CT690

DUAL BAND VHF/UHF TRANSCEIVER

› USER MANUAL

SPECIAL FEATURES

128 Channels

FM radio

3 colors display

MIDLAND®

PUT YOURSELF IN ACTION

Index

Content of the packaging

- 1 CT690 transceiver with belt clip
- 1 Li-Ion battery pack 1700mAh 7.4V
- 1 fast desktop charger
- 1 wall adaptor
- Antenna

If any item is missing, please verify with your Midland dealer.

Maintenance

Your Two Way Radio is an electronic product of exact design and should be treated with care.
The suggestions below will help you to fulfill any warranty obligations and to enjoy this product for many years.

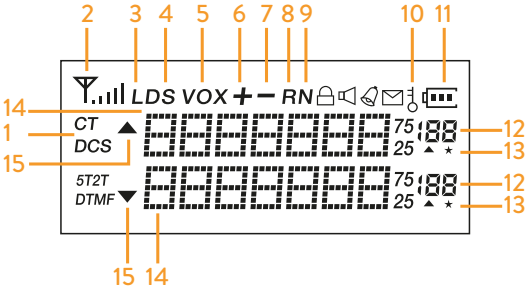
- Do not attempt to open the radio for any reason! The radio's precision mechanics and electronics require experience and specialized equipment; for the same reason, the radio should under no circumstances be realigned as it has already been calibrated for maximum performance. Unauthorized opening of the transceiver will void the warranty.
- Do not store the Radio under the sunshine or in hot areas.
- High temperatures can shorten the life of electronic devices, and warp or melt certain plastics.
- Do not store the radio in dusty and dirty areas.
- Keep the Radio dry. Rainwater or damp will corrode electronic circuits.
- If it appears that the Radio diffuses peculiar smell or smoke, please shut off its power immediately and take off the charger or battery from the radio.
- Do not transmit without antenna.

Main features

- VHF and UHF bands and channel name displayed
- Operating modes: UHF/VHF, UHF/UHF, VHF/VHF
- Output power: 5W
- Up to 128 memory channels
- 50 CTCSS tones and 208 DCS codes
- 1750Hz tone for repeaters
- SOS Emergency function
- LCD display with backlight adjustable in 3 colors
- FM radio receiver (65-108MHz)
- Repeater shift
- VOX, Scan, Dual Watch functions
- Channel spacing: 25KHz/12.5KHz
- Channel or frequency mode selection
- TOT (Time out timer)
- DTMF function
- Reverse function
- Setting and storing of channel names
- PTT-ID
- Busy Channel Lockout function (BCLO)
- High/low power selection
- Frequency step: 2.5/5/6.25/10/12.5/25KHz
- Frequency offset: 0-69.990MHz
- Squelch adjustable in 9 levels
- VOICE: vocal indication of the function selected
- Keypad lock
- Li-Ion 1700mAh battery pack
- 2pin Kenwood accessory jack

CT690 is available in 3 different colors: black, yellow or red.

