PROGRAMMING MANUAL

CLONING SOFTWARE

CS-F3G

Icom Inc.

FOREWORD

This manual explains in detail how to program each of the functions in the IC-F3GT/GS and IC-F4GT/GS VHF AND UHF TRANSCEIVERS with the CS-F3G CLONING SOFTWARE. The CS-F3G can be set up to meet any number of requirements of your customers, such as system conditions, channels, frequencies, tones, etc.

IMPORTANT

Before using the program, make a backup copy of the original disk. Operate the program using the backup and keep the original in a safe place.

TABLE OF CONTENTS

■ EQUIPMENT REQUIRED

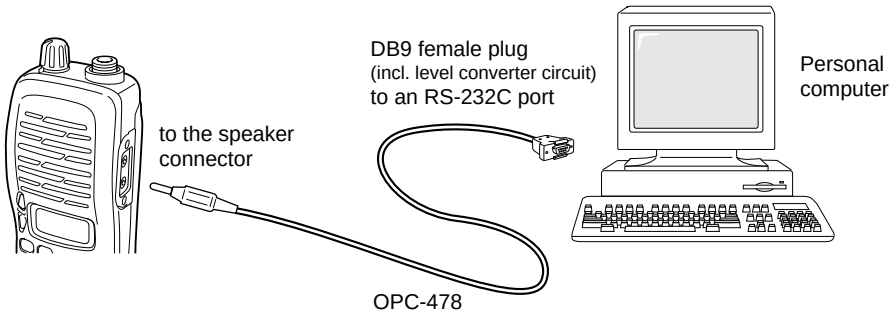
To use the program, the following hardware and software is required:

- IBM PC/AT or PS/2 compatible computer with an RS-232C serial port
- Microsoft® Windows® 95 or Windows® 98
- Intel Pentium 100 MHz processor or faster
- At least 16 MB RAM
- At least 800×600 pixel display
- OPC-478 CLONING CABLE

■ CONNECTION

Connect each item as in the following diagram.

CAUTION: Do not connect an antenna to the transceiver during cloning operation. Received signals may cause cloning errors.



■ SOFTWARE INSTALLATION

NOTE:

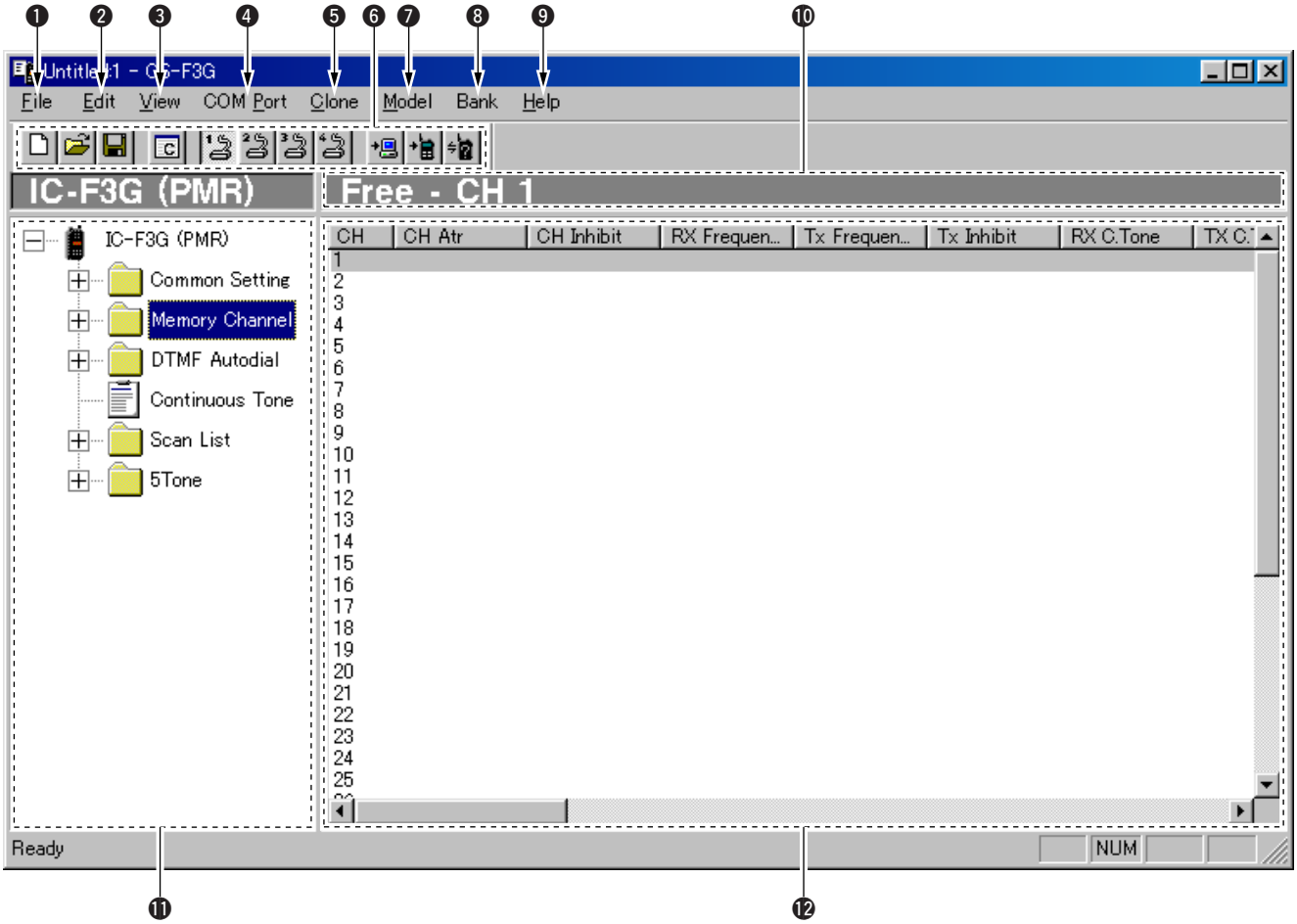
1. Before using the program, make a backup copy of the original disk. After making a backup copy, keep the original disk in a safe place.
2. Depending on your Windows® system files, the PC may require rebooting. In this case, repeat the installation from the beginning.

◆ Installation

① Boot up Windows®. (Quit all applications when Windows® is running.)
② Insert the CS-F3G backup disk into the appropriate floppy disk drive.
③ Select 'Run' from the [Start] menu.
④ Type the setup program name with full path name, then press the [Enter] key.
e.g.; A:\setup [Enter]
⑤ Follow the prompts.
⑥ Program group 'CS-F3G' appears in the 'Programs' folder of the start menu.

2 SCREEN DESCRIPTION

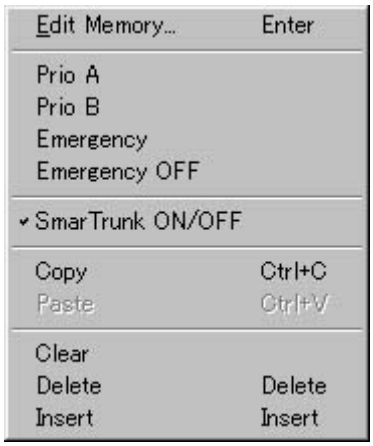
2-1 MAIN SCREEN DESCRIPTION



❶ FILE MENU— [File]

Used for making new file, opening available saved file, saving memory channel contents or quitting the program, etc.. Up to 4 recently used files are indicated in the sub menu for simple, quick file selection.

❷ EDIT MENU— [Edit]



Edit the selected memory contents.

- Select the proper model type, item and channel number before editing items. (see ❼, ⓫ and ⓬; p. 3)

*The above sub menu shows in the case that a memory channel is selected. When an other item is selected, a different sub menu is appears.

Go to ❼ MODEL MENU— [Model]

Go to ⓫ TREE VIEW SCREEN

Go to ⓬ MEMORY CHANNEL SCREEN

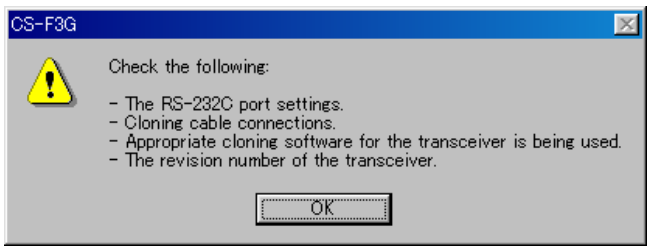
❸ VIEW MENU— [View]

- The independent Common Setting Screen is selectable. (pgs. 6–18)
- Turn the tool bar or status bar ON/OFF.

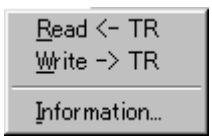
❹ COM PORT MENU— [COM Port]

Push to display the COM port setting sub menu.
- Set the COM port (RS-232C port) number properly.

NOTE: 'Check the following' dialog box as follows, appears when the RS-232C serial port is not set correctly.



❺ CLONE MENU— [Clone]



Starts to read the programmed data from the connected transceiver, programs setup data to the connected transceiver, or displays detailed information screen to check Model type, CPU's revision, clone comment and optional unit installation condition of the connected transceiver.
The clone comment is programmed in **Clone Comment— (1), (2)** in ***3-2 COMMON 1*** (p. 14)

Go to Clone Comment— (1), (2)

❻ TOOL BAR

Short cut keys appear on the tool bar when the tool bar is checked ("✔" mark appears) in the [View] menu as above.

Short cut keys for New (Ctrl+N), Open (Ctrl+O), Save (Ctrl+S) as in [File], Common Setting as in [View], COM1–4 selection as in [COM Port] and Read <– TR, Write –> TR, Information as in [Clone] menu, are available.

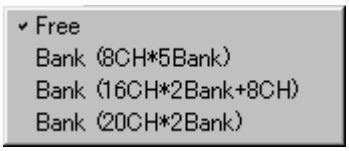
❼ MODEL MENU— [Model]

Select model type from LMR (2-tone) or PMR (5-tone/DTMF).
-"✔" mark appears for the selected model.
The Tree View Screen will be changed when switched between LMR and PMR. See page 5 for details.

IMPORTANT! : The model type must be selected at first, otherwise the edited contents will be lost.
Select **PMR (5Tone/DTMF)** to enable the DTMF decode operation when UT-108 is installed.

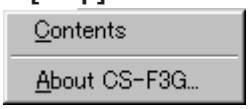
Go to 2-2 TREE VIEW SCREEN DESCRIPTION

❽ BANK MENU— [Bank]



Push to select bank type. Free, 8CH*5Bank, 16CH*2Bank + 8CH, 20CH*2Bank are available.
-"✔" mark appears for the selected bank type.

❾ HELP MENU— [Help]



Push to display help contents and cloning software revision information.

❿ EDITABLE CHANNEL INDICATION

Displays the prompt editable item name and channel number.

⓫ TREE VIEW SCREEN (p. 4)

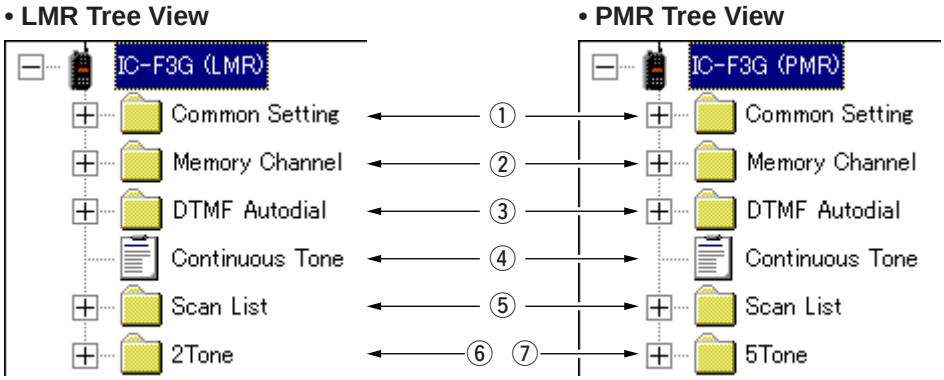
Double click the folder icon or click the "⊞" beside the folder which you want to edit. Then double click the desired item name to display the item on the 'Memory channel screen'.

Go to 2-2 TREE VIEW SCREEN DESCRIPTION

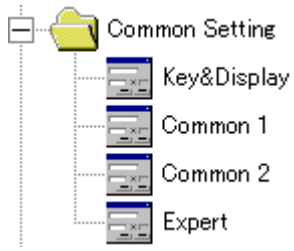
⓬ MEMORY CHANNEL SCREEN

Display the Memory Channel or editable item information. Double click, right click on the desired channel number, or press [Enter] key after desired channel selection to open the independent 'Edit' screen.

2-2 TREE VIEW SCREEN DESCRIPTION



① **Common setting** (pgs. 6–18)



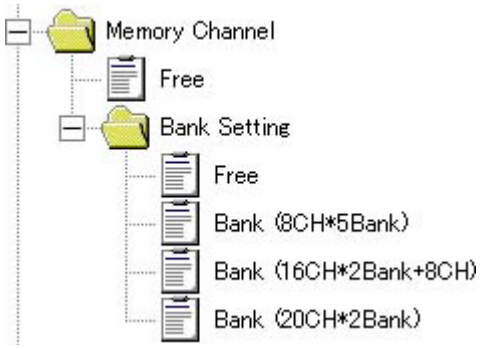
Set programmable key, function display assign, and several commonly used timers, etc., are programmable in 4 independent sheets as follow.

Key & Display Assign (pgs. 6–12)
Common 1 (pgs. 13–14)
Common 2 (pgs. 15–16)
Expert (pgs. 17–18)

By double clicking an item in the Common Setting folder, the desired sheet in the independent Common Setting Screen appears.

Go to 3-1 KEY & DISPLAY ASSIGN
Go to 3-2 COMMON 1
Go to 3-3 COMMON 2
Go to 3-4 EXPERT

② **Memory Channel**
(LMR: pgs. 19–23/PMR: pgs. 24–32)

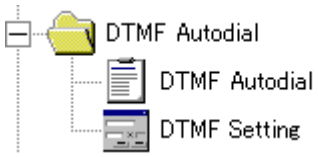


Set channel attribute, operating frequency, CTCSS encoder/decoder frequency, transmit output power, voice scrambling code, etc..

By double clicking a bank type item in the Bank Setting folder, the desired bank condition is indicated below the Memory Channel folder and editable channel number, in a bank in the Memory Channel Screen.

Go to 4 MEMORY CHANNEL— LMR
Go to 5 MEMORY CHANNEL— PMR

③ **DTMF Autodial** (pgs. 33–34)



Program DTMF code for the DTMF auto dialling function and timers for each digit, 1st digit, [✻] and [#] code.

By double clicking the DTMF Autodial item, the editable DTMF channels appear in the Memory Channel Screen, and the independent DTMF Setting Screen appears when the DTMF Setting item is double clicked.

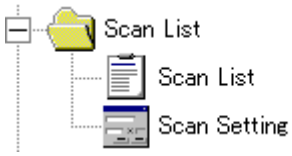
Go to 6 DTMF AUTODIAL

④ **Continuous Tone** (p. 35)
Set continuous tone frequency. The programmed continuous tone is used for encoder and/or decoder.

By double clicking the Continuous Tone item, the editable continuous tone channels appear in the Memory Channel Screen.

Go to 7 CONTINUOUS TONE

⑤ **Scan List** (pgs. 36–37)

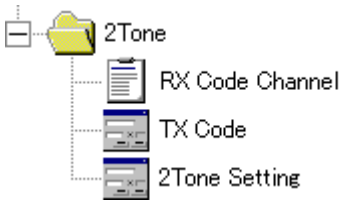


Set scan mode, text for each scan group, power save function scan stop/resume timers, etc..

By double clicking the Scan List item, the editable scan group channels appear in the Memory Channel Screen, and the independent Scan Setting Screen appears when the Scan Setting item is double clicked.

Go to 8 SCAN LIST

⑥ **2Tone** (LMR only; pgs. 38–40)

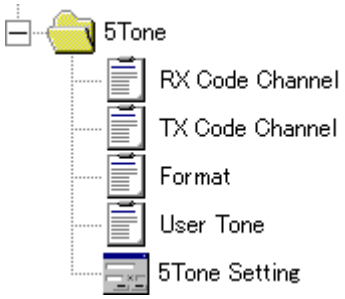


Set RX/TX code, text, beep, bell, stun, group call, ANS functions, etc..

By double clicking the RX Code Channel item, the editable RX code channels appear in the Memory Channel Screen, and the independent TX Code Channel or 2Tone Setting Screen appears when the TX Code Channel or 2Tone Setting item is double clicked, respectively.

Go to 9 2TONE

⑦ **5Tone** (PMR only; pgs. 41–49)



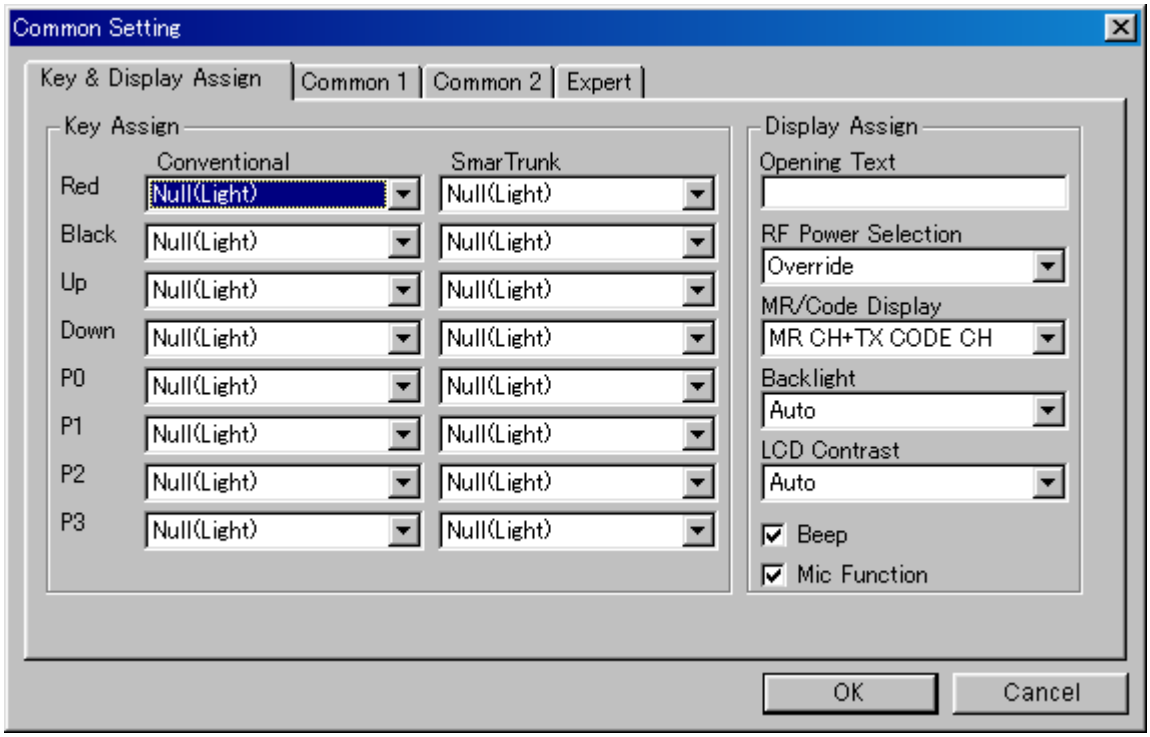
Set RX/TX code, text, 5-tone format, beep, bell, stun, group call, answer back functions, etc..

By double clicking the RX/TX Code Channel, Format or User Tone item, the editable RX/TX code channels, 5-tone format or user tone appear in the Memory Channel Screen, and the independent 5Tone Setting Screen appears when the 5Tone Setting item is double clicked.

Go to 10 5TONE

3 COMMON SETTING

3-1 KEY & DISPLAY ASSIGN



■ **Key Assign— Red, Black, Up (▲), Down (▼) , P0, P1, P2, P3**

Assign a function for each programmable switch and operating mode (Conventional and SmarTrunk). Assignable functions and actions are as follows.

Null(Light): No function is assigned. However, lights LCD backlight for 5 sec. when 'Auto' is selected in **Backlight** (p. 12) in this screen.

Go to Backlight

CH Up, CH Down:
Changes memory channel. Memory channel is selectable when assigning this function, besides the original [CH Up (▲)] or [CH Down (▼)] switches.

Bank Up : Changes memory channel bank for when either 8CH*5Bank, 16CH*2Bank + 8CH, 20CH*2Bank is selected in the **BANK** menu (p. 3) or, double click the desired bank icon in the Bank Setting folder in the Tree View Screen (p. 4).

Go to ❼ BANK MENU

Go to ② Memory Channel

Scan A, Scan B:

When the power ON scan function is turned OFF;
Push to start and cancel scanning operation. In case of transmission during scan, cancels scanning when in Scan A, and pauses scanning, then resumes scanning after passing the time period specified in **Auto Reset** in ***4/5 MEMORY CHANNEL*** (LMR; p. 22/PMR; p. 31) when Scan B is selected.
The scanning list (scanning channel group) can be selected via [CH Up] or [CH Down] switches, after entering the scan list selection mode by pushing this switch for 1 sec..

When the power ON scan function is turned ON;
Push to pause scanning when in Scan A, and push to cancel scanning when Scan B is selected. In case of transmission during scan, pauses scanning, then resumes scanning after passing the time period specified in the **Auto Reset** in ***4/5 MEMORY CHANNEL*** (LMR; p. 22/PMR; p. 31) when in Scan A. Cancels scanning when Scan B is selected.
The scanning list (scanning channel group) can be selected via [CH Up] or [CH Down] switches, after entering the scan list selection mode by pushing this switch for 1 sec..

The power ON scan function is specified in **Power ON Scan** in ***8-2 SCAN SETTING*** (p. 37).

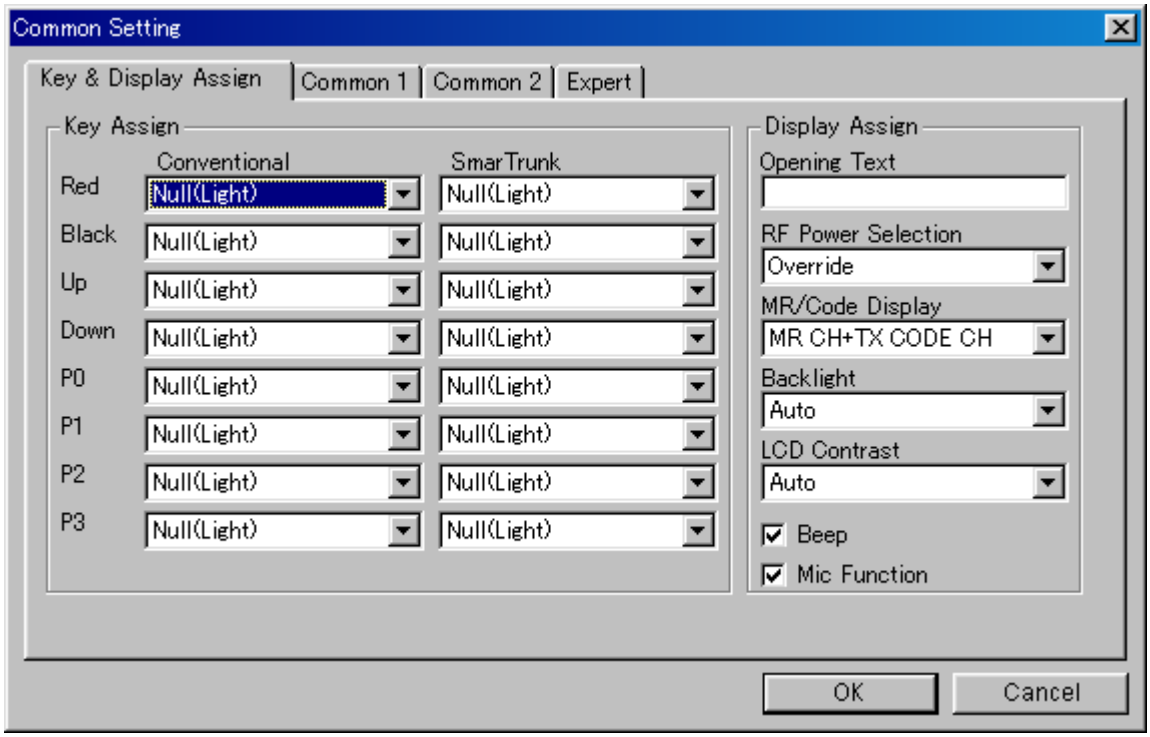
NOTE: Scan A and Scan B cannot be assigned at the same time because the transceiver cannot have two different scans.

Go to Auto Reset— LMR

Go to Auto Reset— PMR

Go to PWR ON Scan

3-1 KEY & DISPLAY ASSIGN— continued



Scan Add/Del(Tag):

Push to add or delete the channel to/from the selected scanning list

Prio A, Prio B:

Selects the priority channel A or B programmed in **CH Atr** in ***4/5 MEMORY CHANNEL*** respectively (LMR; p. 19/PMR: p. 24) by pushing this switch.

Prio A (Rewrite):

Selects the priority channel A programmed in **CH Atr** in ***4/5 MEMORY CHANNEL*** (LMR; p. 19/PMR: p. 24) by pushing this switch. Also the operating channel is re-assigned for priority channel A by pushing this switch for 1 sec..

Go to CH Atr— LMR

Go to CH Atr— PMR

MR-CH 1–4:

Immediately selects memory channel 1–4, respectively.

Moni/Moni(Audi):

For LMR model action— Moni

Push to mute and release the CTCSS (DTCS) or 2-tone squelch mute. Open any squelches/deactivate any mutes while pushing this switch.

For PMR model action— Moni (Audi)

Activates a monitor function specified in **Switch Action— Moni** in ***5 MEMORY CHANNEL— PMR*** (p. 27).

Go to Switch Action— Moni

Lock : Switches keyboard lock function ON and OFF.

Beep : Switches key touch beep ON and OFF.

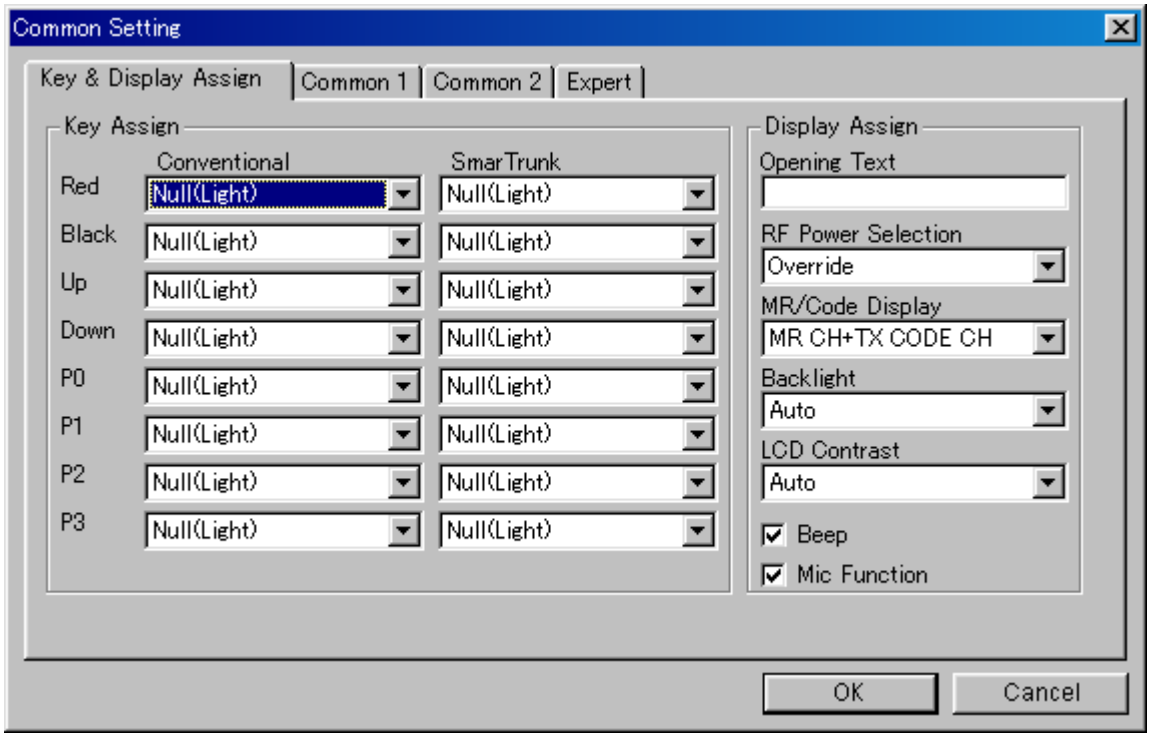
High/Low: Switches transmit output power level from the independent settings of each channel. It is impossible to select “High” when “Low” is selected for the initial setting in **RF PWR** in ***4/5 MEMORY CHANNEL*** (LMR; p. 22/PMR; p. 29) as well as when “MR CH Individual” is selected in the **RF Power Selection** (p. 11) in this sheet.

Go to RF PWR— LMR

Go to RF PWR— PMR

Go to RF Power Selection

3-1 KEY & DISPLAY ASSIGN— continued



C. Tone CH Ent:

Selects continuous tone channel via [CH Up] or [CH Down] switches to change the tone frequency/code setting after pushing this switch for temporary operation.

The [CH Up] or [CH Down] switches are assigned in this screen (p. 6) and the continuous tone channel is programmed in ***7 CONTINUOUS TONE*** (p. 35),

Go to CH Up, CH Down

Go to 7 CONTINUOUS TONE

Talk Around:

Toggles the talk around function ON and OFF.

This function allows temporary simplex operation on the duplex/repeater channel.

DTMF Autodial:

Push this switch for entering the DTMF autodial mode and then select the stored DTMF code via [CH Up] or [CH Down] switches.

Transmits the selected DTMF code by pushing this switch for 1 sec..

The DTMF code for auto dialling is programmed in ***6-1 DTMF AUTODIAL*** (p. 33), and the [CH Up] or [CH Down] switches are assigned in this screen (p. 6).

Go to 6-1 DTMF Autodial

Go to CH Up, CH Down

Re-Dial : Transmits the last-transmitted DTMF code again. Acts for both manual and autodial. Re-Dial will be cleared when the transceiver is turned OFF once.

Call : Transmits the 2-tone (LMR) or 5-tone or DTMF code (PMR) in the selected channel.

2-tone is programmed in **Option— 2Tone** in ***4 MEMORY CHANNEL— LMR*** (p. 20)

5-tone is programmed in **5Tone Signaling— RPT, STN, ID** in ***5 MEMORY CHANNEL— PMR*** (p. 29)

For PMR model action only

In case this switch is pushed, and the 5-tone setting is an “OFF” channel, it transmits the previously transmitted 5-tone code, when the automatic clear channel searching function is activated, specified in the **Auto CH Call** in ***8-2 SCAN SETTING*** (p. 37).

Go to Option— 2Tone

Go to 5Tone Signaling— RPT, STN, ID

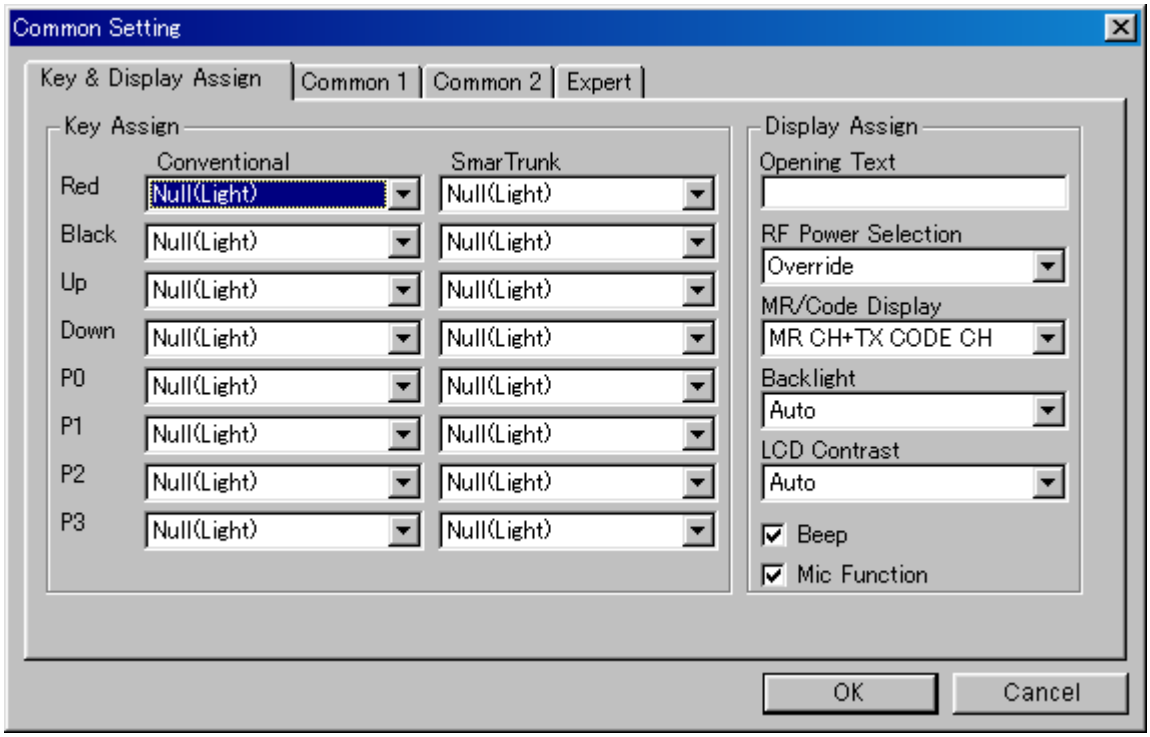
Go to Auto CH Call

Call A (Code 30), Call B (Code 29)— *PMR only* :

Transmits the 5-tone code programmed in the channel 30 (Call A) or 29 (Call B) in **10-2 TX CODE** (p. 43) as the station code when [Call A] or [Call B] switch is pushed, respectively.

Go to 10-2 TX Code

3-1 KEY & DISPLAY ASSIGN— continued



Emergency Repeat, Emergency Single:

Immediately selects emergency channel and automatically sends a repeated emergency signal at specified time intervals or an emergency signal once, by pushing this switch for the specified time period, programmed in **Emergency— SW ON Timer** in ***3-4 EXPERT*** (p. 17). Also, cancels the emergency call by pushing this switch for the specified time period, programmed in **Emergency— SW OFF Timer** in ***3-4 EXPERT*** (p. 17), before an emergency signal is transmitted.

The emergency channel is specified in **CH Atr** in ***4/5 MEMORY CHANNEL*** (LMR; p. 19/PMR; p. 24) and the time intervals are specified in the **Emergency— Start/Repeat** in ***3-4 EXPERT*** (p. 18).

Go to Emergency— SW ON Timer

Go to Emergency— SW OFF Timer

Go to CH Atr— LMR

Go to CH Atr— PMR

Go to Emergency— Start/Repeat

TX Code— *PMR only* :

Selects a TX code channel, instead of the specified 5-tone code channel programmed in **5Tone signaling— STN** in ***5 MEMORY CHANNEL— PMR*** (p. 29), via [CH Up] or [CH Down] switches after pushing this switch for temporary operation.

The station code can also be manually entered as at above right.

To enter 5-tone code—

IC-F3GT/F4GT : Enter the station code using [0]–[9] and [✻] switches after pushing this switch for 1 sec..

IC-F3GS/F4GS: Select the code number via [CH Up] or [CH Down] switches after pushing this switch for 1 sec., then push this switch to set the next code number. After all digits are selected, push this switch for 1 sec. to complete the number.

Selectable 5-tone channels, acceptable input digits and updates can be specified in **Sel** (p. 44), **Input Digit** (p. 43) and **Update** (p. 43) in ***10-2 TX CODE CHANNEL***.

The [CH Up] and [CH Down] switches are assigned in this screen (p. 6).

Go to 5Tone signaling— STN

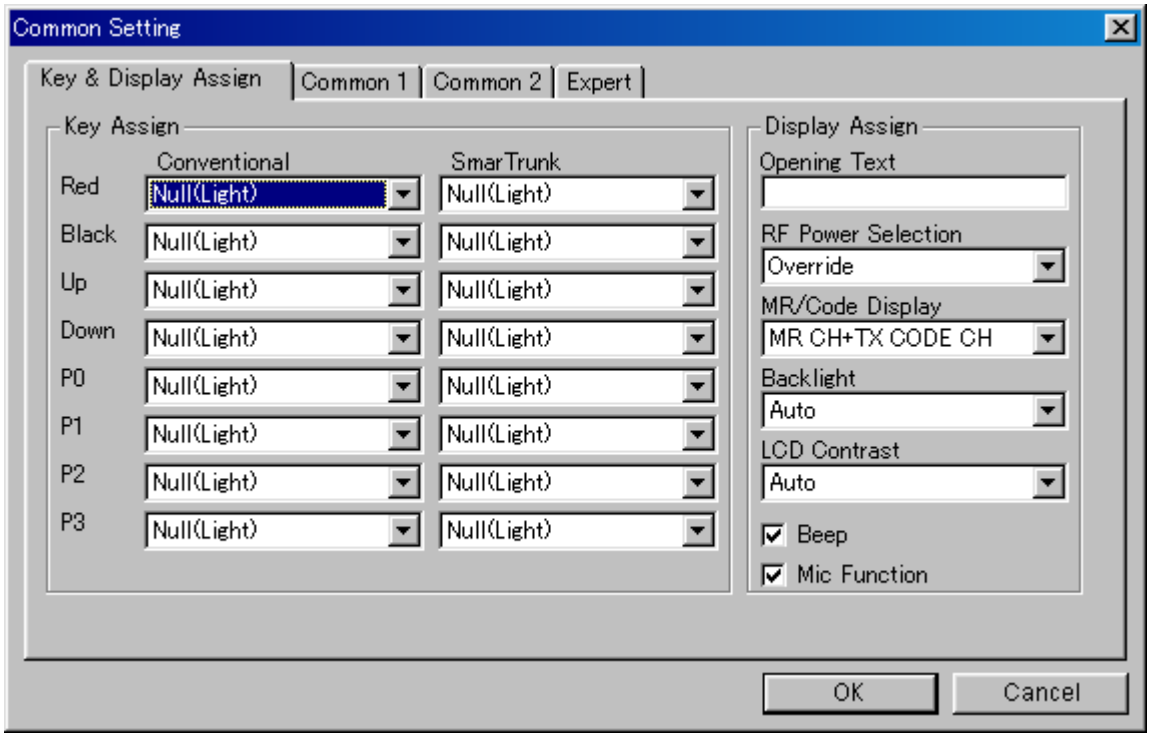
Go to Sel

Go to Input Digit

Go to Update

Go to CH Up, CH Down

3-1 KEY & DISPLAY ASSIGN— continued



TX Code CH Up, TX Code CH Down— *PMR only* :
Selects a TX code channel, instead of the specified 5-tone code channel programmed in **5Tone signaling— STN** in ***5 MEMORY CHANNEL— PMR*** (p. 29) for temporary operation.
Selectable 5-tone channels are specified in **Sel** in ***10-2 TX CODE CHANNEL*** (p. 44).

Go to 5Tone signaling— STN

Go to Sel

ID-MR Select:
For entering into received ID code history indication mode. Up to 5 codes can be memorized and searches the history with [CH Up] or [CH Down] switches.
All the history can be cleared by pushing this switch for 1sec..

For PMR action only—
The selected/displayed 5-tone code can be transmitted as STN (station/group) code when [Call] switch is pushed.
[CH Up], [CH Down] or [Call] switches are assigned in this screen (pgs. 6, 8).

Go to CH Up, CH Down

Go to Call

OPT1 Out/H, OPT2 Out/H, OPT3 Out/H:
Outputs "High" level signal from the OPT1–3 port in the optional unit connector (MAIN unit, J5; pins 9–11), respectively.

OPT1 Out/L, OPT2 Out/L, OPT3 Out/L:
Outputs "Low" level signal from the OPT1–3 port in the optional unit connector (MAIN unit, J5; pins 9–11), respectively.

OPT1 Momentary/H, OPT2 Momentary/H, OPT3 Momentary/H:
Outputs "High" level pulse signal from the OPT1–3 port in the optional unit connector (MAIN unit, J5; pins 9–11), respectively.

OPT1 Momentary/H, OPT2 Momentary/H, OPT3 Momentary/H:
Outputs "Low" level pulse signal from the OPT1–3 port in the optional unit connector (MAIN unit, J5; pins 9–11), respectively.

Sp. Func 1, Sp. Func 2:
Reserved for future functions.

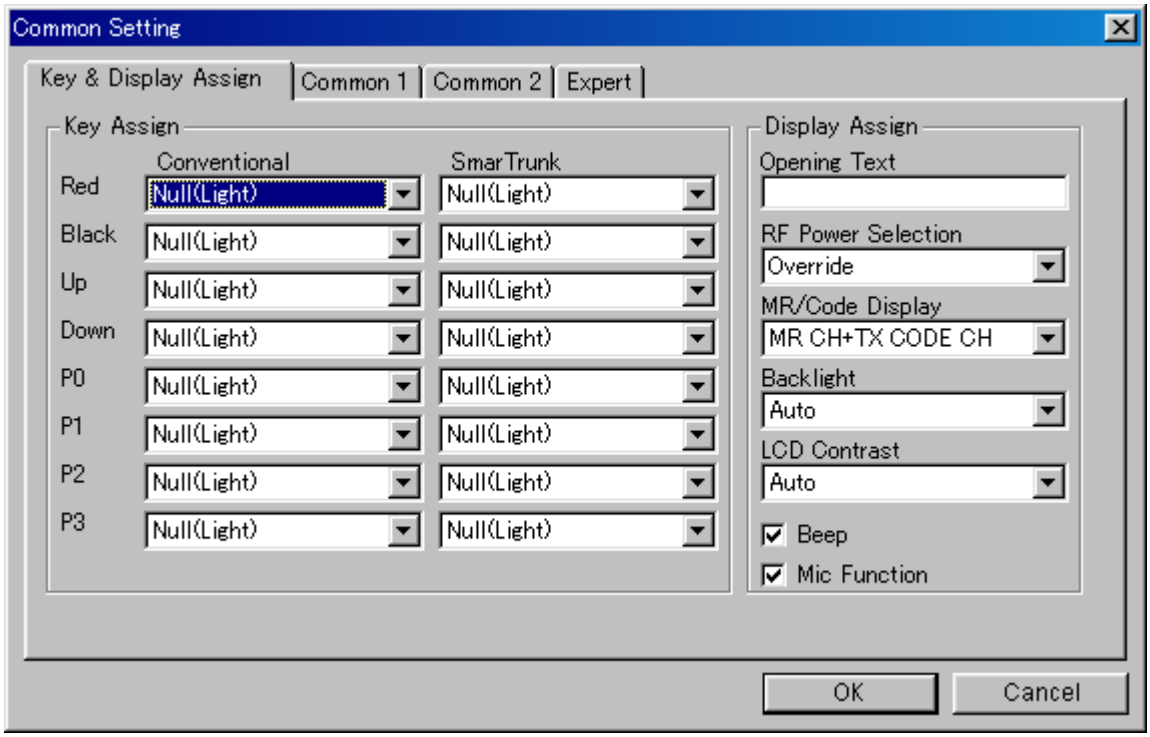
Scrambler: Switches voice scrambler function ON and OFF when an optional voice scrambler unit, UT-109 or UT-110, is installed.

When "Inhibit" is selected in **Scrambler— ON, OFF, Inhibit** in ***4/5 MEMORY CHANNEL*** (LMR; p. 21/PMR; p. 32), the scrambler function cannot be switched with this switch operation.

Go to Scrambler— ON, OFF, Inhibit— LMR

Go to Scrambler— ON, OFF, Inhibit— PMR

3-1 KEY & DISPLAY ASSIGN— continued



The following functions can be assigned for the SmarTrunk columns operation only.

Trunking Group SW:
Selects trunking group.

Turbo SpeeDial A, B, C, D:
Immediately calls commonly used telephone or subscriber numbers during SmarTrunk II operation. See pages 50–52 for details

Programming memory Speed Dial
① Push and hold the [✻] until a high-pitch beep is heard.
② Enter the memory location (0–9), the telephone or subscriber number, then [1], [✻] (or [3], [✻] if for another system subscriber).
• A high-pitch beep informs successful programming.
• Memories [A]–[D] are used for the Turbo SpeeDial.
Note: This function is available for the IC-F3GT/F4GT only.

