KENWOOD

Field Programming Reference (FPRG)

For

TKR-750/850 Version2
TKR-751/851

Version:	*1.01*
Last Updated:	*Sep, 2005*
Language:	*English*
Type:	*K*

About Copyright

Revision history

Date	Description
Sep. 2005	K-USA R&D modify

CONTENTS

1 SETTING UP THE KPG-91D

It is possible to configure various functions of the TKR-750/850/751/851 by KPG-91D and write the configuration data into the TKR-750/850/751/851 via the PC installed KPG-91D. It also can edit and print out the configuration data via KPG-91D.

1.1 System Requirement

You must prepare the following devices and operating systems to install the KPG-91D.

PC

IBM PC or compatible with Windows ® operating system

Hard Disc

10 MB or more free hard disc spaces

Memory

32 MB or more free memory

CD-ROM Drive

A CD-ROM drive that can be accessed directly or via Network.

Monitor

A monitor having the resolution of 800 x 600 pixels and 256 or more colors.

Operating Systems (OS)

Microsoft Windows 98

Microsoft Windows Me

Microsoft Windows 2000

Microsoft Windows XP

Communication port

The PC must have at least one asynchronous serial communication port to communicate with the TKR-750/850/751/851. You can select the communication port from COM1 - COM20 ports.

Connection cable

It has to connect the TKR-750/850/751/851 to the PC using KPG-46 programming cable. The DB-9 pin female to DB-25 pin male gender changer may be required depending on the COM port of your PC.

Note: KPG-91D may not work properly due to the insufficient resource when running it with other software.

1.2 Connecting to the PC

Follow the procedures below to connect the PC to the TKR-750/850/751/851.

1. Turn the PC OFF.
2. Connect the 25-pin connector of the KPG-46 cable to one of the COM1 - 20 ports on the PC.

   Use the DB-9 pin female to DB-25 pin male gender changer when your PC has only 9-pin COM port.
3. Turn the PC ON.
4. Turn the TKR-750/850/751/851 OFF.
5. Connect the modular connector of the KPG-46 programming cable to the female modular connector of the repeater.
6. Turn the TKR-750/850/751/851 ON.

1.3 Installing KPG-91D

Follow the procedures below to install the KPG-91D to the PC.

Note: The user must have the administrative privilege in order to install the KPG-91D with Windows 2000/XP.

1. Stop running all programs on the PC (including the virus-checking program).
2. Insert the KPG-91D CD-ROM into the CD drive.

3. You can install the KPG-91D with one of the following methods.

- Double-click the CD-ROM drive icon > “setup.exe”.
- Select “RUN” > “setup.exe” in the CD-ROM drive.
- Click “Control Panel” > “Application addition/ removal” > “Install”. (Click “Add Programs” when using Windows 2000/XP.)

The setup program displays the instructions during installation. Follow the instructions on the screen to install the software.

1.4 Uninstalling KPG-91D

Follow the procedures below to uninstall KPG-91D from the PC.

Note:

- You must exit the KPG-91D before uninstalling it.
- You must have the administrative privilege in order to uninstall the KPG-91D from the PC (Windows 2000/XP).
- To update the software, uninstall the old version before installing the newer version.

1. Execute the “Application addition/ removal” command in the control panel.

2. Select the “KPG-91D” from the program list.

3. Click “Application addition/ removal”. (Click “Change/ Delete Programs” when using Windows 2000/XP.)

2 BASIC OPERATION

This section describes basic operations of the KPG-91D.

Note:

- The TKR-750/850 automatically enters PC mode when reading or writing the programming data. (Refer to FUNC 1.5 Mode.)
- We recommend you storing the data configured by the KPG-91D to the hard disc or the external storage device. (Refer to 4 FILE MENU.)

2.1 Starting and Exiting

Select “Start” > “All programs” > “KENWOOD FPU” > “KPG-91D” in order to start the KPG-91D.

Note: You can start the KPG-91D by opening the folder in which you installed the KPG-91D and double-clicking the “kpg91d.exe” file.

The Main window of the KPG-91D appears.

The splash logo appears in the center of the screen for a while and it automatically disappears. You can also make the logo disappear by pressing any key on the keyboard or clicking a mouse button.

Select “File” > “Exit” to exit the KPG-91D.

2.2 Initializing the window

Select the model type to configure. (Refer to 5 MODEL MENU.)

Model name, model type, frequency bandwidth, and data file name appear on the title bar located on the top of the window.

2.3 Write the Configuration Data

Follow the procedures below to edit and write the configuration data.

1. Enter all the necessary data.

   Select the item that you want to configure in the “Edit” menu and enter data in the window. (Refer to 6 EDIT MENU.)

2. Write the updated data to the repeater.

   Select “Program” > “Write Data to Repeater”. (Refer to 7 PROGRAM MENU.)

2.4 Modify the Configuration Data

Follow the procedures below to edit and write the configuration data.

1. Read the configuration data from the TKR-750/850.

   Select “Program” > “Read Data from Repeater”. (Refer to 7 PROGRAM MENU.)

2. Edit the data on the computer.

   Select the item that you want to edit in the “Edit” menu and enter data in the window. (Refer to 6 EDIT MENU.)

3. Write the updated data to the TKR-750/850.

   Select “Program” > “Write Data to Repeater”. (Refer to 7 PROGRAM MENU.)

2.5 Edit the stored Data and Write

Follow the procedures below to edit and write the configuration data.

1. Open the configuration data stored in the hard disk drive or other storage devices.

   Select “File” > “Open”. (Refer to 4 FILE MENU.)

2. Edit the file data on the computer.

   Select the item that you want to edit in the “Edit” menu and enter data in the window. (Refer to 6 EDIT MENU.)

3. Write the updated data to the TKR-750/850.

   Select “Program” > “Write Data to Repeater”. (Refer to 7 PROGRAM MENU.)

2.6 Display Help

Click “Help” located on each window to open the “KPG-91D HTML Help” window. (Refer to 12 HELP MENU.)

3.1 Main Window

The title bar, menu bar, and toolbar appear on the top of this window. The status bar appears in the lower part of this window.

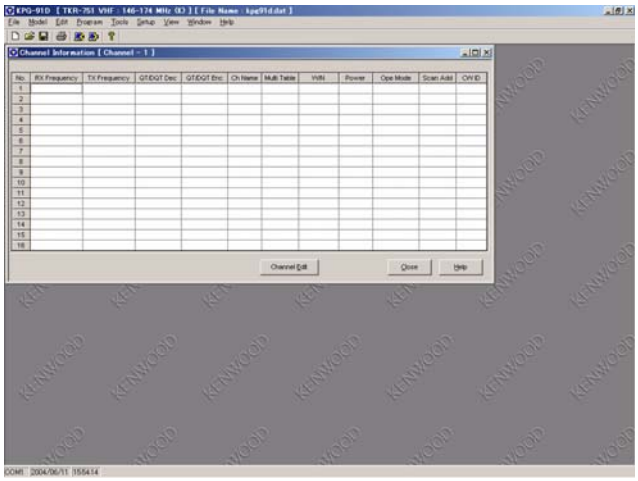

Figure 3-1 Main Window

3.1.1 Title Bar

The title bar of the KPG-91D software shows the model name, the frequency range, and the file name of the configuration data. (Refer to 5 MODEL MENU.)

Figure 3-2 Title Bar

3.1.2 Menu Bar

The Menu bar allows you to configure the functions of the TKR-750/850. Click the menu title to open the pull-down list. The menu commands stored in the menu appears. (Refer to 3.2 Menu Command Description.)

When the "Window" menu appears:

Figure 3-3 Menu bar 1

When the "Window" menu is not shown:

Figure 3-4 Menu bar 2

Note: The "Window" menu appears on the menu bar only when the function is selected in the "Edit" menu and the window of the function is displayed.

3.1.3 Toolbar

Frequently used icons are shown on the Toolbar.

Click the icon to execute the function.

Figure 3-5 Toolbar

Note:

- You can display or hide the Toolbar by selecting "View" > "Toolbar". (Refer to 10.2 Toolbar.)
- You can drag-and-drop the Toolbar to any desired position.

Table 3-1 Descriptions of the Buttons on the Toolbar

Button	Function
New	This icon is for the "New" function in the "File" menu. This function allows you to clear the current configuration data and create the new configuration data. (Refer to 4.1 New.)
Open	This icon is for the "Open" function in the "File" menu. This function allows you to open the configuration data stored in the hard disk or other external storage devices. (Refer to 4.2 Open.)
Save	This icon is for the "Save" function in the "File" menu. This function allows you to save the current configuration data to the hard disk or other external storage devices. (Refer to 4.3 Save.)
Print	This icon is for the "Print" function in the "File" menu. This function allows you to print out the configuration data. (Refer to 4.5 Print.)
Read	This icon is for the "Read Data from Repeater" function in the "Program" menu. This function allows you to read the configuration data from the TKR-750/850. (Refer to 7.1 Read Data from Repeater.)
Write	This icon is for the "Write Data to Repeater" function in the "Program" menu. This function allows you to write the configuration data to the TKR-751/851. (Refer to 7.2 Write Data to Repeater.)
About KPG-91D	This icon is for the "About KPG-91D" function in the "Help" menu. (Refer to 12.2 About KPG-91D Window.)

3.1.4 Status Bar

The Status bar shows a serial communication port used to perform a data communication between the KPG-91D and the TKR-750/850, and the current time and date.

Figure 3-6 Status Bar

Note: You can display or hide the Status bar by selecting “View” > “Status Bar”. (Refer to 10.3 Status Bar.)

3.2 Menu Command Description

Following are the descriptions of the Menu Commands.

3.2.1 “File” Menu

Figure 3-7 “File” Menu

Table 3-2 Function List of the “File” Menu

Function	Description
New	This function allows you to clear the current configuration data and create the new configuration data. (Refer to 4.1 New.)
Open	This function allows you to open the configuration data stored in the hard disk drive or other external storage devices. (Refer to 4.2 Open.)
Save	This function allows you to save the current configuration data to the hard disk or other external storage devices. (Refer to 4.3 Save.)
Save As	This function allows you to name the current configuration data and save it to the hard disk or other external storage devices.
Print	This function allows you to print out the configuration data. (Refer to 4.5 Print.)
Print Preview	This function allows you to view the print image of the configuration data. (Refer to 4.6 Print Preview.)
Exit	This function allows you to exit the KPG-91D. (Refer to 4.7 Exit.)

3.2.2 “Model” Menu

Figure 3-8 “Model” Menu

Table 3-3 Function List of the “Model” Menu

Function	Description
Model Information	This function allows you to select a model type of the TKR-750/850 and the frequency bandwidth. (Refer to 5.1 Model Information.)

3.2.3 “Edit” Menu

The functions to be displayed vary depending on the configuration in “Model Information” > “Control Standard”. (Refer to 5.1 Model Information.)

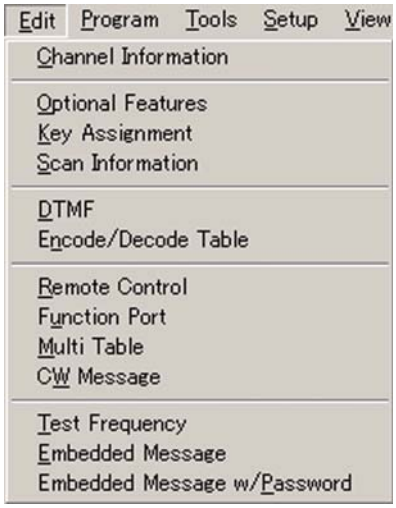

Figure 3-9 “Edit” Menu

Table 3-4 Function List of the “Edit” Menu

Function	Description
Channel Information (Channel Edit)	You can configure the channel data. (Refer to 6.1 Channel Information.)
Optional Features	This function allows you to configure various functions to the TKR-750/850. (Refer to 6.4 Optional Features Window.)
Key Assignment	This function allows you to assign functions to the PF keys. (Refer to 6.5 Key Assignment Window.)
Scan Information	This command allows you to configure the Scan function parameters. (Refer to 6.6 Scan Information Window.)
DTMF	This function allows you to configure the DTMF (Dual Tone Multi Frequency) function parameters. (Refer to 6.7 DTMF Window.)
Encode/Decode Table (DTMF)	This function allows you to configure the DTMF Encode/Decode function parameters. (Refer to 6.8 “Encode/Decode Table” Window.)
Remote Control	This function allows you to configure the Air Remote function parameters. (Refer to 6.9 Remote Control Window.)
Function Port	This function allows you to configure the PF keys and the Auxiliary ports parameters. (Refer to 6.10 Function Port Window.)
Multi-table	This function allows you to configure the Encode/Decode function parameters. (Refer to 6.11 Multi-table Window.)
CW Message	This command allows you to configure the data relating to the CW Message. (Refer to 6.12 CW Message Window.)
Test Frequency	This function allows you to configure the Test Frequency used in Test Mode. (Refer to 6.13 Test Frequency Window.)
Embedded Message	This function allows you to configure the characters to be stored in the TKR-750/850. (Refer to 6.14 Embedded Message Window.)
Embedded Message w/ Password	This function allows you to configure the characters to be stored in the TKR-750/850 and the password to protect the stored characters. (Refer to 6.15 Embedded Message w/Password Window.)

3.2.4 “Program” Menu

Figure 3-10 “Program” Menu

Table 3-5 Function List of the “Program” menu

Function	Description
Read Data from Repeater	This function allows you to read the configuration data from the TKR-750/850. (Refer to 7.1 Read Data from Repeater.)
Write Data to Repeater	This function allows you to write the configuration data to the TKR-750/850. (Refer to 7.2 Write Data to Repeater.)
Test Mode	This function allows you to test or adjust the TKR-750/850. (Refer to 7.3 Test Mode Window.)

3.2.5 “Tools” Menu

Figure 3-11 “Tools” Menu

Table 3-6 Function List of the “Program” Menu

Function	Description
Radio Information	This function allows you to read the Radio information from the TKR-750/850. (Refer to 8.1 Radio Information Window.)

3.2.6 “Setup” Menu

Figure 3-12 “Setup” Menu

Table 3-7 Function List of the “Setup” Menu

Function	Description
Communication Port	You can assign a serial communication port used to make the data communication between the KPG-91D and the TKR-750/850 via the serial communication port of the PC. (Refer to 9.1 Communication Port Window.)
Language File Setup	You can select the language used in the KPG-91D. (Refer to 9.2 Language File Setup Window.)

3.2.7 “View” Menu

Figure 3-13 “View” Menu

Table 3-8 Function List of the “View” Menu

Function	Description
Tree View	This function allows you to view the contents of the “Edit” menu in the list format. (Refer to 10.1 Tree View Window.)
Toolbar	This function allows you to display/hide the Toolbar. (Refer to 10.2 Toolbar.)
Status Bar	This function allows you to display/hide the Status bar. (Refer to 10.3 Status Bar.)

3.2.8 “Window” Menu

Figure 3-14 “Window” Menu

Table 3-9 Function List of the “Window” Menu

Function	Description
Cascade	This function allows you to rearrange the opened windows in an overlapped fashion (cascade format). (Refer to 11.1 Cascade.)
Horizontal Tile	This function allows you to rearrange the opened windows in the horizontal tiles fashion. (Refer to 11.2 Horizontal Tile.)
Vertical Tile	This function allows you to rearrange the opened windows in the vertical tiles fashion. (Refer to 11.3 Vertical Tile.)
Arrange Icons	This function allows you to rearrange the icons of the minimized windows. (Refer to 11.4 Arrange Icons.)
Close All Windows	This function allows you to close all the opened windows. (Refer to 11.5 Close All Windows.)
Opened Window List	This function allows you to list all opened windows. When clicking the title of the window, the selected window re-open on the screen. (Refer to 11.6 Opened Window List.)

3.2.9 “Help” Menu

Figure 3-15 “Help” Menu

Table 3-10 Function List of the “Help” Menu

Function	Description
Help Topics	This function allows you to search for the help topics. (Refer to 12.1 Help Topics Window.)
About KPG-91D	This function allows you to view the KPG-91D's information. (Refer to 12.2 About KPG-91D Window.)

3.3 Shortcut Keys

The following shortcut keys is assigned for each command of KPG-91D.

3.3.1 Menu Bar Operation

Table 3-11 Shortcut Keys used in the Menu Bar

Key Name	Function
[Alt] [F10]	You can select the Menu Bar. The “File” menu opens in the same way as the cursor is placed on the “File” in the menu bar.
[(ING1)] [(ING2)]	You can select the menu title using the [(ING1)] and [(ING2)] keys after selecting the menu bar with the [Alt] key.
[(ING3)] key [(ING4)] key	You can open the selected menu and select the function to be executed.
[Enter] key	• Press the [Enter] key while selecting the menu title to open the menu. • Press the [Enter] key while the menu is opened to execute the selected function.

3.3.2 “File” Menu Operation

Table 3-12 Shortcut Keys used in the “File” Menu

Key Name	Function
[Ctrl] + [n]	Perform “File” > “New”. (Refer to 4.1 New.)
[Ctrl] + [o]	Perform “File” > “Open”. (Refer to 4.2 Open.)
[Ctrl] + [s]	Perform “File” > “Save”. (Refer to 4.3 Save.)
[Ctrl] + [p]	Perform “File” > “Print”. (Refer to 4.5 Print.)

3.3.3 “Channel Information” Window

Table 3-13 Shortcut Keys used in the “Channel Information” Window

Key Name	Function
[Shift] + [F3]	Appear the “Channel Copy” window. You can also copy the configured channel data to the specified channel. (Refer to 6.1.13 Channel Copy ([Shift] + [F3]).)
[Shift] + [F4]	Appear the “Frequency Copy” window. You can copy the “Reception Frequency” data to the “Transmission Frequency” data. (Refer to 6.1.14 Frequency Copy ([Shift] + [F4]).)
[Shift] + [F5]	Appear the “QT/DQT Copy” window. You can copy the configuration data of the “QT/DQT Decode” to the “QT/DQT Encode” data. (Refer to 6.1.15 QT/DQT Copy ([Shift] + [F5]).)
[Shift] + [F9]	Insert a new channel into the specified channel.**1 (Refer to 6.1.16 Channel Insert ([Shift] + [F9]).)
[Shift] + [F10]	Delete the selected channel. (Refer to 6.1.17 Channel Delete ([Shift] + [F10]).)
[F11]	Appear the “Channel Edit” window. (Refer to 6.1.12 Channel Edit Button, 6.2 Channel Edit Window.)

3.3.4 “Program” Menu

Table 3-14 Shortcut Keys used in the “Program” Menu

Key Name	Function
[Ctrl] + [r]	Perform “Program” > “Read Data from Repeater”. (Refer to 7.1 Read Data from Repeater.)
[Ctrl] + [w]	Perform “Program” > “Write Data to Repeater”. (Refer to 7.2 Write Data to Repeater.)
[Ctrl] + [t]	Perform “Program” > “Test Mode”. (Refer to 7.3 Test Mode Window.)

3.3.5 Test Mode, Tuning Mode

Table 3-15 Test Mode, Tuning Mode Shortcut Keys

Key Name	Function
[Space]	Toggle between transmission and reception. (Refer to 7.3 Test Mode Window, 7.3.11 Tuning Mode.)

3.3.6 Help

Table 3-16 Shortcut Keys for the Help

Key Name	Function
[F1]	Appear the “KPG-91D HTML Help” window. The help topic operating when the [F1] key is pressed is shown.

3.3.7 Editing the Configuration Data

Table 3-17 Shortcut Keys used to Edit the Configuration Data

Key Name	Function
[Tab]	Jump to the other configuration item by pressing this key.
[Shift] + [Tab]	Go back to the previously selected configuration item by pressing these keys.
[Enter]	Confirm the entered value and jump to the next configuration item.
[(ING3)] [(ING4)]	Use these buttons as the spin buttons in the configuration items that the spin button operation is available. You can also use these buttons to select the value in the torpedoing list without displaying the list.

4.1 New

Select “File” > “New” to create a new data file. You can clear the current configuration data and create the new data file.

The default file name for a new file will be “kpg91d.dat”.

Follow the procedures below to create the new data file.

1. Select “File” > “New”.

   A caution message appears.

Figure 4-1 File New

2. You can select one of the following options.
   - Click “OK”.

     Clear the current configuration data and create a new data file.
   - Click “Cancel”.

     The current configuration data will not be cleared and a new configuration data will not be created, neither.

4.2 Open

This function is to open the configuration data file stored in the hard disk or other external storage devices (file extension:.dat).

Follow the procedures below to open the configuration data file.

1. Select “File” > “Open”.

   The “Open” window appears.

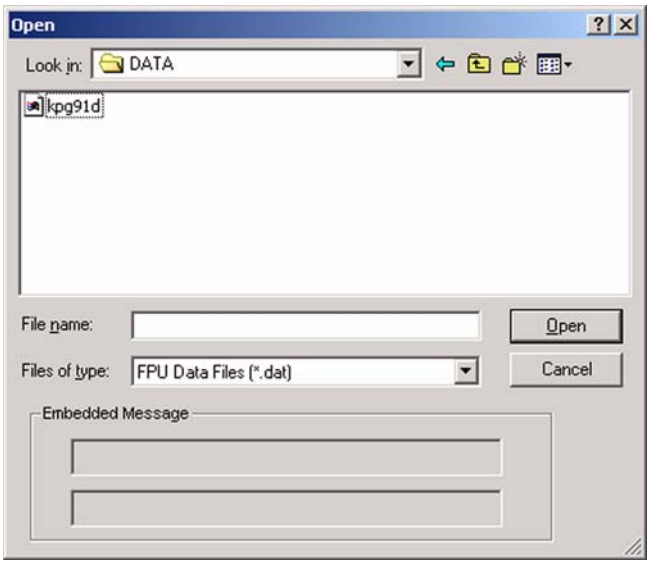

Figure 4-2 File_Open_1

   Select a file name to open.

   The embedded message appears if the selected file contains an embedded message.

2. Click “Open”.

   You can read the file selected at the previous step using the KPG-91D.

   The error message appears when the selected file contains data that is not supported by the KPG-91D.

Figure 4-3 File_Open_2

4.3 Save

This function is to store the current configuration data to the hard disk or other external storage devices.

Follow the procedures below to store the configuration data file.

1. Select “File” > “Save”.

   The configuration data is stored as a new file.

   The warning message appears if a file with the same name exists in the destination folder.

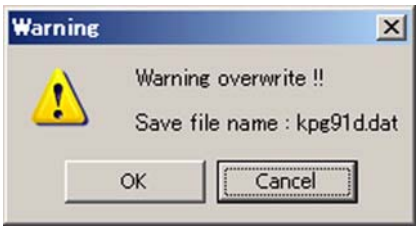

Figure 4-4 File Save

2. Select one of the following options.

- Click “OK”.

  You can store the new configuration data to the storage device.
- Click “Cancel”.

  Cancel storing the new configuration data to the storage device.

4.4 Save As

This function is to name the current configuration data and store it to the hard disk or other external storage devices.

Follow the procedures to store the configuration data file as a new file.

1. Select “File” > “Save As”.

The “Save As” window appears.

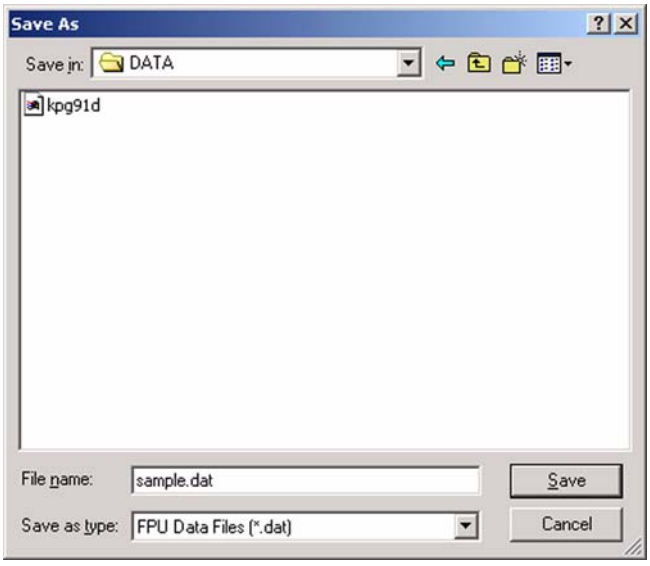

Figure 4-5 File Save As_1

2. Enter the file name and click “Save”.

You can store the configuration data with the file name entered in the “File Name”.

The warning message appears if a file with the same name exists in the destination folder.

Figure 4-6 File_Save As_2

3. Select one of the following options.

- Click “Yes”.

  Store the new configuration data to the storage device.
- Click “No”.

  The new configuration data will not be stored and returns to the “Save As” window.

4.5 Print

Print out the configuration data.

Follow the procedures to print the configuration data file.

1. Select “File” > “Print”.

The “Print Out List” window appears and you can see the KPG-91D configuration item. (Refer to 4.5.1 Print Out List.)

The functions to be displayed vary depending on the configuration in “Model Information” > “Control Standard”. (Refer to 5.1 Model Information.)