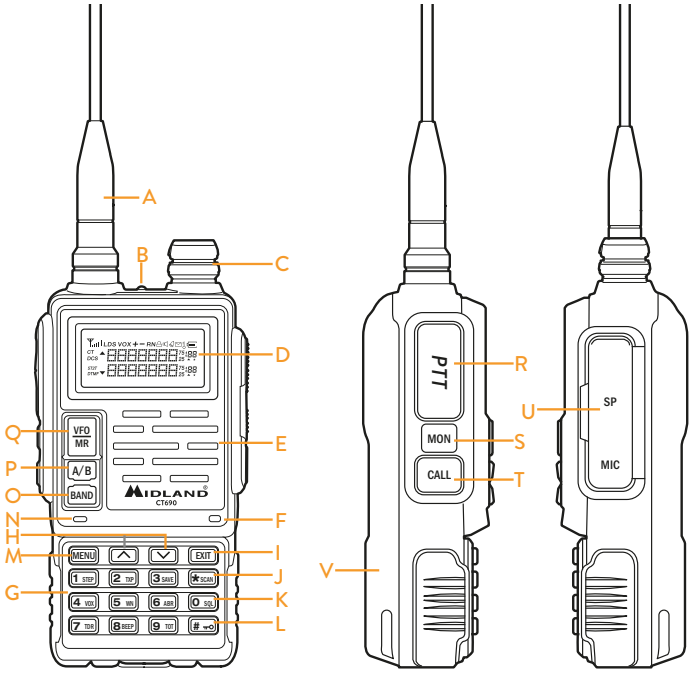
Main controls and parts of the radio



LCD Display

1. These symbols show that you set a **DCS or CTCSS** code in tx or rx. In tx mode it appears while you are transmitting , while in rx mode it is shown also in stand-by condition.
2. **Received signal strength.**
3. **Low power selection**
4. This letter is displayed when the **Dual Watch** function is active.
5. **VOX** function enabled.
6. Appears when a **positive shift** is activated.
7. Appears when a **negative shift** is enabled.
8. **Reverse** frequency
9. **Narrow bandwidth**: N = narrow / W = wide
10. This icon indicates the **keypad lock**. To unlock it press #/⊙⊔.
11. **Battery level indicator.** When the battery is almost used up, the icon starts flickering and it forbids the transmission. Charge the radio.
12. Indicates the **channel number** that you stored
13. When the radio is in **reception mode**, this icon is displayed
14. **Frequency band** in use
15. Indicates the **VFO** in use and the current menu or function setting. This icon is displayed close to the band in use.

Buttons and controls of the radio



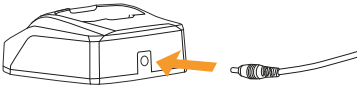
A. **Antenna**
B. **Flashlight**
C. **Power / Switch / Volume control:** Rotate to switch on/off the radio and adjust the volume
D. **LCD display**
E. **Speaker**
F. **Microphone**
G. **Alphanumerical keypad**
H. **UP/DOWN keys:** to select the functions/menu
I. **EXIT:** Push it to exit the menu and functions
J. **★/SCAN:** Reverse frequency/SCAN. Press to activate the Reverse frequency; keep it pressed to activate the SCAN function
K. **0 / SQL:** quick selection of the squelch setting
L. **#/o⎓: Keypad lock.** Long pressure: the keypad will be locked. Short pressure: high or low power selection. L is displayed when you activate the low power.
M. **MENU:** enter the MENU functions and confirm the selection.
N. **Led:** transmission (red) ; reception (green).
O. **BAND:** to switch from VHF to UHF band or viceversa.
P. **A/B.** This control is useful to select the desired frequency, VHF or UHF.
Q. **VFO/MR:** to change the frequency or the channel mode
R. **PTT**
S. **MON.** Long press: to activate the Monitor function. Short press: turns the flashlight on. Press it again to issue an emergency light.
T. **CALL:** press it to activate the FM radio. If you keep it pressed for 5 seconds, you will hear an alarm note and the radio will switch to transmission
U. **MIC/SP:** it is used for the connection to an external accessory such as earphones, mikes, etc. or to connect a programming cable for PC (PRG-10, optional) .
V. **1700mAh Li-Ion battery pack**

Programming software (optional)

Thanks to Midland Programming software PRG-G10, it is possible to increase the performance of your radio or to reduce its functionality by enabling or disabling some features.
For further information, please consult the Programming software manual.

Recharge

The battery pack is not charged, charge it before use.
Initially charging the battery pack after purchase or extended storage (longer than 2 months) will not bring the battery pack to its greatest or its normal capacity.



1. Plug the AC adapter into the back of the charger. Then plug the power cable of the adapter into city electric power.
2. Slide the Li-ion battery pack or radio with a Li-ion battery pack into the charger.

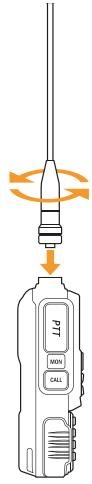
Make sure the battery pack is connected with the charging terminals.
When charging starts, the **led lights up red** on the desktop charger.
When the battery pack is completely charged, the **led turns green**.
Remove the battery or the radio from the charger.