✻, # : Acts as [✻] or [#] keys on 10-key pad. Convenient during SmarTrunk II operation with non-keypad type transceivers (IC-F3GS/F4GS).
Assign these functions to the keys which [CH Up] or [CH Down] is assigned in conventional operation.

■ Display Assign

• Opening Text

Enter up to a 7-character transceiver opening message.

The usable characters are A–Z (uppercase), 0–9, $, ', (,), –, /, <, =, >, @, [, \,], _, {, |, } and ~.

• RF Power Selection

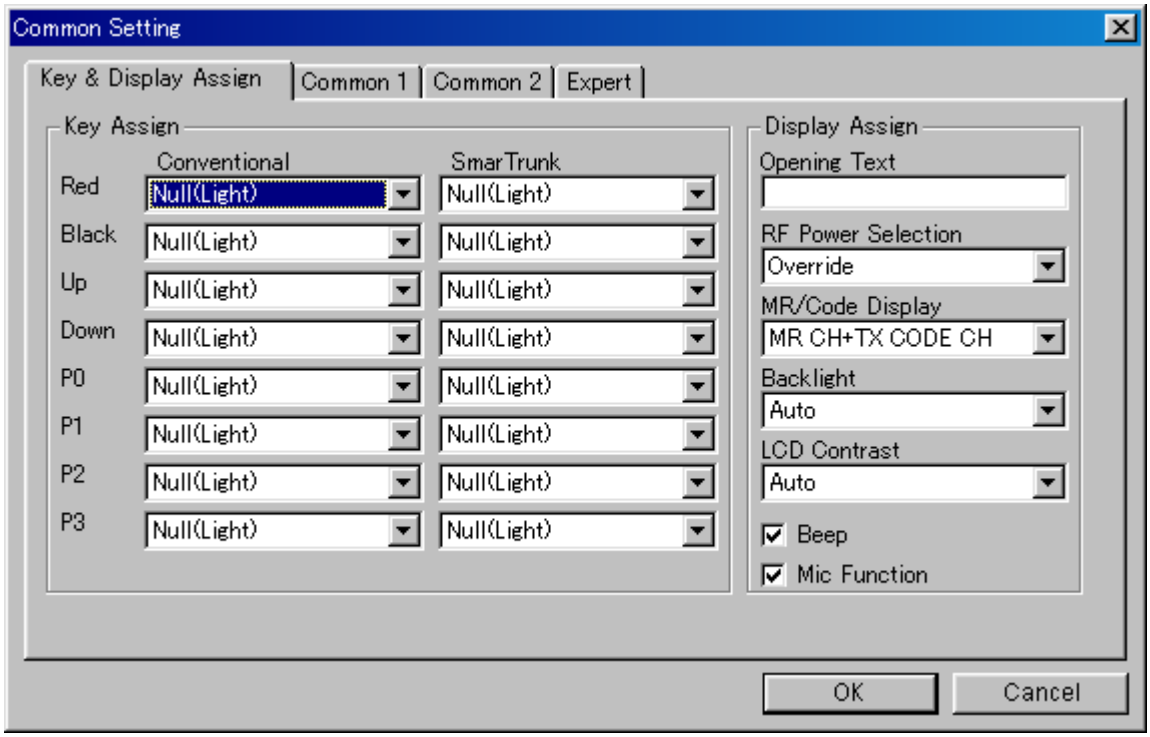
Selects transmit output power setting condition from MR CH individual and Override.

Selected transmit output power level with the [High/Low] switch is kept for all channels regardless of the individual power setting programmed in **RF PWR** in ***4/5 MEMORY CHANNEL*** (LMR; p. 22/PMR; p. 29) when 'Override' is selected. However, outputs selected transmit output power level temporarily with the [High/Low] switch when 'MR CH Individual' is selected.

The [High/Low] switch is assigned in this screen (p. 7).

Go to RF PWR— LMR
Go to RF PWR— PMR
Go to High/Low

3-1 KEY & DISPLAY ASSIGN— continued



• MR/Code Display— *PMR only*

Selects display conditions from MR CH, TX CODE CH and MR CH+TX CODE CH.

MR CH: The selected operating channel number or programmed text is displayed.

TX CODE CH:
The selected transmit 5-tone code channel number or programmed text is displayed.

MR CH+TX Code CH:
The selected transmit 5-tone code channel number or programmed text is displayed after operating channel number or programmed text is briefly displayed.

Text for each operating channel and transmit 5-tone code channel are programmed in **Frequency— Text** in ***5 MEMORY CHANNEL*** (p. 25) and in **Text** in ***10-2 TX CODE CHANNEL*** (p. 43), respectively.

When no text is programmed, the selected channel number is displayed instead of the text.

Go to Frequency— Text

Go to Text

• Backlight

Selects LCD backlight lighting condition from ON, OFF and Auto.

ON : Lights continuously while the transceiver is powered ON.

OFF : Does not light with any operation.

Auto : Lights for 5 sec. when any switch except [PTT] is pushed.

• LCD Contrast

Selects LCD contrast level from Low and Auto.

• Beep

Click the check-box to activate key-touch beep capability. (Not for lockout timer, TOT, etc.)

-The "✔" mark appears when checked.

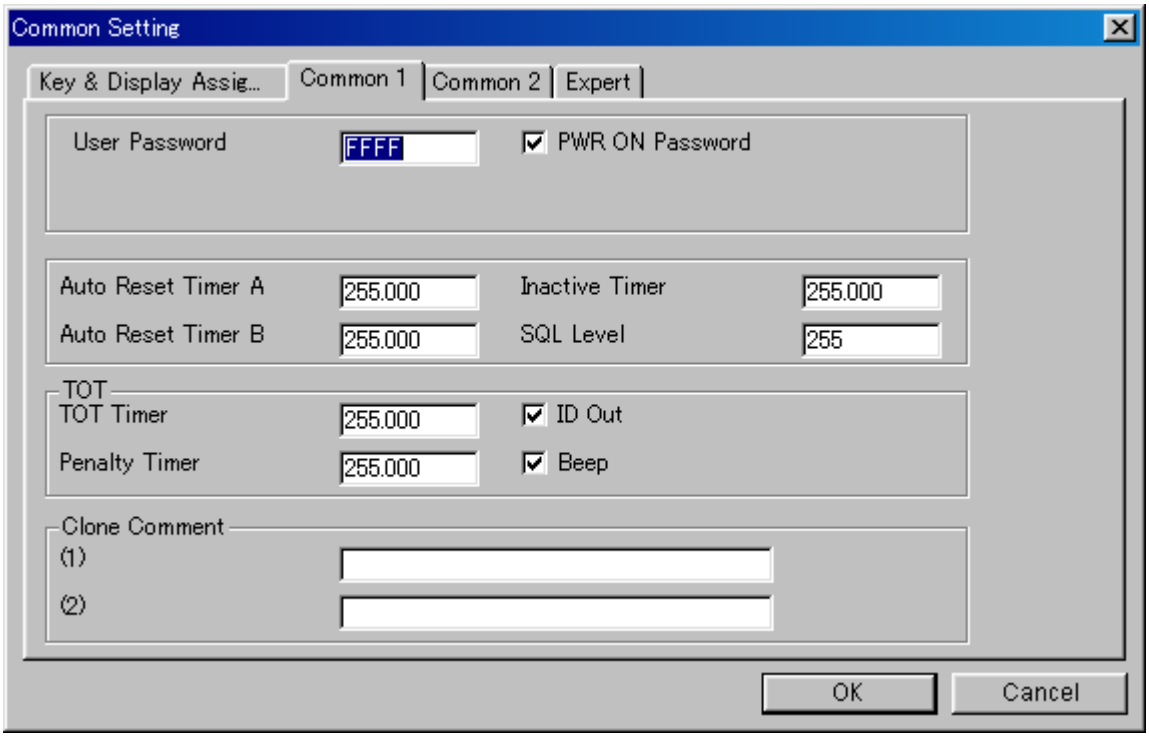
• Mic Function

Click the check-box to activate the remote control capability from an optional HM-75A SPEAKER MICROPHONE.

[▲], [▼], [A] and [B] switches on the HM-75A operate as [▲], [▼], [P0] and [P1] switches on the transceiver, respectively.

-The "✔" mark appears when checked.

3-2 COMMON 1



• User Password
Enters up to a 4-digit user password for the power ON password function or for cancelling the "Stun" condition.

The power ON password function is specified in **PWR ON Password** as follows, and the "Stun" function is specified in **Stun** in ***9-1/10-1 RX CODE CHANNEL*** (2-tone; p. 39/5-tone; p. 42).

Go to Stun— 2-tone
Go to Stun— 5-tone

• PWR ON Password
Click the check-box to activate the power ON password function.

It is necessary to enter the 4-digit password programmed in the **User Password** as above when checked. However, the password must be entered after receiving a "Stun" signal regardless of this setting.

The Stun condition is programmed in **Stun** in ***9-1/10-1 RX CODE CHANNEL*** (2-tone; p. 39/5-tone; p. 42).

Go to Stun— 2-tone
Go to Stun— 5-tone

• Auto Reset Timer A, Auto Reset Timer B
Enter time period for returning the mute condition to the initial setting, specified in **CH Mute** in ***5 MEMORY CH*** (PMR only; p. 31), and/or restarting the scan from a disappearing signal or when key operation is finished, if the power ON scan function is turned ON.

To turn OFF the Auto Reset function, enter "0 (zero)" to one of these settings. ("OFF" will be indicated)

The programmed settings are selected in **Auto Reset** in ***4/5 MEMORY CH*** (LMR; p. 22/PMR; p. 31).

The power ON scan function is programmed in **Power ON Scan** in ***8-2 SCAN SETTING*** (p. 37).

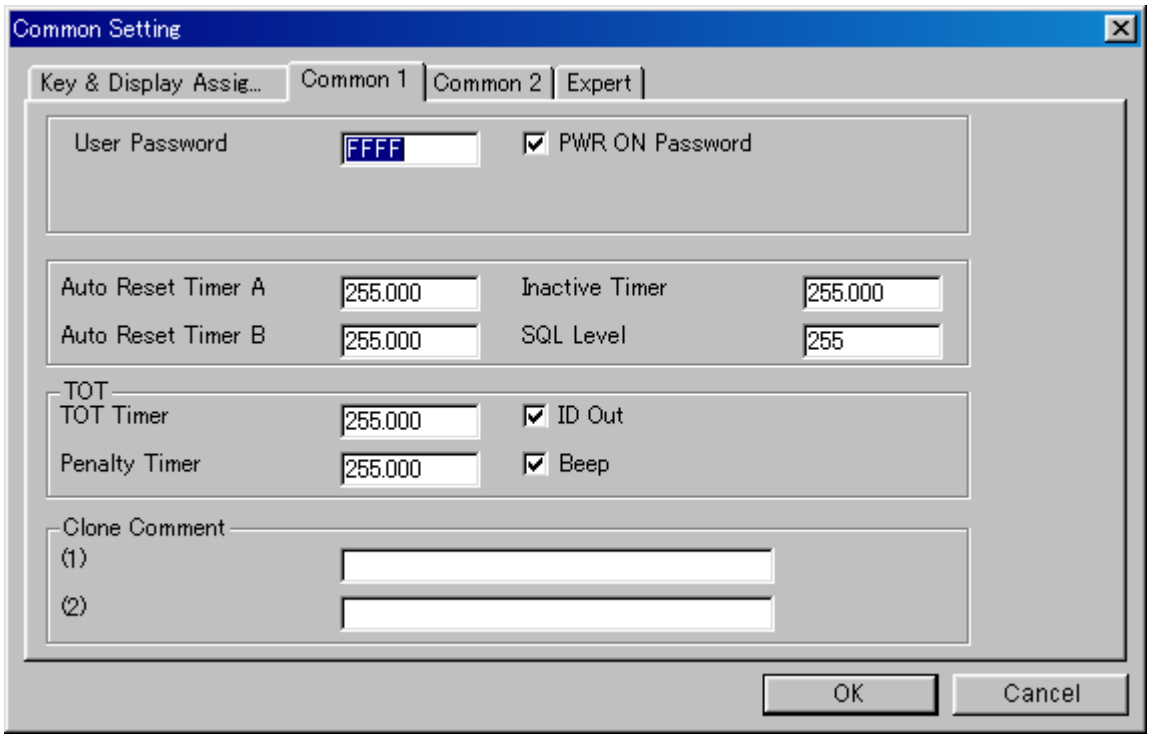
Go to CH Mute
Go to Auto Reset— LMR
Go to Auto Reset— PMR
Go to Power ON Scan

• Inactive Timer—*PMR only*
The entered time period acts as the **Auto Reset Timer A**, **Auto Reset Timer B** as above.

This setting is used with the **Auto Rest Timer A** or **Auto Rest Timer B**, by selecting 'Timer A Inact' or 'Timer B Inact' in **Auto Reset** in ***5 MEMORY CHANNEL*** (p. 31).

Go to Auto Reset— PMR

3-2 COMMON 1— continued



• SQL Level
Enter a value within 0–255 range for noise squelch threshold level adjustment.

• TOT— TOT Timer
Enters continuously transmittable time period (Time-out timer). Maximum time period is specified for 30, 60 or 180 sec. etc., according to country and local regulation.

The time-out timer function can be turned ON or OFF for each operating channel in **TOT** in ***4/5MEMORY CHANNEL*** (LMR; p. 23/PMR; p. 31).

DO NOT set to only a few seconds, as transmitting will be impossible.

Go to TOT— LMR

Go to TOT— PMR

• TOT— ID Out (DTMF)/ID Out
Click the check-box to activate the automatic ID transmission capability.
-The "✔" mark appears when checked.

The function automatically transmits an ID code when the time-out timer activates, and just before transmission is inhibited.

The ID code is programmed in *No. Log/ID* in ***6-1 DTMF AUTODIAL*** (p. 33) for LMR, and is specified in **5Tone Signaling— ID** in ***5 MEMORY CHANNEL*** (p. 29) for PMR operation.

Go to 6-1 DTMF AUTODIAL

Go to 5Tone Signaling— ID

• TOT— Penalty Timer
Enters un-transmittable time period for penalty when the continuously transmitted time has exceeded the specified time period programmed in **TOT— TOT Timer** as at left.

The TOT penalty time is the transmit inhibit period when the time-out timer is activated.

• TOT— Beep
Click the check-box to activate the warning beep output capability for TOT function.
-The "✔" mark appears when checked.

Emits warning beep 10 sec. before compulsory shut down of the transmission.

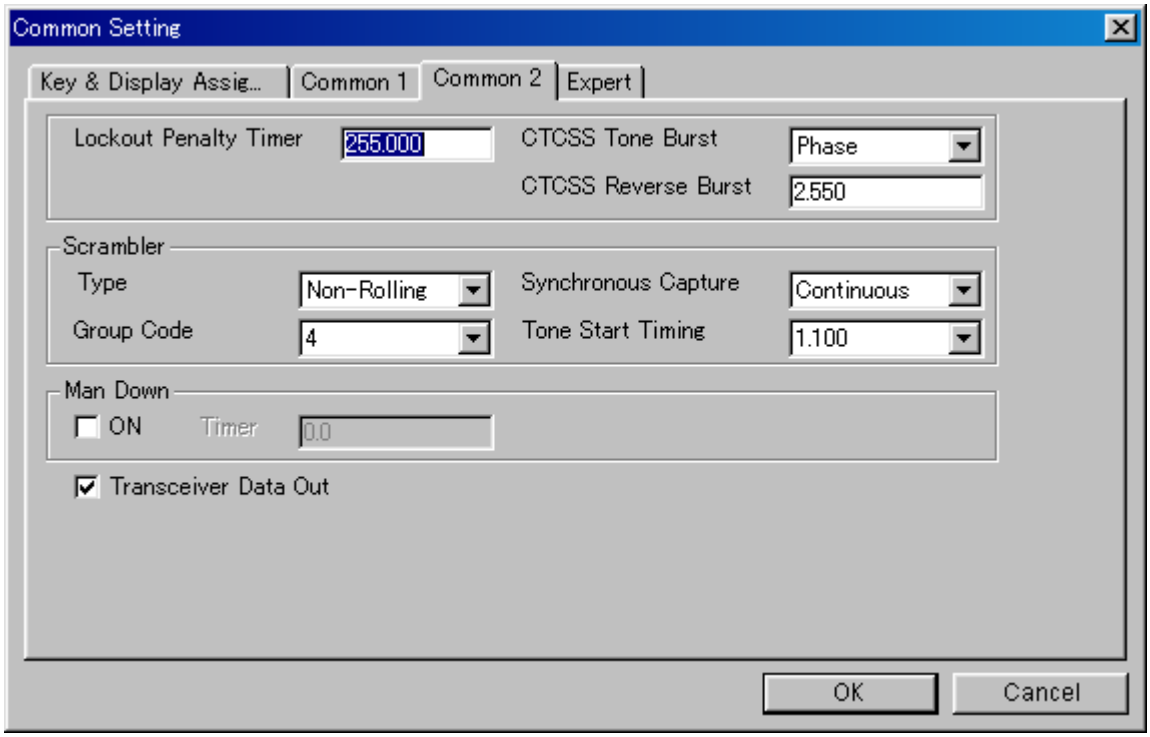
The transceiver emits warning beeps 10 sec. before, and the time-out timer activates when this setting is turned ON.

• Clone Comment— (1), (2)
Enters up to a 16-character text for quick identification of a transceiver's content.

The programmed comment of the connected transceiver can be checked without reading all other existing programmed data. See ❺ **CLONE MENU— [Clone]** in ***2-1 MAIN SCREEN DESCRIPTION*** (p. 3).

Go to CLONE MENU— [Clone]

3-3 COMMON 2



• Lockout Penalty Timer

Enters un-transmittable time period for penalty when transmitted on a busy channel. The un-transmittable condition is kept for the programmed time period even if the channel is cleared.

The lockout penalty time is the transmit inhibit period when the user attempts to transmit while in a lockout condition. The transmission is inhibited for the lockout penalty time even when the lockout condition is cleared.

• CTCSS Tone Burst

Selects tone burst system from Notone and Phase.

Notone: Un-modulates CTCSS encoder signal for the specified time period, programmed in **CTCSS Reverse Burst** in this screen as at right. (This system is currently used.)

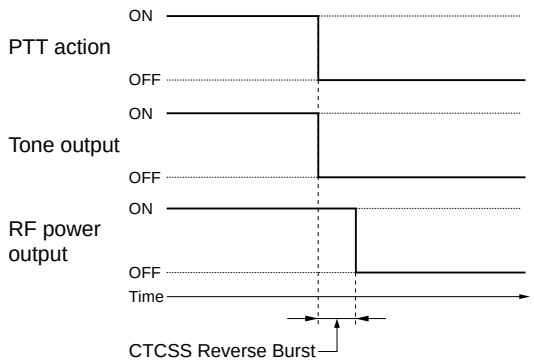
Phase : Reverses the phase of CTCSS encoder signal for the specified time period, programmed in **CTCSS Reverse Burst** in this screen as at right.

• CTCSS Reverse Burst

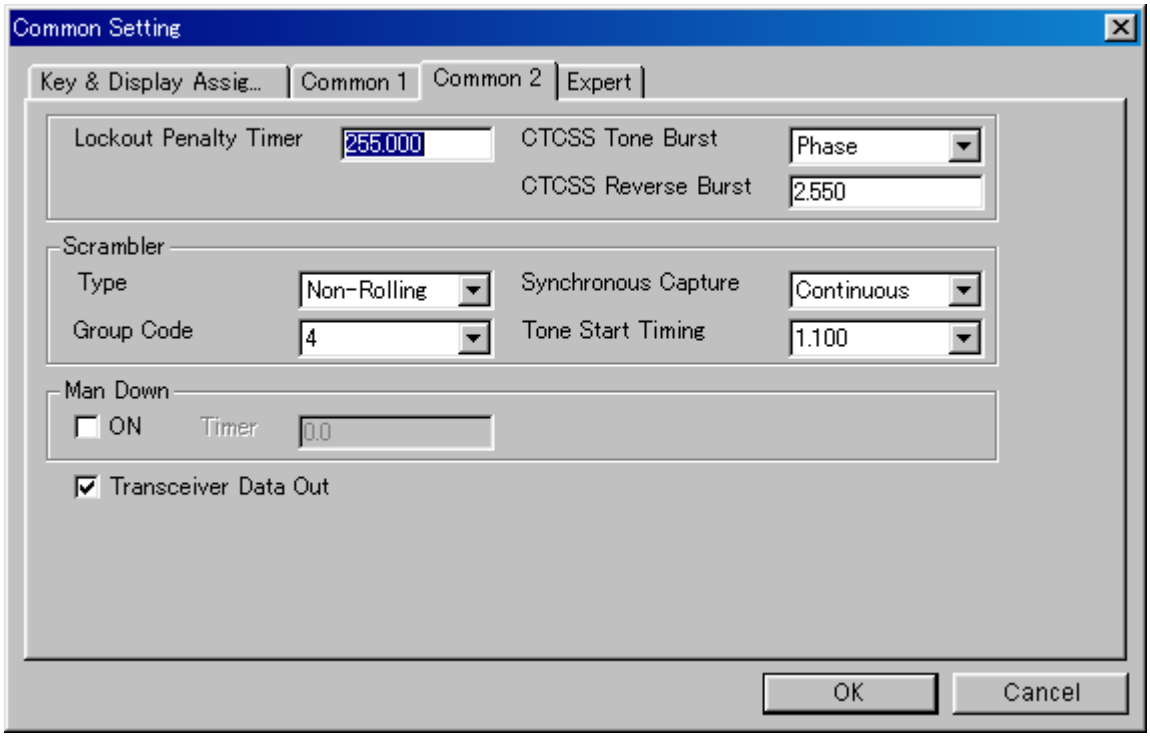
Enters time period for transmission delay with [PTT] switch operation and CTCSS signal.

The transceiver still transmits for the programmed period without the CTCSS encoder or with phase reversed CTCSS encoder signal after [PTT] is released. This removes the transceiver's 'Squelch delay'.

• CTCSS Reverse Burst



3-3 COMMON 2— Continued



• Scrambler— Type

Selects scrambler type from Rolling and Non-Rolling.

Selects 'Rolling' when the optional voice scrambler unit, UT-110 (#01), is installed, selects 'Non-Rolling' when UT-109 is installed.

UT-110 and UT-109 are not compatible due to different scrambling systems. However, UT-110 can be used instead of UT-109 by selecting 'Non-Rolling' type in this item

The **Scrambler— Group Code** as follows, must be programmed when UT-110 is used with the Rolling setting.

• Scrambler— Synchronous Capture

Selects synchronous capture mode from Standard and Continuous.

It is recommended that 'Standard' is selected for simplex/normal operation, 'Continuous' for repeater operation.

• Scrambler— Group Code

Selects scrambler group code from 1, 2, 3 and 4 when the optional voice scrambler unit, UT-110 (#01), is installed and 'Rolling' is selected in the **Scrambler— Type** as above.

Programming is not required when the optional voice scrambler unit, UT-109, is installed.

• Scrambler— Tone Start Timing

Selects reference tone signal delay time from OFF, 0.3sec., 0.6 sec. and 1.1 sec.

The setting is used to synchronize voice scrambling timing when the other stations/transceivers are in power save mode.

• Man Down— ON, Timer

Click the check-box, ON, and enter time period in the Timer column (25.5 sec. max.) to activate the man down function when the optional UT-113 MAN DOWN UNIT is installed.

The transceiver selects emergency channel and transmits an emergency signal automatically after passing the programmed time period when the transceiver has been left in a horizontal position.

The emergency channel is programmed in **CH Atr** in ***4/5 MEMORY CHANNEL*** (LMR; p. 19/PMR; p. 24).

For the emergency signal—

LMR : DTMF code of Emergency, programmed in ***6-1 DTMF AUTODIAL*** (p. 33), is used.

PMR : specified 5-tone/DTMF code selected in **5Tone Signaling— STN** in ***5 MEMORY CHANNEL*** (p. 29) of the emergency channel.

Go to CH Atr— LMR

Go to CH Atr— PMR

Go to 6-1 DTMF AUTODIAL

Go to 5Tone Signaling— STN

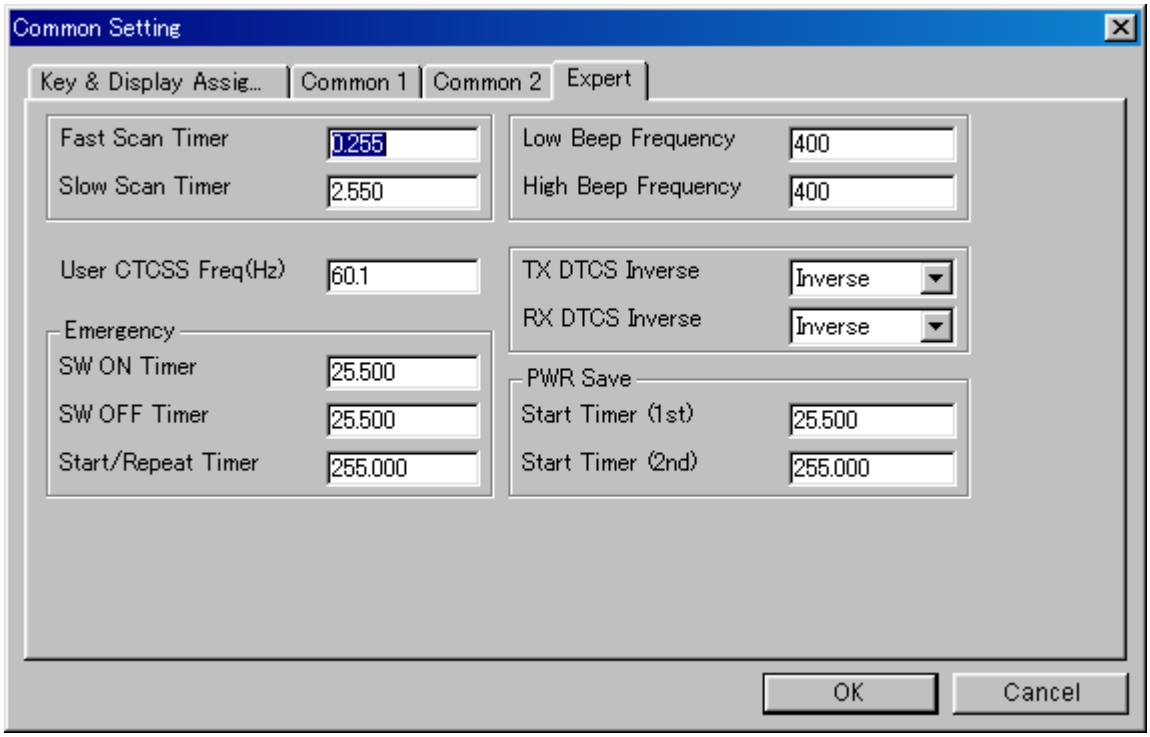
• Transceiver Data Out

Click the check-box to enable the transceiver's programmed data out capability for both using this software and cloning between transceivers.

-The "✔" mark appears when checked.

The setting does not inhibit data writing, therefore over writing data is still possible even when not checked.

3-4 EXPERT



• Fast Scan Timer

Enters time period for scanning of each channel without CTCSS/DTCS programming.

An appropriate time is set by default and scan may not stop when setting a value less than the default.

• Slow Scan Timer

Enters time period for scanning of each channel with CTCSS/DTCS programming.

An appropriate time is set by default and scan may not stop when setting a value less than the default.

• User CTCSS Freq(Hz)

Programs additional customer/system own CTCSS frequency to the existing 51 CTCSS frequencies within 60.1 to 300.1 Hz range.

The programmed CTCSS frequency can be selected in **C.Tone— RX and TX** in ***4/5 MEMORY CHANNEL*** (LMR; p. 20/PMR; p. 26), and **RX, TX** in ***7 CONTINUOUS TONE*** (p. 35) by selecting 'USER'.

Go to C.Tone— RX and TX— LMR

Go to C.Tone— RX and TX— PMR

Go to RX, TX

• Emergency— SW ON Timer

Enters time period for which [Emergency Repeat] or [Emergency Single] switch must be held to activate the emergency function.

Push and hold [Emergency Repeat] or [Emergency Single] switch for the programmed time period to make an emergency call.

[Emergency Repeat] or [Emergency Single] switch is assigned in ***3-1 KEY & DISPLAY ASSIGN*** (p. 9).

Go to Emergency Repeat, Emergency Single

• Emergency— SW OFF Timer

Enters time period for which [Emergency Repeat] or [Emergency Single] switch must be held to cancel the emergency function.

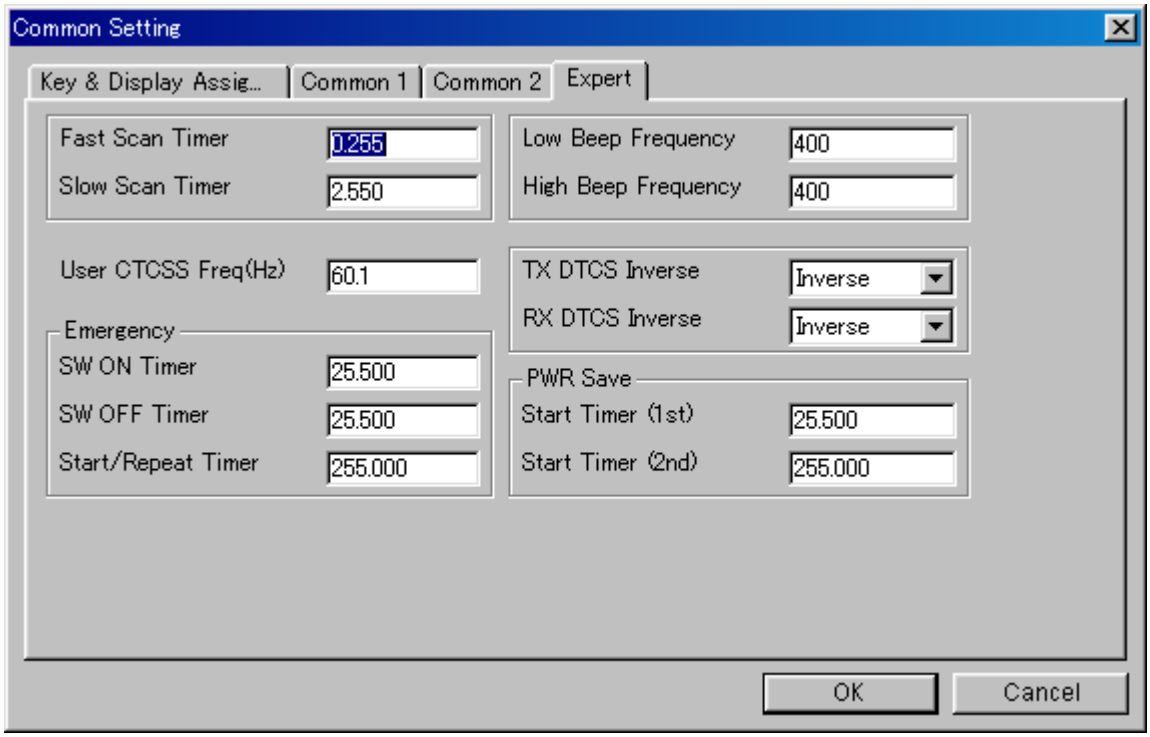
Push and hold [Emergency Repeat] or [Emergency Single] switch for the programmed time period to cancel an emergency call before an emergency signal is transmitted.

However, once an emergency call is transmitted, the call cannot be cancelled regardless of this setting.

[Emergency Repeat] or [Emergency Single] switch is assigned in ***3-1 KEY & DISPLAY ASSIGN*** (p. 9)

Go to Emergency Repeat, Emergency Single

3-4 EXPERT— continued



• Emergency— Start/Repeat Timer

Enter the time periods for the emergency call delay and interval.

The transceiver makes an emergency call after passing the programmed time period when the emergency function is activated.

The transceiver transmits an emergency signal repeatedly at this interval until an "Emergency Cancel" code is received when [Emergency Repeat] is used.

[Emergency Repeat] or [Emergency Single] switch is assigned in ***3-1 KEY & DISPLAY ASSIGN*** (p. 9).

Go to Emergency Repeat, Emergency Single

• Low Beep Frequency, High Beep Frequency

Enter beep audio frequency for each Low (for error) and High (for regular) beep within 400 to 2998 Hz range, respectively.

The nearest available frequency is selected automatically.

• TX DTCS Inverse

Selects the transmit DTCS code polarity.

In order for the transceiver to communicate using a DTCS code, the polarity of the transmitting transceiver's transmit code must be the same as the polarity of the receiving transceiver's receive code.

• RX DTCS Inverse

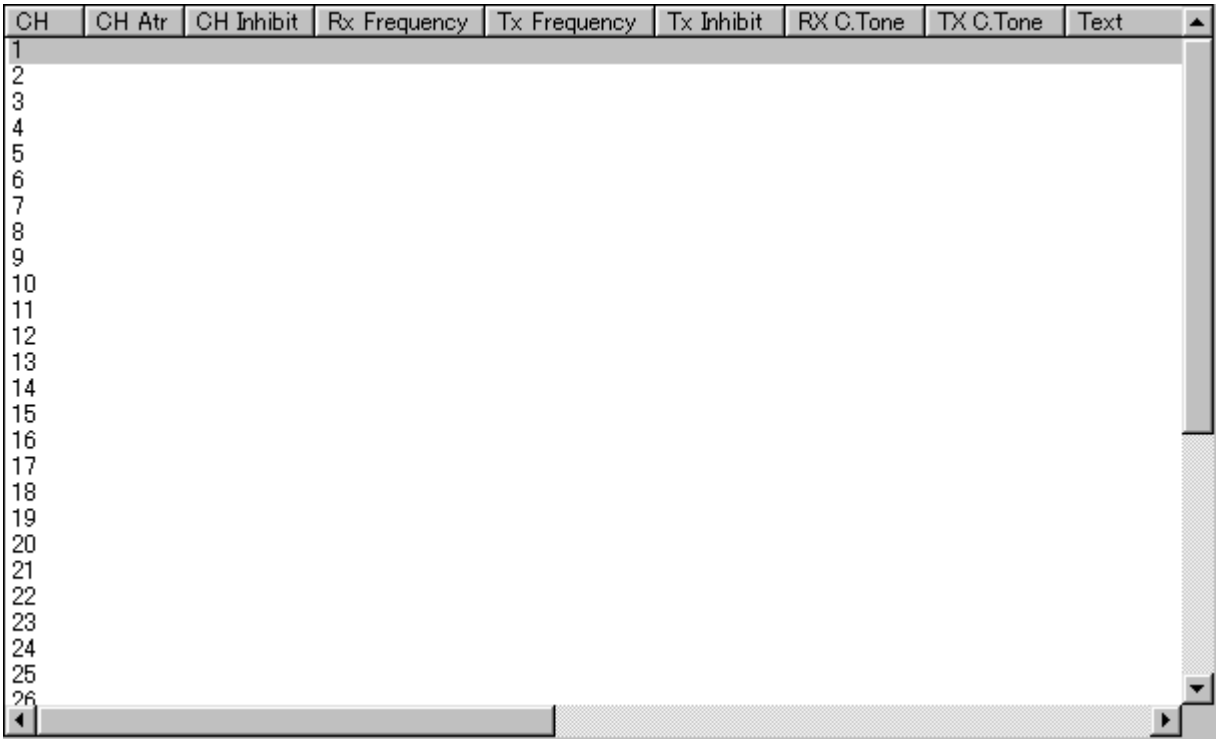
Selects the receive DTCS code polarity.

In order for transceivers to communicate using DTCS codes, the polarity of the receiving transceiver's receive code must be the same as the polarity of the transmitting transceiver's transmit code.

• PWR Save— Start Timer (1st), (2nd)

Enter the time period for the power saver function start timers within 0–25.5 sec. for the 1st, and 1–255 sec. or OFF (enter 'OFF', when 'OFF' is selected) for the 2nd timer.

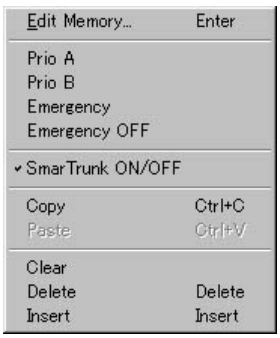
The 1st timer must be set smaller than the 2nd timer, due to the fact that the 2nd timer/power saver function activates after the 1st timer/power saver. Otherwise the 1st timer does not activate. The 2nd timer will be set to 'OFF' when the UT-110 voice scrambler unit is installed. The long timer setting will be invalid.



• CH Atr

Selects the channel attribution from Prio A, Prio B, Emergency, Emergency OFF and SmarTrunk ON/OFF.

Right click on the desired channel to open the sub-menu window as at right, then select the channel attribution.



A: Priority— "A" tagged channel becomes a priority channel A, simply recalled by pushing [Priority A] or [Priority A (Rewrite)] switch and also is automatically monitored during the priority scan. When [Priority A (Rewrite)] switch is assigned, priority channel A can be re-assigned by pushing [Priority A (Rewrite)] switch for 1 sec..

B: Priority— "B" tagged channel becomes a priority channel B, simply recalled by pushing [Priority B] switch.

E: Emergency— "E" tagged channel becomes an emergency channel, immediately recalled and sends an emergency signal by pushing [Emergency Single] or [Emergency Repeat] switch, or when the man down function is activated. Only 1 channel can be set.

Emergency OFF— Regular channel.

SmarTrunk ON/OFF— Specifies the selected bank for SmarTrunk operation.

This selection appears only when either 8CH*5Bank, 16CH*2Bank + 8CH or 20CH*2Bank type is selected in the **BANK** menu (p. 3) or, double click the bank item in the Bank Setting in Memory Channel folder indicated in the Tree View Screen (p. 4).

SmarTrunk specified bank/s, the bank item in the Memory Channel folder, displayed in the Tree View Screen, changes from regular to SmarTrunk type as follows for easy recognition.

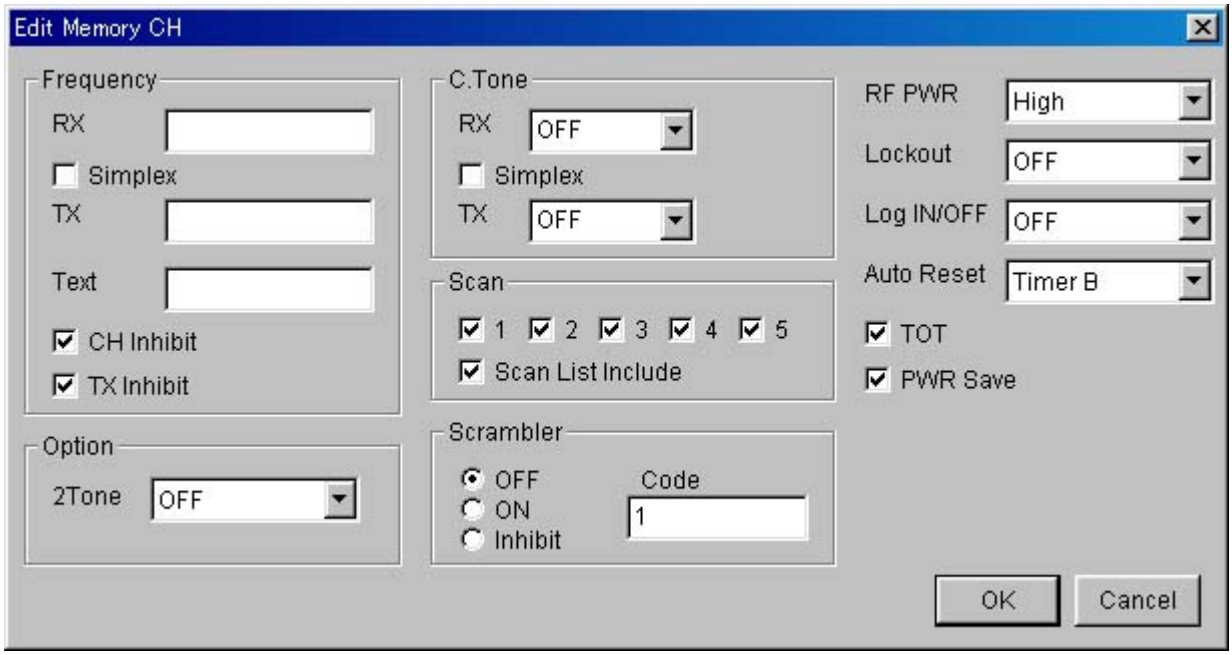
: Regular type : SmarTrunk type

[Priority A], [Priority A (Rewrite)], [Priority B], [Emergency Single] and [Emergency Repeat] switches are assigned in ***3-1 KEY & DISPLAY ASSIGN*** (pgs. 7, 9). The man down function is specified in **Man Down— ON, Timer** in ***3-3 COMMON 2*** (p. 16)

Go to ❼ BANK MENU
Go to ② Memory Channel
Go to Prio A, Prio B
Go to Prio A (Rewrite)
Go to Emergency Single, Emergency Repeat
Go to Man Down— ON, Timer

The channel attribution can only be set on the Memory Channel Screen as shown above. (Cannot be set in the Edit window.) However, the other items are programmable in the Edit window only.

The Edit window appears by pushing the [Enter] key, double clicking or selecting in the sub menu window via the right click operation with the mouse on the desired channel.



• Frequency— RX, TX

Enter receive and transmit frequencies within the following frequency range in either 5, 6.25 or 7.5 kHz steps* for the RX and TX boxes, respectively.

IC-F3GT/GS : 136–150, 146–174 MHz
IC-F4GT/GS : 400–430, 440–470, 470–500, 490–512 MHz

*according to version

When no receive frequency is entered, other items cannot be programmed in the channel.

When SmarTrunk ON/OFF is selected for the editing bank in **CH Atr** (p. 19), operating frequencies must be programmed from channel 1 without a blank.

When programming a simplex channel (transmit and receive frequencies are the same), checks the simplex check-box for instant setting after receive frequency is programmed as follows.

Go to CH Atr

• Frequency— Simplex

Click the check-box when the same frequency as the receive is used for the transmit.

-The "✔" mark appears in the check-box when checked.

• Frequency— Text

Enter up to a 7-character text in the Text box for memory name, channel usage, etc.

The usable characters are A–Z, 0–9, $, ', (,), –, /, <, =, >, @, [, \,], _, {, |, } and ~.

When no text is entered, the channel number is indicated.

• Frequency— CH Inhibit

Click the check-box when the channel is to be inhibited.

The channel never appears on the transceiver, even if all the other items are programmed when the channel is inhibited.

-The "✔" mark appears in the check-box when checked.

• Frequency— TX Inhibit

Click the check-box when transmission inhibit is necessary.

-The "✔" mark appears when checked.

• Option— 2Tone

Selects 2-Tone code channel for reception with transceiver's action when a matched 2-tone code is received from OFF, 1, 2 and 3.

OFF : Nothing changes.
1, 2, 3 : Activates a specified channel 1, 2 or 3 as programmed in the ***9-1 RX CODE CHANNEL*** (p. 38).

Go to 9-1 RX CODE CHANNEL

• C.Tone— RX, TX

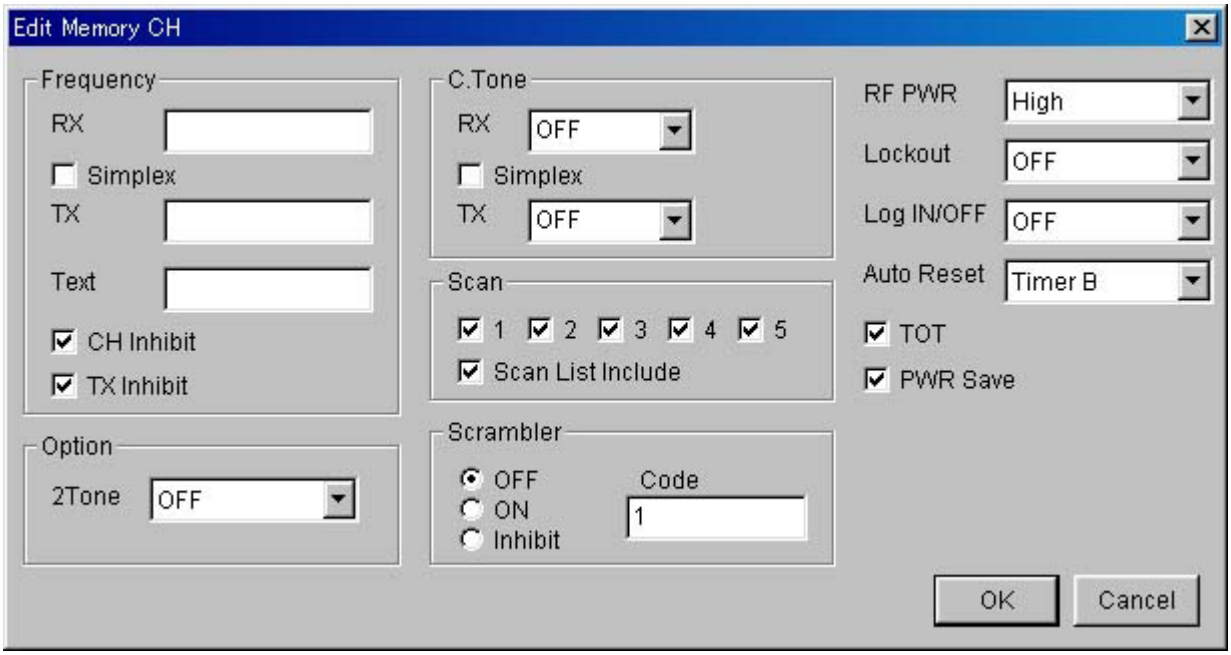
Selects desired CTCSS frequency from the list or enter a 3-digit DTCS code with polarity, N (Normal) or I (Inverse), for receive and transmit in the RX and TX boxes, respectively.

