the connected device on the PPS screen changed from 0 to 1.



B2 How to create the channel knob setting of Conventional Mode and program the radio device

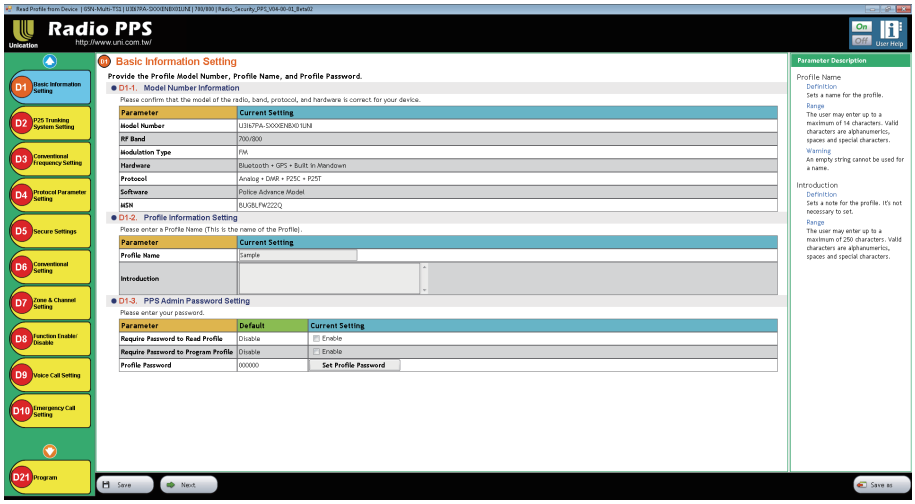
- **Read the radio's profile and start editing the profile.**
- **Show the read radio.**

Click "C Read Profile from Device"; the model number and serial number (MSN) of the connected radio will be shown.



- **Read the radio's profile.**

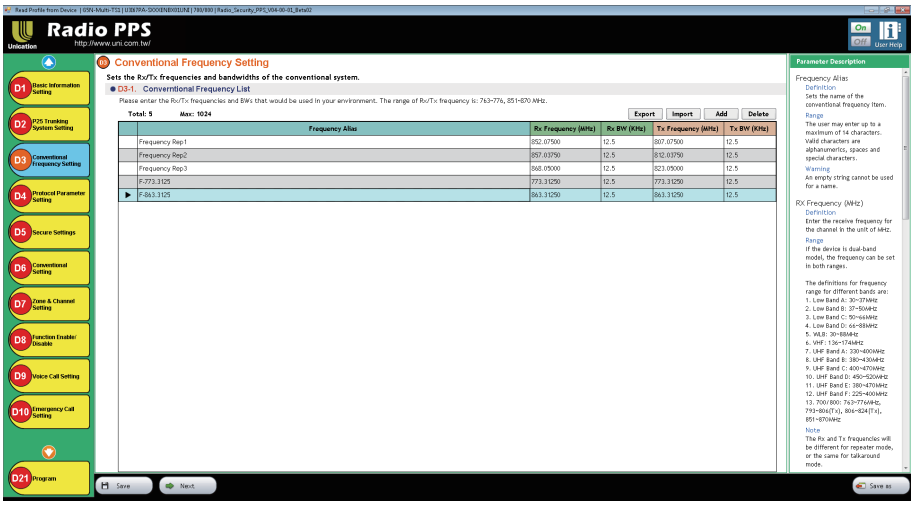
Click "Read Device" to read the radio's profile. The PPS will automatically show the the first setting section after the radio is read successfully.



B2 How to create the channel knob setting of Conventional Mode and program the radio device

- **Create the required conventional frequency setting.**

  Click "Conventional Frequency Setting" to set the required Conventional frequency.



Operation instructions:

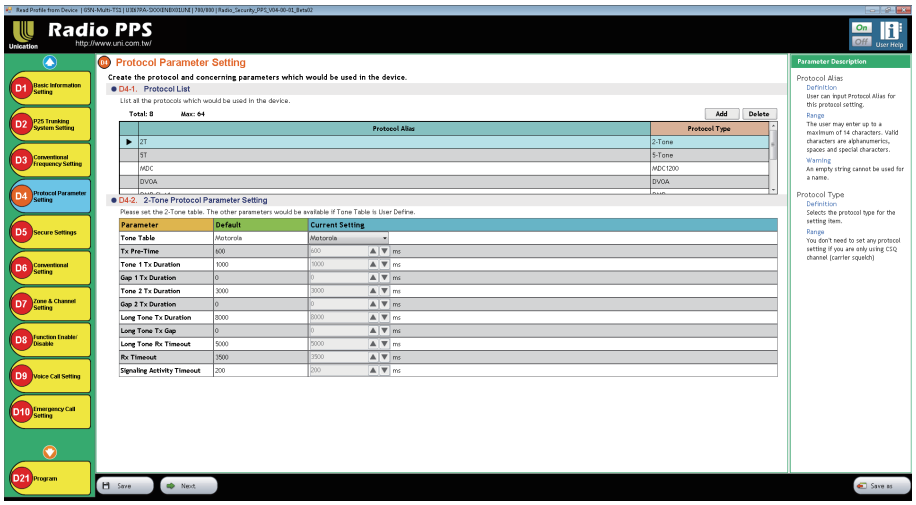
1. **At most 1024 groups of frequencies can be set. Press "Add" to add the required frequency, change the Frequency Alias so it can be identified easily while setting the channels.**
2. **Press "Delete" to delete a frequency. If it has been referenced in the channel, an error will occur after deletion. Please delete all the channels that referenced this frequency, then the frequency can be deleted.**

Press "Save" to save the parameters or click "Next" to save and continue to set the next parameter.

B2 How to create the channel knob setting of Conventional Mode and program the radio device

- **Create the required Protocol Parameter Setting.**

Click "Protocol Parameter Setting" to set the parameters of the required protocols.



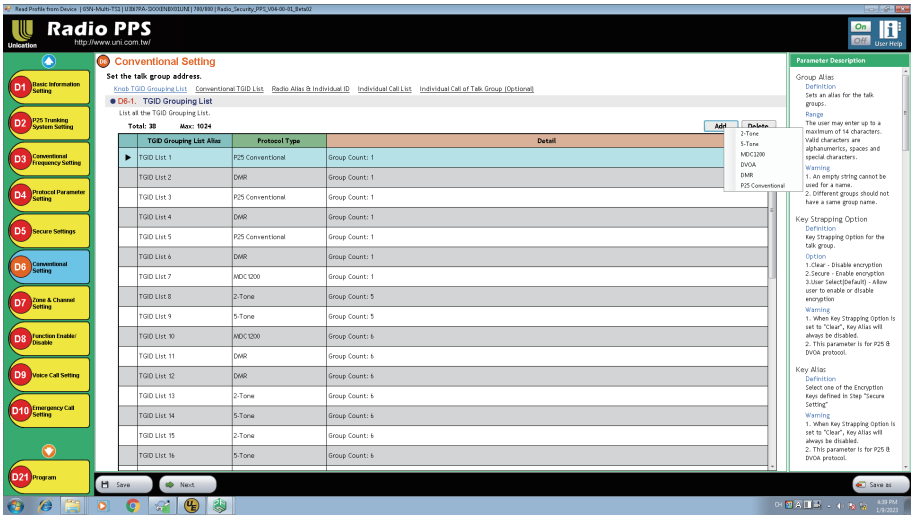
Operating instructions:

1. Users can set up at most 64 groups of protocols, and 6 types of protocols can be selected for every setting, which includes 4 types of Analog protocols and 2 types of Digital protocols. The Analog protocols includes 2-Tone, 5-Tone, MDC1200 and DVOA (Digital Voice over Analog). The Digital protocols includes DMR and P25 Conventional. According to the types of the radios, the protocols available will vary.
2. Click "Add" to select the required protocol category and add protocols, by setting the protocol alias to refer to when setting the channel.
3. Click "Delete" to delete a protocol, if it has been referenced in the channel, an error will occur after deletion. Please delete all channels that referenced this protocol, then this protocol can be deleted.
4. After setting, click "Save" to save the parameters or click "Next" to save and continue to set the parameters for the next step.

B2 How to create the channel knob setting of Conventional Mode and program the radio device

- **Create the talk groups and the TGID of every protocol of these talk groups**
- **Create the TGID Grouping List**

Click "Conventional Setting"and TGID Grouping List will be indicated.



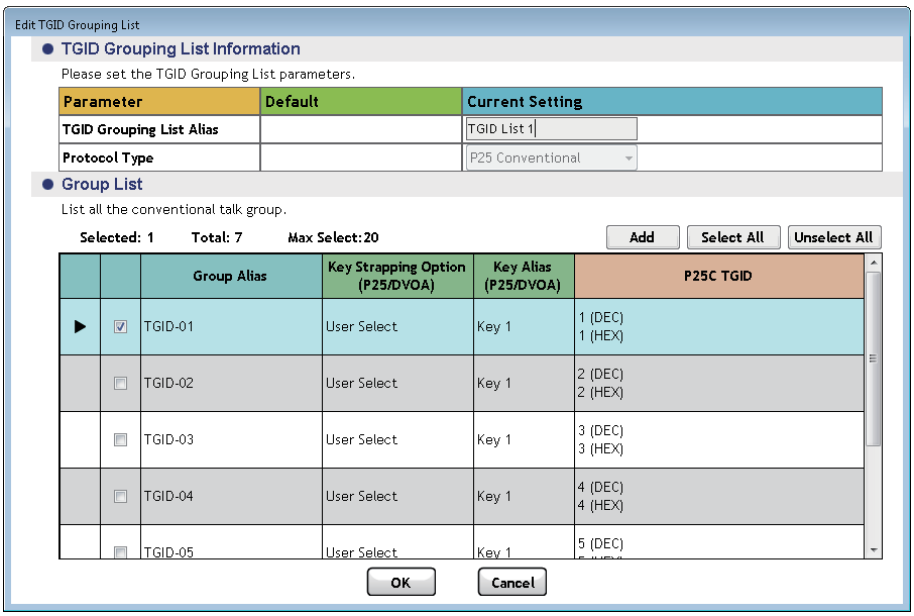
Operating instructions:

1. At most 1024 TGID groups can be set. Click "Add" to select protocol category to and required the TGID group corresponded to the protocol. Each group can be referenced when setting up a channel.
2. Click "Delete"to delete a TGID group setting. If it has been referenced in a channel, an error will occur after deletion. Please delete all the channels that have referenced the setting, then the TGID group setting can be deleted.
3. After setting, click "Save" to save the parameters or click "Next" to save and continue to set the parameters for the next step.

B2 How to create the channel knob setting of Conventional Mode and program the radio device

- **Add the talk group into the group list**

After creating a TGID group list, or click on one of the existed group list details to show the display of editing for the group list.



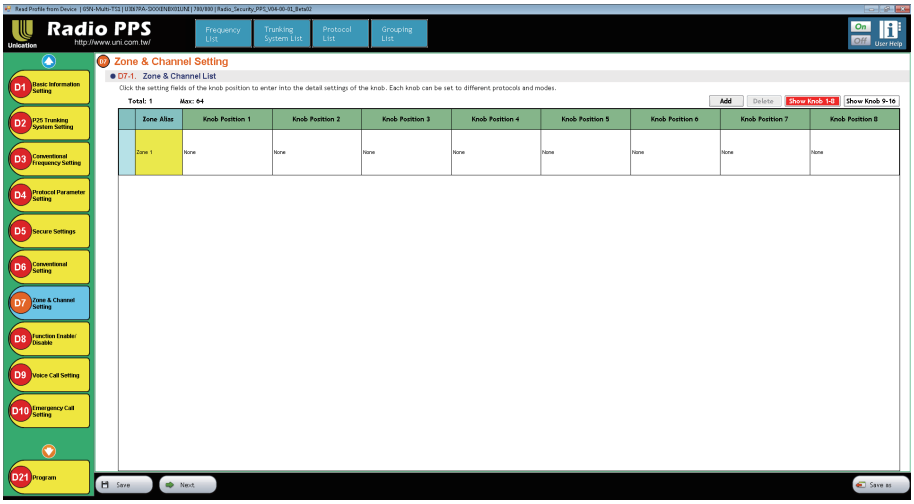
Operating instructions:

1. **Users can add established talk groups to this group list. Users can click "Add" to add the required group, set the group alias to refer to when setting the channel, and set the TGID of this group in each protocol through 2-Tone, 5-Tone, MDC/DVOA TGID, DMR TGID, P25C TGID.**
2. **Click "OK" to save the parameter after setting.**

B2 How to create the channel knob setting of Conventional Mode and program the radio device

- **Create the Zone and Conventional Channel Setting**
- **Show the Zone and Channel List**

Click "Zone and Channel Setting" and the Zone and Channel List will be shown.

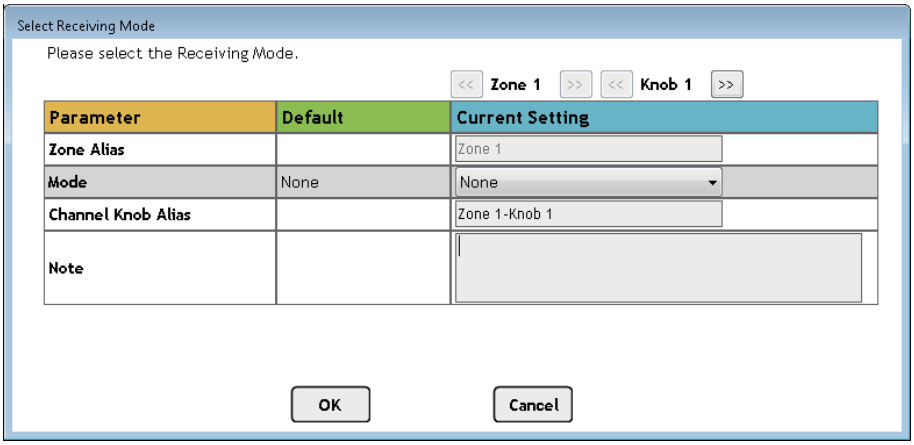


Operating Instructions:

1. **At most 64 zones can be set. Click "Add" to add the required zones. After setting the zone alias, the name will be displayed on the radio, and the knob can be set by tapping the knob position 1~16 twice (details 6-2).**
2. **Click "Delete" to delete a zone.**
3. **After setting, click "Save" to save the parameter or click "Next" to save and continue the setting for the next step.**

- **Create a Conventional Channel in a zone or on a channel knob**

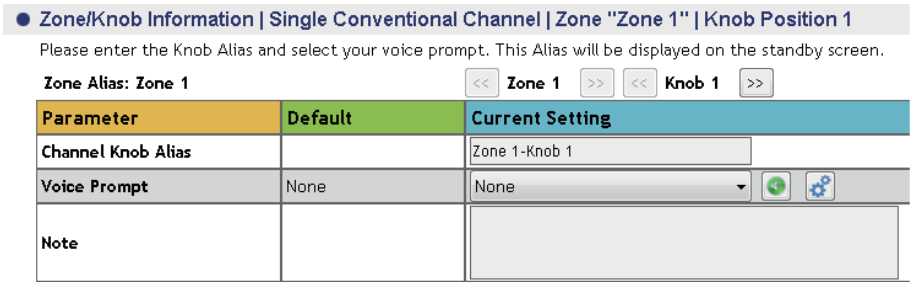
Double click on the channel knob position 1-16 of one of the zone in the zone/ channel list to edit the channel.