CHARGING NOTES

- ***After the battery is charged to its highest capacity, don't charge anymore.***
- ***Do not short-circuit the battery terminals or throw the battery into fire.***
- ***Never attempt to remove the casing from the battery pack.***
- ***Please turn the power off before charging. It will affect the battery life when charging the power-on radio.***
- ***If the radio still shows low power after the normal charge, please change the battery.***
- ***The average usage time of battery pack is 13 hours. Average usage time is 5% for transmitting, 5% for receiving and 90% for standby.***

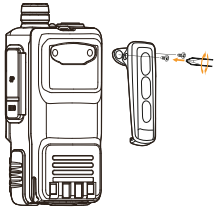
Installing the antenna

Screw the antenna as shown in the picture.



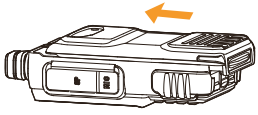
Installing the belt clip

Attach the belt clip with the supplied screws by a phillips screw driver.



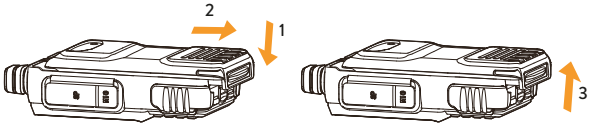
Installing the pattery pack

Slide the battery pack into the back of the radio, then lock it with the battery release button; you will hear a click.



Releasing the battery pack

Turn off the radio before releasing the battery pack.
Hold the radio face down. Push the battery release button and slide the battery pack towards you.



Main keypad controls

MENU key: it is used for activating the **MENU**, choose each **MENU** selection and confirm the parameter.

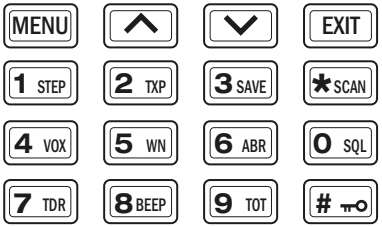
^ key: press it for more than 2 seconds, the channel and frequency will move upwards rapidly; in **SCAN** mode, press this control to move the scanning upwards.

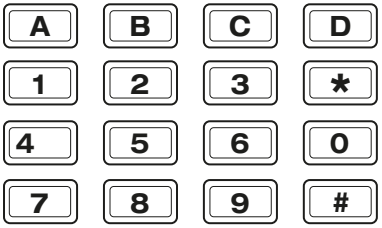
v key: press it for more than 2 seconds, the channel and frequency will move downwards rapidly; in **SCAN** mode, press this control to move the scanning downwards.

EXIT key: push this button to exit the functions and settings.

Number keys

With these keys you can input the information or your selections on the radio. In tx mode, push the number keys to send a corresponding DTMF code.





Basic operations

Power/volume switch

Turn the **Power/Volume** switch clockwise to switch on the radio; turn it counter-clockwise to switch it off.
Turn the knob to about half way to adjust the volume to a comfortable level.

Transmitting and receiving

Press the **PTT** to transmit and speak into the microphone. The display and the led will light up red.
Release the **PTT** and the radio switches to reception mode. Now the display and the led will turn green.

CALL button

Press it for a short time to turn on the FM radio. Press it again to turn it off.
If you press it for a long time you will activate the alarm function. Press it again to turn off this feature.

Monitor key

Press it for a short time to light up the flashlight. If you push this button again, the flashlight will light up to strobo mode.
Press **MON** a third time to turn off the flashlight.

To activate the Monitor function press the button for a long time .

Band Key

It allows you to change the frequency band shift (VHF or UHF);
When you are listening to FM radio, press this button to switch between the FM radio bands 65-75/76-108MHz shift;
In transmitting mode, push it to send a 1750Hz call tone.

Scan function

Push the **SCAN** key for a short time to activate the RX/TX reverse function.
If you press this button for more than 2 seconds, you activate the frequency or channel scanning.
In FM radio mode, press it to automatically search FM stations.
In CTCSS/DCS mode, press this key to start the CTCSS/DCS code scanning.

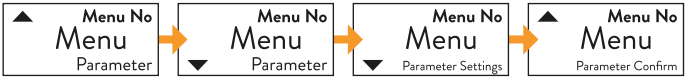
key

If you press shortly **#** you will switch to High or Low output power.
If you press this button for more than 2 seconds you will lock/unlock the keypad.