When programming the same continuous tone as the receive for the transmission, checks the simplex check-box for instant setting after receive frequency is programmed as follows.

• C.Tone— Simplex

Click the check-box when the same continuous tone as the receive is used for the transmission.

-The "✔" mark appears in the check-box when checked.



• Scan— 1–5

Click the check-box to the channel included into the desired scan list (scanning group) 1–5.

Only the checked channels in the same scan list are scanned when [Scan A] or [Scan B] switch is pushed.

-The "✔" mark appears in the check-box when checked.

The scan list (scanning group) is selectable via [CH Up] or [CH Down] switches, after [Scan A] or [Scan B] switch is pushed for 1 sec..

The scanning conditions for each scan list are specified in ***8 SCAN LIST*** (pgs. 36–37).

When SmarTrunk ON/OFF is selected for the editing bank in **CH Atr** (p. 19), all boxes must be blank.

[CH Up], [CH Down], [Scan A] or [Scan B] switch is assigned in ***3-1 KEY & DISPLAY ASSIGN*** (p. 6).

Go to 8 SCAN LIST

Go to CH Atr

Go to CH Up, CH Down

Go to Scan A, Scan B

• Scan— Scan List Include

Click the check-box to enable scanning channel modification from the transceiver's keypad.

The desired channel can be added or deleted to/from the selected scan list by pushing [Scan Add/Del(Tag)] switch.

[Scan Add/Del(Tag)] switch is assigned in ***3-1 KEY & DISPLAY ASSIGN*** (p. 7).

Go to Scan Add/Del(Tag)

• Scrambler— OFF, ON, Inhibit

Click to select voice scrambling function initial setting from OFF, ON and Inhibit.

When OFF or ON is selected, the voice scrambling function can be manually switched with the [Scrambler] switch, however, the function cannot be manually switched ON when Inhibit is selected.

An optional UT-109 or UT-110 VOICE SCRAMBLER UNIT is required.

The [Scrambler] switch is assigned in ***3-1 KEY & DISPLAY ASSIGN*** (p. 10).

Go to Scrambler

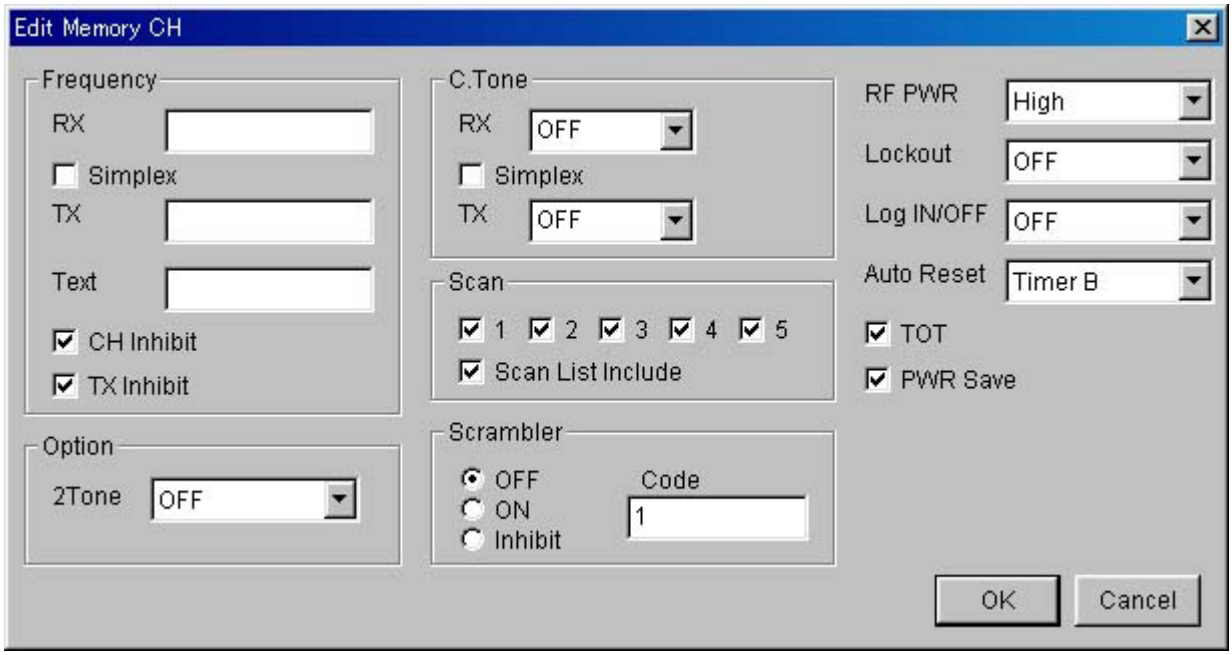
• Scrambler— Code

Enter voice scrambling code within 1–32 using UT-109 or UT-110 with 'Non-Rolling' selection or within 1–255 using UT-110 with 'Rolling' selection installed.

In addition, the **Scrambler— Group Code** in ***3-3 COMMON 2*** (p. 16) must be programmed when UT-110 is installed and 'Rolling' is selected in **Scrambler— Type** in ***3-3 COMMON 2*** (p. 16).

Go to Scrambler— Group Code

Go to Scrambler— Type



• RF PWR

Selects transmit output power for initial setting from High and Low.

The selected output power setting for each channel can be switched to either temporary or permanent operation, according to the setting in the **RF Power Selection** in ***3-1 KEY & DISPLAY ASSIGN*** (p. 11) via [High/Low] switch.

The [High/Low] switch is assigned in the ***3-1 KEY & DISPLAY ASSIGN*** (p. 7)

Go to RF Power Selection

Go to High/Low

• Lock out

Selects transmission lock out (temporary transmission inhibit) capability from OFF, Busy and Rpt (Repeater).

OFF : No restriction for receiving a signal.
Busy : [PTT] switch cannot be activated while the operating channel/repeater is in use.
Rpt : [PTT] switch can be activated while receiving a signal with matched CTCSS (or DTCS) tone or no signals.

In addition, [PTT] switch is not activated for an extra time period in the case of when the lockout penalty timer, programmed in the **Lockout Penalty Timer** in ***3-3 COMMON 2*** (p. 15), is activated, even if the transceiver in a transmittable condition.

Go to Lockout Penalty Timer

• Log IN/OFF

Selects automatic ID transmission condition in relation with [PTT] from L-IN, L-OFF, Both and OFF.

OFF : No ID is transmitted with [PTT].
L-IN : ID is transmitted each time [PTT] is pushed.
L-OFF : ID is transmitted each time [PTT] is released.
Both : ID is transmitted each time [PTT] is pushed and released.

Log/ID code is used as the ID code, programmed in ***6-1 DTMF AUTODIAL*** (p. 33).

When SmarTrunk ON/OFF is selected for the editing bank in **CH Atr** (p. 19), "OFF" must be selected.

Go to 6-1 DTMF AUTODIAL

Go to CH Atr

• Auto Reset

Selects reset timer from Timer A and Timer B for restarting scanning when the power ON scan function is activated

Timer A, Timer B:
Restarts scanning after specified time period (Timer A or Timer B) has passed from a disappearing signal or key operation is finished.

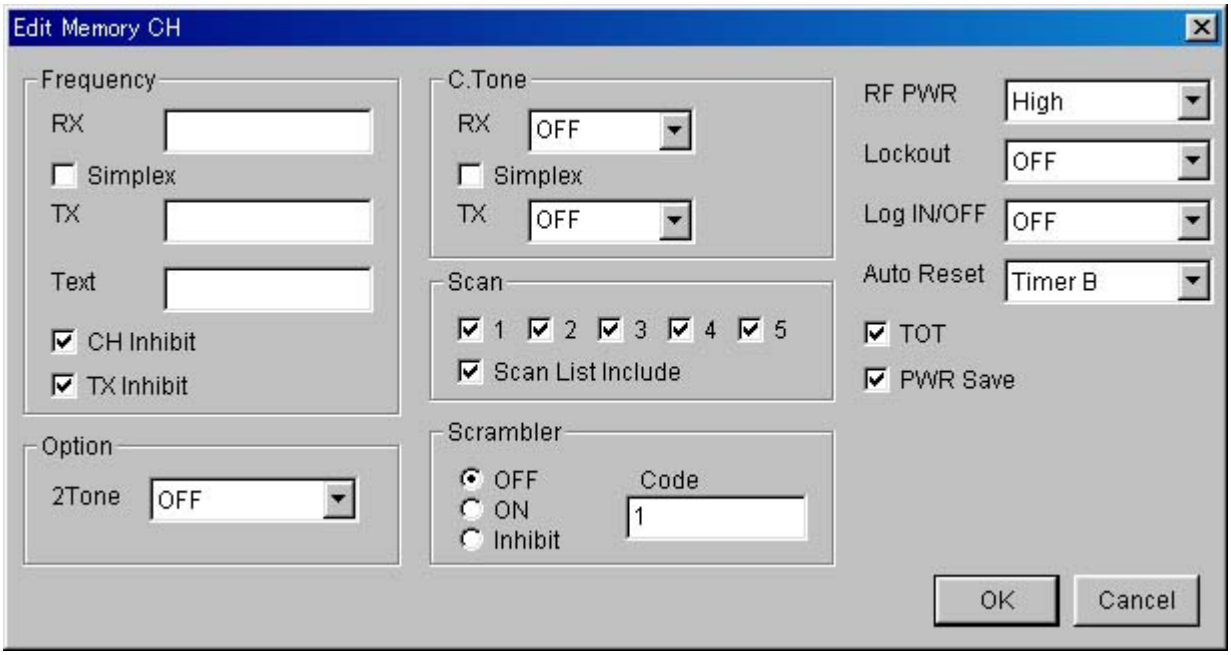
The time period of Timer A and Timer B are programmed in the **Auto Reset Timer A, Auto Reset Timer B** in ***3-2 COMMON 1*** (p. 13), respectively.

To turn OFF the function, select the timer which OFF (0 sec.) is programmed.

The power ON scan function is specified in the **Power ON Scan** in ***8-2 SCAN SETTING*** (p. 37).

Go to Auto Reset Timer A, Auto Reset Timer B

Go to Power ON Scan



• TOT

Click the check-box to activate the time-out timer function.

-The "✔" mark appears when TOT function is activated.

Continuously transmittable time is limited by the timer during activation. However, time-out timer must be activated due to local regulation, in some countries.

The time period is programmed in the **TOT— TOT Timer** in ***3-2 COMMON 1*** (p. 14).

When SmarTrunk ON/OFF is selected for the editing bank in **CH Atr** (p. 19), "OFF" must be selected.

Go to TOT— TOT Timer

Go to CH Atr

• PWR Save

Click the check-box to activate the power save function.

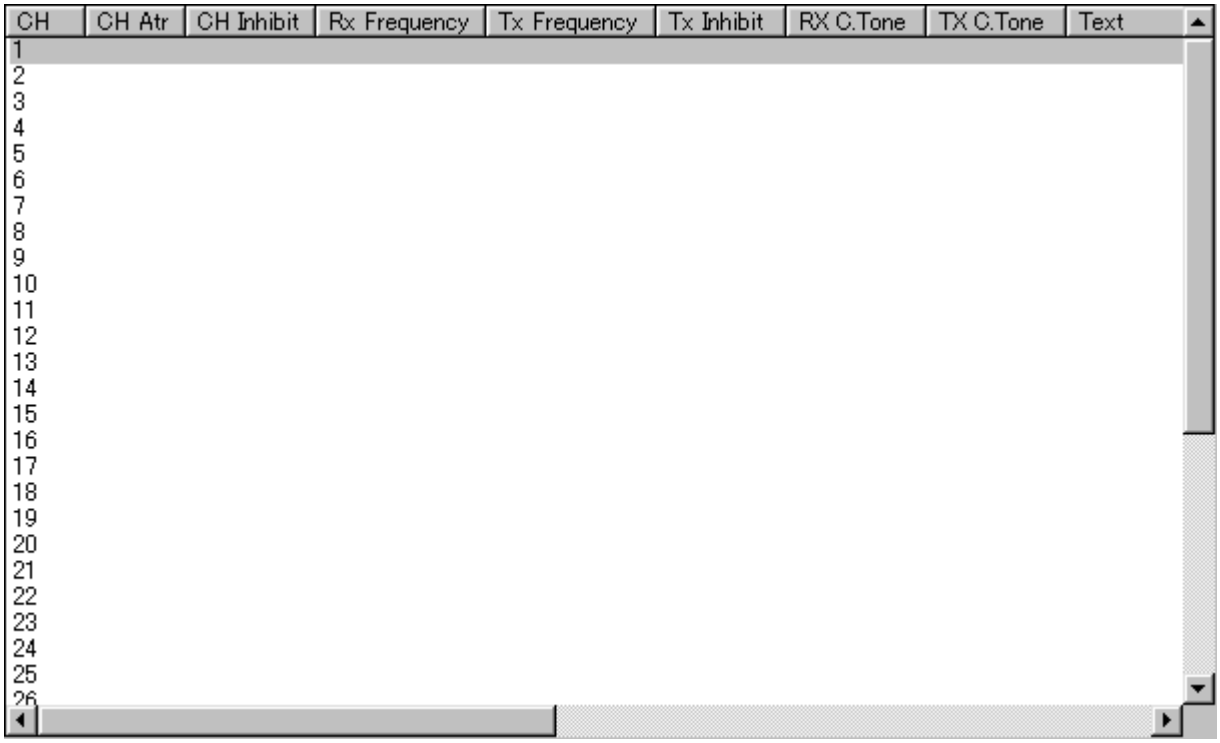
-The "✔" mark appears when the power save function is activated.

The power save start times are programmed in the **PWR Save— Start Timer (1st), (2nd)** in ***3-4 EXPERT*** (p. 18).

When SmarTrunk ON/OFF is selected for the editing bank in **CH Atr** (p. 19), "OFF" must be selected.

Go to PWR Save— Start Timer (1st), (2nd)

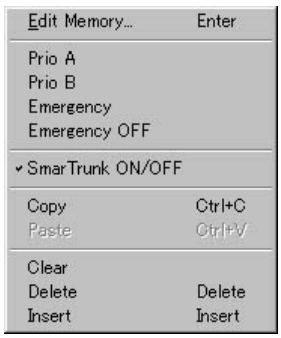
Go to CH Atr



• CH Atr

Selects the channel attribution from Prio A, Prio B, Emergency, Emergency OFF and SmarTrunk ON/OFF.

Right click on the desired channel to open the sub-menu window as at right, then select the channel attribution.



A: Priority— "A" tagged channel becomes a priority channel A, simply recalled by pushing [Priority A] or [Priority A (Rewrite)] switch and also is automatically monitored during the priority scan. When [Priority A (Rewrite)] switch is assigned, priority channel A can be re-assigned by pushing [Priority A (Rewrite)] switch for 1 sec..

B: Priority— "B" tagged channel becomes a priority channel B, simply recalled by pushing [Priority B] switch.

E: Emergency— "E" tagged channel becomes an emergency channel, immediately recalled and sends an emergency signal by pushing [Emergency Single] or [Emergency Repeat] switch, or when the man down function is activated. Only 1 channel can be set.

Emergency OFF— Regular channel.

SmarTrunk ON/OFF— Specifies the selected bank for SmarTrunk operation.

This selection appears only when either 8CH*5Bank, 16CH*2Bank + 8CH or 20CH*2Bank type is selected in the **BANK** menu (p. 3) or, double click the bank item in the Bank Setting in Memory Channel folder indicated in the Tree View Screen (p. 4).

SmarTrunk specified bank/s, the bank item in the Memory Channel folder, displayed in the Tree View Screen, changes from regular to SmarTrunk type as follows for easy recognition.

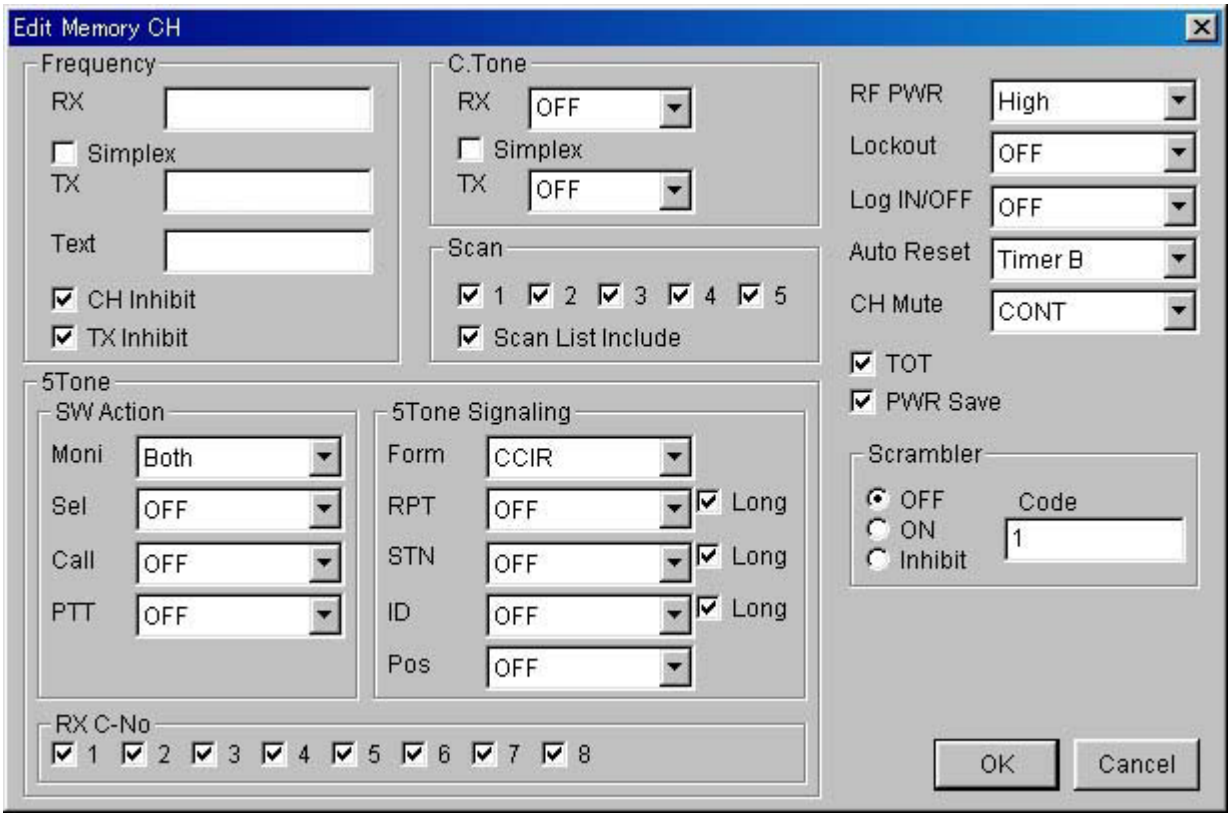
: Regular type : SmarTrunk type

[Priority A], [Priority A (Rewrite)], [Priority B], [Emergency Single] and [Emergency Repeat] switches are assigned in ***3-1 KEY & DISPLAY ASSIGN*** (pgs. 7, 9). The man down function is specified in **Man Down— ON, Timer** in ***3-3 COMMON 2*** (p. 16).

Go to ❼ BANK MENU
Go to ② Memory Channel
Go to Prio A, Prio B
Go to Prio A (Rewrite)
Go to Emergency Single, Emergency Repeat
Go to Man Down— ON, Timer

The channel attribution can only be set on the Memory channel Screen as shown above. (Cannot be set in the Edit window.) However, the other items are programmable in the Edit window only.

The Edit window appears by pushing the [Enter] key, double clicking or selecting in the sub menu window via the right click operation with the mouse on the desired channel.



• Frequency— RX, TX

Enter receive and transmit frequencies within the following frequency range in either 5, 6.25 or 7.5 kHz steps* for the RX and TX boxes, respectively.

IC-F3GT/GS : 136–150, 146–174 MHz

IC-F4GT/GS : 400–430, 440–470, 470–500, 490–520 MHz

*according to version

When no receive frequency is entered, other items cannot be programmed in the channel.

When SmarTrunk ON/OFF is selected for the editing bank in **CH Atr** (p. 24), operating frequencies must be programmed from channel 1 without a blank.

When programming a simplex channel (transmit and receive frequencies are the same), checks the simplex check-box for instant setting after receive frequency is programmed as follows.

Go to CH Atr

• Frequency— Simplex

Click the check-box when the same frequency as the receive is used for the transmit.

-The "✔" mark appears in the check-box when checked.

• Frequency— Text

Enter up to a 7-character text for memory name, channel usage indication, etc..

The usable characters are A–Z, 0–9, $, ', (,), –, /, <, =, >, @, [, \,], _, {, |, } and ~.

When no text is entered, the channel number is indicated.

The programmed text is indicated during operation or briefly indicated after operating channel selection when 'MR CH' or 'MR CH+TX CODE CH' is selected in **MR/Code Display** in ***3-1 KEY & DISPLAY ASSIGN*** (p. 12).

Go to MR/Code Display

• Frequency— CH Inhibit

Click the check-box when the channel is to be inhibited.

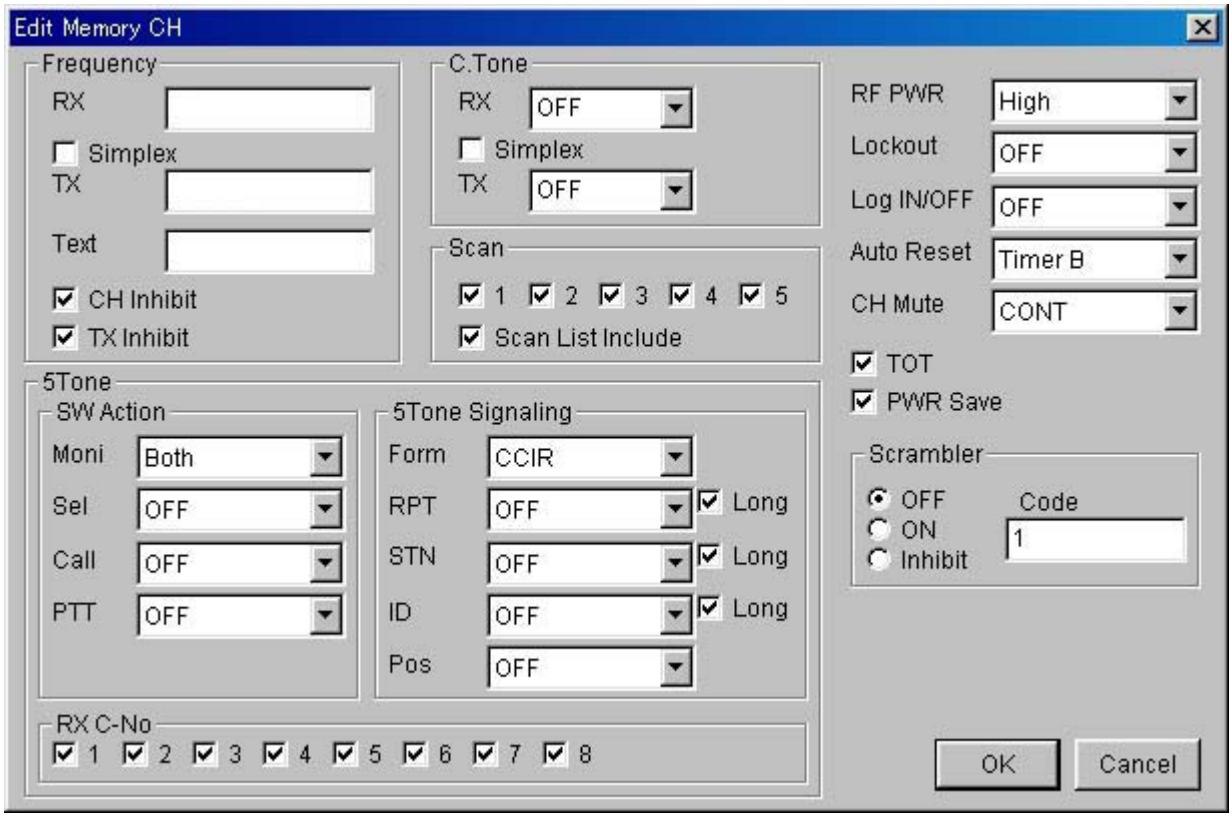
The channel never appears on the transceiver, even if all the other items are programmed when the channel is inhibited.

-The "✔" mark appears in the check-box when checked.

• Frequency— TX Inhibit

Click the check-box when transmission inhibit is necessary.

-The "✔" mark appears when checked.



• C.Tone— RX, TX

Selects desired CTCSS frequency from the list or enter a 3-digit DTCS code with polarity, N (Normal) or I (Inverse), for receive and transmit in the RX and TX boxes, respectively.

When programming the same continuous tone as the receive for the transmission, checks the simplex check-box for instant setting after receive frequency is programmed as follows.

• C.Tone— Simplex

Click the check-box when the same continuous tone as the receive is used for the transmission.

-The "✔" mark appears when checked.

• Scan— 1–5

Click the check-box to the channel included in to the desired scan list (scan group) 1–5.

Only the checked channels in the same scan list are scanned when [Scan A] or [Scan B] switch is pushed.

-The "✔" mark appears when checked.

The scan list (scanning group) is selectable via [CH Up] or [CH Down] switches, after [Scan A] or [Scan B] switch is pushed for 1 sec..

The scanning conditions for each scan list are specified in ***8 SCAN LIST*** (pgs. 36–37).

When SmarTrunk ON/OFF is selected for the editing bank in **CH Atr** (p. 24), all boxes must be blank.

[CH Up], [CH Down], [Scan A] or [Scan B] switch is assigned in ***3-1 KEY & DISPLAY ASSIGN*** (p. 6).

Go to 8 SCAN LIST

Go to CH Atr

Go CH Up, CH Down

Go to Scan A, Scan B

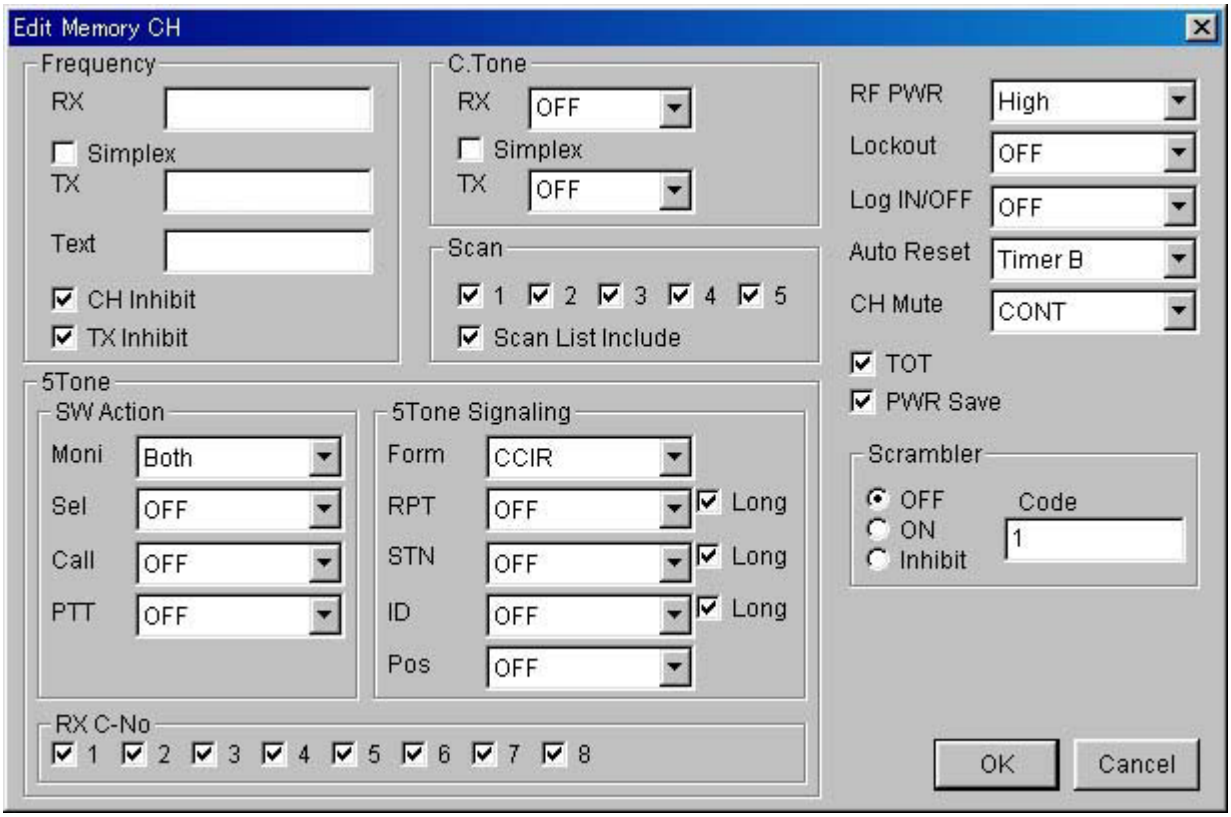
• Scan— Scan List Include

Click the check-box to enable scanning channel modification from the transceiver's key.

The desired channel can be added or deleted to/from the selected scan list by pushing [Scan Add/Del(Tag)] switch.

[Scan Add/Del(Tag)] switch is assigned in ***3-1 KEY & DISPLAY ASSIGN*** (p. 7).

Go to Scan Add/Del(Tag)



• SW Action— Moni

Selects [Moni(Audi)] switch action from OFF, Aud, In A, In A+R1, In A+R2, Both, Both+R1 and Both+R2.

OFF : Releases both noise and CTCSS/DTCS squelch mute while pushing and holding [Moni(Audi)] switch. There is no audio output when 5-tone mute is activated on the channel.

Aud : Releases the 5-tone mute only when 'SGL' is selected in **CH Mute** (p. 31) in this screen, by pushing [Moni(Audi)] switch for 1 sec..
Both CTCSS/DTCS and noise squelch mutes are released (audio is emitted) while pushing and holding [Moni(Audi)] switch when 5-tone mute is released or 'CONT' is selected in **CH Mute** (p. 31) in this screen.

In A : Mutes the 5-tones when 'SGL' is selected in **CH Mute** (p. 31) in this screen by pushing [Moni(Audi)] switch.
Both CTCSS/DTCS and noise squelch mutes are released (audio is emitted) while pushing and holding [Moni(Audi)] switch while 5-tone mute is activated.

In A+R1, In A+R2:
In addition to the 'In_A' condition as above, a reset code 1 or 2 is automatically transmitted when call transmission is performed or 5-tone mute is activated by pushing [Moni(Audi)] switch.

Both : Mutes the 5-tones when 'SGL' is selected in **CH Mute** (p. 31) in this screen by pushing [Moni(Audi)] switch.
Releases 5-tone mute when 'SGL' is selected in **CH Mute** (p. 31) in this screen by pushing [Moni(Audi)] switch for 1 sec.
Releases all mute controls and emits audio while pushing and holding [Moni(Audi)] switch.

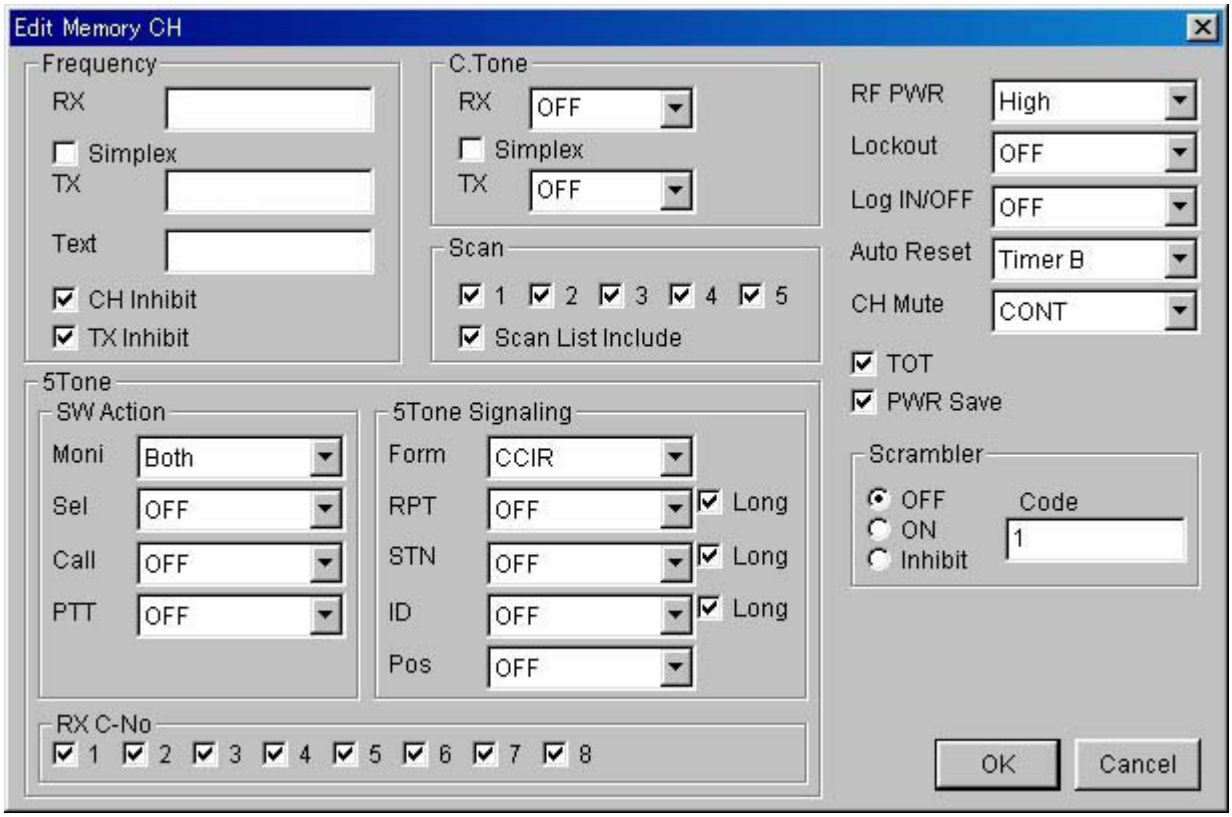
Both+R1, Both+R2:
In addition to the 'Both' condition as above, a reset code 1 or 2 is automatically transmitted when call transmission is performed via [Call] switch or 5-tone mute is activated by pushing [Moni(Audi)] switch.

The [Moni(Audi)] and [Call] switches are assigned in the ***3-1 KEY & DISPLAY ASSIGN*** (pgs. 7, 8).

The reset code 1 and 2 are programmed in ***10-2 TX CODE CHANNEL*** (p. 43), and channels 32 (reset code 1) and 31 (reset code 2) are used, respectively.

The mute condition will be returned to initial condition when the Auto Reset timer is activated, specified in **Auto Reset** in this screen (p. 31).

Go to CH Mute
Go to Moni(Audi)
Go to Call
Go to 10-2 TX CODE CHANNEL
Go to Auto Reset



• SW Action— Sel

Selects mute condition after memory channel selection from OFF, Aud and In A.

OFF : Dose not change even when selecting memory or TX code channel.

Aud : Releases the 5-tone mute when 'SGL' is selected in **CH Mute** (p. 31) in this screen.

In A : Mutes the 5-tones when 'SGL' is selected in **CH Mute** (p. 31) in this screen.

The mute condition will be returned to initial condition when the Auto Reset timer is activated, specified in **Auto Reset** in this screen (p. 31).

Go to CH Mute

Go to Auto Reset

• SW Action— Call, PTT

Selects mute condition after [Call] and [PTT] switches action from Aud and OFF.

OFF : Does not change when transmitting with [Call]/[PTT] transmission.

Aud : Releases the 5-tone mute when 'SGL' is selected in **CH Mute** (p. 31) in this screen after any [Call]/[PTT] transmission.

Select OFF for both the SW Action— Call and PTT, when the **ABC— Aud** in ***10-2 TX CODE CHANNEL*** (p. 44) is activated, and select OFF for the SW Action— PTT, when the **PTT Call at Inaudible** in ***10-5 5TONE SETTING*** (p. 48) is activated.

The [Call] switch is assigned in the ***3-1 KEY & DISPLAY ASSIGN*** (p. 8).

The mute condition will be returned to initial condition when the Auto Reset timer is activated, specified in **Auto Reset** in this screen (p. 31).

Go to CH Mute

Go to Go to ABC— Aud

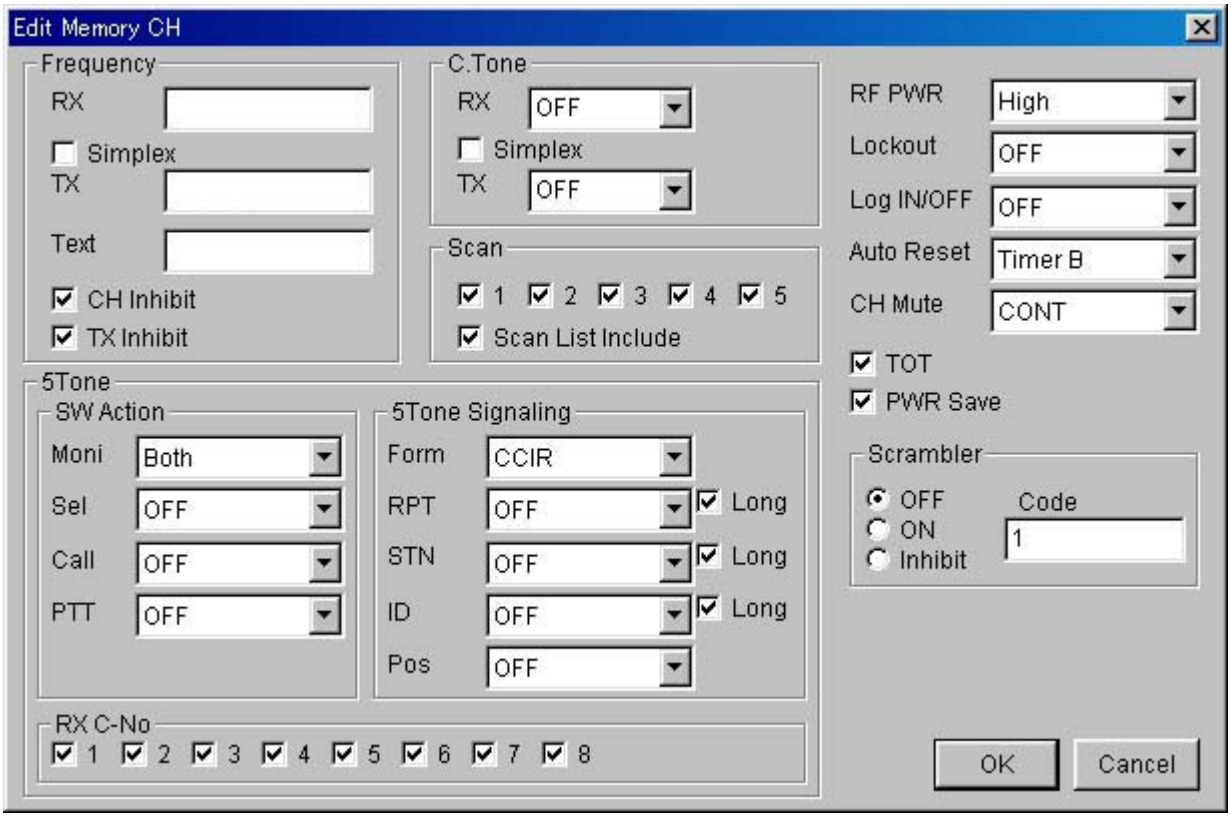
Go to Call

Go to PTT Call at Inaudible

• 5Tone Signaling— Form

Selects 5-tone system format from USER, CCIR, ZVEI1, ZVEI2, DZVEI, EEA, EEA2, DAPL, EIA and DTMF.

When the DTMF decoder operation is required (UT-108 must be installed), select DTMF in this item.



• 5Tone Signaling— RPT, STN, ID

Selects 5-tone code channel for repeater (RPT), individual station/group (STN) access and own identity (ID), respectively.

These 5-tone codes are programmed in **TX Code** in ***10-2 TX-CODE CHANNEL*** (p. 43).

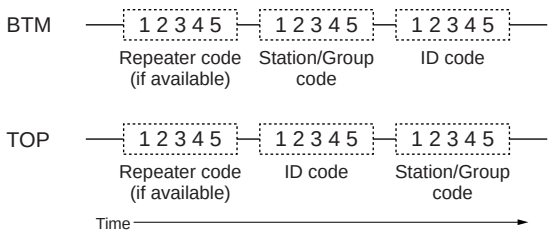
Go to TX Code

• 5Tone Signaling— Pos

Selects the own ID code sending sequence from OFF, BTM and TOP.

OFF : Does not send the ID code.
BTM : Sends the ID code after sending station or group code.
TOP : Sends the ID code before sending station or group code.

• ID code sending sequence diagram



• 5Tone Signaling— Long

Click the check-box to activate the long tone capability for each 5-tone code, RPT, STN and ID, respectively.

-The "✔" mark appears when long tone is activated.

The time period for the long tone is programmed in the **Long Tone Timer** in ***10-5 5TONE SETTING*** (p. 47).

Go to Long Tone Timer

• RX C-No

Click the check-box to select the receive 5-tone code channel to be decoded.

Up to 8 codes/channels can be selected to decode in each operating channel.

The 5-tone code is programmed in **RX Code** in ***10-1 RX CODE CHANNEL*** (p. 41).

Go to RX Code

• RF PWR

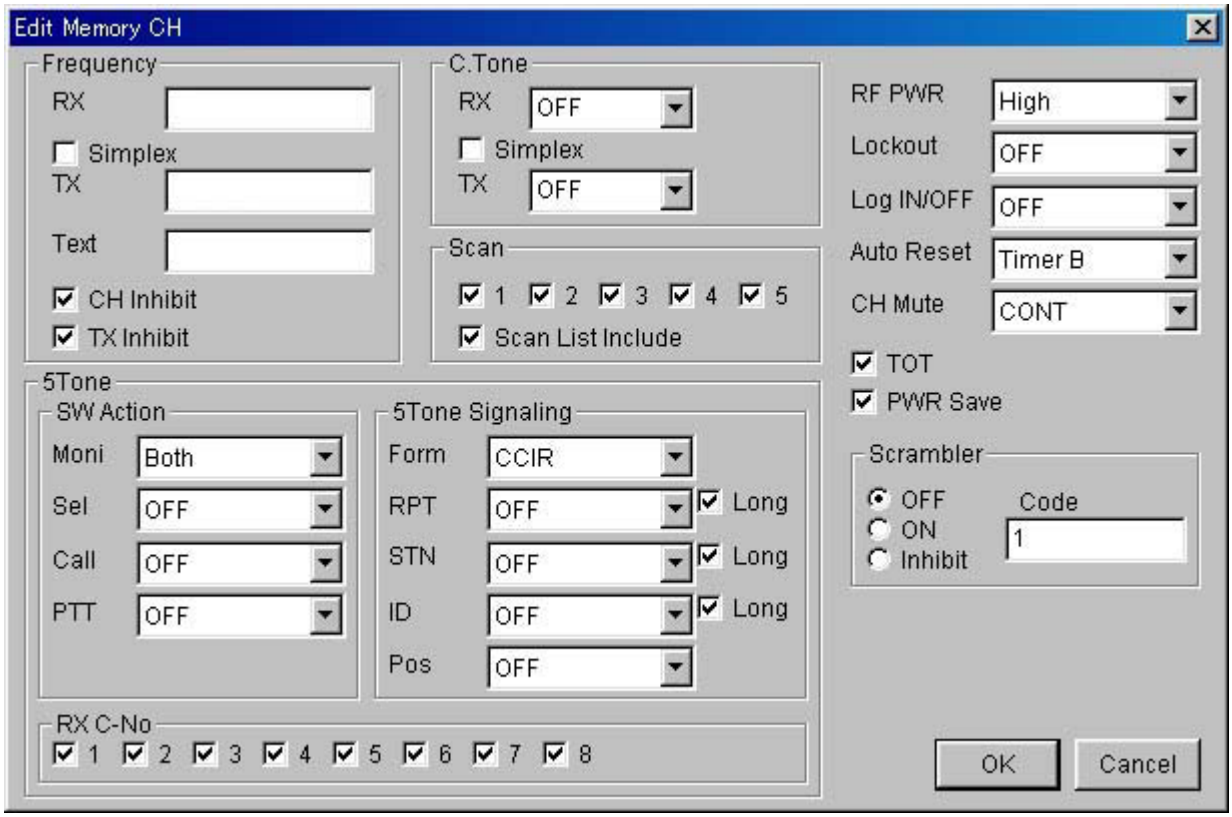
Selects transmit output power for initial setting from High and Low.

