

Standard C408



This is a modified amateur radio which no one knows how to reprogram. We hope that the following document helps.

Please note that its amateur radio specification bandwidth can cause some "bleed over" onto adjacent channels during transmit and receive. Despite these units being designed for operation between 430 MHz and 440 MHz they will comfortably operate to 480 MHz.

Typical problems result from the user (i.e. certain Presenters who shall remain nameless) who "twiddle" with the protruding buttons and knobs, inadvertently reprogramming the unit. One solution is to cut the buttons flush with the case, the other more pleasing solution is to fit the C408 into a radio mic pouch.

BASIC OPERATIONS

1. OPERATION MODE

-**VFO MODE** : The status of the C408 that a frequency is indicated in the display without 'M'. This frequency is called as 'VFO frequency'.

The C408 delivered to you from our factory is set to VFO mode.

***MEMORY MODE** : The status of the C408 that a frequency is indicated in the display with memory address number.

The C408 switches to MEMORY MODE by pressing V/M key at VFO MODE. Details are described later.

***CALL MODE** : The status of the C408 that a 'C' is indicated in the display.

Details are described later.

***SET MODE** : Recall SET MODE to program functions that can be set in the SET MODE. Details are described later.

2. KEY FUNCTIONS

POWER : Power On/Off, pressing for more than 0.3 second turns on the C408.

CAUTION: The C408 does not turn on if the battery voltage is less than 1.8 V.

LAMP : Light the LCD of the C408 for 5 second. It turns off automatically 5 second after or by pressing LAMP key again during lighting.

SET : Recall the SET MODE. Each function of SET MODE is indicated in the display by pressing SET key. Rotating channel selector while holding SET key can recall desired function more quickly.

MONI : The squelch is open only while holding MONI key.

CALL : Recall CALL frequency. Pressing Call key again reverts to the last frequency.

SC : Activate/cancel Scanning. Cancel SET MODE.

V/M : Alternately switch MEMORY MODE and VFO MODE. Switch the C408 to VFO MODE from other modes.