Working modes

Menu setting

The functions and settings are usually activated in the following way:
Press the **MENU** key
Press the ∧/∨ buttons to select the desired **MENU**
Push it again to enter the function. Use ∧ or ∨ to change the setting.
Press **MENU** to confirm your selection or the **EXIT** key to exit



Note1: in channel mode, the setting of these features is not possible: CTCSS/ DCS tones, wide/narrow bandwidth, PTT-ID, Busy channel lock out, channel name edit.

Note2: High/low power can only be changed by pressing the fast key #.

Menu operations

No.	Feature	Function character	Function set	LCD display	Parameter	LCD display	Selectable	Confirm key	Back key
0	Squelch Level	SQL	MENU+0	▲ SQL 5 0	Press **Menu** key,and then press ▲/▼ key to choose	▼ SQL 6 0	0-9 levels 0:Lowest 9:Highest	MENU	PTT/EXIT
1	Step Frequency	STEP	MENU+1	▲ STEP 25.0K 1	Press **Menu** key,and then press ▲/▼ key to choose	▼ STEP 12.5K 1	2.5/5.0/6.25 /10.0/12.5/ 25.0KHZ	MENU	PTT/EXIT
2	Output Power	TXP	MENU+2	▲ TXP HIGH 2	Press **Menu** key,and then press ▲/▼ key to choose	▼ TXP LOW 2	HIGH: 5W LOW: 1W	MENU	PTT/EXIT
3	Battery Saving	SAVE	MENU+3	▲ SAVE 1 3	Press **Menu** key,and then press ▲/▼ key to choose	▼ SAVE 2 3	OFF: OFF 1:1 - 2:2 3:3 - 4:4	MENU	PTT/EXIT
4	VOX	VOX	MENU+4	▲ VOX OFF 4	Press **Menu** key,and then press ▲/▼ key to choose	▼ VOX 9 4	OFF: OFF 1: Lowest Sensitivity 9: Highest Sensitivity	MENU	PTT/EXIT
5	Wide/Narrow Bandwidth	W/N	MENU+5	▲ WN WIDE 5	Press **Menu** key,and then press ▲/▼ key to choose	▼ WN NARR 5	W: 25.0K N: 12.5K	MENU	PTT/EXIT
6	Auto Backlight	ABR	MENU+6	▲ ABR OFF 6	Press **Menu** key,and then press ▲/▼ key to choose	▼ ABR NARR 6	OFF 1-5s	MENU	PTT/EXIT
7	Dual-watch Operation	TDR	MENU+7	▲ TDR OFF 7	Press **Menu** key,and then press ▲/▼ key to choose	▼ TDR ON 7	ON OFF	MENU	PTT/EXIT
8	Keypad Beep	BEEP	MENU+8	▲ BEEP OFF 8	Press **Menu** key,and then press ▲/▼ key to choose	▼ BEEP ON 8	ON OFF	MENU	PTT/EXIT
9	Time-Out-Timer	TOT	MENU+9	▲ TOT 15 9	Press **Menu** key,and then press ▲/▼ key to choose	▼ TOT 600 9	15,30····· 600S	MENU	PTT/EXIT
10	Receive DCS	R-DCS	MENU+10	▲ R-DCS OFF 10	Press **Menu** key,and then press ▲/▼ key to choose	▼ R-DCS D023N 10	OFF D023N-D754N D023I-D754I	MENU	PTT/EXIT
11	Receive CTCSS	R-CTCS	MENU+11	▲ R-CTCS OFF 11	Press **Menu** key,and then press ▲/▼ key to choose	▼ R-CTCS 67.0HZ 11	OFF 67.0-254.1HZ	MENU	PTT/EXIT
12	Transmit DCS	T-DCS	MENU+12	▲ T-DCS OFF 12	Press **Menu** key,and then press ▲/▼ key to choose	▼ T-DCS D023N 12	OFF D023N-D754N D023I-D754I	MENU	PTT/EXIT
13	Transmit CTCSS	T-CTCS	MENU+13	▲ T-CTCS OFF 13	Press **Menu** key,and then press ▲/▼ key to choose	▼ T-CTCS 67.0HZ 13	OFF 67.0-254.1HZ	MENU	PTT/EXIT