The selected output power setting for each channel can be switched to either temporary or permanent operation, according to the setting in the **RF Power Selection** in ***3-1 KEY & DISPLAY ASSIGN*** (p. 11) via [High/Low] switch.

The [High/Low] switch is assigned in the ***3-1 KEY & DISPLAY ASSIGN*** (p. 7)

Go to RF Power Selection

Go to High/Low



• Lock out

Selects transmission lock out (temporary transmission inhibit) capability from OFF, Busy, Rpt 1 and Rpt 2.

OFF : No restriction for receiving a signal.

Busy : [PTT] switch cannot be activated while the operating channel/repeater is in use.

Rpt1 : [PTT] switch can be activated while receiving a signal with matched CTCSS (or DTCS) tone or no signals.

Rpt2 : [PTT] switch can be activated while receiving a signal with matched CTCSS (or DTCS) tone or no signals while 5-tone mute is released, or receiving an unmatched CTCSS (or DTCS) tone while 5-tone mute is activated.

In addition, [PTT] switch is not activated for an extra time period in the case of when the lockout penalty timer, programmed in the **Lockout Penalty Timer** in ***3-3 COMMON 2*** (p. 15), is activated even if the transceiver in a transmittable condition.

Go to Lockout Penalty Timer

• Log IN/OFF

Selects automatic ID transmission condition in relation to [PTT] switch from OFF, L-IN, L-INA, L-INI, L-OFF, L-OFFA, Both, BothA1 and BothA2.

OFF : No ID is transmitted with [PTT].

L-IN : ID is transmitted when [PTT] is pushed.

L-INA : ID is transmitted when [PTT] is pushed while 5-tone mute is released.

L-INI : ID is transmitted when [PTT] is pushed while 5-tone mute is activated. Voice transmission is impossible while 5-tone mute is activated and 'SGL' is selected in **CH Mute** (p. 31) in this screen.

L-OFF : ID is transmitted when [PTT] is released.

L-OFFA : ID is transmitted when [PTT] is released while 5-tone mute is released.

Both : ID is transmitted when both [PTT] is pushed and released.

BothA1 : ID is transmitted when both [PTT] is pushed and released while 5-tone mute is released.

BothA2 : ID is transmitted when both [PTT] is pushed and released while 5-tone mute is released. ID is transmitted when [PTT] is pushed while 5-tone mute is activated. Voice transmission is impossible while 5-tone mute is activated and when 'SGL' is selected in **CH Mute** (p. 31) in this screen.

When SmarTrunk ON/OFF is selected for the editing bank in **CH Atr** (p. 24), "OFF" must be selected.

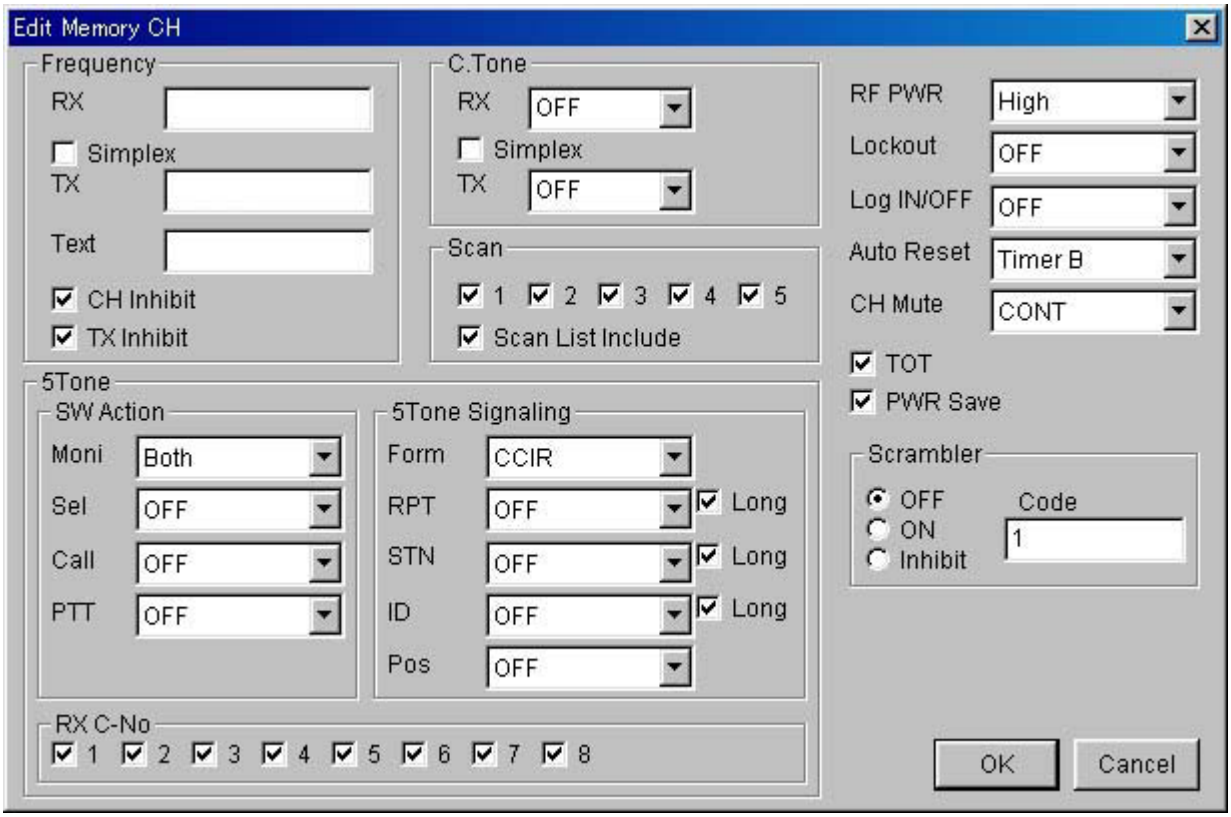
The ID code is assigned in the **5Tone signaling— ID** column in this screen (p. 29), and the 5-tone code is programmed in **TX Code** in ***10-2 TX CODE CH*** (p. 43).

Go to CH Mute

Go to CH Atr

Go to 5Tone Signaling— ID

Go to TX Code



• Auto Reset

Selects reset timer from Timer A, Timer B, Timer A Inact and Timer B Inact.

Timer A, Time B:

Returns 5-tone mute condition to initial, and starts scanning, if power ON scan function is tuned ON, after specified time (Timer A or B) has passed from a disappearing signal, or when key operation is finished.

Timer A Inact, Timer B Inact:

Returns 5-tone mute condition to initial after a shorter time period (either Timer A/B or Inactive) has passed from when 5-tone mute is released. Automatically returns 5-tone mute condition to initial as soon as transmission is finished, and starts scanning after specified time (Timer A or B) has passed.

The time period of Timer A, Timer B and Inactive timer is programmed in the **Auto Reset Timer A, Auto Reset Timer B** and **Inactive Timer** in ***3-2 COMMON 1*** (p. 13), respectively.

To turn OFF the function, select the timer which OFF (0 sec.) is programmed.

The power ON scan function is specified in the **Power ON Scan** in ***8-2 SCAN SETTING*** (p. 37).

5-tone mute initial condition is selected in **CH Mute** as at above right.

Go to Auto Reset Timer A, Auto Reset Timer B

Go to Inactive Timer

Go to Power ON Scan

• CH Mute

Selects 5-tone mute initial activity from CONT and SGL.

CONT : 5-tone mute is released.

SGL : 5-tone mute is activated. In this case, [PTT] switch action is inhibited while 5-tone mute is activated.

• TOT

Click the check-box to activate the time-out timer function.

-The "✔" mark appears when TOT function is activated.

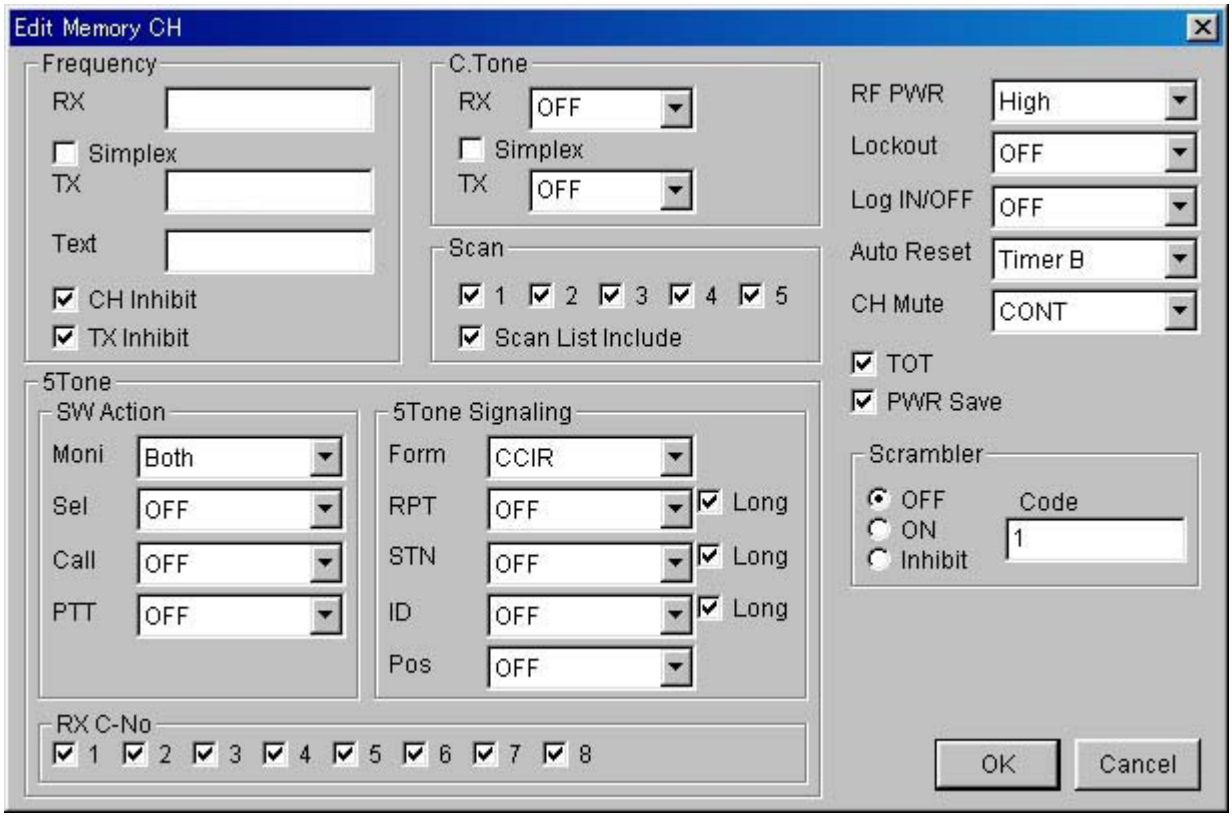
Continuously transmittable time is limited by the timer during activation. However, time-out timer must be activated due to local regulation, in some countries.

The time period is programmed in the **TOT— TOT Timer** in ***3-2 COMMON 1*** (p. 14).

When SmarTrunk ON/OFF is selected for the editing bank in **CH Atr** (p. 24), "OFF" must be selected.

Go to TOT— TOT Timer

Go to CH Atr



• PWR Save

Click the check-box to activate the power save function.

-The "✔" mark appears when the power save function is activated.

The power save start times are programmed in the **PWR Save— Start Timer (1st), (2nd)** in ***3-4 EXPERT*** (p. 18).

When SmarTrunk ON/OFF is selected for the editing bank in **CH Atr** (p. 24), "OFF" must be selected.

Go to PWR Save— Start Timer (1st), (2nd)

Go to CH Atr

• Scrambler— OFF, ON, Inhibit

Click to select voice scrambling function initial setting from OFF, ON and Inhibit.

When OFF or ON is selected, the voice scrambling function can be manually switched with the [Scrambler] switch, however, the function cannot be manually switched ON when Inhibit is selected.

An optional UT-109 or UT-110 VOICE SCRAMBLER UNIT is required.

The [Scrambler] switch is assigned in ***3-1 KEY & DISPLAY ASSIGN*** (p. 10).

Go to Scrambler

• Scrambler— Code

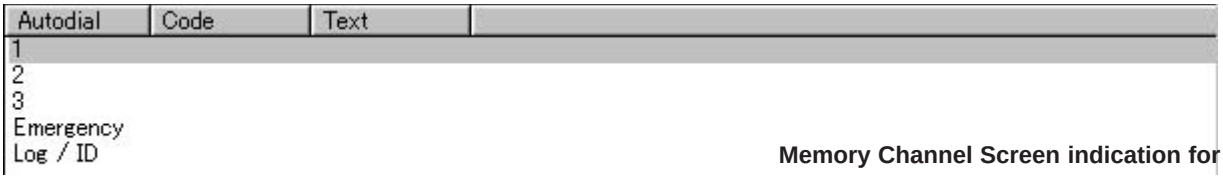
Enter voice scrambling code within 1–32 using UT-109 or UT-110 with 'Non-Rolling' selection or within 1–255 using UT-110 with 'Rolling' selection installed.

In addition, the **Scrambler Group Code** in ***3-3 COMMON 2*** (p. 16) must be programmed when UT-110 is installed and 'Rolling' is selected in **Scrambler Type** in ***3-3 COMMON 2*** (p. 16).

Go to Scrambler Group Code

Go to Scrambler Type

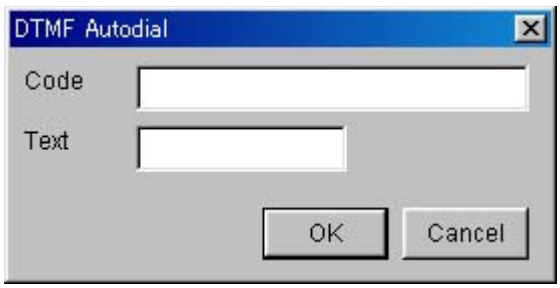
6-1 DTMF AUTODIAL



Memory Channel Screen indication for LMR

Memory Channel Screen indication for PMR

The IC-F3G series transceiver has total of 5 DTMF memory channels. The programmed DTMF codes are selected and transmitted with simple operation. For the LMR, the programmed DTMF code in the Emergency and the Log/ID autodial are used for Emergency call, man down function, and automatic ID transmission, respectively.



• Code

Enter up to a 24-digit DTMF code for simple and quick DTMF code transmission.

The usable characters are 0–9, A–F (#/✻ used as F/E).

The programmed DTMF codes are selected via [CH Up] or [CH Down] switch after pushing [DTMF Autodial] switch.

The [CH Up], [CH Down] and [DTMF Autodial] switches are assigned in ***3-1 KEY & DISPLAY ASSIGN*** (pgs. 6, 8).

Go to CH Up, CH Down

Go to DTMF Autodial

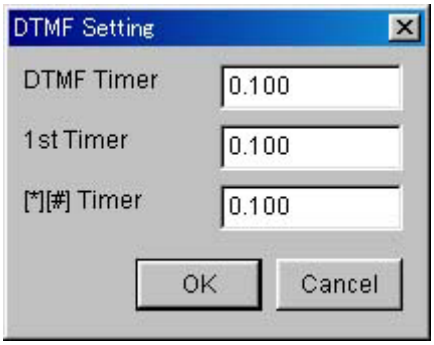
• Text

Enter up to a 7-character text for easy recognition of DTMF code usage, etc.

When no text is programmed, the programmed DTMF code is scrolled.

The usable characters are A–Z (uppercase), 0–9, $, ‘, (,), –, /, <, =, >, @, [, \,], _, {, |, } and ~.

6-2 DTMF SETTING



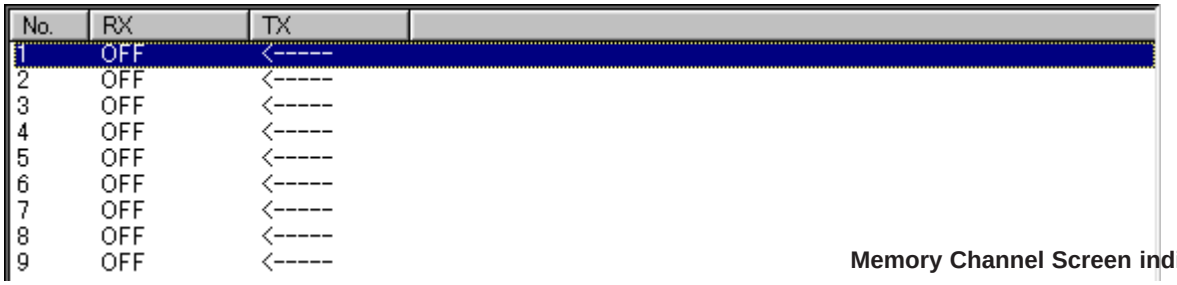
• DTMF Timer
Enter time period/signal length for each DTMF code emission and interval.

• 1st Timer
Enter time period/signal length for 1st DTMF code emission and interval corresponding to the scanning or power saving of the transceiver.

• [✻] [#] Timer
Enter time period/signal length for [✻] and [#] DTMF code signal emission and interval.

These codes may be used for control codes depending on the signaling system.

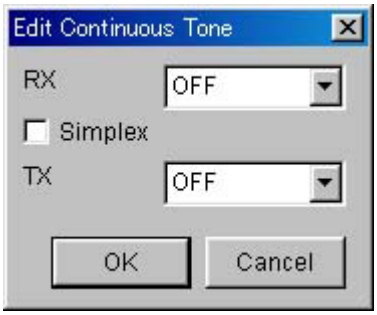
When these special codes are used for the 1st digit code, the **1st Timer** as at left has priority over this setting.



No.	RX	TX
1	OFF	<-----
2	OFF	<-----
3	OFF	<-----
4	OFF	<-----
5	OFF	<-----
6	OFF	<-----
7	OFF	<-----
8	OFF	<-----
9	OFF	<-----

Memory Channel Screen indication

The IC-F3G series transceiver has total of 9 continuous tone memory channels, in addition to the channel (operating channel) independent continuous tone operation. Separate continuous tone, CTCSS or DTCS for encoder and decoder, can be programmed for each channel, and are operated temporarily or permanently.



• RX, TX

Selects desired CTCSS frequency from the list or enter a 3-digit DTCS code with polarity, N (Normal) or I (Inverse), for receive and transmit in the RX and TX boxes, respectively.

When programming the same continuous tone as the receive for the transmission, check the simplex check-box for instant setting after RX is programmed as at right.

The programmed continuous tone combinations can be used for temporary encoder and/or decoder operation.

To use the programmed continuous tone;

Push [C. Tone CH Ent] switch, then select a continuous tone memory channel via [CH Up] or [CH Down] switch.

[C. Tone CH Ent], [CH Up] and [CH Down] switches are assigned in ***3-1 KEY & DISPLAY ASSIGN*** (pgs. 8, 6).

Go to C.Tone CH Ent

Go to CH Up, CH Down

• Simplex

Click the check-box when the same continuous tone as the receive is used for the transmission.

-The "✔" mark appears in the check-box when checked.

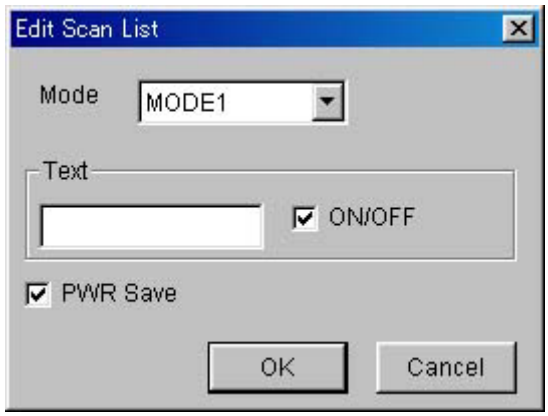
8 SCAN LIST

8-1 SCAN LIST

List	Mode	Text	Text ON/OFF	PWR Save
1	MODE1		ON	ON
2	MODE1		ON	ON
3	MODE1		ON	ON
4	MODE1		ON	ON
5	MODE1		ON	ON

Memory Channel Screen indication

A total of 5 scanning lists/groups are available for a wide variety and flexible scanning operation. In this screen, programs scanning conditions for each list/group.



• Mode

Selects scanning mode from Scan OFF, MODE 1, MODE 2 and MODE 3.

Scan OFF: Scan function cannot be controlled from the transceiver keypad.

MODE 1 : Normal scan. Scans all checked channels. The scan proceeds in sequence from lower to higher channel number.

MODE 2 : Priority scan. The priority A channel is monitored every fixed time period during scan (depending on version), or every specified time period programmed in the **Stop Timer** in ***8-2 SCAN SETTING*** (p. 37), during pause. The busy or paused channel is retained when scan is cancelled.

MODE 3 : Priority scan. Same scanning sequence as MODE 2 above. The priority channel is retained when scan is cancelled.

The scanning channels are selected in **Scan— 1–5** in ***4/5 MEMORY CHANNEL*** (LMR; p. 21/PMR; p. 26).

The priority A channel is selected in **CH Atr** in ***4/5 MEMORY CHANNEL*** (LMR; p. 19/PMR; p. 24).

Go to Stop Timer

Go to Scan— 1–5— LMR

Go to Scan— 1–5— PMR

Go to CH Atr— LMR

Go to CH Atr— PMR

• Text

Enters up to a 7-character text to indicate messages, etc. during scanning.

When no text is programmed, or "OFF" is selected (not checked) in the **Text— ON/OFF** as follows, the scanning channel text or number is scrolled.

The usable characters are A–Z (uppercase), 0–9, $, ', (,), –, /, <, =, >, @, [, \,], _, {, |, } and ~.

• Text— ON/OFF

Click the check-box to indicate the text, programmed in **Text** as above, during scan.

-The "✔" mark appears in the check-box when checked.

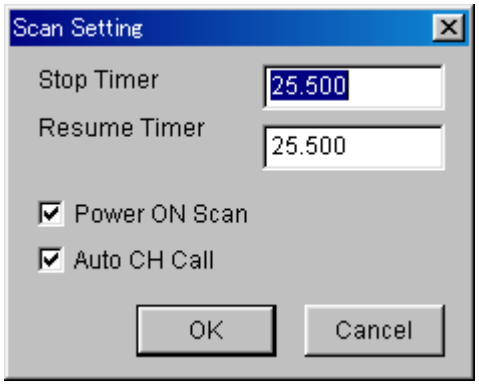
• PWR Save

Click the check-box to activate the power save function during scan.

-The "✔" mark appears in the check-box when checked.

Total scanning speed is decreased when the function is activated.

8-2 SCAN SETTING



• Stop Timer
Enters time period for scan pausing on a busy channel (watching interval) when receiving a signal in scan mode 2 or 3 (priority scan), specified in **Mode** in ***8-1 SCAN LIST*** (p. 36).

Go to Mode

• Resume Timer
Enters time period for resuming scanning after signal disappears.

• Power ON Scan
Click the check-box to activate the automatic scan start capability at power ON.
-The "✔" mark appears in the check-box when checked.

Also, automatically restarts scanning even once scanning is cancelled by call transmission, reception, or manually, etc., after a specified time has passed when the signal disappears or key operation is finished when the power ON scan function is activated.

When SmarTrunk ON/OFF is selected for the editing bank in **CH Atr** in ***4/5 MEMORY CHANNEL*** (LMR; p. 19/PMR; p. 24), the box must be blank.

The scanning restart condition is selected in **Auto Reset** in ***4/5 MEMORY CHANNEL*** (LMR; p. 22/PMR; p. 31), and the time period is programmed in the **Auto Reset Timer A, Auto Reset Timer B** and the **Inactive Timer** (PMR only) in ***3-2 COMMON 1*** (p. 13).

Go to CH Atr— LMR
Go to CH Atr— PMR
Go to Auto Reset— LMR
Go to Auto Reset— PMR
Go to Auto Reset Timer A, Auto Reset Timer B
Go to Inactive Timer

• Auto CH Call— *PMR only*
Click the check-box to activate the automatic clear channel searching capability when [Call] switch is pushed (call transmission).
-The "✔" mark appears in the check-box when checked.

When [Call] switch is pushed while the channel without 5-tone is busy, the transceiver starts scanning, then transmits the previously transmitted 5-tone code after a clear channel is found.

The [Call] switch is assigned in ***3-1 KEY& DISPLAY ASSIGN*** (p. 8).

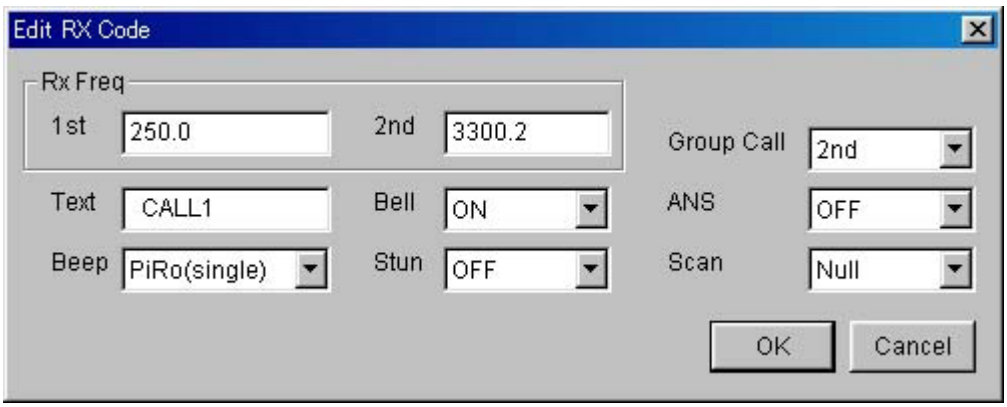
Go to Call

9-1 RX CODE CHANNEL

CH	1st	2nd	Group Call	Text	Bell	ANS	Beep	Stun	Scan
1	250.0	3300.2	2nd	CALL1	ON	OFF	PiRo(single)	OFF	Null
2	250.0	3300.2	2nd	CALL2	ON	OFF	PiRo(single)	OFF	Null
3	250.0	3300.2	2nd	CALL3	ON	OFF	PiRo(single)	OFF	Null
G	-----	-----	---	GROUP	Blink	OFF	PiPi(single)	OFF	Null

Memory Channel Screen indication

The optional UT-96 is used for the 2-tone operation 2-tone code frequency can be programmed as the operating frequency, or other conditions, etc.. And up to 3 different 2-tone codes are programmable for flexible selective calling.



• Rx Freq— 1st, 2nd

Enter tone code frequency within 250 to 3300 Hz range for each 1st and 2nd.

The nearest available frequency is selected automatically.

• Text

Enter up to a 7-character text to indicate messages, etc., when a matched 2-tone code signal is received.

The usable characters are A–Z (uppercase), 0–9, $, ‘, (,), –, /, <, =, >, @, [, \,], _, {, |,} and ~.

• Bell

Selects the bell indicator condition when receiving a matched 2-tone from Null, OFF, ON and Blink.

- Null : The bell indicator condition is not changed even when a matched 2-tone code is received.
- OFF : The bell indicator goes off.
- ON : The bell indicator appears until operation of a key.
- Blink : The bell indicator blinks until operation of a key.

• Beep

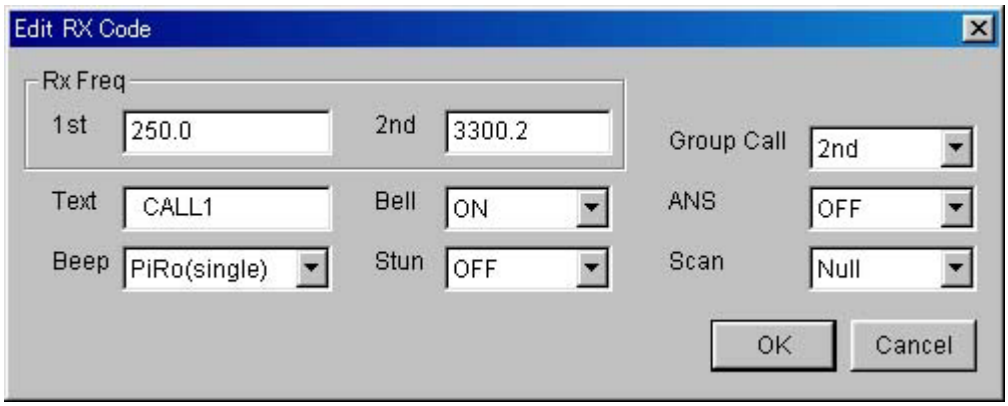
Selects beep type when matched 2-tone code is received from Null, OFF, Pi(single), PiPi(single), PiRo(single), Pi(repeat), PiPi(repeat), and PiRo(repeat).

- Null : Beep emission (or non emission) is retained even when matched 2-tone is received.
- OFF : Repeated beep emission is turned OFF.
- Pi(single) : 1 high beep once.
- PiPi(single) : 2 high beeps once.
- PiRo(single) : 1 high and 1 low beep 3 times.
- Pi(repeat) : 1 high beep repeated at the specified time period.
- PiPi(repeat) : 2 high beeps repeated at the specified time period.
- PiRo(repeat) : 1 high, 1 low beep 3 times, repeated at the specified time period.

The repeating time period is programmed in the **Beep Repeat Timer** in ***9-3 2TONE SETTING*** (p. 40).

Go to Beep Repeat Timer

9-1 RX CODE CHANNEL— continued



• Stun

Selects transceiver's basic condition when matched 2-tone code is received from OFF, Kill and Stun.

OFF : The transceiver can be used continuously.
Kill : The transceiver cannot be used. Cloning is necessary to activate the transceiver.
Stun : A message, "SORRY", appears and transceiver cannot be used. To use the transceiver, turn power OFF and ON again. At this time, password input is necessary if the power ON password is programmed in **User Password** in ***3-2 COMMON 1*** (p. 13).

Go to User Password

• Group Call

Selects which tone digit, 1st or 2nd, is used for the group code.

• ANS

Turns the answer back function ON and OFF.

The function transmits a 1 kHz single tone for 2 sec. when receiving a matched 2-tone.

• Scan

Selects scanning condition when a matched 2-tone code is received from Null, Cancel and Start.

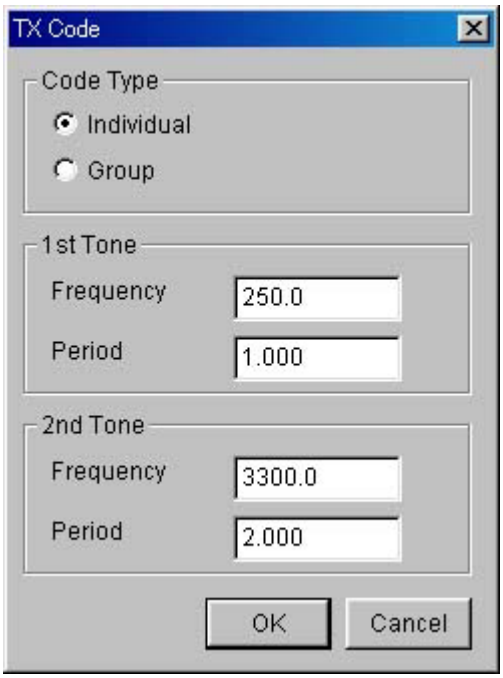
Null : Scan condition is unaffected.
Cancel : Cancels the scan.
Start : Starts the scan.

The cancelled or started scan type and conditions are specified in ***8 SCAN LIST*** (pgs. 36, 37), and the scanning can be restarted or cancelled via [Scan A] or [Scan B] switch, assigned in ***3-1 KEY & DISPLAY ASSIGN*** (p. 6).

Go to 8 SCAN LIST

Go to Scan A, Scan B

9-2 TX CODE



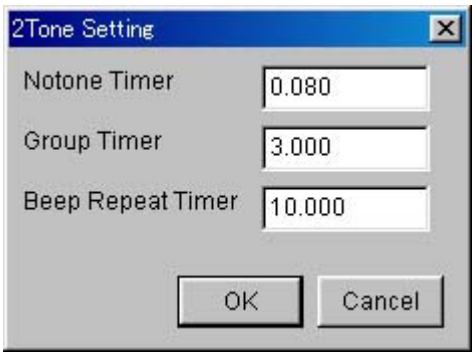
• Code Type
Selects transmit 2-tone code type from Individual and Group.
Individual : Transmits both 1st and 2nd tone codes.
Group : Transmits 1st tone code only.

• 1st Tone/2nd Tone— Frequency
Enter tone code frequency within 250 to 3300 Hz range for each 1st and 2nd.

The nearest available frequency is selected automatically.

• 1st Tone/2nd Tone— Period
Enters the time period for each digit tone signal emission length.

9-3 2TONE SETTING



• Notone Timer
Enters the time period with maximum acceptable tone interval between 1st and 2nd code detection.

• Group Timer
Enters time period for group tone decoding.
The transceiver reads the tone as a group code in the case that the received tone is longer than the programmed time period.

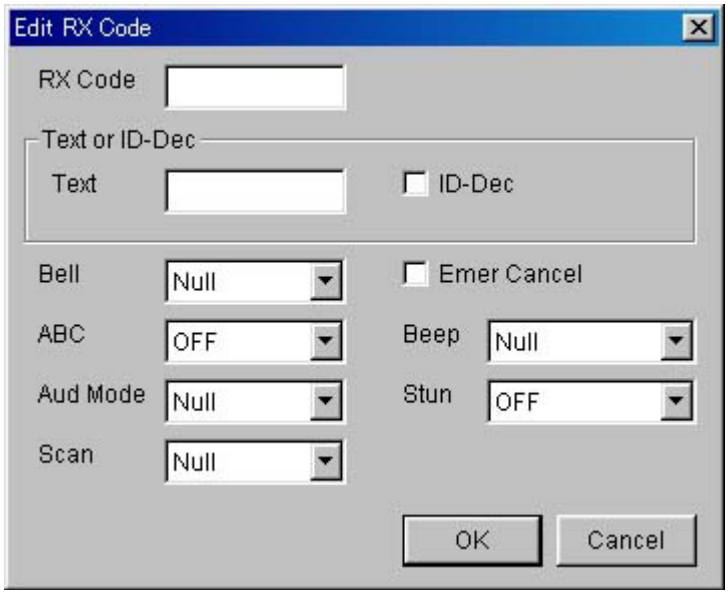
• Beep Repeat Timer
Enters beep emission repeating time period.
When ‘Pi(repeat)’, ‘PiPi(repeat)’ or ‘PiRo(repeat)’ is selected in **Beep** in ***9-1 RX CODE CHANNEL*** (p. 38), beeps are repeated at this period.

Go to Beep

10-1 RX CODE CHANNEL

CH	RX Code	Text or ID-Dec	Bell	Emer Cancel	ABC	Beep	Aud Mode	Stur
1		(ID-Dec)	Blink	ON	2	PiRo(repeat)	Aud	Stur
2		(ID-Dec)	Blink	ON	2	PiRo(repeat)	Aud	Stur
3		(ID-Dec)	Blink	ON	2	PiRo(repeat)	Aud	Stur
4		(ID-Dec)	Blink	ON	2	PiRo(repeat)	Aud	Stur
5		(ID-Dec)	Blink	ON	2	PiRo(repeat)	Aud	Stur
6		(ID-Dec)	Blink	ON	2	PiRo(repeat)	Aud	Stur
7		(ID-Dec)	Blink	ON	2	PiRo(repeat)	Aud	Stur
8		(ID-Dec)	Blink	ON	2	PiRo(repeat)	Aud	Stur
G	-----	(ID-Dec)	Blink	ON	---	PiRo(repeat)	Aud	Stur

Memory Channel Screen indication



• RX Code

Enter up to a 7-digit code for receive 5-tone code.

When entering "+" instead of number(s), the digit(s) are used for the status function, which indicates a number message. Any number is accepted for decoding and is indicated on the display instead of text or decoded ID as programmed in the **Text or ID-Dec** as follows when receiving the call.

When the optional UT-108 DTMF DECODER UNIT is installed, up to a 7-digit DTMF code for receive can be programmed. In this case, DTMF must be selected in **5TONE Signaling— Form** in ***5 MEMORY CHANNEL*** (p. 28).

Go to 5Tone Signaling— Form

• Text or ID-Dec— Text

Enter up to a 7-character text for indication when a matched 5-tone/DTMF code is received.

To display the text when matched 5-tone code is received, the **ID-Dec** as above right must be blanked

The usable characters are A–Z (uppercase), 0–9, $, ', (,), –, /, <, =, >, @, [, \,], _, {, |, } and ~.

• Text or ID-Dec— ID-Dec

Click the check-box to activate the ID decode capability to indicate the received ID code on the LCD, instead of the text programmed in **Text** as at below left, when a matched 5-tone/DTMF code is received.

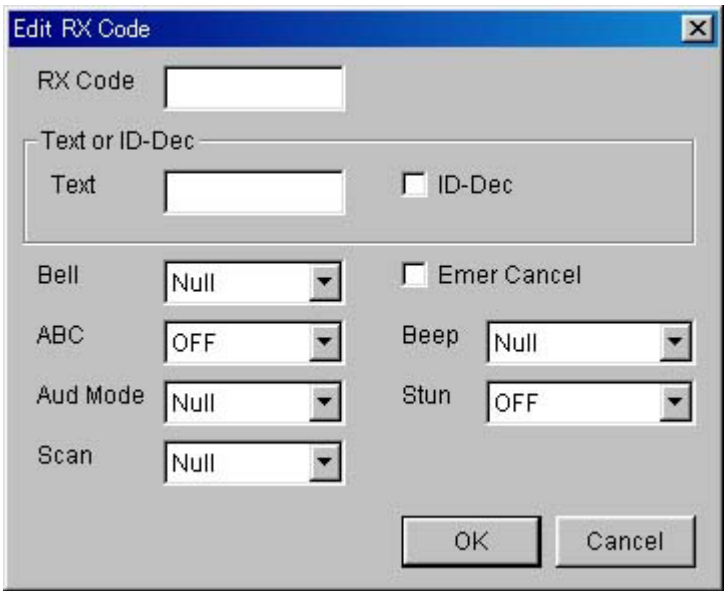
-The "✔" mark appears when the ID decode capability is activated.

• Bell

Selects the bell indicator condition when a matched 5-tone/DTMF code is received from Null, OFF, ON and Blink.

Null : The bell indicator condition is not changed, even when a matched 5-tone code is received.
OFF : The bell indicator goes off.
ON : The bell indicator appears until operation of a key.
Blink : The bell indicator blinks until operation of a key.

10-1 RX CODE CHANNEL— Continued



• ABC

Selects the answer back call capability from OFF, STN, SGL and 1–32.

OFF : No answer back operation.
STN : Transmits the station code which is selected with the channel assigned code.
SGL : Transmits a 1 kHz single tone for 2 sec.
1–32 : Transmits selected channel's 5-tone/DTMF code, programmed in **TX code** in ***10-2 TX CODE CHANNEL*** (p. 43), regardless of the operating channel.

Go to TX Code

• Aud Mode

Selects the transceiver's receiving condition when a matched 5-tone/DTMF code is received from Null, IN_A and Aud.

Null : Retains audible status
IN_A : Inaudible mode is selected.
Aud : Audible mode is selected.

When DTMF decoder is used as a pager function, Aud selection is recommended.

• Scan

Selects scanning condition when a matched 5-tone/DTMF code received from Null, Cancel and Start.

Null : Scan condition is unaffected.
Cancel : Cancels the scan.
Start : Starts the scan.

• Emer Cancel

Click the check box to enable the emergency repeat call cancel when a matched RX code is received.

Once the Emergency Repeat Call is preformed, the transceiver repeatedly transmits the emergency call at specified intervals until the selected cancelling condition is performed.

• Beep

Select beep type when a matched 5-tone/DTMF code is received from Null, OFF, Pi(single), PiPi(single), PiRo(single), Pi(repeat), PiPi(repeat), and PiRo(repeat).

Null : Beep emission (or non emission) is retained even when matched 5-tone is received.
OFF : Repeated beep emission is turned OFF.
Pi(single) : 1 high beep once.
PiPi(single) : 2 high beeps once.
PiRo(single) : 1 high and 1 low beep 3 times.
Pi(repeat) : 1 high beep repeated at the specified time period.
PiPi(repeat) : 2 high beeps repeated at the specified time period.
PiRo(repeat) : 1 high, 1 low beep 3 times, repeated at the specified time period.

The repeating interval is programmed in the **Beep Repeat Timer** in ***10-5 5TONE SETTING*** (p. 49).

Go to Beep Repeat Timer

• Stun

Selects the transceiver's basic condition when receiving a matched 5-tone code is received from OFF, Kill, and Stun.

OFF : The transceiver can be used continuously.
Kill : The transceiver cannot be used. Cloning is necessary to activate the transceiver.
Stun : A message, "SORRY", appears and transceiver cannot be used. To use the transceiver, turn power OFF and ON again. At this time, password input is necessary.

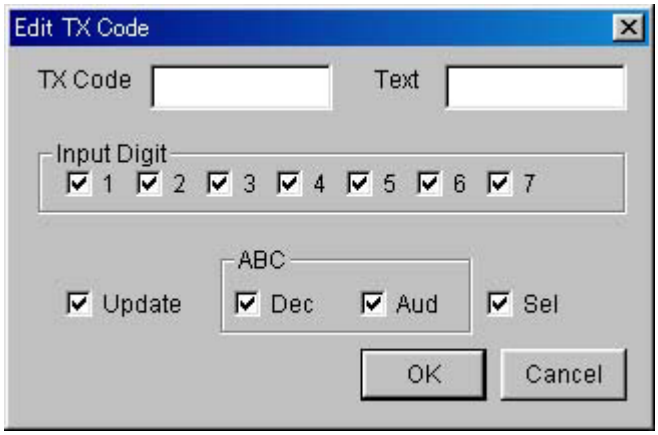
The password is programmed in **User Password** in ***3-2 COMMON 2*** (p. 13).

Go to User Password

10-2 TX CODE CHANNEL

CH	TX Code	Input Digit	Text	Update	ABC-dec	ABC-Aud	Sel
1	11111	__45_		ON	OFF	OFF	ON
2	22222	__45_		ON	OFF	OFF	ON
3	33333	__45_		ON	OFF	OFF	ON
4	44444	__45_		ON	OFF	OFF	ON
5	55555	__45_		ON	OFF	OFF	ON
6	66666	__45_		ON	OFF	OFF	ON
7	77777	__45_		ON	OFF	OFF	ON
8	88888	__45_		ON	OFF	OFF	ON
9	99999	__45_		ON	OFF	OFF	ON

Memory Channel Screen indication



• TX Code

Enter up to a 7-digit code for transmitting 5-tone/DTMF station, ID or repeater codes. Up to 32 channels are available.

Usable codes are [0]–[9], [A]–[E] (or [#]) and group code ([G] or [✻]).

The programmed TX code in CH No. 32 and 31 are normally used for the reset code 1 and 2, respectively, and its automatically transmitted when In A+R1, In A+R2, Both+R1 or Both+R2 is selected for the mute condition selection after [Moni(Audi)] switch action in **Switch Action— Moni** in ***5-1 MEMORY CH*** (p. 27).

The programmed TX code in CH No. 30 (Call A) and 29 (Call B) are normally used for the call transmission A and B, via [Call A (Code 30)] or [Call B (Code 29)] switch operation, respectively.

[Call A (Code 30)] or [Call B (Code 29)] switch is assigned in ***3-1 KEY & DISPLAY ASSIGN*** (p. 8).

Go to Switch Action— Moni

Go to Call A (Code 30), Call B (Code 29)

• Text

Enter up to a 7-character text channel name, usage indication, etc..