The user can select the Receiving Mode as a single protocol channel and set the alias of this channel, which will be displayed on the radio. Click "OK", the parameters of the mode will appear, and the parameters are divided into the following parts:

B2 How to create the channel knob setting of Conventional Mode and program the radio device

Part 1: Zone/ Knob Information. Users can modify the channel alias and set the voice prompt of this channel, and can also add notes to this channel.



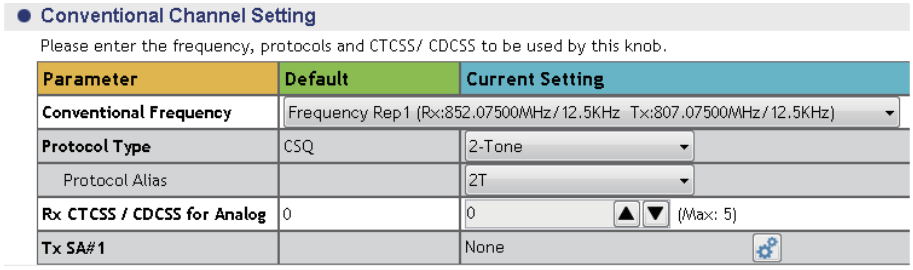
● Zone/Knob Information | Single Conventional Channel | Zone "Zone 1" | Knob Position 1

Please enter the Knob Alias and select your voice prompt. This Alias will be displayed on the standby screen.

Zone Alias: Zone 1 << Zone 1 >> << Knob 1 >>

Parameter	Default	Current Setting
Channel Knob Alias		Zone 1-Knob 1
Voice Prompt	None	None
Note		

Part 2: Conventional Channel Setting includes frequency, protocol type, and reception identification number. (Analog: CTCSS/ CDCSS, DMR: Colour code, P25C: Network Access Code (NAC)



● Conventional Channel Setting

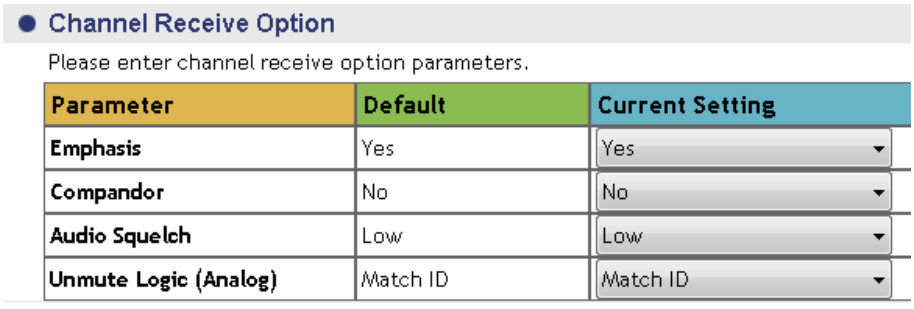
Please enter the frequency, protocols and CTCSS/ CDCSS to be used by this knob.

Parameter	Default	Current Setting
Conventional Frequency	Frequency Rep1 (Rx:852.07500MHz/12.5KHz Tx:807.07500MHz/12.5KHz)	
Protocol Type	CSQ	2-Tone
Protocol Alias		2T
Rx CTCSS / CDCSS for Analog	0	0 (Max: 5)
Tx SA#1		None

Operating Instructions:

1. Conventional Frequency is referenced the frequency set in "Conventional Frequency Setting".
2. Protocol Alias is referenced the protocols set in "Protocol Parameter Setting".

Part 3: Channel Receive Option

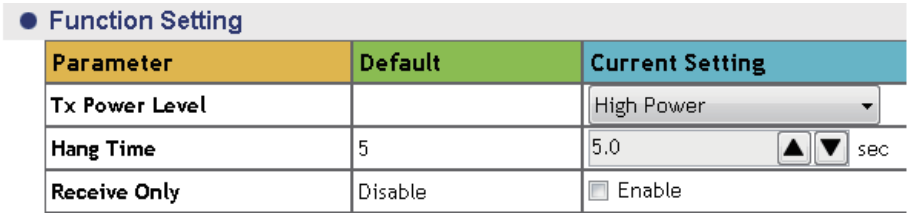


● Channel Receive Option

Please enter channel receive option parameters.

Parameter	Default	Current Setting
Emphasis	Yes	Yes
Compandor	No	No
Audio Squelch	Low	Low
Unmute Logic (Analog)	Match ID	Match ID

Part 4: Function Setting



● Function Setting

Parameter	Default	Current Setting
Tx Power Level		High Power
Hang Time	5	5.0 sec
Receive Only	Disable	Enable

B2 How to create the channel knob setting of Conventional Mode and program the radio device

Part 5: Secure Setting (Only supports when the protocols are set with DVOA, DMR or P25C)

Secure Setting

Please enter secure setting parameters.

Parameter	Default	Current Setting
Secure Type	Channel Knob Based	Channel Knob Based
Channel Secure		
Key Strapping Option	User Select	User Select
Key Alias		Key 1
KMF System		KMF 1
User Selectable Keyset	Disable	Enable
User Selectable Key	Disable	Enable

Part 6: Talk Group List

Talk Group List

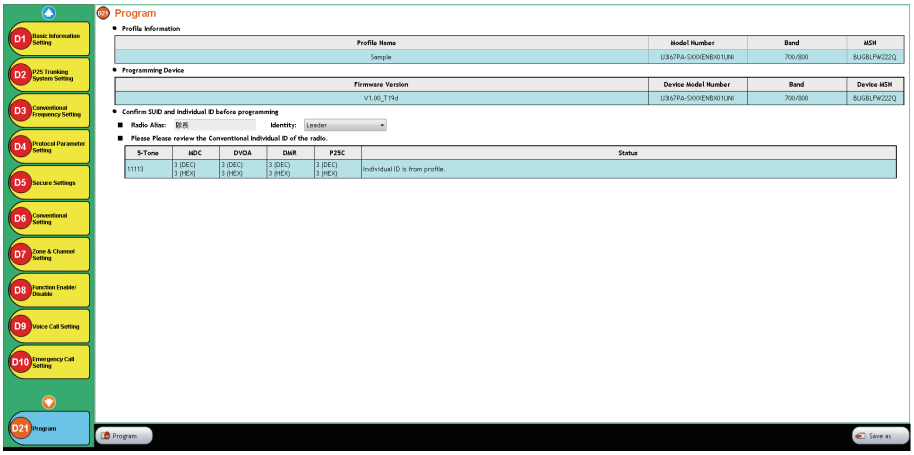
Please enter talk group list parameters.

Parameter	Default	Current Setting
TGID Grouping List		TGID List 1
Receive Sub-Group Feature		0 Sub Group
Default PTT Call		TGID-01(1)
Default Sub-Group PTT Feature		Setting

1. Click the Setting button on the right side of the TGID group list to edit the TGID group list again.
2. Users can also set a group or individual as a preset PTT call.
3. After all the settings are completed, click "Save" to save the settings of this knob.

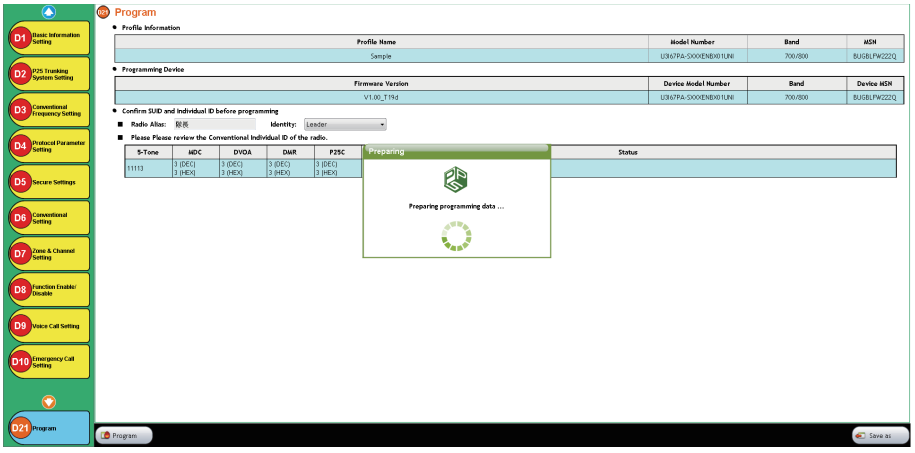
- **Program the profile with modified parameter to the radio**

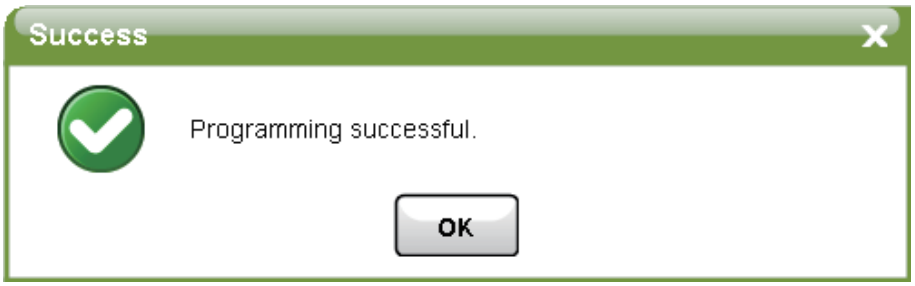
After each Conventional channel parameter is set, click "Program" in the screen to enter the programming screen.



B2 How to create the channel knob setting of Conventional Mode and program the radio device

Click "Program" to start the programming and wait until it is successfully programmed. The radio will reboot and load the profile with new parameters.





Note: Please do not unplug the USB cable during the programming process, so as not to cause abnormal parameters after half of the programming is interrupted.

B3 How to create the channel knob setting of R&R Mode and program the radio device?

- **Connect the radio to the PC, read the parameter file, and start the setup.**

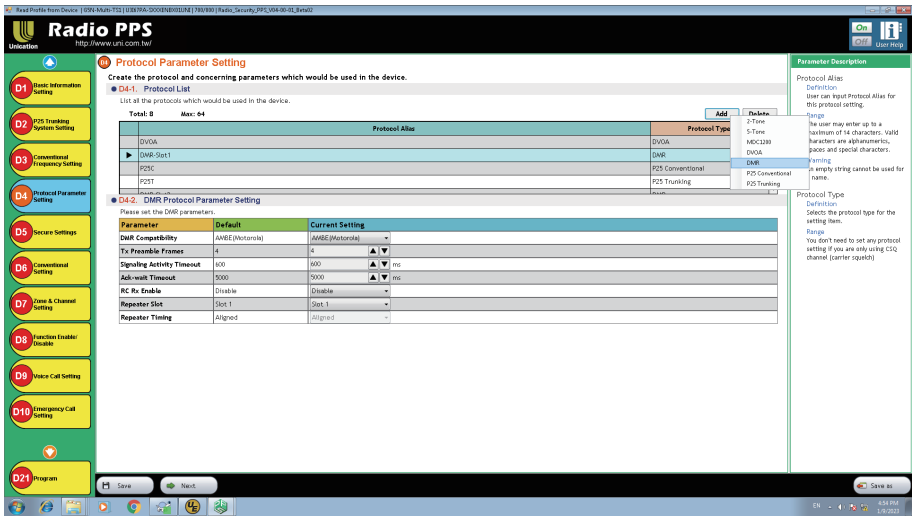
  Same as section B2.

- **Create the Conventional frequency information users required**

  Same setting method as section B2.

- **Create the required DMR protocol with RNR available information**

  Click "Protocol Parameter Setting" to set a DMR protocol.



Operating Instructions:

1. At most 64 sets of protocols can be set.
2. Click "Add" to select the required protocol category and add protocols, by setting the protocol alias to refer to when setting the channel.
3. Click "Delete" to delete a protocol, if it has been referenced in the channel, an error will occur after deletion. Please delete all the channels that have referenced this protocol, then the protocol can be deleted.
4. After setting, click "Save" to save the parameter or click "Next" to save and continue the setting of parameter for the next step.

B3 How to create the channel knob setting of R&R Mode and program the radio device?

- **Create the required talk groups and the TGID of these groups under the DMR protocol with RNR enabled.**

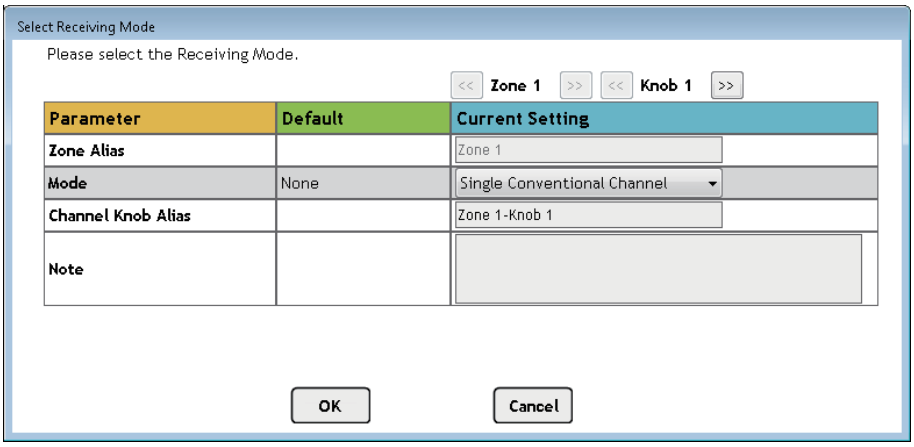
  Same setting method as section B2. The user needs to set the list of required DMR TGID groups and the DMR TGID used in the list.

- **Create the zone and channel in RNR mode**
- **Show the Zone / Channel Knob List**

  Same setting method as section B2.

- **Create a RNR Mode channel in a zone or on a channel knob position**

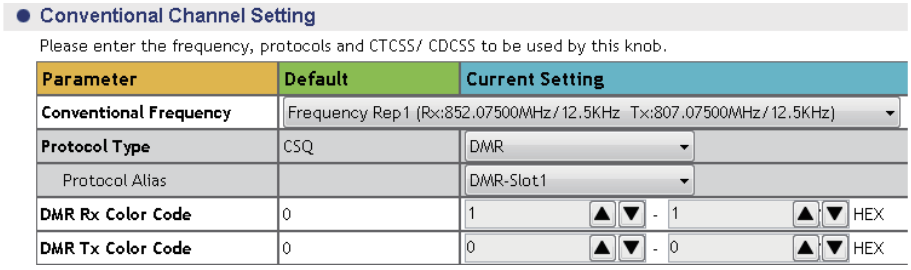
  In the zone/channel knob table, double click the knob position (1-16) to set the RNR channel for this knob.



The user can select the receiving mode as a single protocol channel and set the alias of this channel, which will be displayed on the radio. Click "OK", the parameters of the mode will appear, and the parameters are divided into the following parts:

Part 1: Zone/ Knob Information. Same setting method as section B2.

Part 2: Conventional Channel Setting. Users need to select DMR protocol.



Part 3: Channel Receive Option. Same setting method as section B2.

B3 How to create the channel knob setting of R&R Mode and program the radio device?

Part 4: Function Setting. The user needs to set the DMR advance function to RNR mode, and set the RNR originator color code and the RNR repeater color code to two different values.

● Function Setting

Parameter	Default	Current Setting
Tx Power Level		High Power
Hang Time	5	5.0 ▲▼ sec
Receive Only	Disable	☐ Enable
Private Call Confirmed (DMR)	Disable	☐ Enable
DMR Advance Function	None	RNR Mode On
Originator Color Code	1	1 ▲▼ - 1 ▲▼ HEX
Repeater Color Code	2	2 ▲▼ - 2 ▲▼ HEX

Part 5: Secure Setting

● Secure Setting

Please enter secure setting parameters.