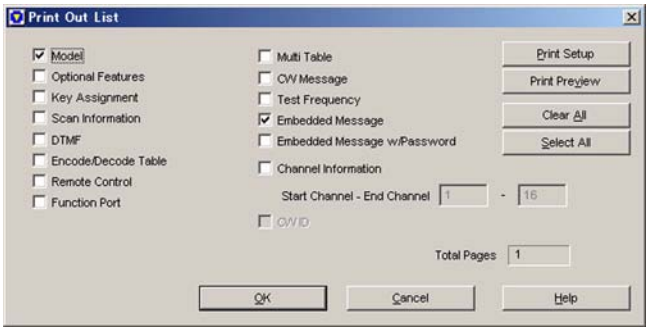

Figure 4-7 File_Print_1

2. Confirm the check box of the configuration data item that you want to print.

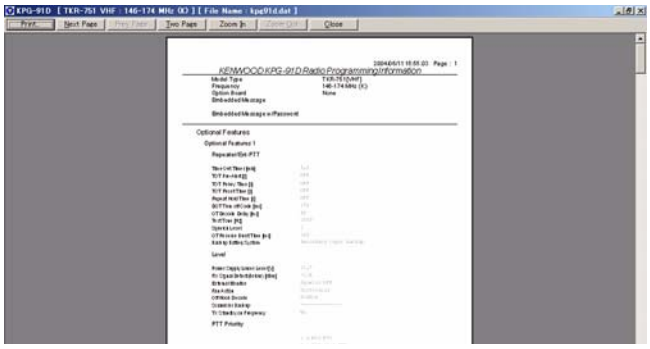

Figure 4-8 File_Print_3

Note: The “Model” check box and the “Embedded Message” check box are checked as default configuration.

3. Click “OK”.

   You can print out the “KENWOOD KPG-91D Radio Programming Information”. (Refer to 4.6 Print Preview.)

4.5.1 Print Out List

■ Model

The Configured “Model Information” is printed. (Refer to 5.1 Model Information.)

Range	Checked	The Model Information parameters will be printed out.
	Unchecked	The Model Information parameters will not be printed out.
Default	Checked	

■ Optional Features

The Configured “Optional Features” parameters are printed. (Refer to 6.4 Optional Features Window.)

Range	Checked	The “Optional Features” parameters will be printed out.
	Unchecked	The “Optional Features” parameters will not be printed out.
Default	Unchecked	

■ Key Assignment

The Configured “Key Assignment” parameters are printed. (Refer to 6.5 Key Assignment Window.)

Range	Checked	The “Key Assignment” parameters will be printed.
	Unchecked	The “Key Assignment” parameters will not be printed out.
Default	Unchecked	

■ Scan Information

The configured “Scan Information” parameters are printed. (Refer to 6.6 Scan Information Window.)

Range	Checked	The “Scan Information” parameters will be printed.
	Unchecked	The “Scan Information” parameters will not be printed out.
Default	Unchecked	

■ DTMF

The configured “DTMF” parameters are printed. (Refer to 6.7 DTMF Window.)

Range	Checked	The “DTMF” parameters will be printed out.
	Unchecked	The “DTMF” parameters will not be printed out.
Default	Unchecked	

■ Encode/Decode Table

The configured “Encode/Decode Table” parameters are printed. (Refer to 6.8 “Encode/Decode Table” Window.)

Range	Checked	The “Encode/Decode Table” parameters will be printed out.
	Unchecked	The “Encode/Decode Table” parameters will not be printed out.
Default	Unchecked	

■ Remote Control

The configured “Remote Control parameters are printed. (Refer to 6.9 Remote Control Window.)

Range	Checked	The “Remote Control” parameters will be printed out.
	Unchecked	The “Remote Control” parameters will not be printed out.
Default	Unchecked	

■ Function Port

The configured “Function Port” parameters are printed. (Refer to 6.10 Function Port Window.)

Range	Checked	The “Function Port” parameters will be printed out.
	Unchecked	The “Function Port” parameters will not be printed out.
Default	Unchecked	

■ Multi-table

The configure “Multi-table” parameters are printed. (Refer to 6.11 Multi-table Window.)

Range	Checked	The “Multi-table” parameters will be printed out.
	Unchecked	The “Multi-table” parameters will not be printed out.
Default	Unchecked	

■ CW Message

The configured “CW Message” parameters are printed. (Refer to 6.12 CW Message Window.)

Range	Checked	The “CW Message” parameters will be printed out.
	Unchecked	The “CW Message” parameters will not be printed out.
Default	Unchecked	

■ Test Frequency

The configured “Test Frequency” parameters are printed. (Refer to 6.13 Test Frequency Window.)

Range	Checked	The “Test Frequency” parameters will be printed out.
	Unchecked	The “Test Frequency” parameters will not be printed out.
Default	Unchecked	

■ Embedded Message

The configured “Embedded Message” parameters are printed. (Refer to 6.14 Embedded Message Window.)

Range	Checked	The “Embedded Message” parameters will be printed out.
	Unchecked	The “Embedded Message” parameters will not be printed out.
Default	Checked	

■ Embedded Message w/Password

The configured “Embedded Message w/Password” parameters are printed. (Refer to 6.15 Embedded Message w/Password Window.)

Range	Checked	The “Embedded Message w/ Password” parameters will be printed.
	Unchecked	The “Embedded Message w/ Password” parameter will not be printed out.
Default	Unchecked	

■ Channel Information

The configured “Channel Information” parameters are printed. (Refer to 6.1 Channel Information.)

Range	Checked	The “Channel Information” parameters will be printed out.
	Unchecked	The “Channel Information” parameters will not be printed out.
Default	Unchecked	

■ Start Channel - End Channel

It is possible to choice the start channel and end channel only when the “Channel Information” check box is checked.

You can select the channel to print from the channels 1 to 16.

Note: The value of the “Start Channel” must be lower than the “End Channel” value. The End Channel will be equal to the Start Channel if you enter the higher value in the Start Channel than the End Channel.

Range	Start Channel	End Channel
	1 - 16 (Channel)	1 - 16 (Channel)
Default	1	16

■ CW ID

It is possible to select the CW ID only when the “Channel Information” checkbox is checked.

You can configure the CW ID parameters to print. (Refer to 6.3 CW ID Window.)

Range	Checked	The CW ID parameters will be printed out.
	Unchecked	The CW ID parameters will not be printed out.
Default	Unchecked	

■ “Print Setup” Button

Click “Print Setup” to view the “Print Setup” window. You can configure the printer used to print out the configuration data, the paper size, and the paper rotation.

■ “Print Preview” Button

Click “Print Preview” to view the “Print Preview” window. (Refer to 4.6 Print Preview.)

■ “Clear All” Button

Click “Clear All” to uncheck all checkbox.

■ “Select All” Button

Click “Select All” to check all checkbox.

■ Total Pages

The total number of pages appears.

4.6 Print Preview

Review the print image after selecting items to be printed in the Print Out List.

Follow the procedures below to view the print image.

1. You can select one of the following operations.

- Select “File” > “Print Preview”.
- Click “Print Preview” in the “Print Out List” window. (Refer to 4.5.1 Print Out List.)

The “Print Preview” window appears.

It can switch the display and move to the other page by clicking the buttons on the toolbar located on the top of the window. (Refer to 4.6.1 Toolbar of the Print Preview.)

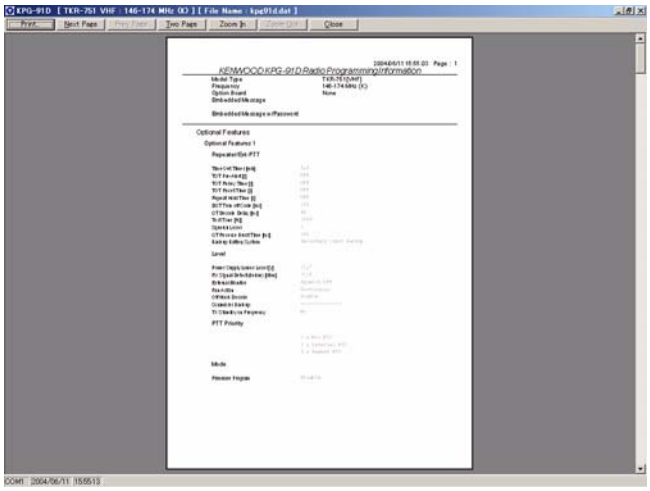

Figure 4-9 Print Preview

4.6.1 Toolbar of the Print Preview

Figure 4-10 Print Preview_Toolbar

■ “Print” button

Click “Print” to view the “Print Out List” window.

■ “Next Page”/”Prev Page” button

Click “Next Page” to view the next page of the current print image.

Click “Prev Page” to view the previous page of the current print image.

Note:

- ♦ You can click the “Next Page” only when there are more than one page(s).
- ♦ You can click the “Prev Page” only when there are preceding page(s).

■ “Two Page”/”One Page” Button

Click “Two Page” to display two pages at the same time. Click “One Page” when two pages are displayed in order to display only one page.

■ “Zoom In”/”Zoom Out” Button

Click “Zoom In” to enlarge the print image.

Click “Zoom Out” to zoom out the print image.

Note:

- ♦ You can click the “Zoom In” button only when the print image can be enlarged.
- ♦ You can click the “Zoom Out” button only when the print image can be zoomed out.
- ♦ You can enlarge the print image when the magnifying glass icon appears on the image. You can zoom out the print image when the cursor returns to normal.

■ “Close” Button

Click “Close” to close the “Print Preview” window and return to the main window or the “Print Out List” window.

4.7 Exit

This function is to exit the KPG-91D program.

Follow the procedures below to exit the KPG-91D.

1. Select “File” > “Exit”.

The confirmation dialog box appears to exit the KPG-91D.

Figure 4-11 File_Exit_1

2. Select one of the following options.

- Click “No”.

  Click “No” if you do not want to exit the KPG-91D.
- Click “Yes”.

  Immediately exit the KPG-91D program by pressing “Yes” when the configuration data has not been modified or already stored. The confirmation dialog box appears to ask you to store the configuration data if you have modified it.

Figure 4-12 File_Exit_2

3. Select one of the following options.

- Click “Cancel”.

  The exit is canceled.
- Click “No”.

  Exit the KPG-91D program without storing the configuration data to the storage device.
- Click “Yes”.

  The “Save As” window (refer to 4.4 Save As) appears and you can store the configuration data to a file. You can exit the KPG-91D program after storing the data.

5.1 Model Information

You can select the TKR-750/850/751/851 model type, market code, frequency, and the option board on the “Model Information” window.

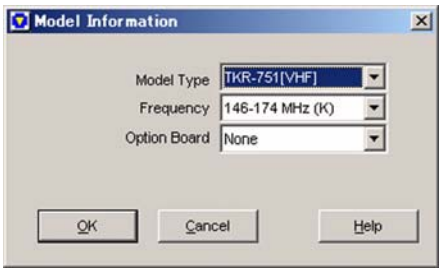

Figure 5-1 “Model Information” window

5.1.1 Model Type

Select the TKR-750/850/751/851 model type model type from dropdown list.

Range	TKR-750, TKR-850, TKR-751, TKR-851
Default	TKR-750

5.1.2 Frequency

Select the frequency bandwidth according to the model type from dropdown list.

Table 5-1 Transmission/Reception Frequency Range

Model	Market Code	Frequency Range [MHz]
TKR-750	K K2	146 - 174 136 - 150
TKR-850	K K2 K3	450 - 480 480 - 512 400 - 430
TKR-751	K	146 - 174
TKR-851	K K2	450 - 480 480 - 512

Note:

- A warning message appears when clicking “OK” after changing “Model Type” or “Frequency” (Figure 5-2). Click “OK” to delete all configured data and create a new data with the selected Model Type or the transmission/reception frequency. Click “Cancel” to return to the “Model Information” window without changing the model type and the transmission/reception frequency.

Figure 5-2 Model Information_Warning_1

- 406.0 MHz and 406.1MHz are assigned as the Emergency locator beacons in the United States. Therefore, the TKR-750/751/850/851 is not designed to use these frequencies.

5.1.3 Optional Board

Select the optional board installed in the TKR-750/850/751/851 from dropdown list. Select “None” if no Voice Scrambler board is installed.

Range	None	No optional board is installed.
	Voice Scrambler	The Voice Scrambler board is installed.
Default	None	

6.1 Channel Information

It can configure the channel data to transmit/receive on the “Channel Information” window. You can configure the data a maximum of 16 channels.

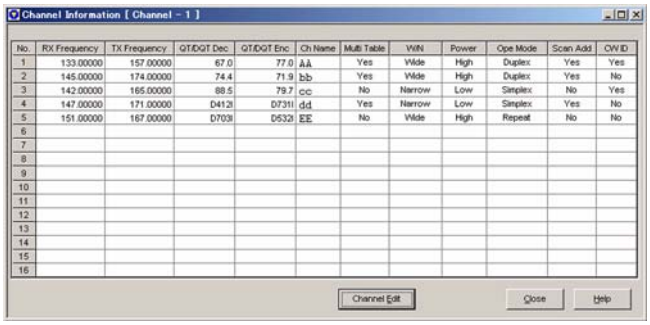

Figure 6-1 Channel Information window

6.1.1 Reception Frequency

It can configure the Reception Frequency in this window. You can directly enter the value in the edit box.

Range	TKR-750/751	100.00000 - 280.00000 MHz
	TKR-850/851	327.00000 - 550.00000 MHz (Common to all ranges)
Default	Blank	

Note:

- The frequency range varies depending on the model and the market code. (Refer to FUNC 1.2 Transmission/Reception Frequency.)
- You can use numbers, “.”, and “,” for the 9 digits of the frequency.
- You must enter the value within the range when configuring the frequency. When entering the frequency, which is out of the range, it will be automatically replaced with the highest value or the lowest value within the range configured in “Model Information” > “Frequency” window. (Refer to 5.1 Model Information.)
- You must configure the “Reception Frequency” first before configuring other functions. On the other hand, the other functions are reset when clearing the frequency configured in the “Reception Frequency” window.

6.1.2 Transmission Frequency

You can configure the Transmission Frequency in this window. You can directly enter the value in the edit box.

Range	TKR-750/751	100.00000 - 280.00000 MHz
	TKR-850/851	327.00000 - 550.00000 MHz (Common to all ranges)
Default	Blank	

Note:

- The frequency range varies depending on the model and the market code. (Refer to FUNC 1.2 Transmission/Reception Frequency.)
- You can use numbers, “.”, and “,” for the 9 digits of the frequency.
- You must enter the value within the range when configuring the frequency. When entering the frequency, which is out of the range, it will be automatically replaced with the highest value or the lowest value within the range configured in “Model Information” > “Frequency” window. (Refer to 5.1 Model Information.)

6.1.3 QT/DQT Decode

It can configure the signalling used to receive a call. You can select the QT tone or DQT code from the dropdown list. You can also directly enter the QT tone and the DQT code.

Note:

- When both of the QT Encode and the QT Reverse Burst functions are enabled, the repeater transmits the QT Reverse Burst tone at end of transmission.
- When the DQT Encode is selected, the TKR-750/850/751/851 transmits the DQT Turn-off Code.

- **Selecting the QT/DQT Decode Code from the Dropdown list:**

Range	QT	67.0 - 250.3 Hz
	DQT Normal	D023N - D754N
	DQT Inverse	D023I - D754I
Default	None	

- **Directly entering the QT/DQT Decode Code:**

Range	QT	67.0 - 254.1 Hz
	DQT Normal	D000N - D777N
	DQT Inverse	D000I - D777I
In steps of	QT	0.1 Hz
	DQT	1
Default	None	

Note:

- You can use numbers, “D”, “N”, “I”, “.”, and “,” for the 5 digits of the QT/DQT Encode code.
- When entering only numbers, the code is automatically configured as the QT Tone.
- When entering “D” as the first character of the code, the code is automatically configured as the DQT code.
- When entering the value, which is out of the range, it will be automatically replaced with the highest value or the lowest value in the range.

6.1.4 QT/DQT Encode

It can configure the signalling for the transmission. You can select the QT tone or DQT code from the dropdown list. You can also directly enter the QT tone and the DQT code.

- **Selecting the QT/DQT Encode Code from the Dropdown list:**

Range	QT	67.0 - 250.3 Hz
	DQT Normal	D023N - D754N
	DQT Inverse	D023I - D754I
Default	None	

- **Directly Entering the QT/DQT Encode Code:**

Default	QT	67.0 - 254.1 Hz
	DQT Normal	D000N - D777N
	DQT Inverse	D000I - D777I
In steps of	QT	0.1 Hz
	DQT	1
Default	None	

Note:

- You can use numbers, “D”, “N”, “I”, “.”, and “,” for the 5 digits of the QT/DQT Encode code.
- When entering only numbers, the code is automatically configured as the QT Tone.
- When entering “D” as the first character of the code, the code is automatically configured as the DQT code.
- When entering the value, which is out of the range, it will be automatically replaced with the highest value or the lowest value in the range.

6.1.5 Channel Name

It can configure the name of the channel. The configured Channel Name appears on the Channel/Status display when selecting the channel with the PF key. (Refer to FUNC 1.6 Display.)

Range	2 digits 0 ~ 9, A, b, c, d, E, F, G, H, i, J, L, n, o, P, q, r, S, t, U, y, -, =, _
Default	Channel Number (1 - 16)

Note: The TKR-750/850/751/851 may not properly recognize the entered characters when entering the reserved characters, such as “PG”, “E1”,”E2”, “E3”, “E4”. Do not use the reserved characters for the channel name.

6.1.6 Multi-table

It can select whether or not the TKR-750/850/751/851 waits for a call with the QT/DQT Decode code configured to each channel and the QT/DQT Decode code configured in the Multi-table. This function is available only when the QT/DQT Decode code is configured on the “Channel Information” window and the Decode code is configured on the Multi-table. (Refer to 6.11 Multi-table Window.)

Range	Yes, No
Default	No

Note:

- The signalling encoded when the PTT switch is pressed depend on configuration of the “Encode Tone in Multiple” of the “Channel Edit” window. (Refer to 6.2.7 Encode Tone in Multiple.)
- Do not configure the same QT/DQT Decode data in the Multi-table. When one or more same QT/DQT Decode data are configured in the Multi-table and the QT/DQT Encode data are different, the repeater cannot specify the QT/DQT Encode data to be transmitted.

6.1.7 W/N

It can configure the transmission bandwidth for each channel. Select the bandwidth from Wide and Narrow from the dropdown list. (Refer to FUNC 1.4 Transmission Bandwidth.)

Range	Wide, Narrow
Default	Wide

6.1.8 Power

It can configure the Transmission Power for each channel. Select “High” or “Low” from the dropdown list.

It is possible to configure the Transmission Power only when the Transmission Frequency is configured. (Refer to 6.1.2 Transmission Frequency.)

Range	High, Low
Default	High

6.1.9 Operation Mode

It can configure the Operation Mode for each channel. Select the mode from Repeat, Simplex, and Duplex from the dropdown list.

Range	Repeat, Simplex, Duplex
Default	When the transmission frequency is not same as the reception frequency: Repeat When the transmission frequency is same as the reception frequency: Simplex

Note:

- When the reception frequency is same as the transmission frequency, the Operation Mode is fixed to Simplex mode, so that you cannot select “Repeat” or “Duplex”.
- You cannot enable the “Scan Add” when “Repeat” is selected since the channel has a fixed frequency pair. (Refer to 6.1.10 Scan Add.)

6.1.10 Scan Add

You can select the channel to be scanned. Select “Yes” or “No” from the dropdown list.

Range	Yes, No
Default	No

Note: You cannot enable the Scan Add function when selecting “Repeat” in the “Operation Mode” since the channel is fixed to operate the repeater mode. (Refer to 6.1.9 Operation Mode.)

6.1.11 CW ID

It can select the repeater to send the CW ID. Select “Yes” or “No” from the dropdown list.

Range	Yes, No
Default	No

Note:

- You cannot send a CW ID while scanning or Scan pauses.
- When “CW ID On” or “CW Message On” is enabled while sending the CW ID, the TKR-750/850/751/851 stops sending the current CW ID and sends the new CW ID instead.

6.1.12 Channel Edit Button

Click “Channel Edit” to view the “Channel Edit” window. (Refer to 6.2 Channel Edit Window.)

Note: You can open the “Channel Edit” window with one of the following options.

- Press [F11].
- Double-click the channel number.

6.1.13 Channel Copy ([Shift] + [F3])

It can copy a configured channel data to the other channel.

Follow the procedures given below to copy a channel.

1. Select the channel to copy.

   You can select the channel by clicking the channel number.

2. Press [Shift] and [F3] at the same time.

   The “Channel Copy” window appears.

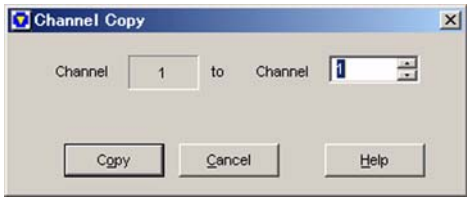

Figure 6-2 Channel Copy window

3. Select a channel to be copied.

   You can select the channel with the spin buttons. You can also directly enter the channel number.

4. Click “Copy”.

   The configuration data is copied to the desired channel.

   Note: You can copy the configuration data only when the source channel has the configuration data.

6.1.14 Frequency Copy ([Shift] + [F4])

It can copy the data configured in the “Reception Frequency” to the “Transmission Frequency” of the same channel.

Follow the procedures given below to copy the frequency.

1. Select the channel to copy.

   You can select the channel by clicking the channel number.

2. Press [Shift] + [F4].

   The “Frequency Copy” window appears.

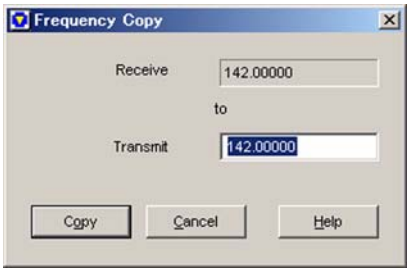

Figure 6-3 Frequency Copy window

3. Click “Copy”.

   The data configured in the “Reception Frequency” is copied to the “Transmission Frequency” of the same channel.

Note:

- When directly entering the frequency in the “Frequency Copy” window, the entered frequency is used as the “Transmission Frequency”.
- You cannot copy the “Reception Frequency” data to other channels.
- You can copy the configuration data only when the source channel has the Reception Frequency data.

6.1.15 QT/DQT Copy ([Shift] + [F5])

It can copy the data configured in the “QT/DQT Decode” to the “QT/DQT Encode” of the same channel.

Follow the procedures given below to copy the QT/DQT code.

1. Select the channel to copy.

   You can select the channel by clicking the channel number.

2. Press [Shift] + [F5].

   You can view the “QT/DQT Copy” window.

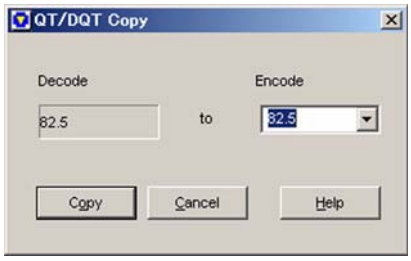

Figure 6-4 QT/DQT Copy window

3. Click “Copy”.

   You can copy the data configured in the “QT/DQT Decode” to the “QT/DQT Encode” of the same channel.

Note:

- When directly entering the QT/DQT Encode code in the “QT/DQT Copy” window or selecting it from the dropdown list, the entered value is used as the “QT/DQT Encode”.
- You cannot copy the “QT/DQT Decode” configuration data to other channels.
- You can copy the configuration data only when the source channel has the QT/DQT Decode configuration data.

6.1.16 Channel Insert ([Shift] + [F9])

It can insert a new channel to the channel list.

Follow the procedures below to insert the channel.

1. Select one of the channels to insert a new channel.

   You can select the channel by clicking the channel number.

2. Press [Shift] and [F9] at the same time.

   The new channel is inserted on top of the selected channel. The channel number of the channels following the inserted channel increases in steps of 1.

Note: You cannot insert a new channel when the data is configured to the last channel (No. 16).

6.1.17 Channel Delete ([Shift] + [F10])

It can delete channel data.

Follow the procedures given below to delete the channel data.

1. Select the channel to delete.

   You can select the channel by clicking the channel number.

2. Press [Shift] + [F10] at the same time.

   The selected channel is deleted. The channel number of the channels following the deleted channel decreases in steps of 1.

6.1.18 Context Menu

Select the channel by clicking the channel number and right-click to display the context menu of the selected channel. In this menu, you can copy or delete the configuration data.

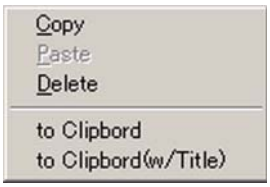

Figure 6-5 Context Menu

Table 6-1 Context Menu

Function	Description
Copy	Copy the selected channel.
Paste	Paste the copied channel data.
Delete	Delete the selected channel.
to Clipboard	Copy the selected channel data to the clipboard.
to Clipboard (w/ Title)	You can copy the selected channel data to the clipboard with the title.

6.2 Channel Edit Window

It can configure the channel data to transmit/receive on the “Channel Edit” window. You can configure data of maximum 16 channels. You can configure the Encode Tone in Multiple, Beat Shift, QT Reverse Burst, Compander, CW ID, and Voice Scrambler functions.

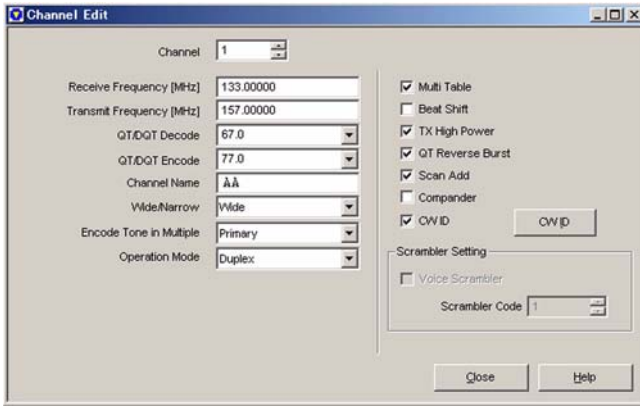

Figure 6-6 Channel Edit window

6.2.1 Reception Frequency

It can configure the Reception Frequency to directly enter the value in the edit box.