The programmed text appears instead of TX code channel number during TX code selection, or after operating channel selection when 'TX CODE CH' or 'MR CH+TX CODE CH' is selected in **MR/Code Display** in ***3-1 KEY & DISPLAY ASSIGN*** (p. 12).

The usable characters are A–Z (uppercase), 0–9, $, ', (,), –, /, <, =, >, @, [, \,], _, {, |,} and ~.

Go to MR/Code Display

• Input digit

Click the check-box to select digits for TX code manual entering capability in relation to [TX code] switch assignment.

-The "✔" mark appears in the check-box when checked.

The checked digits only can be entered.

[TX code] switch is assigned in the ***3-1 KEY & DISPLAY ASSIGN*** (p. 9).

Go to 5-2 KEY & DISPLAY ASSIGN

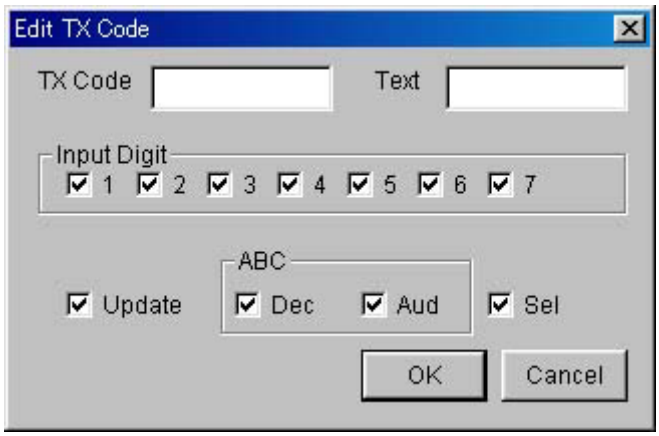
• Up-Date

Click the check-box to enable TX code overwrite capability after manual code entering.

-The "✔" mark appears in the check-box when checked.

Original transmit 5-tone codes are overwritten when checked, however, the entered TX code is used for temporary operation only when blanked.

10-2 TX CODE CHANNEL— continued



• ABC— Dec

Click the check-box to activate the answer back code decode/indication capability.

-The "✔" mark appears in the check-box when checked.

The decoded answer back code is indicated when the specified TX code is used as the station code.

• ABC— Aud

Click the check-box to activate the automatic 5-tone/DTMF mute release capability.

-The "✔" mark appears in the check-box when checked.

When the function is activated, the transceiver releases a 5-tone/DTMF mute after an answer back code is received when the TX code channel is used.

Both the **SW Action— Call** and **SW Action— PTT** in ***5 MEMORY CHANNEL*** (p. 28) must be turned OFF when this function is activated.

Go to SW Action— Call, PTT

• Sel

Click the check-box to enable the TX code channel selection from the transceiver's keypad capability for flexible call operation.

-The "✔" mark appears in the check-box when checked.

Checked channels can only be selected/accessed via [CH Up], [CH Down] with [TX Code], or, [TX Code CH Up] or [TX Code CH Down] switch operation.

[CH Up], [CH Down], [TX Code], [TX Code CH Up] or [TX Code CH Down] switches are assigned in ***3-1 KEY & DISPLAY ASSIGN*** (pgs. 6, 9, 10).

Go to CH Up, CH Down

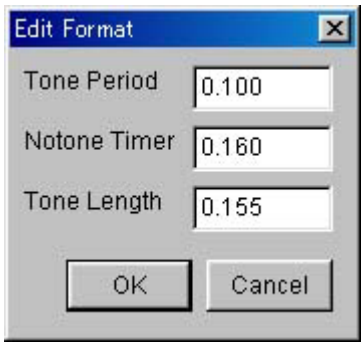
Go to TX Code

Go to TX Code CH Up, TX Code CH Down

10-3 5TONE FORMAT

Format	Tone Peri...	Notone Timer	Tone Length
USER	0.255	0.300	2.327
CCIR	0.255	0.300	2.327
ZVEI1	0.255	0.300	2.327
ZVEI2	0.255	0.300	2.327
DZVEI	0.255	0.300	2.327
EEA	0.255	0.300	2.327
EEA2	0.255	0.300	2.327
DAPL	0.255	0.300	2.327
EIA	0.255	0.300	2.327
DTMF	0.255	0.300	-----

Memory Channel Screen indication



• Tone Period

Enters the time period for each digit tone signal emission length within 0–0.255 sec. in 0.001 sec. steps.

A longer period/emission length programmed in **TX Code CH— Long Tone Timer** in ***10-5 5TONE SETTING*** (p. 47) has priority for the 1st digit when long tone is activated.

The long tone is selected in the **5Tone Signaling— Long** in ***5 MEMORY CHANNEL*** (p. 29).

Go to TX Code CH— Long Tone Timer

Go to 5Tone Signaling— Long

• Notone Timer

Enters the time period with maximum acceptable tone interval between each code detection within 0.02–0.30 sec. in 0.01 sec. step.

The following code is received as a different code when the receiving tone interrupts for more than the programmed time period.

Approx 1.5 times the tone period time, programmed as above, is recommended.

When too short a time period is programmed, the decode success ratio may be decreased, according to weather condition, operating environment, etc..

• Tone Length

Enters the time period with maximum acceptable tone period for each code detection within 0–2.327 sec. in 0.001 sec step.

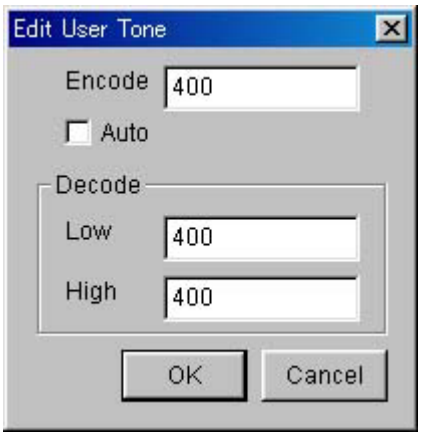
The following code is received as a different code when the receiving tone period is longer than the programmed time period.

Approx 1.5 times the tone period time, programmed as left, is recommended.

10-4 USER TONE

NO.	Encode	Decode Low	Decode High
0	400	400	400
1	400	400	400
2	400	400	400
3	400	400	400
4	400	400	400
5	400	400	400
6	400	400	400
7	400	400	400
8	400	400	400
9	400	400	400
A	400	400	400
B	400	400	400
C	400	400	400
D	400	400	400
E	400	400	400

Memory Channel Screen indication



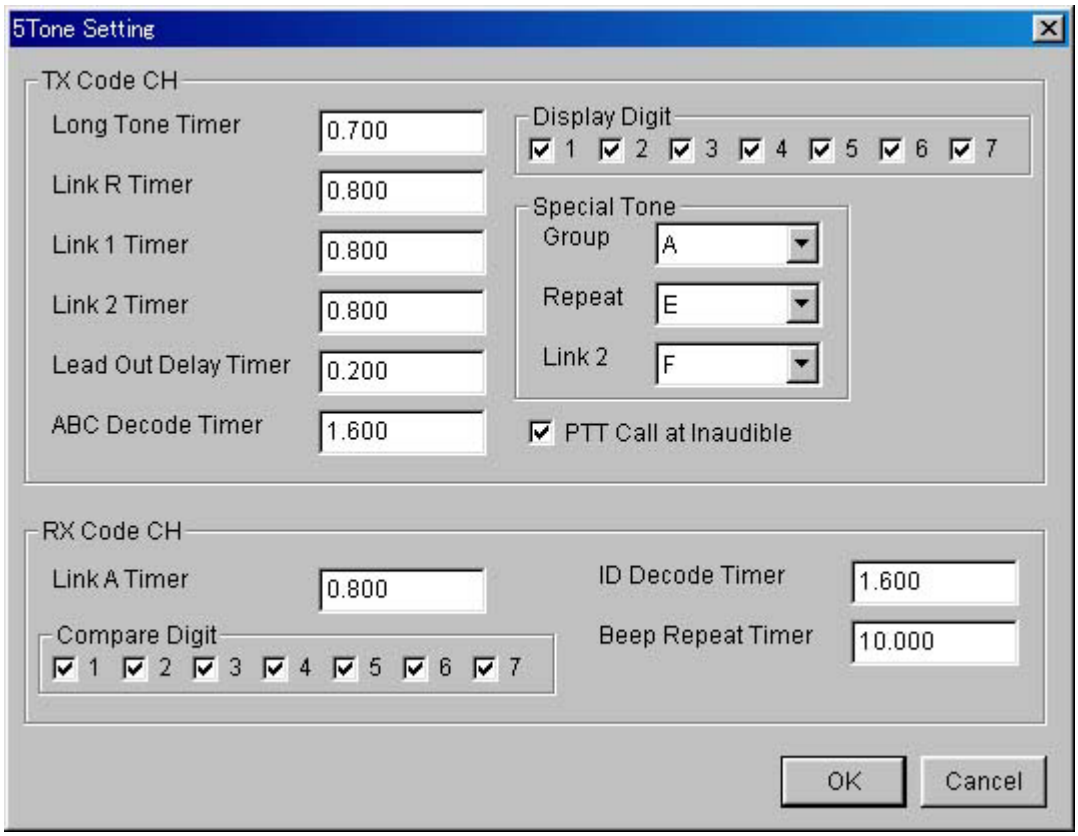
• Encode
Enters specialized tone frequency, relative to the tone number, for transmission within 400–2998 Hz range.
The nearest available frequency is automatically selected.

• Auto
Click the check-box to set the recommended decode frequency range against the encode frequency automatically.

• Decode— Low, High
Enters tone frequency for each Low and High columns to specify the decodable frequency range as the tone code, programmed in **Encode** as at left.

Both Low and High frequencies cannot be programmed when Auto as at left is checked.

10-5 5TONE SETTING



• TX Code CH— Long Tone Timer

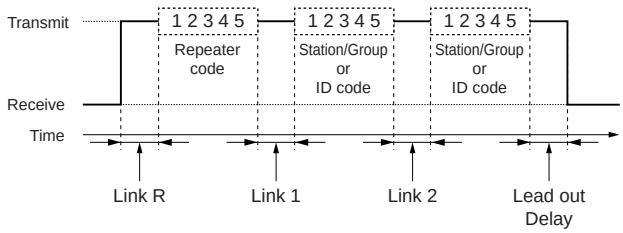
Enters time period for the 1st digit code emission length when long tone function is specified at the **5Tone Signaling— RPT**, **STN**, **ID** in ***5 MEMORY CHANNEL*** (p. 29).

Go to 5Tone Signaling— RPT, STN, ID

• TX Code CH— Link R, Link 1, Link 2, Lead out Delay Timers

Enters the time period for unmodulated signal length before emitting 1st 5-tone code, prior to returning to receive mode, as well as between each code.

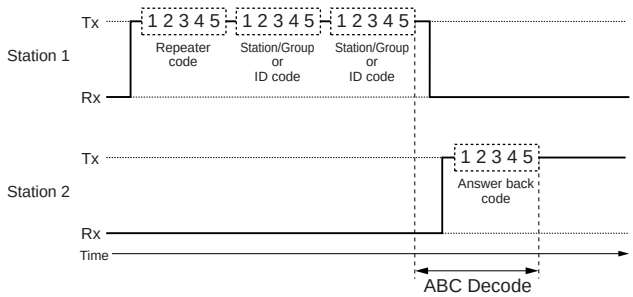
• Link R, 1, 2 and Lead out Delay Timer



• TX Code CH— ABC Decode Timer

Enters the time period for answer back decode. The timer count is shown in the following diagram.

• ABC Decode Timer



• Display Digit

Select viewable 5-tone code digits on the display.

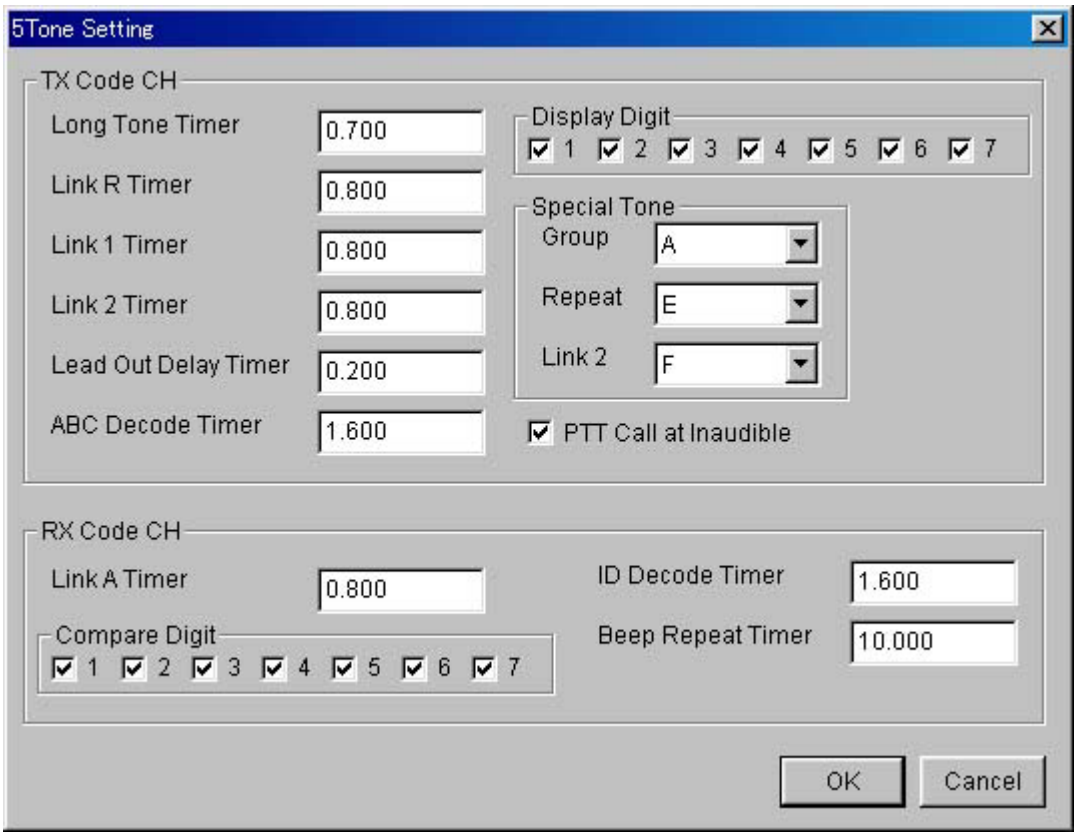
The selected viewable digits condition is also applied to transmit (station/group), received ID and answer back code indications programmed in **TX Code** in ***10-2 TX CODE CHANNEL*** (p. 43), **Text or ID-Dec— ID-Dec** in ***10-1 RX CODE CHANNEL*** (p. 41) and **ABC— Dec** in ***10-2 TX CODE CHANNEL*** (p. 44), respectively.

Go to TX Code

Go to Text or ID-Dec— Text, ID

Go to ABC— Dec

10-5 5TONE SETTING— continued



• Special Tone— Group, Repeat, Link 2

Select special tone code instead of Group, Repeat code and Link 2 timer.

Group : The decoder accepts this code regardless of the programmed code.

Repeat : Used when the same codes are repeated. (e.g. 11111 –> 1E1E1)

Link 2 : Emits the code instead of no modulation between station and ID codes (for link 2 timer). Usable [F] for no modulation.

Normally, form [A]–[F] code is assigned for each special tone.

• PTT Call at Inaudible

Click the check-box to enable the call operation with [PTT] switch while 5-tone mute is activated.

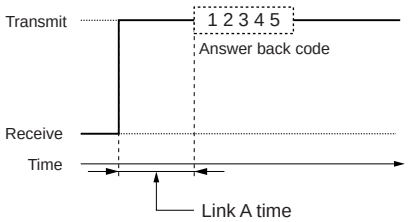
OFF must be selected with the **Switch Action— PTT** in ***5 MEMORY CHANNEL*** (p. 28) when checked.

Go to Switch Action— PTT

• RX Code CH— Link A Timer

Enter the non-modulated time period before transmitting an answer back call.

• Link A Timer Timing diagram

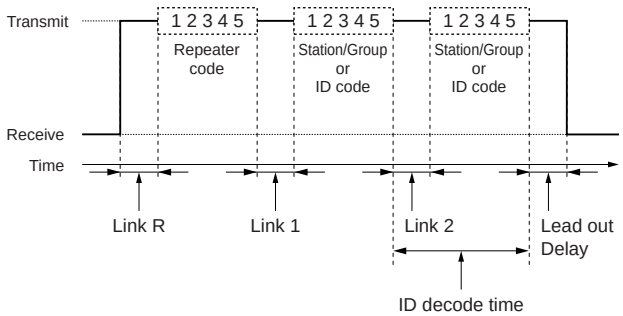


• RX Code CH— ID Decode Timer

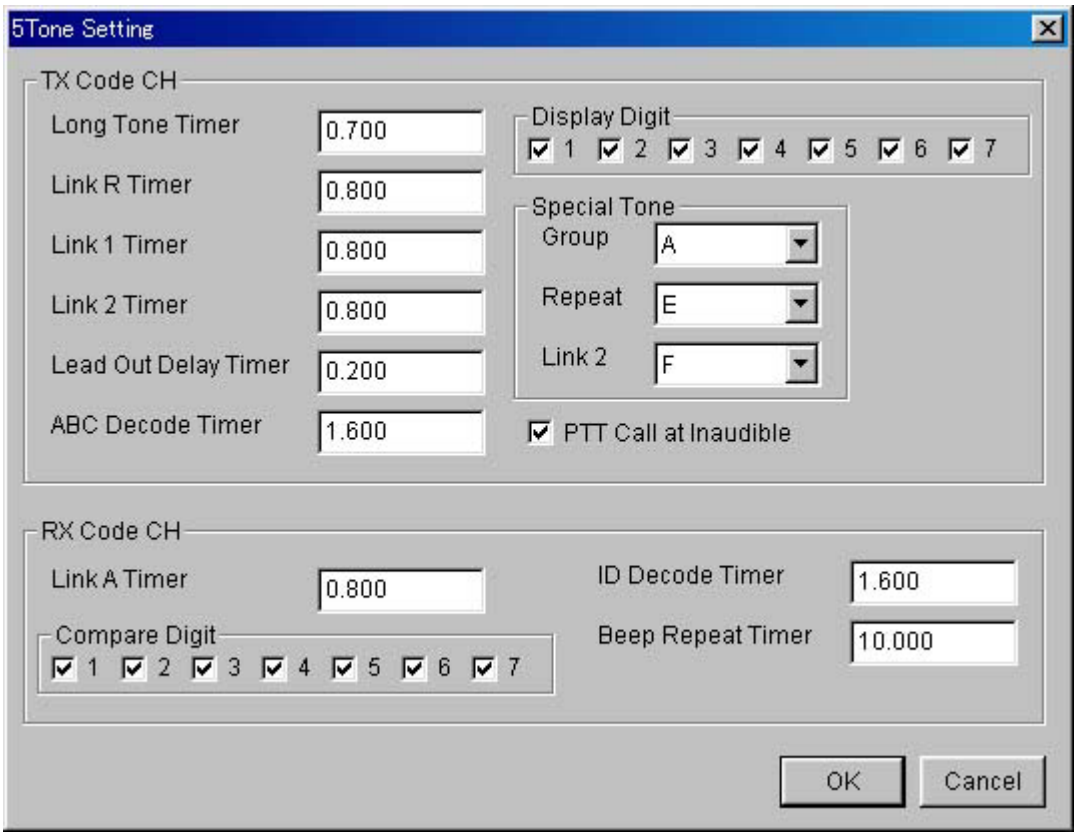
Enter time period for decoding an ID code completely when the ID decode capability is activated, specified in **Text or ID-Dec— ID-Dec** in ***10-1 RX CODE CHANNEL*** (p. 41).

Go to Text or ID-Dec— ID-Dec

• ID decode Timer



10-5 5TONE SETTING— continued



• RX Code CH— Compare Digit

Click the check-box to select comparative digits for decoding (ignores blanked digit/s for the decode actions)

When a "+" (status code) is programmed in the **RX Code** in ***10-1 RX CODE CHANNE***L (p. 41), the digit is not compared even if selected.

Go to RX Code

• RX Code CH— Beep Repeat Timer

Enter time period for repeated beep interval for Pi(repeat), PiPi(repeat), and PiRo(repeat) beep type selection in **Beep** in ***10-1 RX CODE CHANNE***L (p. 42).

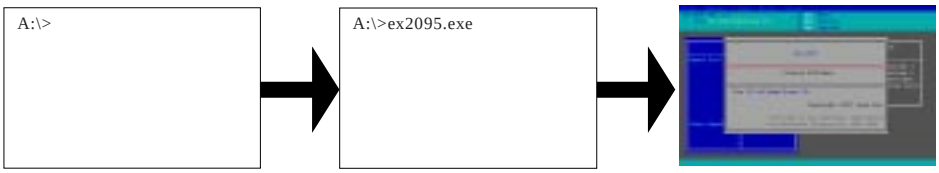
Go to Beep

11 PROGRAMMING for SmarTrunk II operation

■ *This programming is necessary when an optional UT-105 SmarTrunk II Logic Board is installed. Programming operation methods are also written in the instruction manual for UT-105.*

11-1 STARTING THE PROGRAM

① Boot up DOS.
② Insert the CS-F3G backup disk into drive A*.
③ Type the following to start the program
ex2095.exe [Enter]
④ After the start up screen appears, set or modify the data as desired.
• By pushing [Alt] or [Esc] key, the TOP menu will be brought up.
• Use the arrow keys ([⇑], [⇓], [⇐] and [⇒]) to select menu then push [Ent] or push *highlighted character keys* to open the desired menu.
• The [Space] key or *Digit keys* toggle the setting.
⑤ Use the "File" menu to save the data and to exit the program.



Boot up DOS. Start up command. Program start up screen appears, followed by the Memory Channel screen.

11-2 PROGRAMMING RECOMMENDATION

When programming/operating with the SmarTrunk II, please re-confirm the following condition of each item programmed with the CS-F3G.

• Priority, Emergency channel
Do not specify both priority and emergency channels in the bank for SmarTrunk II operation.
The priority and emergency channels are specified in **CH Atr** in ***4/5 MEMORY CHANNEL*** (LMR; p. 19/PMR; p. 24)

Go to CH Atr— LMR
Go to CH Atr— PMR

• Frequency
Operating frequencies must be programmed from channel 1 without a blank. (LMR; p. 20/PMR; p. 25)

Go to Frequency— RX and TX— LMR
Go to Frequency— RX and TX— PMR

• Power Save
Deactivate the power save function. (LMR; p. 23/PMR; p. 32)

Go to PWR Save— LMR
Go to PWR Save— PMR

• TOT
Deactivate the TOT function. (LMR; p. 23/PMR; p. 31)

Go to TOT— LMR
Go to TOT— PMR

• Scan
Do not specify the scan list. (LMR; p. 21/PMR; p. 26)

Go to Scan— 1-5— LMR
Go to Scan— 1-5— PMR

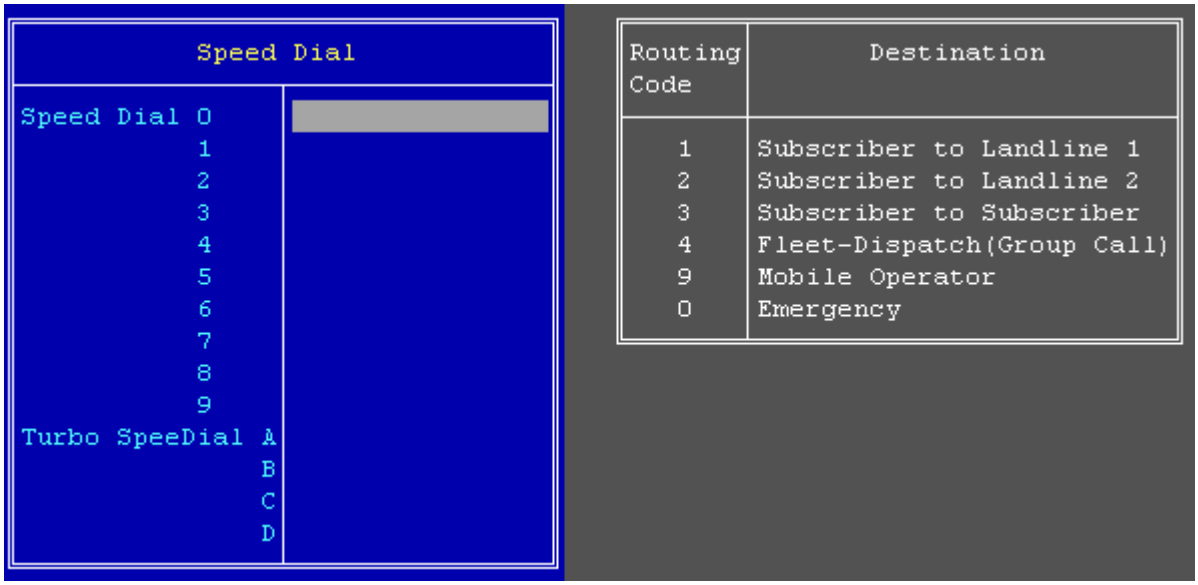
• Log IN/OFF
Select OFF. (LMR; p. 22/PMR; p. 30)

Go to Log IN/OFF— LMR
Go to Log IN/OFF— PMR

• Power ON Scan
Deactivate the power ON scan function. (p. 37)

Go to Power ON Scan

11-3 SCREEN MENU OPERATION— Speed Dial

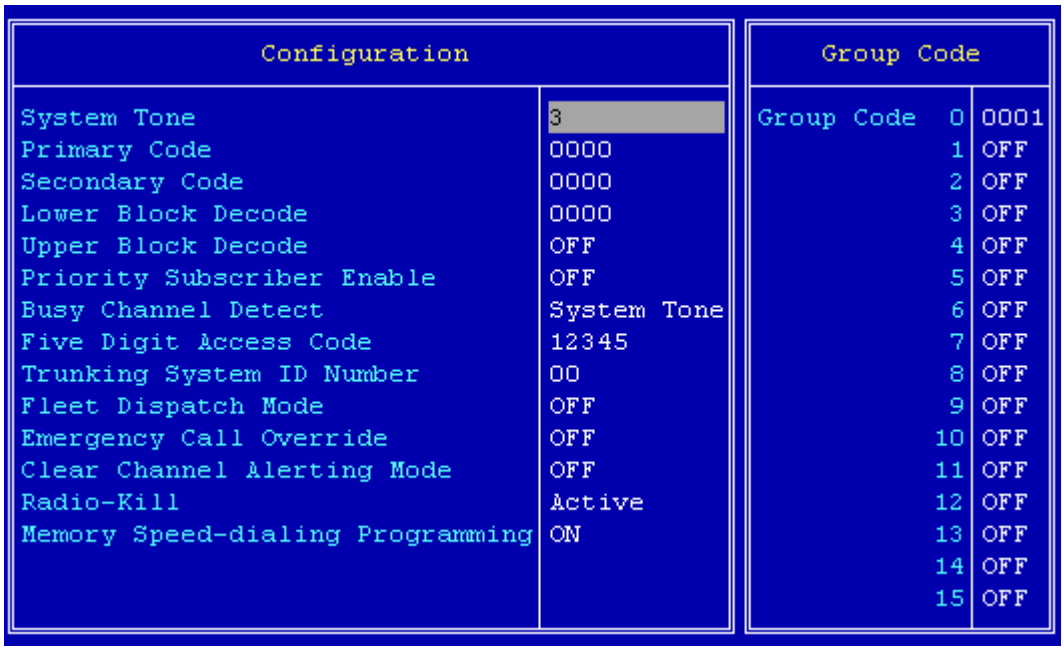


• Speed Dial 0–9
Enter up to a 16-digit telephone or subscriber number for simple and quick dialling operation.

• Turbo SpeeDial A, B, C, D
Enter up to a 16-digit telephone or subscriber number for simple and quick dialling operation.
The programmed number is immediately recalled and transmitted by pushing the [Turbo SpeeDial A], [Turbo SpeeDial B], [Turbo SpeeDial C] or [Turbo SpeeDial D] switch assigned in ***3-1 KEY & DISPLAY ASSIGN*** screen (p. 11).

Go to Turbo SpeeDial A, B, C, D

11-4 SCREEN MENU OPERATION— Configuration



• System Tone
Selects specified system tone code to detect trunking channel condition (busy or clear) from 0–6 given from the system.

The same system tone must be programmed when 'System Tone' is selected in **Busy Channel Detect** as follows.

• Primary Code
Enters a specified 4-digit primary code given from the system.

• Secondary Code
Enters a specified 4-digit secondary code given from the system.

• Lower Block Decode
Enters a specified 4-digit code for lower block decode capability given from the system.

• Upper Block Decode
Enters a specified 4-digit code, or turns off the upper block decode capability given from the system.

The decode code must be in the range of less than +19 from the code programmed in the **Lower Block Decode** as above.

When the code "0000" is programmed in the **Lower Block Decode** as above, "OFF" is automatically programmed in this setting.

• Priority Subscriber Enable
Selects Priority Subscriber Enable capability from ON and OFF.

• Busy Channel Detect
Selects specified busy channel detection method from Carrier and System Tone given from the system.

• Five Digit Access Code
Enters specified 5-digit access code given from the system.

• Trunking System ID Number
Enters a specified 2-digit trunking system ID number given from the system.

• Fleet Dispatch Mode
Selects specified fleet dispatch mode availability from ON and OFF given from the system.

• Emergency Call Override
Selects emergency call override capability from ON and OFF.

• Clear Channel Alerting Mode
Selects alerting capability when a trunking channel is cleared from ON and OFF.

• Radio-Kill
Selects Radio-Kill function, remotely disabling the transceiver, when a specified code is received from Active and Disable.

• Memory Speed-dialling Programming
Selects Speed Dial and Turbo SpeeDial memory programming from the transceiver's keypad capability from ON and OFF.

• Group Code 0–15

Enter a 4-digit group code given from the system for simple and quick group call operation.

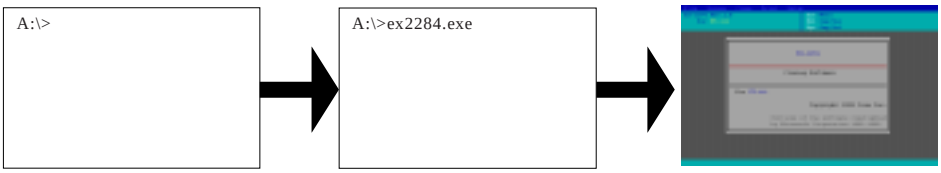
*All the other programming operation methods are the same as CS-F3G.

■ *This programming is necessary when an optional UT-111* TRUNKING UNIT *is installed. For details of programming operation methods, ask a system operator.*

12-1 STARTING THE PROGRAM

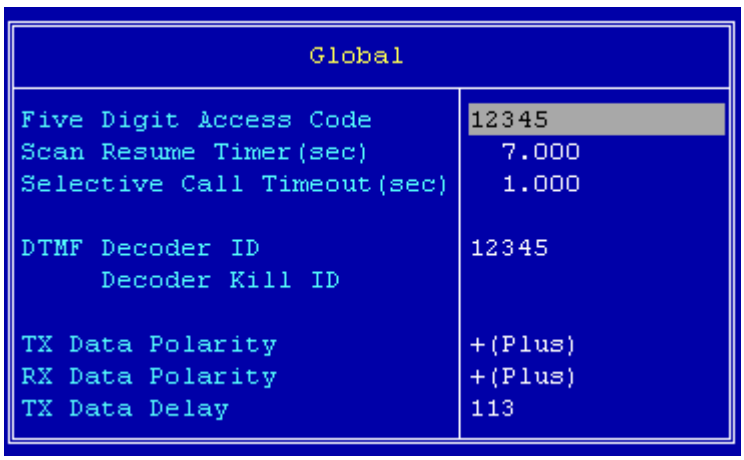
① Boot up DOS.
② Insert the CS-F3G backup disk into drive A*.
③ Type the following to start the program
ex2284.exe [Enter]
④ After the start up screen appears, set or modify the data as desired.
- By pushing [Alt] or [Esc] key, the TOP menu will be brought up.
- Use the arrow keys ([⇑], [⇓], [⇐] and [⇒]) to select menu then push [Ent] or push *highlighted character keys* to open the desired menu.
- The [Space] key or *Digit keys* toggle the setting.

⑤ Use the "File" menu to save the data and to exit the program.



Boot up DOS. Start up command. Program start up screen appears, followed by the Memory Channel screen.

12-2 SCREEN MENU OPERATION— Global



• Five Digit Access Code
Enter specified 5-digit access code given from the system.

• Scan Resume Timer (sec)
Enter time period for switching decoded group ID during group scan.

When group ID code is decoded, the timer is renewed.

• Selective Call Timeout (sec)
Enter stand-by time period from after the group ID code is decoded and before the selective call code to be decoded, during the DTMF selective calling operation.

When the group ID code is decoded, the timer is renewed.

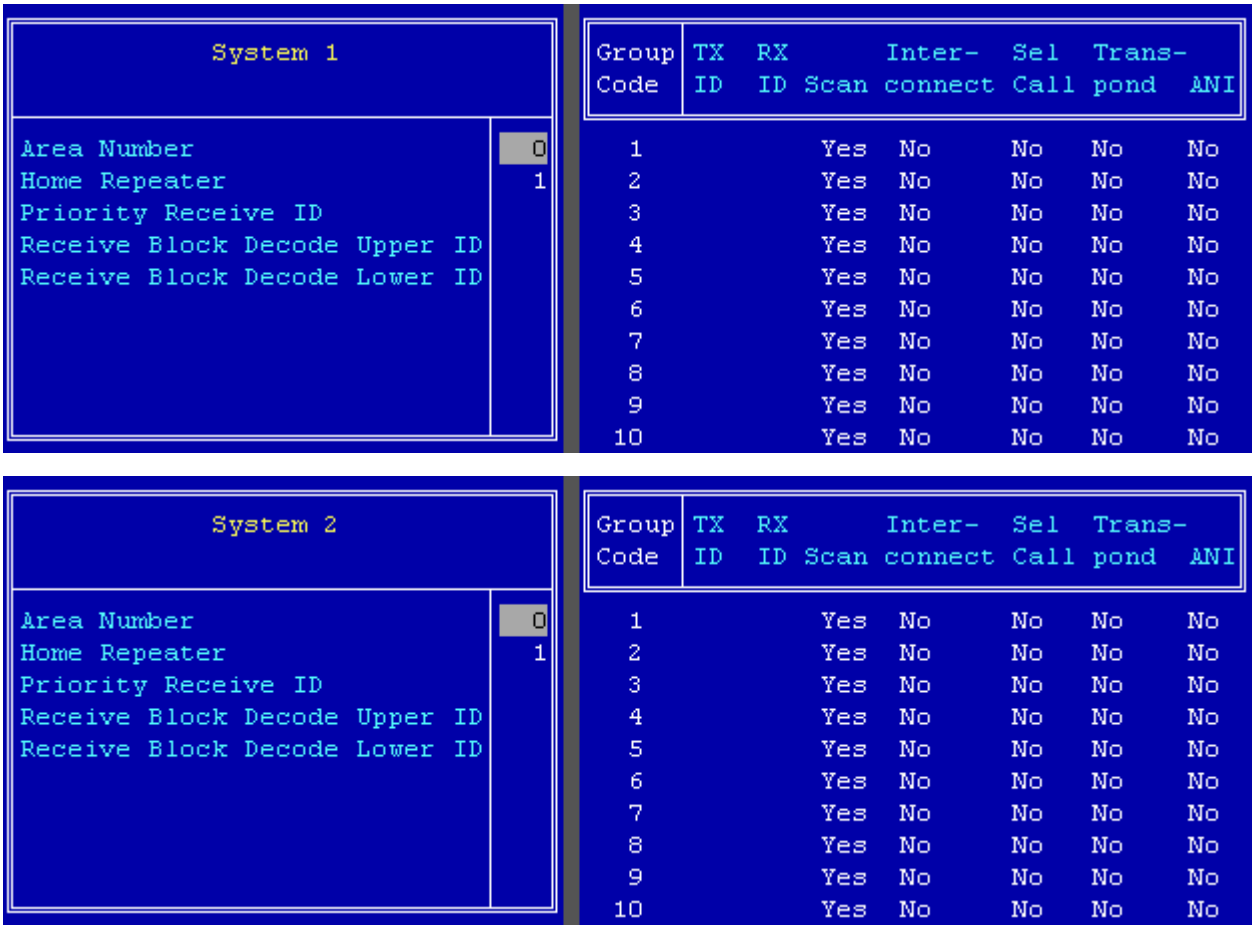
• DTMF— Decoder ID
Enter an 8-digit ID code for the DTMF decoder.

• DTMF— Decoder Kill ID
Enter an 8-digit ID code for the DTMF decoder kill function.
The decoder becomes deactivated when the matched DTMF code is received.

• TX Data Polarity, RX Data Polarity
Select specified polarity for each transmit and receive data from + (Plus) and – (Minus) depending on the type of transceiver.

• TX Data Delay
Enter specified transmit data delay within 0–255 depending on the type of transceiver.

12-3 SCREEN MENU OPERATION— System 1, System 2



• Area Number
Selects specified area number given from the system from 1 and 0.

• Home Repeater
Selects specified home repeater number given from the system within 1–20.

• Priority Receive ID
Enters specified priority receive ID given from the system.

• Receive Block Decode Upper ID, Lower ID
Enter specified receive block decode ID each for upper and lower given from the system.

• TX ID, RX ID
Enter a 3-digit ID code for each transmit and receive.

• Scan
Selects automatic scanning capability from Yes and No.

• Inter-connect
Selects inter-connect capability from Yes and No.

• Selective Call
Selects selective calling capability from Yes and No.

• Transponds
Selects answer back capability from Yes and No.

• ANI
Selects ANI (Automatic Numbering Identification) transmission capability from Yes and No.

*All the other programming operation methods are the same as CS-F3G.

DATA CLONING BETWEEN TRANSCEIVERS

■ *This operation is useful when cloning transceiver(s) with exactly the same setting, without a PC and programming software.*

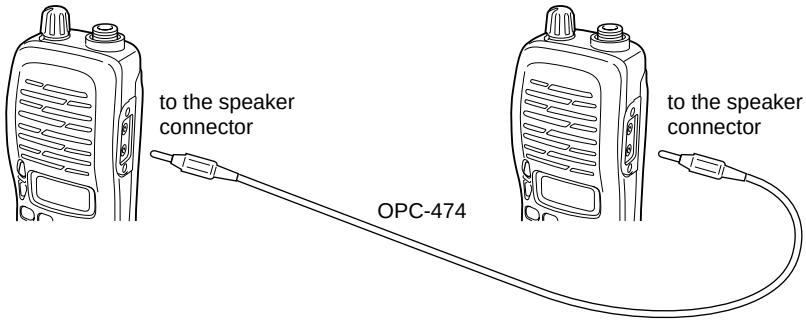
■ REQUIRED EQUIPMENT

The following hardware is required:

• OPC-474 CLONING CABLE

■ CONNECTION

Connect each item as in following diagram.



CAUTION: Do not connect an antenna to the transceiver during cloning operation. Received signals may cause cloning errors.

■ STARTING CLONING

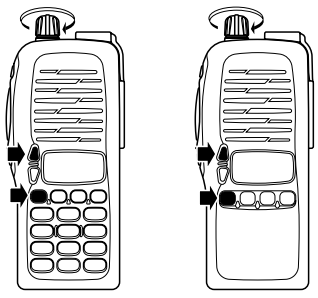
① First turning power off once on the master transceiver.

② Turn the master transceiver power on while pushing and holding [P0] and [▲] switches.

③ Push [PTT] switch on the master transceiver to output cloning data to the sub transceiver.
(The sub transceiver receives cloning data automatically.)

④ Turn power off then on again to enable return to operatable condition.

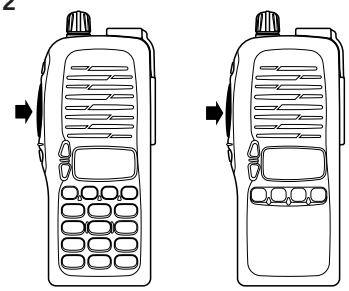
KEY operation 1



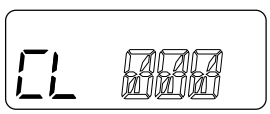
Transceiver indication

Turn the master transceiver power on while pushing and holding [P0] and [▲] switches to enter into cloning mode.

KEY operation 2



Transceiver indication



Push [PTT] switch to output programmed data to the sub transceiver.

NOTE: The “Transceiver Data Out” must be checked for the master transceiver. Otherwise the cloning between transceivers cannot be operated. The “Transceiver Data Out” is specified in ***3-3 COMMON 2*** (p. 16).

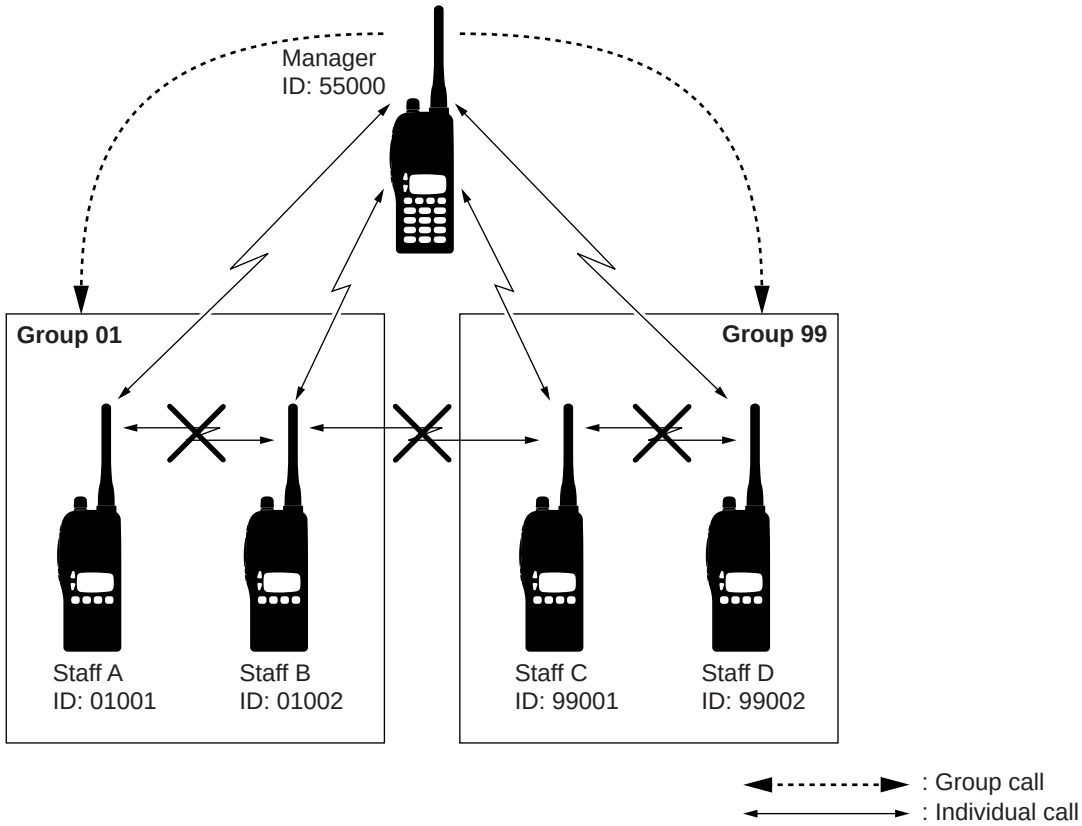
Go to Transceiver Data Out

14 PROGRAMMING EXAMPLE

■ *7 selective calling samples with 5-tone system are listed, with instruction details of programming for each sample in this section. These sample and programming conditions may give you hints or ideas of how to setup to meet the customer's requirements.*

14-1 EXAMPLE 1

■ Conditions



The manager : Can call to staff with an individual, group and simultaneous group call.
Each staff : Can call to manager only with an individual call. (Cannot call between each other.)