Parameter	Default	Current Setting
Secure Type	Channel Knob Based	Channel Knob Based
Channel Secure		
Key Strapping Option	User Select	User Select
Key Alias		Key 1
KMF System		KMF 1
User Selectable Keyset	Disable	☐ Enable
User Selectable Key	Disable	☐ Enable

Part 6: Talk Group List

● Talk Group List

Please enter talk group list parameters.

Parameter	Default	Current Setting
TGID Grouping List		TGID List 2
Default PTT Call		TGID-01(1)

Operating Instructions:

1. Click the Setting button on the right side of the TGID group list to edit the TGID group list again.
2. Users can also set a group or individual as a preset PTT call.
3. After all the settings are completed, click "Save" to save the settings of this knob.

- **Program the profile with modified parameter to the radio**

Operation flow is same as section B2.

B4 How to create the channel knob setting of Full Duplex Call Mode and program the radio device?

- **Connect the radio to the PC, read the parameter file, and start the setup.**

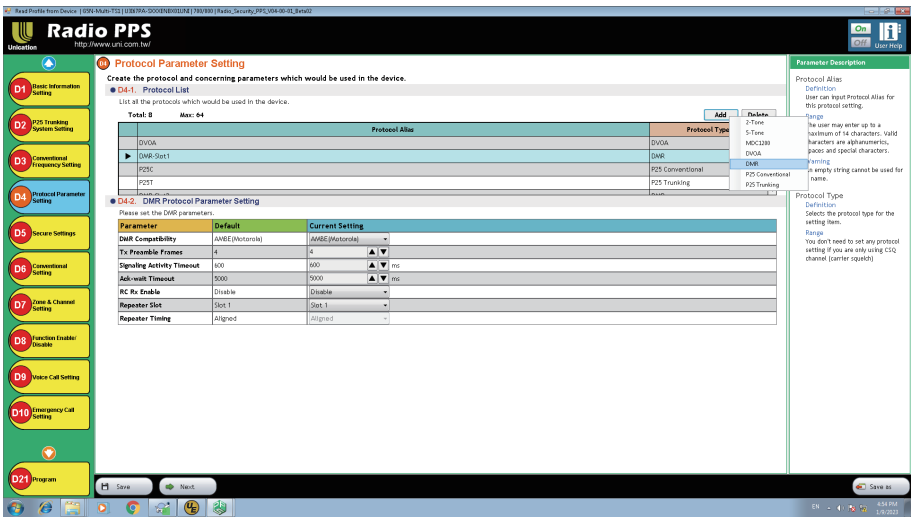
  Same as section B2.

- **Create the Conventional frequency information users required**

  Same setting method as section B2.

- **Create the required DMR protocol with Full Duplex available information**

  Click "Protocol Parameter Setting" to set a DMR protocol.



Operating Instructions:

1. At most 64 sets of protocols can be set.
2. Click "Add" to select the required protocol category and add protocols, by setting the protocol alias to refer to when setting the channel.
3. Click "Delete" to delete a protocol, if it has been referenced in the channel, an error will occur after deletion. Please delete all the channels that have referenced this protocol, then the protocol can be deleted.
4. After setting, click "Save" to save the parameter or click "Next" to save and continue the setting of parameter for the next step.

B4 How to create the channel knob setting of Full Duplex Call Mode and program the radio device?

- **Create the required talk groups and the TGID of these groups under the DMR protocol with Full Duplex enabled.**

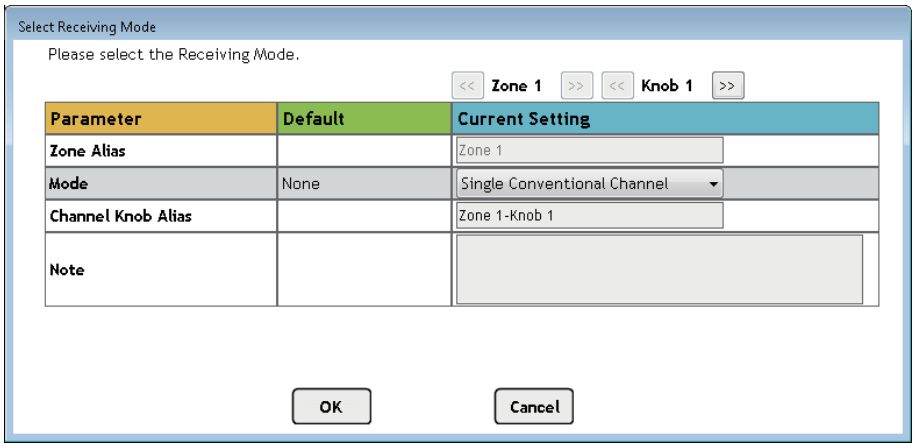
  Setting method is same as section B2. The user needs to set the list of required DMR TGID groups and the DMR TGID used in the list.

- **Create the zone and channel in Full Duplex mode**
- **Show the Zone / Channel Knob List**

  Same setting method as section B2.

- **Create a Full Duplex Mode channel in a zone or on a channel knob position**

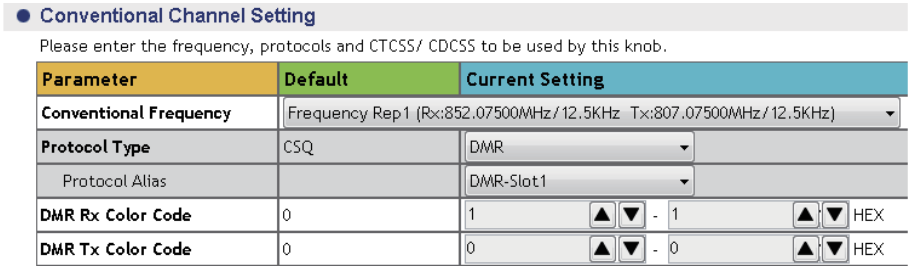
  In the zone/channel knob table, double click the knob position (1-16) to set the Full Duplex channel for this knob.



The user can select the receiving mode as a single protocol channel and set the alias of this channel, which will be displayed on the radio. Click "OK", the parameters of the mode will appear, and the parameters are divided into the following parts:

Part 1: Zone/ Knob Information. Same setting method as section B2.

Part 2: Conventional Channel Setting. Users need to select DMR protocol.



Part 3: Channel Receive Option. Same setting content as section B2.

B4 How to create the channel knob setting of Full Duplex Call Mode and program the radio device?

Part 4: Function Setting. The user needs to set the DMR advance function to Duxplex Call On.

● Function Setting

Parameter	Default	Current Setting
Tx Power Level		High Power
Hang Time	5	5.0 sec
Receive Only	Disable	Enable
Private Call Confirmed (DMR)	Disable	Enable
DMR Advance Function	None	Duplex Call On

Part 5: Secure Setting

● Secure Setting

Please enter secure setting parameters.

Parameter	Default	Current Setting
Secure Type	Channel Knob Based	Channel Knob Based
Channel Secure		
Key Strapping Option	User Select	User Select
Key Alias		Key 1
KMF System		KMF 1
User Selectable Keyset	Disable	Enable
User Selectable Key	Disable	Enable

Part 6: Talk Group List

● Talk Group List

Please enter talk group list parameters.

Parameter	Default	Current Setting
TGID Grouping List		TGID List 2
Default PTT Call		TGID-01(1)

Operating Instructions:

1. Click the Setting button on the right side of the TGID group list to edit the TGID group list again.
2. Users can also set a group or individual as a preset PTT call.
3. After all the settings are completed, click "Save" to save the settings of this knob.

- **Program the profile with modified parameter to the radio**

Same operation flow as section B2.

B5 How to create the channel knob setting of AM Modulation and program the radio device?

Note: This section is only available for the two models, U4-LXXUFR-E6E and U4-LXXUFX-E6E which support AM modulation.

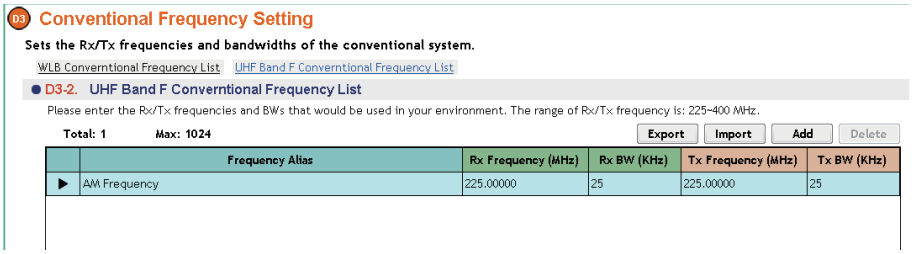
- **Connect the radio to the PC, read the parameter file, and start the setup.**

  Same operation method as section B2.

- **Create the Conventional frequency information users required**

  To use AM modulation channels, it needs to establish the UHF F (225-400MHz) frequency band and meet the following conditions:

  1. UHF F (225-400MHz) frequency band must be used.
  2. The receiving and transmitting frequency need to be the same.
  3. Bandwidths of both reception and transmission have to be 25KHz.



Operating instructions:

1. At most 1024 groups of frequencies can be set. Press "Add" to add the required frequency, change the Frequency Alias so it can be identified easily while setting the channels.

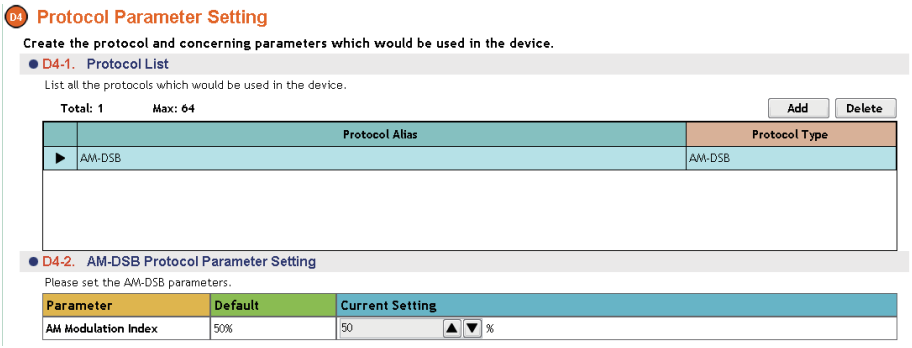
2. Press "Delete" to delete a frequency. If it has been referenced in the channel, an error will occur after deletion. Please delete all the channels that referenced this frequency, then the frequency can be deleted.

Press "Save" to save the parameters or click "Next" to save and continue to set the next parameter.

B5 How to create the channel knob setting of AM Modulation and program the radio device?

- **Establish the required AM-DSB protocol reference information**

  Click "Protocol Parameter Setting" to set a AM-DSB protocol. The AM-DSB protocol is one of the protocols in AM modulation.



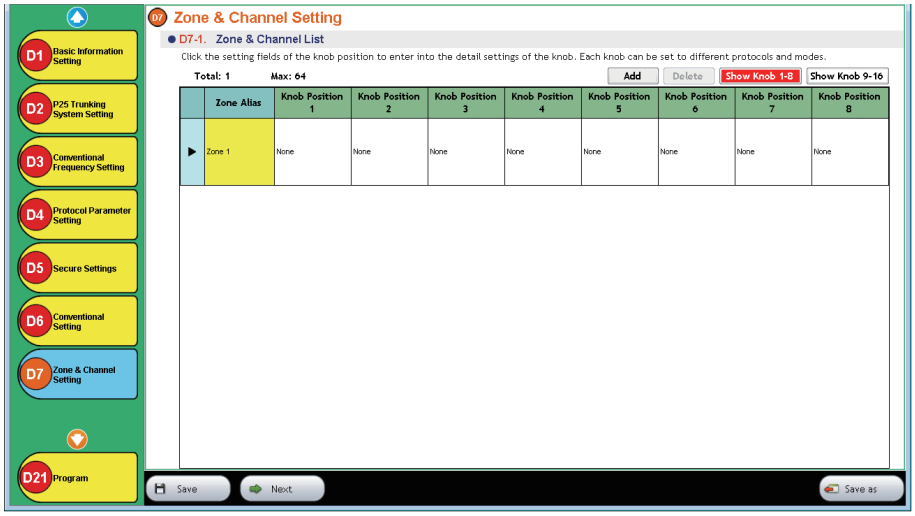
Operating Instructions:

1. At most 64 sets of protocols can be set.
2. Click "Add" to select the required protocol category and add protocols, by setting the protocol alias to refer to when setting the channel.
3. Click "Delete" to delete a protocol, if it has been referenced in the channel, an error will occur after deletion. Please delete all the channels that have referenced this protocol, then the protocol can be deleted.
4. After setting, click "Save" to save the parameter or click "Next" to save and continue the setting of parameter for the next step.

B5 How to create the channel knob setting of AM Modulation and program the radio device?

- **Create the required zone and channel for AM Modulation**
- **Show the Zone/ Channel Knob List**

Click "Zone & Channel Setting" to show the zone list.



Operating Instructions:

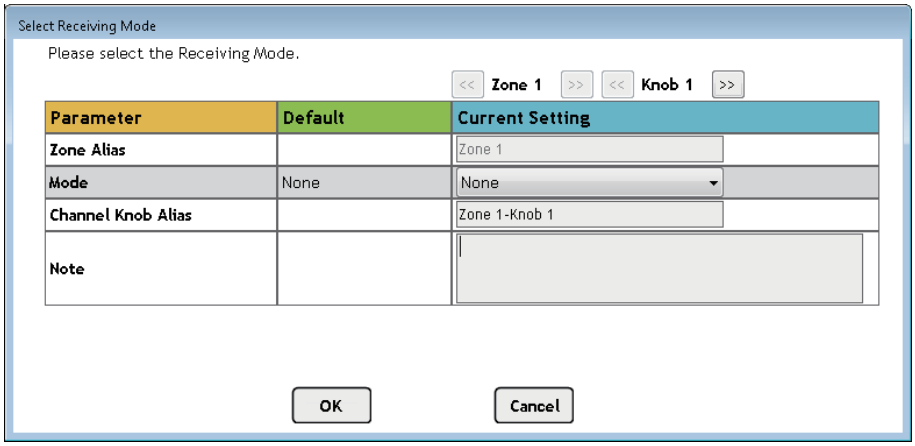
1. At most 64 zones can be set. Click "Add" to add the required zones. After setting the zone alias, the alias will be displayed on the radios, and the knob can be set by double clicking on the knob position 1~16.

2. Click "Delete" to delete a zone.

After setting, click "Save" to save the parameter or click "Next" to save and continue the setting for the next step.

- **Create a channel of AM Modulation on one of the zone/ channel knob position.**

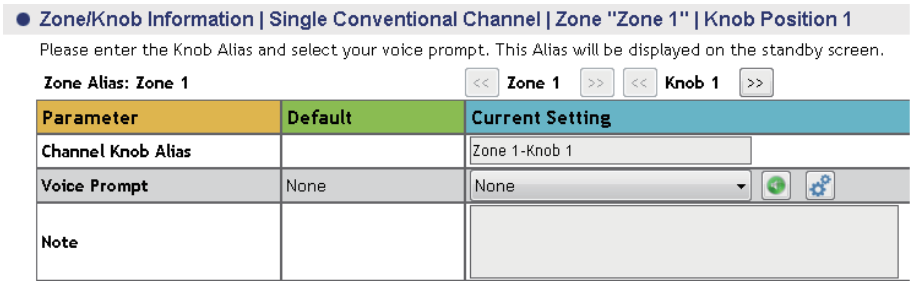
Double click on the channel knob position 1~16 of one of the zone in the zone/ channel list to set the channel with AM Modulation.



