iCOM

PROGRAMMING MANUAL

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IC-V210T
IC-H21T

Code 2751

3116 (H21)

FOREWORD

This manual explains in detail how to use and program each of the available functions in the **IC-V210T** and **IC-H21T** VHF TRANSCEIVERS. If you have a MASTER transceiver for clone programming in your Service Center, it is not necessary to program each transceiver in stock.

About half of the data in these transceivers can be programmed without external programming equipment. With an EX-704 DATA PROGRAMMER ver 1.0 or 2.0 plus an EX-1033 EXPANSION ROM BOARD (known as an EX-704 ver. 3.0), you can modify and clone almost all data in these transceivers according to customers' requirements.

TABLE OF CONTENTS

1-1 Mode construction

The IC-V210T and IC-H21T have 2 major modes. OPERATING mode and PROGRAMMING mode.

OPERATING MODE

This mode is used for normal transmitting and receiving.

PROGRAMMING MODE

This mode consists of 2 programming methods as follows:
- Cloning from the master transceiver
- Direct programming in SET mode

1-2 Channel description

The IC-V210T and IC-H21T have 4 types of channels.
- Memory channels
- TX 5-tone channels
- RX 5-tone channels
- Answer back channels

See Section 3 for channel programming details.

MEMORY CHANNEL

100 memory channels are provided on each transceiver. Each memory channel contains all of the following data:
1. RX frequency
2. RX tone
3. TX shift
4. TX tone
5. Repeater code
6. Format
7. Scan channel (Lockout)
8. TX inhibit
9. Low power
10. T.O.T. (Time-Out Timer)
11. Repeater lockout
12. TX 5-tone channel
13. Reset switch
14. Hanger switch (IC-V210T only)
15. Channel mute operation
16. Log IN/OFF
17. Long tone repeater
18. Long tone call
19. Long tone ID
20. Link tone repeater
21. Link tone call
22. Link tone ID
23. Receive number selection
24. Duration time

There are 2 types of SET mode. user SET mode and dealer SET mode. In the transceiver for direct programming.

Dealer SET mode and CLONING mode can program the functions of each channel such as operating frequency. 5-tone code. CTCSS tone. etc. User SET mode can program only some of these functions. See Section 2 for details.

TX 5-TONE CHANNEL

Each transceiver has 30 TX 5-tone channels. Tch 00 ~ Tch 29.

Each TX 5-tone channel contains all of the following data:
1. TX 5-tone code
2. ID out
3. ABC decode
4. Comment
5. Answer back display

RX 5-TONE CHANNEL

Each transceiver has 4 RX 5-tone channels. Rch 1 ~ Rch 4.

Each RX 5-tone channel contains all of the following data:
1. RX 5-tone code
2. ABC out
3. Bell display
4. Beep out
5. EXC out
6. Auto scan
7. ID decode
8. Decode action
9. Auto TX
10. Status digit
11. ID (Rch 1 only)

NOTE: Each transceiver also has a group code channel (Rch G). The data of Rch G is used for transceiver performances when the transceiver is called by a group code. All data of Rch G cannot be programed. but can be cloned from the EX-704 version 3.0.

ANSWER BACK CHANNEL

Each transceiver has 3 answer back channels: ABch 1. ABch 2. and ABch 3. Each one contains different answer back data.

There are 2 programming methods:
- Cloning from the master transceiver
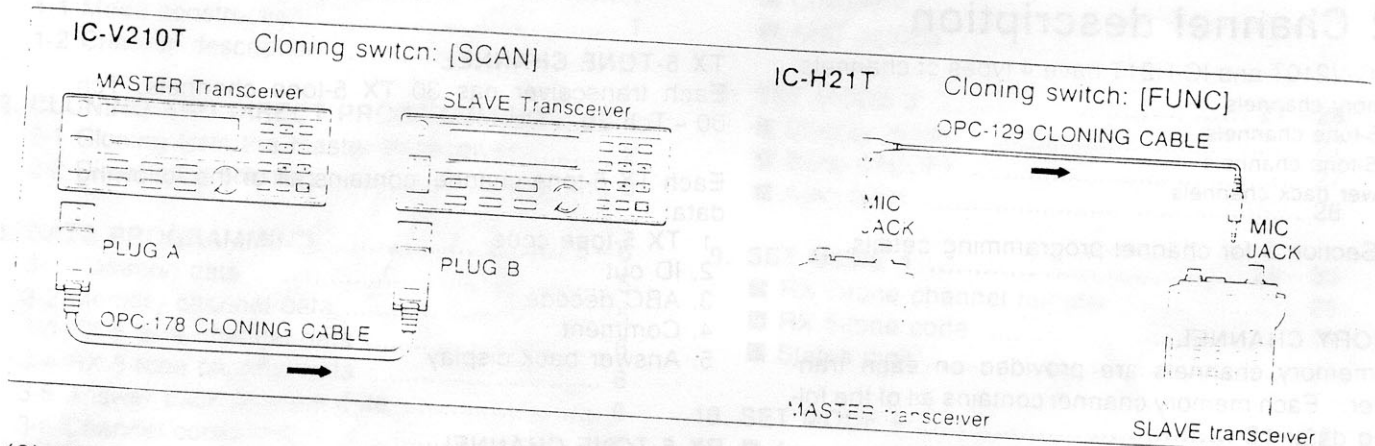- Direct programming

2-1 Cloning from the master transceiver

When you have a master transceiver, cloning is the easiest way to program. This method programs transceivers to contain completely the same data as the master transceiver.

When programming a transceiver to contain most, but not all, of the data of the master transceiver, perform cloning then modify the data by direct programming.

NOTE: Clonings from the IC-V210T to the IC-H21T and vice versa are impossible. Attempts at cloning may destroy data.

(1) Presetting

Connect a slave transceiver to the master transceiver as shown in the diagram below.

IC-V210T   Cloning switch: [SCAN]

MASTER Transceiver   SLAVE Transceiver

PLUG A   PLUG B

OPC-178 CLONING CABLE

IC-H21T   Cloning switch: [FUNC]

OPC-129 CLONING CABLE

MIC JACK   MIC JACK

MASTER transceiver   SLAVE transceiver

(2) Operation

1) Turn OFF the power of both transceivers.

2) Check the cloning cable connection between the master transceiver and the slave transceiver.

3) On the master transceiver, while pushing and holding [SCAN] or [FUNC], turn ON the power. And, hold [SCAN] or [FUNC] until a beep sounds.

4) Release [SCAN] or [FUNC] of the master transceiver.
- "CLONE RX" appears and a beep sounds again.
- The master transceiver is in the cloning condition.

5) On the slave transceiver, while pushing and holding [SCAN] or [FUNC] turn ON the power. And, hold [SCAN] or [FUNC] until a beep sounds.

6) Release [SCAN] or [FUNC] of the slave transceiver.
- "CLONE RX" appears and a beep sounds again.
- The slave transceiver is in the cloning condition.

7) On the master transceiver, push [SCAN] or [FUNC]. [SCAN] or [FUNC].
- "CLONE RX" changes to "CLONE TX."
- Data sending starts.

8) When cloning finishes, a beep sounds.
- Both transceivers enter OPERATING mode.
- When data is sent incorrectly, "ERROR" appears. See the box below when "ERROR" appears.

WHEN "ERROR" APPEARS

1) Turn OFF the power of both transceivers.

2) Check the cloning cable's direction and connection condition. Then reconnect the cable.

3) Begin the cloning procedure again.

2-2 Direct programming

(1) SET mode description

The IC-V210T and IC-H21T offer the following 2 SET modes.
- User SET mode
- Dealer SET mode

USER SET MODE

Users can enter this mode freely.

SET mode 1 ~ 4 can be used and up to 9 items are programmed in this mode.

NOTE: Programmable items can be restricted by cloning from the EX-704 version 3.0. See the EX-704 version 3.0 programming manual for details.

DEALER SET MODE

Only dealers who know the dealer passcode can enter this mode.

SET mode 1 ~ 5 can be used and all 26 items are programmed in this mode.

NOTE: All data in SET mode can be programmed in dealer SET mode.

(2) Accessing the SET mode condition

After the transceiver has entered this condition once, SET mode can be selected anytime until the power is turned OFF. (See instructions below.)

To cancel the SET mode condition. turn OFF power and turn ON power again.

Step 1

USER SET MODE

1) Turn OFF power.

2) While pushing [SET], turn ON power.
   • Long beep is emitted.

3) Release [SET].
   • "PASSWORD" appears when the password has been programmed.

4) Enter the password from the keyboard.

5) "SET MODE" appears. and then the transceiver automatically enters OPERATING mode.
   • Now the transceiver is in the user SET mode condition.

DEALER SET MODE

1) Turn OFF power.

IC-V210T:
2) While pushing [SET] and [RESET], turn ON power.
   • Long beep is emitted.

IC-H21T:
2) While pushing and holding [SET] and [LIGHT], turn ON power.
   • Long beep is emitted.

3) Release the switches.
   • "PASSCODE" appears.

4) Enter the dealer passcode from the keyboard.

5) "DEALER" appears. and then the transceiver automatically enters OPERATING mode.
   • Now the transceiver is in the dealer SET mode condition.

Step 2   set mode I

(3) Entering SET mode

1) Be sure the transceiver is in the SET mode condition. (p.3)

2) Push [SET] then push the desired SET mode number (1 ~ 5). when the operating channel number appears on the left side of the function display.

See Sections 6 ~ 10 to program each function.

When the transceiver is in the SET mode.

- The PTT and [CALL] switches cannot be used.
- Transceiver can receive signals. but 5-tone codes cannot be decoded.

Dar   set en Dar Tone

WHEN ENTERING SET MODE 1 FROM THE USER SET MODE CONDITION.

When entering SET mode 1 from the user SET mode condition. you MUST select a memory channel number to be programmed before entering since you cannot access "Memory channel number" in the user SET mode. Moreover. changing the memory channel number to be programmed is NOT possible. once the transceiver has entered SET mode 1.

If you change the memory channel number to be programmed in SET mode 1. exit SET mode 1 and select the memory channel number. then enter SET mode 1 again.

FUNCTIONS	DEALER SET MODE	USER SET MODE	CLONING FROM A MASTER TRANSCEIVER
SET MODE 1 (Memory channel data)			
1 Memory channel number	•	–	
2 RX frequency	•	–	•
3 TX shift	•	–	•
4 RX tone	•	–	•
5 TX tone	•	–	•
6 Receive number selection	•	•	•
7 Long tone	•	–	•
8 Repeater code	•	–	•
9 TX inhibit	•	–	•
10 Scan channel (Lockout)	•	•	•
11 Repeater lockout	•	–	•
12 Reset switch	•	–	•
13 Hanger switch (IC-V210T only)	•	–	
SET MODE 2 (TX 5-tone channel data)			
1 TX 5-tone channel number	•	•	
2 TX 5-tone code	•	•	•
3 Comment	•	•	•
4 ABC decode	•	–	•
SET MODE 3 (Common data)			
1 Display mode	•	•	–
2 Beep ON/OFF	•	•	–
3 Auto reset	•	–	–
SET MODE 4 (RX 5-tone channel data)			
1 RX 5-tone channel number	•	•	
2 RX 5-tone code	•	•	•
3 Status digit	•	–	•
SET MODE 5 (Answer back channel data)			
1 Answer back channel 1 tone code	•	–	•
2 Answer back channel 2 tone code	•	–	•
3 Answer back channel 3 tone code	•	–	•

• Applicable
– Not applicable

NOTE: The functions to be programmed in user SET modes can be restricted by cloning from the EX-704 version 3.0.

3-1 Common data

1) Enter dealer SET mode condition.
   • [RESET] or [LIGHT] and [SET] + Power ON. (p. 3)

2) Enter SET mode 3.
   • [SET] then [3]. (p. 4)

3) Program the contents which you need to change.

4) To exit SET mode 3, push [RESET].

REFERENCE

The other 29 common data described at right can be programmed using the EX-704 DATA PROGRAMMER version 3.0.

3-2 Memory channel data

Each memory channel (0 ~ 99) can be programmed as a CTCSS memory channel, as a 5-tone memory channel, or as a 5-tone + CTCSS memory channel.

1) Enter deler SET mode condition.
   • [RESET] or [LIGHT] and [SET] + Power ON. (p. 3)

2) Enter SET mode 1.
   • [SET] then [1]. (p. 4)

3) Select the memory channel number to be programmed. (p. 18)

4) Decide if the memory channel will be programmed as a CTCSS memory channel, as a 5-tone memory channel, or as a 5-tone + CTCSS memory channel.

5) See the boxes below for the list of required contents for each type of memory channel. Contents not listed (e.g. Nos. 6, 7, 8 in CTCSS) should not be programmed.