Range	TKR-750/751	100.00000 - 280.00000 MHz
	TKR-850/851	327.00000 - 550.00000 MHz
Default	Blank	

Note:

- The frequency range varies corresponding to the model and the market code. (Refer to FUNC 1.2 Transmission/Reception Frequency.)
- You can use numbers, “.”, and “,” for the 9 digits of the frequency.
- You must enter the value within the range when configuring the frequency. When entering the frequency, which is out of the range, it will be automatically replaced to the highest value or the lowest value within the range configured in “Model Information” > “Frequency” window. (Refer to 5.1 Model Information.)
- You must configure the “Reception Frequency” first before configuring other functions. On the other hand, the other functions resets when deleting the frequency data configured in the “Reception Frequency” window.

6.2.2 Transmission Frequency

It can configure a Frequency to transmit. Enter a value in the edit box. directly

Range	TKR-750/751	100.00000 - 280.00000 MHz
	TKR-850/851	327.00000 - 550.00000 MHz (Common to all ranges)
Default	Blank	

Note:

- The frequency range varies depending on the model and the market code. (Refer to FUNC 1.2 Transmission/Reception Frequency.)
- It can use numbers, ".", and "," for the 9th digit of the frequency.
- You must enter the value within the range when configuring the frequency. When entering the frequency, which is out of the range, it will be automatically replaced with the highest value or the lowest value within the range configured in "Model Information" > "Frequency" window. (Refer to 5.1 Model Information.)

6.2.3 QT/DQT Decode

It can configure a signalling to receive a call. Select a QT tone or DQT code from the dropdown list. You can also directly enter the QT tone and the DQT code.

Note:

- When both of the QT Encode and the QT Reverse Burst functions are enabled, the TKR-750/850/751/851 transmits a QT Reverse Burst code at end of transmission.
- When the DQT Encode is selected, the TKR-750/850/751/851 transmits a DQT Turn-off Code.

- **Selecting the QT/DQT Decode Code from the Dropdown List:**

Range	QT	67.0 - 250.3 Hz
	DQT Normal	D023N - D754N
	DQT Inverse	D023I - D754I
Default	None	

- **Directly entering the QT/DQT Decode Code:**

Range	QT	67.0 - 254.1 Hz
	DQT Normal	D000N - D777N
	DQT Inverse	D000I - D777I
In steps of	QT	0.1 Hz
	DQT	1
Default	None	

Note:

- You can use numbers, "D", "N", "I", ".", and "," for the 5th digit of the QT/DQT Encode code.
- When entering only numbers, the code is automatically configured as the QT Tone.
- When entering "D" as the first character of the code, the code is automatically configured as the DQT code.
- When entering the value, which is out of the range, it will be automatically replaced with the highest value or the lowest value in the range.

6.2.4 QT/DQT Encode

It can configure a signalling to make a call. You can select a QT tone or DQT code from the dropdown list. You can also directly enter the QT tone and the DQT code.

- **Selecting the QT/DQT Encode Code from the Dropdown list:**

Range	QT	67.0 - 250.3 Hz
	DQT Normal	D023N - D754N
	DQT Inverse	D023I - D754I
Default	None	

- **Directly entering the QT/DQT Encode Code:**

Range	QT	67.0 - 254.1 Hz
	DQT Normal	D000N - D777N
	DQT Inverse	D000I - D777I
In steps of	QT	0.1 Hz
	DQT	1
Default	None	

Note:

- You can use numbers, "D", "N", "I", ".", and "," for the 5 digits of the QT/DQT Encode code.
- When entering only numbers, the code is automatically configured as the QT Tone.
- When entering "D" as the first character of the code, the code is automatically configured as the DQT code.
- When entering the value, which is out of the range, it will be automatically replaced with the highest value or the lowest value in the range.

6.2.5 Channel Name

It can configure the Channel Name. The configured channel name appears on the Channel/Status display when selecting the channel with the PF key. (Refer to FUNC 1.6 Display.)

Range	2 digits 0 - 9, A, b, c, d, E, F, G, H, i, J, L, n, o, P, q, r, S, t, U, y, -, =, _
Default	Channel Number (1 - 16)

Note: The TKR-750/850/751/851 may not properly recognize the entered characters when entering the reserved characters, such as “PG”, “E1”,”E2”, “E3”, “E4”. Do not use the reserved characters for the channel name.

6.2.6 Wide/Narrow

It can configure the transmission bandwidth for each channel. Select the bandwidth from Wide and Narrow from the dropdown list. (Refer to FUNC 1.4 Transmission Bandwidth.)

Range	Wide, Narrow
Default	Wide

6.2.7 Encode Tone in Multiple

It can select a signalling to transmit when the TKR-750/850/751/851 receives the transmission request on the channel operating other than Simplex Mode. You can select “Primary” or “Current” from the dropdown list.

Range	Primary: Encodes the Primary code configured to each channel. Current: Encodes the QT/DQT Encode code configured to the “Multi-table”.
Default	Primary

Note:

- It cannot select “Current” in the “Encode Tone in Multiple” when the “Operation Mode” is configured to “Simplex”. (Refer to 6.2.8 Operation Mode.)
- The encode operation varies according to the PTT priority and the TKR-750/850/751/851 status. (Refer to FUNC 4.7 Encode Tone in Multiple.)

6.2.8 Operation Mode

It can configure the operation mode for each channel. You can select a mode from Repeat, Simplex, and Duplex from the dropdown list.

Range	Repeat, Simplex, Duplex
Default	When the transmission frequency is not the same as the reception frequency: Repeat When the transmission frequency is the same as the reception frequency: Simplex

Note:

- When a reception frequency is same as a transmission frequency, the operation mode is fixed to Simplex, so that you cannot select “Repeat” or “Duplex”.
- You cannot enable “Scan Add” when selecting “Repeat” since the channel has a fixed frequency pair. (Refer to 6.2.13 Scan Add.)

6.2.9 Multi-table (Channel Edit)

It can enable that the TKR-750/850/751/851 waits a call with a QT/DQT Decode code in the Multi-table. This function is available only when the QT/DQT Decode code is configured on the “Channel Information” window and the Decode code is configured in the Multi-table. (Refer to 6.11 Multi-table Window.)

Range	Checked	The Multi-table function is enable.
	Unchecked	The Multi-table function is disabled.
Default	Unchecked	

Note:

- The signalling, which is encoded when the PTT switch is pressed, is depend on the “Encode Tone in Multiple” configuration on the “Channel Edit” window. (Refer to 6.2.7 Encode Tone in Multiple.)
- Do not configure the same QT/DQT Decode data in the Multi-table. When one or more same QT/DQT Decode data are configured in the Multi-table and the QT/DQT Encode data are different, the TKR-750/850/751/851 cannot specify the QT/DQT Encode data to be transmitted.

6.2.10 Beat Shift

It can enable/disable the Beat Shift. The Beat Shift function eliminates the problems of the TKR-750/850/751/851 internal beat caused by internal oscillators.

The harmonic of the microprocessor clock may interfere to reception. You can eliminate this problem by slightly shifting the frequency of the clock used in the microprocessor.

Range	Checked	The Beat Shift function is enabled.
	Unchecked	The Beat Shift function is disabled.
Default	Unchecked	

6.2.11 TX High Power

It can configure the Transmission Power for each channel. Select “High” or “Low”.

You can configure the Transmission Power only when the Transmission Frequency is configured. (Refer to 6.2.2 Transmission Frequency.)

Range	Checked	The transmission output power is configured to “High”.
	Unchecked	The transmission output power is configured to “Low”.
Default	Checked	

6.2.12 QT Reverse Burst

It can enable/disable the QT Reverse Burst function. This function eliminates a squelch tail noise on the receiving side since the QT Reverse Burst tone is sent at end of transmitting. When the QT/DQT Encode code configured to the channel is QT, the QT Reverse Burst Code is transmitted.

Range	Checked	The QT Reverse Burst function is enabled.
	Unchecked	The QT Reverse Burst function is disabled.
Default	Checked	

Note: When the DQT Encode is selected, the TKR-750/850/751/851 transmits the QT Turn-off Code.

6.2.13 Scan Add

It can select a channel to be scanned.

Range	Checked	The Scan operation is enabled.
	Unchecked	The Scan operation is disabled.
Default	Unchecked	

Note: You cannot enable the Scan Add function when selecting "Repeat" in the "Operation Mode" since the channel is fixed to operate the repeater mode. (Refer to 6.2.8 Operation Mode.)

6.2.14 Compander

It can enable/disable Compander. This function improves the quality of the received audio by reducing the noise.

Compander is used to improve the S/N ratio (Signal to Noise Ratio) of an audio signal by compressing it at the transmitting side and expanding it at the receiving side. With this function, the TKR-750/850/751/851 compresses the transmission signal during transmission and it expands the signal with the same ratio during reception.

Range	Checked	Compander is enabled.
	Unchecked	Compander is disabled.
Default	Unchecked	

Note:

- Compander does not operate on the audio signal to be repeated.
- To use Compander, both the transmitting party's configuration and the receiving party's configuration must be the same.

6.2.15 CW ID

It can configure the TKR-750/850/751/851 to send a CW ID. Check the "CW ID" checkbox to enable. (Refer to 6.2.16 CW ID Button.)

Range	Checked	CW ID is enable
	Unchecked	CW ID is Disable
Default	Unchecked	

Note:

- It cannot send a CW ID while scanning or the Scan pauses.
- When "CW ID On" or "CW Message On" is enabled while sending the CW ID, the repeater stops sending the current CW ID and sends the new CW ID instead.

6.2.16 CW ID Button

It can use the "CW ID" button only when CW ID is enabled. Click this button to view the "CW ID" window. (Refer to 6.3 CW ID Window.)

6.2.17 Voice Scrambler

You can enable/disable Voice Scrambler. You must install the optional Voice Scramble board in the TKR-750/850/751/851 and select "Model Information" > "Option Board" > "Voice Scrambler" in order to use the Voice Scrambler.

Range	Checked	Voice Scrambler is enabled. Voice Scrambler is enabled when TKR-750/850/751/851 is turned ON or the channel is changed.
	Unchecked	Voice Scrambler is disabled. Voice Scrambler is disabled when TKR-750/850/751/851 is turned ON or the channel is changed.
Default	Unchecked	

Note: The audio of repeat is not scrambled even if this function is enabled.

6.2.18 Scrambler Code

It can configure the Scrambler Code. You must install the optional Voice Scramble board and select "Model Information" > "Option Board" > "Voice Scrambler" in order to configure the Scramble Code.

Range	1 - 16
In steps of	1
Default	1

Note: When the The TKR-750/850/751/851 is turned ON or the channel is changed, the code selection ports specify the configured Scrambler code regardless of the status of Voice Scrambler. (Refer to FUNC 4.14.1 Scrambler Code.

6.3 CW ID Window

It can configure a CW ID to send.

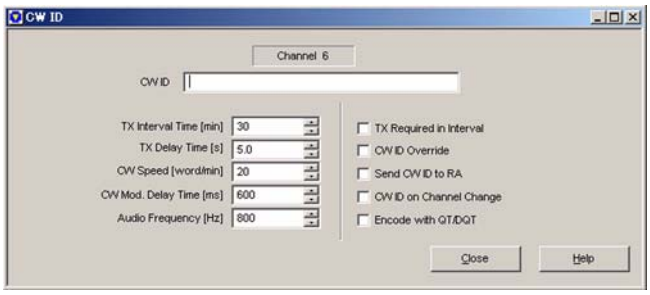

Figure 6-7 CW ID window

6.3.1 CW ID

It can configure a CW ID by entering a maximum of 32 characters and symbols. (Refer to 6.3 CW ID Window.)

Range	A maximum of 32 characters and symbols (space), “, ', (,), +,,, -,., /, 0, 1, 2, 3, 4, 5, 6, 7, 8, 9,:, =,? A - Z
Default	Blank

6.3.2 TX Interval Time

It can configure the interval time to transmit the CW ID. You can configure a duration using the spin buttons or directly enter a value to configure the duration.

Range	1 - 60 min.
In steps of	1 min.
Default	30 min.

Note: The TX Interval Time starts counting down when resetting the TKR-750/850/751/851, changing the channel, and activating the “CW ID On” Function or the “Scan Off” Function.

6.3.3 TX Delay Time

TX Delay Time is a duration between the time when the transmission ends due to the expiration of the TX Interval Time, the change of the channel, or the deactivation of the CW ID Override function and the time when the TKR-750/850/751/851 resumes transmitting in order to send the CW ID. You can configure the duration using the spin buttons or directly enter the value. (Refer to 6.3.2 TX Interval Time.)

The CW ID is sent after the CW Mod. Delay Time is expired. (Refer to 6.3.5 CW Mod. Delay Time.)

Range	Off, 0.1 - 10 sec.
In steps of	0.1 sec.
Default	5 sec.

Note: “TX Delay Time” function is not applicable when sending the CW ID with the “CW ID On” function.

6.3.4 CW Speed

It can configure a interval duration to send the CW ID. You can configure the speed using the spin buttons or directly enter the value.

Range	5 - 30 word/min.
In steps of	1 word/min.
Default	20 word/min.

6.3.5 CW Mod. Delay Time

It can configure a duration between the time when the TKR-750/850/751/851 starts transmitting and the time when it sends a CW ID. You can configure the duration using the spin buttons or directly enter the value.

Range	Off, 10 - 2550 ms
In steps of	10 ms
Default	600 ms

6.3.6 Audio Frequency

It can configure a frequency to send the CW ID. You can configure the frequency using the spin buttons or directly enter the value to configure the duration.

Range	400 - 2000 Hz
In steps of	100 Hz
Default	800 Hz

6.3.7 TX Required in Interval

It can be enable to send a CW ID with the configured interval. (Refer to 6.3.2 TX Interval Time.)

Range	Checked	The CW ID is sent after the configured interval timer expires only when TKR-750/850/751/851 transmitted.
	Unchecked	The CW ID is sent with the interval configured in the “TX Interval Time”.
Default	Unchecked	

Note: “TX Required in Interval” function is not applicable when sending the CW ID with the “CW ID On” function.

6.3.8 CW ID Override

It can send a CW ID with audio signal when the TX Interval Time expires during transmission. (Refer to 6.3.2 TX Interval Time.)

Range	Checked	The CW ID is sent with an audio signal when the TX Interval Time expires during transmission.
	Unchecked	The CW ID is sent after the transmission ends when the TX Interval Time expires during transmission.
Default	Unchecked	

Note:

- When sending the CW ID configured as CW ID Override On, the QT/DQT code configured to the channel is encoded regardless of the Encode with QT/DQT configuration. (Refer to 6.3.11 Encode with QT/DQT (CW ID).)
- The CW ID is not sent even when the CW ID On function is enabled during transmission while CW ID Override is disabled.

6.3.9 Send CW ID to RA

A CW ID tone is sent to the front speaker and the RA terminal located on the rear panel. It can use to monitor and confirm by dispatcher.

Range	Checked	“Send CW ID to RA” is enable
	Unchecked	“Send CW ID to RA” is disable
Default	Unchecked	

Note: The CW ID is only sent from the RA line when the channel is in Simplex mode. In this case, the CW ID is not sent from the speaker.

6.3.10 CW ID on Channel Change

It can transmit a CW ID when the channel is selected or changed. The TKR-750/850/751/851 transmits a CW ID regardless of the configuration of the CW Mod. Delay Time and the TX Interval Time.

Range	Checked	CW ID is sent when the channel is selected or changed.
	Unchecked	CW ID is not sent even when the channel is selected or changed.
Default	Unchecked	

6.3.11 Encode with QT/DQT (CW ID)

It can encode a QT/DQT (Primary) code configured to each channel while sending a CW ID.

Range	Checked	CW ID is transmitted with QT/DQT (Primary) code of each channel.
	Unchecked	CW ID is transmitted without QT/DQT (Primary) code of each channel.
Default	Unchecked	

Note: The TKR-750/850/751/851 sends the QT/DQT code configured to each channel when Encode with QT/DQT is enabled, and it does not send the QT/DQT code when Encode with QT/DQT is disabled. However, the new CW ID/CW Message is sent in conjunction with the Encode with QT/DQT configuration when the TKR-750/850/751/851 sends another CW ID or CW Message while the CW ID is independently sent. (Refer to 6.12 CW Message Window.)

6.4 Optional Features Window

On this window, it can configure the transmission/reception condition and the repeater's operation during transmission/reception. You can also configure the functions in conjunction with some operation status. This window consists of “Optional Features 1", “Optional Features 2", “Others” tabs and you can switch the display by clicking tabs.

6.4.1 Optional Features 1 Tab

On this tab, it can configure the transmission/reception using the repeater PTT or the external PTT and the repeater's operation during transmission/reception.

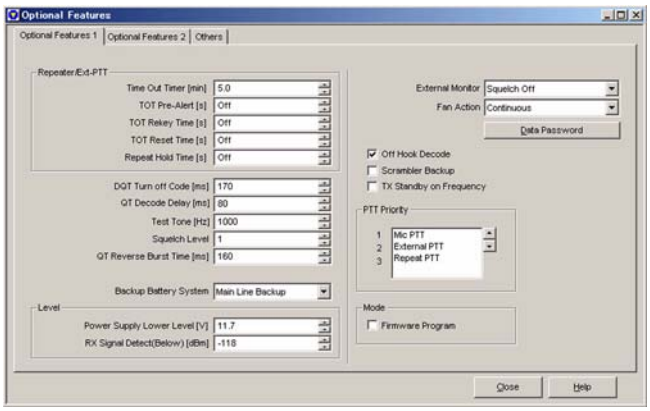

Figure 6-8 Optional Features 1 tab

■ Time-out Timer (TOT) (Repeater/Ext-PTT)

You can configure a duration of the continuous transmission using the repeater PTT or the external PTT. The TKR-750/850/751/851 automatically stops transmission and returns to the reception mode when the TOT expires. Configure a duration time by the spin buttons or directly enter the value.

Range	Off, 0.5 - 30 min.
In steps of	0.5 min.
Default	5.0 min.

Note: The TOT function is not applicable to send the CW ID.

■ Time-out Pre-alert (Repeater/Ext-PTT)

It can configure a timing to activate the TOT Pre-alert to notify a user that the transmission is going to be terminated. You can also configure the timing to sound the TOT Pre-alert tone. Configure a frequency by the spin buttons or directly enter the value. (Refer to ■ Time-out Timer (TOT) (Repeater/Ext-PTT).)

Range	Off, 1 - 10 sec.
In steps of	1 sec.
Default	Off

Note: You cannot configure this duration when the “Time-out Timer” is configured to “Off”.

■ TOT Rekey Time (Repeater/Ext-PTT)

It can configure the duration between the time that the transmission ends with the TOT and the time that the TKR-750/850/751/851 can start transmitting again. You can configure the duration by the spin buttons or directly enter the value. (Refer to ■ Time-out Timer (TOT) (Repeater/Ext-PTT).)

Range	Off, 1 - 60 sec.
In steps of	1 sec.
Default	Off

Note:

- You can transmit immediately after the TOT expires when the TOT Rekey Time function is disabled.
- You cannot configure the duration if the “Time-out Timer” is configured to “Off”.

■ TOT Reset Time (Repeater/Ext-PTT)

It can configure the duration between the time when the transmission ends before the TOT expires and the time that the counter of the TOT resets. Configure the duration by the spin buttons or directly enter the value. (Refer to ■ Time-out Timer (TOT) (Repeater/Ext-PTT).)

Range	Off, 1 - 15 sec.
In steps of	1 sec.
Default	Off

Note:

- The TOT is reset immediately after the ends of transmission when the TOT Reset Time function is disabled.
- You cannot configure the duration if the “Time-out Timer” is configured as “Off”.

■ Repeat Hold Time

It can configure the duration to keep transmitting even the receive signal is gone. It should be used to prevent a interruption due to repeat a weak signal. You can configure a duration by the spin buttons or directly enter the value.

Range	Off, 1 - 10 sec.
In steps of	0.1 sec.
Default	Off

Note:

- The 750/850/751/851 returns to the reception mode when the repeater PTT is released when the Repeat Hold Time is disabled.

- The duration configured in the Repeat Hold Time is handled as the TOT.
- The audio signal is muted while the Repeat Hold Time is counting down.

■ DQT Turn-off Code

It can configure a duration to send a DQT Turn-off code. This function eliminates the squelch tail noise on the receiving side by sending the DQT Turn-off code when the transmitting party stop to transmit. You can configure it by the spin buttons or directly enter the value.

Range	140 - 200 ms
In steps of	1 ms
Default	170 ms

Note: When the QT/DQT Encode configured to the channel is DQT, the DQT Turn-off code is sent.

■ QT Decode Delay

It can configure a duration between the time when the time the received QT signalling un-matches and the time when the TKR-750/850/751/851 starts the QT Decode operation. With this function, the QT Reverse Burst code should not be recognized as a normal QT signalling. You can configure a time by the spin buttons or directly enter the value. (Refer to 6.2.12 QT Reverse Burst.)

Range	Off, 1 - 250 ms
In steps of	1 ms
Default	80 ms

Note: The TKR-750/850/751/851 starts the QT Decode operation immediately after the received QT signalling un-matches if the QT Decode Delay is disabled.

■ Test Tone

It can configure the frequency of single tone transmitted when Test Tone assigned to a PF key or an Auxiliary Input Port is enabled. You can configure a tone by the spin buttons or directly enter the value to configure the duration. (Refer to 6.5 Key Assignment Window, 6.10 Function Port Window.)

Range	300 - 3000 Hz
In steps of	1 Hz
Default	1000 Hz

Note: The TKR-750/850/751/851 sends the CW ID/Message only when sending the CW ID/Message while transmitting Test Tone. It does not modulate the repeat audio signal while transmitting Test Tone. (Refer to 6.3 CW ID Window, 6.12 CW Message Window.)

■ Squelch Level

It can configure a squelch level used to eliminate the weak signal. It should decrease to listen to weak radio signals and increase the level for only strong radio signals communication. You can configure the level by the spin buttons or directly enter the value.

Range	0 (Shallow) - 15 (Tight)
In steps of	1
Default	1

Note: When using the channel that “Operation Mode” is configured as “Repeat” and the “QT/DQT Encode” is configured as “None”, the TKR-750/850/751/851 activates the repeat operation regardless of the presence of the reception signal if the Squelch Level is configured as “0”. (Refer to 6.2.4 QT/DQT Encode, 6.2.8 Operation Mode.)

■ QT Reverse Burst Time

It can configure a duration to send the QT Reverse Burst code. This function eliminates the squelch tail noise on the receiving side by sending the QT Reverse Burst code at end of transmitting. You can configure a duration by the spin buttons or directly enter the value. (Refer to 6.2.12 QT Reverse Burst.)

Range	140 - 200 ms
In steps of	1 ms
Default	160 ms

Note:

- This function is available only when the QT/DQT Decode code is enabled in the “Channel Edit” window.
- When the QT/DQT Encode code configured to the channel is QT, the TKR-750/850/751/851 sends the QT Reverse Burst Code. When the DQT Encode is selected, the it sends the QT Turn-off Code.

■ Backup Battery System

It can configure a timing to emit the Backup Battery Warning Tone/Operation Tone. Select “Secondary Input Backup” or “Main Line Backup” from the dropdown list. (Refer to 6.4.2 Optional Features 2 Tab.)

Range	Secondary Input Backup	Emits the Backup Battery Warning Tone or the Operation Tone when the power is switched from the main power to the backup power.
	Main Line Backup	Emits the Backup Battery Warning Tone or the Operation Tone when the voltage of the main power becomes lower than the Power Supply Lower Level.
Default	Secondary Input Backup	

■ Power Supply Lower Level

It can configure a reference voltage in order to activate/deactivate the Power Supply Lower Limit. This function activates an Auxiliary output port that is assigned to the Power Supply Lower Limit when the

voltage of the power becomes lower than the configured level. You can configure the level by the spin buttons or directly enter the value. (Refer to 6.10 Function Port Window.)

Range	10.6 - 13.6 V
In steps of	0.1 V
Default	11.7 V

■ RX Signal Detect (Below)

It can configure the reference RSSI voltage level to activate/deactivate the Reception Signal that is assigned to an Auxiliary output port. This function activates it that is assigned to the RX Signal Detect when the RSSI voltage becomes lower than the configured level and the port deactivates when the voltage level becomes higher than the configured level. Configure the level by the spin buttons or directly enter the value. (Refer to 6.10 Function Port Window.)

Range	-120 - -95 dBm
In steps of	1 dBm
Default	-118 dBm

■ External Monitor

This function opens squelch when the Ext. Monitor terminal receives a signal. The signal is assigned to the pin 15 of the control interface jack (25-pin connector) located on the rear panel. Select “Squelch Off” or “Monitor” from the dropdown list. (Refer to FUNC 1 Basic Operation.)

Range	Squelch Off	Opens squelch when the Ext. Monitor terminal receives a signal.
	Monitor	Allows to perform carrier squelch when the Ext. Monitor terminal receives a signal.
Default	Squelch Off	

Note:

- The Ext. Monitor terminal is fixed to Active Low.
- Operates in the signalling squelch mode when the channel is configured to the decode signalling mode and performing the repeat operation even if the Ext. Monitor terminal is operating.