Operating frequency : 162.3400 MHz (Simplex)
CTCSS : 100 Hz

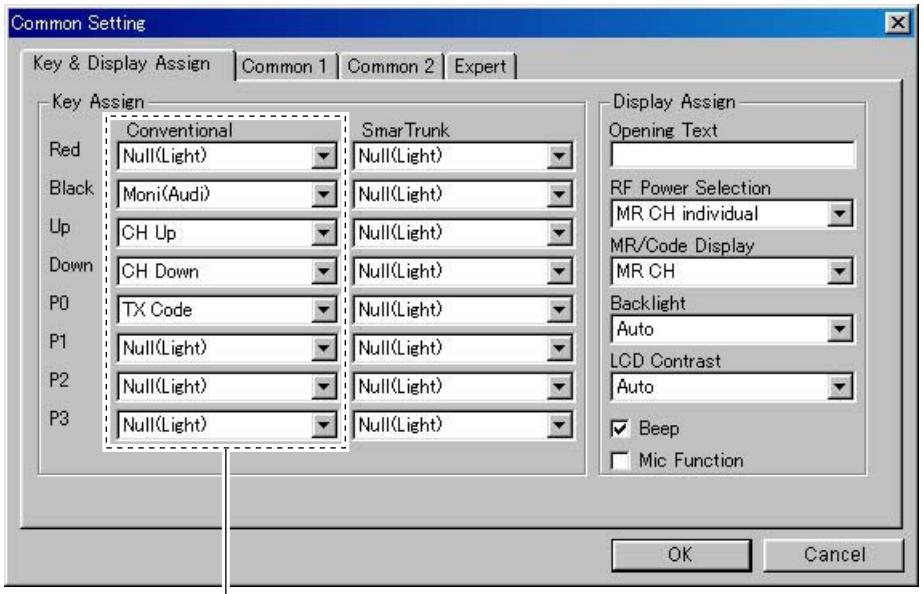
■ Settings

1. Model Type

Select "PMR (5Tone/DTMF)" in the Model Menu.

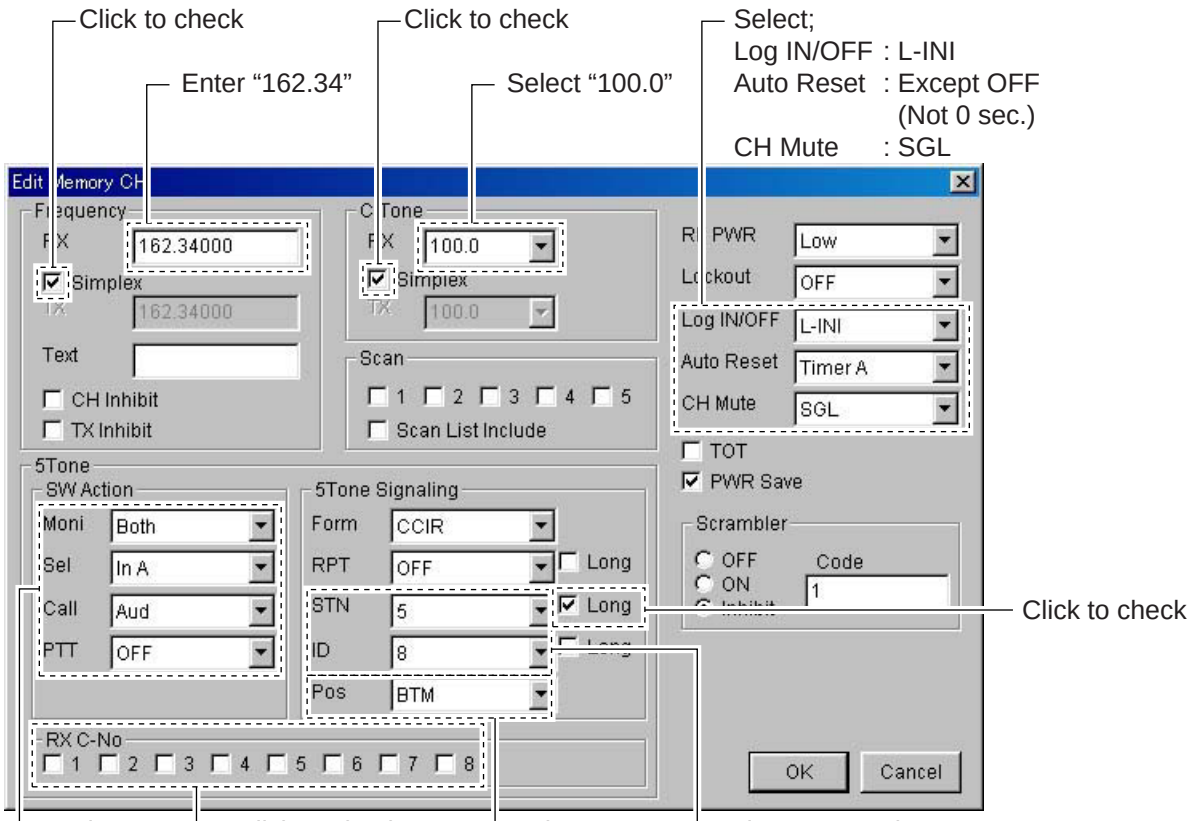
14-1 EXAMPLE 1— continued

2. In the KEY & DISPLAY ASSIGN



Assign [Moni(Audi)], [TX Code CH Up]*, [TX Code CH Down]* and [Call] to the desired switch.
*Not necessary for the staff A, B, C and D.

3. In the MEMORY CHANNEL



Select;
Moni : Both
Sel : In A
Call : Aud
PTT : OFF

Click to check;
1: For staff A
2: For staff B
3: For staff C
4: For staff D
8: For manager

Select “BTM”

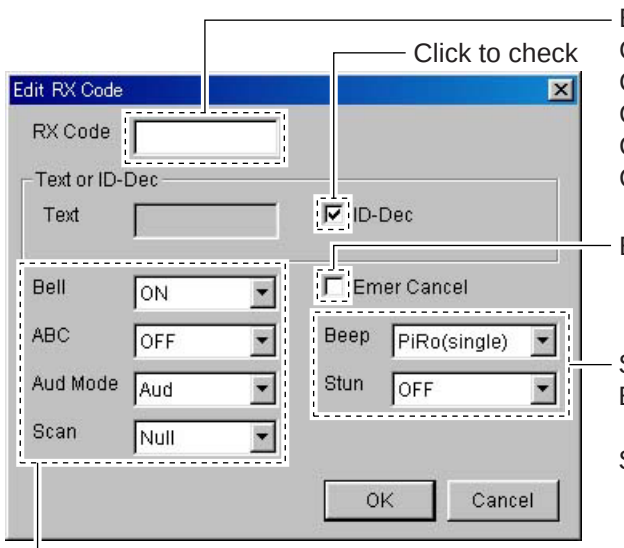
Select STN and ID as;

Item	STN	ID
For staff A	8	1
For staff B	8	2
For staff C	8	3
For staff D	8	4
For manager	5	8

14-1 EXAMPLE 1— continued

4. In the 5TONE

4-1 RX CODE CHANNEL



Enter;
Channel 1: 01001
Channel 2: 01002
Channel 3: 99001
Channel 4: 99002
Channel 8: 55000

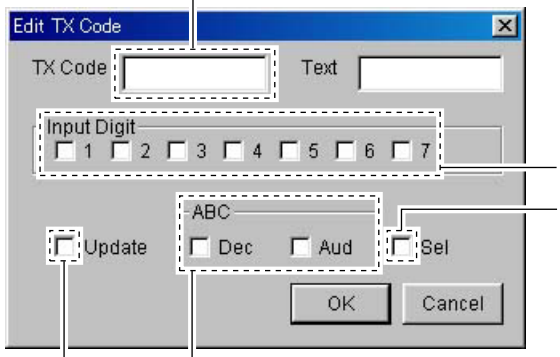
Click to check

Blank

Select;
Beep : Channel 1–4 PiRo(single)
Channel 8 PiPi(single)
Stun : OFF

Select;
Bell : Channel 1–4 ON
Channel 8 Blink
ABC : OFF
Aud Mode : Aud
Scan : Null

4-2 TX CODE CHANNEL



Enter; Channel 1 : 01001
Channel 2 : 01002
Channel 3 : 99001
Channel 4 : 99002
Channel 5 : **0**
Channel 6 : 010**
Channel 7 : 990**
Channel 8 : 55000

Blank

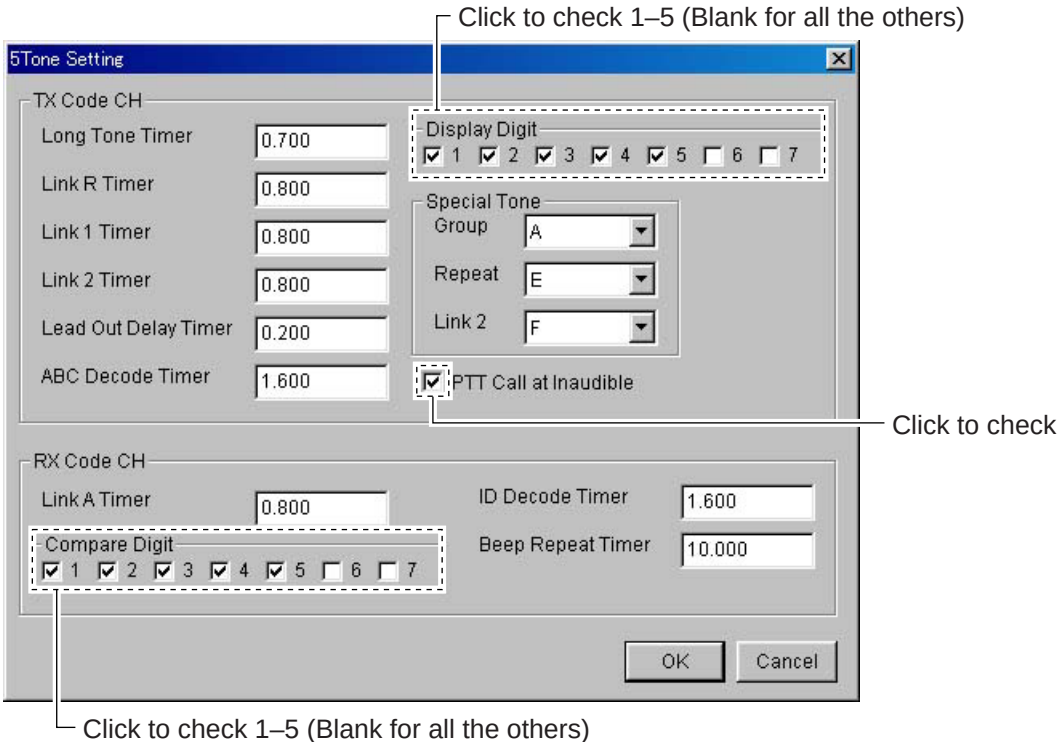
Click to check in channel 1–7, for the manager's transceiver only.

Blank

Blank for both

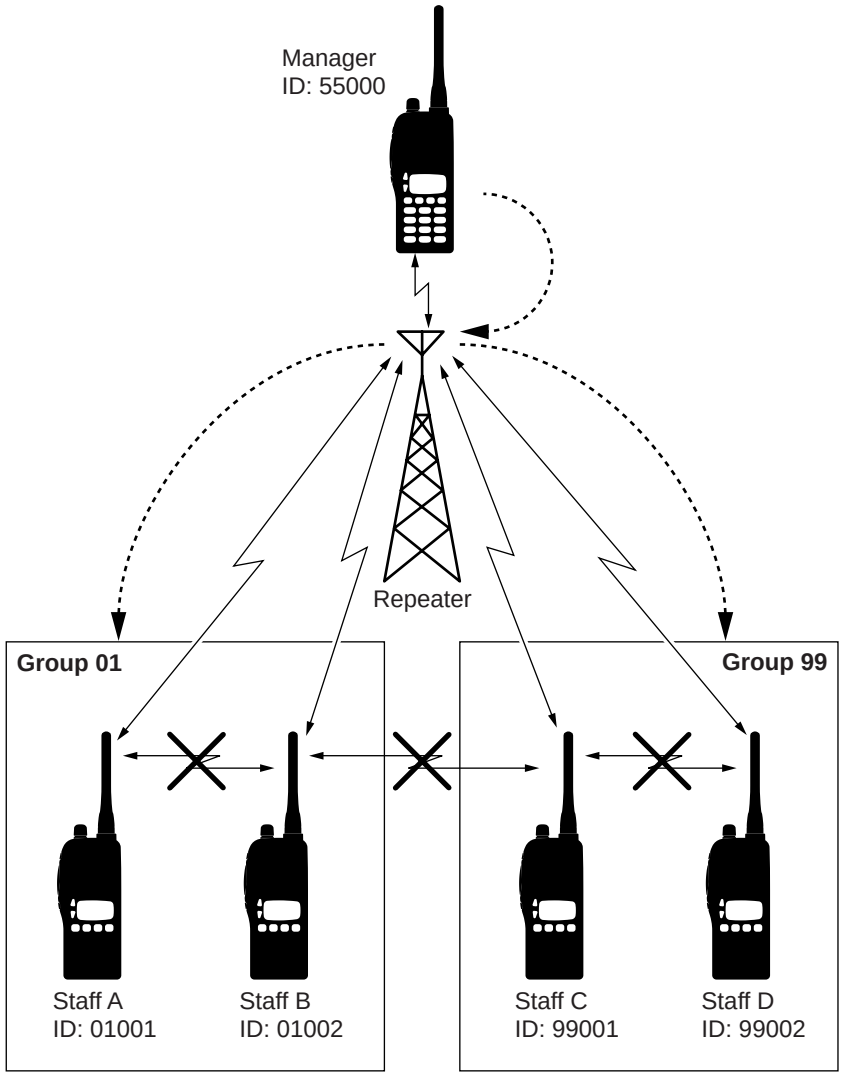
14-1 EXAMPLE 1— continued

4-3 5TONE SETTING



14-2 EXAMPLE 2

■ Conditions



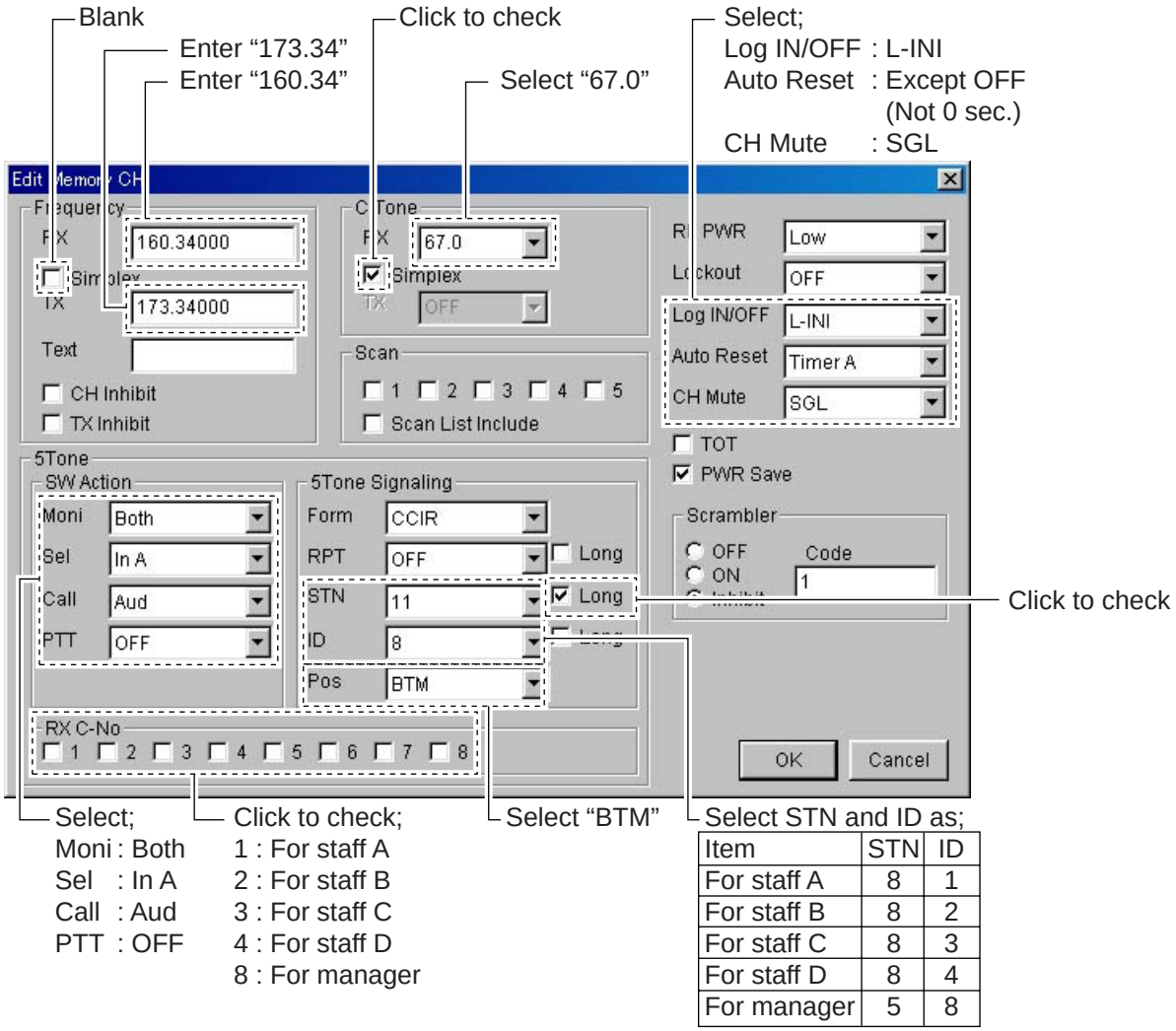
Same conditions as “EXAMPLE 1.” except,operation between manager and staff is through a repeater.

Operating frequency : 160.3400 MHz (Rx), 173.3400 MHz (Tx)
CTCSS : 67 Hz

14-2 EXAMPLE 2— continued

■ Settings

In the MEMORY CHANNEL

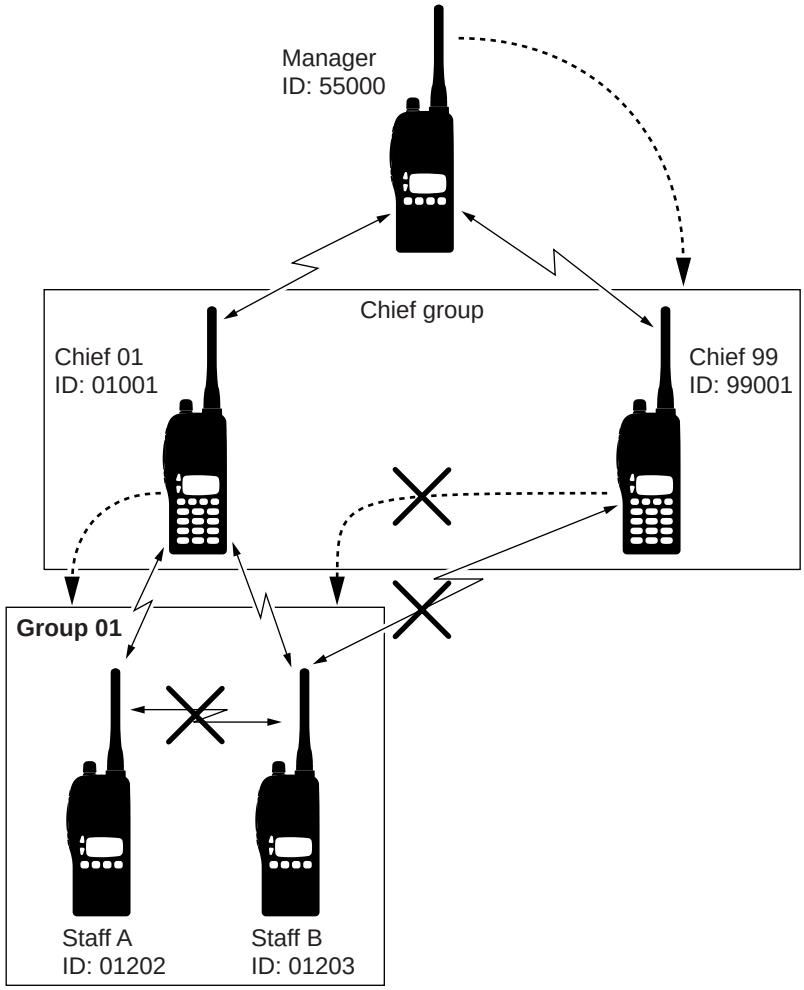


Item	STN	ID
For staff A	8	1
For staff B	8	2
For staff C	8	3
For staff D	8	4
For manager	5	8

All the other settings are the same as “EXAMPLE 1.”

14-3 EXAMPLE 3

■ Conditions



: Group call
: Individual call

The manager : Can call to chief(s) only with both an individual and group call.
Each chief : Can call to the manager with an individual call.
Can call to designated staff only, with both an individual and group call.
(Cannot call staff in an another group.)
Each staff : Can call to their chief only with an individual call.
(Cannot call chief of another group and between each other.)

Operating frequency : 162.3400 MHz (Simplex)
CTCSS : 100 Hz

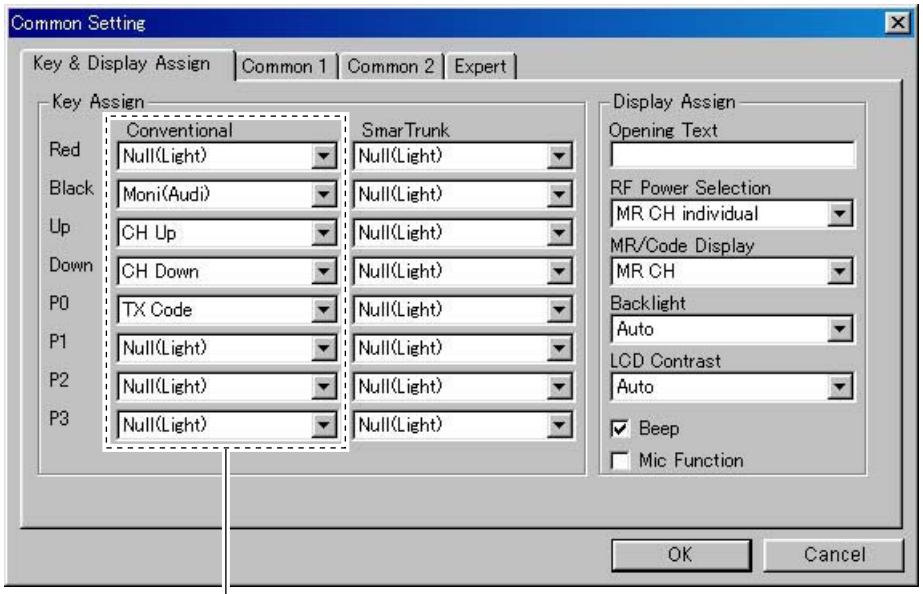
■ Settings

1. Model Type

Select “PMR (5Tone/DTMF)” in the Model Menu.

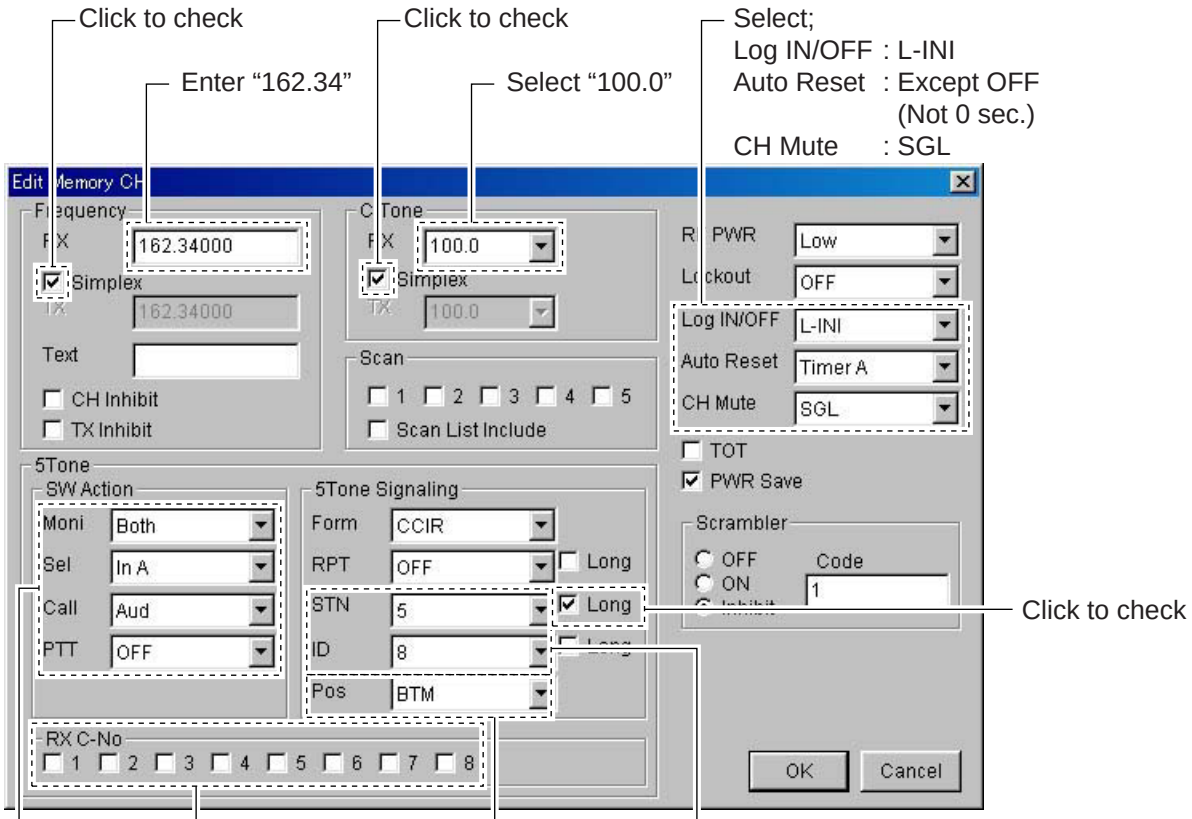
14-3 EXAMPLE 3— continued

2. In the KEY & DISPLAY ASSIGN



Assign [Moni(Audi)], [TX Code CH Up], [TX Code CH Down] and [Call] to the desired switch.
*Not required for chief 99, staff A and B.

3. In the MEMORY CHANNEL

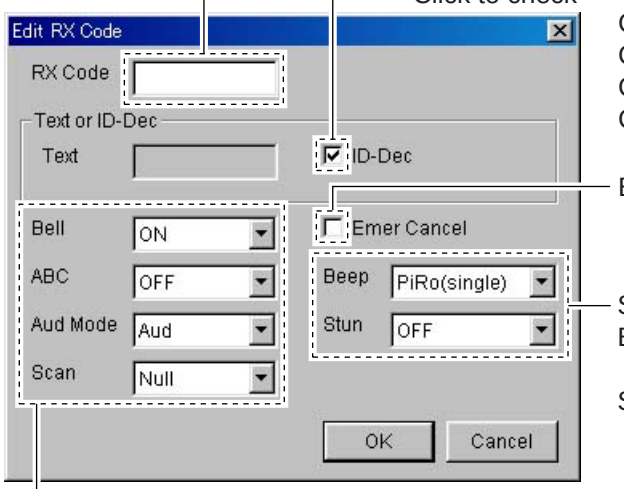


Item	STN	ID
For staff A	1	3
For staff B	1	4
For chief 01	8	1
For chief 99	8	2
For manager	5	8

14-3 EXAMPLE 3— continued

4. In the 5TONE

4-1 RX CODE CHANNEL



Enter;
Channel 1: 01001
Channel 2: 99001
Channel 3: 01202
Channel 4: 01203
Channel 8: 55000

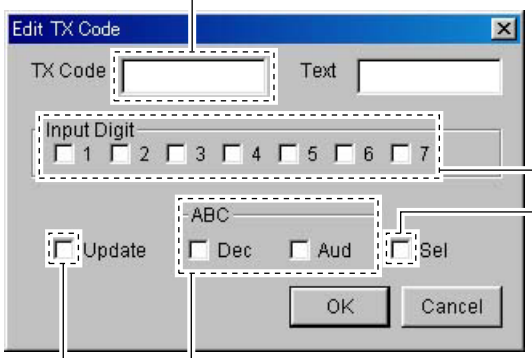
Click to check

Blank

Select;
Beep : Channel 1–4 PiRo(single)
Channel 8 PiPi(single)
Stun : OFF

Select;
Bell : Channel 1–4 ON
Channel 8 Blink
ABC : OFF
Aud Mode : Aud
Scan : Null

4-2 TX CODE CHANNEL



Enter; Channel 1 : 01001
Channel 2 : 99001
Channel 3 : 01202
Channel 4 : 01203
Channel 5 : ✻✻001
Channel 6 : 012✻✻
Channel 8 : 55000

Blank

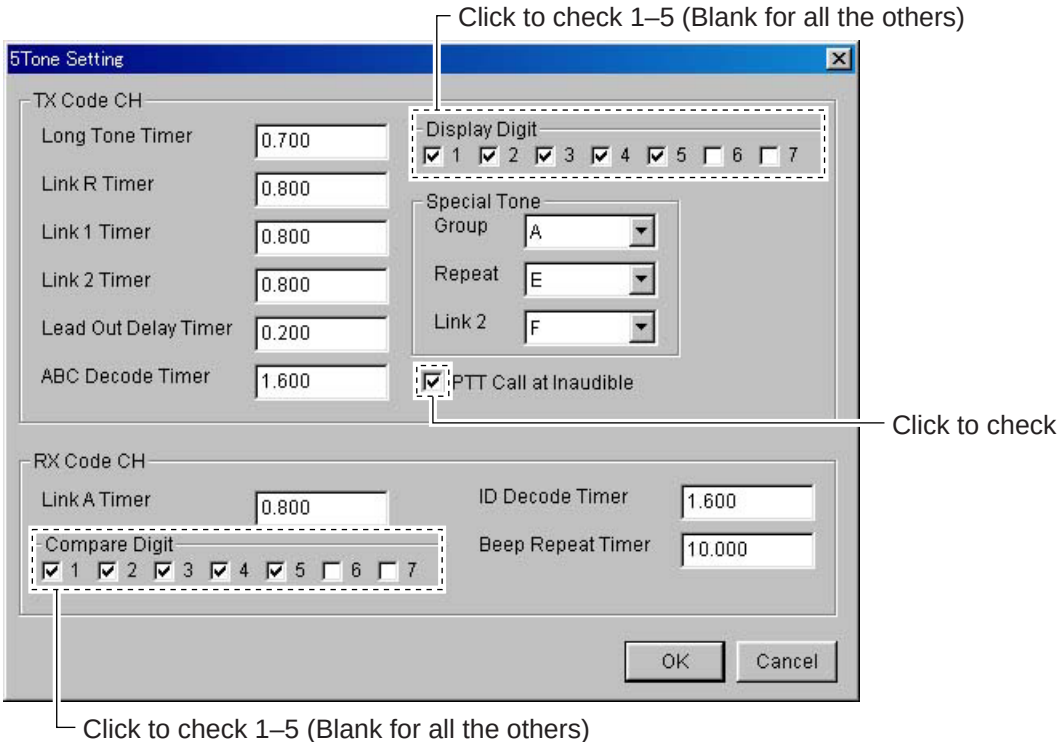
Click to check in;
channel 1, 2, 5, for the manager
channel 3, 4, 6, 8 for the chief 01's transceiver only.

Blank

Blank for both

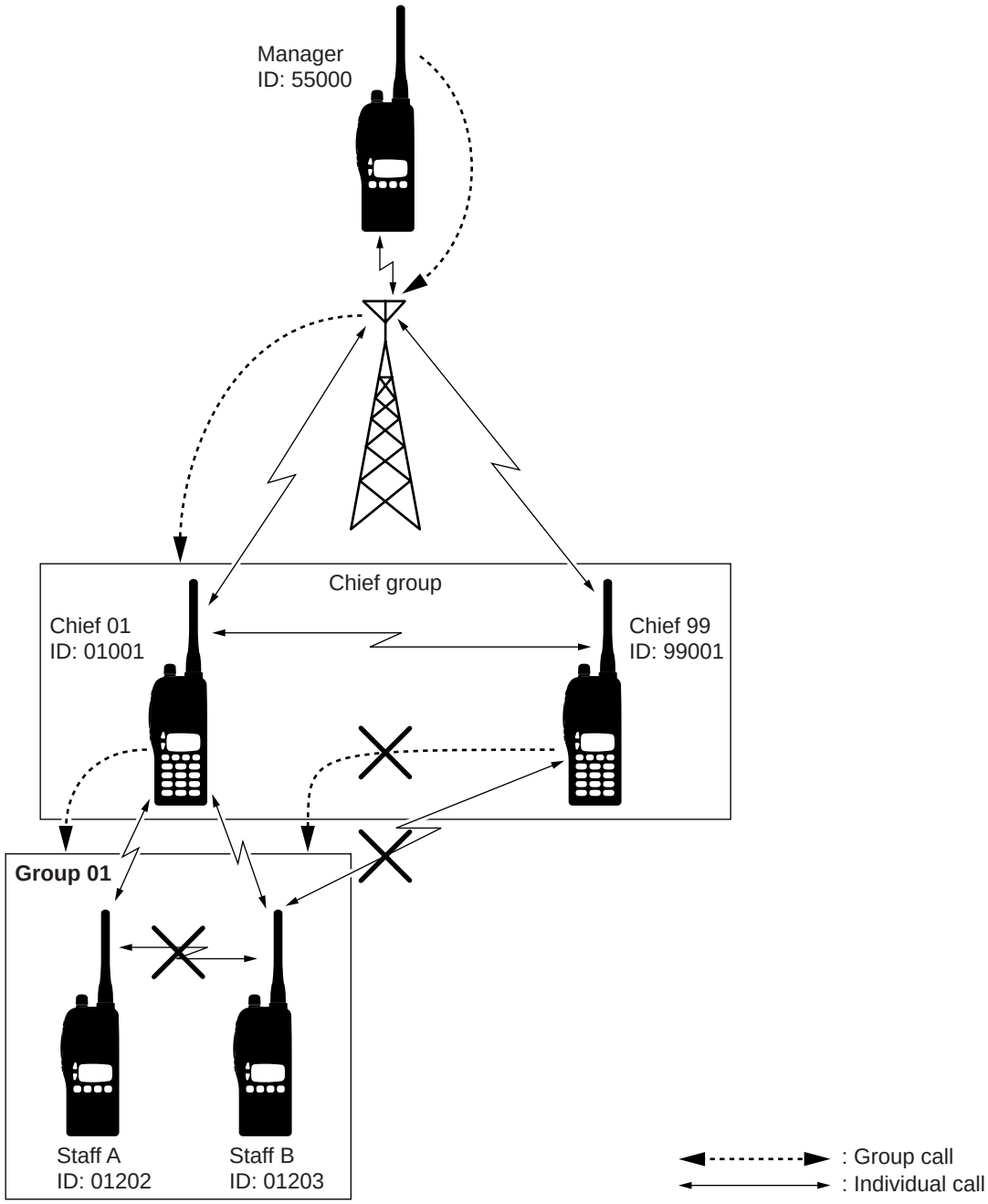
14-3 EXAMPLE 3— continued

4-3 5TONE SETTING



14-4 EXAMPLE 4

■ Conditions



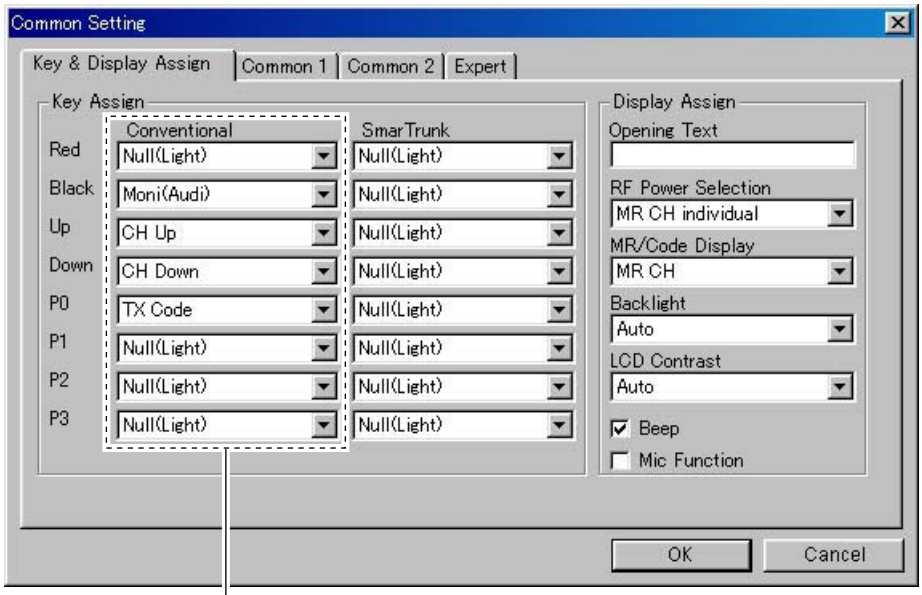
Same conditions as “EXAMPLE 3.” except operation between manager and chiefs is through a repeater. Also the operation is permitted between chiefs.

Operating frequency : f1 160.3400 MHz (Rx), 173.3400 MHz (Tx)
f2 162.3400 MHz (Simplex)
CTCSS : f1 67 Hz
f2 100 Hz

14-4 EXAMPLE 4— continued

■ Settings

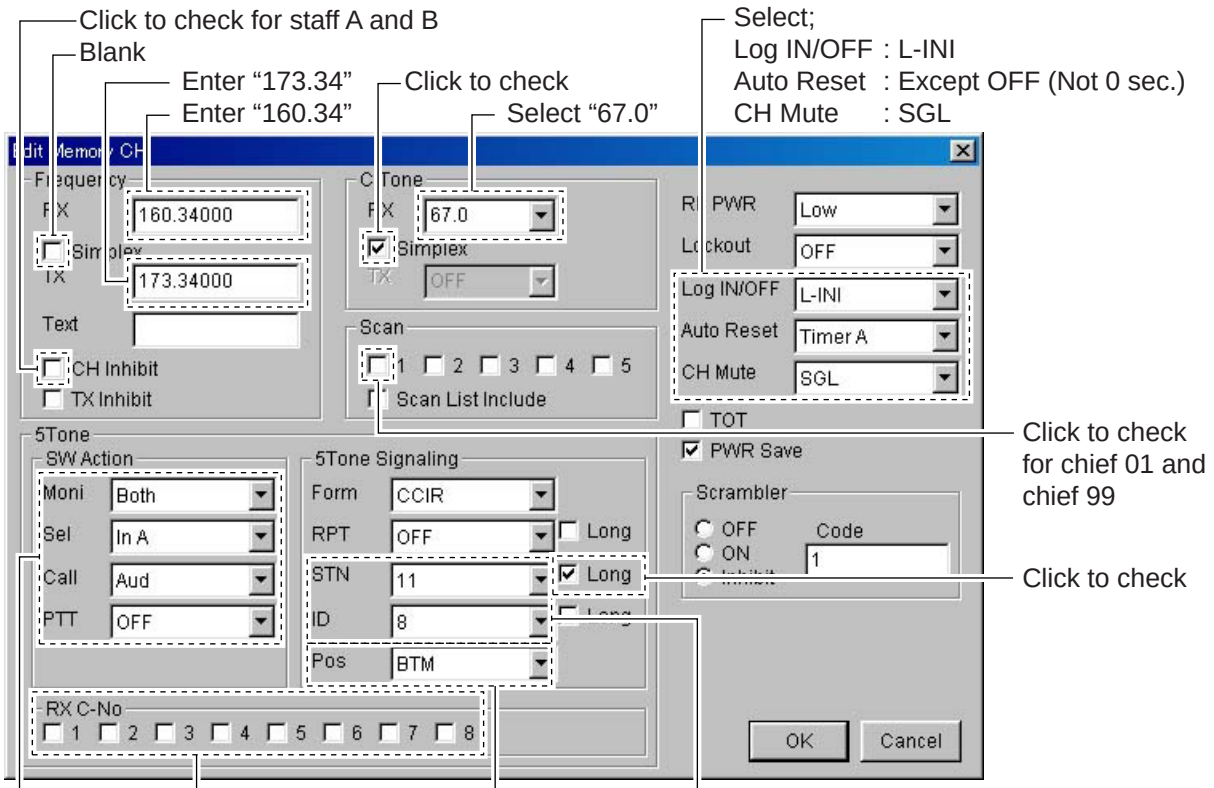
1. In the KEY & DISPLAY ASSIGN



Assign [Moni(Audi)], [TX Code CH Up]*1, [TX Code CH Down]*1, [CH Up]*2, [CH Down]*2, [Scan A]*2 and [Call] to the desired switch.
*1Not necessary for staff A and B.
*2Not necessary for the manager, staff A and B.