3. FUNCTIONS AT SET MODE

DISPLAY ---INITIAL SET----- FUNCTION

FL-----OFF----- KEY-LOCK ON/OFF

PL----- OFF-----PTT-LOCK ON/OFF

SHL-----LO-----SQUELCH SENSITIVITY HIGH/LOW

StL-----OFF-----CHANGE STATUS AT MONI MODE

DL-----OFF-----DUAL WATCH ON / OFF

CLr-----OFF-----MEMORY CLEAR

Ent-----OFF-----MEMORY STORE

**MSM-----OFF-----MEMORY SCAN MEMORY (SELECTED
MEMORIES SCAN)**

**SA-----OFF-----BATTERY SAVE ON/OFF, SETTING THE SAVE
ON TIME**

SCb-----OFF-----BUSY SCAN ON/OFF

St-----5-----SET TUNING STEP

OF-----1.6-----SET OFFSET FREQUENCY

rP-----OFF-----REPEATER MODE ON/OFF

LL-----OFF-----LAMP-LOCK ON/OFF

APO-----OFF-----AUTO-POWER-OFF ON/OFF

**FCH-----OFF-----OPERATE ROTARY CH SELECTOR WHILE KEY-
LOCK**

ACTIVATED

bZ -----ON-----BEEP SOUND ON / OFF

ArP-----ON-----AUTO-REPEATER FUNCTION ON/OFF

BAC-----OFF-----COPY A MEMORY FREQUENCY TO VFO

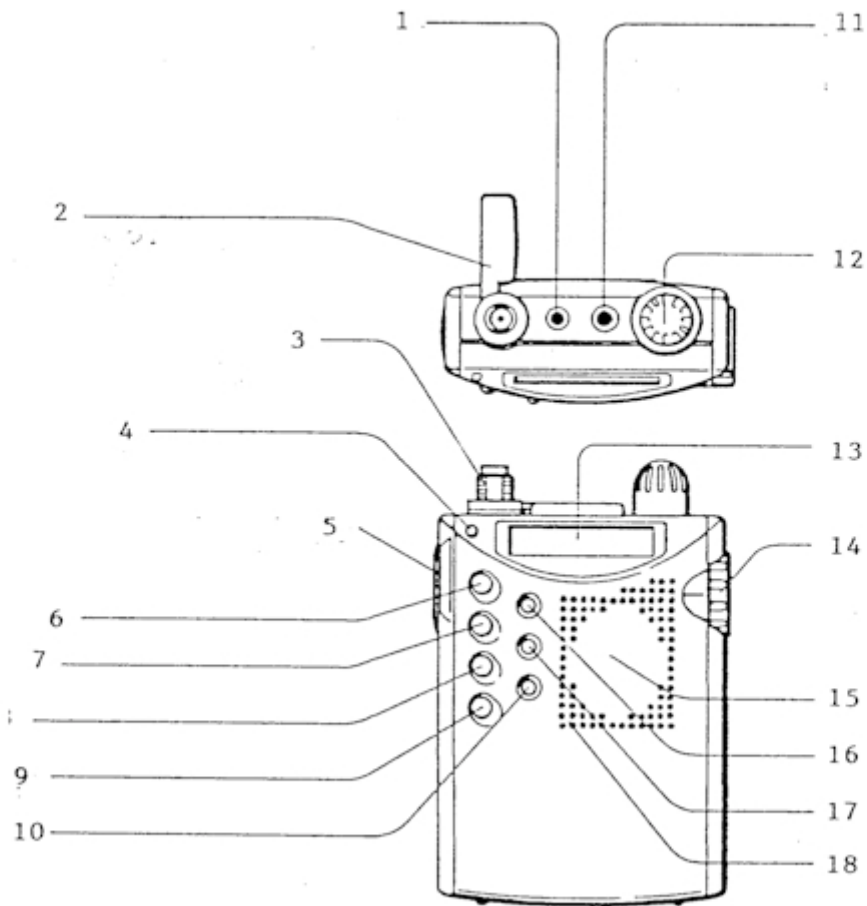
**CH-----OFF-----DISPLAY MEMORY CHANNEL BY SIMPLE
CHANNEL**

NUMBER

rS-----OFF-----REVERSE TX AND RX FREQUENCY AT REPEATER

MODE

4. DETAILS OF PARTS



1. EXTERNAL MICROPHONE JACK

2. WATER PROOF CAP

3. ANTENNA CONNECTOR (SMA TYPE)

4. TX INDICATOR

5. PTT SWITCH

6. POWER KEY

7. LAMP KEY

8. SET KEY

9. MONI KEY

10. V/M KEY

11. EXTERNAL SPEAKER JACK

12. ROTARY CHANNEL SELECTOR

13. LCD

14. VOLUME CONTROLLER

15. SPEAKER

16. CALL KEY

17. SC KEY

18. MICROPHONE

4. DETAILS OF PARTS

1. Illuminate while pressing MON key or during reception.

Extinguish when the PTT is pressed (StL mode is off).

Never extinguish when the PTT is pressed (StL mode is on).

2. Illuminate while one of the memory address numbers 1 0 - 1 9 is recalled.

3. 1 00 MHZ digit

4. 1 0 MHZ digit

5. 1 MHZ digit

6. 1 00 kHz digit

7. 1 0 kHz digit

8. Illuminate when the C408 in the REPEATER MODE (+ shift or - shift).

9. 1 kHz digit (2.5 /5.017.5 kHz)

10. Illuminate when the BUSY SCAN is activated.

11. "MHZ" dot, Blink while scanning.

12. Illuminate when squelch level is set in the HIGH position.

13. Memory address indicator

14. Illuminate when MEMORY SCAN MEMORY is on. Memory channels stored as MEMORY SCAN MEMORY are indicated With 'V'.

15. Illuminate when recall MEMORY CHANNEL or CALL MODE.

16. Keylock Indicator

17. PTT-lock indicator

REPEATER

1. OUTLINE

* Repeater Operation is described as 'Communication via Repeater Station'.

* Communication with far areas that the C408's direct carrier cannot reach becomes possible with function of Repeater Station.

* TX and RX frequencies should differ at the Repeater Operation. TX frequency is **1.6** MHZ below RX frequency. This 1.6 MHZ is called 'Offset Frequency'.

* Wherever community repeaters are open, the Repeater Operation is available. Please find frequency data of your local repeaters by books or magazines published for this purpose.

* The 408 provide Auto-Repeater Mode. This function will automatically make the TX frequency 1.6 MHZ below RX frequency.

* The 408 provide Tone Burst feature. Tone Burst frequency is 1,750 Hz.