■ Fan Action

It can configure how to control the cooling Fan. Select the fan to be always switched On or be switched On when the internal temperature increases and stop running when the temperature decreases. Select “Continuous” or “Temperature” from the dropdown list.

Range	Continuous	The cooling Fan is always switched On.
	Temperature	The cooling fan is switched On when the internal temperature increases.
Default	Continuous	

Note: You cannot disable the operation of the fan.

■ Data Password

It can configure a Data Password. With this function enabled, the configuration data of the TKR-750/850/751/851 will not be read even when an unauthorized person attempts to read it by FPU. Click “Data Password” to view the “Data Password” window, then configure the data password.

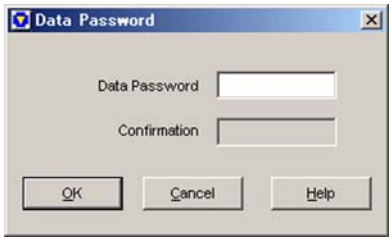

Figure 6-9 Data Password window

Enter the password a maximum of 6 digits in the “Data Password” edit box and type the same password in the “Confirmation” edit box to confirm it, then click “OK”.

Range	6 digits
Default	Blank

Note: The data password does not prevent the configuration data from being written since it only prevents the data from being read.

■ Off-hook Decode

It can decode the received signalling when the local microphone is in the Off-hook position.

Range	Checked	Receives the QT/DQT signalling and opens squelch (signalling Squelch) regardless of the local microphone position.
	Unchecked	Operates in the signalling squelch mode while the microphone is in on-hook position, and it receives a carrier and opens squelch (Carrier squelch) while the microphone is in off-hook position.
Default	Checked	

Note: When this function is disabled and the local microphone is in off-hook position, the TKR-750/850/751/851 operates in the carrier squelch mode to mute or unmute

the speaker. It operates in the signalling squelch mode when it makes the repeat operation.

■ Scrambler Backup

It can restore the Voice Scrambler configuration. When this function is enabled, the On/Off status is backup even if you turn the TKR-751/851 OFF after Voice Scrambler is on.

Range	Checked	The Voice Scrambler status is backup.
	Unchecked	The Voice Scrambler status is canceled and return to the default.
Default	Unchecked	

Note:

- You can use this function only when the optional Voice Scrambler Board is installed in it.
- Refer to the Modification Information when installing the optional Voice Scrambler Board in the TKR-750/850/751/851.

■ TX Standby on Frequency

It can shift a transmission frequency when the TKR-750/850/751/851 is in standby mode. (Refer to FUNC 13 TX Standby Frequency function.)

Range	Checked	Wait a call with the transmission frequency configured to each channel.
	Unchecked	Shifts the transmission frequency by -18.75 kHz and wait a call.
Default	Unchecked	

■ PTT Priority

It can configure the priority of the repeater PTT, the external PTT, and the Local Mic PTT. When the selected PTT configuration has higher priority than the current PTT, the TKR-750/850/751/851 switches the signalling and the modulation signal line corresponding to the selected PTT configuration that has higher priority. Change the priority of the PTT by the spin buttons. (Refer to FUNC 6.7 PTT Priority.)

Default	Priority 1: Local Mic PTT Priority 2: External PTT Priority 3: Repeater PTT

■ Firmware Program

It can allow the TKR-750/850/751/851 enter in the Firmware Programming Mode. When this function is enabled, the it enters Firmware Programming Mode by pressing the PF1 key and the power switch on at the same time.

Range	Checked	Allow to enters Firmware Programming Mode.
	Unchecked	Not allow to enters Firmware Programming Mode
Default	Unchecked	

Note: You must run the “FPRO.EXE” in order to write the Firmware program. Refer to the Service Manual for details.

YOU MUST CONFIRM THAT THIS FUNCTION SHOULD BE DISABLED BEFORE SHIPPING TO THE END USER. OTHERWISE, IT MIGHT HAVE SOME TROUBLE TO REWRITE OR BROKEN IT ACCIDENTALLY.

6.4.2 Optional Features 2 Tab

On this tab, it can configure the transmission operation by the Local Mic PTT and the tones.

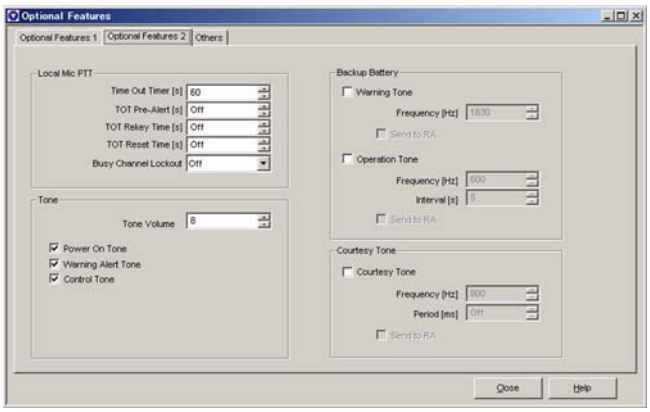

Figure 6-10 Optional Features 2 tab

■ Time-out Timer (TOT) (Local Mic PTT)

This is a duration to make continuous transmission by the Local Mic PTT. The TKR-750/850/751/851 automatically stops transmission and returns to the reception mode when the TOT expires. Configure a duration by the spin buttons or directly enter the value.

Range	Off, 15 - 255 sec.
In steps of	1 sec.
Default	60 sec.

Note: The TOT function is not applicable to send the CW ID.

■ Time-out Pre-alert (Local Mic PTT)

This is a timing to activate the TOT Pre-alert to notify the user that the transmission is going to be terminated to sound the TOT Pre-alert tone. Configure a timing by the spin buttons or directly enter the value. (Refer to ■ Time-out Timer (TOT) (Local Mic PTT).)

Range	Off, 1 - 10 sec.
In steps of	1 sec.
Default	Off

Note: It not allow to configure this function when the “Time-out Timer” is configured as “Off”.

■ TOT Rekey Time (Local Mic PTT)

This is a duration between the time that the transmission ends with the TOT and the time when it starts transmitting again. Configure the timing by the spin buttons or directly enter the value. (Refer to ■ Time-out Timer (TOT) (Local Mic PTT).)

Range	Off, 1 - 60 sec.
In steps of	1 sec.
Default	Off

Note:

- It can transmit immediately after the TOT expires when the TOT Rekey Time is disabled.
- It not allows to configure the duration if the “Time-out Timer” is configured as “Off”.

■ TOT Reset Time (Local Mic PTT)

This is a duration between the time when the transmission ends before the TOT expires and the time when the counter of the TOT resets. Configure the timing by the spin buttons or directly enter the value. (Refer to ■ Time-out Timer (TOT) (Local Mic PTT).)

Range	Off, 1 - 15 sec.
In steps of	1 sec.
Default	Off

Note:

- The TOT is reset immediately after the end the transmission when the TOT Reset Time is disabled.
- It not allow to configure the duration if the “Time-out Timer” is configured as “Off”.

■ Busy Channel Lockout

This is the Busy Channel Lockout function. If the Local Mic PTT is pressed while other groups are using that channel, it may interfere on-going communications. This function prevents you from such interference. Select “Off”, “Carrier”, or “QT/DQT” from the dropdown list.

Range	Carrier	Restrict the transmission when the channel is Busy.
	QT/DQT	Restrict the transmission when the channel has a carrier and the QT/DQT does not match.
	Off	Always transmit.
Default	Off	

Note: You must release the PTT switch to transmit after BCL is activated even when the channel becomes free.

■ Tone Volume

This is a volume level of “Power On Tone”, “Warning Alert Tone”, and “Control Tone”. Configure the volume level by the spin buttons and directly enter the value.

Range	0 - 31
In steps of	1
Default	3

Note: The Tone Volume configuration does not interlock with the VOLUME control.

■ Power On Tone

This allows to emits the Power On Tone when the TKR-750/850/751/851 is turned ON.

Range	Checked	The Power On Tone sounds.
	Unchecked	The Power On Tone does not sound.
Default	Checked	

■ Warning Alert Tone

This allows to emit the Warning Tone. (Refer to ■ Time-out Timer (TOT) (Local Mic PTT), ■ TOT Rekey Time (Local Mic PTT), ■ Busy Channel Lockout.)

Range	Checked	There are three Warning Tones. • **Warning Alert Tone** This tone sounds when pressing the PTT switch even after the Time-out Timer of the Local Mic PTT expires or while the Rekey Time is activated. • **TOT Pre-alert Tone** This tone sounds when the Time-out Timer is about to expire. • **TOT Pre-alert Tone** This tone sounds when the transmission is disabled while the Busy Channel Lockout function is enabled.
	Unchecked	Not emit the Warning Alert Tone.
Default	Checked	

■ Control Tone

This allows to emit the Control Tone when a PF key is pressed.

Range	Checked	There are four Control Tones. • **Key Press Tone (A)** This tone sounds when the assigned function is enabled by pressing the PF key. • **Key Press Tone (B)** This tone sounds when the assigned function is disabled by pressing the PF key. • **Key Input Error Tone** This tone sounds when the operation of the PF key is denied. • **Roll Over Tone** This tone sounds when selecting the last channel by the PF key.
	Unchecked	Not emit the Control Tone.
Default	Checked	

■ Backup Battery Warning Tone

This allows to emit the Backup Battery Warning Tone when the power is switched to the backup power.

Range	Checked	Emits the Backup Battery Warning Tone for 5 seconds when the power is switched to the backup battery.
	Unchecked	Not emit the Backup Battery Warning Tone even when the power is switched to the backup battery.
Default	Unchecked	

■ Backup Battery Warning Tone Frequency

This is a frequency of the Backup Battery Warning Tone. Configure the frequency by the spin buttons or directly enter the value. (Refer to ■ Backup Battery Warning Tone.)

Range	300 - 3000 Hz
In steps of	10 Hz
Default	1630 Hz

Note: You can configure the frequency of the Backup Battery Warning Tone only when the Backup Battery Warning Tone is enabled.

■ Backup Battery Warning Tone Send to RA

This function allows to emit the Backup Battery Warning Tone from the front speaker (RA output). The dispatcher and operator can be aware it is operating with backup power. (Refer to ■ Backup Battery Warning Tone.)

Range	Checked	Emits the Backup Battery Warning Tone from the front speaker and send to RA.
	Unchecked	Not emit the Backup Battery Warning Tone.
Default	Unchecked	

Note: You can configure this function only when the Backup Battery Warning Tone is enabled.

■ Backup Battery Operation Tone

This is a tone sounded during transmitting by the Repeater PTT, the External PTT, or the Local Mic PTT with the backup battery.

Range	Checked	Emits the Backup Battery Operation Tone.
	Unchecked	Not emit the Backup Battery Operation Tone.
Default	Unchecked	

■ Backup Battery Operation Tone Frequency

This is a frequency of the Backup Battery Operation Tone. Configure a frequency by the spin buttons or

directly enter the value. (Refer to ■ Backup Battery Operation Tone.)

Range	300 - 3000 Hz
In steps of	10 Hz
Default	600 Hz

Note: You can configure this function only when the Backup Battery Operation Tone is enabled.

■ Backup Battery Operation Tone Interval

This is a interval time to sound the Backup Battery Operation Tone. Configure the interval by the spin buttons or directly enter the value to configure the interval. (Refer to ■ Backup Battery Operation Tone.)

Range	5 - 900 sec.
In steps of	5 sec.
Default	5 sec.

Note: You can configure this function only when the Backup Battery Operation Tone is enabled.

■ Backup Battery Operation Tone Send to RA

This allows to emit the Backup Battery Operation Tone from the front speaker and send to RA. (Refer to ■ Backup Battery Operation Tone.)

Range	Checked	Emits the Backup Battery Operation Tone from the front speaker and send to RA.
	Unchecked	Not emit the Backup Battery Warning Tone fro speaker and not send to RA.
Default	Unchecked	

Note: You can configure this function only when the Backup Battery Operation Tone is enabled.

■ Courtesy Tone

This allows to emit a courtesy tone when finishing the transmission using the repeater PTT, the external PTT, or the Local Mic PTT.

Range	Checked	Emits the Courtesy Tone.
	Unchecked	Not emit the Courtesy Tone.
Default	Unchecked	

Note: You can configure this tone only when the DTMF signalling is used.

■ Courtesy Tone Frequency

This is a frequency of the courtesy tone. Configure the frequency by the spin buttons or directly enter the value to configure the frequency. (Refer to ■ Courtesy Tone.)

Range	300 - 3000 Hz
In steps of	10 Hz
Default	800 Hz

Note:

- You can configure this tone only when the DTMF signalling is used.
- You can configure this tone only when the Courtesy Tone is enabled.

■ Courtesy Tone Period

This is a period of the Courtesy Tone. Configure the period by the spin buttons or directly enter the value to configure the period. (Refer to ■ Courtesy Tone.)

Range	Off, 100 - 1000 ms
In steps of	10 ms
Default	100 ms

Note:

- You can configure this period only when the DTMF signalling is used.
- You can configure this tone only when the Courtesy Tone is enabled.

■ Courtesy Tone Send to RA

This allows to emit the Courtesy Tone from the front speaker and send to RA. (Refer to ■ Courtesy Tone.)

Range	Checked	Emits the Courtesy Tone from the front speaker and send to RA.
	Unchecked	Not emit the Courtesy Tone from the front speaker and not send to RA.
Default	Unchecked	

Note:

- You can configure this period only when the DTMF signalling is used.
- You can configure this tone only when the Courtesy Tone is enabled.

6.4.3 Others Tab (Optional Features)

On this tab, you can activate/deactivate Power Saver Mode and switch the power source, and configure the functions activating when the TKR-750/850/751/851 is turned ON.

You can configure the Save On/Off, the Start Up operation, the “Backup Power Function”, and the “Main Power Function”.

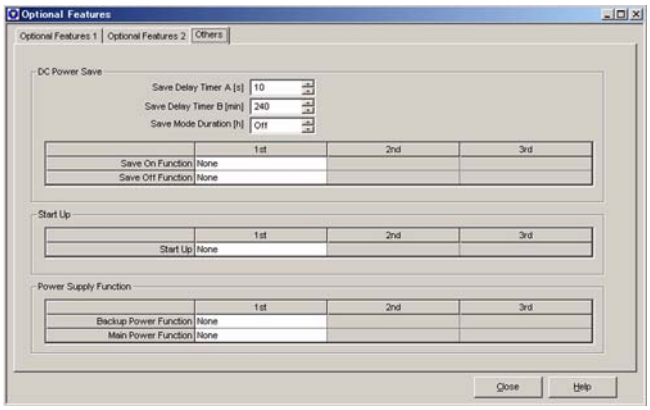

Figure 6-11 Others tab

Table 6-2 Available functions

Function Name	Description
None	The TKR-750/850/751/851 does not perform any operation.
AUX Out 1 Off - AUX Out 5 Off	The function assigned to the specified Auxiliary Output port is disabled when the TKR-750/850/751/851 starts operation. You can assign this function when “Selectable” is configure to the Auxiliary Output ports 1 - 5. (Refer to Table 6-7 Assigning Functions to the Auxiliary Output Ports.)
AUX I/O 1 Off - AUX I/O 6 Off	The function assigned to the specified Auxiliary I/O port is disabled when the TKR-750/850/751/851 starts operation. You can assign the function when “Selectable” is configured to the Auxiliary I/O ports 1 - 6. (Refer to Table 6-7 Assigning Functions to the Auxiliary Output Ports.)
AUX Out 1 On - AUX Out 5 On	The function assigned to the specified Auxiliary Output port is enabled when the TKR-750/850/751/851 starts operation. You can assign this function when “Selectable” is configure to the Auxiliary Output ports 1 - 5. (Refer to Table 6-7 Assigning Functions to the Auxiliary Output Ports.)
AUX I/O 1 On - AUX I/O 6 On	The function assigned to the specified Auxiliary I/O port is enabled when the TKR-750/850/751/851 starts operation. You can assign the function when “Selectable” is configured to the Auxiliary I/O ports 1 - 6. (Refer to Table 6-7 Assigning Functions to the Auxiliary Output Ports.)
Channel 1 - Channel 16	The TKR-750/850/751/851 moves to the channel selected from CH 1 to CH 16. You cannot configure this function when “Channel Select” is configured to Auxiliary I/O ports 1 - 4. “E2” appears on the display when specifying the channel without data. (Refer to Table 6-7 Assigning Functions to the Auxiliary Output Ports.)
Channel Down	The TKR-750/850/751/851 moves to the next lower channel. The channel without data is skipped.
Channel Up	The TKR-750/850/751/851 moves to the next higher channel. The channel without data is skipped.
CW ID On	The TKR-750/850/751/851 sends the CW ID when it starts operation. (Refer to 6.3 CW ID Window.) This function is available on the channel having the CW ID.
CW Message 1 - CW Message 8	The TKR-750/850/751/851 sends the assigned CW ID from CW Messages 1 to 8 when it starts operation. (Refer to 6.12 CW Message Window.)
DC Power Save Off	The TKR-750/850/751/851 exits Power Saver Mode when it starts operation. You cannot configure this function to the Save On/Off function.
DC Power Save On	The TKR-750/850/751/851 enters Power Saver Mode when it starts operation. You cannot configure this function to the Save On/Off function.
Display Off	All LEDs other than the Power SW LED that is located on the front panel unlit. This function can be enabled only when the TKR-750/850/751/851 is in Power Saver Mode.
Display On	All LEDs on the front panel light. This function can be enabled only when the TKR-750/850/751/851 is in Power Saver Mode.
Hold Time Disable	The TKR-750/850/751/851 disables the Repeat Hold Time. You can configure this function only when at least one channel is configured as the Repeat for Operation mode and the Repeat Hold Time is enabled. (Refer to 6.4.1 Optional Features 1 Tab.)

Function Name	Description
Hold Time Enable	The TKR-750/850/751/851 enables the Repeat Hold Time. You can configure this function only when at least one channel is configured as the Repeat for Operation mode and the Repeat Hold Time is enabled. (Refer to 6.4.1 Optional Features 1 Tab.)
Local TX Disable	The TKR-750/850/751/851 restricts the transmissions using the Local Mic PTT.
Local TX Enable	The TKR-750/850/751/851 enables the transmissions using the Local Mic PTT.
Low Power Off*1	The TKR-750/850/751/851 switches the transmission power from Low to High. This function is enabled only when at least one channel is configured as High for TX Power. (Refer to 6.2.11 TX High Power.)
Low Power On *1	The TKR-750/850/751/851 switches the transmission power from High to Low. This function activates only when at least one channel is configured as High for TX Power. (Refer to 6.2.11 TX High Power.)
Monitor Off	The TKR-750/850/751/851 enables the signalling Decode function. This function does not operate when the TKR-750/850/751/851 enables the repeat operation.
Monitor On	The TKR-750/850/751/851 disables the signalling Decode function.
Multi-table Sub	The signalling specified in the Multi-table Select is switched to the Sub-table. (Refer to 6.10.1 AUX Select Tab.)
Multi-table Main	The signalling specified in the Multi-table Select is switched to the Main-table. (Refer to 6.10.1 AUX Select Tab.)
QT/DQT Decode Disable	The TKR-750/850/751/851 disables QT/DQT Decode function. This function is available even when it is performing the repeat operation.
QT/DQT Decode Enable	The TKR-750/850/751/851 enables the QT/DQT Decode function.
QT/DQT Encode Disable	The TKR-750/850/751/851 disables the QT/DQT Encode function.
QT/DQT Encode Enable	The TKR-750/850/751/851 enables the QT/DQT Encode function.
Repeat Disable	The TKR-750/850/751/851 disables the repeat operation. You cannot configure this function if no channel is configured to the repeat operation.
Repeat Enable	The TKR-750/850/751/851 enables the repeat operation. You cannot configure this function if no channel is configured to the repeat operation.
Scan Off	The TKR-750/850/751/851 disables the scan function.
Scan On	The TKR-750/850/751/851 enables the scan function.
Scrambler Off	The TKR-750/850/751/851 disables Scrambler. You cannot configure this function when the optional Scrambler board is not installed.
Scrambler On	The TKR-750/850/751/851 enables Scrambler. You cannot configure this function when the optional Scrambler board is not installed.
Squelch Off	The TKR-750/850/751/851 disables Squelch.
Squelch On	The TKR-750/850/751/851 enables Squelch.
Test Tone Off	The TKR-750/850/751/851 switches Test Tone Off.
Test Tone On	The TKR-750/850/751/851 switches Test Tone On.
TOT Disable*2	The TKR-750/850/751/851 disables Time-out Timer function.
TOT Enable*2	The TKR-750/850/751/851 enables Time-out Timer function.
TX Disable	The TKR-750/850/751/851 restricts all transmissions.
TX Enable	The TKR-750/850/751/851 permits all transmissions.

*1: You cannot switch to Low Power while transmitting or scanning.
The Low Power status is retained even if the channel is changed or the TKR-750/850/751/851 is turned ON/OFF.

*2: This function can be used for the TOT of the Local Mic PTT and the Repeater/External PTT.

■ Save Delay Timer A

This is a duration between the time when an Auxiliary Input port or an PF key assigned to the Display On function receives a signal and the time when the LED is switched Off or the AF Amp is switched Off while the TKR-750/850/751/851 is in Power Saver Mode. Configure the duration by the spin buttons or directly enter the value to configure the duration.
(Refer to 6.5 Key Assignment Window.)
(Refer to Table 6.10 Function Port Window.)

Range	1 - 255 sec.
In steps of	1 sec.
Default	10 sec.

Note: The Power LED does not unlit even if the Display On function is activated.

■ Save Delay Timer B

This is a duration between the time when the TKR-750/850/751/851 enters Power Saver Mode and the time when the Power Saver function is switched On (Display Off). You can also configure the duration from the time when the TKR-750/850/751/851 switches from Busy status to Not Busy status to the time when it enters Save On status. Configure the durations by the spin buttons or directly enter the value to configure the durations.

Range	10 - 480 min.
In steps of	10 min.
Default	240 min.

■ Save Mode Duration

This is a duration between the time when the TKR-750/850/751/851 enters Power Saver Mode and the time when it automatically exits the Mode. Configure the duration by the spin buttons or directly enter the value to configure the duration.

Range	Off, 0.5 - 24 h
In steps of	0.5 h
Default	Off

■ Save On Function

It can configure the function to activate when the TKR-750/850/751/851 enters Power Saver Mode. You can assign three functions and they operate in order of 1st, 2nd, then 3rd. Select the function from the dropdown list.

Range	Refer to Table 6-2 Available functions.
Default	None

■ Save Off Function

It can configure the function to activate when the TKR-750/850/751/851 exits Power Saver Mode. You can assign three functions and they operate in order of 1st, 2nd, then 3rd. Select the functions from the dropdown list.

Range	Refer to Table 6-2 Available functions.
Default	None

■ Start Up

It can configure the function to activate when the KR-750/850/751/851 is turned ON. You can assign three functions and they operate in order of 1st, 2nd, then 3rd. Select the functions from the dropdown list.

Range	Refer to Table 6-2 Available functions.
Default	None

■ Backup Power Function

It can configure the function to operate when the power of the KR-750/850/751/851 is switched from the main power to the backup power. You can configure three functions and they operate in order of 1st, 2nd, then 3rd. Select the functions from the dropdown list.

Range	Refer to Table 6-2 Available functions.
Default	None

■ Main Power Function

It can configure the function to operate when the power of the KR-750/850/751/851 is switched from the backup power to the main power. You can configure three functions and they operate in order of 1st, 2nd, then 3rd. Select the functions from the dropdown list.

Range	Refer to Table 6-2 Available functions.
Default	None

6.5 Key Assignment Window

You can assign functions to each PF key on the “Key Assignment” window.

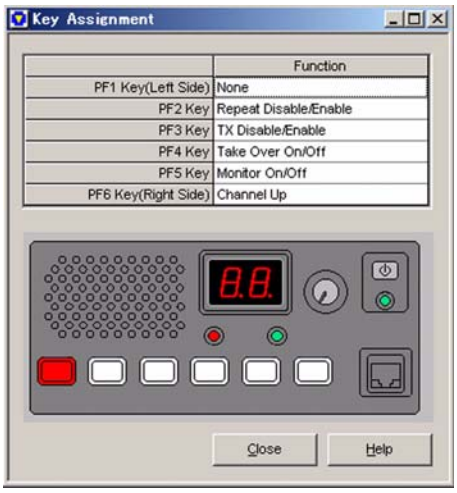

Figure 6-12 Key Assignment window

Select the function to assign to the PF key.

Range	Refer to Table 6-3 Assigning functions to the PF Keys.
Default	PF1 Key: None PF2 Key: Repeat Disable/Enable PF3 Key: TX Disable/Enable PF4 Key: Take Over On/Off PF5 Key: Monitor On/Off PF6 Key: Channel Up

Note: The PF key of the front panel displayed on the “Key Assignment” window lights red when the PF key is selected.

When the Channel Up function is assigned to the PF1 key, the PF1 key is referred to as “PF [Channel Up] key”.