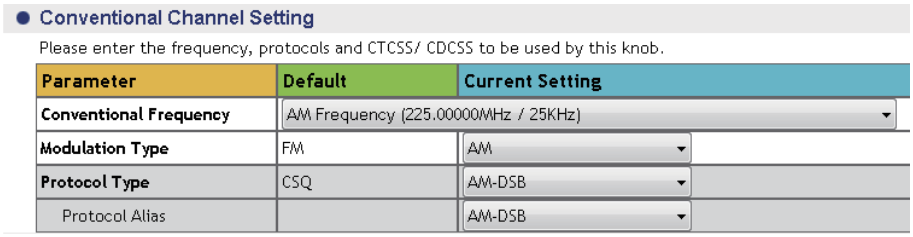
The user can select the receiving mode as a single protocol channel and set the alias of this channel, which will be displayed on the radio. Click "OK", the parameters of the mode will appear, and the parameters are divided into the following parts:

B5 How to create the channel knob setting of AM Modulation and program the radio device?

Part 1: Zone/ Knob Information. Users can modify the zone alias and the voice prompt of this channel as well as add note to this channel.



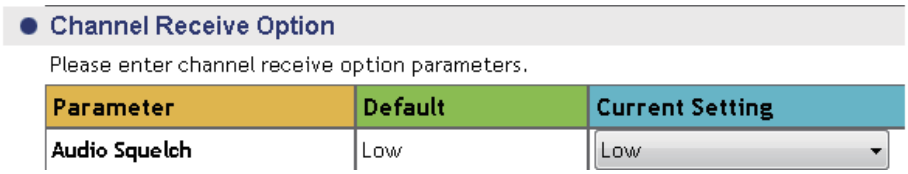
Part 2: Conventional Channel Setting includes Conventional Frequency, Modulation Type, Protocol Type and Protocol Alias.



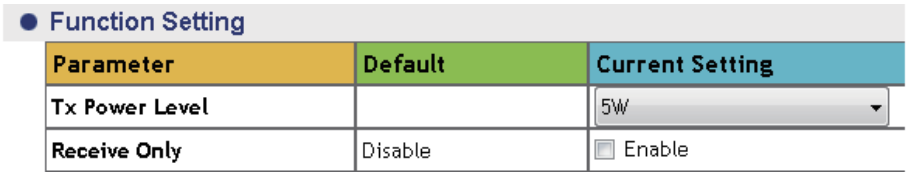
Operating Instructions:

1. Conventional Frequency is referenced the frequency set in "Conventional Frequency Setting".
   a. UHF F (225-400MHz) frequency band.
   b. The receiving and transmitting frequency need to be the same.
   c. Bandwidths of both reception and transmission have to be 25KHz.
2. Please select AM for modulation type.
3. The protocol alias is referenced with the aliasd set in "zone and channel setting for AM Modulation".

Part 3: Channel Receive Option



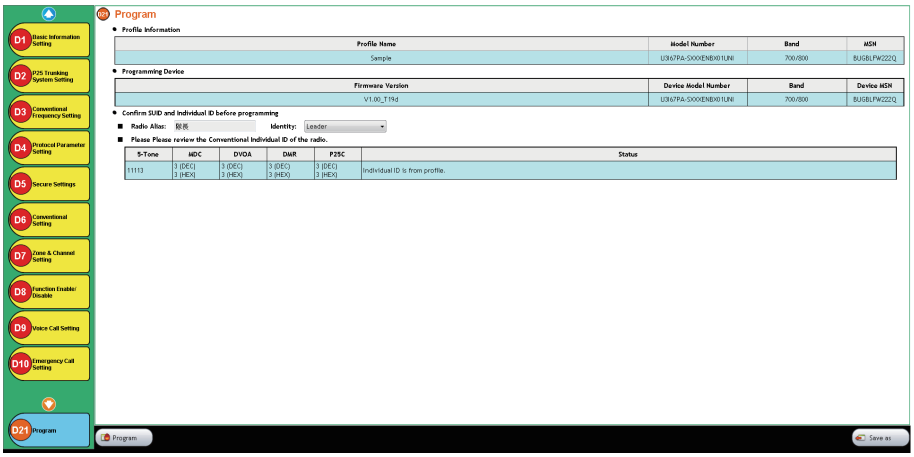
Part 4: Function Setting. The users need to set DMR advance function to Full Deplex On.



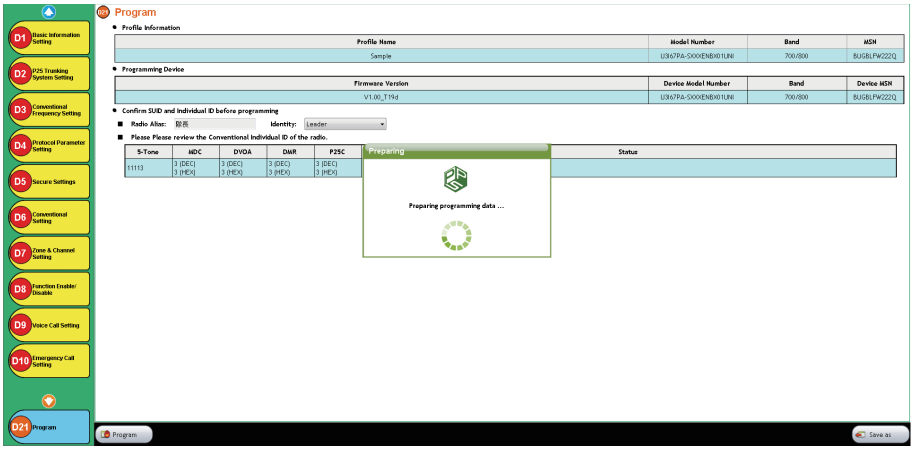
B5 How to create the channel knob setting of AM Modulation and program the radio device?

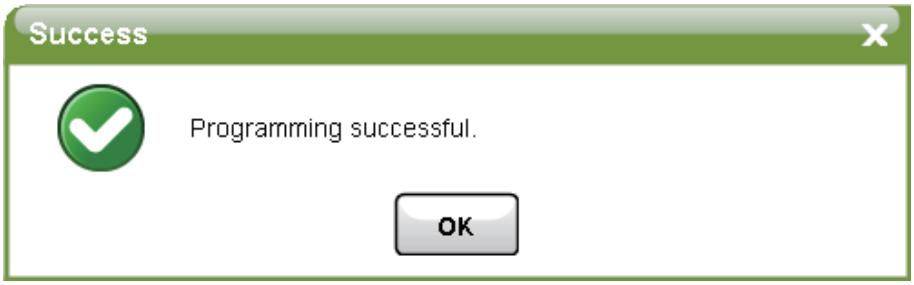
- **Program the profile with modified parameter to the radio**

After setting the parameters of all the channels, click "Program" to enter the programming screen.



Click "Program" to start the programming and wait until the programming finished. The radio will reboot and load the new parameters.





Note: Do not unplug the USB cable during the programming to avoid the parameters being abnormal after half of the programming gets interrupted.

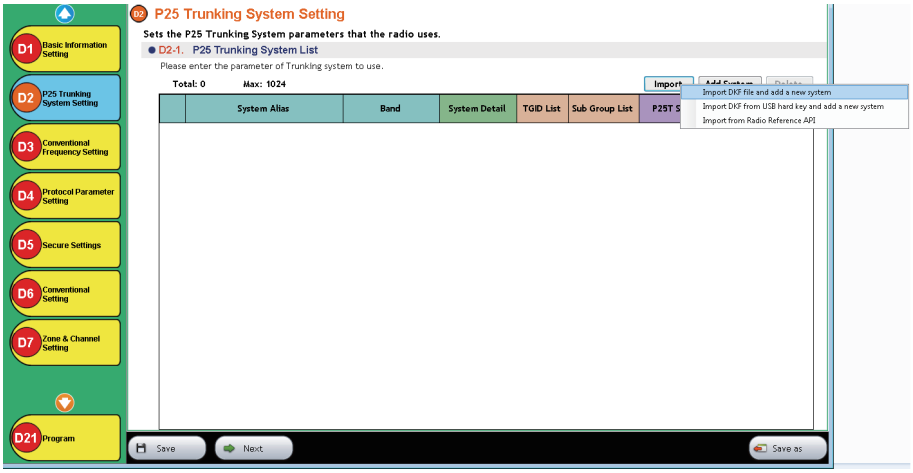
B6 How to create the channel knob setting of P25 Trunking (a talk group) and program the radio device?

- **Connect the radio with the PC and read the profile parameters to start programming.**

  Same operation flow as section B2.

- **Create the required P25 Trunking System reference information**
- **Import a P25 Trunking System info with DKF file.**

  Click "P25 Trunking System Setting" to set the required P25 Trunking System.

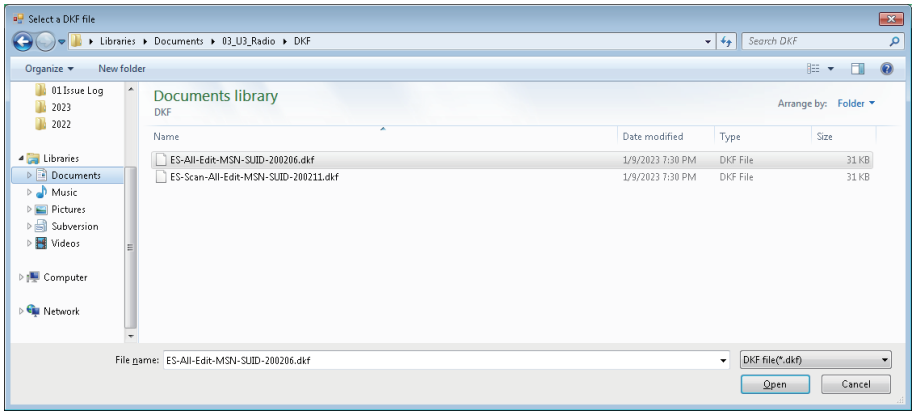


Operating Instructions:

1. The parameters of the P25 Trunking System in the United States and Canada are protected by the state government, and the state government does not allow PPS users to create system parameters at will, but needs to use a separate tool through the state government to save the parameters as DKF files and then provide them to PPS users for use. Therefore, PPS provides the function of "Import DKF files".

2. Operating instructions of "Import DKF files":

   a. Click "Import" and select "Import DKF file and add a new system"; then choose a DKF file.



B6 How to create the channel knob setting of P25 Trunking (a talk group) and program the radio device?

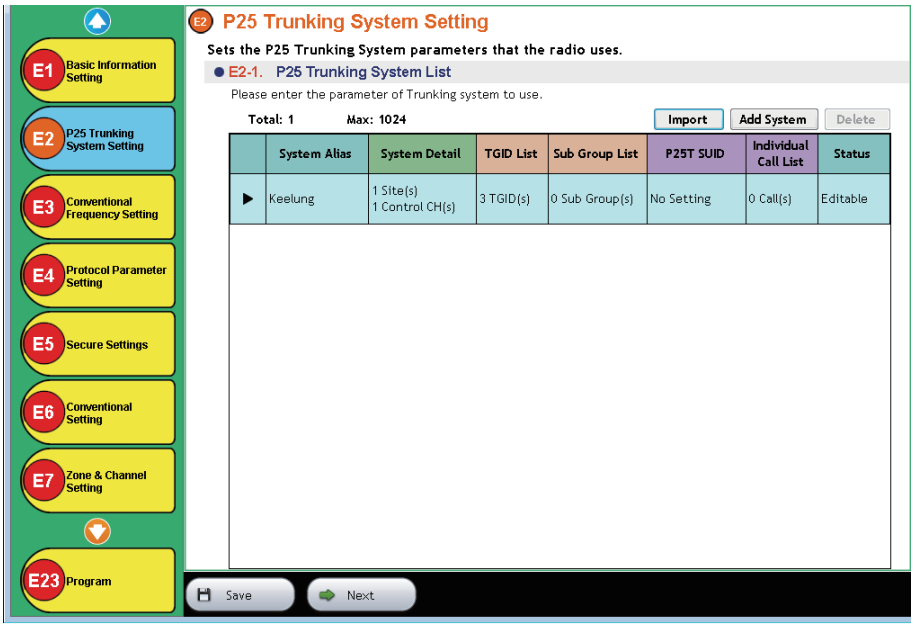
b. Click on the DKF file and click "Open", it needs to enter the password of the DKF file.

c. Click "OK" after entering the correct password, then a new P25 Trunking System will be imported successfully.

B6 How to create the channel knob setting of P25 Trunking (a talk group) and program the radio device?

- **Modify the parameter of the P25 Trunking System**

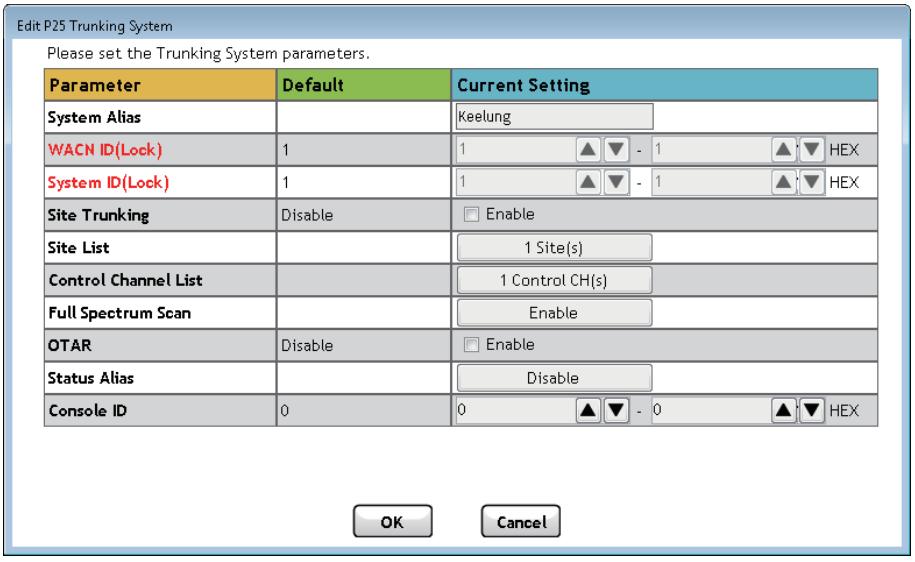
When the DKF file is created, certain parameters are specified to allow PPS users to modify it again. Before modifying the parameters, the state of the P25 Trunking System must be changed from locked to editable, which is an unlocking step. After unlocking, click the system alias, system details, TGID list, subgroup list, P25T SUID, and individual call list of the P25 Trunking System data to display the modification screen.



Operating Instructions:

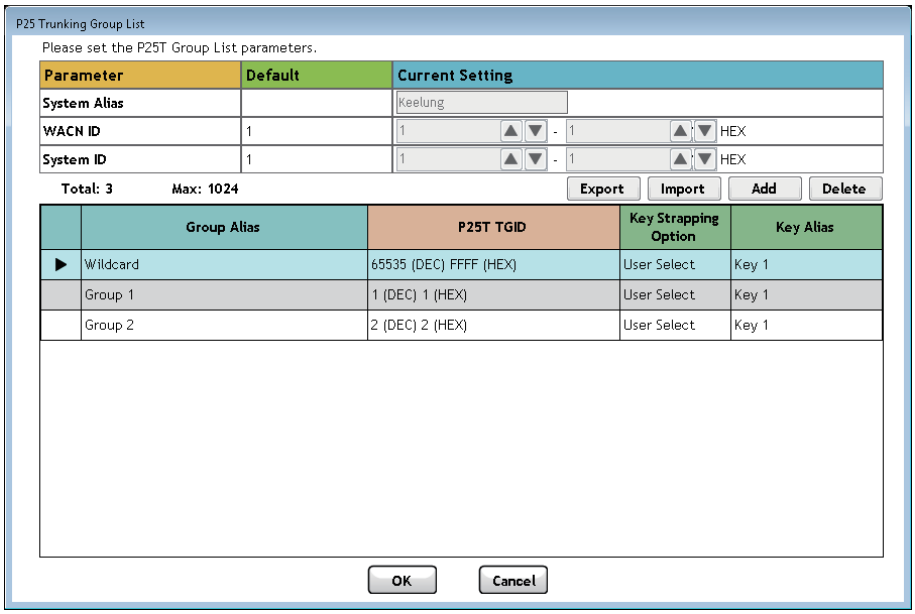
1. Click the status box and it will remind DKF file can be imported.