3. In the MEMORY CHANNEL

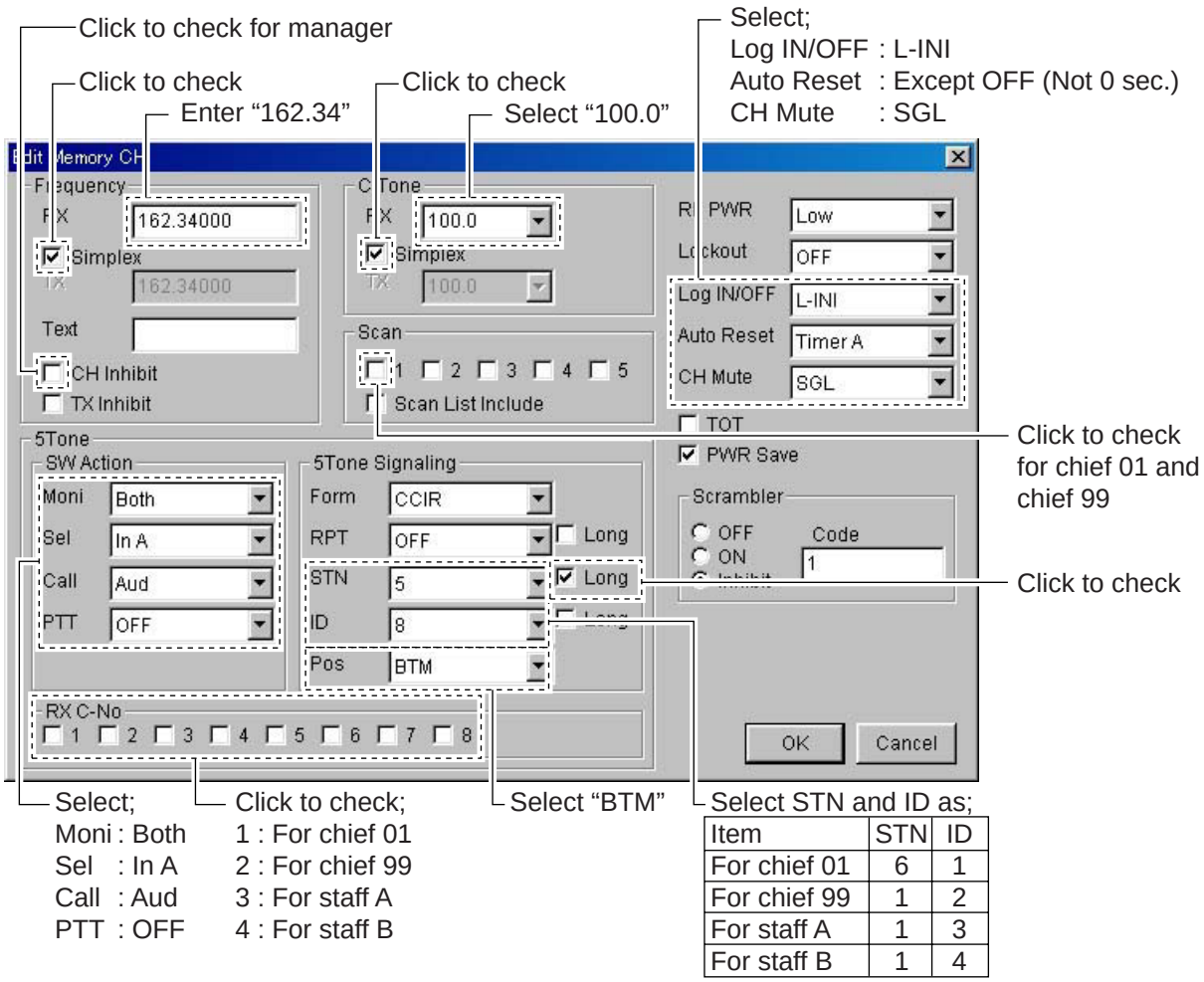
2-1 Frequency 1 (f1)



Item	STN	ID
For chief 01	8	1
For chief 99	8	2
For manager	5	8

14-4 EXAMPLE 4— continued

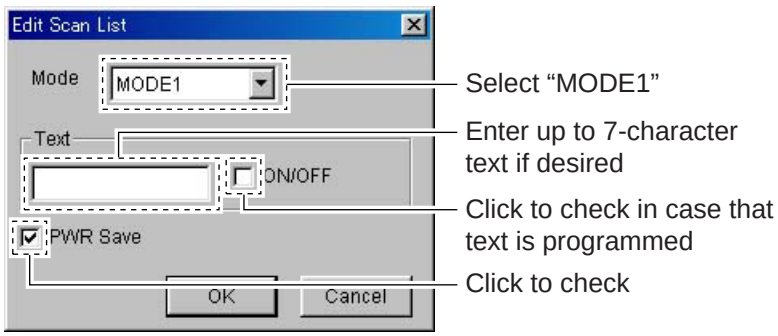
2-2 Frequency 2 (f2)



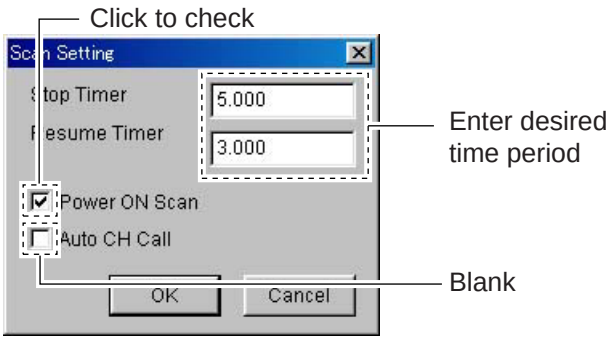
Item	STN	ID
For chief 01	6	1
For chief 99	1	2
For staff A	1	3
For staff B	1	4

3. In the SCAN— transceivers for chief 01 and chief 99 only

3-1 Scan List

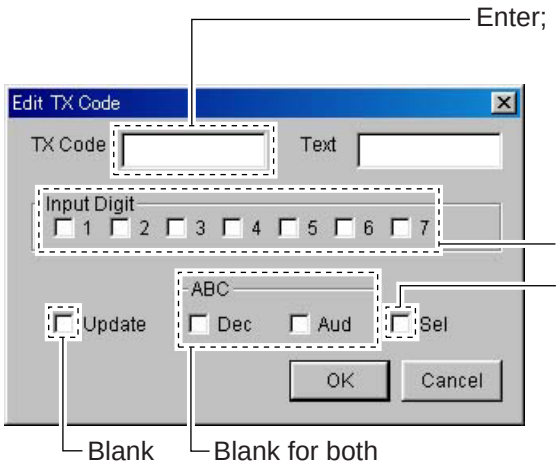


3-2 Scan Setting



14-4 EXAMPLE 4— continued

4. In the TX CODE CHANNEL



Enter; Channel 1 : 01001
Channel 2 : 99001
Channel 3 : 01202
Channel 4 : 01203
Channel 5 : ✻✻001
Channel 6 : 012✻✻
Channel 8 : 55000

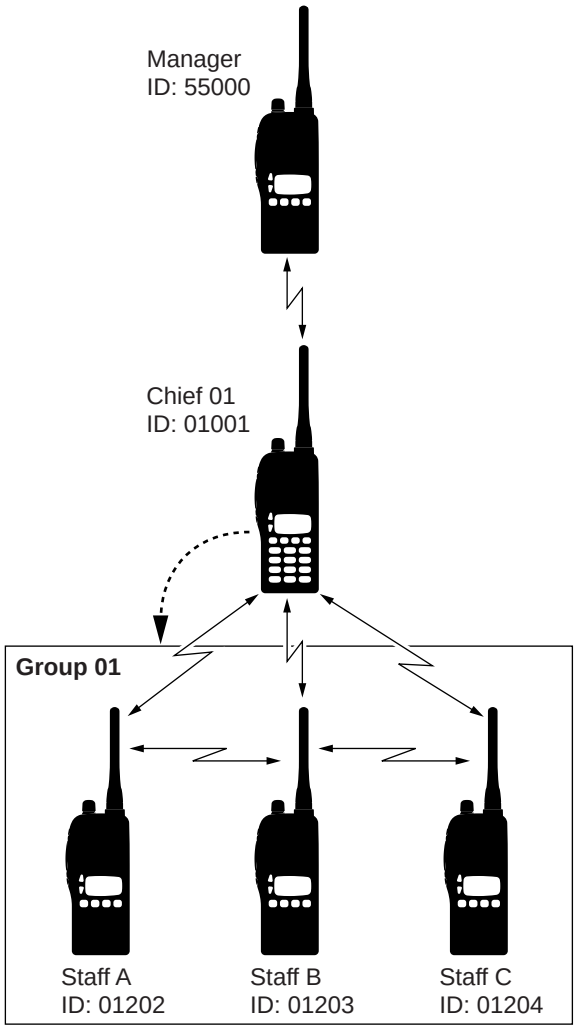
Blank

Click to check in;
channel 1, 2, 5, for the manager
channel 3, 4, 6 for chief 01's transceiver.

All the other settings are the same as "EXAMPLE 3."

14-5 EXAMPLE 5

■ Conditions



The manager : Can call to chief only with an individual call.
The chief 01 : Can call to the manager with an individual call.
Can call to staff with both an individual and group call.
Each staff : Can call to chief or another staff with an individual call.

Operating frequency : 162.3400 MHz (Simplex)
CTCSS : 100 Hz

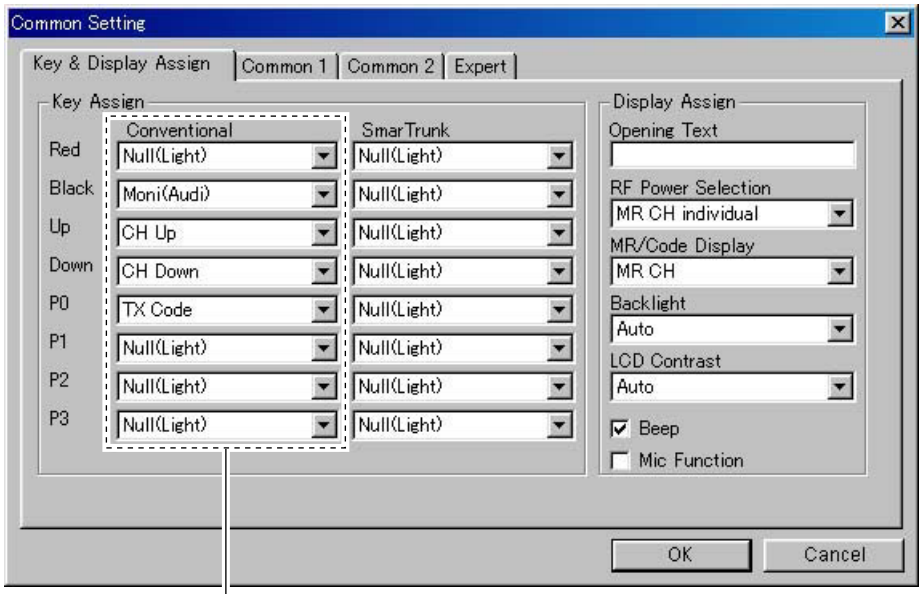
■ Settings

1. Model Type

Select “PMR (5Tone/DTMF)” in the Model Menu.

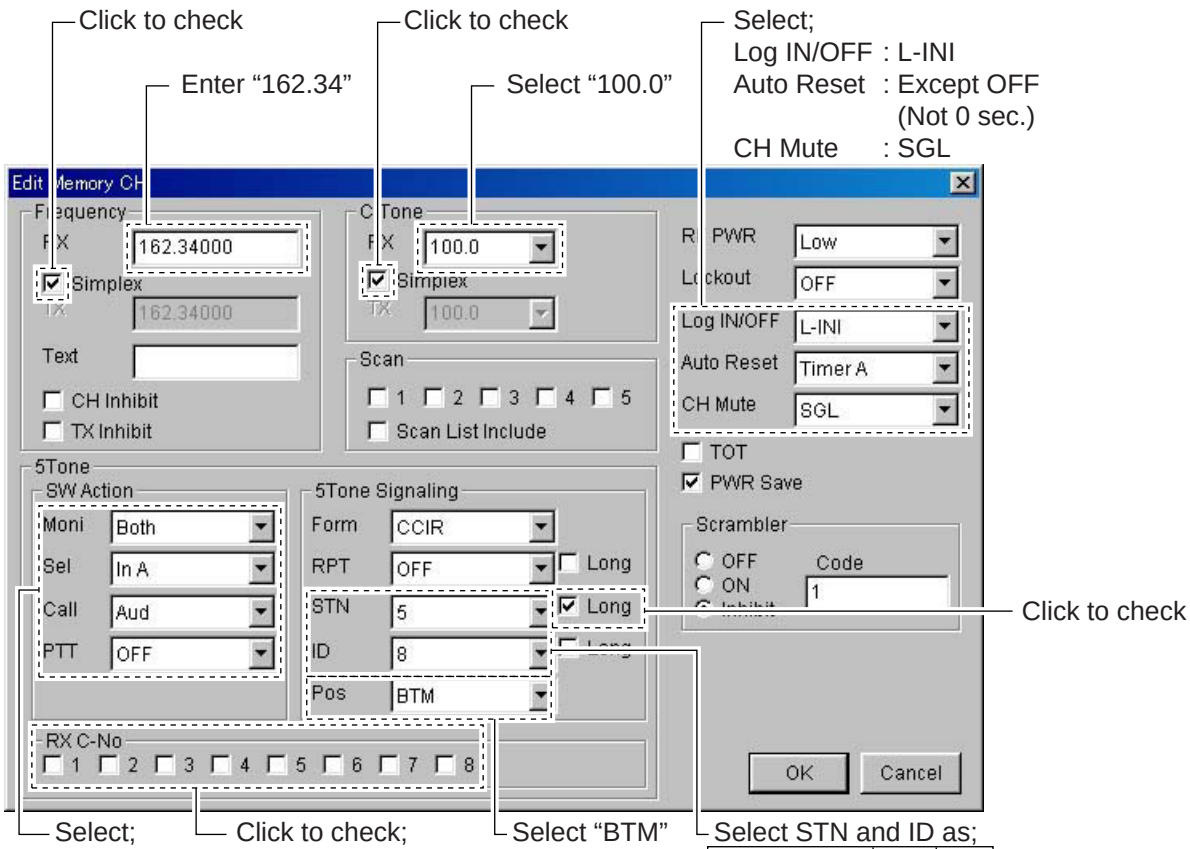
14-5 EXAMPLE 5— continued

2. Key & Display Assign



Assign [Moni(Audi)], [TX Code CH Up]*, [TX Code CH Down]* and [Call] to the desired switch.
*Not required for the manager.

3. In the MEMORY CHANNEL Screen

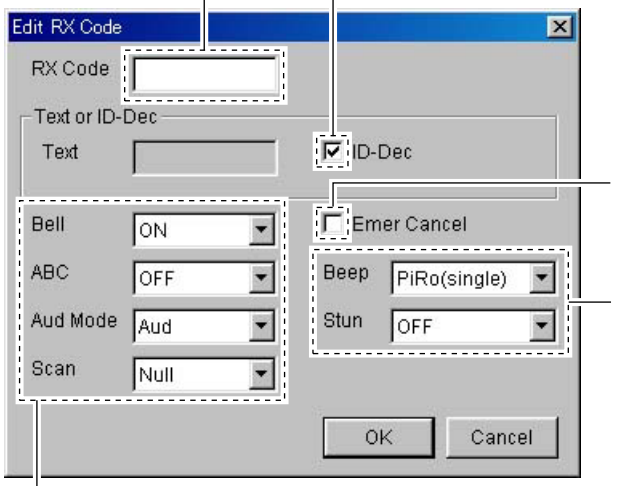


Item	STN	ID
For chief 01	8	1
For staff A	1	2
For staff B	1	3
For staff C	1	4
For manager	1	8

14-5 EXAMPLE 5— continued

4. In the 5TONE

4-1 RX CODE CHANNEL



Enter;
Channel 1: 01001
Channel 2: 01202
Channel 3: 01203
Channel 4: 01204
Channel 8: 55000

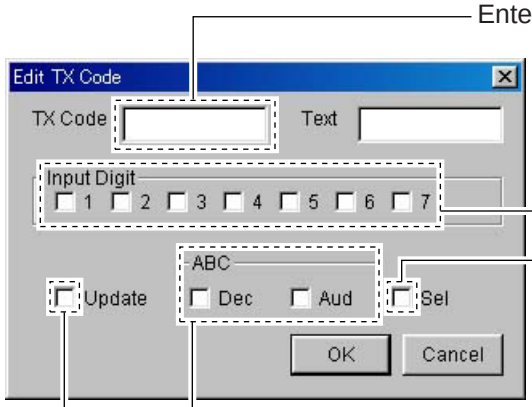
Click to check

Blank

Select;
Beep : Channel 1–4 PiRo(single)
Channel 8 PiPi(single)
Stun : OFF

Select;
Bell : Channel 1–4 ON
Channel 8 Blink
ABC : OFF
Aud Mode : Aud
Scan : Null

4-2 TX CODE CHANNEL



Enter; Channel 1 : 01001
Channel 2 : 01202
Channel 3 : 01203
Channel 4 : 01204
Channel 5 : 012✻✻
Channel 8 : 55000

Blank

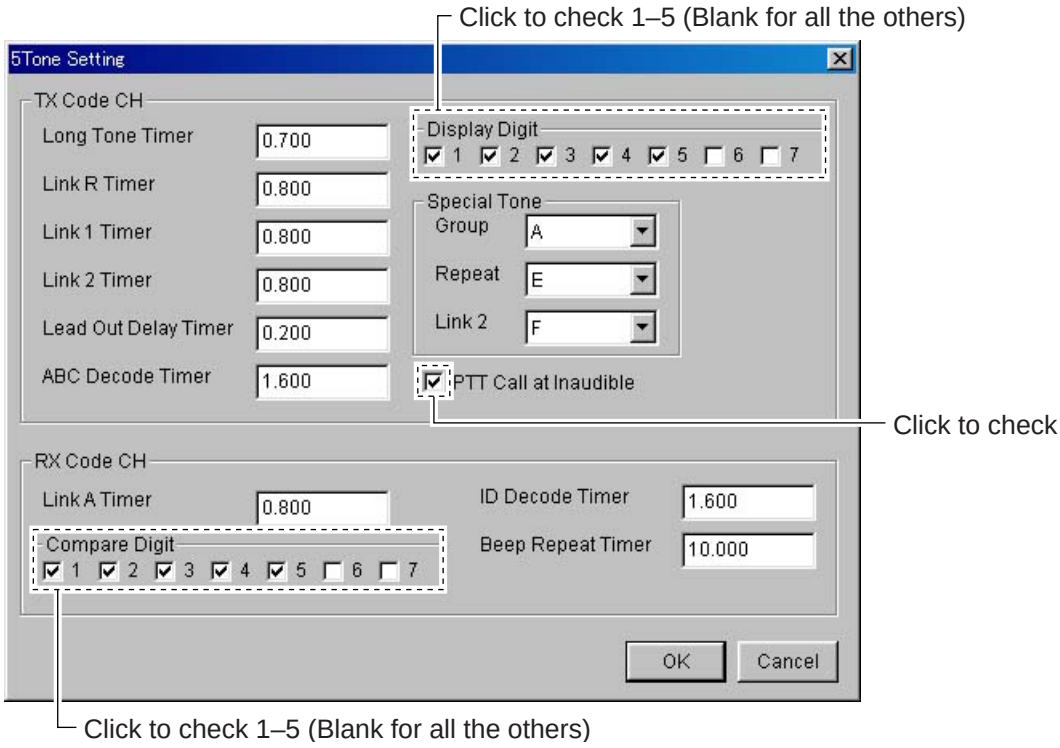
Click to check in;
channel 2–5 for chief 01
channel 1, 3, 4 for staff A
channel 1, 2, 4 for staff B
channel 1–3 for staff C's transceiver.

Blank

Blank for both

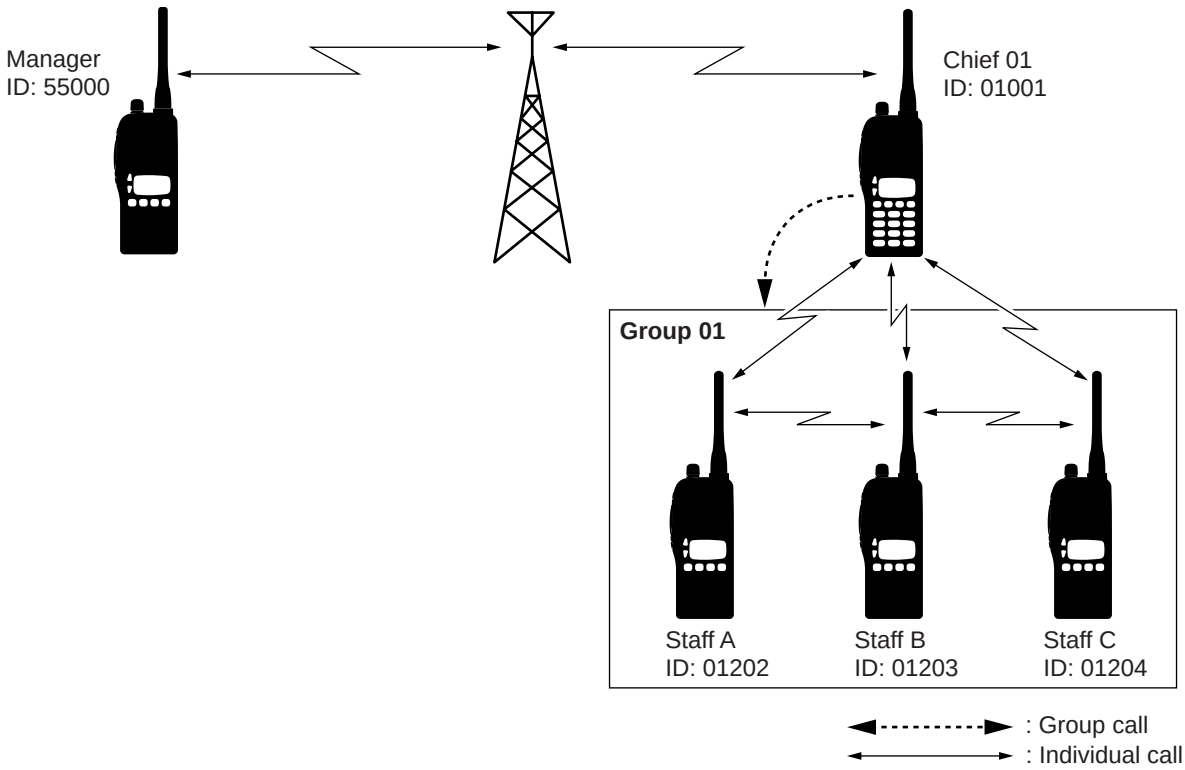
14-5 EXAMPLE 5— continued

4-3 5TONE SETTING



14-6 EXAMPLE 6

■ Conditions



The manager	: Can call to chief with an individual call through a repeater, using the “f1” setting only.
Each chief	: Can call to the manager with an individual call through a repeater, using the “f1” setting. Can call to staff with both an individual and group call using the “f2” setting.
Each staff	: Can call to chief or an another staff with an individual call using the “f2” setting.
Operating frequency	: f1 160.3400 MHz (Rx), 173.3400 MHz (Tx) f2 162.3400 MHz (Simplex)
CTCSS	: f1 67 Hz f2 100 Hz

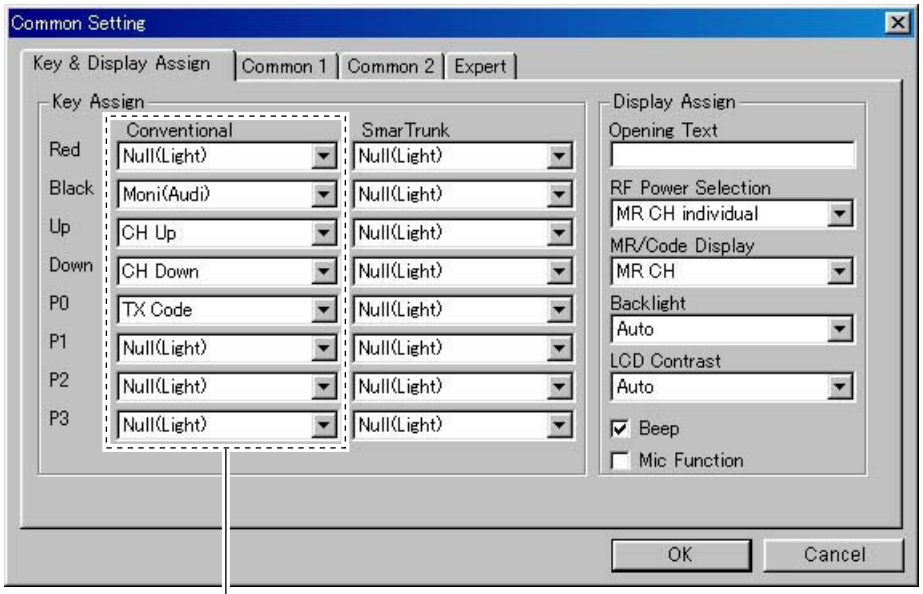
■ Settings

1. Model Type

Select “PMR (5Tone/DTMF)” in the Model Menu.

14-6 EXAMPLE 6— continued

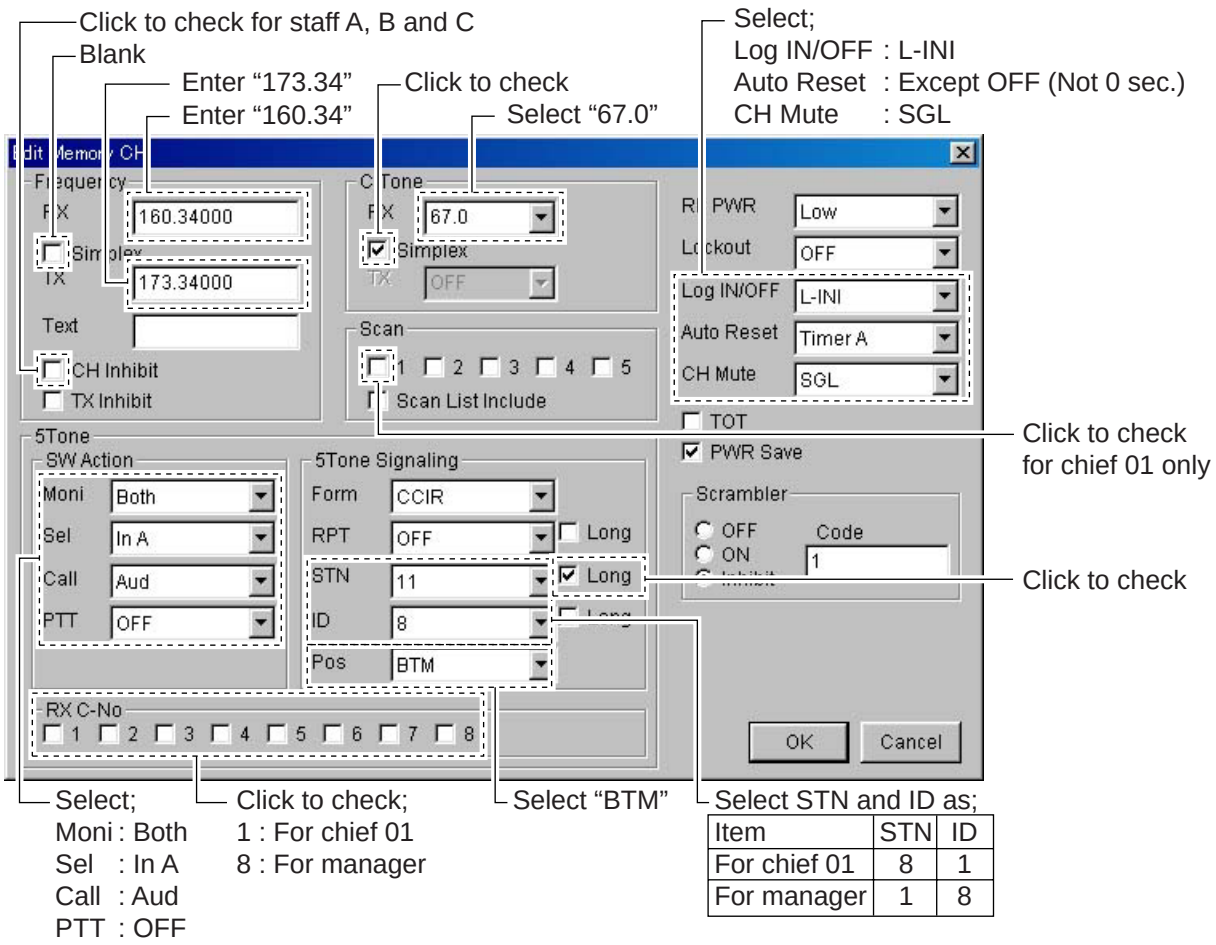
2. Key & Display Assign



Assign [Moni(Audi)], [TX Code CH Up]*1, [TX Code CH Down]*1, [CH Up]*2, [CH Down]*2, [Scan A]*2 and [Call] to the desired switch.
*1Not required for the manager.
*2Not required for the manager, staff A, B and C.

3. In the MEMORY CHANNEL

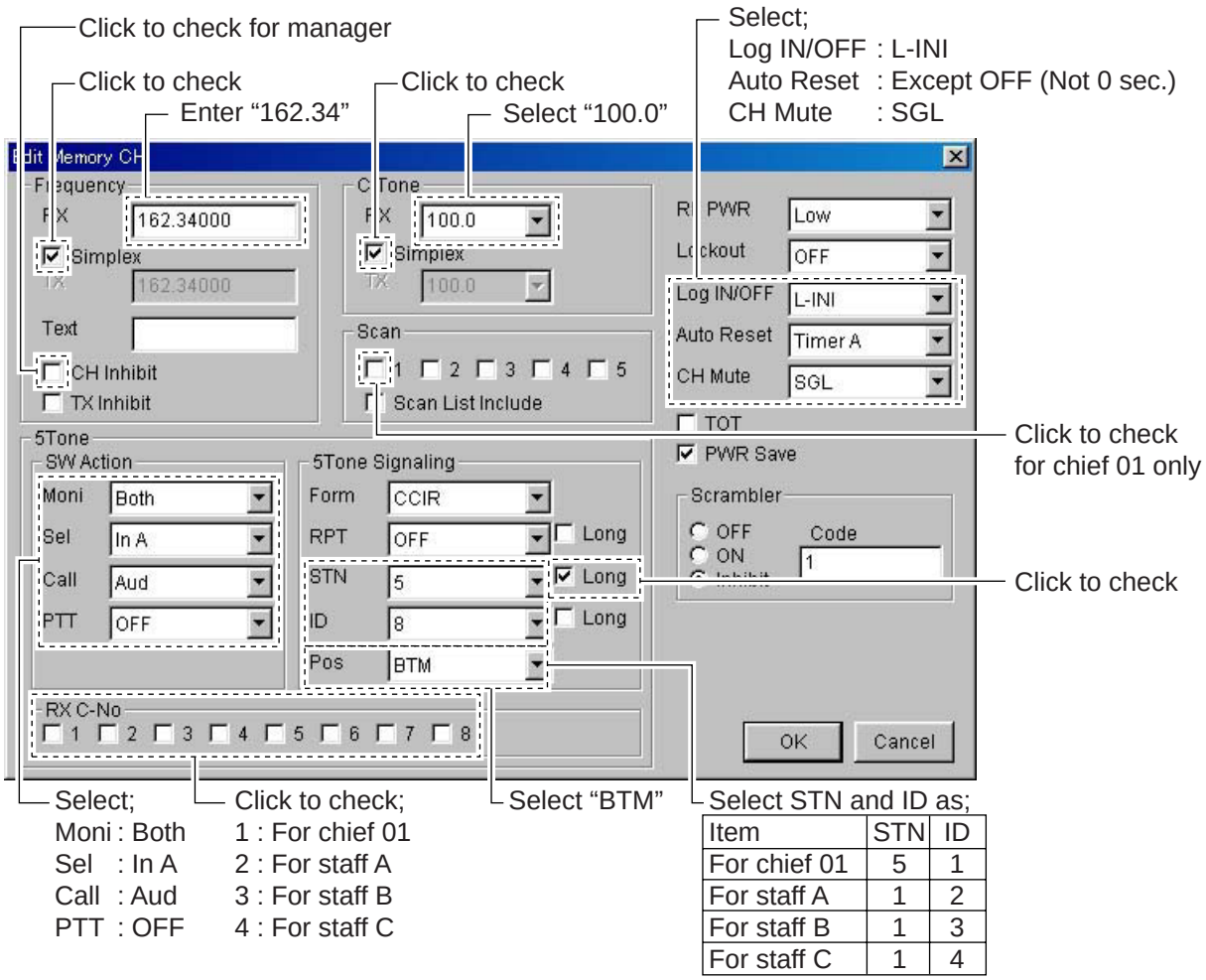
3-1 Frequency 1 (f1)



Item	STN	ID
For chief 01	8	1
For manager	1	8

14-6 EXAMPLE 6— continued

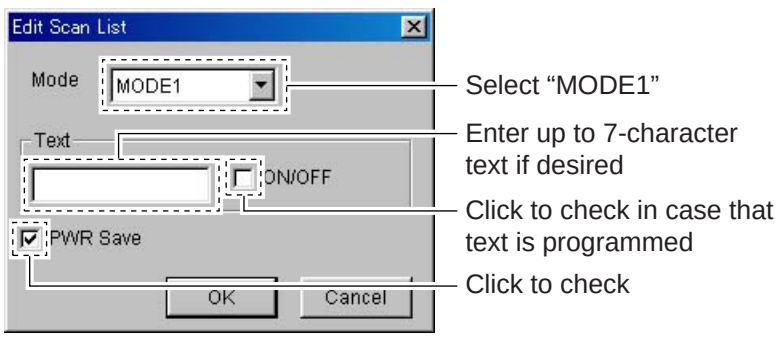
3-2 Frequency 2 (f2)



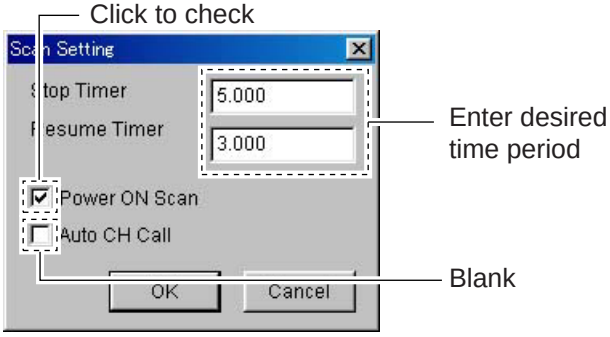
Item	STN	ID
For chief 01	5	1
For staff A	1	2
For staff B	1	3
For staff C	1	4

4. In the Scan— transceiver for chief 01 only

4-1 Scan List



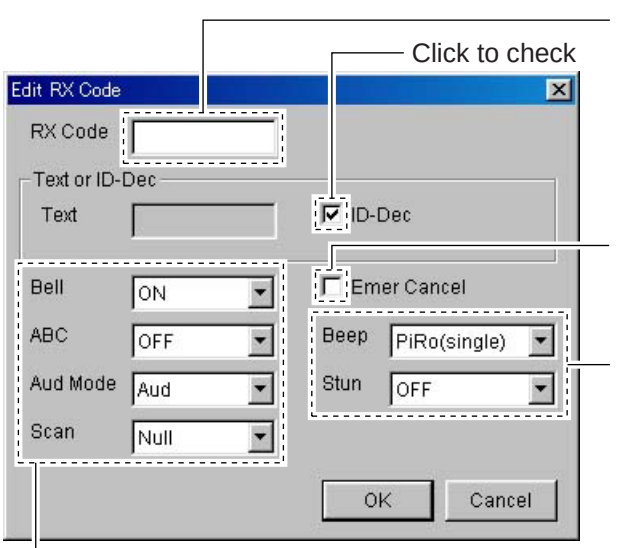
4-2 Scan Setting



14-6 EXAMPLE 6— continued

5. In the 5TONE

5-1 RX CODE CHANNEL



Enter;
Channel 1: 01001
Channel 2: 01202
Channel 3: 01203
Channel 4: 01204
Channel 8: 55000

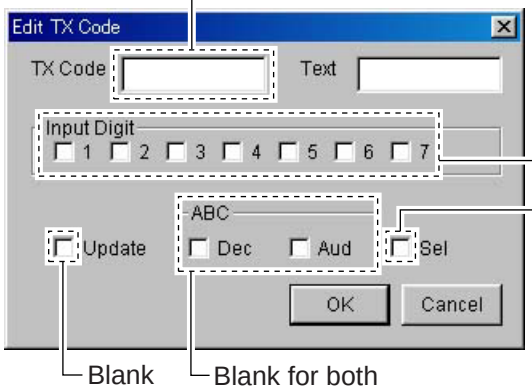
Click to check

Blank

Select;
Beep : Channel 1–4 PiRo(single)
Channel 8 PiPi(single)
Stun : OFF

Select;
Bell : Channel 1–4 ON
Channel 8 Blink
ABC : OFF
Aud Mode : Aud
Scan : Null

5-2 TX CODE CHANNEL



Enter; Channel 1 : 01001
Channel 2 : 01202
Channel 3 : 01203
Channel 4 : 01204
Channel 5 : 012✻✻
Channel 8 : 55000

Blank

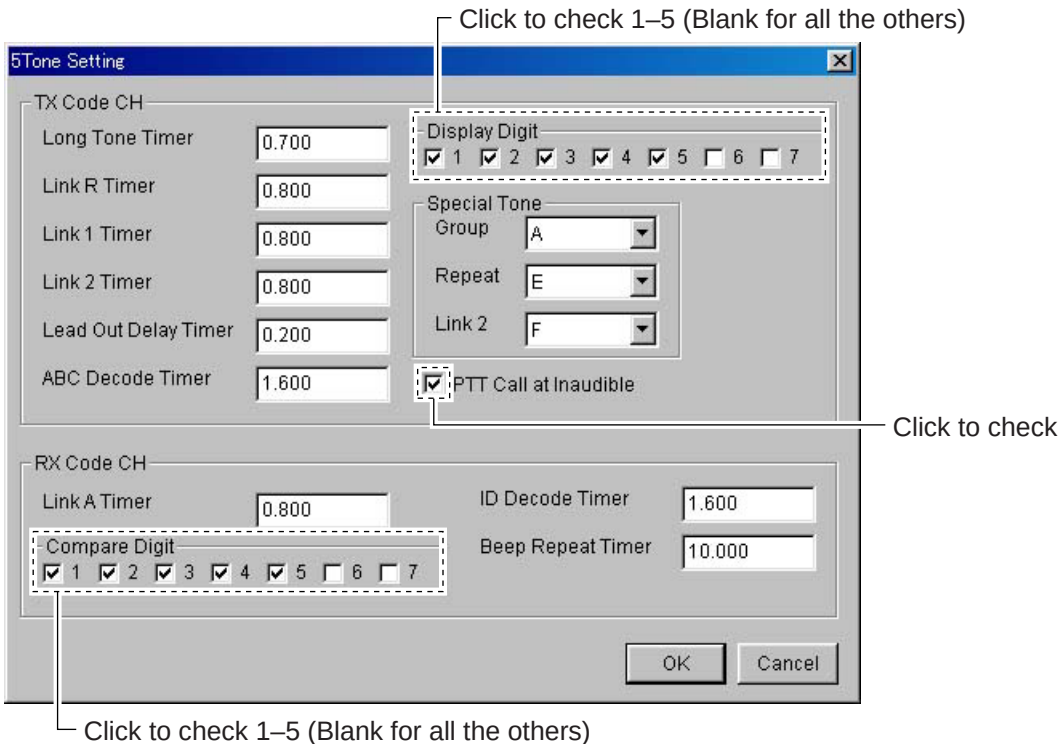
Click to check in;
channel 2–5 for chief 01
channel 1, 3, 4 for staff A
channel 1, 2, 4 for staff B
channel 1–3 for staff C's transceiver.

Blank

Blank for both

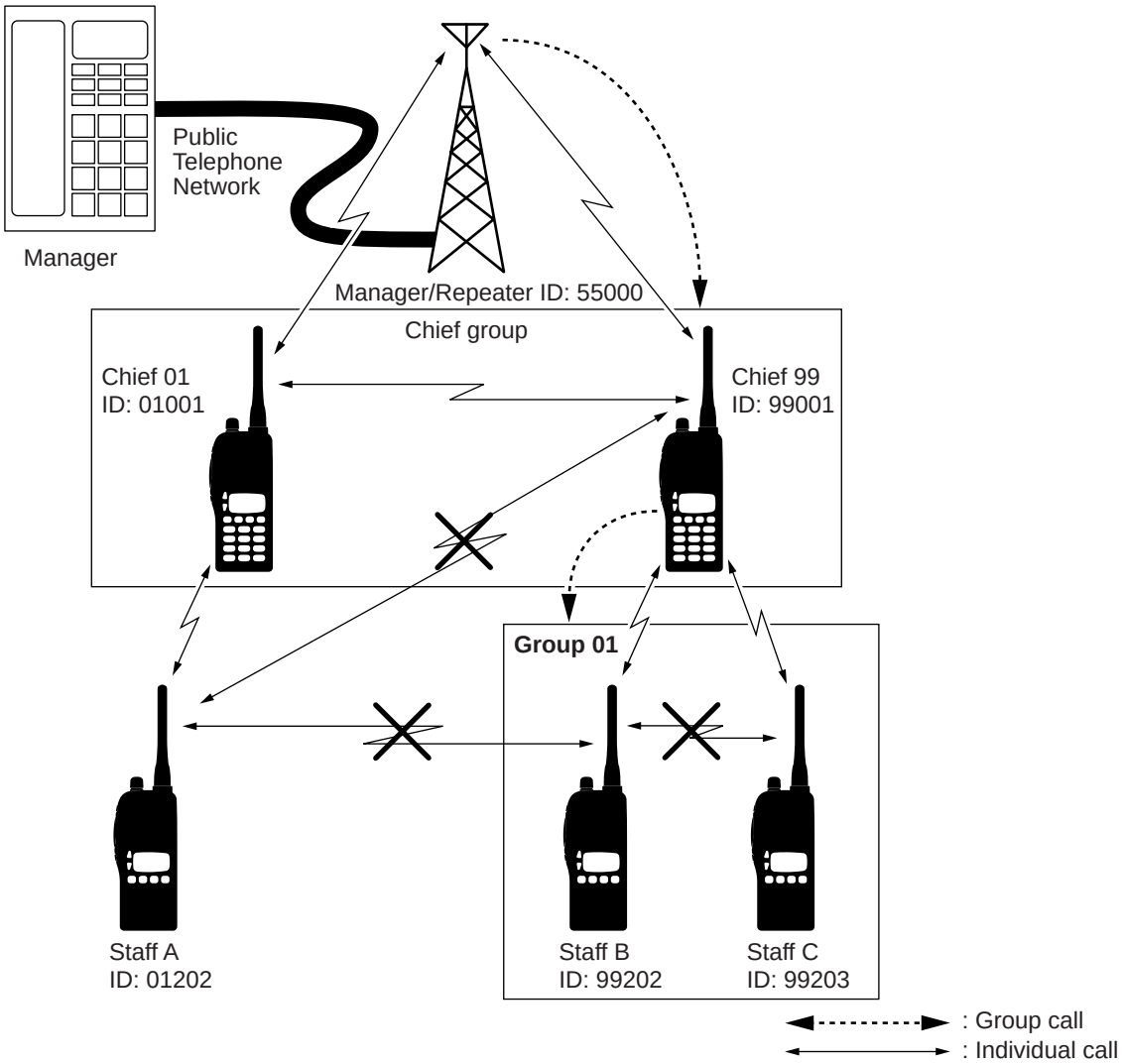
14-6 EXAMPLE 6— continued

5-3 5TONE SETTING



14-7 EXAMPLE 7

■ Conditions



The manager	: Can call to chief(s) with both an individual and group call through a repeater, from a telephone.
Each chief	: Can call to the manager's telephone with an individual call through a repeater, using the "f1" setting. Can call between chiefs with an individual call using the "f2" setting. Can call to designated staff only with both an individual and group call using the "f2" setting. (Cannot call staff in an another group.)
Each staff	: Can call to their chief with an individual call, using the "f2" setting only.
Operating frequency	: f1 160.3400 MHz (Rx), 173.3400 MHz (Tx) f2 162.3400 MHz (Simplex)
CTCSS	: f1 67 Hz f2 100 Hz

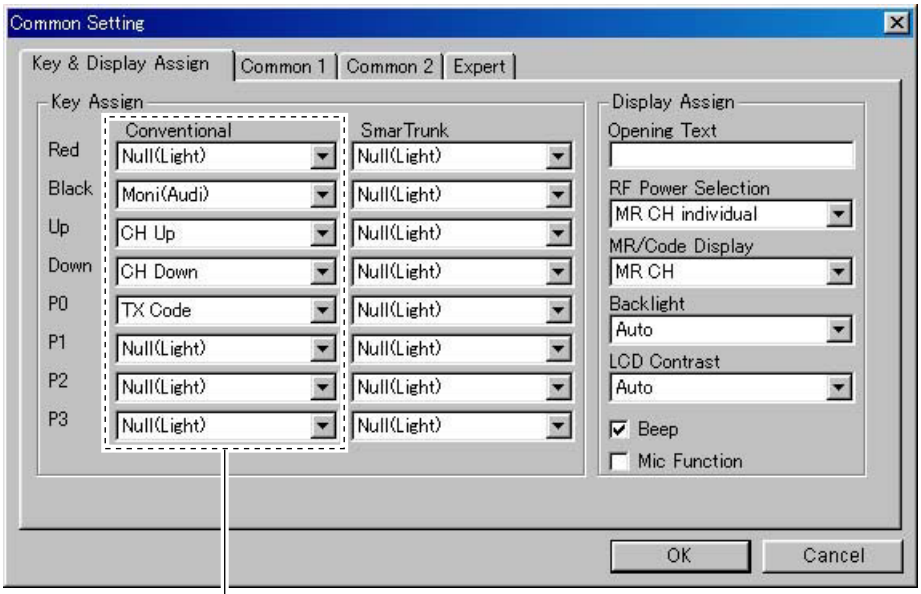
■ Settings

1. Model Type

Select "PMR (5Tone/DTMF)" in the Model Menu.

14-7 EXAMPLE 7— continued

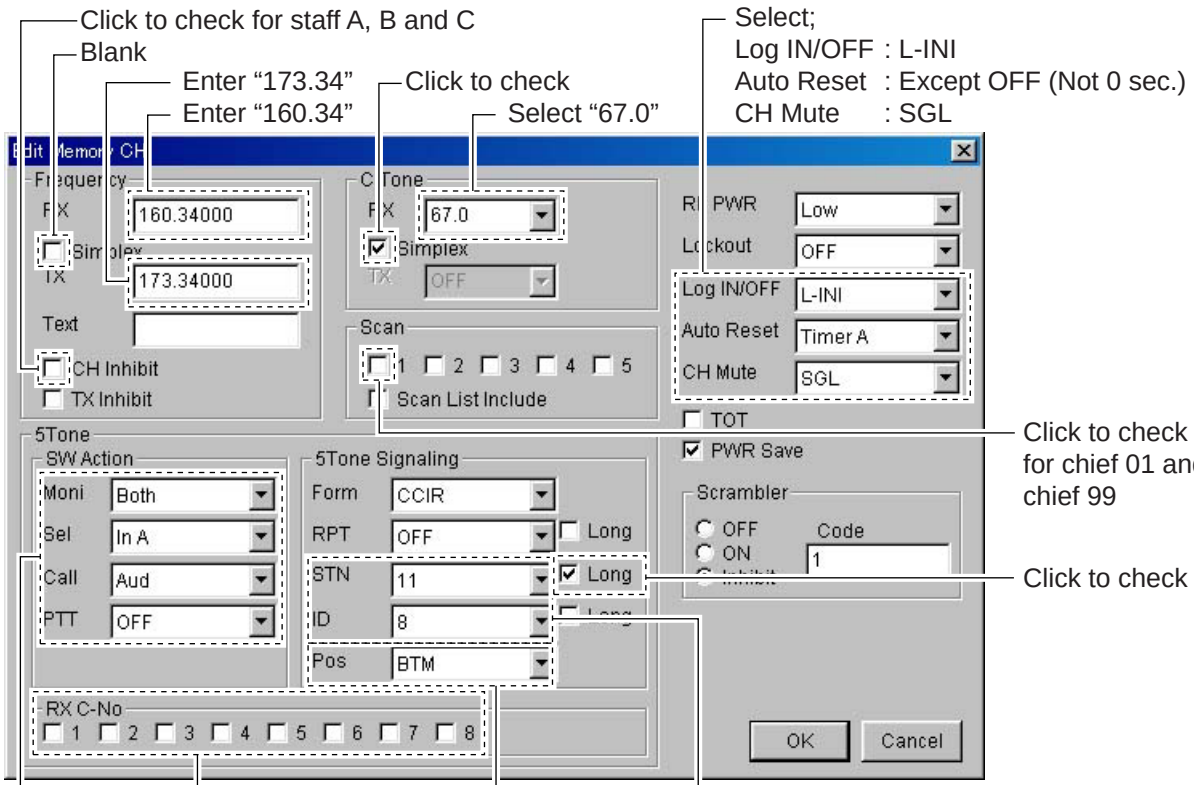
2. In the KEY & DISPLAY ASSIGN



Assign [Moni(Audi)], [TX Code CH Up]*, [TX Code CH Down]*, [CH Up]*, [CH Down]*, [Scan A]* and [Call] to the desired switch.
*Not necessary for the staff A, B and C.