Table 6-3 Assigning functions to the PF Keys

Function Name	Description
None	The TKR-750/850/751/851 does not perform any operation.
AUX Out 1 On/Off - AUX Out 5 On/Off	It can enable/disable the function assigned to the Auxiliary output port by pressing one of the PF keys. You can assign this function when “Selectable” is configure to the Auxiliary Output 1 to Auxiliary Output 5 ports. (Refer to Table 6-7 Assigning Functions to the Auxiliary Output Ports.)
AUX I/O 1 On/Off - AUX I/O 6 On/Off	It can enable/disable the function assigned to the Auxiliary I/O port by pressing one of the PF keys. You can assign the function when “Selectable” is configured to the Auxiliary I/O 1 to Auxiliary I/O 6 ports. (Refer to Table 6-7 Assigning Functions to the Auxiliary Output Ports.)
Channel 1 - Channel 16	The TKR-750/850/751/851 moves to the channel from one of CH 1 to CH 16 channels. You cannot configure this function when “Channel Select” is configured to Auxiliary I/O ports 1 - 4. “E2” appears on the display when specifying the channel without data. (Refer to 6.10.1 AUX Select Tab.)
Channel Down	The TKR-750/850/751/851 moves to the next lower channel. The channel without data is skipped.
Channel Up	The TKR-750/850/751/851 moves to the next higher channel. The channel without data is skipped.
CW ID On	The TKR-750/850/751/851 sends the CW ID. (Refer to 6.3 CW ID Window.) This function is available on the channel having the CW ID.
CW Message 1 - CW Message 8	The TKR-750/850/751/851 sends one of CW Message 1 to CW Message 8. (Refer to 6.12 CW Message Window.)
DC Power Save On/Off	It can enable/disable Power Saver Mode. (Refer to 6.4.3 Others Tab (Optional Features).)
Display On/Off	It can switch the panel LED On/Off. This function is enabled only when the TKR-750/850/751/851 is in Power Saver Mode.
Hold Time Disable/ Enable	It can disable/enable the Repeat Hold Time. You can configure this function only when at least one channel is configured as the Repeat for Operation mode and the Repeat Hold Time is enabled. (Refer to 6.4.1 Optional Features 1 Tab.)
Local TX Disable/Enable	It can disable/enable the transmissions by the Local Mic PTT.
Low Power On/Off	It can switch High or Low for the transmission power. This function activates only when at least one channel is configured as High for TX Power. (Refer to 6.2.11 TX High Power.)
Monitor On/Off	It can disable/enable the signalling Decode function.
Monitor Momentary	The TKR-750/850/751/851 activates the Monitor function while pressing the PF key.

Function Name	Description
Multi-table Main/Sub	It can toggle between Main and Sub for the signalling specified by the Multi-table Select by pressing the PF key. (Refer to 6.10.1 AUX Select Tab.)
QT/DQT Decode Disable/Enable	It can disable/enable QT/DQT Decode function by pressing the PF key.
QT/DQT Encode Disable/Enable	It can disable/enable QT/DQT Encode function by pressing the PF key.
Repeat Disable/Enable	It can disable/enable the repeat operation by pressing the PF key. It does not allow to configure this function if no channel is configured to the repeat operation.
Reset	The operation of the TKR-750/850/751/851 is reset and it returns to the default when pressing the PF key.
Scan On/Off	It can enable/disable the Scan function by pressing the PF [Scan On/Off] key.
Scrambler On/Off	It can enable/disable Scrambler by pressing the PF [Scrambler On/Off] key.
Squelch On/Off	It can disable/enable Squelch by pressing the PF [Squelch On/Off] key.
Squelch Momentary	It can disable Squelch while pressing the PF [Squelch Momentary] key.
Take Over On/Off *1	It can enable/disable the control from an external device by pressing the PF [Take Over On/Off] key.
Test Tone On/Off	It can enable/disable Test Tone function by pressing the PF [Test Tone On/Off] key.
TOT Disable/Enable	It can enable/disable Time-out Timer by pressing the PF [TOT Disable/Enable] key.
TX Disable/Enable	It can restrict/permit all transmissions by pressing the PF [TX Disable/Enable] key.

*1: When the control from the external device is enabled by pressing the PF [Take Over On/Off] key, you cannot control the external Monitor, the external PTT, the Auxiliary Input port, and the Auxiliary I/O (In) port. However, the Auxiliary Out port and the Auxiliary I/O (Out) port works.

Note: The level detection for the auxiliary input port is performed even if the PF key is pressed during the detection when the Auxiliary input port is active. In this case, the Key Input Error Tone sounds and the function assigned to the PF key does not operate. (Refer to FUNC 9 Tone, Refer to Table 6.10.2 AUX Tab.)

6.6 Scan Information Window

It can configure the Scan operation and conditions on the “Scan Information” window. (Refer to FUNC 16 Scan.)

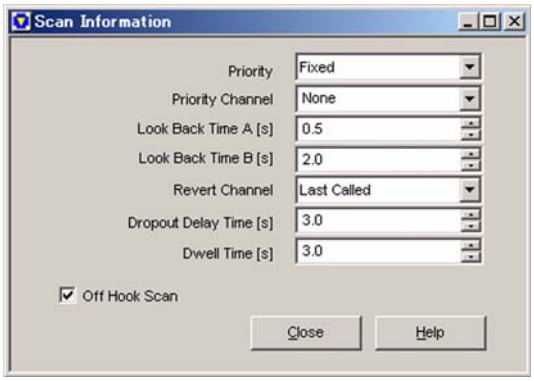

Figure 6-13 Scan Information window

6.6.1 Priority

This is a priority channel type to be scanned periodically. You can select the mode from None, Fixed, and Selected from the dropdown list.

TKR-750/850/751/851 scans channels in numerical order (Normal Scan) when the priority scan function is selected None.

Range	None	Not perform the Priority Scan.
	Fixed	The channels configured as the priority channel are scanned periodically.
	Selected	The selected channel is configured as the priority channel when changing the channel.
Default	None	

Note:

- You cannot configure the Priority Channel, Look Back Time A, and Look Back Time B when priority is configured as “None”.
- You cannot configure the Priority Channel when priority is configured as “Selected”.

6.6.2 Priority Channel

This is a channel to be scanned periodically when TKR-750/850/751/851 is scanning.
Select the channel configured as the Priority Channel from the dropdown list or directly enter the channel number.

Range	1 - 16
Default	None

Note:

- You cannot configure this function if the “Priority” is configured to “None” or “Selected”.
- The dropdown list only displays the channel having the configuration data.

6.6.3 Look Back Time A

This is a interval time to check the priority channel when the scan is stopping on the normal channel and no signal is on the priority channel. Configure the period by the spin buttons or directly enter the value to configure the period.

Range	0.5 - 5.0 sec.
In steps of	0.1 sec.
Default	0.5 sec.

Note: It pauses on the Priority Channel when there is a signal to receive and the signalling matches while scanning the Priority Channel.

6.6.4 Look Back Time B

This is a interval time to check the priority channel when the scan is stopping and a signal without same signalling is on the priority channel. Configure the period by the spin buttons or directly enter the value to configure the period.

Range	0.5 - 5.0 sec.
In steps of	0.1 sec.
Default	2.0 sec.

Note: It pauses on the Priority Channel when there is a signal to receive and the signalling matches while scanning the Priority Channel.

6.6.5 Revert Channel

This is a condition of channel to transmit during scanning. Select the condition from the dropdown list.

Range	Last Called Last Used Selected Selected + Talkback Priority Priority + Talkback
Default	Last Called

Table 6-4 Revert Channel Configuration

Function	Description
Last Called	The revert channel is assigned to the last channel that is received signal and stopped scanning during scanning and transmit on it. In case of pausing the scan due to changing channel by PF key, it transmits on that channel. During pausing scan due to receiving signal, It is assigned as the revert channel, and transmits on it.
Last Used	The revert channel is assigned to the last channel that is transmitted during scanning. In case of pausing the scan due to changing channel by PF key, it transmits on that channel. While receiving a signal, It transmits on the revert channel.
Selected	The revert channel is assigned to the last selected channel. In case of pausing the scan due to changing channel by PF key, it is assigned as the revert channel and transmit on it. While receiving a signal, it changes to the revert channel and transmit.
Selected + Talk Back	The revert channel is assigned to the last selected channel and transmit on it during scan. In case of pausing scan due to changing channel by PF key, it transmits on that channel. While receiving a signal, It transmits on the current channel.
Priority	The revert channel is assigned to the priority channel and transmit on it during scan. Even when pausing scan due to selecting channel by PF key or receiving a signal during scan, it transmits on the priority channel.
Priority + Talk Back	The revert channel is assigned to the priority channel and transmit on it during scan. In case of pausing scan due to changing channel by PF key, it transmits on that channel. While receiving a signal, It transmits on the current channel.

Note: You are able to configure the channel used for the repeat operation as a Priority Channel. (Refer to 6.6.2 Priority Channel.)
Although TKR-750/850/751/851 performs the repeat operation on the Priority Channel when receiving a call on the Priority Channel, it transmits with the channel matching the conditions configured in the Revert Channel function when receiving the transmission request having higher priority than the transmission with the repeater PTT.

6.6.6 Dropout Delay Time

This is a duration time that TKR-750/850/751/851 automatically resumes the Scan after the receiving signal is disappear.

Configure the duration by the spin buttons or directly enter the value to configure the duration.

TKR-750/850/751/851 to resume scanning with the following conditions.

- There is no signal to receive.
- The received QT/DQT code becomes un-match.

Range	0.5 - 5.0 sec.
In steps of	0.5 sec.
Default	3.0 sec.

6.6.7 Dwell Time

This is a duration to resume scanning after stop transmitting.

TKR-750/850/751/851 pauses scanning if the PTT switch is pressed to transmit during the scan and resumes scanning after the transmission ends. Configure the duration by the spin buttons or directly enter the value to configure the duration.

Range	0.5 - 5.0 sec.
In steps of	0.5 sec.
Default	3.0 sec.

6.6.8 Off-hook Scan

It can enable/disable the Off-hook Scan. TKR-750/850/751/851 activates the Scan function regardless of the local microphone position when this function is enabled.

Range	Checked	Scanning regardless of the local microphone position.
	Unchecked	Scanning only when the local microphone is in On-hook position.
Default	Checked	

Note: TKR-750/850/751/851 continues scanning without pausing on the revert channel when receiving the transmission command with the TX Disable function. When the Off-hook Scan function is disabled, it moves to the revert channel. (Refer to 6.10 Function Port Window.)

6.7 DTMF Window

It can configure the DTMF encode condition.

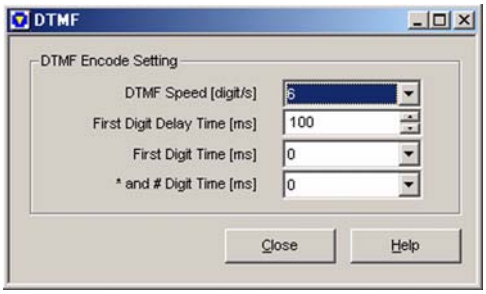

Figure 6-14 DTMF window

6.7.1 DTMF Speed

This is a speed to send DTMF code.

Select the speed from the dropdown list.

Range	6, 8, 10, 15 digit/s
Default	6 digit/s

6.7.2 First Digit Delay Time

This is a delay time between the time when TKR-750/850/751/851 starts transmitting and the time when it sends the DTMF code.

Configure the duration by the spin buttons or directly enter the value to configure the duration.

Range	100 - 1000 ms
In steps of	50 ms
Default	100 ms

6.7.3 First Digit Time

This is a duration time to transmit the first digit of the DTMF code. Select the duration from the dropdown list.

This function ensures the recognition of the first digit of the DTMF code detection for the receiving transceiver using the Power Saver or Scan functions.

The duration of the first digit of the DTMF is obtained by adding the transmission time configured in the DTMF Speed and the First Digit Time. (Refer to 6.7.1 DTMF Speed.)

Range	0, 100, 500, 1000 ms
Default	0 ms

6.7.4 * and # Digit Time

This is a duration time to transmit the “*” tone and the “#” tone of the DTMF code. Select the delay time from the dropdown list.

In some case, these tone is used for special function, such as Connecting tone and Disconnecting tone. To extend these tone transmitting time, it allows to receive them correctly.

The time of the “*” tone and the “#” tone is obtained by adding the transmission time configuring the DTMF Speed to the “*” and “#” Digit Time. (Refer to 6.7.1 DTMF Speed.)

Range	0, 100, 500, 1000 ms
Default	0 ms

Note: When the first digit of the DTMF code is “*” tone or “#” tone, TKR-750/850/751/851 compares the duration time to transmit the first digit configured in the First Digit Time with the “*”and “# “Digit Time and uses the longer delay time to transmit. (Refer to 6.7.3 First Digit Time.)

6.8 “Encode/Decode Table” Window

It can configure the DTMF Encode/Decode code and the function relating to the Transpond function. You can configure this function when the DTMF signalling is used. This window consists of “Encode” and “Decode” tabs and you can switch the window by clicking the tabs.

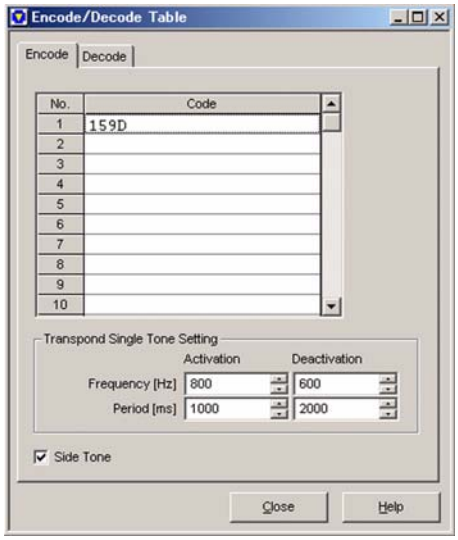

Figure 6-15 Encode tab

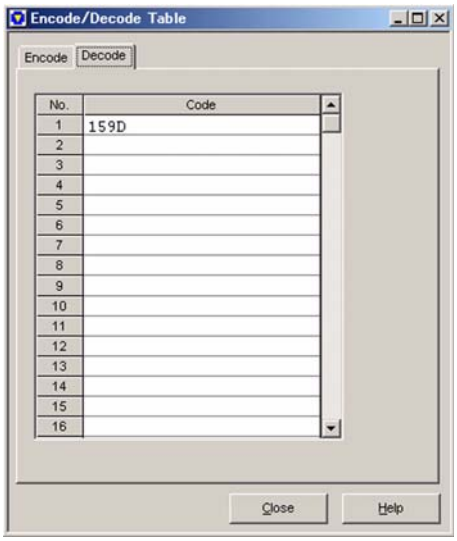

Figure 6-16 Decode tab

6.8.1 Encode Code

It can configure the Encode code with a maximum of 16 digits of the DTMF Tone. Enter the code in the edit boxes from No. 1 to No. 32.

Range	16 digits 0 - 9, A - D, *, #
Default	No. 1 is 159D. No. 2 - No. 32 are blank.

6.8.2 Frequency

This is a frequency to transmit Single tone as the Transpond code when the function assigned to the PF key or the auxiliary port activates/deactivates. You can configure the frequency for both of “Activation” and “Deactivation”. Configure the frequency by the spin buttons or directly enter the value to configure the frequency.

Range	100 - 3000 Hz
In steps of	10 Hz
Default	800 Hz (Activation) 600 Hz (Deactivation)

6.8.3 Period

This is a period to transmit Single Tone as the Transpond code when the function assigned to a PF key or an Auxiliary port activates/deactivates. You can configure the transmission period for both of “Activation” and “Deactivation”. Configure the period by the spin buttons or directly enter the value to configure the period.

Range	100 - 3000 ms
In steps of	50 ms
Default	1000 ms (Activation) 2000 ms (Deactivation)

6.8.4 Sidetone

It allows to transmit a sidetone when sending the DTMF code. This function is used to feedback the audio tone to the transceiver's speaker.

Range	Checked	Transmits the sidetone with DTMF code.
	Unchecked	Not transmit the sidetone with the DTMF code.
Default	Checked	

Note: You cannot transmit the sidetone when the “Operation Mode” is configured as “Simplex”. (Refer to 6.2.8 Operation Mode.)

6.8.5 Decode Code

It can configure the Decode code with a maximum of 16-digit DTMF Tone. Enter the code in the edit boxes from No. 1 to No. 40.

Range	16 digits 0 - 9, A - D, *, #
Default	No. 1 is 159D. No. 2 - No. 40 are blank.

Note: If the same DTMF code is configured in the different table, it may use the same DTMF code to decode for the Air Remote function. In this case, the function may not work properly. (Refer to 6.9 Remote Control Window.)

6.9 Remote Control Window

It can configure the TKR-750/850/751/851 to be controlled by other transceivers on the “Remote Control” window. It is possible to control functions assigned to the PF key or the Auxiliary Port by the Air Remote code.

Air Remote activates the function configured previously (Channel Up function and Scan On/Off function, etc.) when the received code is same as the transmitted code from other transceivers. The code used in this function is referred to as the “Air Remote code”.

This window consists of PF key and AUX Input/Output tabs and you can switch the window by clicking the tabs.

■ Conditions od the Air Remote

- When the Air Remote functions for the Auxiliary Input (Level) and the PF key are assigned to the same, the status of the Auxiliary Input (Level) port gets the preference over the operation of the PF key. In this case, the Transpond code is not sent and the Air Remote function is canceled. For example, when the scan function is assigned to the Auxiliary Input (Level) port and activating, the PF keys relating to the Scan operation and the Air Remote function are not acceptable.
- It can select a timing to send a Transpond code from “Before”, “After” or “Both” the received Air Remote code is processed.

  Before:

  TKR-750/850/751/851sends the Transpond code as soon as it receives the Air Remote code. The Transpond code is not sent when the transmission is restricted.

  After:

  TKR-750/850/751/851 sends the Transpond code after processing the function related received Air Remote code. The Transpond code is not sent when the transmission is restricted. Also it is not sent when that function cannot be processed. This operation is the same as when the function is disabled corresponding to the status of TKR-750/850/751/851 even when the PF key is pressed.

  Both:

  TKR-750/850/751/851 sends the Transpond code when receiving the Air Remote code and after processing the received code. The Transpond code is not sent when the transmission is restricted.
- TKR-750/850/751/851 uses the following channel to send the code during Scan. (Refer to 6.6.5 Revert Channel.)

Table 6-5 The Transmitting channel during Scan.

Transmission event	During the Scan	While the Scan pauses.
AUX In & In (I/O)	Revert CH	Revert CH
AUX Out	Revert CH	CH that Scan pauses
Air Remote Transpond	-	CH that Scan pauses

Note:

- The Transpond code is sent while the scan operation is pausing.
- The Transpond code is sent on the Revert CH when the Scan operation is switched On by the Air Remote.

6.9.1 PF Key Tab

On this tab, It can configure the Air Remote code assigned to PF keys controlled.

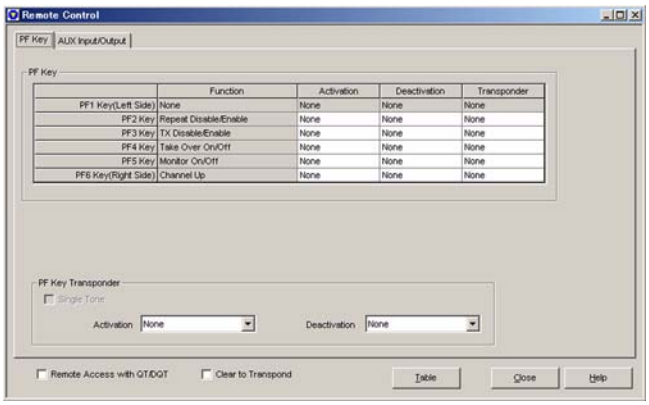

Figure 6-17 “PF Key” tab

■ Function (PF Key)

The function configured on the “Key Assignment” window appears. However, you cannot change the configuration on this window. (Refer to 6.5 Key Assignment Window.)

■ Activation (PF Key)

This is a standby Air Remote code to be decoded in order to activate the assigned function for the PF key. From the dropdown list, you can select a table number in the “Decode” tab from “Encode/Decode” table window. (Refer to 6.8 “Encode/Decode Table” Window.)

Range	None, Dec. Table 1 - 40
Default	None

Note:

- You cannot configure the “Activation” if no function is assign to “Function”. (Refer to ■ Function (PF Key).)
- When Dec. Table is already used in other functions, you cannot configure the same Dec. Table.

■ Deactivation (PF Key)

This is a standby Air Remote code to be decoded in order to deactivate the assigned function for the PF key. From the dropdown list, you can select a table number in the “Decode” tab from “Encode/Decode” table window. (Refer to 6.8 “Encode/Decode Table” Window.)

Range	None, Dec. Table 1 - 40
Default	None

Note:

- You cannot configure “Deactivation” if no function is assign to “Function”. (Refer to ■ Function (PF Key).)
- You cannot configure “Deactivation” to the functions that it cannot be disable, such as Channel Up function.
- When Dec. Table is already used to other functions, you cannot configure the same Dec. Table.

■ Transponder (PF Key)

This is a timing to send the Transpond code. Select one of “None”, “Fore”, “After” and “Both” from the dropdown list.

Range	None	Not send the Transpond code.
	Fore	Sends the Transpond code when receiving the Air Remote code.
	After	Sends the Transpond code after processing the received Air Remote code.
	Both	Sends the Transpond code when receiving the Air Remote code and after processing the received code.
Default	None	

Note:

- You cannot configure “Transponder” if no function is assign to “Function”. (Refer to ■ Function (PF Key).)
- You may not be allowed to select “After” or “Both” due to the assigned functions to the PF key. (Example: Reset, CW ID On) (Refer to 6.5 Key Assignment Window.)

■ Activation (PF Key Transponder)

This is a Transpond code that is sent when the function assigned to AUX In/Out activates with the Air Remote function and “Transponder” is configured as “Yes”. (Refer to ■ Transponder (PF Key).)

From the dropdown list, you can select a table number in the “Decode” tab from “Encode/Decode” table window. (Refer to 6.8 “Encode/Decode Table” Window.)

Range	None, Enc. Table 1 - 32
Default	None

Note: You can use Single Tone as the Transpond code when the DTMF signalling is configured. (Refer to ■ Single Tone (PF Key Transponder).)

■ Deactivation (PF Key Transponder)

This is a Transpond code when the function assigned to Aux In/Out deactivates with the Air Remote function and “Transponder” is configured as “Yes”. (Refer to ■ Transponder (PF Key).)

From the dropdown list, you can select a table number in the “Decode” tab from “Encode/ Decode” table window. (Refer to 6.8 “Encode/Decode Table” Window.)

Range	None, Enc Table 1 - 32
Default	None

Note: You can use Single Tone as the Transpond code when the DTMF signalling is configured. (Refer to ■ Single Tone (PF Key Transponder).)

■ Single Tone (PF Key Transponder)

It can use a Single Tone for the Transpond code. You can configure this function only when the DTMF signalling is used.

Range	Checked	Uses Single Tone for the Transpond code.
	Unchecked	Not use Single Tone for the Transpond code.
Default	Unchecked	

Note: You cannot individually select Single Tone for Aux Transponder Activation and Deactivation.

6.9.2 AUX Input/Output Tab

On this tab, it can control the function assigned to the Auxiliary Port by the Air Remote code.

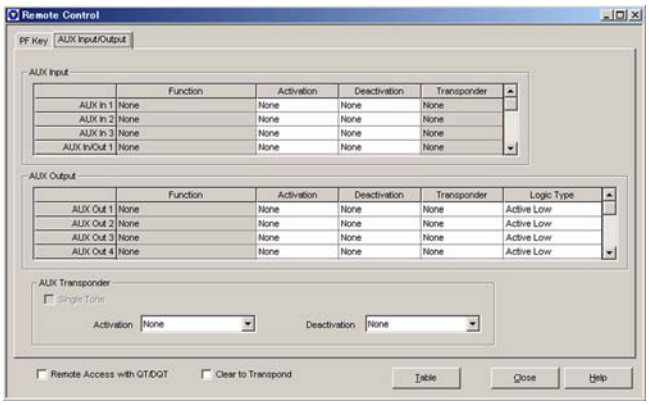

Figure 6-18 AUX Input/Output tab

■ Function (AUX Input)

The function assigned on the “Aux Input” tab of the “Function Port” window appears. However, you cannot change the configuration in this window. (Refer to 6.10.2 AUX Tab.)

Although you can configure three functions (1st, 2nd, and 3rd) to the Auxiliary Input port, it is possible **activate only the function configured to the 1st** with the Air Remote function. (Refer to 6.10 Function Port Window.)

■ Activation (AUX Input)

this is a standby Air Remote code to be decoded in order to activate the assigned function for the Auxiliary Input port. From the dropdown list, you can select a table number on the “Decode” tab from “Encode/ Decode” table window. (Refer to 6.8 “Encode/Decode Table” Window.)

When no function is assigned to “Function” (None), It can perform the encode function by interlocking with the sensor input of the external device. From the dropdown list, you can select a table number on the “Decode” tab from “Encode/ Decode” table window. (Refer to 6.8 “Encode/Decode Table” Window.)

Range	None, Dec. Table 1 - 40, Enc Table 1 - 32
Default	None

Note: When Dec. Table is already used for the other function, it does not allow to configure the same Dec. Table.

■ Deactivation (AUX Input)

This is a standby Air Remote code to be decoded in order to deavtivate the assigned function for the Auxiliary Input port. From the dropdown list, you can select a table number on the “Decode” tab from “Encode/ Decode” table window. (Refer to 6.8 “Encode/Decode Table” Window.)

When no function is assigned to “Function”, you can perform the encode function by interlocking with the sensor input of the external device. You can select the table number configured with the “Encode” tab on the “Encode/Decode Table” window from the dropdown list. (Refer to 6.8 “Encode/Decode Table” Window.)