Right column reference list:

- IF frequency
- IF frequency (−) sign
- Power saver (IC-H21T)
- Scan mode
- 10key select
- T.O.T. alarm
- Call action
- Scan at power ON
- Monitor at power ON
- Digit to indicate
- Digit to change
- Digit to decode
- User password
- Dealer passcode
- Time-out timer
- Power saver OFF timer (IC-H21T)
- Power saver ON timer (IC-H21T)
- Fast scan timer
- Slow scan timer
- Resume scan timer
- Burst timer
- TX mute timer
- RX mute timer
- Penalty timer
- EXC timer (IC-V210T)
- Auto reset timer
- Link1 time
- Link2 time
- Link3 time
- Long tone time
- Wait time ID
- Wait time ABC

CTCSS MEMORY CHANNEL	5-TONE MEMORY CHANNEL	5-TONE + CTCSS MEMORY CHANNEL
1 Memory channel number	1 Memory channel number	1 Memory channel number
2 RX frequency	2 RX frequency	2 RX frequency
3 Offset frequency	3 Offset frequency	3 Offset frequency
4 RX tone		4 RX tone (For mute in scanning)
5 TX tone		5 TX tone (For repeater access)
	6 Receive number selection	6 Receive number selection
	7 Long tone	7 Long tone
	8 Repeater code	8 Repeater code
9 TX inhibit	9 TX inhibit	9 TX inhibit
10 Scan channel	10 Scan channel	10 Scan channel
11 Repeater lockout		
12 Reset switch	12 Reset switch	12 Reset switch
13 Hanger switch (IC-V210T only)		

6) Select the other channels to be programmed, and proceed to steps 4 and 5.

7) To exit SET mode 1, push [RESET].

REFERENCE

The other 10 functions described at right can be programmed in each memory channel using the EX-704 DATA PROGRAMMER version 3.0.

Right column reference list:

- 5-tone system format
- Low power
- T.O.T.
- Corresponding TX 5-tone code
- Channel mute operation
- Log IN/OFF
- Link tone repeater
- Link tone call
- Link tone ID
- Duration time

3-3 TX 5-tone channel data

1) Enter dealer SET mode condition.
   • [RESET] or [LIGHT] and [SET] + Power ON. (p. 3)

2) Enter SET mode 2.
   • [SET] then [2]. (p. 4)

3) Select the TX 5-tone channel to be programmed.
   (p. 25)

4) Program the desired contents of the channel.

5) Select the other channels and program the contents.

6) To exit SET mode 2, push [RESET].

REFERENCE

The other 2 functions described below can be programmed in each TX 5-tone channel using the EX-704 DATA PROGRAMMER version 3.0.

- ID out
- ABC display

3-4 RX 5-tone channel data

1) Enter dealer SET mode condition.
   • [RESET] or [LIGHT] and [SET] + Power ON. (p. 3)

2) Enter SET mode 4.
   • [SET] then [4]. (p. 4)

3) Select the RX 5-tone channel to be programmed.
   (p. 29)

4) Program the desired contents of the channel.

5) Select the other channels and program the contents.

6) To exit SET mode 4, push [RESET].

REFERENCE

The other functions described below can be programmed in each RX 5-tone channel using the EX-704 DATA PROGRAMMER version 3.0.

- ABC out
- Bell display
- Beep out
- EXC out
- Auto scan
- ID decode
- Decode action
- Auto TX
- ID (Rch 1 only)

3-5 Answer back channel data

1) Enter dealer SET mode condition.
   • [RESET] or [LIGHT] and [SET] + Power ON. (p. 3)

2) Enter SET mode 5.
   • [SET] then [5]. (p. 4)

3) Select the answer back channel to be programmed.

4) Program the desired contents of the channel.

5) Select the other channels and program the contents.

6) To exit SET mode 5, push [RESET].

3-6 Channel combining

MEMORY CHANNEL

"Receive number selection"

"Corresponding TX 5-tone code"

TX 5-TONE CHANNEL

RX 5-TONE CHANNEL

"ABC out"

ANSWER BACK CHANNEL
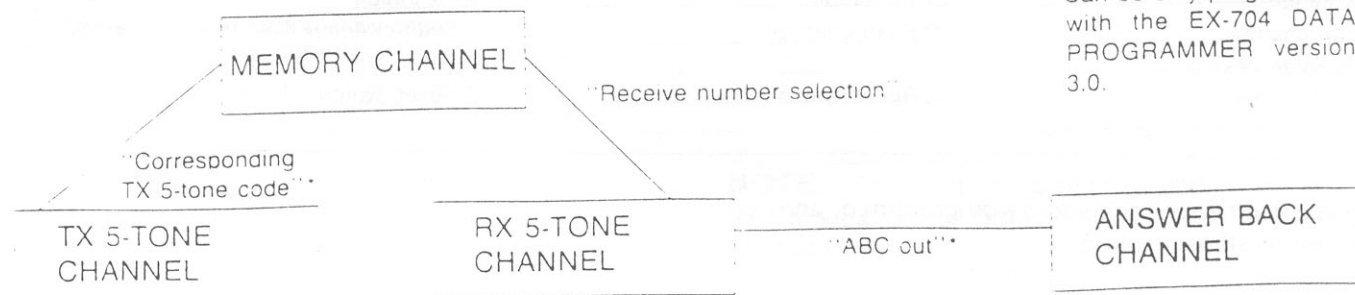
*Can be only programmed with the EX-704 DATA PROGRAMMER version 3.0.

4-1 Operating chart

This section explains only transceiver action; it does not explain programming. Activation of functions is possible or not possible depending on function programming. Use this chart to instruct users about operation.

RECEIVING

Power ON — CTCSS / 5-tone →	Memory channel selection	→ Receiving a call →	Standby condition is released → Ⓐ / Ⓑ

CTCSS / 5-tone Ⓐ / Ⓑ →	Transmitting answer back →	Receiving a voice → Memory channel selection	Reset or Transmitting →	Power OFF

TRANSMITTING

Power ON — CTCSS / 5-tone →	Memory channel selection	→ TX 5-tone channel selection →	Calling operation → Ⓒ / Ⓓ

CTCSS / 5-tone Ⓒ / Ⓓ →	Receiving an answer back →	Transmitting a voice →	Reset or Receiving →	Power OFF

4-2 Mark description

The following marks are used in this section. The meaning of each mark is as follows:

[704] : The function cannot be programmed and canceled with the transceiver, but can be programmed and canceled with the EX-704 DATA PROGRAMMER version 3.0.

[SET1] : The function can be programmed and canceled in dealer SET mode 1.

[SET2] : The function can be programmed and canceled in dealer SET mode 2.

[SET3] : The function can be programmed and canceled in dealer SET mode 3.

[SET4] : The function can be programmed and canceled in dealer SET mode 4.

[SET5] : The function can be programmed and canceled in dealer SET mode 5.

4-3 Receiving

(1) After power on

The transceiver enters the reset condition in OPERATING mode.

• The last used memory channel number appears on the left side of the function display.

Power ON → ① PASSWORD → ② SCAN AT POWER ON

→ ③ MONITOR AT POWER ON

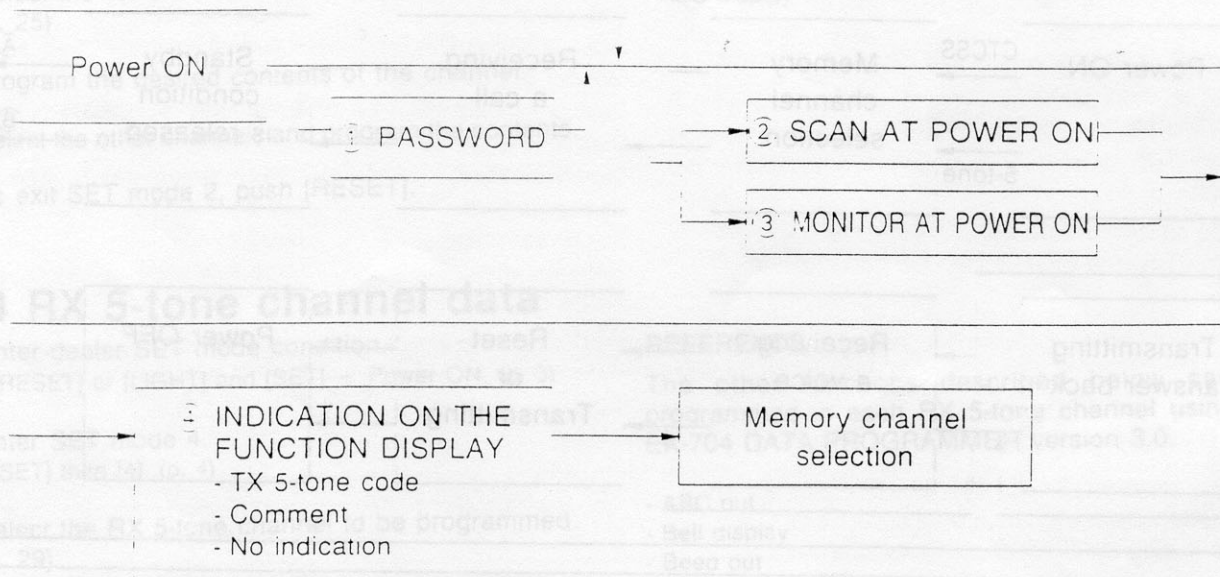→ ④ INDICATION ON THE FUNCTION DISPLAY
- TX 5-tone code
- Comment
- No indication

→ Memory channel selection

FUNCTIONS	RELATED FUNCTIONS
① PASSWORD [704] (USER PASSWORD) "PASSWORD" appears when a "User password" is programmed. • Enter the user password (4 digits).	
② SCAN AT POWER ON [704] (SCAN AT POWER ON) The scan starts automatically when the "Scan at power ON" function is programmed. • Push [SCAN] or [CH (SCAN)] to stop the scan.	- SCAN MODE [704] - FAST SCAN TIMER [704] - SLOW SCAN TIMER [704] - RESUME SCAN TIMER [704] - CHANNEL MUTE OPERATION [704]
③ MONITOR AT POWER ON [704] (MONITOR AT POWER ON) The transceiver enters the monitor condition when the "Monitor at power ON" function is programmed. • Push [RESET] to enter the monitor condition.	- AUTO RESET [SET3] - AUTO RESET TIMER [704]
④ INDICATION ON THE FUNCTION DISPLAY [SET3] (DISPLAY MODE) - When CTCSS memory channel is displayed: Only a memory channel number appears. - When a 5-tone memory channel or a 5-tone – CTCSS memory channel is displayed: A memory channel number and TX 5-tone code appears when "Display mode" is set to "CODE." A memory channel number and comment appears when "Display mode" is set to "COMMENT."	- DIGIT TO INDICATE [704] - COMMENT [SET2]

(2) Memory channel selection
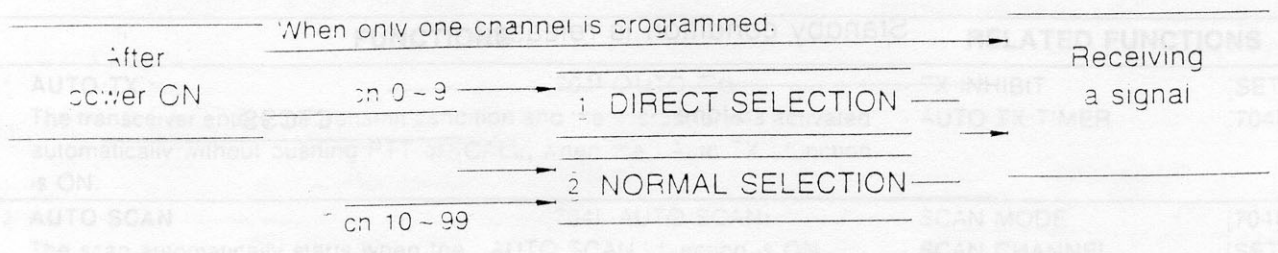
When only one channel is programmed.

After power ON
ch 0 ~ 9 ——→ 1 DIRECT SELECTION —— Receiving a signal
——→ 2 NORMAL SELECTION——

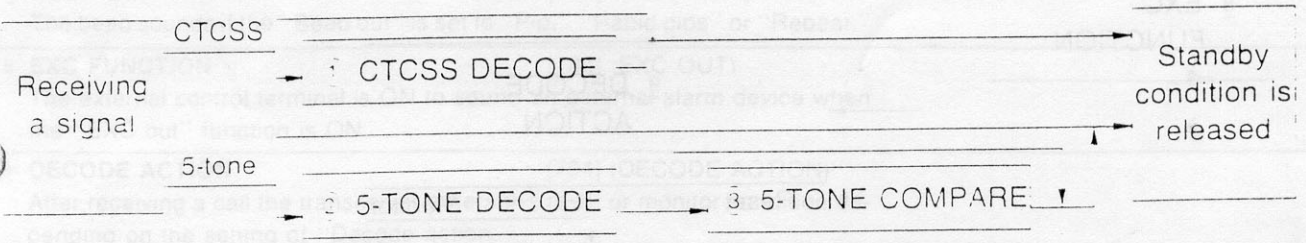ch 10 ~ 99

FUNCTIONS		RELATED FUNCTIONS	
1 DIRECT SELECTION	[704] (10KEY SELECT)		
Push the desired number key for selection of memory channels 0 ~ 9 when the "10key select" function is set to "ch."			
• The "10 key select" function can be selected as "ch" or "5TONE."			
2 NORMAL SELECTION			
Push [CH] then enter the desired memory channel number (2 digits).			
• When selecting memory channels 0 ~ 9, enter [0] before the channel number.			