2. After successfully unlocked, click system details to edit the system parameters. Up to any parameter can be edited, except WACNID and system ID. The editing permissions for these parameters are determined when the DKF file is created.

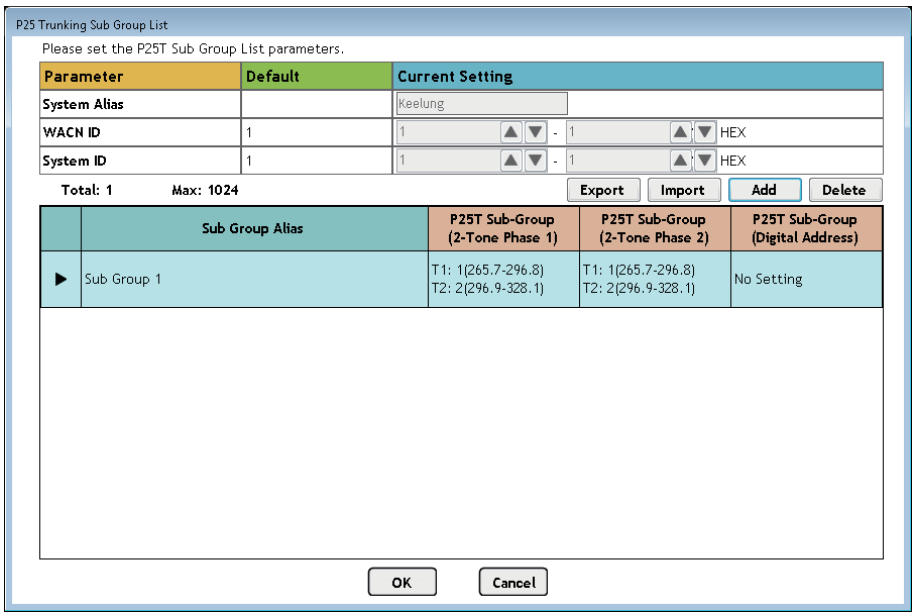


B6 How to create the channel knob setting of P25 Trunking (a talk group) and program the radio device?

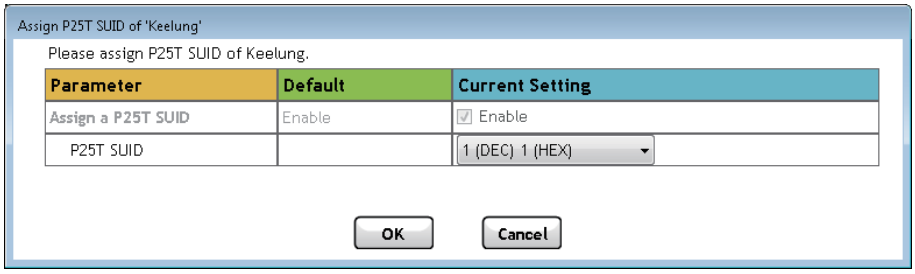
3. Click the TGID list box to edit the P25T TGID list supported by this system.



4. Click the Sub Group list box to edit the Sub Group list supported by this system.

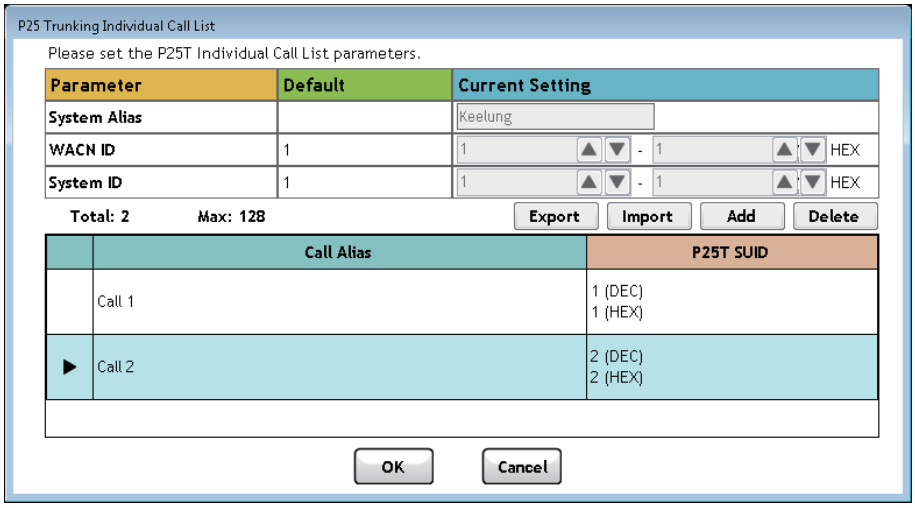


5. For the P25T SUID, random settings are not provided. In the DKF file, the SUID corresponding to the serial number of each radio is set in advance. Therefore, after importing the DKF file, PPS will automatically determine a SUID from the serial number-SUID comparison table based on the serial number of the radio. If the SUID in the ordinal-SUID comparison table does not have a corresponding serial number, these SUIDs can be used by PPS settings.



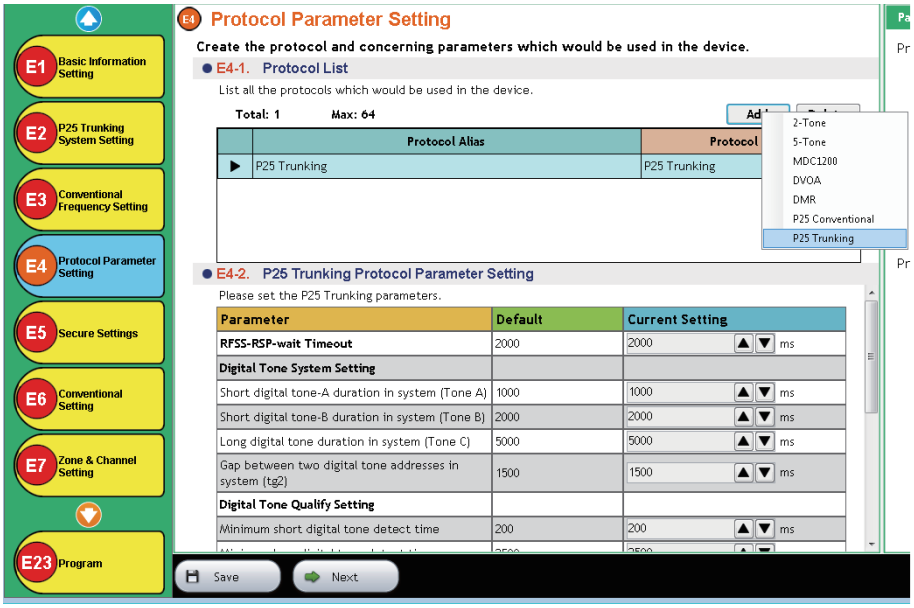
B6 How to create the channel knob setting of P25 Trunking (a talk group) and program the radio device?

6. Click Individual Call List to edit the call list of this system.



- **Create the required protocol reference information for P25 Trunking**

  Click "Protocol Parater Setting" to set a P25 Trunking protocol.



Operating Instructions:

1. At most 64 sets of protocols can be set. P25 Trunking protocol can be selected for every setting.
2. Click "Add" to select the required protocol category and add protocols, by setting the protocol alias to refer to when setting the channel.
3. Click "Delete" to delete a protocol, if it has been referenced in the channel, an error will occur after deletion. Please delete all the channels that have referenced this protocol, then the protocol can be deleted.
4. After setting, click "Save" to save the parameter or click "Next" to save and continue the setting of parameter for the next step.

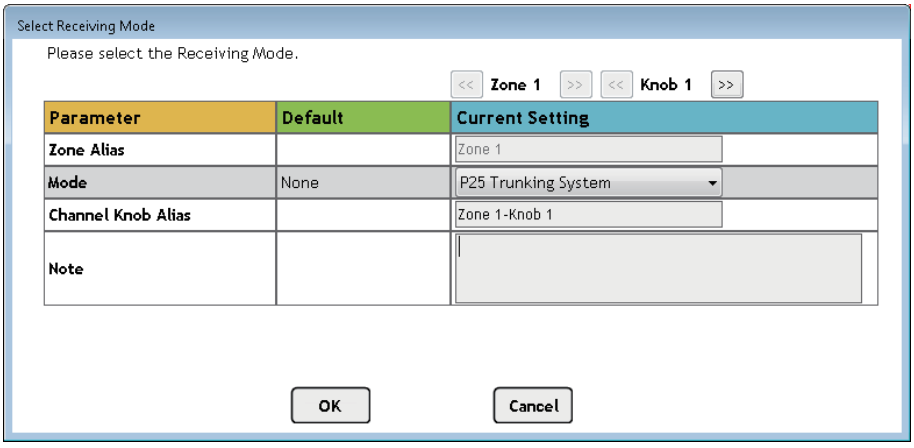
B6 How to create the channel knob setting of P25 Trunking (a talk group) and program the radio device?

- **Create the required Zone and P25 Trunking channel**
- **Show the Zone/ Channel Knob List**

Same setting method as section B2.

- **Create a P25 Trunking channel on one of the zone/ channel knob position.**

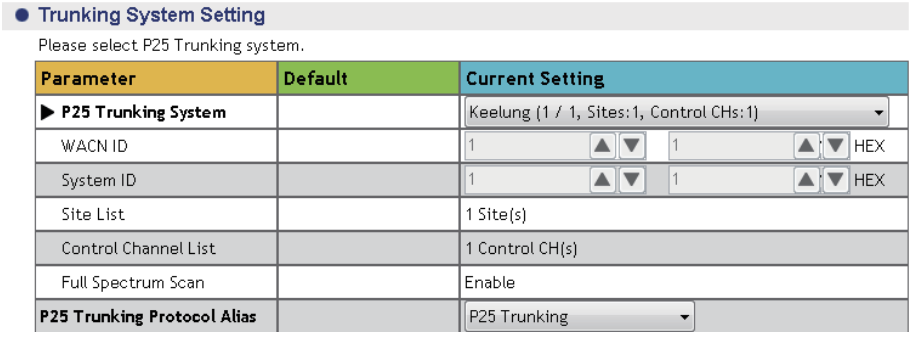
Double click on the channel knob position 1-16 of one of the zone in the Zone/ Channel Knob List to set the P25 Trunking Sysetm.



The user can select the Receiving Mode as P25 Trunking System and set the alias of this cahnnel, which will be displayed on the radio. Click "OK", the parameter of the mode will appear, and the parameters are divided into the following parts:

Part 1: Zone/ Knob Information. Same setting content as section B2.

Part 2: P25 Trunking System Setting includes used P25 Trunking System and the P25 Trunking System protocol.



Operating Instructions:

1. **P25 Trunking System setting is referenced from the "Required P25 Trunking System reference information".**
2. **P25 Trunking protocol alias is referenced from the alias set in "Required P25 Trunking System reference information".**

B6 How to create the channel knob setting of P25 Trunking (a talk group) and program the radio device?

Part 3: Channel Receive Option

● Channel Receive Option

Please enter channel receive option parameters.

Parameter	Default	Current Setting
Audio Squelch	Low	Low

Part 4: Function Setting

● Function Setting

Parameter	Default	Current Setting
Tx Power Level		High Power
Hang Time	5	5.0 sec
Receive Only	Disable	Enable

Part 5: Secure Setting

● Secure Setting

Please enter secure setting parameters.

Parameter	Default	Current Setting
Private Call		
Key Strapping Option	User Select	User Select
Key Alias		Key 1
Dynamic Regrouping Talk Group		
Key Strapping Option	User Select	User Select
Key Alias		Key 1
Announcement Group(ATG)		
Key Strapping Option	User Select	User Select
Key Alias		Key 1
KMF System		KMF 1
User Selectable Keyset	Disable	Enable

Part 6: Talk Group List

● Talk Group List

Please enter talk group list parameters.

Parameter	Default	Current Setting
Trunking Talk Group		<ATG>
Talk Group Scan	Disable	Enable
Parameter	**Default**	**Current Setting**
Announcement Group(ATG) ID	0	0 0 HEX

Operating Instructions:

1. Only one group can be set as P25 Trunking talk group, and it is set as Announcement Group (ATG) by default.
2. Click "Save" to save this channel knob setting.

- **Program the profile with modified parameter to the radio**

Same operation flow as section B2.

B7 How the create the channel knob setting of P25 Trunking System Scan (simultaneously listen to multiple talk groups) and program the radio device?

- **Connect the radio with the PC and read the profile parameter, then start programming.**

  Same operation flow as section B2.

- **Create the required P25 Trunking System reference information**

  Same operation flow as section B6.

- **Create the required P25 Trunking protocol reference information.**

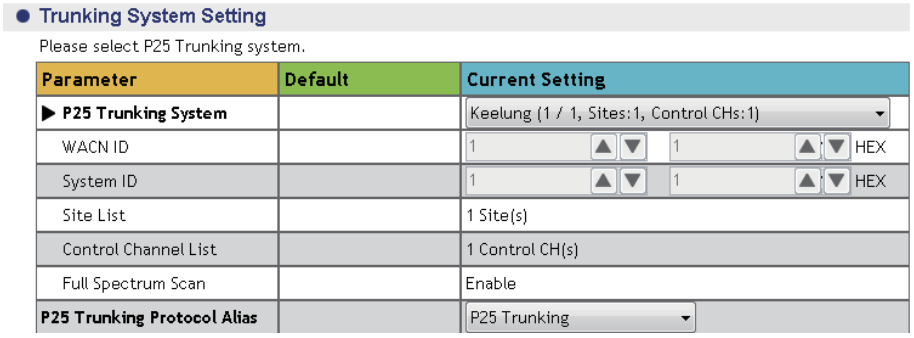
  Same operation flow as section B6.

- **Create the required zone and P25 Trunking channel**
- **Show the Zone/ Channel Knob List**

  Same operation flow as section B6.

- **Create a P25 Trunking channel on one of the zone/ channel knob posistion**

  Double click on the channel knob position 1-16 in the Zone/ Channel Knob List to set the P25 Trunking System.

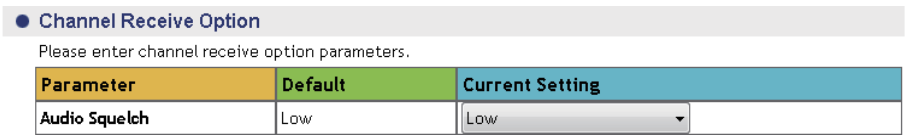


The user can select the Receiving Mode as P25 Trunking System and set the alias of this cahnnel, which will be displayed on the radio. Click "OK", the parameter of the mode will appear, and the parameters are divided into the following parts:

Part 1: Zone/ Knob Information. Same setting content as section B2.