Range	None, Dec. Table 1 - 40, Enc Table 1 - 32
Default	None

Note:

- You cannot configure “Deactivation“to the functions that you cannot disable, such as the Channel Up function.
- When Dec. Table is already used to the other function, you cannot configure the same Dec. Table.

■ Transponder (AUX Input)

This is a timing to send the Transpond code. Select one of “None”, “Fore”, “After” and “Both” from the dropdown list.

Range	None	Not send the Transpond code.
	Fore	Sends the Transpond code when receiving the Air Remote code.
	After	Sends the Transpond code after processing the received Air Remote code.
	Both	Sends the Transpond code when receiving the Air Remote code and after processing the received code.
Default	None	

Note:

- You cannot configure “Transponder” if no function is assign to “Function”. (Refer to ■ Function (AUX Input).)
- You may not be allowed to select “After” or “Both” due to the assigned functions to the Auxiliary Input port. (Example: Reset, CW ID On) (Refer to 6.5 Key Assignment Window.)

■ Function (AUX Output)

The function assigned on the “Aux Output” tab of the “Function Port” window appears. However, you cannot change the configuration in this window. (Refer to 6.10.2 AUX Tab.)

■ Activation (AUX Output)

This is an Air Remote code when the function assigned to the Auxiliary Output port activates.

When no function is assigned to “Function” (None), you can control external devices by specifying the decode code. Select the table number configured on the “Decode” tab of the “Encode/Decode Table” window from the dropdown list. (Refer to 6.8 “Encode/Decode Table” Window.)

Range	None, Dec. Table 1 - 40, Enc Table 1 - 32
Default	None

Note:

- You cannot use the TX Unlock and TXS with Air Remote. (Refer to 6.10 Function Port Window.)
- Although you can use RF Power Down Detect with Air-Remote, the Air Remote code is transmitted with the low transmission power. (Refer to 6.10 Function Port Window.)
- When Dec. Table is already used to the other function, you cannot configure the same Dec. Table.

■ Deactivation (AUX Output)

This is an Air Remote code when the function assigned to the Auxiliary Output port deactivates.

When no function is assigned to “Function” (None), you can control external devices by specifying the decode code. Select the table number configured on the “Decode” tab of the “Encode/Decode Table” window from the dropdown list. (Refer to 6.8 “Encode/Decode Table” Window.)

Range	None, Dec. Table 1 - 40, Enc Table 1 - 32
Default	None

Note:

- You cannot use TX Unlock and TXS with the Air Remote. (Refer to 6.10 Function Port Window.)
- When Dec. Table is already used to the other functions, you cannot configure the same Dec. Table.

■ Transponder (AUX Output)

This is a timing to send the Transpond code. It can configure only when no function is assign to “Function”. Select one of “None”, “Fore”, “After” and “Both” from the dropdown list.

Range	None	Not send the Transpond code.
	Fore	Sends the Transpond code when receiving the Air Remote code.
	After	Sends the Transpond code after processing the received Air Remote code.
	Both	Sends the Transpond code when receiving the Air Remote code and after processing the received Air Remote code.
Default	None	

■ Logic Type (AUX Output)

It can select the status of the signal (Low/High) to activate or deactivate the function with the Air-Remote code. It can configure this function only when no function is assign to “Function”. Select “Active Low” or “Active High” from the dropdown list.

Range	Active Low	The assigned function activates in Active Low.
	Active High	The assigned function activates in Active High.
Default	Active Low	

Note: The “Logic Type” configured on the “AUX” tab of the “Function Port” window appears when “Function” is configured other than “None”. However, you cannot change the configuration on this window. (Refer to 6.10.2 AUX Tab.)

■ Activation (AUX Transponder)

This is a Transpond code when the function assigned to the Auxiliary port is activated by the Air Remote code and the “Transponder” is configured as “Yes”. (Refer to ■ Transponder (AUX Input), ■ Transponder (AUX Output).)

Select a table number configured on the “Encode” tab of the “Encode/Decode Table” window from the dropdown list. (Refer to 6.8 “Encode/Decode Table” Window.)

Range	None, Enc Table 1 - 32
Default	None

Note: You can use Single Tone as the Transpond code when the DTMF signalling is configured. (Refer to ■ Single Tone (Aux Transponder).)

■ Deactivation (AUX Transponder)

This is a Transpond code when the function assigned to the Auxiliary port is deactivated by the Air Remote code and the “Transponder” is configured as “Yes”. (Refer to ■ Transponder (AUX Input), ■ Transponder (AUX Output).)

Select a table number configured on the “Encode” tab of the “Encode/Decode Table” window from the dropdown list. (Refer to 6.8 “Encode/Decode Table” Window.)

Range	None, Enc Table 1 - 32
Default	None

Note: You can use Single Tone as the Transpond code when the DTMF signalling is configured. (Refer to ■ Single Tone (Aux Transponder).)

■ Single Tone (Aux Transponder)

It can use Single Tone for the Transpond code.

Range	Checked	Use Single Tone for the Transpond code.
	Unchecked	Not use Single Tone for the Transpond code.
Default	Unchecked	

Note: You cannot individually select Single Tone for Aux Transponder Activation and Deactivation.

6.9.3 Remote Access with QT/DQT

It can receive the Air Remote code depending on the matched/unmatched status of the received QT/DQT code.

Range	Checked	TKR-750/850/751/851 receives the Air Remote code only when the QT/DQT code matches. Although the it performs the repeat operation, it does not transmit when “TX Disable” is enabled.
	Unchecked	TKR-750/850/751/851 receives the Air Remote code even when the QT/DQT code does not match or carrier. It cannot enable the repeat operation when the repeat conditions do not match.
Default	Unchecked	

Note:

- This function is only available to receive the Air Remote code. This function does not affect the repeat operation.
- If the check box is checked, the QT/DQT Decode function is performed to receive the Air Remote code even when the QT/DQT Decode function is disabled as following.
  - The Off-hook Decode function is disabled and the microphone is in the Off-hook position.
  - The monitor is enable:

6.9.4 Clear To Transpond (Remote Control)

This is a timing to transmit a Transpond code. If check box is checked, TKR-750/850/751/851 waits to transmit a Transpond code until the channel is available.

Range	Checked	Waits until the channel becomes available without sending the Transpond code when the channel is busy.
	Unchecked	Sends the Transpond code even if the channel is busy.
Default	Unchecked	

6.10 Function Port Window

It can configure the functions that you can assign to the Auxiliary port on this window. This window consists of “AUX Select” and “AUX” tabs and it can switch the window by clicking the tabs.

6.10.1 AUX Select Tab

It can select operation type of AUX Input/Output ports on this window.

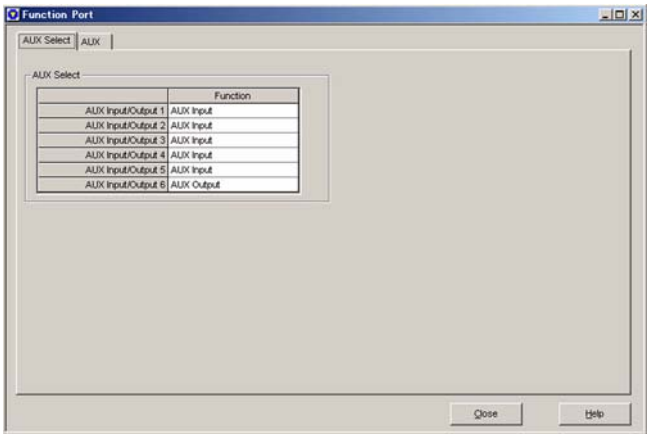

Figure 6-19 AUX Select tab

■ Function (AUX Select)

It can assign this function to the AUX Input/Output ports 1 - 6 only. Select a operation type from “AUX Input”, “AUX Output”, “Channel Select”, and “Multi-table Select”.

Range	AUX Input	This port works as the PF Input port.
	AUX Output	This port works as the PF Output port.
	Channel Select	Move to one of the CH 1 - CH 16 channels when the voltage level of the Auxiliary Input/Output pots is High or Low.
	Multi-table Select	Specify one of the No. 2 to No. 16 codes configured on the Multi-table when the voltage level of the Auxiliary Input/Output ports is High or Low.
Default	AUX Input/Output 1 - 5: AUX Input AUX Input/Output 6: AUX Output	

Note:

- It can assign “Channel Select” and the “Multi-table Select” to the AUX Input/Output ports 1 - 4 only.
- It cannot change the order of the AUX Input/Output ports (1 - 4) when assigning the “Channel Select” function to these ports. If the AUX Input/Output 1" port is assigned the “Multi-table Select”, the “Multi-table Select” function is automatically assigned to AUX Input/Output ports (2 - 4).

6.10.2 AUX Tab

It can configure functions assigned to the AUX Input port, AUX Output port, and the AUX Input/Output port in this tab.

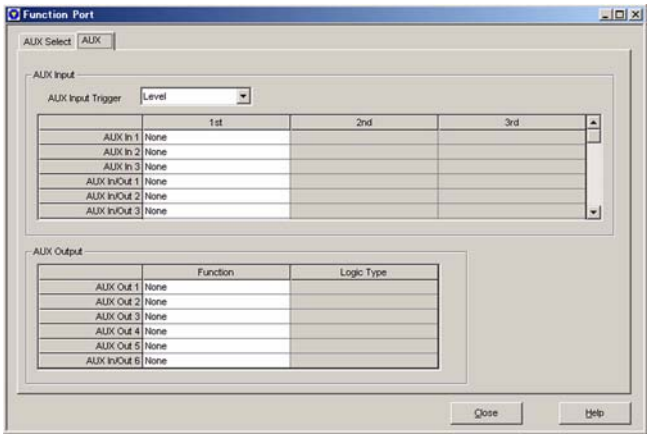

Figure 6-20 AUX tab

■ AUX Input Trigger (AUX Input)

This is a method to detect the signal applied to the Auxiliary Input ports Select “Level” or “Down Edge” from the dropdown list.

Range	Level	Perform the trigger detection when the port is in Active Low.
	Down Edge	Perform the trigger detection with Down Edge on the input signal.

Default	Level

Note: Although TKR-750/850/751/851 performs the detection when the detection is enabled, it performs Start Up first when Start Up is enabled when the “Level” is selected. (Refer to 6.4.3 Others Tab (Optional Features).)

■ 1st, 2nd, 3rd (AUX Input)

You can assign three functions (1st, 2nd, and 3rd) to the AUX Input port and the AUX Input/Output port. Select the functions from the dropdown list.

Range	Refer to Table 6-6 Assigning Functions to the Auxiliary Input Ports.
Default	1st: None 2nd: Cannot be configured. 3rd: Cannot be configured.

Note:

- As for the AUX Input/Output port, it appears on the list only when it is configured as the “AUX Input” port in the “AUX Select” tab. (Refer to 6.10.1 AUX Select Tab.)
- It cannot configure any functions to “2nd” and “3rd” when “1st” is configured as “None”, and it cannot configure any functions to “3rd” when “2nd” is configured to “None”.

Table 6-6 Assigning Functions to the Auxiliary Input Ports
(Functions in GLAY are available only when Down Edge is detected.)

Function Name	Description
None	Not perform any operation.
AUX Out 1 Off - AUX Out 5 Off	When the signal is applied to one of the PF [AUX Out 1 Off] - PF [AUX Out 5 Off] input ports, the function assigned to the Auxiliary Output port is deactivated. You can assign this function when “Selectable” is configure to the Auxiliary Output ports 1 to 5. (Refer to Table 6-7 Assigning Functions to the Auxiliary Output Ports.)
AUX I/O 1 Off - AUX I/O 6 Off	When the signal is applied to one of the PF [AUX Out 1 Off] - PF [AUX Out 6 Off] input ports, the function assigned to the Auxiliary I/O port is deactivated. You can assign the function when “Selectable” is configured to the Auxiliary I/O ports 1 to 6. (Refer to Table 6-7 Assigning Functions to the Auxiliary Output Ports.)
AUX Out 1 On - AUX Out 5 On	When the signal is applied to one of the PF [AUX Out 1 On] - PF [AUX Out 5 On] input ports, the function assigned to the Auxiliary Output port is activated. You can assign this function when “Selectable” is configure to the Auxiliary Output ports 1 to 5. (Refer to Table 6-7 Assigning Functions to the Auxiliary Output Ports.)
AUX I/O 1 On - AUX I/O 6 On	When the signal is applied to one of the PF [AUX I/O 1 On] - PF [AUX I/O 6 On] input ports, the function assigned to the Auxiliary I/O port is disabled. You can assign the function when “Selectable” is configured to the Auxiliary I/O ports 1 to 6. (Refer to Table 6-7 Assigning Functions to the Auxiliary Output Ports.)
AUX Out 1 On/Off - AUX Out 5 On/Off	Switch enable/disable the function assigned to the Auxiliary Output port when the signal is applied to one of the PF [AUX Out 1 On/Off] to PF [AUX Out 5 On/Off] input ports. You can assign this function when “Selectable” is configure to the Auxiliary Output ports 1 to 5. (Refer to Table 6-7 Assigning Functions to the Auxiliary Output Ports.)

Function Name	Description
AUX I/O 1 On/Off - AUX I/O 6 On/Off	Switch enable/disable the function assigned to the Auxiliary I/O port when the signal is applied to one of the PF [AUX I/O 1 On/Off] to PF [AUX I/O 6 On/Off] ports. You can assign the function when “Selectable” is configured to the Auxiliary I/O ports 1 to 6. (Refer to Table 6-7 Assigning Functions to the Auxiliary Output Ports.)
Channel 1 - Channel 16	Move the channel to one of CH 1 to CH 16 channels when the signal is applied to one of the PF [Channel 1] to PF [Channel 16] ports. You cannot configure this function when “Channel Select” is configured to Auxiliary I/O ports 1 to 4. “E2” appears when specifying the channel without data. (Refer to 6.10.1 AUX Select Tab.)
Channel Down	Move to the next lower channel when the signal is applied to the PF [Channel Down] input port. The channel without data is skipped.
Channel Up	Move to the next higher channel when the signal is applied to the PF [Channel Down] input port. The channel without data is skipped.
CW ID On	Transmit CW ID when the signal is applied to the PF [CW ID On] input port. (Refer to 6.3 CW ID Window.) This function is available on the channel having the CW ID.
CW Message 1 - CW Message 8	Transmits one of the CW Messages 1 to 8 when the signal is applied to one of the PF [CW Message 1] to PF [CW Message 8] input ports. (Refer to 6.12 CW Message Window.)
DC Power Save Off	Switch the Saver Mode Off when the signal is applied to the PF [DC Power Save Off] input port. When the signal is detected with Down Edge, it cannot switch the DC Power Save function On after this function is enabled.
DC Power Save On	Switch the Save Mode On when the signal is applied to the PF [DC Power Save On] input port. When the signal is detected with Down Edge, it cannot switch the DC Power Save function Off after this function is once enabled.
DC Power Save On/Off	Switch the Save Mode On/Off when the signal is applied to the PF [DC Power Save On/Off] input port. (Refer to 6.4.3 Others Tab (Optional Features).)
Display Off	All LEDs other than Power SW LED located on the front panel unlit when the signal is applied to the PF [Display Off] input port. This function is valid for only Power Saver Mode. When the signal is detected with Down Edge, it cannot make all LEDs unlit after this function is enabled.
Display On	All LEDs on the front panel light when the signal is applied to the PF [Display On] input port. This function is valid for only Power Saver Mode. When the signal is detected with Down Edge, it cannot make all LEDs unlit after this function is enabled.
Display On/Off	Switch the LEDs located on the front panel On/Off when the signal is applied to the PF [Display On/Off] input port. This function is valid for only Power Saver Mode.
Hold Time Disable	Switch Repeat Hold Time Off when the signal is applied to the PF [Hold Time Disable] input port. It can configure this function only when at least one channel is configured as the Repeat for Operation mode and Repeat Hold Time is enabled. (Refer to 6.4.1 Optional Features 1 Tab.) When the signal is detected with Down Edge, it cannot switch Hold Time On after this function is enabled.
Hold Time Enable	Switch Repeat Hold Time On when the signal is applied to the PF [Hold Time Enable] input port. It can configure this function only when at least one channel is configured as the Repeat for Operation mode and Repeat Hold Time is enabled. (Refer to 6.4.1 Optional Features 1 Tab.) When the signal is detected with Down Edge, it cannot switch Hold Time On after this function is enabled.
Hold Time Disable/ Enable	Switch disable/enable Repeat Hold Time when the signal is applied to the PF [Hold Time Disable/Enable] input port. It can configure this function only when at least one channel is configured as the Repeat for Operation mode and Repeat Hold Time is enabled. (Refer to 6.4.1 Optional Features 1 Tab.)
Local TX Disable	It can disable the transmissions using the Local Mic PTT when the signal is applied to the PF [Local TX Disable] input port. When the signal is detected with Down Edge, it cannot enable the transmission using the Local Mic PTT after this function is enabled.
Local TX Enable	It can enable the transmission using the Local Mic PTT when the signal is applied to the PF [Local TX Enable] input port. When the signal is detected with Down Edge, it cannot restrict the transmissions using the Local Mic PTT after this function is enabled.
Local TX Disable/Enable	Switch disable/enable the transmissions using the Local Mic PTT when the signal is applied to the PF [Local TX Disable/Enable] input port. it can use this function only when the signal is detected with Down Edge. (Refer to ■ AUX Input Trigger (AUX Input).)
Low Power Off *1	Switch the transmission power from Low to High when the signal is applied to the PF [Low Power Off] input port. This function activates only when at least one channel is configured as High Transmission Power. (Refer to 6.2.11 TX High Power.)

Function Name	Description
Low Power On *1	Switch the transmission power from High to Low when the signal is applied to the PF [Low Power Off] input port. This function activates only when at least one channel is configured as High Transmission Power. (Refer to 6.2.11 TX High Power.)
Low Power On/Off*1	Switch High/Low for the transmission power when the signal is applied to the PF [Low Power On/Off] input port. This function activates only when at least one channel is configured as High for Transmission Power. (Refer to 6.2.11 TX High Power.)
Monitor Off	It can enable the signalling Decode function when the signal is applied to the PF [Monitor Off] input port. When the signal is detected with Down Edge, you cannot switch Monitor On after this function is once enabled. This function does not operate when the repeater enables the repeat operation.
Monitor On	It can disable signalling Decode when the signal is applied to the PF [Monitor On] input port. When the signal is detected with Down Edge, you cannot switch Monitor Off after this function is once enabled.
Monitor On/Off	Switch disable/enable signalling Decode when the signal is applied to the PF [Monitor On/Off] input port. You can use this function only when the signal is detected with Down Edge. (Refer to ■ AUX Input Trigger (AUX Input).)
Multi-table Sub	Switch the signalling specified on the Multi-table Select to the Sub-table signalling when the signal is applied to the PF [Multi-table Sub] input port. (Refer to 6.10.1 AUX Select Tab.) When the signal is detected with Down Edge, it cannot switch to the Main-table after the Sub-table is selected.
Multi-table Main	Switch the signalling specified on the Multi-table Select to the Main-table when the signal is applied to the PF [Multi-table Main] input port. (Refer to 6.10.1 AUX Select Tab.) When the signal is detected with Down Edge, it cannot switch to the Sub-table after the Main-table is selected.
Multi-table Main/Sub	Switch Main/Sub for the signalling specified with the Multi-table Select when the signal is applied to the PF [Multi-table Main/Sub] input port. (Refer to 6.10.1 AUX Select Tab.)
QT/DQT Decode Disable	Restrict QT/DQT Decode when the signal is applied to the PF [QT/DQT Decode Disable] input port. When the signal is detected with Down Edge, it cannot switch the QT/DQT Decode function on after this function is on. This function is valid even when the repeater is performing the Repeat operation.
QT/DQT Decode Enable	Activate QT/DQT Decode when the signal is applied to the PF [QT/DQT Decode Enable] input port. When the signal is detected with Down Edge, it cannot switch the QT/DQT Decode function Off after this function is on.
QT/DQT Decode Disable/Enable	Switch disable/enable QT/DQT Decode when the signal is applied to the PF [QT/DQT Encode Disable/Enable] input port.
QT/DQT Encode Disable	Restrict QT/DQT Encode when the signal is applied to the PF [QT/DQT Encode Disable] input port. When the signal is detected with Down Edge, it cannot switch the QT/DQT Encode function On after this function is on.
QT/DQT Encode Enable	Activate QT/DQT Encode when the signal is applied to the PF [QT/DQT Encode Enable] input port. When the signal is detected with Down Edge, it cannot switch the QT/DQT Encode function Off after this function is on.
QT/DQT Encode Disable/Enable	Switch disable/enable QT/DQT Encode when the signal is applied to the PF [QT/DQT Encode Disable/Enable] input port.
Repeat Disable	Restrict the Repeat operation when the signal is applied to the PF [Repeat Disable] input port. It cannot configure this function if no channel is configured to the Repeat operation. When the signal is detected with Down Edge, it cannot enable the Repeat operation after this function is enabled.
Repeat Enable	Activate the Repeat operation when the signal is applied to the PF [Repeat Enable] input port. It cannot configure this function if no channel is configured to the Repeat operation. When the signal is detected with Down Edge, it cannot disable the repeat operation after this function is enabled.
Repeat Disable/Enable	Switch disable/enable the repeat operation when the signal is applied to the PF [Repeat Disable/Enable] input port. It cannot configure this function if no channel is configured to the Repeat operation.
Reset	Reset the operations and returns to the default value when the signal is applied to the PF [Reset] input port.
Scan Off	It can disable the Scan when the signal is applied to the PF [Scan Off] input port. When the signal is detected with Down Edge, it cannot enable the Scan after this function is enabled.
Scan On	It can enable the Scan when the signal is applied to the PF [Scan On] input port. When the signal is detected with Down Edge, it cannot disable the Scan after this function is enabled.
Scan On/Off	Switch Scan On/Off when the signal is applied to the PF [Scan On/Off] input port.
Scrambler Off	It can disable Scrambler when the signal is applied to the PF [Scrambler Off] input port. It cannot configure this function when the optional Scrambler board is not installed. When the signal is detected with Down Edge, it cannot switch Scrambler On after this function is enabled.

Function Name	Description
Scrambler On	It can enable Scrambler when the signal is applied to the PF [Scrambler On] input port. It cannot configure this function when the optional Scrambler board is not installed. When the signal is detected with Down Edge, it cannot disable Scrambler after this function is enabled.
Scrambler On/Off	Switch Scrambler On/Off when the signal is applied to the PF [Scrambler On/Off] input port. It cannot configure this function when the optional Scrambler board is not installed.
Squelch Off	It can disable Squelch when the signal is applied to the PF [Squelch Off] input port. When the signal is detected with Down Edge, it cannot switch Squelch On after this function is enabled.
Squelch On	You can enable Squelch when the signal is applied to the PF [Squelch On] input port. When the signal is detected with Down Edge, you cannot switch Squelch Off once this function is enabled.
Squelch On/Off	Switch Squelch On/Off when the signal is applied to the PF [Squelch On/Off] input port.
TA Line Pre-emphasis Off	It can disable the pre-emphasis of the TA terminal. It can use this function only when the signal is detected with the Level.
TA Line Pre-emphasis On/Off	Switch enable/disable the pre-emphasis of the TA terminal.
Test Tone Off	Stop Test Tone when the signal is applied to the PF [Test Tone Off] input port. When the signal is detected with Down Edge, it cannot switch Test Tone On after this function is on.
Test Tone On	Start Test Tone when the signal is applied to the PF [Test Tone On] input port. When the signal is detected with Down Edge, it cannot switch Test Tone Off once this function is on.
Test Tone On/Off	Switch Test Tone On/Off when the signal is applied to the PF [Test Tone On/Off] input port.
TOT Disable *2	Disable Time-out Timer when the signal is applied to the PF [TOT Disable] input port. When the signal is detected with Down Edge, it cannot switch Time-out Timer On after this function is on.
TOT Enable *2	Enable Time-out Timer when the signal is applied to the PF [TOT Enable] input port. When the signal is detected with Down Edge, it cannot switch Time-out Timer Off after this function is on.
TOT Disable/Enable *2	Switch disable/enable Time-out Timer when the signal is applied to the PF [TOT Disable/Enable] input port.
TX Disable	Restrict all transmissions when the signal is applied to the PF [TX Disable] input port. When the signal is detected with Down Edge, it cannot permit transmissions after this function is on.
TX Enable	Permit all transmissions when the signal is applied to the PF [TX Enable] input port. When the signal is detected with Down Edge, it cannot restrict transmissions after this function is on.
TX Disable/Enable	Switch disable/enable the transmissions when the signal is applied to the PF [TX Disable/Enable] input port.

*1: This function is available on the TOT of the Local Mic PTT and the Repeater/External PTT.

*2: You cannot switch to Low Power while transmitting or scanning. The Low Power status is retained even if the channel is changed or the repeater is turned ON/OFF.

Note:

- When assigning similar functions to Auxiliary Input ports, TKR-750/850/751/851 activates the function according to the status of the last used Auxiliary Input port.
- When the same function or similar functions are assigned to the Auxiliary Input port and the PF key, the operation may become unstable due to the chattering.

  Example: When the PF [Scan On/Off] key is switched from Off to On:

  - Starts scanning since the Scan starts with the PF [Scan On/Off] key. (Channel/Status display)
  - Pauses scanning when the signal is applied to the PF [Scan On/Off] input port.
- When the DTMF signalling is configured, TKR-750/850/751/851 determines that the received code is a continuous code even when it is intermittently received for a couple seconds. Therefore, it activates the “Reset” function in any of the following cases.