No.	Feature	Function character	Function set	LCD display	Parameter	LCD display	Selectable	Confirm key	Back key
14	Voice Reminding	VOICE	MENU+14	▲ VOICE 14 OFF	Press **Menu** key,and then press ▲/▼ key to choose	▼ VOICE 14 ON	ON OFF	MENU	PTT/EXIT
15	ANI-ID	ANI-ID	MENU+15	▲ ANI-ID 15 *****		▼ ANI-ID 15 *****	1-5 digit arbitrary selection(It can be programmed by software)	MENU	PTT/EXIT
16	DTMFST	DTMFST	MENU+16	▲ DTMFST 16 OFF	Press ▲/▼ key or input numbers directly.	▼ DTMFST 16 DT-ST	OFF DT-ST: Sending by keypads ANI-ST: Auto sending DT+ANI: Auto sending and sending by keypads	MENU	PTT/EXIT
17	Signal Code	S-CODE	MENU+17	▲ S-CODE 17 1	Press **Menu** key,and then press ▲/▼ key to choose	▼ S-CODE 17 13	1-15 group: It can be program-med by software)	MENU	PTT/EXIT
18	Scan Resume Mode	SC-REV	MENU+18	▲ SC-REV 18 TO	Press **Menu** key,and then press ▲/▼ key to choose	▼ SC-REV 18 SE	TO: Time scanning CO: Carrier wave scanning SE: Search scanning	MENU	PTT/EXIT
19	PTT ID	PTT-ID	MENU+19	▲ PTT-ID 19 OFF	Press **Menu** key,and then press ▲/▼ key to choose	▼ PTT-ID 19 BOT	OFF: Press PTT not to send BOT: Press PTT to send (PTT ID code can set by program-ming software) EOT: Release PTT to send. BOTH: Press or release PTT to send		PTT/EXIT
20	PTT ID delay	PTT-LT	MENU+20	▲ PTT-LT 20 0	Press **Menu** key,and then press ▲/▼ key to choose	▼ PTT-LT 20 1	0,1,2…… 30ms	MENU	PTT/EXIT
21	Channel A Display Mode	MDF-A	MENU+21	▲ MDF-A 21 FREQ	Press **Menu** key,and then press ▲/▼ key to choose	▼ MDF-A 21 CH	FREQ: Channel+ frequency CH: Channel number NAME: Channel name(It can be programmed by software)	MENU	PTT/EXIT
22	Channel B Display Mode	MDF-B	MENU+22	▲ MDF-B 22 FREQ	Press **Menu** key,and then press ▲/▼ key to choose	▼ MDF-B 22 CH	FREQ: Channel + frequency CH: Channel number NAME: Channel name(It can be programmed by software)	MENU	PTT/EXIT
23	Busy Channel Lock	BCL	MENU+23	▲ BCL 23 OFF	Press **Menu** key,and then press ▲/▼ key to choose	▼ BCL 23 ON	ON OFF	MENU	PTT/EXIT
24	Auto Keypad Lock	AUTOLK	MENU+24	▲ AUTOLK 24 OFF	Press **Menu** key,and then press ▲/▼ key to choose	▼ AUTOLK 24 ON	ON OFF	MENU	PTT/EXIT
25	Frequency Deviation Setting	SFT-D	MENU+25	▲ SFT-D 25 OFF	Press **Menu** key,and then press ▲/▼ key to choose	▼ SFT-D 25 +	OFF +:TX frequency >RX frequency -:TX frequency <RX frequency	MENU	PTT/EXIT