EXAMPLE

CONVENTIONAL OPERATION (SIMPLEX)

TX/RX: 433.240 MHZ TX/RX: 433.240 MHZ

REPEATER OPERATION

TX: 433.920 MHZ RX: 433.920 MHZ TX: 433.920 MHZ

RX: 435.520 MHZ TX: 435.520 MHZ RX: 435.520 MHZ

2. UFO-REPEATER MODE

Auto-Repeater Mode enables to switch the C408 into Repeater Mode when the VFO frequency is within 435 435.995 MHZ.

Procedure:

- a) Set the VFO frequency to repeater frequency (Ex. 435.520 MHZ), and Auto-Repeater Mode Is activated automatically indicating '-' In the right side of LCD.
- b) When the PT7 switch is pressed, the C408 transmits with 1.6 MHZ offset (433.92 MHZ).

3. MANUAL REPEATER MODE

Procedure:

- a) Press the SET key to recall SET MODE. Press the SET key several times to indicate 'rP" in the display.
 - b) Rotating the Rotary Channel Selector and indicate '-' in the right side of the display.
 - c) When the PTT switch is pressed the C408 transmits with 1.6 MHZ offset, 1.6 MHZ below RX frequency.
- If '+' is selected at step-b, the C408 transmits 1.6 MHZ above RX frequency.

Caution:

The C408 inhibits transmission when the TX frequency becomes out of amateur band by offset frequency.

4. OFFSET FREQUENCY

Offset frequency is set 1.6 MHZ at our factory. Offset value is changeable for repeaters providing different offset frequency than 1.6 MHZ.

Procedure:

- a) Press the SET key to recall SET MODE. P@ the SET key several times to indicate 'of" in the display.
- b) Offset value changes by rotating the Rotary Channel Selector.
- c) Press SC key to cease the SET MODE.

5. TONE BURST

Tone burst is available for access to the repeater station that requires application by tone burst.

Procedure:

- a) Press the PTT switch and key the transmitter.
- b) Press the CALL key during transmission, and 1,750 Hz tone burst frequency is transmitted on carrier frequency only while pressing the CALL key.

MEMORY

1. OUTLINE

* The radio provides 20-memory channels with lithium battery memory backup. It is convenient to use these memory channels for storing frequencies that you often use.

* Each memory channel is indicated by memory address no. MO - M9 and MO - M9

* The following items can be stored in respective memory channels.

- a) TX / RX frequencies
- b) Repeater functions on/off
- c) Offset frequency
- d) Memory-scan memory on/off

* Memory for Program Scan (ML and MH) is also available separate from memory channels.

Advice:

- a) The C408 switches to Memory Mode when the V/M key is pressed at VFO Mode and reverts to VFO Mode by pressing V/M key again (toggle action).
- b) Memory address number 'Mx' is indicated during the Memory Mode. (x: 0 - 9)
- c) 'M' blinks when no frequency is stored into the memory address.

2. STORING IN MEMORY

Procedure:

- a) Indicate your desired frequency to be stored in memory channel. (In this case: 433.1 00 MHZ)
- b) Press the WM. key and switch the C408 to the Memory Mode.
- c) Rotate the Channel Selector and indicate your desired memory address number. (In this case: M2)
- d) Press the SET key several times to indicate 'Net'
- e) Rotate the Channel Selector, and then the C408 generates 'Peep' as notification of the completion of the memory store.

Advice:

- a) Memory is updated when a new data is entered at the memory address that data has been already stored.
- b) Each memory channel can store Repeater Mode On/Off , Offset Frequency and Memory-Scan Memory status in addition to operation frequency. These modes can be stored if you set them before entering the memory channel (between step c and d).

3. RECALLING MEMORY

Procedure:

- a) Press the V/M key and switch the C408 to the Memory Mode, and then 'Mx' is indicated in the display.
- b) Rotate the Channel Selector and indicated your desired memory address number.

4. DELETING MEMORY

Procedure:

- a) Press the V/M key and rotate the Channel Selector to indicate memory address number to be deleted.
- b) Press the SET key several times to indicate 'CLr' in the display.
- c) Rotate the Channel Selector, and then the C408 generates 'Peep" as notification of the completion of the memory delete. VFO frequency is indicated with blinking 'M'.

Advice:

- a) Any operation modes such as Repeater Mode are also deleted with operation frequency.
- b) Status of deleted memory address is the same as when the C408 is delivered from our factory.