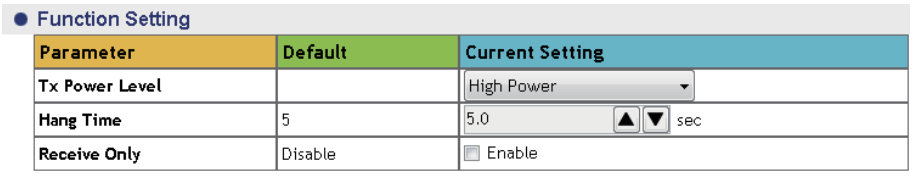
Part 2: P25 Trunking System Setting. Same setting content as section B6.

Part 3: Channel Receive Option



B7 How the create the channel knob setting of P25 Trunking System Scan (simultaneously listen to multiple talk groups) and program the radio device?

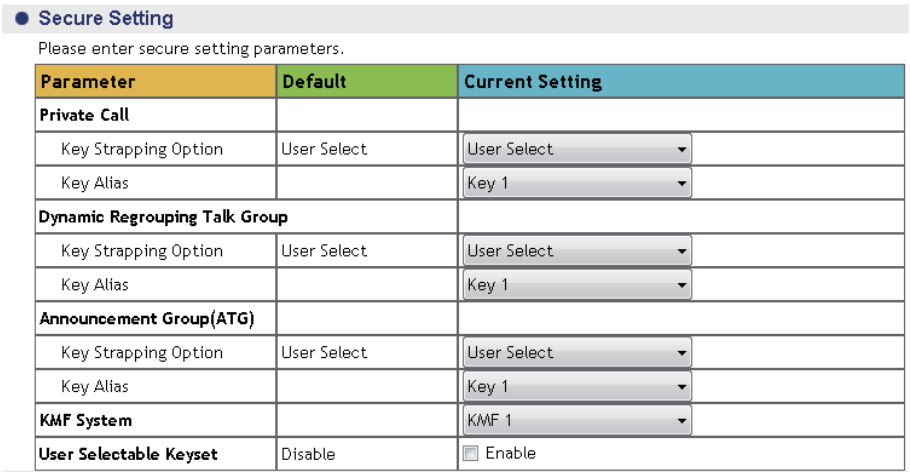
Part 4: Function Setting



Function Setting

Parameter	Default	Current Setting
Tx Power Level		High Power
Hang Time	5	5.0 sec
Receive Only	Disable	Enable

Part 5: Secure Setting



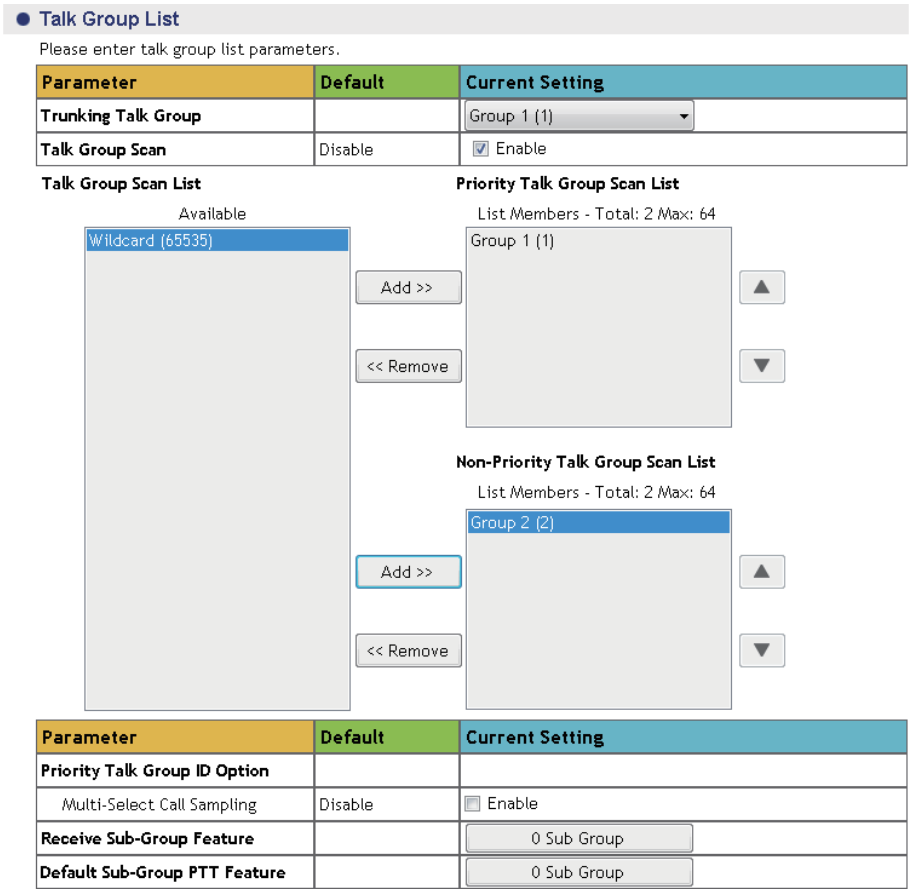
Secure Setting

Please enter secure setting parameters.

Parameter	Default	Current Setting
Private Call		
Key Strapping Option	User Select	User Select
Key Alias		Key 1
Dynamic Regrouping Talk Group		
Key Strapping Option	User Select	User Select
Key Alias		Key 1
Announcement Group(ATG)		
Key Strapping Option	User Select	User Select
Key Alias		Key 1
KMF System		KMF 1
User Selectable Keyset	Disable	Enable

B7 How the create the channel knob setting of P25 Trunking System Scan (simultaneously listen to multiple talk groups) and program the radio device?

Part 6: Talk Group List



Operating Instructions:

1. Only one group can be set as P25 Trunking talk group, and it is set as Announcement Talk Group (ATG) by default.
2. Select "Talk Group Scan" to listen to multiple groups simultaneously. Set the Priority Talk Group Scan List and Non-Priority Talk Group Scan List after selection. Please pay attention that the P25 Trunking talk group will definitely be the top of the Priority Talk Group Scan List.
3. Priority Talk Group ID Option setting is provided.
4. Click "Save" to save this channel knob setting.

- **Program the profile with modified parameter to the radio**

  Same as section B2.

B8 How to create the channel knob setting of Multi-Band Scan and program the radio device?

- **Connect the radio with the PC, read the parameter profile and start the setup.**

  Same operation flow as section B2.

- **Create the Conventional channel required by the Multi-Band Scan.**

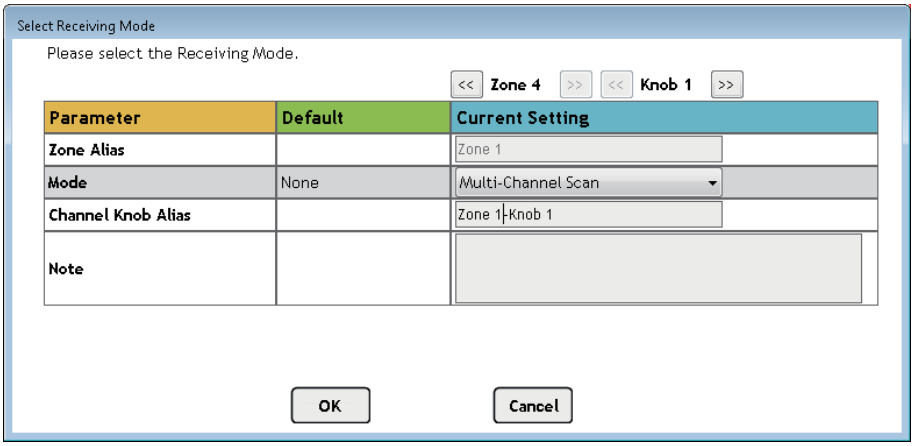
  According to the entire process of section (B2), create all the Conventional channels required for Multi-Channel Scan in the zone/ channel knob table.

- **Create the required zone and Multi-Channel Scan.**
- **Show the Zone/ Channel Knob Table**

  Same operation flow as section B2.

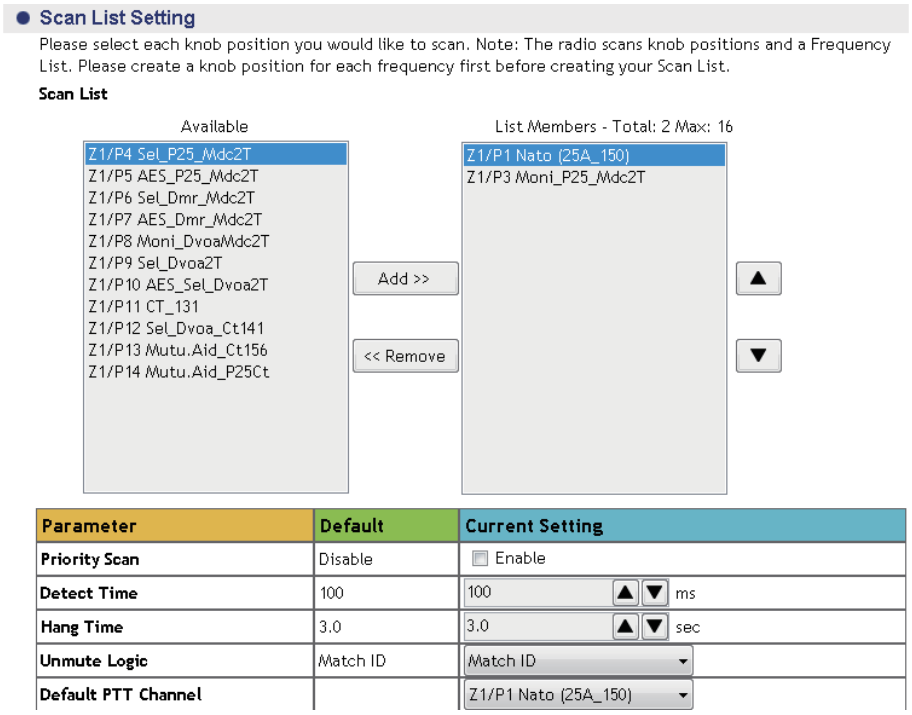
- **Create a Multi-Channel Scan in a zone or one a channel knob position**

  In the zone/ channel knob table, double click the knob position (1-16) to set the Multi-Channel Scan for this knob.



B8 How to create the channel knob setting of Multi-Band Scan and program the radio device?

The user can select the receiving mode as Multi-Channel Scan and set the alias of this channel, which will be displayed on the radio. Click "OK" , the parameters of the mode will appear:



- **Program the profile with modified parameter to the radio**

  Same as section B2.

B9 How to create the channel knob setting of Full Band Scan and program the radio device?

- **Connect the radio with the PC and read the profile then start to set the radio.**

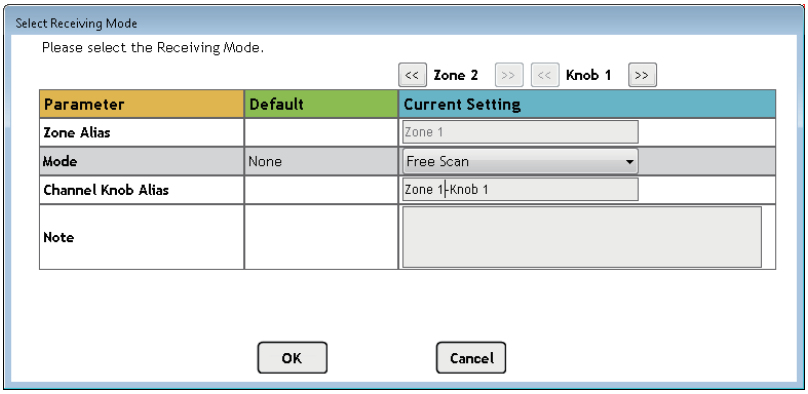
  Same operation flow as section B2.

- **Create the Zone and Free Scan Zone required by the User Group .**
- **Show the Zone/ Knob Setting Table.**

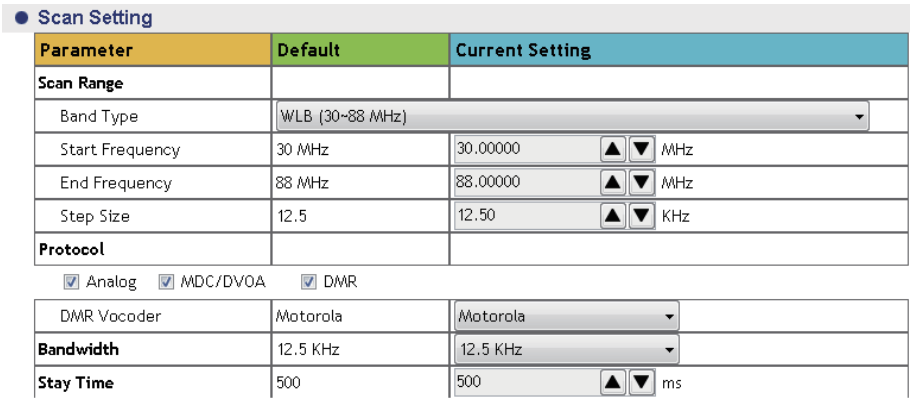
  Same operation flow as section B2.

- **Create a Free Scan Knob on one of the Zone/ Knob position .**

  Double click one of columns in the Knob Position 1-16, and set the Free Scan for the selected Knob in Zone/ Knob Setting Table.



Users can set the communication mode as Free Scan, and set the Alias of Zone (the alias will show on the radio.) Click Confirm "When selecting the Free Scan Mode, it will show the parameter of this mode below. The parameter content is as following:



Operating Instructions:

1. **Scan Range is the setting for the user to set the beginning frequency, end frequency, and the bandwidth.**
2. **Protocol setting allows users to set the Free Scan mode. In addition to receive the analog voice during the scanning, it is also able to scan calls of a certain communication protocol at the same time.**
3. **Stay Time allows users to set the staying time when scanning a certain frequency. If there is no voice and message being scanned during scanning,then it will continue the scanning in the next frequency.**

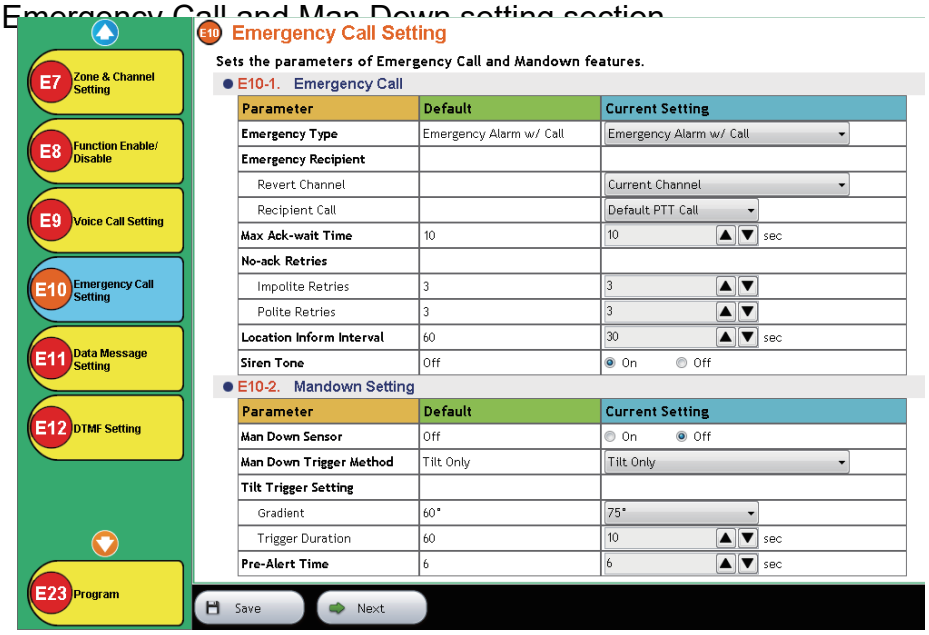
- **Program the profile with modified parameter to the radio**

  Same as section B2.