No.	Feature	Function character	Function set	LCD display	Parameter	LCD display	Selectable	Confirm key	Back key
26	Frequency of Different Frequency	OFFSET	MENU+26	▲ OFFSET 26 00.000	Press Menu key and then input numbers directly.	OFFSET 26 ▼ 05.000	00.000-69.990MHZ	MENU	PTT/EXIT
27	Channel Store	MEM-CH	MENU+27	▲ MEM-CH 27 000	Press **Menu**,and then press ▲/▼ key to choose. Or input three numbers directly.	MEM-CH 27 ▼ 036	0-127 Channels	MENU	PTT/EXIT
28	Channel Delete	DEL-CH	MENU+28	▲ DEL-CH 28 000	Press **Menu**,and then press ▲/▼ key to choose. Or input three numbers directly.	DEL-CH 28 ▼ 006	Any one of the stored channels	MENU	PTT/EXIT
29	Standby Backlight	WT-LED	MENU+29	▲ WT-LED 29 OFF	Press **Menu** key,and then press ▲/▼ key to choose	WT-LED 29 ▼ BLUE	OFF Green Red Yellow	MENU	PTT/EXIT
30	RX Backlight	RX-LED	MENU+30	▲ RX-LED 30 OFF	Press **Menu** key,and then press ▲/▼ key to choose	RX-LED 30 ▼ GREEN	OFF Green Red Yellow	MENU	PTT/EXIT
31	TX Backlight	TX-LED	MENU+31	▲ TX-LED 31 OFF	Press **Menu** key,and then press ▲/▼ key to choose	TX-LED 31 ▼ GREEN	OFF Green Red Yellow	MENU	PTT/EXIT
32	Alarm Mode	AL-MOD	MENU+32	▲ AL-MOD 32 OFF	Press **Menu** key,and then press ▲/▼ key to choose	AL-MOD 32 ▼ SITE	SITE: Site alarm TONE: Sending alarm tone CODE: Sending alarm code	MENU	PTT/EXIT
33	Frequency Band Shift	BAND	MENU+33	▲ BAND 33 UHF	Press **Menu** key,and then press ▲/▼ key to choose	BAND 33 ▼ VHF	UHF: 400-480MHz VHF: 136-174MHz	MENU	PTT/EXIT
34	Dual-watch Operation (Cross Band TX/RX)	TDR-AB	MENU+34	▲ TDR-AB 34 OFF	Press **Menu** key,and then press ▲/▼ key to choose	TDR-AB 34 ▼ A	OFF A band transmit (Upper row frequency) B band transmit (Bottom row frequency)	MENU	PTT/EXIT
35	Tail Tone Elimination	STE	MENU+35	▲ STE 35 OFF	Press **Menu** key,and then press ▲/▼ key to choose	STE 35 ▼ ON	ON OFF	MENU	PTT/EXIT
36	Repeater Side Tone Elimination	RP-STE	MENU+36	▲ RP-STE 36 OFF	Press **Menu** key,and then press ▲/▼ key to choose	RP-STE 36 ▼ 5	OFF 1,2·····10ms	MENU	PTT/EXIT
37	Time of Repeater Side Tone Elimination	RPT-RL	MENU+37	▲ RPT-RL 37 OFF	Press **Menu** key,and then press ▲/▼ key to choose	RPT-RL 37 ▼ 5	OFF 1,2·····10ms	MENU	PTT/EXIT
38	Displays Mode at the Turning On	PONMSG	MENU+38	▲ PONMSG 38 FULL	Press **Menu** key,and then press ▲/▼ key to choose	PONMSG 38 ▼ MSG	FULL: Full frequency character MSG: CT690 on display	MENU	PTT/EXIT
39	Roger Beep	ROGER	MENU+39	▲ ROGER 39 OFF	Press **Menu** key,and then press ▲/▼ key to choose	ROGER 39 ▼ ON	ON OFF	MENU	PTT/EXIT
40	Reset	RESET	MENU+40	▲ RESET 40 ALL	Press **Menu** key,and then press ▲/▼ key to choose	RESET 40 ▼ VFO	VFO: Menu initialization ALL: Menu and channel initialization	MENU	PTT/EXIT