3. In the MEMORY CHANNEL

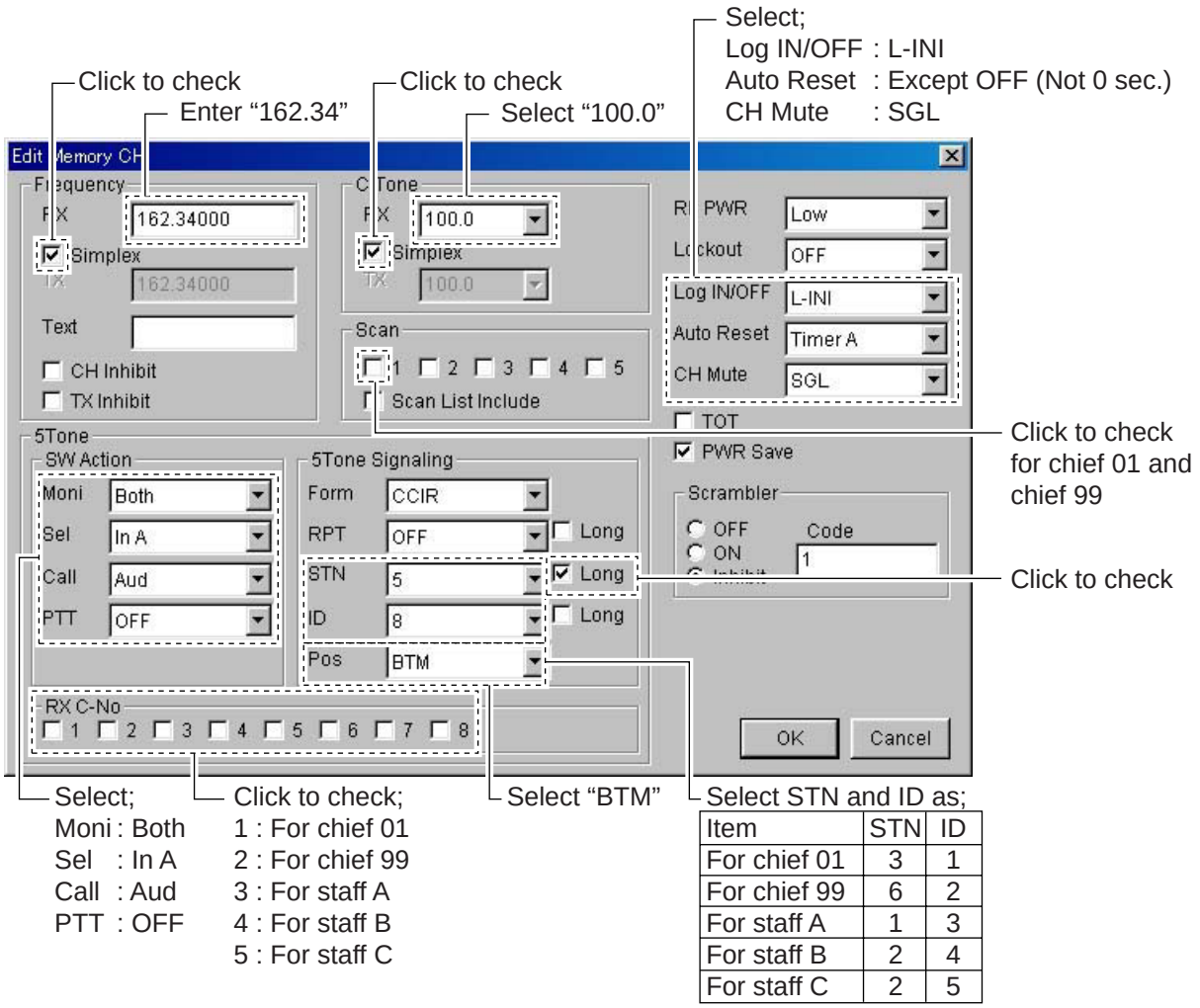
3-1 Frequency 1 (f1)



Item	STN	ID
For chief 01	8	1
For chief 99	8	2

14-7 EXAMPLE 7— continued

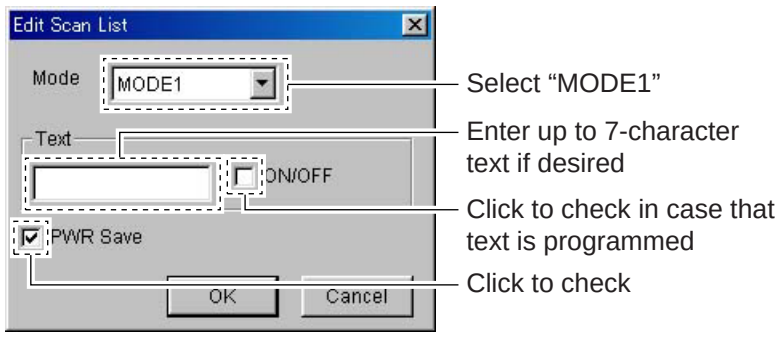
3-2 Frequency 2 (f2)



Item	STN	ID
For chief 01	3	1
For chief 99	6	2
For staff A	1	3
For staff B	2	4
For staff C	2	5

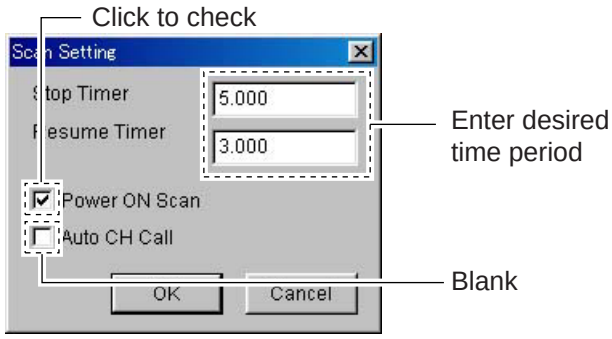
4. In the Scan— transceivers for chief 01 and chief 99 only

4-1 Scan List



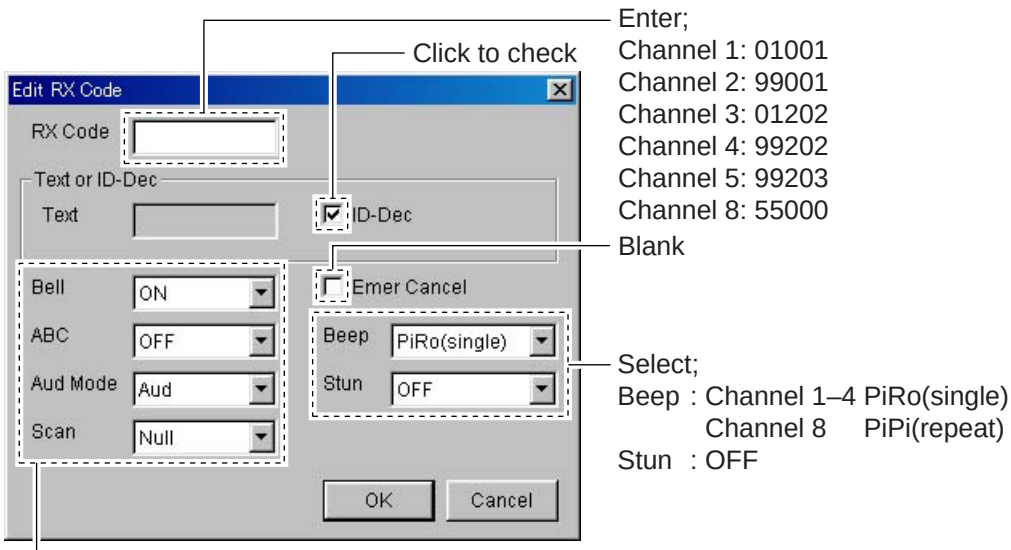
14-7 EXAMPLE 7— continued

4-2 Scan Setting— transceivers for chief 01 and chief 99 only

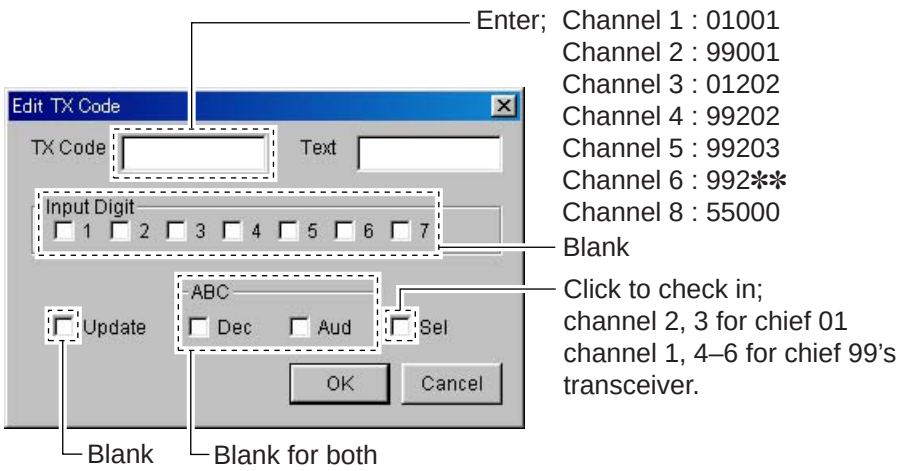


5. In the 5TONE

5-1 RX CODE CHANNEL

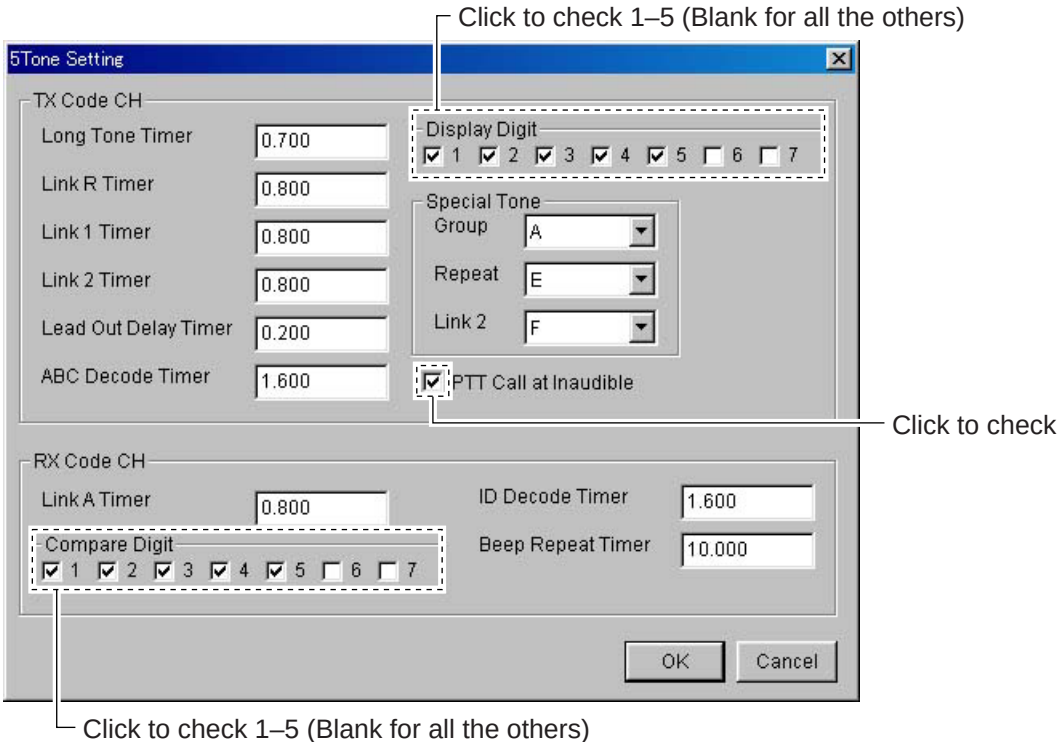


5-2 TX CODE CHANNEL



14-7 EXAMPLE 7— continued

5-3 5TONE SETTING



15 OPTIONAL UNIT INSTALLATION

■ GENERAL

The IC-F3G series transceiver can be installed with one of the following optional units.

UT-96 2/5-TONE UNIT
Required for 2-tone (LMR selection) or 5-tone (PMR selection) decode operation, includes ANI function.

UT-105 SmarTrunk II™ Logic Board
Required to access SmarTrunk II™ network/subscriber.

UT-108 DTMF DECODER UNIT
Required for DTMF (PMR selection) decode operation, includes pager and ANI functions.

UT-109 VOICE SCRAMBLER UNIT (Non-rolling type)
UT-110 VOICE SCRAMBLER UNIT (Rolling type)
Required if secure communication is necessary.

IMPORTANT!:
Extra hardware setup is required **BEFORE** installing either voice scrambler unit.
See ***15-2 HARDWARE SETUP*** (p. 85) for details.

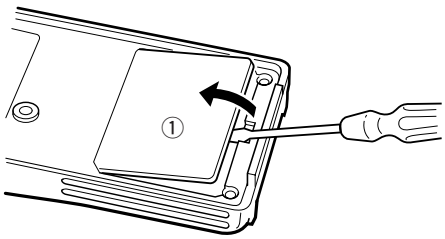
Go to 15-2 HARDWARE SETUP

UT-111 LTR® TRUNKING UNIT
Required to access LTR® trunking network.

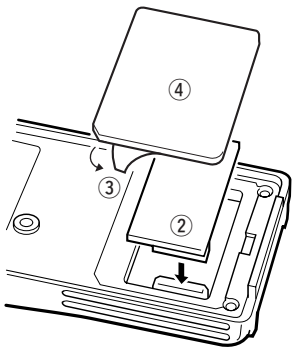
15-1 INSTALLATION

① Remove the optional connector access cover (named 2251 OPT sheet).
• Use a flat head screw driver or a similar flat instrument, and insert into the hollow of the chassis, then lift and take away the cover to open the service window. (The removed cover cannot be used again.)

⚠ **WARNING!:**
NEVER attempt to remove the optional connector cover using your finger nails, this may result in injury.

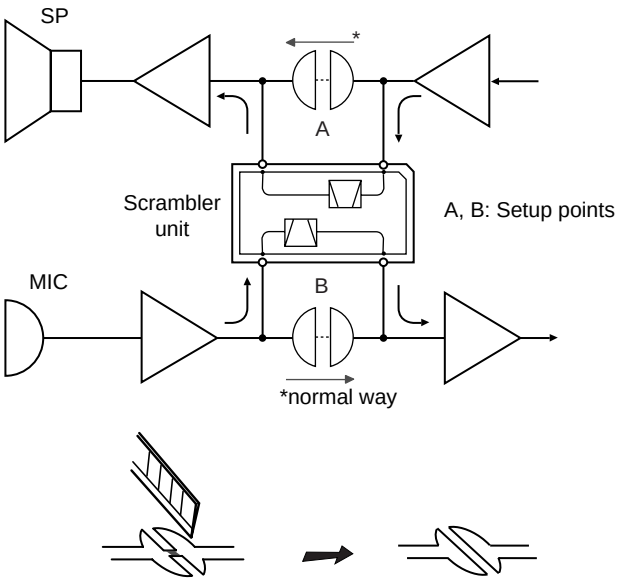


② Attach the desired optional unit. Insert the connector tightly to avoid bad contact.
③ Remove the paper backing of 2251 OPT sheet supplied with the transceiver.
④ Attach the new 2251 OPT sheet to the service window.
⑤ Program the necessary information using the CS-3G, or with EX-2095 or EX-2284 before operation.



15-2 HARDWARE SETUP

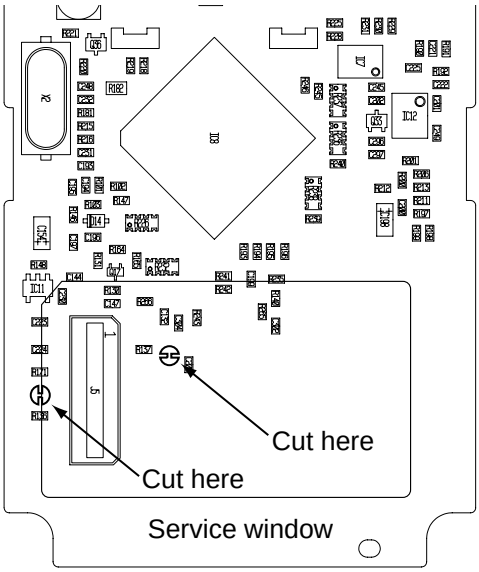
The following hardware setup is required before installing the optional UT-109/UT-110 VOICE SCRAMBLER UNIT, as the scrambler unit is installed into the microphone amplifier circuit (for transmission) and AF circuit (for reception).



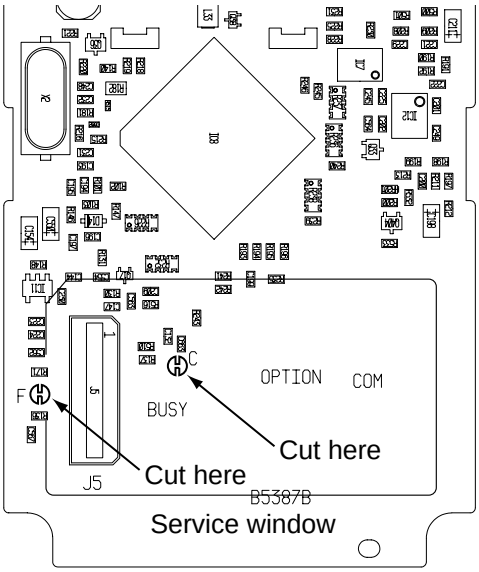
■ Setup instruction

① Turn power OFF, then remove the battery pack.
② Remove the optional connector access cover, instructed in ① in ***15-1 INSTALLATION*** (p. 84).
③ Cut the printed circuit pattern on the PC board, described below.
④ Install the voice scrambler unit, instructed in ② in ***15-1 INSTALLATION*** (p. 84).
⑤ Attach the new 2251 OPT sheet as instructed in ③ and ④ in ***15-1 INSTALLATION*** (p. 84).

• Setup points for the IC-F3GT/GS



• Setup points for the IC-F4GT/GS



16 PAGER/CODE SQUELCH

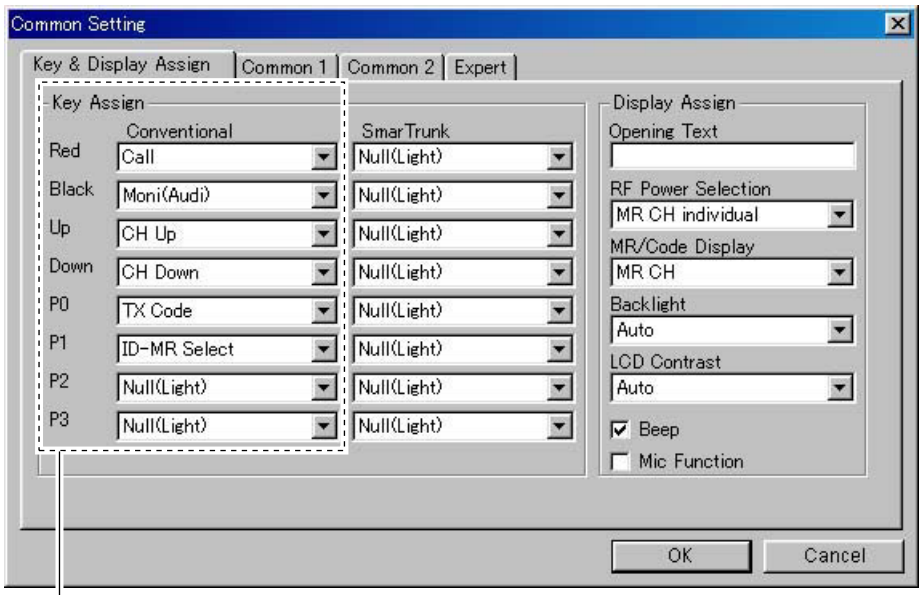
■ *The pager/code squelch operation can be made when the optional UT-108 with particular programming is installed, to be compatible with the IC-V68/U68 pager/code squelch operation.*

16-1 PAGER FUNCTION

The pager function is convenient for individual/group call and stand-by. Of course, beep emission and bell indication can be made when a matched pager code is received.
For the IC-F3G series transceiver to be compatible with the IC-V68/U68 pager function, observe the following points.

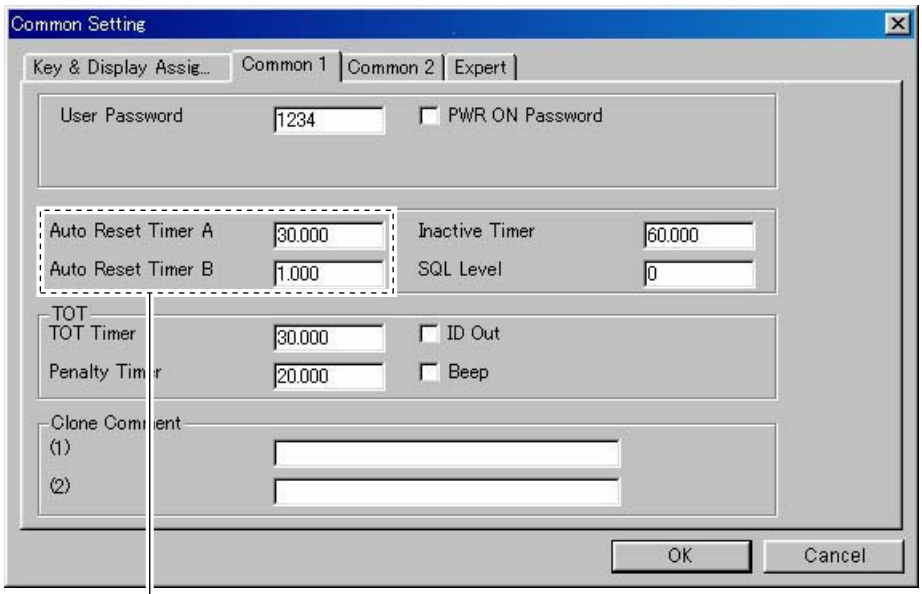
1. Model Type
Select “PMR (5Tone/DTMF)” in the Model Menu.

2. In the KEY & DISPLAY ASSIGN sheet



Assign [Call], [TX Code] and [ID-MR Select] functions to desired switch.

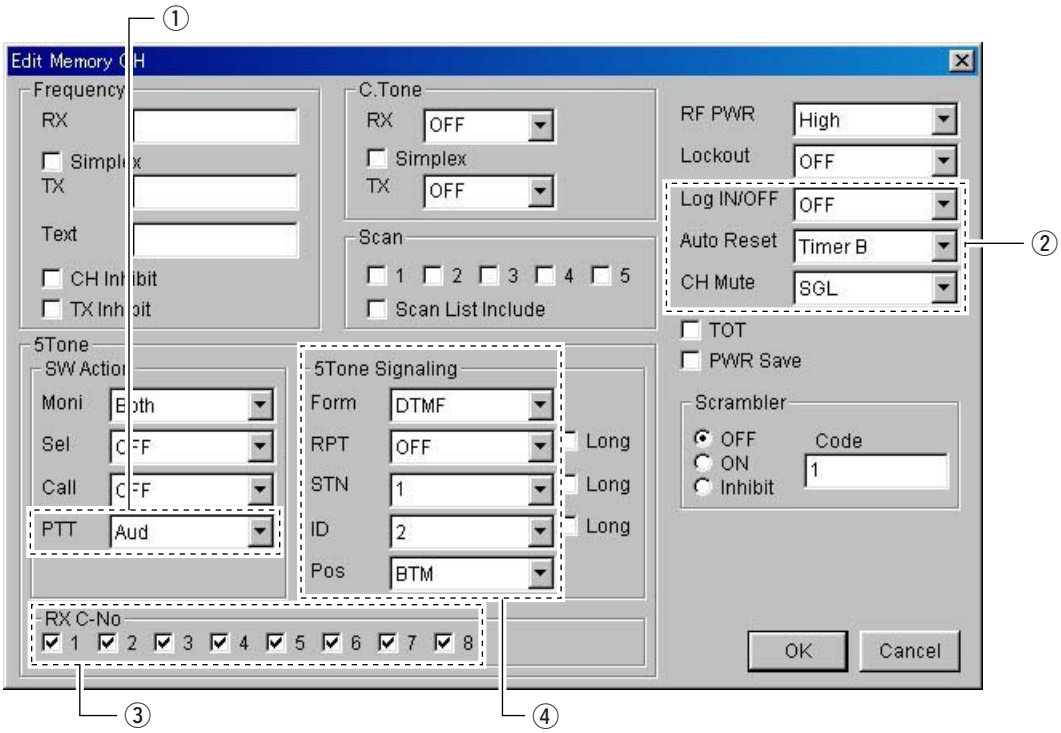
3. In the COMMON 1 sheet



Program to around 1.0 sec. for either the Auto Reset Timer A or B.

16-1 PAGER FUNCTION— continued

4. In the MEMORY CHANNEL



① **SW Action— PTT**
Select “Aud”.

② **Log IN/OFF, Auto Reset, CH Mute**
Log IN/OFF: Select “OFF”
Auto Reset : Select the timer to around 1.0 sec. which is programmed in **Auto Reset Timer A** or **B** in ***COMMON 1*** sheet (p. 86).
CH Mute : Select “SGL”

Go to Auto Reset Timer A, Auto Reset Timer B

③ **RX C-No**
Click to check the channel to which transceiver’s own station code is programmed in the ***RX CODE CHANNEL*** (p. 88).

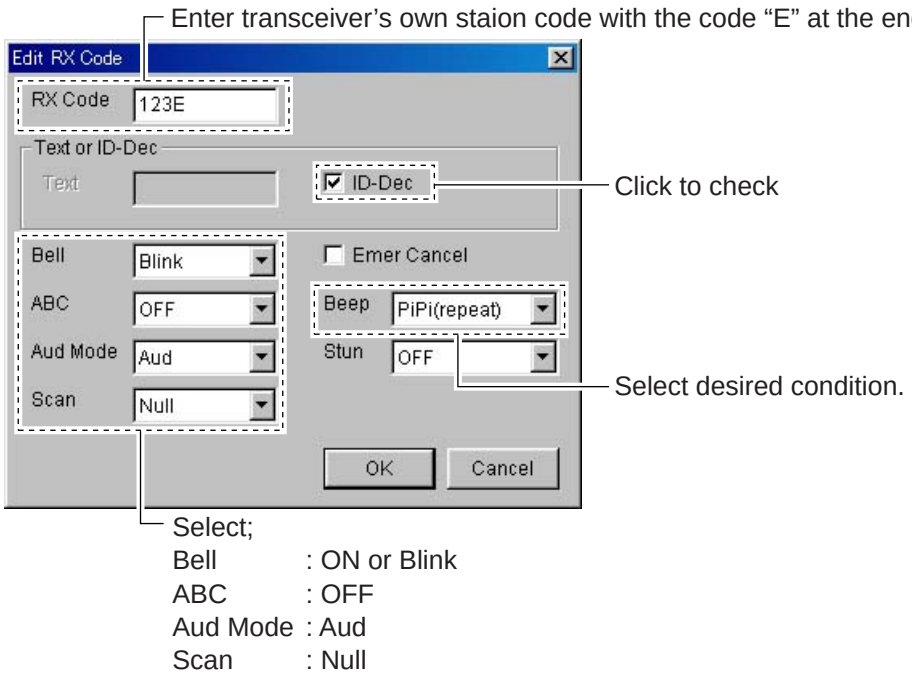
Go to RX CODE CHANNEL

④ **5Tone Signaling— From, RPT, STN, ID, Pos**
Form : Select “DTMF”
RPT : Select “OFF”
STN : Select a channel with a specified station/group code which is programmed in the ***TX CODE CHANNEL*** (p. 88)
ID : Select the channel with which transceiver’s own station code is programmed in the ***TX CODE CHANNEL*** (p. 88)
Pos : Select “BTM”

Go to TX CODE CHANNEL

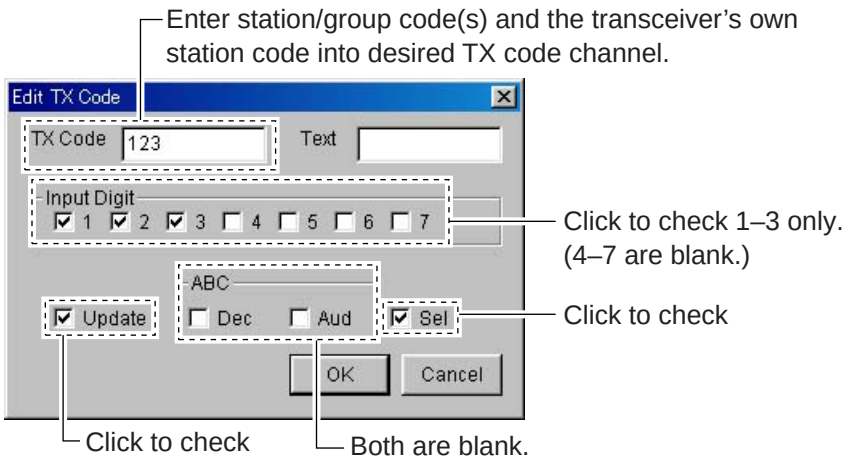
16-1 PAGER FUNCTION— continued

5. In the RX CODE CHANNEL



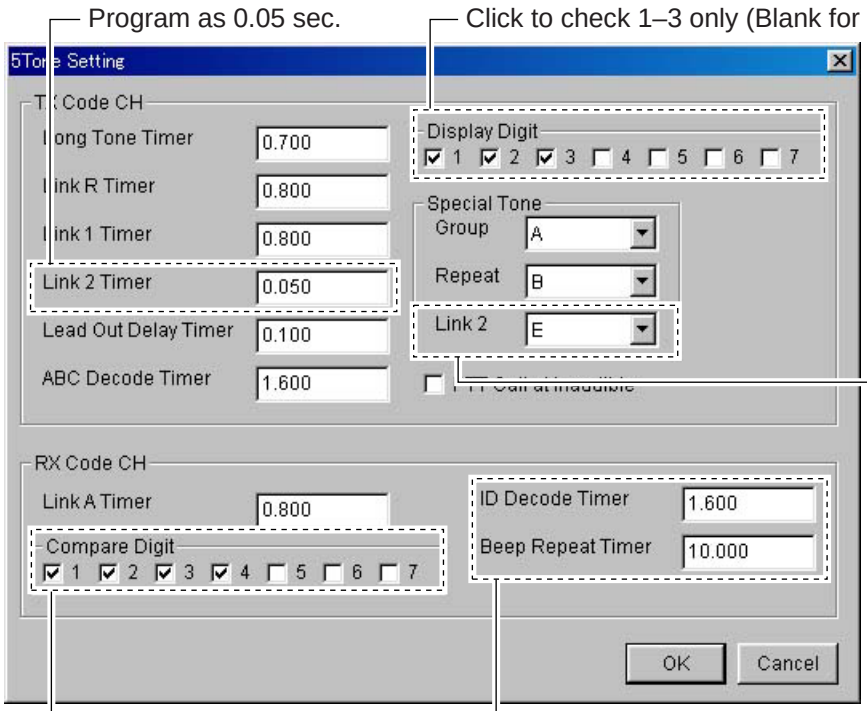
Program the transceiver's own station code with the above condition into the desired channel.

6 In the TX CODE CHANNEL



16-1 PAGER FUNCTION— continued

7. In the 5TONE SETTING

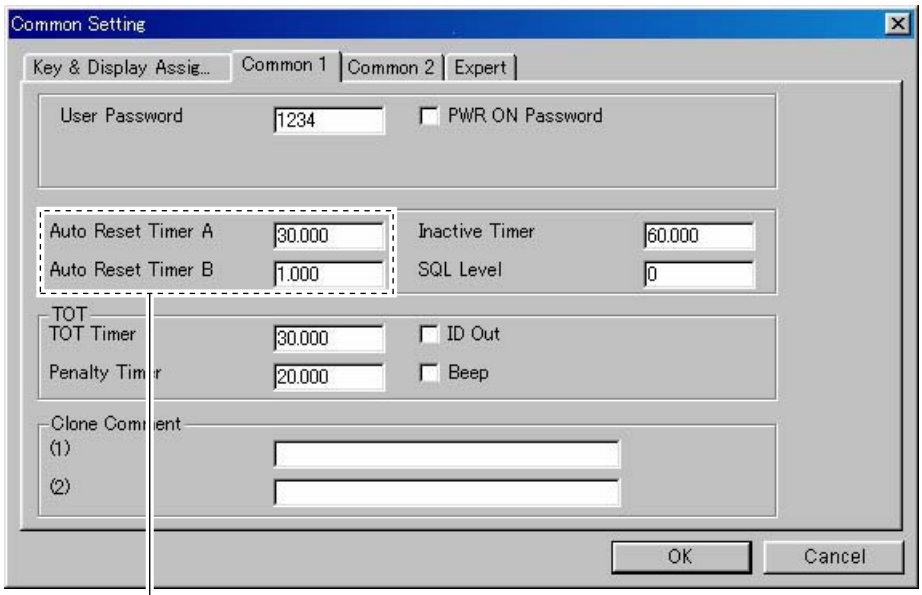


16-2 CODE SQUELCH FUNCTION

The code squelch function allows quiet stand-by— opens squelch and audio can be heard only when a matched code signal is received. (Activates as the CTCSS squelch operation.)
For the IC-F3G series transceiver to be compatible with the IC-V68/U68 code squelch function, observe the following points.

1. Model Type
Select “PMR (5Tone/DTMF)” in the Model Menu.

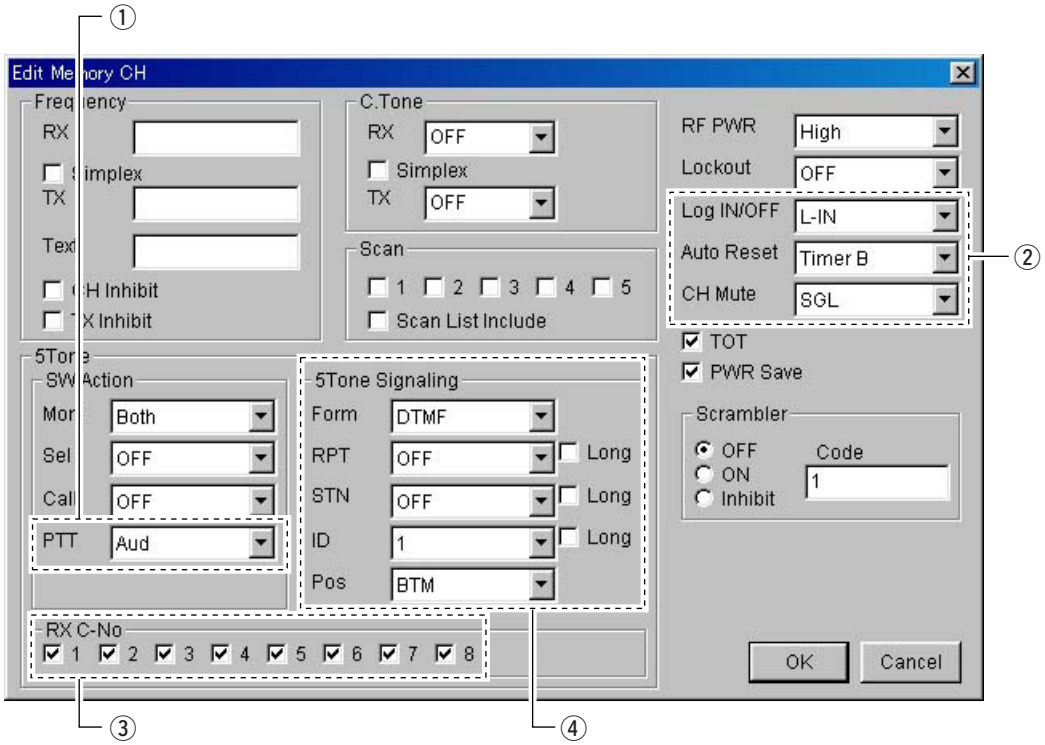
2. In the COMMON 1 sheet



Program to around 1.0 sec. for either the Auto Reset Timer A or B.

16-2 CODE SQUELCH FUNCTION— continued

3. In the MEMORY CHANNEL



① **SW Action— PTT**
Select “Aud”.

② **Log IN/OFF, Auto Reset, CH Mute**
Log IN/OFF: Select “L-IN”
Auto Reset : Select the timer to around 1.0 sec. which is programmed in **Auto Reset Timer A** or **B** in ***COMMON 1*** sheet (p. 90).
CH Mute : Select “SGL”

Go to Auto Reset Timer A, Auto Reset Timer B

③ **RX C-No**
Click to check the channel to the desired code which is programmed in the ***RX CODE CHANNEL*** (p. 92).

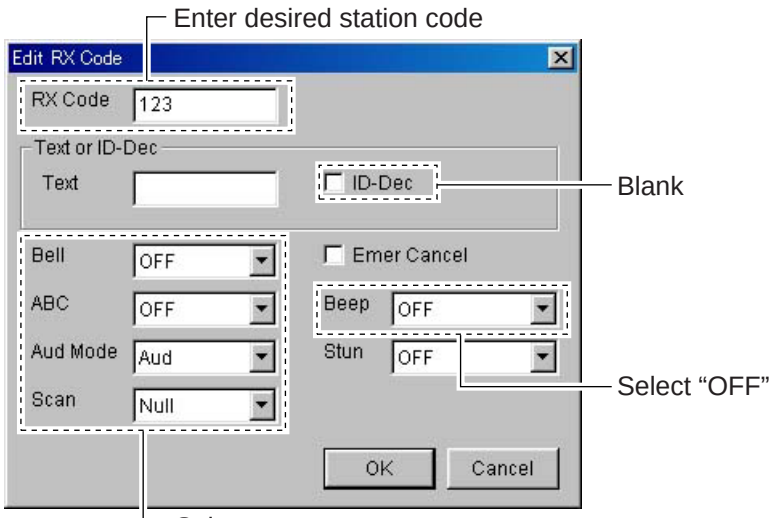
Go to RX CODE CHANNEL

④ **5Tone Signaling— From, RPT, STN, ID, Pos**
Form : Select “DTMF”
RPT : Select “OFF”
STN : Select “OFF”
ID : Select the channel to the desired code which is programmed in the ***TX CODE CHANNEL*** (p. 92)
Pos : Select “BTM”

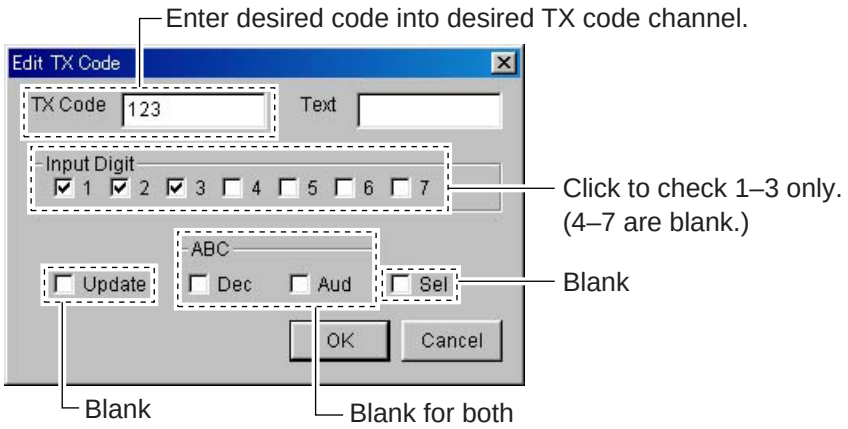
Go to TX CODE CHANNEL

16-2 CODE SQUELCH FUNCTION— continued

4. In the RX CODE CHANNEL

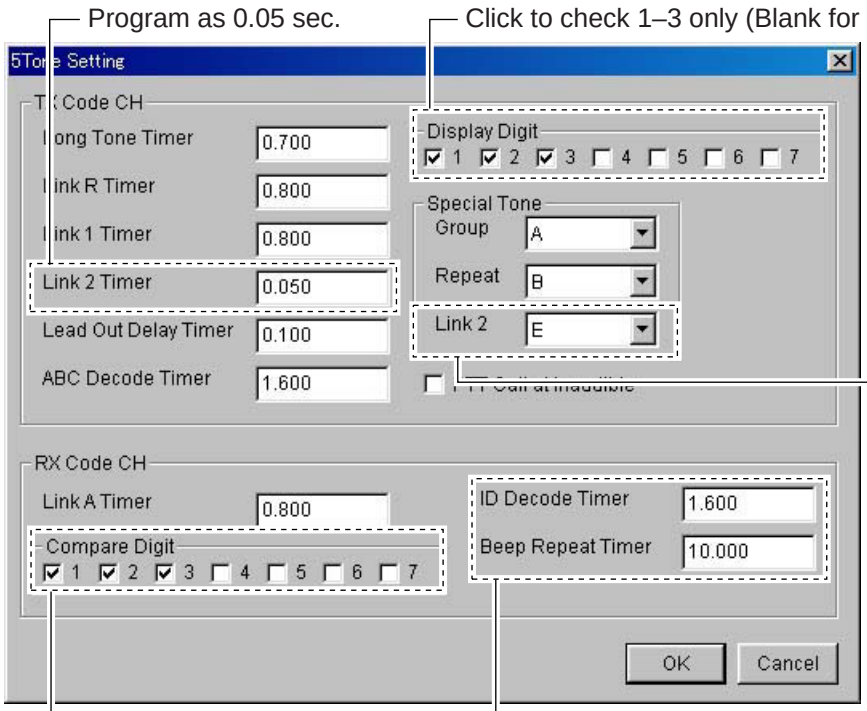


5 In the TX CODE CHANNEL



16-2 CODE SQUELCH FUNCTION— continued

6. In the 5TONE SETTING



17 SPECIAL FUNCTIONS

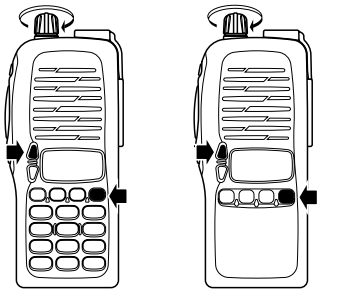
17-1 CPU REVISION INDICATION

The revision number of the CPU can be indicated on the LCD. It is convenient when confirming the CPU revision without a CS-F3G installed PC.

■ Operation

Turn the power ON while pushing the [P3] and [▲].
("t" is indicated at the end of the revision number for the Thailand versions.)

KEY operation



IC-F3GT/F4GT IC-F3GS/F4GS

Turn the transceiver power on while pushing and holding [P3] and [▲] switches.

17-2 USER SET MODE

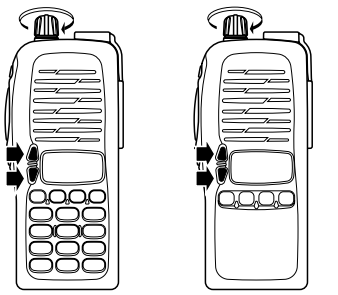
The LCD contrast, beep emission, backlighting condition and noise squelch level can be selected/adjusted from the transceiver's keypad.

■ Operation

Turn the power ON while pushing the [▲] and [▼].

- Push [P0] to switch the LCD contrast between AUT and LOW.
- Push [P1] to switch the beep emission between ON and OFF.
- Push [P2] to switch the LCD backlighting condition between ON, AUT and OFF.
- Push [P3] to enter the noise squelch level adjusting mode.
  - Push [▲] or [▼] to adjust the noise squelch level within 0–255 range, push [P3] again to set and return to previous indication.

KEY operation



IC-F3GT/F4GT IC-F3GS/F4GS

Turn the transceiver power on while pushing and holding [▲] and [▼] switches.

Numbers

A

B

C

D

E

S

T

U

V

W

Count on us!

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