(3) After receiving a signal

The signal includes

CTCSS ——→ 1 CTCSS DECODE ————————————→ Standby condition is released

Receiving a signal

5-tone ——→ 2 5-TONE DECODE ——→ 3 5-TONE COMPARE ——

FUNCTIONS		RELATED FUNCTIONS	
1 CTCSS DECODE	[SET1] (RX TONE)		
If the received signal includes a CTCSS tone, the CTCSS tone is decoded and is compared with the tone that is programmed in the "RX tone."			
• When the decoded CTCSS tone is matched with the tone that is programmed in "RX tone," standby is released.			
• If the "RX tone" has not been programmed, standby is released.			
2 5-TONE DECODE		· DIGIT TO DECODE	[704]
If the received signal includes a 5-tone code, the 5-tone code is decoded.		· WAIT TIME ID	[704]
• If no digits are indicated in "Digit to decode," standby is released.			
3 5-TONE COMPARE	[SET1] (R-NR SELECTION)	· RX 5-TONE CHANNEL NUMBER	[SET4]
The decoded 5-tone code is compared to the RX 5-tone codes programmed in "Receive number selection." If the decoded 5-tone code is matched to one of the programmed RX 5-tone codes, standby is released.		· RX 5-TONE CODE	[SET4]

(4) After standby condition is released

Standby condition is released

5-tone — CTCSS

Power ON

↓ ↓ ↓

1 AUTO TX   2 AUTO SCAN   3 ANSWER BACK

6 BELL INDICATION ← ← 4 DECODED 5-TONE INDICATION   5 ID CODE INDICATION

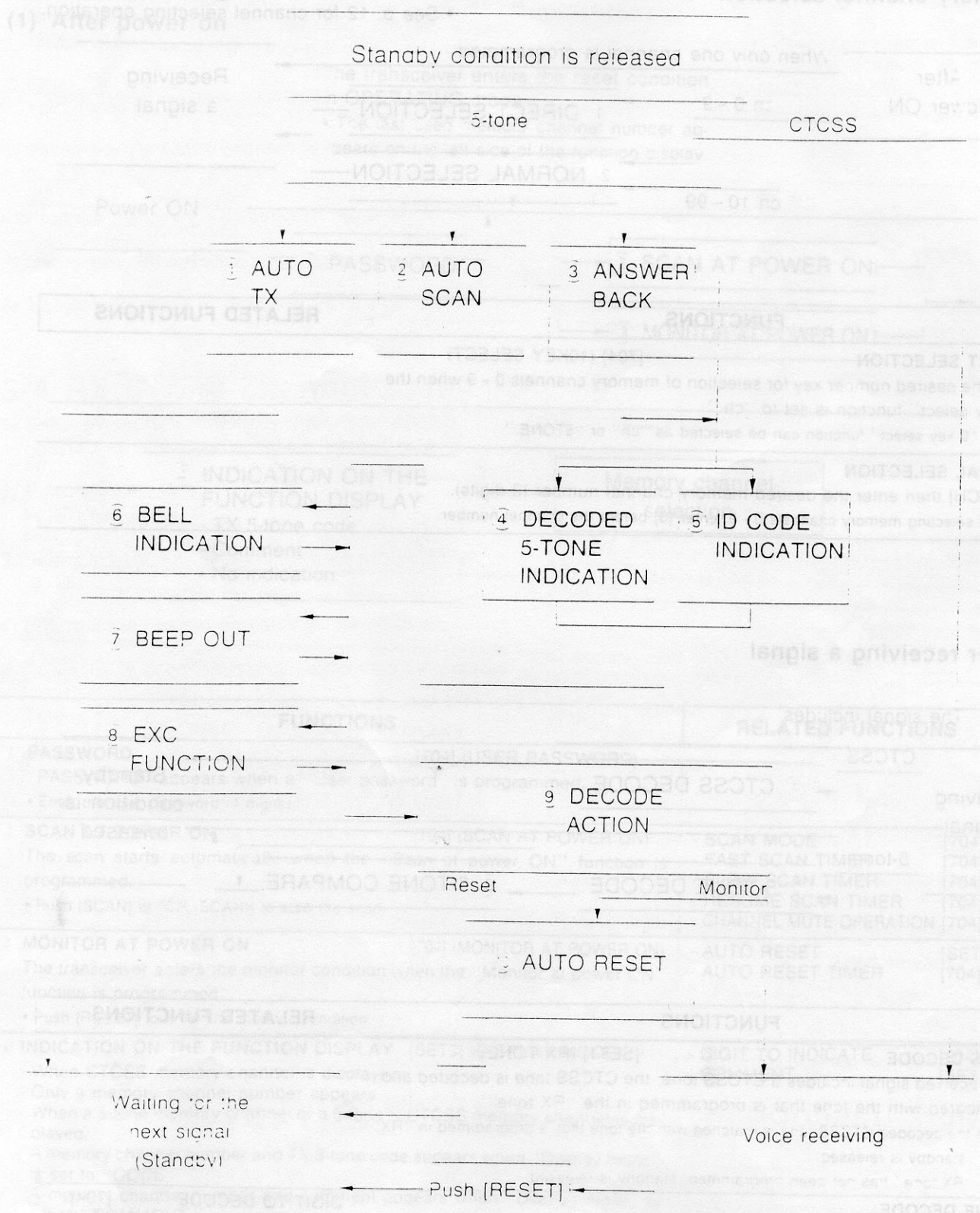7 BEEP OUT

8 EXC FUNCTION

9 DECODE ACTION

Reset   DECODE   Monitor

9 AUTO RESET

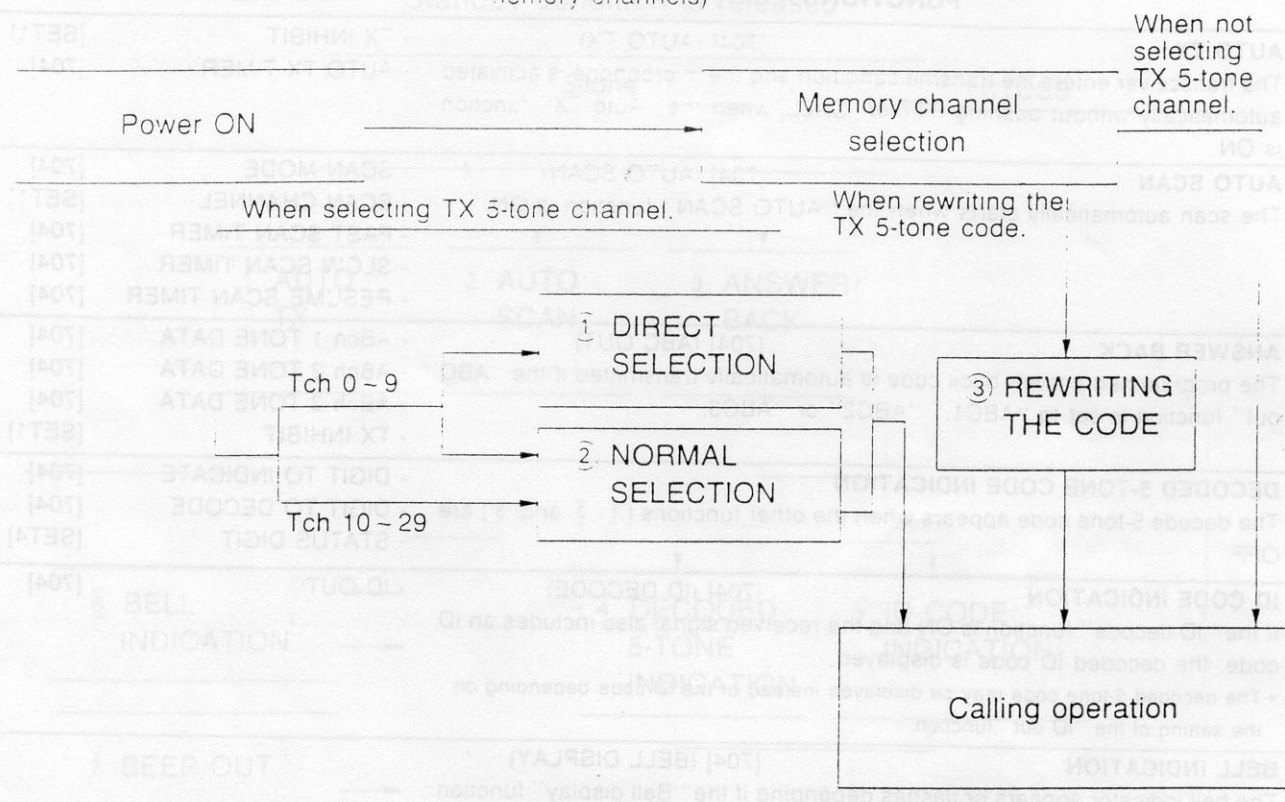Waiting for the next signal (Standby)   Voice receiving

← Push [RESET] ←

FUNCTIONS	RELATED FUNCTIONS	
1 AUTO TX [704] (AUTO TX) The transceiver enters the transmit condition and the microphone is activated automatically without pushing PTT or [CALL] when the "Auto TX" function is ON.	• TX INHIBIT • AUTO TX TIMER	[SET1] [704]
2 AUTO SCAN [704] (AUTO SCAN) The scan automatically starts when the "AUTO SCAN" function is ON.	• SCAN MODE • SCAN CHANNEL • FAST SCAN TIMER • SLOW SCAN TIMER • RESUME SCAN TIMER	[704] [SET1] [704] [704] [704]
3 ANSWER BACK [704] (ABC OUT) The programmed answer back code is automatically transmitted if the "ABC out" function is set to "ABC1," "ABC2" or "ABC3."	• ABch 1 TONE DATA • ABch 2 TONE DATA • ABch 3 TONE DATA • TX INHIBIT	[704] [704] [704] [SET1]
4 DECODED 5-TONE CODE INDICATION The decode 5-tone code appears when the other functions (1 , 2 and 5) are OFF.	• DIGIT TO INDICATE • DIGIT TO DECODE • STATUS DIGIT	[704] [704] [SET4]
5 ID CODE INDICATION [704] (ID DECODE) If the "ID decode" function is ON and the received signal also includes an ID code, the decoded ID code is displayed. • The decoded 5-tone code may be displayed instead of the ID code depending on the setting of the "ID out" function.	• ID OUT	[704]
6 BELL INDICATION [704] (BELL DISPLAY) The bell indicator appears or flashes depending if the "Bell display" function is set to "APPEAR" or "FLASHING."		
7 BEEP OUT [704] (BEEP OUT) The beep sounds if the "Beep out" is set to "Pip," "Rapid pips" or "Repeat."		
8 EXC FUNCTION [704] (EXC OUT) The external control terminal is ON to sound an external alarm device when the "EXC out" function is ON.		
9 DECODE ACTION [704] (DECODE ACTION) After receiving a call the transceiver enters the reset or monitor condition depending on the setting of "Decode action."		
10 AUTO RESET [SET3] (AUTO RESET) After the transceiver enters the monitor condition, the transceiver automatically enters the reset condition. • If you receive a voice after the call signal, set the function OFF.	• AUTO RESET TIMER	[704]

4-4 Transmitting

(1) TX 5-tone channel selection
(Only for 5-tone memory channels and 5-tone + CTCSS memory channels)

| | | When not selecting TX 5-tone channel. |

Power ON ————————————→ Memory channel selection

When selecting TX 5-tone channel. | When rewriting the TX 5-tone code.

Tch 0 ~ 9 ——→ ① DIRECT SELECTION

③ REWRITING THE CODE

② NORMAL SELECTION

Tch 10 ~ 29

Calling operation

FUNCTIONS	RELATED FUNCTIONS
① DIRECT SELECTION [704] (10KEY SELECT) Push the desired number key for selection of TX 5-tone channels 0 ~ 9 when the "10 key select" function is set to "5TONE."	
② NORMAL SELECTION Push [TONE] then enter the desired TX 5-tone channel number (2 digits). • When selecting TX 5-tone channels 0 ~ 9, enter [0] before the channel number.	
③ REWRITING THE CODE [704] (DIGIT TO CHANGE) Push [CLR] then enter the new TX 5-tone code when the "Digit to change" function is programmed to allow rewriting. • To enter the digit for group codes, use the [G] key.	• DIGIT TO INDICATE [704]

• **CHANNEL SELECTING OPERATION**

DIRECT SELECTION : Push `0 ~ 9`

NORMAL SELECTION : Push `TONE` `0 ~ 9` `0 ~ 9`

• If this period is longer than 30 sec., the display returns to the previous one.

• The transceiver does not perform transmitting or receiving during this period.