  Example:

Decode Table		Assigned Function
No.	Code	
1	0123456	Take Over On
2	0123456789ABCD	Reset
3	789ABCD	Repeat Disable

TKR-750/850/751/851 assumes that it has received the No. 2 Reset signal when receiving the No. 3 Repeat Disable signal after receiving the No. 1 Take Over On signal.

■ Function (AUX Output)

It can assign the function to the AUX Output port and the AUX Input/Output port. Select the functions from the dropdown list.

Range	Refer to Table 6-7 Assigning Functions to the Auxiliary Output Ports.
Default	None

Note: As for the AUX Input/Output port, it appears on the list only when it is configured as the “AUX Output” port in the “AUX Select” tab. (Refer to 6.10.1 AUX Select Tab.)

Table 6-7 Assigning Functions to the Auxiliary Output Ports

Function Name	Description
None	Not perform any operation.
COR	The PF [COR] output port is activated when receiving the signal.
Fan Status	The PF [Fan Status] output port is activated when the fan starts operating.
Power Supply Lower Limit *1	The PF [Power Supply Lower Level] output port is activated when the power voltage is decreased.
RF Power Down Detect *2	The PF [RF Power Down Detect] output port is activated when the transmission power becomes lower than the configured threshold level.
Reception Signal (Below) *1	The PF [RX Signal Detect] output port is activated when the RSSI voltage is decreased.
Reception Unlock	The PF [RX Unlock] output port is activated when RX PLL is unlocked.
Selectable	Toggle the PF [Selectable] output port between Active/Inactive when the signal is applied to the Auxiliary Input port or the PF key.
TOR	The PF [TOR] output port is activated when the signalling matches while receiving the signal. The PF [TOR] output port is activated on the channel without the signalling configuration while receiving.
TXS	The PF [TXS] output port is activated while transmitting.
Transmission Unlock	The PF [TX Unlock] output port is activated when the TX PLL is unlocked.

*1: It can configure the any voltage value to detect the voltage decrease/increase. (Refer to 6.4.1 Optional Features 1 Tab.)

*2: It can select High Power or Low Power with “Power Down Detect” in Tuning mode. This function notifies the user that the transmission power is suddenly decreased when the power is decreased, etc. However, you cannot use this function as a real-time power monitor. (Refer to 7.3.11 Tuning Mode.)
Default: Hi (25 W) power: Approximately 10 W
Low (1 W) power: Approximately 0.3 W

Note:

- When configuring the Activation code to the PF [COR] output port or the PF [TOR] output port, TKR-750/850/751/851 cannot activate the repeat operation since it sends the code while it is in Busy status, so that it cannot receive the Air Remote code and the Repeater Open code. (Refer to 6.10.2 AUX Tab.)
- Since the status of Air Remote Encode is retained while transmitting using Repeater PTT, Local Mic PTT, or External PTT, or CW ID, TKR-750/850/751/851 cannot send the Activation code even when the function is activated while the Activation code is configured to the PF [Power Supply Lower Limit] output port. In this case, it transmits the Activation code after ending the transmission (the function deactivates). When the Deactivation code is configured to the port, it sends the Deactivation code after transmitting the Activation code. (Refer to 6.10.2 AUX Tab.)

■ Logic Type (AUX Output)

It can select the status of the signal (Low/High) to activate or deactivate the function with the Air Remote code. You can configure this function only when at least one function is assign to “Function”. Select “Active Low” or “Active High” from the dropdown list.

Range	Active Low	The assigned function activates in Active Low.
	Active High	The assigned function activates in Active High.
Default	Active Low	

6.11 Multi-table Window

It can configure the QT/DQT (Current) code on this window. When the Multi-table function is enabled, it can wait for the call with two types of QT/DQT code; Primary and Current. (Refer to 6.1.6 Multi-table, 6.2.9 Multi-table (Channel Edit).)

This window consists of “Main-table” and “Sub-table” tabs and it can switch the window by clicking the tabs.

6.11.1 Decode (Multi-table)

It can configure the signalling used to receive the calls. Select the QT tone or DQT code from the dropdown list or directly enter the QT tone and the DQT code.

- **Selecting the QT/DQT Encode Code from the Dropdown List:**

Range	QT	67.0 - 250.3 Hz
	DQT Normal	D023N - D754N
	DQT Inverse	D023I - D754I
Default	None	

- **Directly entering the QT/DQT Encode Code:**

Range	QT	67.0 - 254.1 Hz
	DQT Normal	D000N - D777N
	DQT Inverse	D000I - D777I
In steps of	QT	0.1 Hz
	DQT	1
Default	None	

Note:

- It cannot configure the QT/DQT code to the No.1 table.
- It can use numbers, “D”, “N”, “I”, “.”, and “,” for the 5 digits of the QT/DQT Encode code.
- When entering only numbers, the code is configured as QT Tone.
- When entering “D” as the first character of the code, the code is configured as the DQT code.
- When entering the value, which is out of the range, it will be automatically replaced with the highest value or the lowest value in the range.

6.11.2 Encode (Multi-table)

It can configure the signalling used to transmit.

Select the QT tone or DQT code with the dropdown list or directly enter the QT tone and the DQT code.

- **When Selecting the QT/DQT Encode Code with the Dropdown List:**

Range	QT	67.0 - 250.3 Hz
	DQT Normal	D023N - D754N
	DQT Inverse	D023I - D754I
Default	None	

- **Directly entering the QT/DQT Encode Code:**

Range	QT	67.0 - 254.1 Hz
	DQT Normal	D000N - D777N
	DQT Inverse	D000I - D777I
In steps of	QT	0.1 Hz
	DQT	1
Default	None	

Note:

- It cannot configure “Encode” if the “Decode” function is not configured.
- It can use numbers, “D”, “N”, “I”, “.”, and “,” for the 5 digits of the QT/DQT Encode code.
- When entering only numbers, the code is configured as QT Tone.
- When entering “D” as the first character of the code, the code is configured as the DQT code.
- When entering the value, which is out of the range, it will be automatically replaced with the highest value or the lowest value in the range.

6.12 CW Message Window

It can configure the CW Message to send on this window. You can send the configured CW Message by interlocking with the operation of function keys and the input/output operation of the Auxiliary port. (Refer to 13 FUNCTION LIST.)

It can control the transmission of CW Message with the following functions.

- **Key Function**

  TKR-750/850/751/851 sends the configured CW Message when the PF key is pressed if the CW Message transmission function is assigned to the PF key. (Refer to 6.5 Key Assignment Window.)

- **Auxiliary Input port**

  TKR-750/850/751/851 sends CW Message when the signal is applied to the Auxiliary Input port if the CW Message transmission function is assigned to the Auxiliary Input port. (Refer to Table 6-6 Assigning Functions to the Auxiliary Input Ports.)

- **Save On/Off Function**

  TKR-750/850/751/851 sends CW Message when it enters/exists Power Saver mode if the CW Message transmission function is assigned to the Save On/Off function. (Refer to 6.4.3 Others Tab (Optional Features).)

- **Start Up Function**

  TKR-750/850/751/851 sends CW Message when it is turned ON if the CW Message transmission function is assigned to Start Up. (Refer to 6.4.3 Others Tab (Optional Features).)

- **Backup Power Function**

  TKR-750/850/751/851 sends CW Message when the power is switched from the main power to the backup power if the CW Message transmission function is assigned to the Backup Power function. (Refer to 6.4.3 Others Tab (Optional Features).)

- **Main Power Function**

  TKR-750/850/751/851 sends CW Message when the power is switched from the backup power to the main power if the CW Message transmission function is assigned to the Main Power function. (Refer to 6.4.3 Others Tab (Optional Features).)

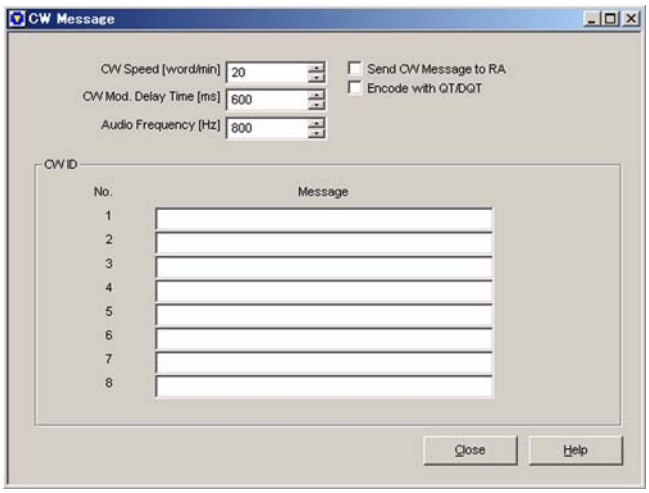

Figure 6-21 “CW Message” window

6.12.1 CW Message

It can configure CW Message with a maximum of 32 characters and symbols. Enter directly the message in the edit box.

Range	No. 1 - 8 A maximum of 32 characters and symbols (space), “, ', (,), +,,, -,., /, 0, 1, 2, 3, 4, 5, 6, 7, 8, 9,:, =,? A - Z
Default	Blank

6.12.2 CW Speed

This is a speed to send CW Message. It can configure the speed by the spin buttons or directly enter the value to configure the speed.

Range	5 - 30 word/min.
In steps of	1 word/min.
Default	20 words/min.

6.12.3 CW Mod. Delay Time

This is a duration time to send CW message from starts transmitting. It can configure the duration by the spin buttons or directly enter the value to configure the duration.

Range	0, 10 - 2550 ms
In steps of	10 ms
Default	600 ms

6.12.4 Audio Frequency

This is a frequency of CW Message. It can configure the frequency by the spin buttons or directly enter the value to configure the frequency

Range	400 - 2000 Hz
In steps of	100 Hz
Default	800 Hz

6.12.5 Send CW Message to RA

It allows to monitor CW Message in Morse code when sending the message from the RA line and the front speaker.

Range	Checked	CW Message audio signals sent from the RA line and emitted from the front speaker.
	Unchecked	CW Message audio signals sent from the RA line and emitted from the front speaker.
Default	Unchecked	

Note: In Simplex mode, CW Message is sent to RA only. In this case, CW Message is not emitted from the speaker.

6.12.6 Encode with QT/DQT (CW Message)

It can encode the QT/DQT (Primary) code configured to each channel while sending the CW Message.

Range	Checked	CW Message is sent with primary QT/DQT signalling.
	Unchecked	CW Message is sent without QT/DQT signalling.
Default	Unchecked	

6.13 Test Frequency Window

It can configure the test frequency to be used in Test Mode. It can configure a maximum of 16 channels. You can copy the frequency configured in the “Channel Edit” window to the test frequency channel. The available frequency range varies depending on the model and the market code.

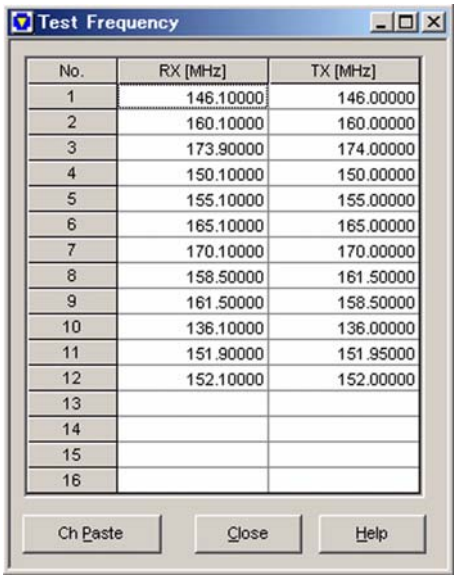

Figure 6-22 Test Frequency window

6.13.1 Reception, Transmission

This is a test frequency. Directly enter the value in the “Reception” edit box and the “Transmission” edit box.

Table 6-8 Test Frequency Range

Model	Market Code	Transmission/Reception Frequency Range [MHz]
TKR-750/751	K	146 - 174
TKR-750	K2	136 - 150
TKR-850/851	K	450 - 480
TKR-850	K2	480 - 512
TKR-850	K3	400 - 430

Table 6-9 Default Test Frequency of the TKR-750/751 (K)

Channel No.	Reception Frequency [MHz]	Transmission Frequency [MHz]
1	146.10000	146.00000
2	160.10000	160.00000
3	173.90000	174.00000
4	150.10000	150.00000
5	155.10000	155.00000
6	165.10000	165.00000

Channel No.	Reception Frequency [MHz]	Transmission Frequency [MHz]
7	170.10000	170.00000
8	158.50000	161.50000
9	161.50000	158.50000
10	136.10000	136.00000
11	151.90000	151.95000
12	152.10000	152.00000
13	-	-
14	-	-
15	-	-
16	-	-

Table 6-10 Default Test Frequency of the TKR-850/851 (K)

Channel No.	Reception Frequency [MHz]	Transmission Frequency [MHz]
1	450.10000	450.00000
2	465.10000	465.00000
3	479.90000	480.00000
4	455.10000	455.00000
5	460.10000	460.00000
6	470.10000	470.00000
7	475.10000	475.00000
8	462.60000	462.50000
9	467.60000	467.50000
10	440.10000	440.00000
11	459.90000	460.00000
12	-	-
13	-	-
14	-	-
15	-	-
16	-	-

Note:

- It must configure both of the “Reception” frequency and the “Transmission” frequency.
- The default frequency is configured when all frequencies are deleted.
- Refer to the Service Manual for checking how to test the TKR-750/850/751/851.
- 406.0 MHz and 406.1 MHz are assigned as the Emergency locator beacons in the United States. Therefore, it does not allow designed to use these frequencies.

6.13.2 CH Paste Button

Click “CH Paste” to copy the frequency configured in the “Channel Information” window to each channel in the “Test Frequency” window.

Note:

- You can view the context menu of the selected channel by right-clicking the channel number. In this window, you can copy or delete the configuration data.
- The default frequency is configured when all frequencies are deleted.

6.14 Embedded Message Window

It can configure the message that is stored in the TKR-750/850/751/851 on the “Embedded Message” window. It can store a message with up to 64 characters (combination of alphabets and numerals). It can embed the specific information, such as the control number or the name of the configuration data written.

The Embedded Message appears on the “Open” window when the configuration data is opened. (Refer to 4.2 Open.)

Figure 6-23 “Embedded Message” window

Directly enter the message in the edit box.

Range	Maximum of 64 characters and symbols
Default	Blank

6.15 Embedded Message w/ Password Window

It can configure a message and a password into the TKR-750/850/751/851 on the “Embedded Message w/ Password” window. You can configure a message with up to 64 characters (combination of alphabets and numerals) to the repeater. You can also configure the password to protect the message. You can embed the specific information in it, such as the control number or the name of the configuration data written with a password.

Figure 6-24 “Embedded Message w/Password” window

Directly enter the message in the edit box.

Range	Maximum of 64 characters and symbols.
Default	Blank

■ Write Button

This can write the configured message into the TKR-750/850/751/851.

Follow the procedures below to write the message.

1. **Click “Write”.**

   The Password Entry display appears.

Figure 6-25 Password Entry display

Note: The display requiring you to configure the password when the password is not configured. You must configure the password first, then you can write the configured message.

2. **Enter the password and click “Write”.**
3. **Click “OK”.**

Note:

- The error message appears if you enter an incorrect password.
- The password entry display closes when entering a wrong password three times in a row.
- When writing the message with Embedded Message w/ Password, you can store the message as a separate data from the configuration data.

■ Password Button

It can configure the password and change it.

Follow the procedures below to configure/change the password.

1. **Click “Password”.**

   The “Caution” window appears. Click “OK” to view the “Password Change” window.

Figure 6-26 “Caution” window

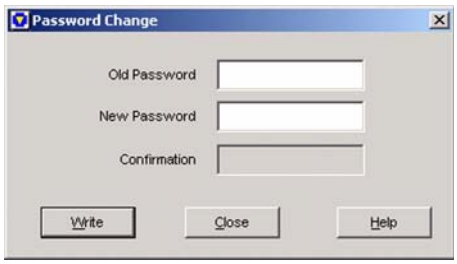

Figure 6-27 “Password Change” window

2. **Enter the password.**

   You can configure a password a maximum of 6 characters.

   Old Password: Enter the old password in this box.

   New Password: Enter the new password.

   Confirm: Enter the same password as the “New Password” to confirm.
3. **Click “Write”.**
4. **Click “OK”.**

Note:

- The error message appears when the password entered in the “Old Password” box does not match with the registered password.
- The error message appears when the password entered in the “New Password” box does not match with the password entered in the “Confirm” box.
- The password entry display closes when entering an incorrect password three times in a row.

7.1 Read Data from Repeater

This function allows to read the configuration data from TKR-750/850/751/851 connected to the PC with the KPG-46 programming cable by KPG-91D. (Refer to 1.2 Connecting to the PC.)

Follow the procedures below to read the data.

1. Select one of the following options.
   - Select “Program” > “Read Data from Repeater”.
   - Click on the Toolbar.
2. Click “Read”.

   The PC starts reading the configuration data.

   - If the Data Password is configured:

     Click “Read” to view the “Data Password” window.

Figure 7-1 “Data Password” window

Enter the password in the “Data Password” edit box and click “OK” to start reading the configuration data.

Note:

- Embedded Message appears if the message has embedded message.
- The error message appears if you enter a wrong password. The “Data Password” window closes when entering an incorrect password three times in a row.

The data reading completion message appears when the PC correctly reads the confirmation from the repeater.

3. Click “OK”.

Note:

- The PC cannot read the configuration data when TKR-750/850/751/851 does not respond even if “Read” is clicked. In this case, you must ensure the power of TKR-750/850/751/851 and the connection between the PC, and then start the operation again.
- The error message appears when the Com port does not open and you cannot read the configuration data. In this case, you must ensure the COM port configuration in “Communication Port”, and then start the operation again. (Refer to 9.1 Communication Port Window.)

7.2 Write Data to Repeater

This function allows to write the configuration data into TKR-750/850/751/851 connected to the PC with the KPG-46 programming cable by KPG-91D. (Refer to 1.2 Connecting to the PC.)

Follow the procedures below to write the configuration data.

1. Select one of the following options.
   - Select “Program” > “Write Data to Repeater”.
   - Click on the Toolbar.
2. Click “Write”.

   The PC starts writing the configuration data.

   - If the “Data Password” is configured:

     The warning message appears when clicking “Write”.

Figure 7-2 Warning message

Click “OK” to start writing the configuration data.

The data writing completion message appears when the PC properly writes the confirmation.

3. Click “OK”.

Note:

- The PC cannot write the configuration data when TKR-750/850/751/851 does not respond even if “Write” is clicked. In this case, you must ensure the power of TKR-750/850/751/851and the connection between the PC and start the operation again.
- The error message appears when the COM port is not available and you cannot write the configuration data. In this case, you must ensure that COM port is available in the “Communication Port” configuration, and then start the operation again. (Refer to 9.1 Communication Port Window.)

7.3 Test Mode Window

It can configure the data used to perform various tests and adjustments in the “Test Mode” window when operating the TKR-750/850/751/851 in Test mode. In this mode, you can make various adjustments, such as checking the RF environment of the location and the adjustment of the reception frequency, before installing or operating the TKR-750/850/751/851. You can start the test without writing data since the encode/decode signalling and the test frequency are already configured. (Refer to 6.13 Test Frequency Window.)

You can modify the test and other configuration data by KPG-91D.

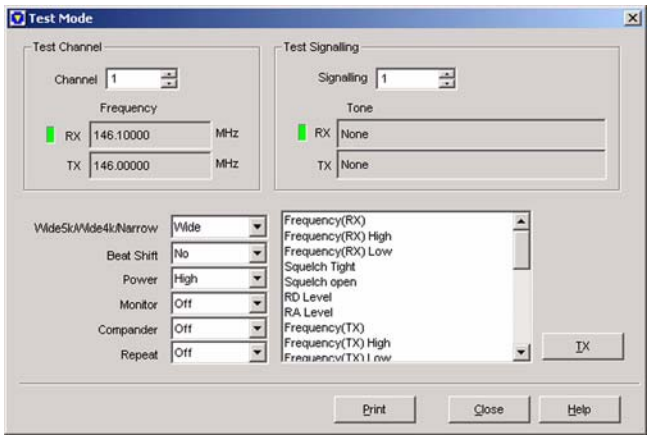

Figure 7-3 “Test Mode” window

Note:

- The cooling Fan is switched On operates in PC Test Mode.
- Refer to the Service Manual for checking how to test.

7.3.1 Test Channel

It can select the channel to test. You can select the numbers of the channel configured on the “Test Frequency” window by the spin buttons. (Refer to 6.13 Test Frequency Window.)

The frequency configured to the selected channel number appears on the “Frequency” window.

Range	1 - 16
Default	1

Note: You cannot select the number of the channel that is not configured on the “Test Frequency” window.

7.3.2 Test Signalling

It can select the test signalling. Select the number of the test signalling that is already configured by the spin buttons.

The Decode Tone/Encode Tone configured to the selected signalling Number appears on the “Frequency” window.

Range	Test signalling No. 1 - 16
Default	1

signalling No.: signalling No. of the Test Mode

Decode Tone: Reception signalling

Encode Tone: Transmission signalling

Table 7-1 Test Signalling

signalling No.	Decode tone	Encode tone
1	None	None
2	None	100 Hz square wave
3	QT 67.0 Hz	QT 67.0 Hz
4	QT 151.4 Hz	QT 151.4 Hz
5	QT 210.7 Hz	QT 210.7 Hz
6	QT 250.3 Hz	QT 250.3 Hz
7	DQT D023N	DQT D023N
8	DQT D754I	DQT D754I
9	None	CW ID Encode [ID = VVV]
10	None	Single Tone [1000 Hz]
11	DTMF 159D	DTMF 159D
12	None	DTMF Tone 9
13	None	Courtesy Tone*1
14	None	Battery Warning Tone*1
15	None	Battery Operation Tone*1
16	-	-

*1: The value configured in the “Optional Features 2" tab. (Refer to 6.4.2 Optional Features 2 Tab.)

Note: TKR-750/850/751/851 deactivates AF Mute when the signalling is decoded with the QT/DQT code and the signalling matches.

7.3.3 Wide/ Narrow

It can select the Bandwidth for the Test Channel. Select from Wide and Narrow from the dropdown list. (Refer to FUNC 1.4 Transmission Bandwidth.)

Range	Wide, Narrow
Default	Wide

7.3.4 Beat Shift (Test Mode)

It can select the Beat Shift function to the Test Channel. The Beat Shift function eliminates the problems of the internal beat caused by internal oscillators. Select “Yes” or “No” from the dropdown list.

Range	Yes	The Beat Shift function is enabled.
	No	The Beat Shift function is disabled.
Default	No	

7.3.5 Power (Test Mode)

It can select the transmit output power for the Test Channel. Select “High” or “Low” from the dropdown list.

Range	High, Low
Default	High

7.3.6 Monitor (Test Mode)

It can enable/disable Squelch of the Test Channel. Select “Off” or “On” from the dropdown list.

Range	Off	Squelch is disabled.
	On	Squelch is enabled.
Default	Off	

7.3.7 Compander (Test Mode)

It can select Compander for the Test Channel. This function improves the quality of the received tone by reducing the noise. Select “Off” or “On” from the dropdown list.

Range	Off	Compander is disabled.
	On	Compander is enabled.
Default	Off	

7.3.8 Repeat

It can configure Repeat operation to the Test Channel. Select “Off” or “On” from the dropdown list.

Range	Off	Repeat is disabled.
	On	Repeat is enabled.
Default	Off	

7.3.9 TX/RX Button

Click “TX/RX” to toggle between transmission and reception.

7.3.10 Print Button

Click “Print” to print out the configured Tuning Data.

7.3.11 Tuning Mode

It can make various adjustments for the TKR-750/850/ 751/851 by the KPG-91D.

Double-click the function in the list box in the “Test Mode” window to view the adjustment window of the selected function. (Refer to Table 7-2 Functions that you can adjust in PC Tuning Mode.)

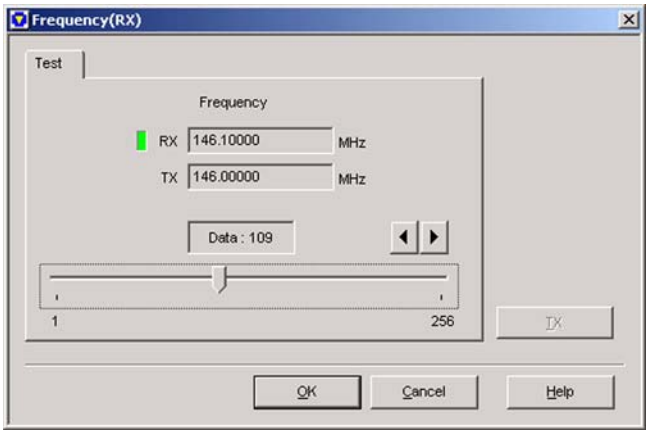

Figure 7-4 Example: “Frequency Adjustment” window

Note: Refer to the Service Manual how to adjust the TKR-750/850/ 751/851 also.