SCAN

1. OUTLINE

* Scan can be described 'finding a carrier frequency in ft air".

* When scanning is activated, RX frequency changes in turn as programmed and stop scanning when a desired signal is received.

* The C408 provides two scanning modes of Pause Scan and Busy Scan.

a) Pause Scan: Scanning pauses whenever a signal is received, and resumes 5 seconds later even when the signal continues to be received. In case the received signal disappears, scanning will resume.

b) Busy Scan: Scanning stops while a signal is being received, and resumes 2 seconds after the signal disappears.

* The C408 provides four kinds of scanning programmable either with Pause Scan or Busy Scan.

- a) 1 MHZ Scan: Scans within a desired 1 MHZ.
- b) Program Scan: Scans within a programmed area.
- c) Memory Scan: Scans all memory channels.
- d) Memory-Scan Memory: Scans programmed memory channels only.

Advice:

- a) Please refer to instructions for 'SET MODE' for switching Pause Scan and Busy Scan modes.

2. 1 MHZ SCAN

Procedure:

- a) Set the C408 to VFO Mode. In case the VFO frequency is 433.120 MHZ, the C408 scans a 1 MHZ band of 433 MHZ (433 - 433.995 MHZ).
- b) Press the SC key and scan is activated with blinking MHZ dot in the display.
- c) Press the SC key while it scanning, and the scan is canceled.

3. PROGRAM SCAN

Programming Procedure:

- a) Indicate your desired frequency (lower limit) in the display at the VFO mode.
- b) Press the V/M key and indicate the memory address number 'ML' in the display.
- c) Press the SET key several times and indicate 'Ent' in the display.
- d) Rotate the Channel Selector and the C408 generates 'Peep' as a notification that lower frequency for program scan has been stored.
- e) Indicate your desired frequency (higher limit) in the display at the VFO mode.
- f) Press the V/M key and indicate the memory address number 'MH' in the display.
- g) Press the SET key and indicate 'Ent' in the display.
- h) Rotate the Channel Selector and the C408 generates 'Peep' as a notification that higher frequency for program scan has been stored.

Activating Procedure:

- a) Press the CALL key.
- b) Press the SC key and the Program Scan starts from programmed lower frequency.
- c) Press the SC key again to pause the Program Scan, press again to restart.

d) Press V/M key and the Program Scan is canceled. The C408 switches to the VFO Mode.

Advice:

a) Scanning frequency stop accords with frequency tuning step.

b) Scanning direction can be switched either upward or downward during scanning by rotating the Channel Selector. (Clockwise: Upward, Counter-clockwise: Downward)

3. MEMORY SCAN

Procedure:

a) Press the V/M key to switch the C408 to Memory Mode.

b) Press the SC key to activate Memory Scan. "MHZ" blinks during the Memory Scan.

c) The C408 switches to Memory Mode by pressing SC key during the Memory Scan.

d) The C408 switches to VFO Mode by pressing V/M key during the Memory Scan.

Caution:

The C408 generates 'Boo' and prohibit the Memory Scan if the Memory Scan is activated without no storing memory channels.

4. MEMORY-SCAN MEMORY

Procedure for storing memory channels in to Memory-Scan Memory:

a) Press V/M to switch the C408 to Memory Mode.

b) Rotate the Channel Selector and indicated your desired memory address to be stored into Memory-Scan Memory.

c) Press SET key several times to indicate 'MSM' in the display.

d) Rotate the Channel Selector to indicate 'v' in the left side of the display.

9) Press SC key to cancel SET Mode.

f) Repeat steps b - e to store other memory channels into Memory-Scan Memory.

Procedure for activating Memory-Scan Memory.

- a) Set the C408 to VFO mode.
- b) Press the SET key several times to indicate 'MSM' in the display.
- c) Rotate the Channel Selector to indicate 'on'.
- d) Press the SC key.
- e) Press the V/M key.
- f) Press the SC key, the C408 starts Memory-Scan Memory.
- g) The C408 switches to Memory Mode by pressing the SC key during the Memory-Scan Memory.
- h) The C408 switches to VFO Mode by pressing the V/M key during the Memory-Scan Memory.

Advice:

- a) Scanning direction can be switched either upward or downward during scanning by rotating the Channel Selector. (Clockwise., 'Upward, Counter-clockwise: Downward)

PS sorry about the " Japanese - English - Direct from the manual "