(2) Calling operation (Only for 5-tone memory channels and 5-tone – CTCSS memory channels)

	Calling signal type
1	$\tilde{2}$
2	$\tilde{3}$
3	$\tilde{1} \rightarrow \tilde{2}$
4	$\tilde{1} \rightarrow \tilde{3}$
5	$\tilde{2} \rightarrow \tilde{3}$
6	$\tilde{3} \rightarrow \tilde{2}$
7	$\tilde{1} \rightarrow \tilde{2} \rightarrow \tilde{3}$
8	$\tilde{1} \rightarrow \tilde{3} \rightarrow \tilde{2}$

CALLING SIGNAL CONSTRUCTION

$\tilde{1}$ REPEATER CODE $\tilde{2}$ TX 5-TONE CODE $\tilde{3}$ ID CODE

Push [CALL] to transmit a calling signal. http://www.qsl.net/pe3hmp
• If the "TX inhibit" function is ON, transmission is impossible.

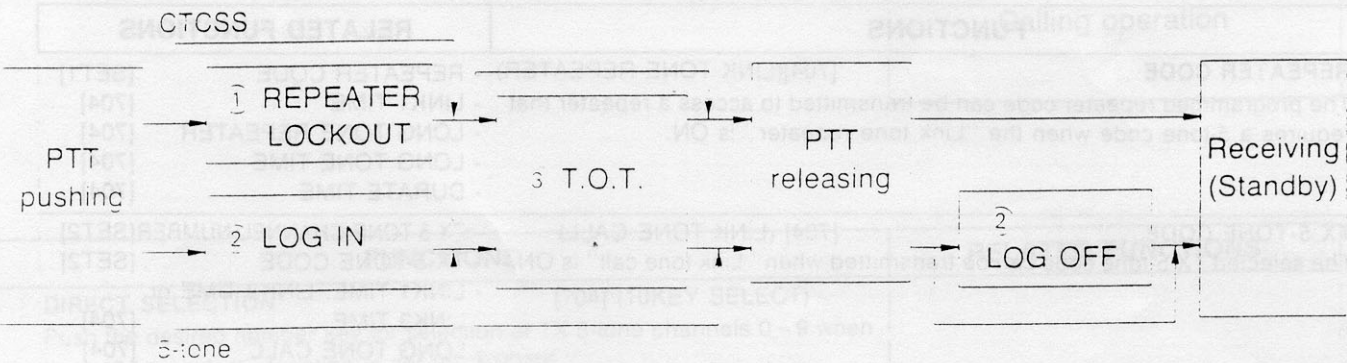| FUNCTIONS	RELATED FUNCTIONS	
$\tilde{1}$ **REPEATER CODE** [704](LINK TONE REPEATER) The programmed repeater code can be transmitted to access a repeater that requires a 5-tone code when the "Link tone repeater" is ON.	- REPEATER CODE - LINK1 TIME - LONG TONE REPEATER - LONG TONE TIME - DURATE TIME	[SET1] [704] [704] [704] [704]
$\tilde{2}$ **TX 5-TONE CODE** [704] (LINK TONE CALL) The selected TX 5-tone code can be transmitted when "Link tone call" is ON.	- TX 5-TONE CHANNEL NUMBER - TX 5-TONE CODE - LINK1 TIME, LINK2 TIME or LINK3 TIME - LONG TONE CALL - LONG TONE TIME - DURATE TIME	[SET2] [SET2] [704] [704] [704] [704]
$\tilde{3}$ **ID CODE** [704] (LINK TONE ID) The programmed ID code can be transmitted if the following conditions are met. 1. "LINK TONE ID"..........."ON" [704] 2. "ID OUT"..........."CODE + ID" or "ID + CODE" [704] 3. "Rch 1 TONE CODE"....ID code is programmed [SET4] 4. "ID"..........."ON" [704]	- LINK1 TIME, LINK2 TIME or LINK3 TIME - LONG TONE ID - LONG TONE TIME - DURATE TIME	[704] [704] [704] [704]

(3) After calling (Only for 5-tone memory channels and 5-tone + CTCSS memory channels)
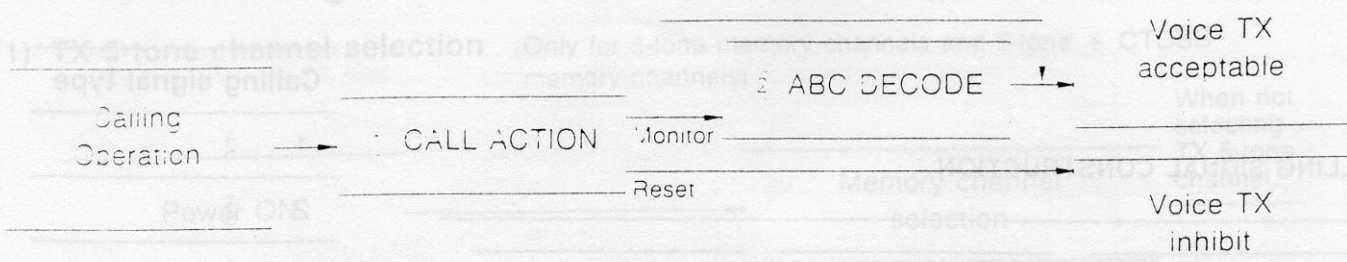
FUNCTIONS		RELATED FUNCTIONS	
1 CALL ACTION	[704] (CALL ACTION)	- AUTO RESET	[SET3]
After calling operation, the transceiver enters the reset or monitor condition depending on the setting of the "call action" function.			
2 ABC DECODE	[SET2] (ABC DECODE)	- ABC DISPLAY	[704]
Answer back code is decoded if the "ABC decode" is ON.		- WAIT TIME ABC	[704]

(4) Voice transmission

FUNCTIONS		RELATED FUNCTIONS	
REPEATER LOCKOUT	SET1] (REPEATER LOCKOUT)	- RX TONE	[SET1]
When the operating channel is busy, this function inhibits transmitting. When the received CTCSS tone is matched with the programmed CTCSS tone, the transceiver transmits even if the channel is busy.		- TX TONE	[SET1]
LOG IN/OFF	[704] (LOG IN/OFF)	- LONG TONE ID	[704]
The transceiver sends the programmed ID code at "Log IN" or "Log OFF" depending on the setting of the "Log IN/OFF" function.		- LONG TONE TIME	[704]
		- DURATE TIME	[704]
		- ID OUT	[704]
		- Rch 1 TONE CODE	[SET4]
		- ID	[704]
T.O.T.	[704] (T.O.T.)	- TIME-OUT TIMER	[704]
When the "Time-out timer" function is ON, the transceiver automatically returns to receive at the end of the set transmit period after ID code transmission with no beep, after a beep with no ID code transmission, or after neither		- T.O.T. ALARM	[704]
		- PENALTY TIMER	[704]

• one the beep sounds during final 12 sec. of set period, 5 beeps sound when set.

4-5 Other functions

Rewriting the initial message

The initial message can be replaced with the desired message.

1) While the initial message appears, push [CLR].
   - .... appears.

2) Select the first character using the following keys:
   - [CALL]* – [CLR] : Character selection forward
   - [CALL]* – [G] : Character selection backward

3) When the first character has been decided. set the character and move the cursor using the following keys:
   - [CALL]* – [7] : Cursor moves to the left
   - [CALL]* – [9] : Cursor moves to the right

4) Push [SET] to input the entered characters after all characters have been entered.

5) Push [RESET] to exit the setting condition.

* Use [FUNC] for the IC-H21T.

Display mode

The TX 5-tone code or comment can be displayed on the function display while operating in 5-tone memory channels.

Push and hold [SET] for more than 3 sec. to change the display alternatively.

Manual monitoring

The monitor condition can be selected manually.

Push [RESET] to alternate between the reset and monitor condition.

NOTE: Entering the monitor condition can be inhibited on the 5-tone memory channels by cloning the data "Reset switch OFF."

Changing dimmer (IC-V210T only)

The display brightness can be changed in OPERATING mode.

Push [SET] to alternate between a high and low brightness level.

NOTE: When voltage is added to the external dimmer control terminal on the rear panel. the dark display is selected. It is possible to couple the car headlight.

Hanger switch (IC-V210T only)

When the user hangs the microphone from the microphone hanger. the transceiver enters the monitor condition.

This function is available on the CTCSS memory channels.

NOTE: When the data of "Hanger switch OFF" has been cloned from the EX-704. this function cannot be used on that channel.

Keyboard backlighting
(IC-H21T only)

The function display backlight can be turned ON for night operation, etc.

Push [LIGHT] on the side panel to turn ON and OFF the backlight.
• The backlight is automatically turned OFF after 10 sec.

Keyboard lock
(IC-H21T only)

The keyboard lock function prevents the transceiver from changing the memory and TX 5-tone channels accidentally.

When this function is activated, only the PTT, [CALL] and [LIGHT] switches can be used.

1) While pushing [FUNC], push [TONE] to activate the function.
• The lock indicator appears.

2) To cancel the function, while pushing [FUNC], push [TONE] again.

NOTE: The function is not canceled when power turns OFF.

Comment scroll
(IC-H21T only)

The function display of the IC-H21T can indicate only the first 5 characters for comment, however, the remaining 8 characters can be indicated using this function.
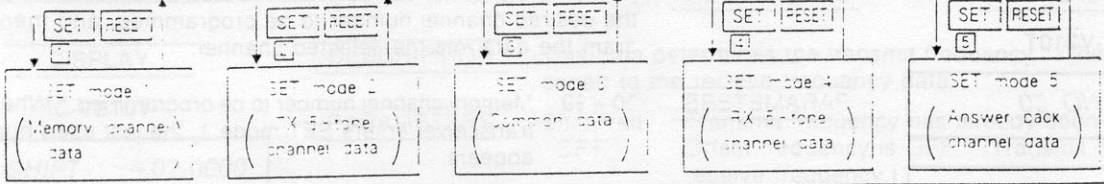
1) While pushing [FUNC], push [SET] to indicate the next 5 characters. Keep pushing [FUNC]

2) While holding [FUNC], push [SET] again to indicate the next 3 characters.

3) Release [FUNC].
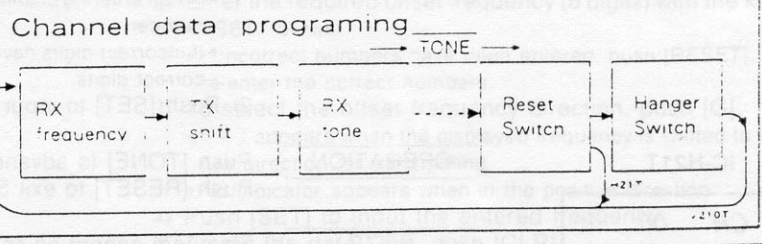• The first 5 characters appear.

SET MODE CONDITION

See p. 3 to put the transceiver into the SET mode condition.

SET	RESET		SET	RESET		SET	RESET		SET	RESET		SET	RESET
0			1			3			4			5	

SET mode (Memory channel data)	SET mode 1 (TX 5-tone channel data)	SET mode 3 (Common data)	SET mode 4 (RX 5-tone channel data)	SET mode 5 (Answer back channel data)

SET mode 1

Memory channel number Selection

Memory channel 0
Memory channel 1
Memory channel 2
⋮
Memory channel 99

[TONE]

Channel data programing

→ TCNE →

RX frequency → TX shift → RX tone - - - - - → Reset Switch → Hanger Switch

+21T
+21T

SET mode 2

TX 5-tone channel number selection

TX 5-tone channel 0
TX 5-tone channel 1
TX 5-tone channel 2
⋮
TX 5-tone channel 29

[TONE]

Channel data programing

→ TONE →

TX 5-tone code → Comment → ABC decode

SET mode 3

Display mode → [TONE] → Beep ON/OFF → [TONE] → Auto reset
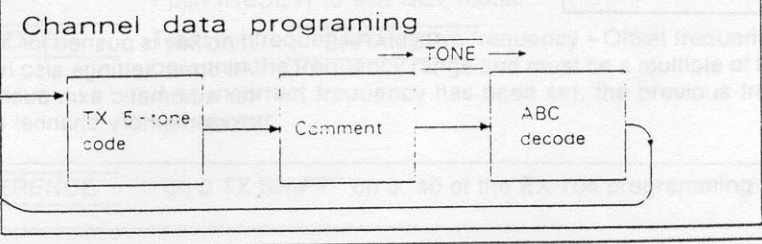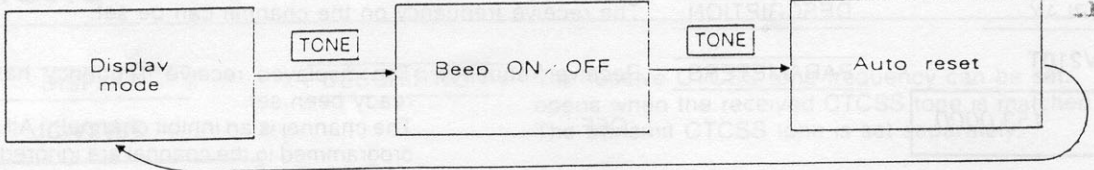
SET mode 4