Table 7-2 Functions that you can adjust in PC Tuning Mode

Function	Wide/ Narrow	Description	Signalling
Reception Frequency	-	You can adjust the VCO frequency during reception. TKR-750/751 (VHF): Single Reference Level Adjustment TKR-850/851 (UHF): Single Reference Level Adjustment	
Reception Frequency (Low)	-	You can adjust the VCO frequency during reception. TKR-750/751 (VHF) only: Single Reference Level Adjustment You can make the adjustment in steps of 2.5 kHz.	
Reception Frequency (High)	-	You can adjust the VCO frequency during reception. TKR-750/751 (VHF) only: Single Reference Level Adjustment You can make the adjustment in steps of 2.5 kHz.	
Transmission Frequency	-	You can adjust the VCO frequency during transmission. TKR-750/751 (VHF): Single Reference Level Adjustment TKR-850/851 (UHF): Single Reference Level Adjustment	
Transmission Frequency (Low)	-	You can adjust the VCO frequency during transmission. TKR-750/751 (VHF) only: Single Reference Level Adjustment You can make the adjustment in steps of 2.5 kHz.	
Transmission Frequency (High)	-	You can adjust the VCO frequency during transmission. TKR-750/751 (VHF) only: Single Reference Level Adjustment You can make the adjustment in steps of 2.5 kHz.	
Squelch Tight	Wide	You can adjust the Squelch Level 15. Single Reference Level Adjustment	
	Narrow		
Squelch Open	Wide	You can adjust the Squelch Level 1. Single Reference Level Adjustment The TKR-750/850/751/851 stores the RSSI Level at the same time.	
	Narrow		
RD (RX Detector Output) Level	Wide	You can adjust the RD (RX Detector Signal Output) level. Single Reference Level Adjustment	
	Narrow		
RA (RX Audio Output) Level	Wide	You can adjust the RA (RX Audio Signal Output) level. Single Reference Level Adjustment	
	Narrow		
TX High Power	-	You can adjust the TX High Power level. High Power: 3 Reference Level Adjustments	
TX Low Power	-	You can adjust the TX Low Power level. Low Power: 3 Reference Level Adjustments	
Power Down Detect (High)	-	You can configure the threshold level to detect the degradation of the output power while transmitting in High Power mode. Single Reference Level Adjustment	
Power Down Detect (Low)	-	You can configure the threshold value to detect the degradation of the output power while transmitting in Low Power mode. Single Reference Level Adjustment	
Max Deviation	Wide	You can adjust the Maximum Deviation level. TKR-750/751 (VHF): 6 Reference Level Adjustments (3 Reference levels for VCO A and B) TKR-850/851 (UHF): 3 Reference Level Adjustments	
	Narrow		
DQT Balance	Wide	You can adjust the DQT Encode balance. TKR-750/751 (VHF): 2 Reference Level Adjustments TKR-850/851 (UHF): Single Reference Level Adjustment	Sig CH = 2
	Narrow		
TD (Ext. Signalling) Deviation	Wide	You can adjust the TD (external signalling) level. TKR-750/751 (VHF): 2 Reference Level Adjustments TKR850/-851 (UHF): Single Reference Level Adjustment	
	Narrow		
TA (TX Audio) Deviation	Wide	You can adjust the TA (TX Audio) level. TKR-750/751 (VHF): 2 Reference Level Adjustments TKR-850/851 (UHF): Single Reference Level Adjustment	
	Narrow		

Function	Wide/ Narrow	Description	Signalling
DQT Deviation	Wide	You can adjust the DQT Encode level. TKR-750/751 (VHF): 2 Reference Level Adjustments TKR-850/851 (UHF): Single Reference Level Adjustment	Sig CH = 7
	Narrow		
QT Deviation	Wide	You can adjust the QT Encode level. TKR-750/751 (VHF): 2 Reference Level Adjustments TKR-850/851 (UHF): Single Reference Level Adjustment	Sig CH = 4
	Narrow		
CW ID Deviation	Wide	You can adjust the CW ID Encode level. TKR-750/751 (VHF): 2 Reference Level Adjustments TKR-850/851 (UHF): Single Reference Level Adjustment	Sig CH = 10
	Narrow		
Test Tone Deviation	Wide	You can adjust the Test Tone (single tone) Encode level. TKR-750/751 (VHF): 2 Reference Level Adjustments TKR-850/851 (UHF): Single Reference Level Adjustment	Sig CH = 10
	Narrow		
DTMF Deviation	Wide	You can adjust the DTMF Encode level. TKR-750/751 (VHF): 2 Reference Level Adjustments TKR-850/851 (UHF): Single Reference Level Adjustment	Sig CH = 12
	Narrow		
Courtesy Tone Deviation	Wide	You can adjust the Courtesy Tone Encode level. TKR-750/751 (VHF): 2 Reference Level Adjustments TKR-850/851 (UHF): Single Reference Level Adjustment	Configuration value in the KPG-91D
	Narrow		
Buttery Warning Tone Deviation	Wide	You can adjust the Battery Warning Tone Encode level. TKR-750/751 (VHF): 2 Reference Level Adjustments TKR-850/851 (UHF): Single Reference Level Adjustment	Configuration value in the KPG-91D
	Narrow		
Buttery Operation Tone Deviation	Wide	You can adjust the Battery Operation Tone Encode level.TKR-750/751 (VHF): 2 Reference Level Adjustments TKR-850/851 (UHF): Single Reference Level Adjustment	Configuration value in the KPG-91D
	Narrow		
Repeat Gain	Wide	You can adjust the Repeat Audio level. Single Reference Level Adjustment	
	Narrow		

Note: Deviation is the frequency modulation bandwidth.

8.1 Radio Information Window

The information configured in the TKR-750/850/751/851 appears on the “Radio Information” window.

The “Radio Information” window appears when selecting “Radio Information” in the “Tools” menu.

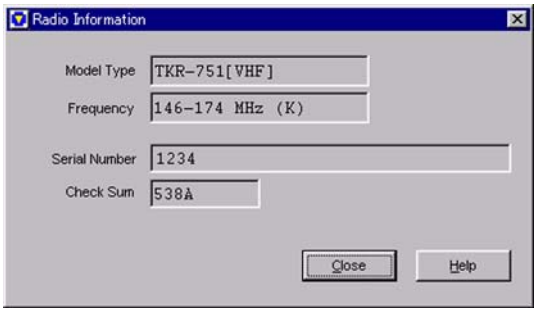

Figure 8-1 “Radio Information” window

8.1.1 Model Type

The model type of the TKR-750/850/751/851 appears. (Refer to 5.1.1 Model Type.)

8.1.2 Frequency

The frequency bandwidth configured to the TKR-750/850/751/851 appears. (Refer to 5.1.2 Frequency.)

8.1.3 Serial Number

The serial number assigned to the TKR-750/850/751/851 appears.

8.1.4 Checksum

The checksum which is firmware version appears.

9.1 Communication Port Window

It can select the COM port to communicate with the TKR-750/850/751/851.

When there is only one available Communication port on a PC, the port is automatically configured as COM1.

The “Communication Port” window appears when selecting “Communication Port” in the “Setup” menu.

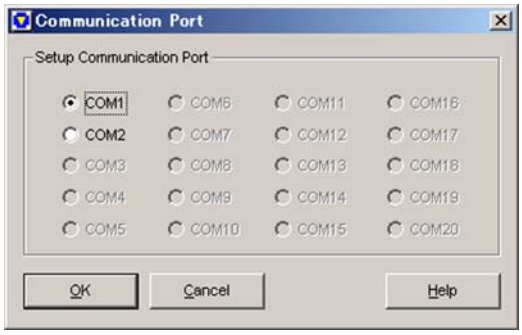

Figure 9-1 Communication Port window

Select the Communication Port from COM1 - COM20 and click “OK”.

9.2 Language File Setup Window

It can select the language on “Language File Setup” window.

Figure 9-2 “Language File Setup” window

From the dropdown list, Select the language.

Range	Dutch, English, French, German, Italian, Spanish
Default	The language selected when installing the software appears.

Note: The selected language in the “Language File Setup” window is applied to all KPG-91D software functions.

10.1 Tree View Window

This window displays the functions in the “Edit” menu. Double-click each item to display the window of the selected item.

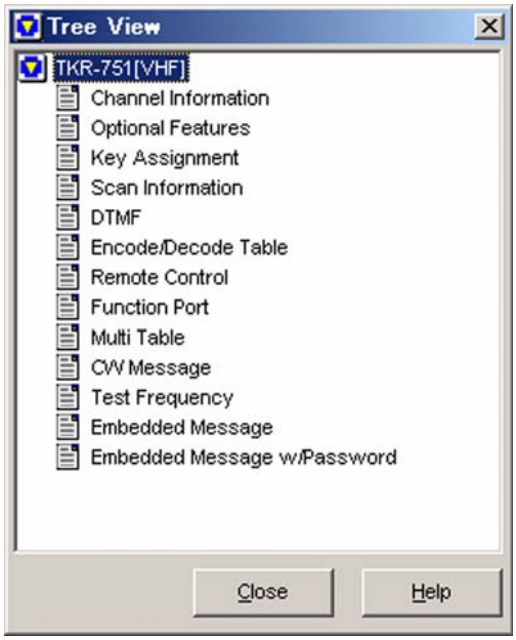

Figure 10-1 “Tree View” window

10.2 Toolbar

It can display/hide the toolbar. You can display or hide the Toolbar by selecting “View” > “Toolbar”. (Refer to 3.1.3 Toolbar.)

10.3 Status Bar

It can display/hide the Status bar. You can display or hide the Status bar by selecting “View” > “Status Bar”. (Refer to 3.1.4 Status Bar.)

The “Window” menu appears when the function is selected in the “Edit” menu and the window of the function is displayed. You can rearrange and close the opened windows. (Refer to 3.2.8 “Window” Menu.)

11.1 Cascade

You can rearrange the opened windows in an overlapped fashion (cascade format) by selecting “Cascade”.

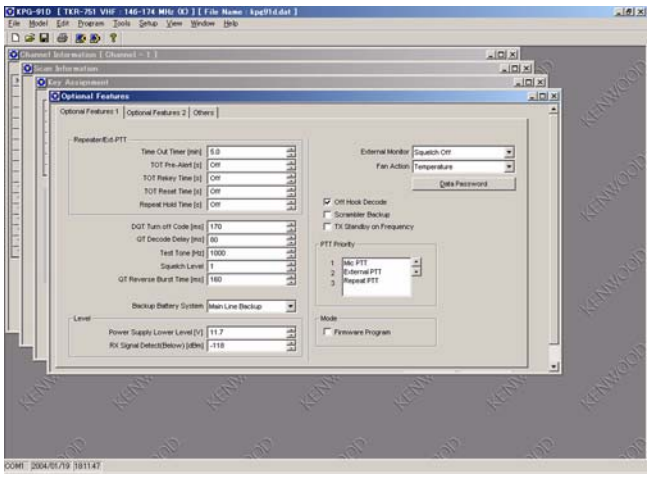

Figure 11-1 Cascade

11.2 Horizontal Tile

You can rearrange the opened windows in the horizontal tiles fashion by selecting “Horizontal Tile”.

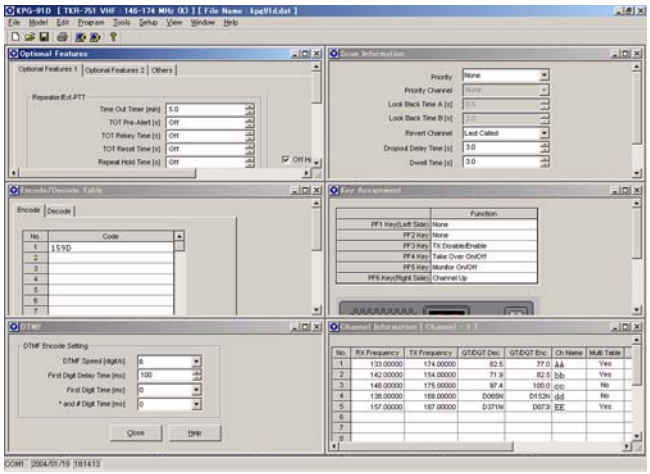

Figure 11-2 Horizontal Tile

11.3 Vertical Tile

You can rearrange the opened windows in the vertical tiles fashion by selecting “Vertical Tile”.

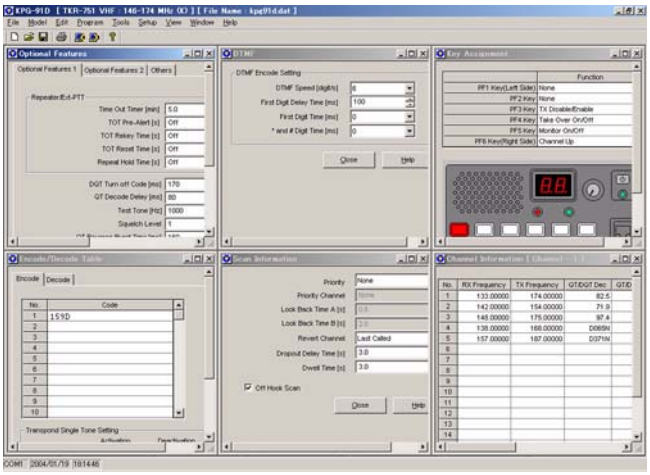

Figure 11-3 Vertical Tile

11.4 Arrange Icons

You can rearrange the icons of the minimized windows by selecting “Arrange Icons”.

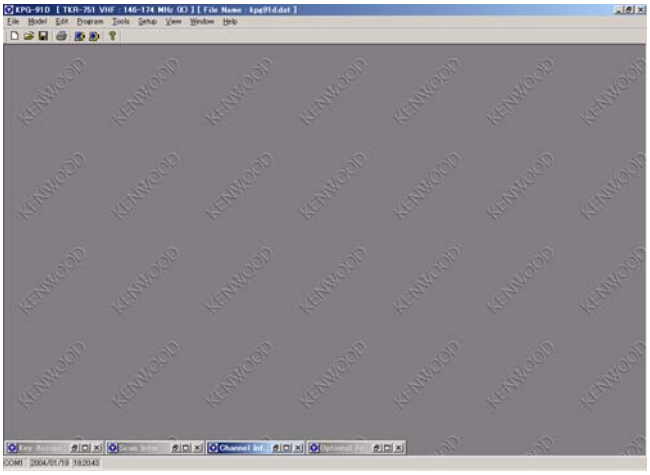

Figure 11-4 Arrange Icons

11.5 Close All Windows

You can close all opened windows by selecting “Close All Windows”.

11.6 Opened Window List

You can display the title of the opened window. When clicking the title of the window, the selected window appears.

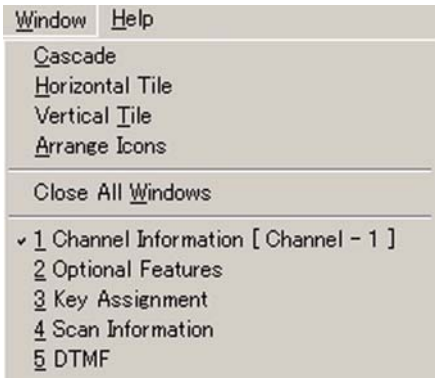

Figure 11-5 Opened Window List

12.1 Help Topics Window

You can view the “KPG-91D Help” window by selecting “Help” > “Help Topics”. In this window, you can search for the help topics relating to the operations and functions of the KPG-91D. This window consists of “Contents”, “Index”, and “Search” tabs and you can switch the window by clicking the tabs. (Refer to 3.2.9 “Help” Menu.)

12.1.1 Contents Tab

You can search for the help topics from the menu bar. The menu bar has 8 items; File, Model, Edit, Program, Tools, Setup, View, and Window.

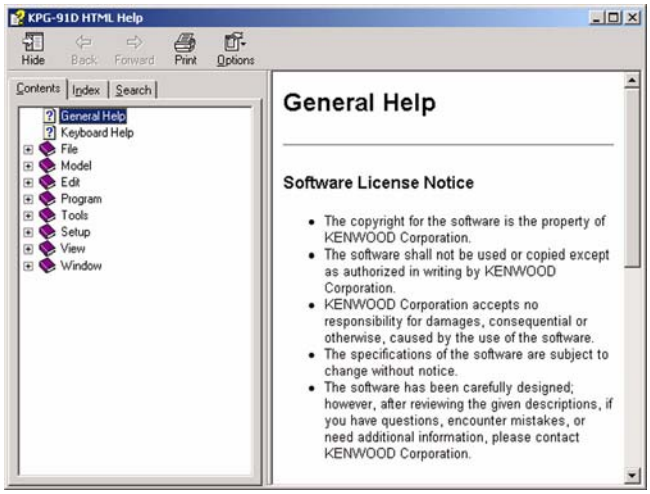

Figure 12-1 Contents tab

The help text appears in the right frame of the “Help” window when clicking ILG or . You can view the detailed help text on the when double-clicking the or clicking .

12.1.2 Index Tab

You can search the help topic from the Keyword list. Enter the keyword into the edit box, then click the keyword from the Keyword List or click “Display”.

12.1.3 Search Tab

You can search the help topic with the word or phrases in the document. Enter the keyword into the edit box, then double-click the keyword or click “Display”.

12.2 About KPG-91D Window

You can view the “About KPG-91D Help” window by selecting “Help” → “About KPG-91D”. You can view the information about the KPG-91D.

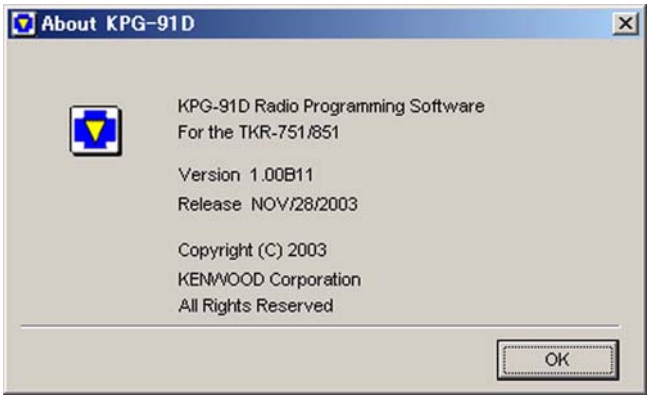

Figure 12-2 “About KPG-91D” window

Click “OK” to close the “About KPG-91D” window.

13 FUNCTION LIST

Refer to the PF key, AUX Input port, Save On/Off, Start Up, and Power Supply sections for details.

PF key (Refer to 6.5 Key Assignment Window.)

AUX Input port (Refer to 6.10.2 AUX Tab.)

Save On/Off (Refer to 6.4.3 Others Tab (Optional Features).)

Start Up (Refer to 6.4.3 Others Tab (Optional Features).)

Power Supply (Refer to 6.4.3 Others Tab (Optional Features).)

Table 13-1 Function List

Y: Available function N: Unavailable function

Function	PF Key	AUX Input	Save On/Off	Start Up	Power Supply
None	Y	Y	Y	Y	Y
AUX Out 1 Off	N	Y	Y	Y	Y
AUX Out 2 Off	N	Y	Y	Y	Y
AUX Out 3 Off	N	Y	Y	Y	Y
AUX Out 4 Off	N	Y	Y	Y	Y
AUX Out 5 Off	N	Y	Y	Y	Y
AUX I/O 1 Off	N	Y	Y	Y	Y
AUX I/O 2 Off	N	Y	Y	Y	Y
AUX I/O 3 Off	N	Y	Y	Y	Y
AUX I/O 4 Off	N	Y	Y	Y	Y
AUX I/O 5 Off	N	Y	Y	Y	Y
AUX I/O 6 Off	N	Y	Y	Y	Y
AUX Out 1 On	N	Y	Y	Y	Y
AUX Out 2 On	N	Y	Y	Y	Y
AUX Out 3 On	N	Y	Y	Y	Y
AUX Out 4 On	N	Y	Y	Y	Y
AUX Out 5 On	N	Y	Y	Y	Y
AUX I/O 1 On	N	Y	Y	Y	Y
AUX I/O 2 On	N	Y	Y	Y	Y
AUX I/O 3 On	N	Y	Y	Y	Y
AUX I/O 4 On	N	Y	Y	Y	Y
AUX I/O 5 On	N	Y	Y	Y	Y
AUX I/O 6 On	N	Y	Y	Y	Y
AUX Out 1 On/Off	Y	Y*	N	N	N
AUX Out 2 On/Off	Y	Y*	N	N	N
AUX Out 3 On/Off	Y	Y*	N	N	N
AUX Out 4 On/Off	Y	Y*	N	N	N
AUX Out 5 On/Off	Y	Y*	N	N	N
AUX I/O 1 On/Off	Y	Y*	N	N	N
AUX I/O 2 On/Off	Y	Y*	N	N	N
AUX I/O 3 On/Off	Y	Y*	N	N	N
AUX I/O 4 On/Off	Y	Y*	N	N	N
AUX I/O 5 On/Off	Y	Y*	N	N	N
AUX I/O 6 On/Off	Y	Y*	N	N	N
Channel 1	Y	Y	Y	Y	Y
Channel 2	Y	Y	Y	Y	Y
Channel 3	Y	Y	Y	Y	Y
Channel 4	Y	Y	Y	Y	Y
Channel 5	Y	Y	Y	Y	Y
Channel 6	Y	Y	Y	Y	Y
Channel 7	Y	Y	Y	Y	Y
Channel 8	Y	Y	Y	Y	Y
Channel 9	Y	Y	Y	Y	Y
Channel 10	Y	Y	Y	Y	Y
Channel 11	Y	Y	Y	Y	Y
Channel 12	Y	Y	Y	Y	Y
Channel 13	Y	Y	Y	Y	Y
Channel 14	Y	Y	Y	Y	Y
Channel 15	Y	Y	Y	Y	Y
Channel 16	Y	Y	Y	Y	Y
Channel Down	Y	Y	Y	Y	Y
Channel Up	Y	Y	Y	Y	Y
CW ID On	Y	Y	Y	Y	Y

Function	PF Key	AUX Input	Save On/Off	Start Up	Power Supply
CW Message 1 On	Y	Y	Y	Y	Y
CW Message 2 On	Y	Y	Y	Y	Y
CW Message 3 On	Y	Y	Y	Y	Y
CW Message 4 On	Y	Y	Y	Y	Y
CW Message 5 On	Y	Y	Y	Y	Y
CW Message 6 On	Y	Y	Y	Y	Y
CW Message 7 On	Y	Y	Y	Y	Y
CW Message 8 On	Y	Y	Y	Y	Y
DC Power Save Off	N	Y	N	Y	Y
DC Power Save On	N	Y	N	Y	Y
DC Power Save On/Off	Y	Y*	N	N	N
Display Off	N	Y	Y	Y	Y
Display On	N	Y	Y	Y	Y
Display On/ Off	Y	Y*	N	N	N
Hold Time Enable	N	Y	Y	Y	Y
Hold Time Disable	N	Y	Y	Y	Y
Hold Time Dis/En	Y	Y*	N	N	N
Local TX Disable	N	Y	Y	Y	Y
Local TX Enable	N	Y	Y	Y	Y
Local TX Dis/ En	Y	Y*	N	N	N
Monitor Off	N	Y	Y	Y	Y
Monitor On	N	Y	Y	Y	Y
Monitor On/ Off	Y	Y*	N	N	N

Function	PF Key	AUX Input	Save On/Off	Start Up	Power Supply
Monitor Momentary	Y	N	N	N	N
Multi Table Sub	N	Y	Y	Y	Y
Multi Table Main	N	Y	Y	Y	Y
Multi Table Main/Sub	Y	Y*	N	N	N
QT/DQT Dec. Disable	N	Y	Y	Y	Y
QT/DQT Dec. Enable	N	Y	Y	Y	Y
QT/DQT Dec. Dis/En	Y	Y*	N	N	N
QT/DQT Enc Disable	N	Y	Y	Y	Y
QT/DQT Enc Enable	N	Y	Y	Y	Y
QT/DQT Enc Dis/En	Y	Y*	Y	N	Y
Repeat Disable	N	Y	Y	Y	Y
Repeat Enable	N	Y	Y	Y	Y
Repeat Dis/ En	Y	Y*	N	N	N
Reset	Y	Y	N	N	N
Scan Off	N	Y	Y	Y	Y
Scan On	N	Y	Y	Y	Y
Scan On/Off	Y	Y*	N	N	N
Scrambler Off	N	Y	Y	Y	Y
Scrambler On	N	Y	Y	Y	Y
Scrambler On/Off	Y	Y*	N	N	N
Squelch Off	N	Y	Y	Y	Y
Squelch On	N	Y	Y	Y	Y
Squelch On/ Off	Y	Y*	N	N	N
Squelch Momentary	Y	N	N	N	N
TA line Pre-emphasis Off	N	Y**	N	N	N
TA line Pre-emphasis On/ Off	N	Y*	N	N	N
Take Over On/Off	Y	N	N	N	N

Function	PF Key	AUX Input	Save On/Off	Start Up	Power Supply
Test Tone Off	N	Y	Y	Y	Y
Test Tone On	N	Y	Y	Y	Y
Test Tone On/ Off	Y	Y*	N	N	N
TOT Disable	N	Y	Y	Y	Y
TOT Enable	N	Y	Y	Y	Y
TOT Dis/En	Y	Y*	N	N	N
TX Disable	N	Y	Y	Y	Y
TX Enable	N	Y	Y	Y	Y
TX Dis/En	Y	Y*	N	N	N
Low Power Off	N	Y	Y	Y	Y
Low Power On	N	Y	Y	Y	Y
Low Power On/Off	Y	Y*	N	N	N

*: You can use this function only when the signal is detected with the Down Edge.

**: You can use this function only when the signal is detected with the Level.

Symbols

Numerics

A

B

C

D

E

T

U

V

W

Z