B10 How to set up the parameter of Mandown Alert by PPS?

- **Start setting the profile, and enter the sector of Man Down Setting.**

  Click E10"Emergency Call Setting" and select the label "Emergency Call"to show the Emergency Call and Man Down setting section.



Operating Instructions:

1. Man Down Sensor: Enable/Disable Man Down Alert function.

2. Trigger mode of user falling to the ground: the following modes are provided

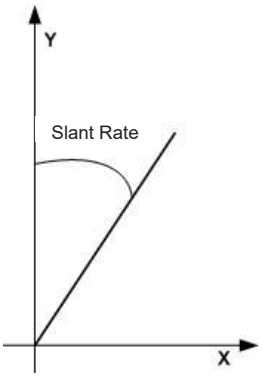
a. Slant b. Motionless c. Slant or Motionless d. Drop

e. Slant after drop f. motionless after drop g. slant and motionless after drop

3. Tilt trigger setting

Tilt Trigger Setting		
Gradient	60°	75°
Trigger Duration	60	10 sec

Slant rate :The tilt angle to meet the condition of Man Down, see the picture right :



Tilt Trigger Duration: When the Man Down condition is reached, the alert will be sent out.

4. Motionless Alert Settting

Motionless Duration: When the motionless time condition is reached, the alert will be sent out.

5. Drop Alert Setting

Drop Duration: Will Alarm as long as it keeps falling

No Movement Trigger Setting		
Trigger Duration	60	60 sec

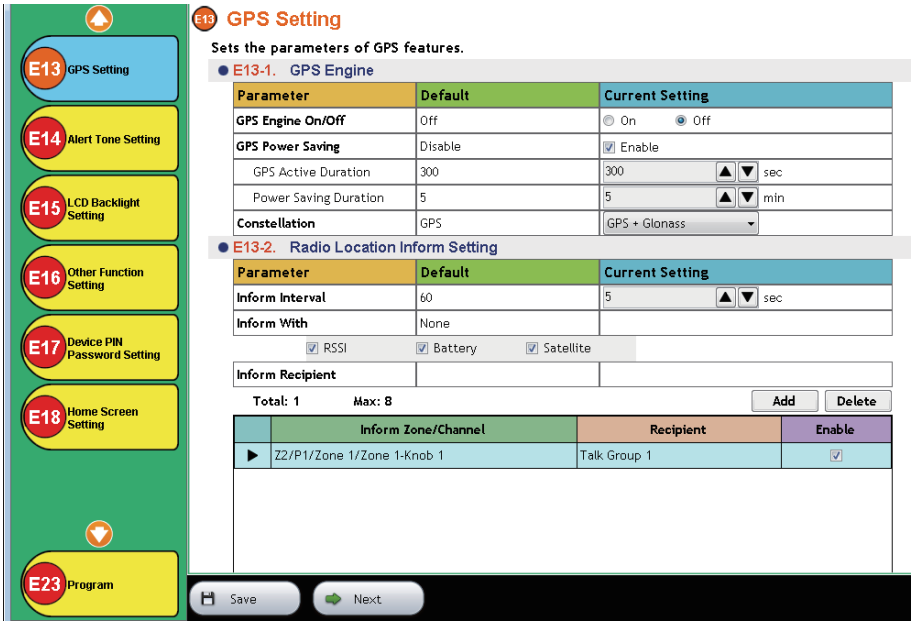
6. Pre-Alert Time: In order to prevent the Man Down alert from being triggered by mistake, the user can manually turn off the Man Down alert during the pre-alert time countdown.

Fall Down Trigger Setting		
Trigger Duration	450	450 ms

B11 How to set up the parameter of the GPS related function (position report and indication) by PPS?

- **Start setting the profile, and enter the sector of GPS relevant function parameter setting**

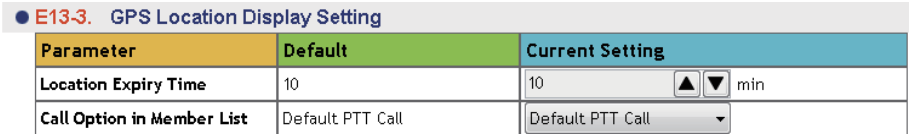
Start setting the profile, and enter the sector of the Radio Location Inform Setting.



Operating Instructions:

1. **Interval of sending GPS location : Set the time interval for automatically sending the location**
2. **Recipient: Set the recipient to receive the location report. The user can set up to 10 groups of recipients, and each recipient can specify: Zone/Channel. In addition, the recipient category can be group or individual. The recipient alias can be on or off by default.**

- **For U4/U5/M2, "Location Display Setting" function is also provided**



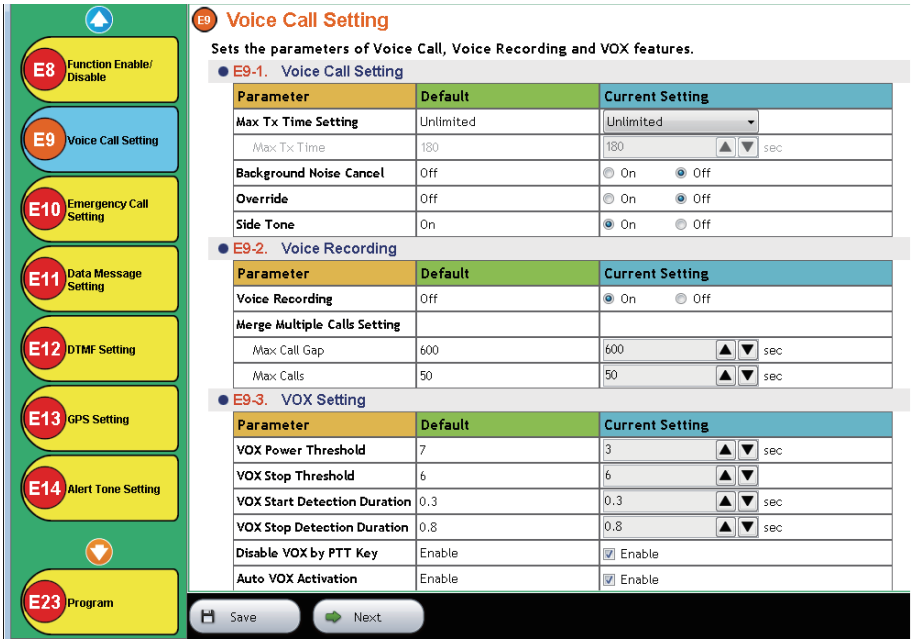
Operating Instructions:

1. **Location expiration time: the expiration time of the location data,location data will be displayed as gray dots on the map if location data is saved too long .**
2. **Select the Call option in the personnel list: select a radio user in the personnel list and press PTT to send the message. You can set the receiver as the selected radio user or set it as the default PTT call**

B12 How to set up the parameter of voice control transmission by PPS?

- **Start setting the profile, and enter the sector of VOX Setting.**

  Click E9 "Voice Call & Emergency Setting" and select the tag of "Voice Call" to show the setting screen of Voice Call.



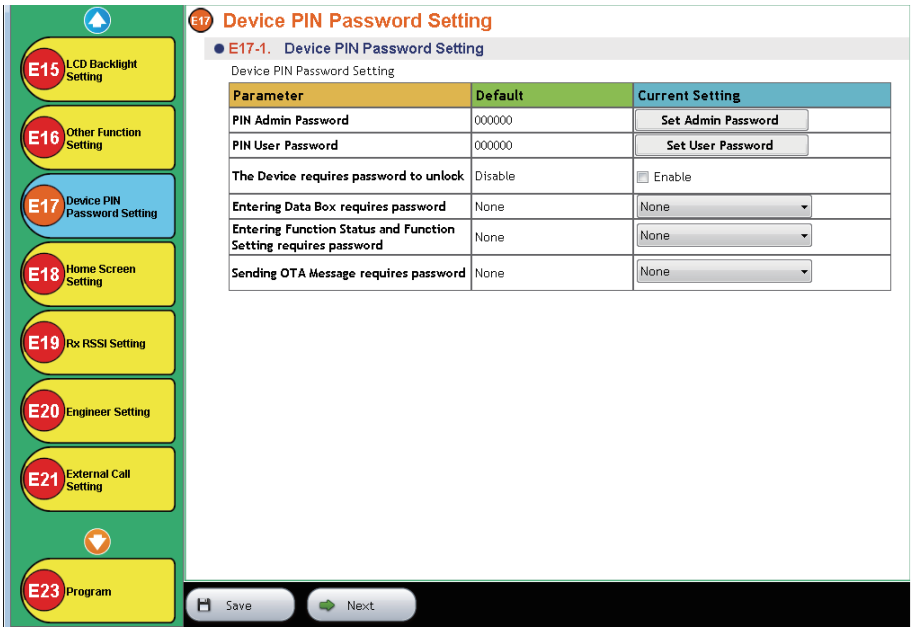
Operating Instructions:

1. **PPS users can set the energy level and detection time used to start and end the voice call setting function**
2. **PPS users can set whether voice control sending function will be turned off or not when PTT button is pressed**
3. **PPS user can set whether the voice control function is automatically enabled when the radio set is connected to the external microphone**

B13 How to set up the turn on/ unlock radio password by PPS?

- **Star setting the profile and enter the sector of Device PIN Password Setting.**

  Click E17 "Password Setting", and "Device PIN Password Setting" to set the radio's PIN/ unlock password.



Operating Instructions:

1.Users can set whether they need the password when they turn on the radio or unlock the radio.

2.Users can set up a password for admin (Admin Password) and a password for regular users (User Password).

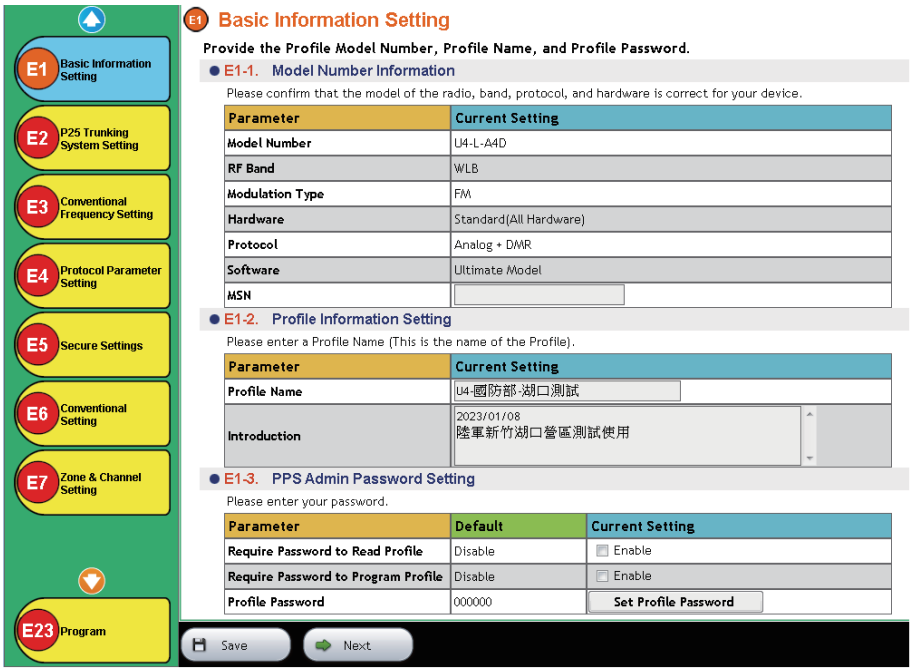
3.User Password can be modified on the radio; Admin Password can only be modified via PPS. i.e. All the Admin Password can be managed by PPS user. When the radio carriers forget the User Password which is modified, they can still unlock the radio by Admin Password.

4.Default Admin Password and User Password are 000000.

B14 How to set up the radio programming password by PPS?

- **Start setting the profile and enter the sector of PPS Admin Password Setting.**

Click E1 "Password Setting", and "PPS Admin Password Setting" to set the radio's PPS Admin Password.



1.Users can decide whether it requires password before read profile from radio and before programming the radio.

2.Users can set up one PPS Admin Password.

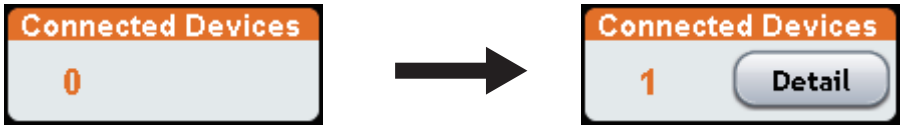
3.Default PPS Admin Password is 000000.

B15 How to set up the parameter of BR02 repeater station and program it?

- **After the PPS activated, connect the radio with the PC**

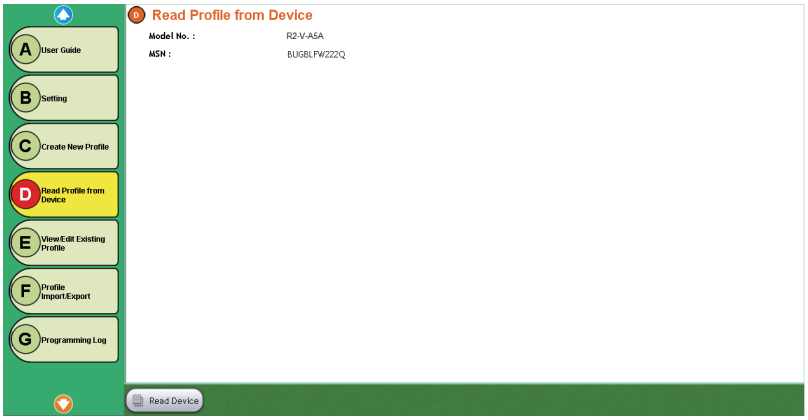
  Connect Br02 with computer by the USB cable, which is on the BR02 .

  The connected device will switch from 0 to 1 in the PPS if the connection succeeded.



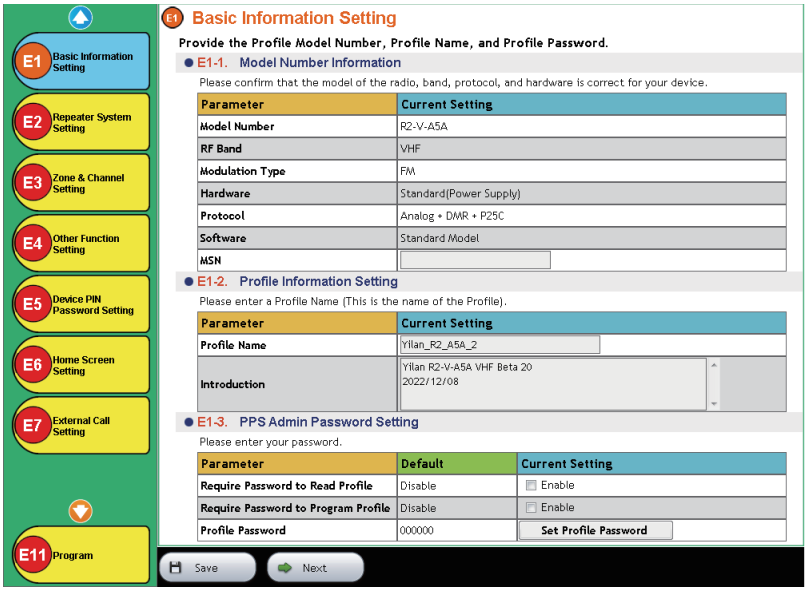
- **Read the parameters of the BR02 repeater by the Read Profile from Device function and start editing the parameters.**
- **The screen of BR02 that can be read will be shown.**

  Click "C. Read Profile", and then select "C1. Read Profile from Device", the model number and serial number of the connected device will be displayed.