RX 5-tone channel number selection

RX 5-tone channel 1
RX 5-tone channel 2
RX 5-tone channel 3
RX 5-tone channel 4

[TONE]

Channel data programing

RX 5-tone code → Status digit → [TONE]

SET mode 5

Answer back channel 1 tone code → [TONE] → Answer back channel 2 tone code → [TONE] → Answer back channel 3 tone code → [TONE]

Memory channel number

	DISPLAY	DESCRIPTION	All memory channel numbers, 00 ~ 99, can be accessed. Select the desired channel number to be programmed, and then program the data into the selected channel.
	IC-V210T		

MR CH NO 00
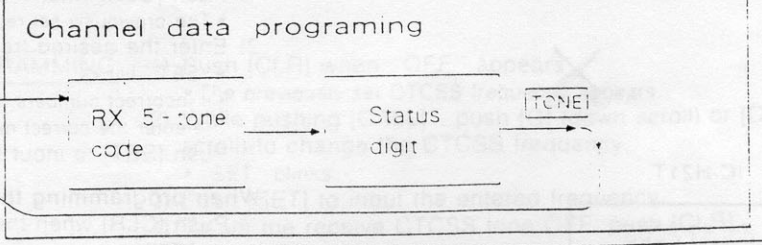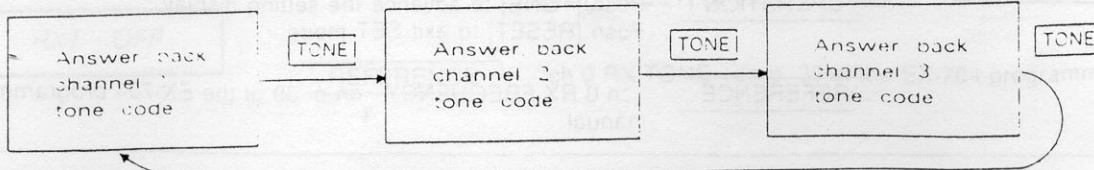
MR CH NO 99

	DESCRIPTION	
PARAMETERS	00 ~ 99 : Memory channel number to be programmed. When the transceiver enters SET mode 1, the last used number appears.
PROGRAMMING	1) Enter the desired channel number (2 digits) using the keyboard. • "SET" blinks. • When entering channels 0 ~ 9, push [0] before entering the channel number. • If incorrect digits have been entered, push [RESET] and enter the correct digits. 2) Push [SET] to input the entered channel number.

IC-H21T

CH 00

CH 99

OPERATION	Push [TONE] to advance the setting display. Push [RESET] to exit SET mode.
NOTE	This item cannot be selected in the user SET mode. In order to change the memory channel number, exit SET mode 1 and change the memory channel number, then enter SET mode 1 again.
REMARKS	If no key is pushed for 30 sec., the transceiver exits SET mode. All other settings also have this timer. In order to re-access after automatic exit, push [SET] and then push [1]. Then, begin from memory channel number setting.

RX frequency

	DISPLAY	DESCRIPTION	The receive frequency on the channel can be set.
	IC-V210T		

RX FREQ.   153.0000

RX FREQ.   OFF

PARAMETERS	Receive frequency : The displayed receive frequency has already been set. "OFF" : The channel is an inhibit channel. All data programmed in the channel are ignored and inhibited.
PROGRAMMING	**When programming the receive frequency:** 1) Push [CLR] when "OFF" appears. • The previously set receive frequency appears. 2) Enter the desired frequency (7 digits) with the keyboard. • "SET" blinks. • If incorrect numbers have been entered, push [RESET], and then re-enter the correct numbers. 3) Push [SET] to input the entered frequency. **When programming the channel as an inhibit channel:** 1) Push [CLR] when the frequency is displayed. • "OFF" appears. • This channel has been programmed as an inhibit channel. 2) To display the previously set frequency, push [CLR] again.

IC-H21T

F 153.0000

F   OFF

OPERATION	Push [TONE] to advance the setting display. Push [RESET] to exit SET mode.
REFERENCE	"ch 0 RX FREQUENCY" on p. 39 of the EX-704 programming manual.

TX shift

		This data determines the transmit frequency. The data will be added to the receive frequency data.
DISPLAY	DESCRIPTION	
IC-V210T		
	PARAMETERS	Shift freq. Transmit frequency has already been determined.
TX SHIFT − 02.0000		OFF Offset frequency is OFF. (Transmit frequency = receive frequency.)
	PROGRAMMING	1) Push [CLR] when "OFF" appears.
TX SHIFT OFF		• The previously set offset frequency appears.
		2) Enter the required offset frequency (6 digits) with the keyboard.
		• "SET" blinks.
		• If incorrect numbers have been entered, push [RESET], and then re-enter the correct numbers.
		3) To select the offset frequency direction, push [G].
		• "−" appears when the displayed frequency is shifted to the negative direction for transmitting.
		• No indicator appears when in the positive direction.
		4) Push [SET] to input the entered frequency.
IC-H21T		5) To set the data OFF, push [CLR].
S. − 02.0000		• "OFF" appears.
	OPERATION	Push [TONE] to advance the setting display. Push [RESET] to exit SET mode.
S. OFF	NOTE	Transmit frequency (Receive frequency + Offset frequency) must be within the frequency range and must be a multiple of the step. If an incorrect frequency has been set, the previous frequency will appear.
	REFERENCE	"ch 0 TX SHIFT" on p. 40 of the EX-704 programming manual.

RX tone

		The receive CTCSS tone frequency can be set. The squelch opens when the received CTCSS tone is matched to this tone. The transmit CTCSS tone is set separately.
DISPLAY	DESCRIPTION	
IC-V210T		
RX TONE 88.5	PARAMETERS	CTCSS frequency : The displayed receive CTCSS tone frequency has already been set.
		"OFF" : Receive CTCSS tone is OFF.
RX TONE OFF		
	PROGRAMMING	1) Push [CLR] when "OFF" appears.
		• The previously set CTCSS frequency appears.
		2) While pushing [CALL]*, push [G] (down scroll) or [CLR] (up scroll) to change the CTCSS frequency.
		• "SET" blinks.
		3) Push [SET] to input the entered frequency.
		4) To set the receive CTCSS tone OFF, push [CLR].
IC-H21T		* Use [FUNC] for the IC-H21T
RXT 88.5		
	OPERATION	Push [TONE] to advance the setting display. Push [RESET] to exit SET mode.
RXT OFF		
	REFERENCE	"ch 0 RX TONE" on p. 39 of the EX-704 programming manual.

TX tone

DISPLAY	DESCRIPTION	The transmit CTCSS tone frequency can be set. The set CTCSS tone is transmitted. The receive CTCSS tone is set separately.

IC-V210T

	PARAMETERS	CTCSS frequency : The displayed transmit CTCSS tone frequency has already been set.
TX TONE 88.5		"OFF" : Transmit CTCSS tone is OFF.
TX TONE OFF	PROGRAMMING	1) Push [CLR] when "OFF" appears.

• The previously set offset frequency appears.
2) While pushing [CALL]*, push [G] (down scroll) or [CLR] (up scroll) to change the CTCSS frequency.
 • "SET" blinks.
3) Push [SET] to input the entered frequency.
4) To set the transmit CTCSS tone OFF, push [CLR].
 * Use [FUNC] for the IC-H21T.

IC-H21T

TXT 88.5	OPERATION	Push [TONE] to advance the setting display. Push [RESET] to exit SET mode.
TXT OFF	REFERENCE	"ch 0 TX TONE" on p. 40 of the EX-704 programming manual.

Receive number selection

DISPLAY	DESCRIPTION	Each memory channel (operating channel) can access up to 4 different RX 5-tone channels for comparison with the decoded 5-tone code. Select the RX 5-tone channel numbers corresponding to the displayed memory channel.

IC-V210T

If the decoded 5-tone code is matched to one of the selected RX 5-tone codes, the standby is released.

R – NR 1234	PARAMETERS	"1 2 3 4" : The decoded 5-tone code is not compared with the 5-tone code programmed in the RX 5-tone channel. The CTCSS setting is only effective for standby.
R – NR ⁝1234⁝		"1̣2̣3̣4" : The decoded 5-tone code is compared with only Rch 1 and the Rch 3 of the 5-tone code programmed in the RX 5-tone channel.
		"1 2 3 4" : The decoded 5-tone is compared with 5-tone codes programmed in all 4 RX 5-tone channels.

	PROGRAMMING	1) Push the keys of the required numbers (1 ~ 4).

• Blinking numbers are activated for comparison.
Non-blinking numbers are deactivated for comparison.
2) To cancel the numbers, push the key of the required blinking numbers.

IC-H21T

R – NR1234	OPERATION	Push [TONE] to advance the setting display. Push [RESET] to exit SET mode.
R – NR1234	NOTE	When no RX 5-tone channel is selected (no blinking digits), the 5-tone indication is not displayed during this channel operation as the channel cannot perform 5-tone operation.
	REFERENCE	"ch 0 RECEIVE NUMBER SELECTION" on p. 50 of the EX-704 programming manual.

Long tone

DISPLAY	DESCRIPTION	
IC-V210T	DESCRIPTION	Each tone duration of the 5-Tone code is the same. However, the first tone durations can be made longer than the others for repeater operation, etc. The long tones of the repeater code, TX 5-tone code and ID code are set separately.

LONG ⊰123⊱

LONG   123 OFF

IC-H21T

LONG ⊰123⊱

LONG 123

PARAMETERS	⊰123	The first tone of the repeater code is made longer.
	1⊰2⊱3	The first tone of the TX 5-tone code is made longer.
	12⊰3⊱	The first tone of the ID code is made longer.
	⊰123⊱	The first tones of all 3 codes are made longer.
	"123 OFF" :	No tone is made longer.

PROGRAMMING
1) Push the keys of the required numbers (1 ~ 3).
   - 1: Repeater code
   - 2: TX 5-tone code
   - 3: ID code
   - Blinking numbers are activated and made longer.
   - Non-blinking numbers are deactivated and remain the same.
   - If all numbers are deactivated. "OFF" appears.
2) To cancel the long tone, push the key of the required blinking numbers.

OPERATION
Push [TONE] to advance the setting display.
Push [RESET] to exit SET mode.

REFERENCE
"ch 0 LONG TONE REPEATER, CALL and ID" on pgs. 47 ~ 48 of the EX-704 programming manual.

Repeater code

DISPLAY	DESCRIPTION	
IC-V210T	DESCRIPTION	Some repeaters require a repeater 5-tone code to access before a 5-tone signal in order to prevent them from malfunctioning. Set the required 5-tone code for repeater access. When the repeater does not require a 5-tone code, set "OFF."

REP.CODE   OFF

REP.CODE   12345 - -

PARAMETERS	"OFF"	The repeater code is not programmed.
	"12345"	5-digits of the repeater code. "12345" are programmed.
	"756AB21"	7-digits of the repeater code. "756AB21" are programmed.

IC-H21T

ᴿ.   OFF

ᴿ. 12345 - -

PROGRAMMING
1) Push [CLR] when "OFF" appears.
2) Push the required digit keys to enter the repeater code.
   - "SET" flashes.
   - To enter the letters "A" ~ "F," while pushing [CALL], push [1] ~ [6].
   - To enter a blank " - ," while pushing [CALL], push [0].
   - If incorrect digits have been entered, push [RESET] and enter the correct digits.
3) Push [SET] to input the entered code.
4) To set the data OFF, push [CLR].
   *Use [FUNC] for the IC-H21T

OPERATION
Push [TONE] once to advance the setting display.
Push [RESET] to exit SET mode.

REFERENCE
"ch 0 REPEATER CODE" on p. 41 of the EX-704 programming manual.

TX inhibit

DISPLAY	DESCRIPTION	When this function is ON, all transmitting commands are ignored on this channel. (e.g. pushing the PTT switch, auto TX function, answer back function, etc.)
IC-V210T		
TX INH. OFF	PARAMETERS	"OFF" The transceiver functions normally.
TX INH. ON		"ON" The transceiver does not transmit on this channel.
	PROGRAMMING	Push [CLR] to turn this function "ON" or "OFF."
	OPERATION	Push [TONE] to advance the setting display. Push [RESET] to exit SET mode.
IC-H21T	REFERENCE	"ch 0 TX INHIBIT" on p. 42 of the EX-704 programming manual.
INH. OFF		
INH. ON		

Scan channel

DISPLAY	DESCRIPTION	This function sets this channel as a scan channel or a lockout channel.
IC-V210T		
SCAN OFF	PARAMETERS	"OFF" This channel will be skipped when scanning.
SCAN ON		"ON" This channel will be monitored when scanning.
	PROGRAMMING	Push [CLR] to turn this function "ON" or "OFF."
	OPERATION	Push [TONE] to advance the setting display. Push [RESET] to exit SET mode.
	NOTE	The EX-704 version 3 uses the lockout channel setting instead of the scan channel setting. If "LOCKOUT — ON" is cloned from the EX-704, the "SCAN" setting in the IC-V210T/H21T is set to "OFF." If "LOCKOUT — OFF" is cloned from the EX-704, the "SCAN" setting in the IC-V210T/H21T is set to "ON."
IC-H21T		
SCAN OFF		
SCAN ON	REMARKS	When this function is turned ON, a dot appears after the channel number in OPERATING mode. • When "SCAN MODE 0" is programmed by cloning from the EX-704, a dot doesn't appears even if this function is ON.
	REFERENCE	"ch 0 LOCKOUT" on p. 42 of the EX-704 programming manual.

Repeater lockout

DISPLAY	DESCRIPTION	The repeater lockout function provides transmit inhibiting when this channel is busy during operation. If the PTT switch of the transceiver is pushed while this channel is busy, the transceiver does not transmit. When the received CTCSS tone is matched with the programmed tone, the transceiver transmits even if the channel is busy.
IC-V210T		
REP. L.OUT OFF		
REP. L.OUT ON	PARAMETERS	"OFF" The repeater lockout function is not activated. "ON" The repeater lockout function is activated.
	PROGRAMMING	Push [CLR] to turn this function "ON" or "OFF."
	OPERATION	Push [TONE] to advance the setting display. Push [RESET] to exit SET mode.
IC-H21T		
REP.L. OFF	REFERENCE	"ch 0 REPEATER LOCKOUT" on p. 44 of the EX-704 programming manual.
REP.L. ON		

Reset switch

DISPLAY	DESCRIPTION	This function activates monitor inhibiting or permitting on the selected channel using the [RESET] switch.
IC-V210T		
RES. SW OFF	PARAMETERS	"OFF" The [RESET] switch does not allow monitoring. "ON" The [RESET] switch allows monitoring.
RES. SW ON	PROGRAMMING	Push [CLR] to turn this function "ON" or "OFF."
	OPERATION	Push [TONE] to advance the setting display. Push [RESET] to exit SET mode.
	REFERENCE	"ch 0 RESET SWITCH" on p. 45 of the EX-704 programming manual.
IC-H21T		
RSET OFF		
RSET ON		

Hanger switch (IC-V210T only)

DISPLAY	DESCRIPTION	When an operator hangs the microphone from the microphone hanger, the monitor function is activated. This is called the hanger switch.

IC-V210T

HANG SW   OFF

PARAMETER	"OFF" The hanger switch is not activated for use.
	"ON" The hanger switch is activated for use.

HANG SW   ON

PROGRAMMING	Push [CLR] to turn this function "ON" or "OFF."

OPERATION	Push [TONE] to return to the first setting display.
	Push [RESET] to exit SET MODE 1.

NOTE	This function is only available on the CTCSS memory channels.

REFERENCE	"ch 0 HANGER SWITCH" on p. 45 of the EX-704 programming manual.

TX 5-tone channel number

DISPLAY	DESCRIPTION	

IC-V210T

```
T5TONE CH 00
```

```
T5TONE CH 29
```

IC-H21T

```
T5TONE00
```

```
T5TONE29
```

DESCRIPTION
All TX 5-tone channel numbers, 0 ~ 29, can be accessed. Select the desired channel number to be programmed, and then program the data into the selected channel.

PARAMETERS
00 ~ 29   TX 5-tone channel number to be programmed. When the transceiver enters SET mode 2, the last used number appears.

PROGRAMMING
1) Enter the desired channel number (2 digits) using the keyboard.
   • "SET" blinks.
   • When entering channels 0 ~ 9, push [0] before entering the channel number.
   • If incorrect digits have been entered, push [RESET] and enter the correct digits.
2) Push [SET] to input the entered channel number.

OPERATION
Push [TONE] to advance the setting display.
Push [RESET] to exit SET mode.

REMARKS
If no key is pushed for 30 sec, the transceiver exits SET mode. All other settings also have this timer. In order to re-access after automatic exit, push [SET] and then push [2]. Then begin from TX 5-tone channel number setting.

TX 5-tone code

DISPLAY	

IC-V210T

```
TX. CODE    OFF
```

```
TX. CODE    12345 - -
```

IC-H21T

```
T.    OFF
```

```
T. 12345 - -
```

DESCRIPTION
One TX 5-tone code is programmed into each TX 5-tone channel. Up to 7 digits of a TX 5-tone code can be programmed.

PARAMETERS
"OFF"   The TX 5-tone code is not programmed.
"12345--"   5-digits of the TX 5-tone code, "12345" are programmed.
"765AB21" 7-digits of the TX 5-tone code, "765AB21" are programmed.

PROGRAMMING
1) Push [CLR] when "OFF" appears.
2) Push the required digit keys to enter the 5-tone code.
   • "SET" blinks.
   • To enter the letters "A" ~ "F," while pushing [CALL]*, push [1] ~ [6].
   • To enter a blank " – ," while pushing [CALL]*, push [0].
   • If incorrect digits have been entered, push [RESET] and enter the correct digits.
3) Push [SET] to input the entered code.
4) To set the data "OFF," push [CLR].
   * Use [FUNC] for the IC-H21T.

OPERATION
Push [TONE] once to advance the setting display.
Push [RESET] to exit SET mode.

NOTE
TX 5-tone data can be programmed in this part, but 5-tone ON/OFF in each memory channel is determined by the programming in the "Receive number selection" (p. 20).

REFERENCE
"Tch 0 TONE CODE" on p. 52 of the EX-704 programming manual.

Comment

DISPLAY	DESCRIPTION	Indication of the comment instead of the transmit 5-tone code is possible. Up to 13 characters can be programmed in each TX 5-tone channel for a comment.

IC-V210T

C.	OFF	PARAMETERS	'OFF'	: Comment is OFF and no indication is displayed on the comment display.
			Comment	: This comment is displayed instead of the TX 5-tone code.
C.	XXXXXX		....	: No comment has been programmed.

PROGRAMMING:
1) Push [CLR] when "OFF" appears.
2) Select the desired character using the following keys:
   - [CALL]* - [CLR]　　Character selection forward
   - [CALL]* - [G]　　　Character selection backward
3) Once the the first character has been entered. set the character and move the cursor using the following keys:
   - [CALL]* - [7]　　Cursor moves to the left
   - [CALL]* - [9]　　Cursor moves to the right
4) Push [SET] to input the new comment.
5) To turn this function "OFF." push [CLR].
   * Use [FUNC] for the IC-H21T.

IC-H21T

C.	OFF
C.	XXXXX

OPERATION	Push [TONE] to advance the setting display. Push [RESET] to exit SET mode.
REFERENCE	"Tch 0 COMMENT" on p. 53 of the EX-704 programming manual.

ABC decode

DISPLAY	DESCRIPTION	The answer back code from the connected station can be decoded. This function is set whether the transceiver decodes the answer back code or not. When the transceiver decodes the answer back code. the answer back code is displayed on the function display.

IC-V210T

ABC DEC.	OFF
ABC DEC.	ON

PARAMETER	'OFF'	: The answer back code is not decoded.
	'ON'	: The answer back code is decoded.

PROGRAMMING	Push [CLR] to turn the data "ON" or "OFF."

OPERATION	Push [TONE] to return to the first setting display. Push [RESET] to exit SET mode.

IC-H21T

ABC.D.	OFF
ABC.D.	ON

NOTE	The display of the decoded answer back code (ABC display) can be set only by the EX-704. If the ABC display is set to "– –" (no digit indication). the decoded answer back code is not displayed even when the answer back decode is set to "ON." See p. 54 of programming manual of the EX-704 for details.

REFERENCE	"Tch 0 ABC DECODE" on p. 53 of the EX-704 programming manual.

Display mode

DISPLAY		DESCRIPTION	This function determines the default setting of the display showing the programmed comment or the TX 5-tone code.
IC-V210T			
DISP.MODE CODE		PARAMETERS	"CODE" : The display shows the TX 5-tone code. "COMMENT" : The display shows the comment.
DISP.MODE COMMENT		PROGRAMMING	Push [CLR] to turn the function "CODE" or "COMMENT."
		OPERATION	Push [TONE] to advance the setting display. Push [RESET] to exit SET mode.
		NOTE 1	The indication of the programmed comment or the TX 5-tone code on the function display can also be selected in OPERATING mode. However the default setting can be performed only in SET mode.
IC-H21T			
DSP CODE		NOTE 2	This data cannot be cloned either from the EX-704 or to the EX-704.
DSP COMM		REMARKS	If no key is pushed for 30 sec. the transceiver exits SET mode. All other settings also have this timer. To re-access after automatic exit, push [SET] and then push [3]. Then begin from Comment ON/OFF setting.
		NOTE	This data cannot be cloned either from the EX-704 or to the EX-704.

Beep ON/OFF

DISPLAY		DESCRIPTION	This function sounds a beep when a key on the keyboard is pushed each time. Only this beep can be turned OFF.
IC-V210T			
BEEP OFF		PARAMETERS	"OFF" : The beep function is not activated. "ON" : The beep function is activated.
BEEP ON		PROGRAMMING	Push [CLR] to turn the function "ON" or "OFF."
		OPERATION	Push [TONE] to advance the setting display. Push [RESET] to exit SET mode.
IC-H21T		NOTE	This data cannot be cloned either from the EX-704 or to the EX-704.
BEEP OFF			
BEEP ON			

Auto reset

DISPLAY		DESCRIPTION	

IC-V210T

AUTO RES. OFF

AUTO RES. ON

DESCRIPTION This function moves the transceiver into the reset condition. After 15 seconds of neither receiving a signal nor transmitting, the transceiver enters the reset condition automatically.

PARAMETERS "OFF" The auto reset function is not activated.
"ON" The auto reset function is activated.

PROGRAMMING Push [CLR] to turn the function "ON" or "OFF."

OPERATION Push [TONE] to return to the first display.
Push [RESET] to exit SET mode.

NOTE 1 When the transceiver enters the reset condition as a result of this function, a beep tone is emitted.

IC-H21T

A.RES. OFF

A.RES. ON

NOTE 2 The time length of this function can be changed using the EX-704. See p. 34 of the EX-704 programming manual "AUTO RESET TIMER" for details.

NOTE 3 This data (ON/OFF) cannot be cloned either from the EX-704 or to the EX-704.

RX 5-tone channel number

DISPLAY	DESCRIPTION	Both the IC-V210T and the IC-H21T have 4 RX 5-tone channels. All channel numbers can be accessed. Select the desired channel number to be programmed, and then begin to program the data into the selected channel.
IC-V210T		
R5TONE CH 1		
	PARAMETERS	1 ~ 4 RX 5-tone channel number to be programmed. When the transceiver enters SET mode 4, the last used number appears.
R5TONE CH 4		
	PROGRAMMING	Input the desired channel number using the keyboard (1 ~ 4).
	OPERATION	Push [TONE] to advance the setting display. Push [RESET] to exit SET mode.
IC-H21T		
R5TONE 1	REMARKS	If no key is pushed for 30 sec. the transceiver exits SET mode. All other settings also have this timer. In order to re-access after automatic exit, push [SET] and then push [4]. Then begin from RX 5-tone channel number setting.
R5TONE 4		

http://www.qsl.net/pe3hmp

RX 5-tone code

DISPLAY	DESCRIPTION	One RX 5-tone code is programmed into each RX 5-tone channel. Up to 7 digits of an RX 5-tone code can be programmed.
IC-V210T		
RX. CODE OFF	PARAMETERS	"OFF" The RX 5-tone code is not programmed.
		"12345 - -" 5-digits of the RX 5-tone code. "12345" are programmed.
RX. CODE 12345 - -		"765AB21" 7-digits of the RX 5-tone code. "765AB21" are programmed.
	PROGRAMMING	1) Push [CLR] when "OFF" appears. 2) Push the required digit keys to enter the 5-tone code. • "SET" blinks • To enter the digits "A" ~ "F" while pushing [CALL]*, push [1] ~ [6]. • To enter a blank "- " while pushing [CALL]*, push [0]. • If incorrect digits have been entered, push [RESET] and enter the correct digits. 3) Push [SET] to input the entered code. 4) To set the data "OFF," push [CLR]. * Use [FUNC] for the IC-H21T
IC-H21T		
R. OFF		
R.12345 - -	OPERATION	Push [TONE] once to advance the setting display. Push [RESET] to exit SET mode.
	REFERENCE	"Rch 1 TONE CODE" on p. 56 of the EX-704 programming manual.