- **Read the BR02 repeater parameter file**

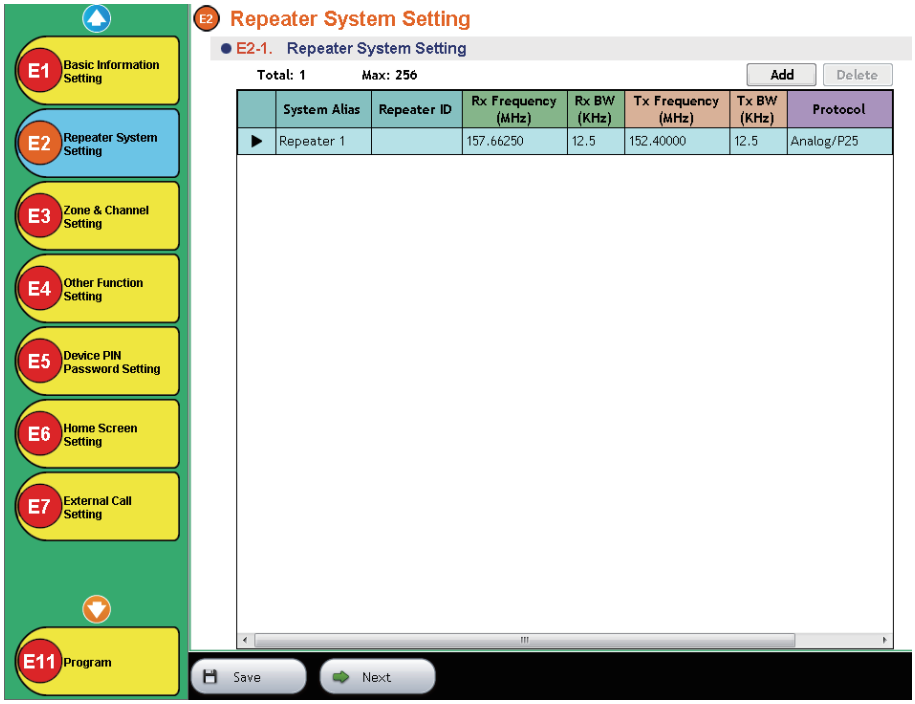
  Click "Read Radio" to start reading the parameter file in two way radio. After the reading is successful, the setting screen of the first step in the parameter file will be displayed automatically.



B15 How to set up the parameter of BR02 repeater station and program it?

- **Establish BR02 repeater system reference data required by radio users' group .**
- **Set BR02 repeater 's receving /sending frequency bandwidth .**

Click D2 "Repeater Settings" step to set the repeater system required by the user. BR02 repeater can support setting multiple sets of settings to meet the needs of different channel knobs.



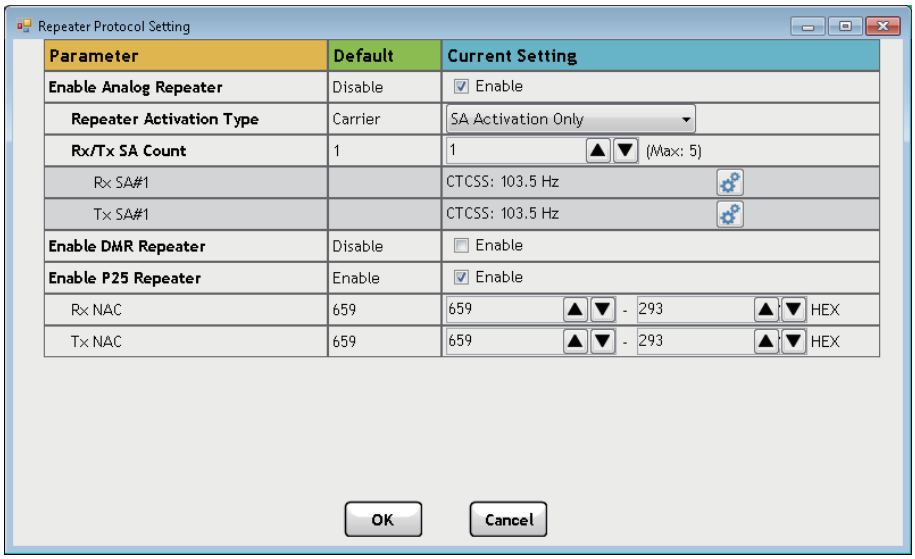
Operating instructions:

1. **The user needs to set the receiving/transmitting frequency bandwidth of BR02. It should be noted that the value set here should be the opposite of terninal radios used in the some task . in other words, the receiving frequency bandwidth of BR02 shall be the same as that of radio set, and the transmitting frequency bandwidth of BR02 terninal radios used in the some task .**
2. **The receiving frequency of BR02 cannot be the same as the sending frequency.**

B15 How to set up the parameter of BR02 repeater station and program it?

- **Set the communication protocol of BR02 repeater**

Click the "Protocol" storage cell to display the setting screen.



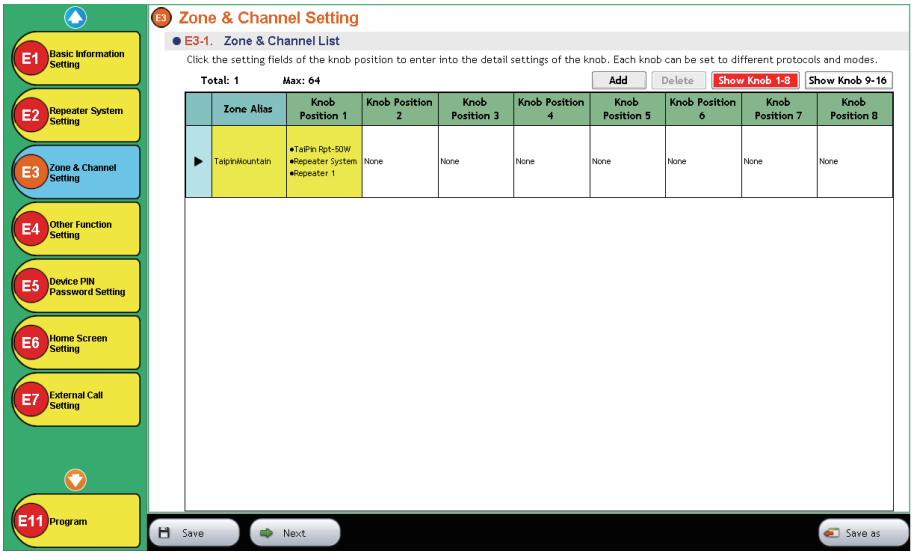
Operating instructions:

1. Users can enable three repeater modes: analog repeat , P25 repeat and DMR repeat.
2. For analog repeat, need to set the repeat start category (read parameter description for details) and receive/send sub-tone.
3. For P25 repeat,need to set the receiving/transmitting network access code
4. For DMR trunk, need to set the receiving/transmitting color code
5. It should be noted that the analog receiving sub-tone, P25 receiving network access code or DMR receiving color code used by BR02 should be the same as ternimal radio.

B15 How to set up the parameter of BR02 repeater station and program it?

- **Create BR02 repeater Zone and channel**
- **Show the Zone/ Knob Setting Table.**

Click the D3"Channel Set&Channel Settings" step to display the list of channel sets.



Operation Instructions:

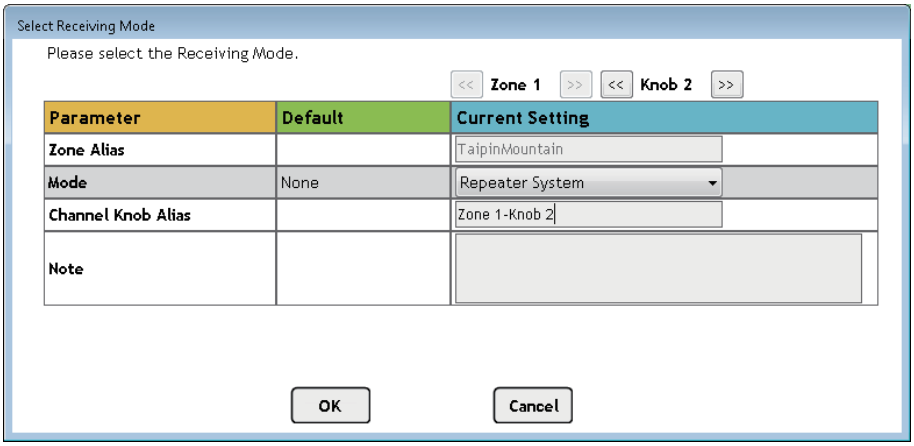
1.Maximum of 64 zones can be set in the PPS. Click "Add" to add a zone. Set the alias of the zone (the alias will be indicated in the radio), and double click "Knob Position" 1-16 to set the knob.

2.Click "Delete" to remove a zone.

3.Click "Save" to save the parameters after the setting finished, and click "Next" to move to the next parameter setting.

- **Set a repeater zone on a zone /channel knob position.**

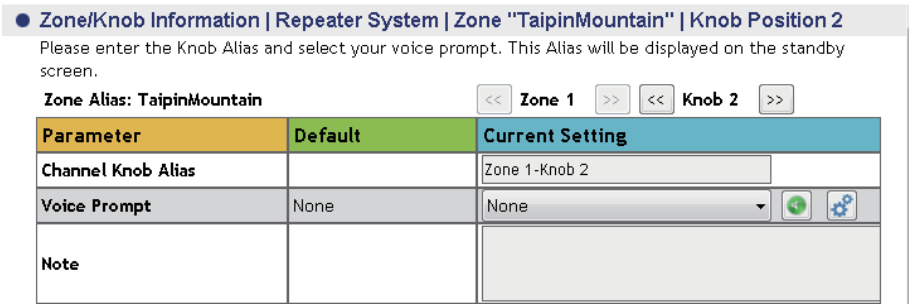
In the two-dimensional form of Zone /knob, click the knob position 1~16 cell of a certain channel set twice to set the repeater channel for this knob



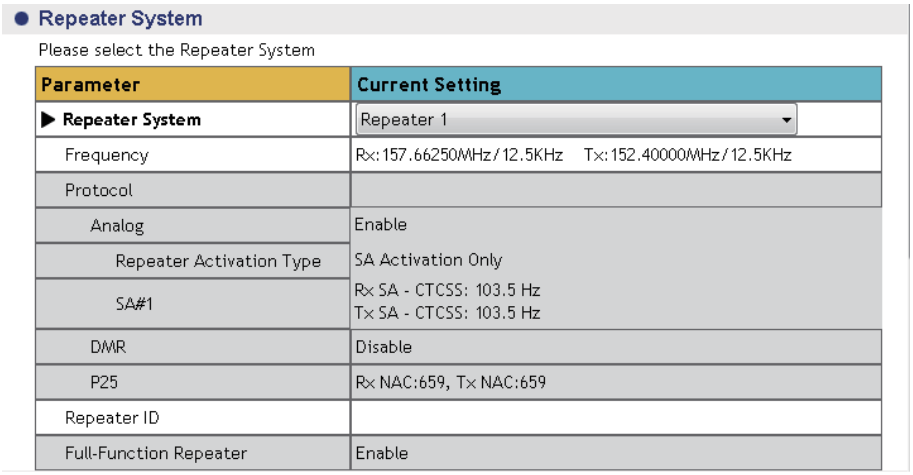
The user can select the communication mode as the repeater system, and set the alias of the repeater channel, and the channel alias will be displayed on the BR02 repeater. Click "OK", and the parameters of this mode will appear. The parameters are divided into the following parts:

B15 How to set up the parameter of BR02 repeater station and program it?

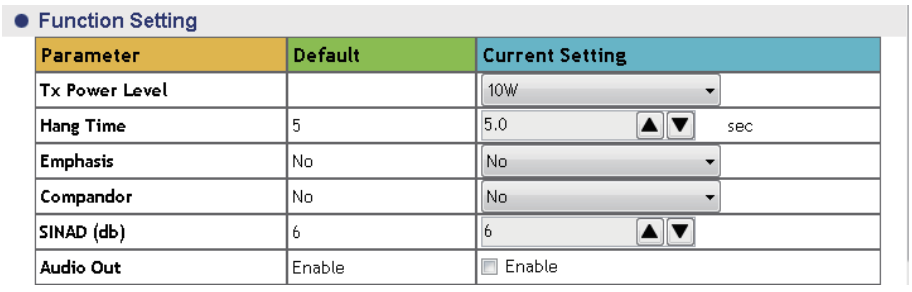
Part 1: channel Zone set knob information, the user can modify the channel alias and set the voice tip of this channel, and can also add notes to this channel.



Part 2: Repteater system setting. The user can choose a repeater system that has been set before. The parameters of this repeater system will be displayed here



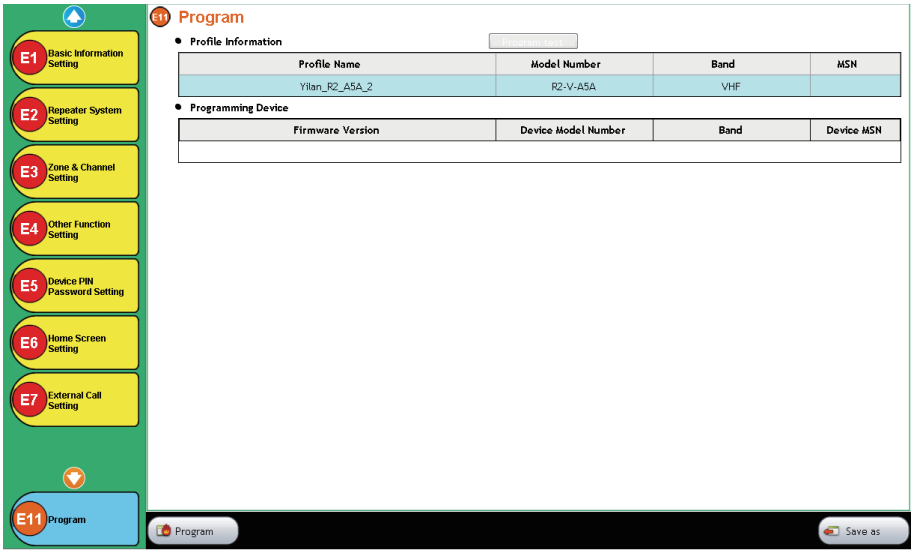
Part 3: Channel Function Settings



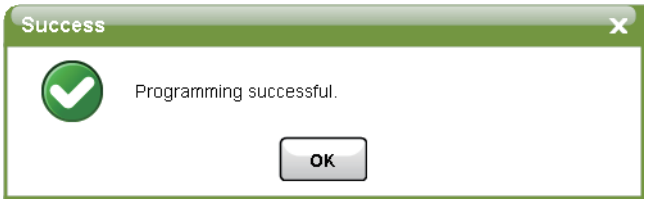
B15 How to set up the parameter of BR02 repeater station and program it?

- **Progam the modified parameter file into the BR02 repeater**

After all the channels of each repeater are set, click "program" in the screen to enter the programming code screen.



Click "Progam" to start programming code, wait for the programming code to complete, the BR02 repeater will restart and load the new parameter file.



PART C. FAQ

C1 The PPS software cannot connect to two way radio

1. Please confirm the battery power of two way radio is over 50%
2. Please confirm that the USB cable has connected with the 11 PIN on the side of two way radio, and the knob has been tightened.
3. Please confirm that the USB interface of the computer can be used normally.
4. Please confirm that the USB driver is installed correctly. If you suspect that the installation of the USB driver has failed, you can get an independent USB driver installation program from the salesperson of Unication and install it manually.

Unication