Status digit

DISPLAY	DESCRIPTION	
IC-V210T		When the correct 5-tone code has been detected and decoded, the desired digits of the 5-tone code are displayed.
STATUS D. 1234567	PARAMETERS	"1 2 3 4 5 6 7" : No digit of the decoded 5-tone code is displayed.
STATUS D. 1234̇5̇67		"1 2 3 4̇ 5̇ 6 7" : Only the 4th and 5th digits of the decoded 5-tone code are displayed.
	PROGRAMMING	1) Push the keys of the required digits (1 ~ 7). • Blinking digits are activated and displayed. Non-blinking digits are deactivated and not displayed. 2) To deactivate, push the keys of the required blinking digits.
IC-H21T	OPERATION	Push [TONE] to return to the first setting display. Push [RESET] to exit SET mode.
S.1234567		
S.1234̇5̇67	NOTE	The digits that are designated as status digits are not compared with the RX 5-tone codes.
	REFERENCE	"Rch 1 STATUS DIGIT" on p. 60 of the EX-704 programming manual.

Answer back code 1

DISPLAY	DESCRIPTION

IC-V210T

ABC.CODE1   OFF

ABC.CODE1   12345 – –

DESCRIPTION

This mode allows you to program the answer back codes (5-tone) into answer back channel 1.

PARAMETERS

OFF : No answer back code is programmed.
12345 – – : 5-digits of the answer back code. "12345" are programmed.
765AB21 : 7-digits of the answer back code. "765AB21" are programmed.

PROGRAMMING

1) Push [CLR] when "OFF" appears.
2) Push the required digit keys to enter the answer back code.
   • "SET" blinks.
   • To enter letters "A" ~ "F," while pushing [CALL]*, push [1] ~ [6].
   • To enter a blank, while pushing [CALL]*, push [0].
   • If incorrect digits have been entered, push [RESET] and enter the correct digits.
3) Push [SET] to input the entered code.
4) To set the data "OFF," push [CLR].
   * Use [FUNC] for the IC-H21T.

IC-H21T

1.   OFF

1.12345 – –

OPERATION

Push [TONE] to advance the setting display.
Push [RESET] to exit SET mode.

REMARKS

If no key is pushed for 30 sec. the transceiver exits SET mode. All other settings also have this timer. In order to re-access after automatic exit, push [SET] and then push [5]. Then begin from answer back code 1 setting.

NOTE

Digits of the answer back code can be set but selecting an answer back code number for use is impossible in this SET mode. Use the EX-704 DATA PROGRAMMER to select an answer back code number for use. See p. 56 of the EX-704 programming manual for details.

REFERENCE

"ABch 1 TONE CODE" on p. 62 of the EX-704 programming manual.

Answer back code 2

DISPLAY	DESCRIPTION	
IC-V210T		This mode allows you to program the answer back code (single tone) into answer back channel 2.
ABC.CODE2 OFF	PARAMETERS	"OFF" : No single tone is programmed. "1" : The single tone "1" is programmed. "A" : The single tone "A" is programmed.
ABC.CODE2 1	PROGRAMMING	1) Push [CLR] when "OFF" appears. 2) Push the required digit key to enter the answer back code. • "SET" blinks. • To enter the letters "A" ~ "F," while pushing [CALL]*. push [1] ~ [6]. • To enter a blank " – ." while pushing [CALL]*. push [0]. • If an incorrect digit has been entered. push [RESET] and enter the correct digit. 3) Push [SET] to input the entered code. 4) To set the data "OFF," push [CLR]. * Use [FUNC] for the IC-H21T.
IC-H21T		
2. OFF	OPERATION	Push [TONE] to advance the setting display. Push [RESET] to exit SET mode.
2. 1	NOTE	To select an answer back code number for use. see p. 56 of the EX-704 programming manual.
	REFERENCE	"ABch 2 TONE CODE" on p. 63 of the EX-704 programming manual.

Answer back code 3

DISPLAY	DESCRIPTION	
IC-V210T		The displayed TX 5-tone code on the function display can be used as the answer back code.
ANS.CODE3 OFF	PARAMETERS	"OFF" : The displayed TX 5-tone code is not used as the answer back code. "ON" : The displayed TX 5-tone code is used as the answer back code.
ANS.CODE3 ON		
	PROGRAMMING	Push [CLR] to turn the data "ON" or "OFF."
	OPERATION	Push [TONE] to return to the first setting display. Push [RESET] to exit SET mode.
IC-H21T		
3. OFF	NOTE	To select an answer back code number for use. see p. 56 of the EX-704 programming manual.
3. ON	REFERENCE	"ABch 3 TONE CODE" on P. 64 of the EX-704 programming manual.

# 11-1 IC-V210T installation and connections

(1) Installation

NOTE: DO NOT install the transceiver where hot or cold air will blow directly on it.

1) Select a location that can support the weight of the transceiver, and that will not interfere with driving.

2) Place the mounting bracket in a suitable location and mark screw holes on the bracket. Be sure all controls and switches are within reach and that the display is within easy view for the driver.

To prevent damage attach the mic cable to the transceiver as shown below.

3) Drill the holes and mount the bracket as shown in the diagram. Tighten the screws.

4) Install the microphone hanger with a microphone hanger cable at the desired position near the transceiver for CTCSS operation. The cable must be grounded.

5) Insert the microphone plug into the microphone connector. Then, fix the connector with the supplied screw.

Vary installation angle for best visibility.
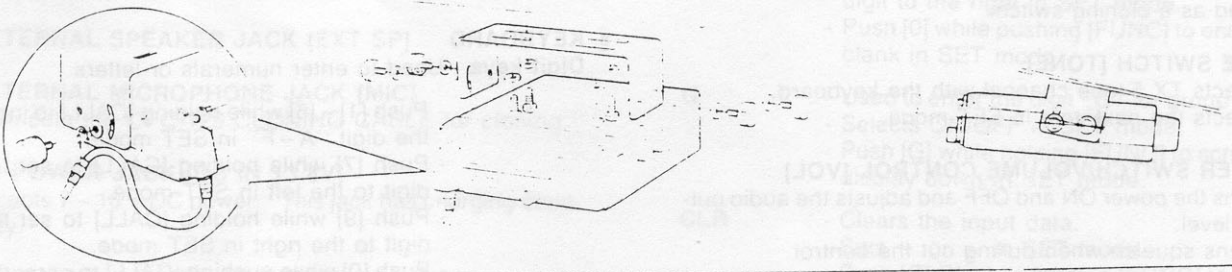
(2) Connections

ANTENNA
Connect an antenna with a PL-259 connector.

DC POWER CABLE
Be sure the polarities are matched correctly. NEVER connect a 24 V DC battery directly. This may damage the transceiver. For use with AC, the PS-200 AC POWER SUPPLY is available.
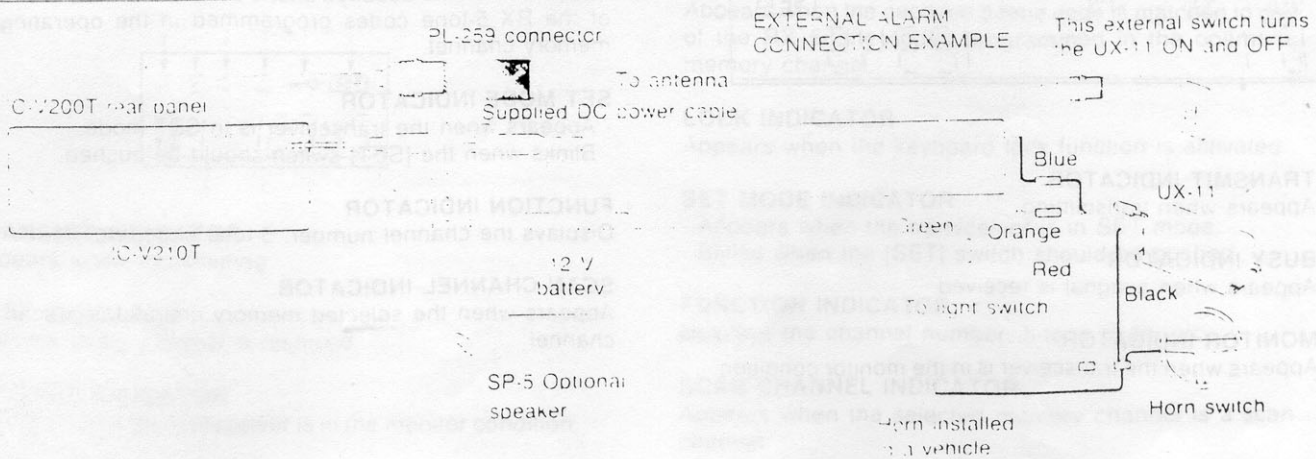
EXTERNAL ALARM
An external alarm such as a horn can be used to alert an operator when a 5-tone code is received.

EXTERNAL DIMMER CONTROL CABLE
The dimmer of the function display can be adjusted remotely. While this cable is receiving 12 V DC, the brightness change. Connect the cable to the headlight switch or another switch of the car.
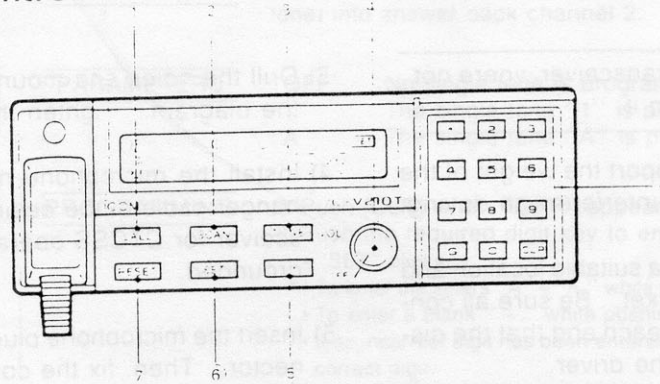
EXTERNAL SPEAKER
An optional external speaker can be used for clearer audio.

PL-259 connector

IC-V200T rear panel

To antenna

Supplied DC power cable

IC-V210T

12 V battery

SP-5 Optional speaker

EXTERNAL ALARM CONNECTION EXAMPLE

This external switch turns the UX-11 ON and OFF

Blue

Green   Orange

Red

UX-11

Black

To horn switch

Horn switch

Horn installed in a vehicle

# 11-2 IC-V210T panel description

(1) Switches and control

1 CALL SWITCH [CALL]
- Transmits 5-tone codes.
- Used as a function switch in SET mode.

2 SCAN SWITCH [SCAN]
- Starts and stops scanning.
- Used as a cloning switch.

3 TONE SWITCH [TONE]
- Selects TX 5-tone channel with the keyboard.
- Selects the next item in SET mode.

4 POWER SWITCH/VOLUME CONTROL [VOL]
- Turns the power ON and OFF and adjusts the audio output level.
- Opens squelch when pulling out the control.

5 CHANNEL SWITCH [CH]
Selects a memory channel with the keyboard.

6 SET SWITCH [SET]
- Adjusts the display brightness.
- Selects TX 5-tone indication or comment indication when pushing and holding for 4 sec.
- Selects SET mode when the transceiver is in the SET mode condition.

7 RESET SWITCH [RESET]
- Selects the reset or monitor condition.
  - The monitor condition cannot be selected when the reset switch is set to OFF in dealer SET mode.
- Resets each operation in both OPERATING and SET modes.

8 KEYBOARD
Digit keys : Used to enter numerals or letters.

- Push [1] ~ [6] while holding [CALL] to input the digit "A ~ F" in SET mode.
- Push [7] while holding [CALL] to set the digit to the left in SET mode.
- Push [9] while holding [CALL] to set the digit to the right in SET mode.
- Push [0] while pushing [CALL] to enter the blank in SET mode.

G :
- Used to enter the digit "G" for group code.
- Selects ON/OFF in SET mode.
- Push [G] while holding [CALL] to scroll the display down in SET mode.

CLR :
- Clears the input data.
- Sets + or − in SET mode.
- Push [CLR] while holding [CALL] to scroll the display up in SET mode.

(2) Function display
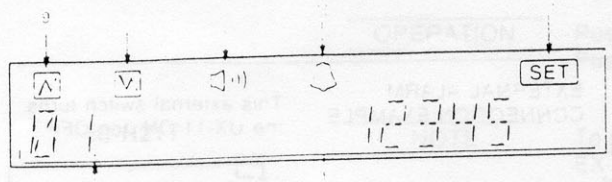
TRANSMIT INDICATOR
Appears when transmitting.

BUSY INDICATOR
Appears when a signal is received.

MONITOR INDICATOR
Appears when the transceiver is in the monitor condition.

BELL INDICATOR
Appears when the decoded 5-tone code is matched to one of the RX 5-tone codes programmed in the operating memory channel.

SET MODE INDICATOR
- Appears when the transceiver is in SET mode.
- Blinks when the [SET] switch should be pushed.

FUNCTION INDICATOR
Displays the channel number, 5-tone code, etc.

SCAN CHANNEL INDICATOR
Appears when the selected memory channel is a scan channel.

11-3 IC-H21T panel description

(1) Switches, jacks and control
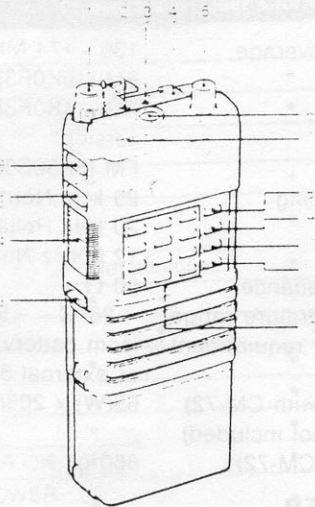
1 ANTENNA CONNECTOR

2 EXTERNAL SPEAKER JACK [EXT SP]

3 EXTERNAL MICROPHONE JACK [MIC]
Connects the OPC-129 CLONING CABLE for cloning.

4 DC POWER JACK [DC IN 13.8V]
Accepts 7 ~ 16 V DC power. This jack has charging capability.

5 POWER SWITCH/VOLUME CONTROL [VOL]

6 AUXILIARY SWITCH [S]
This switch is not used at present.

7 TRANSMIT INDICATOR [TX]

8 SET SWITCH [SET]
- Selects TX 5-tone indication or comment indication.
- Scrolls the comment while pushing [FUNC].
- Selects SET mode when the transceiver is in the SET mode condition.

9 CHANNEL SWITCH [CH (SCAN)]
- Selects a memory channel with a keyboard.
- Starts scanning while pushing [FUNC].
- Stops scanning.

(2) Function display

TRANSMIT INDICATOR
Appears when transmitting.

BUSY INDICATOR
Appears when a signal is received.

MONITOR INDICATOR
Appears when the transceiver is in the monitor condition.

TONE SWITCH [TONE (LOCK)]
- Selects a TX 5-tone code with a keyboard.
- Activates the keyboard lock function while pushing [FUNC].
- Selects the next item in SET mode.

RESET SWITCH [RESET]
- Selects the reset or monitor condition.
  • The monitor condition cannot be selected when the reset switch is set to OFF in dealer SET mode.
- Resets each operation in both OPERATING and SET modes.

KEYBOARD
Digit keys : Used to enter numerals or letters.

- Push [1] ~ [6] while holding [FUNC] to input the digit "A ~ F" in SET mode.
- Push [7] while holding [FUNC] to set the digit to the left in SET mode.
- Push [9] while holding [FUNC] to set the digit to the right in SET mode.
- Push [0] while pushing [FUNC] to enter the blank in SET mode.

G   : - Used to enter the digit "G" for group code.
             - Selects ON/OFF in SET mode.
             - Push [G] while holding [FUNC] to scroll the display down in SET mode.

CLR   : - Clears the input data.
             - Sets + or − in SET mode.
             - Push [CLR] while holding [FUNC] to scroll the display up in SET mode.

LIGHT SWITCH [LIGHT]

PTT SWITCH

CALL SWITCH [CALL]
Transmits 5-tone codes in OPERATING mode.

FUNCTION SWITCH [FUNC]
- Activates the secondary switch functions.
- Used as a cloning switch.
- Used as a function switch in SET mode.

BELL INDICATOR
Appears when the decoded 5-tone code is matched to one of the RX 5-tone codes programmed in the operating memory channel.

LOCK INDICATOR
Appears when the keyboard lock function is activated.

SET MODE INDICATOR
- Appears when the transceiver is in SET mode.
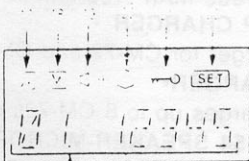- Blinks when the [SET] switch should be pushed.

FUNCTION INDICATOR
Displays the channel number, 5-tone code, etc.

SCAN CHANNEL INDICATOR
Appears when the selected memory channel is a scan channel.

11-4 Specifications

(1) IC-V210T

GENERAL

• Frequency coverage	: 136 ~ 174 MHz (A range is restricted depending on the versions.)
• Mode	: FM (16K0F3E) Normal type FM (14K0F3E) Holland version FM (8K50F3E) Narrow type
• Channel spacing	: 25 kHz Normal type 20 kHz Holland version 12.5 kHz Narrow type
• Antenna impedance	: 50 Ω
• Usable temperature range	: −25°C ~ +55°C
• Power supply requirement	: 13.8 V DC ±15%
• Dimensions (projections not included)	: 140(W) x 50(H) x 182(D) mm
• Weight	: 1.5 kg

TRANSMITTER

• Output power	: 25 W Normal type 10 W Low power type

RECEIVER

• Sensitivity	: 0.35 μV for 12 dB SINAD
• Squelch sensitivity	: 0.32 μV (threshold)
• Audio output power	: 3 W with a 4 Ω load
• Audio output impedance	: 4 Ω

All stated specifications are subject to change without notice or obligation.

11-5 Options

(1) IC-V210T

- **EM-63 HAND MICROPHONE**
  Same type as supplied with the IC-V210T.
- **HM-47 DTMF MICROPHONE**
  Hand microphone equipped with a DTMF encoder.
- **MB-26 MOUNTING BRACKET**
  Same type as supplied with the IC-V210T.
- **OPC-044A DC POWER CABLE**
  Same type as supplied with the IC-V210T.
- **OPC-178 CLONING CABLE**
  For a cloning connection between two IC-V210Ts.
- **SP-5 EXTERNAL SPEAKER**
  Large size external mobile speaker for high output power.
  Max input power: 5 W Input impedance: 4 Ω
- **SP-10 EXTERNAL SPEAKER**
  Compact size external mobile speaker.
  Max input power: 5 W Input impedance: 4 Ω
- **PS-200 AC POWER SUPPLY**
  13.8 V DC/8 A power supply for use the IC-V210T with AC.
- **SM-14 DESKTOP MICROPHONE**
  Desktop microphone equipped with a call switch.
- **UX-11 HORN-HONK DRIVER UNIT**
  This unit is necessary for a connection to the external alarm device.

(2) IC-H21T

GENERAL

• Frequency coverage	: 136 ~ 174 MHz
• Mode	: FM (16K0F3E) Normal type FM (14K0F3E) Holland version FM (8K50F3E) Narrow type
• Channel spacing	: 25 kHz Normal type 20 kHz Holland version 12.5 kHz Narrow type
• Antenna impedance	: 50 Ω
• Usable temperature range	: −25°C ~ −55°C
• Power supply requirement	: Icom battery pack or case or external 8 ~ 16 V DC
• Dimensions (with CM-72) (projections not included)	: 65(W) x 205(H) x 35(D) mm
• Weight (with CM-72)	: 660 g

TRANSMITTER

• Output power	: 5 W (at 13.8 V DC) 2 W (at 8.4 V DC)

RECEIVER

• Sensitivity	: 0.35 μV for 12 dB SINAD
• Squelch sensitivity	: 0.3 μV (threshold)
• Audio output power	: 500 mW
• Audio output impedance	: 8 Ω

All stated specifications are subject to change without notice or obligation.

(2) IC-H21T

- **BATTERY PACKS AND BATTERY CASES**

CM-3G	8.4 V	270 mAh	39 mm (1.5 in)
CM-4G	Battery case for six R6 (AA)		49 mm (1.9 in)
CM-5G	10.8 V	450 mAh	56 mm (2.2 in)
CM-5AG	10.8 V	450 mAh	80 mm (3.1 in)
CM-7G	13.2 V	450 mAh	80 mm (3.1 in)
CM-8G	8.4 V	800 mAh	80 mm (3.1 in)
CM-12G	Battery case for ten R6 (AA)		80 mm (3.1 in)
CM-72	8.4 V	1000 mAh	75 mm (3.0 in)
CM-73	13.2 V	1000 mAh	109 mm (4.3 in)

- **BM-70E DESKTOP CHARGER**
  Desktop rapid charger for CM-72 and CM-73.
- **BM-75 MULTI-CHARGER**
  Simultaneously charges up to 6 CM-72s or CM-73s.
- **CM-9, EM-46, HM-54 SPEAKER-MICROPHONES**
- **CP-13 CIGARETTE LIGHTER CABLE WITH NOISE FILTER**
  For operation or charging with a 12 V battery
- **HS-51 HEADSET**
- **MB-16, MB-16D MOUNTING BRACKETS**
  MB-16: Hanger-type. MB-16D: Wall-type.
- **OPC-129 CLONING CABLE**
  For a cloning connection between two IC-H21Ts.
- **OPC-288 DC POWER CABLE**
- **ST-10 SHOULDER STRAP**

11-6 Data in the transceivers

DATA	IC-V210T			IC-H21T		
	Clone	Dealer	User	Clone	dealer	User
INITIAL DATA						
Mch No. min max	•	–		•	–	–
Tch No. min max	•	–		•	–	–
COMMON DATA						
IF FREQUENCY	•	–		•	–	–
IF FREQUENCY SIGN	•			•	–	–
POWER SAVER	Not equipped			•	–	–
SCAN MODE	•	–		•	–	–
BEEP	–	•	•	–	•	•
10KEY SELECT	•	–		•	–	–
T.O.T. ALARM	•	–		•	–	–
CALL ACTION	•	–		•	–	–
SCAN AT POWER ON	•	–		•	–	–
MONITOR AT POWER ON	•	–		•	–	–
DIGIT TO INDICATE	•	–		•	–	–
DIGIT TO CHANGE	•	–		•	–	–
DIGIT TO DECODE	•	–		•	–	–
USER PASSWORD	•	–		•	–	–
DEALER PASSCODE	•			•		
INITIAL MESSAGE	–	–	–	–	–	–
POWER SAVER OFF TIMER	Not equipped.			•	–	–
POWER SAVER ON TIMER	Not equipped.			•	–	–
TIME-OUT TIMER	•	–	–	•	–	–
FAST SCAN TIMER	•	–	–	•	–	–
SLOW SCAN TIMER	•	–	–	•	–	–
RESUME SCAN TIMER	•	–	–	•	–	–
BURST TIMER	•	–	–	•	–	–
TX MUTE TIMER	•	–	–	•	–	–
RX MUTE TIMER	•	–	–	•	–	–
PENALTY TIMER	•	–	–	•	–	–
EXC TIMER	•	–	–	Not equipped.		
AUTO RESET TIMER	•	–	–	•	–	–
AUTO TX TIMER	•	–	–	•	–	–
LINK1 TIME	•	–	–	•	–	–
LINK2 TIME	•	–	–	•	–	–
LINK3 TIME	•	–	–	•	–	–
LONG TONE TIME	•	–	–	•	–	–
WAIT TIME D	•	–	–	•	–	–
WAIT TIME ABC	•	–	–	•	–	–
DISPLAY MODE		•	•		•	•
AUTO RESET	–	•	•		•	•

Clone : Cloning from the EX-704 DATA PROGRAMMER version 3.0
Dealer : Dealer SET mode
User : User SET mode

• : Applicable
– : Not applicable

DATA	IC-V210T			IC-H21T		
	Clone	Dealer	User	Clone	Dealer	User
MEMORY CHANNEL DATA						
RX FREQUENCY	•	•	–	•	•	–
RX TONE	•	•	–	•	•	–
TX SHIFT	•	•	–	•	•	–
TX TONE	•	•	–	•	•	–
REPEATER CODE	•	•	–	•	•	–
FORMAT	•	–	–	•	–	–
SCAN CHANNEL (LOCKOUT)	•	•	•	•	•	•
TX INHIBIT	•	–	–	•	–	–
LOW POWER	•	–	–	•	–	–
T.O.T.	•	–	–	•	–	–
REPEATER LOCKOUT	•	–	–	•	–	–
TX 5-TONE	•	–	–	•	–	–
RESET SWITCH	•	•	–	•	•	–
HANGER SWITCH	•	•	–	Not equipped.		
CHANNEL MUTE OPERATION	•	–	–	•	–	–
LOG IN/OFF	•	–	–	•	–	–
LONG TONE REPEATER	•	–	–	•	–	–
LONG TONE CALL	•	–	–	•	–	–
LONG TONE ID	•	–	–	•	–	–
LINK TONE REPEATER	•	–	–	•	–	–
LINK TONE CALL	•	–	–	•	–	–
LINK TONE ID	•	–	–	•	–	–
RECEIVE NUMBER SELECTION	•	•	•	•	•	•
DURATION TIME	•	–	–	•	–	–
TX 5-TONE CHANNEL DATA						
TONE CODE	•	•	•	•	•	•
ID OUT	•	–	–	•	–	–
ABC DECODE	•	•	–	•	•	–
COMMENT	•	•	•	•	•	•
ABC DISPLAY	•	–	–	•	–	–
RX 5-TONE CHANNEL DATA						
TONE CODE	•	•	•	•	•	•
ABC OUT	•	–	–	•	–	–
BELL DISPLAY	•	–	–	•	–	–
BEEP OUT	•	–	–	•	–	–
EXC OUT	•	–	–	Not equipped		
AUTO SCAN	•	–	–	•	–	–
D DECODE	•	–	–	•	–	–
DECODE ACTION	•	–	–	•	–	–
AUTO TX	•	–	–	•	–	–
STATUS DIGIT	•	•	–	•	•	–
ID	•	–	–	•	–	–
ANSWER BACK CHANNEL DATA						
ABch 1 TONE CODE	•	•	–	•	•	–
ABch 2 TONE CODE	•	•	–	•	•	–
ABch 3 TONE CODE	•	•	–	•	•	–