No.	Feature	Function character	Function set	LCD display	Parameter	LCD display	Selectable	Confirm key	Back key
41	Keypad Lock		Press key "#"for more than 2s	400.875 136.225		▲ 400.875 136.225	Repeatedly press key"#"for more than 2s to lock or unlock.	Auto	Auto
42	FM Radio	FM	Slightly press Call key	▲ FM 100.700	Press CALL key, and then press ▲/▼ key to choose, or it can input numbers directly.		65-75MHZ 76-108MHZ 65-108MHZ	Auto	PTT or tap call key
43	Rapid Alert	ALARM	Press CALL key for more than 2s.	▲ ALARM 138.625				Auto	PTT
44	Flashlight		Tap MON key				Repeatedly tap MON key to turn it on or off	Auto	Auto
45	Monitor	MON	Press key MON for more than 2s.				Press key MON for more than 2s to turn it on. Release key MON to turn it off	Auto	Auto
46	Cloning Function	COPING	Press key MON to turn the power on	COPING				Auto	Auto
47	Channel/Frequency Mode Conversion	VFO/MR	Press the VFO/MR key	▲ 400.875 136.225		▲ 400.875 3 136.225 4	Display channel mode according to menu21 and 22	Auto	Auto
48	TX 1750Hz Call Tone		Press key PTT+BAND					Auto	Release PTT
49	Reverse Function	R	Tap * key	▲ **R** 400.875 136.225			Repeatedly tap key * to turn it on or off	Auto	Auto
50	Frequency Scanning	FM	In frequency mode, press key * for more than 2s.	▲ 400.875 136.225	Press ▲/▼ key to change the scanning direction		Scan upwards or downwards according to the set step frequency	Auto	PTT/EXIT
51	Channel Scanning		In channel mode, press key * for more than 2s.	▲ 400.875 3 136.225 4	Press ▲/▼ key to change the scanning direction		Scan upwards or downwards according to the set channels	Auto	PTT/EXIT
52	Auto Search FM Radio	FM	In FM Radio mode, press key *	▲ FM 100.700	Repeatedly press key *		FM Radio band: 65-108MHz	Auto	PTT or tap call key
53	Research CTCSS/DCS Code		MENU+10 or MENU+11	R-CTCS or R-DCS	Press * key		Automatcally research CTCSS/DCS code	MENU	PTT/EXIT
54	Cursor "▲" Conversion	A/B	Tap key AB	▲ 400.875 3 136.225 4	Repeatedly press key AB	▼ 400.875 136.225	A: Upper row B: Bottom row	Auto	Auto
55	High/low Power Fast Selection	H/L	In Channel mode, tap key #	▲ **H** 400.875 3 136.225 4	Repeatedly press key #	▲ **L** 400.875 3 136.225 4	H:5W L:1W	Auto	Auto

Important1: CT690 has a dual-frequency display function. In frequency mode, you will see on the display two different receiving and transmitting frequencies; while in channel mode the two different channels will be displayed.

Important2: In frequency or channel mode, press the A/B control to shift between the main channel A and the sub-channel B.

▲ on the display indicates on which channel (main channel A or sub channel B) you are operating. ▼ is displayed next to the channel.

Functions and operations

Squelch level (SQL) - MENU No.0

With this function it is possible to adjust the squelch in different pre-set levels:

- **level 0:** open squelch; you will receive all signals, also the weakest ones, but you will also hear the background noises or undesired signals.
- **level 1- 9:** level 1 (lowest level), level 9 (highest level).

If you set the highest squelch level, you will only receive the strongest signals.

Step frequency (STEP) - MENU No.1

This function lets you select the desired frequency step.
The selectable steps are the following:
2.5/5/6.25/10.0/12.5/25 KHz

Note: in channel mode, this function cannot be enabled.

Output power (TXP) - MENU No.2

In this **MENU** you can select the high/low output power.
Low power = 1W; High power = VHF 6W / UHF 5W

Note: select the output power can improve the quality of the call, while the low output power can reduce the radiation and the battery capacity loss. In channel mode press the fast key "#" to switch between the high or low output power (MENU No.55).

Battery save (SAVE) - MENU No.3

The power save feature enables a reduction in the consumption of the battery when the radio is in standby.
You have 5 selections available: OFF / 1:1 / 1:2 / 1:3 / 1:4.
For example: 1:1 = 1s' working and 1s' battery saving. 1:2 = 1s' working and 2s' battery saving.

VOX Function (VOX) - MENU No.4

This function allows hands-free conversations: just speak in the direction of the microphone and the communication will be automatically activated.
You can choose amongst 11 levels: OFF-10. 1 is the highest level, 10 is the lowest one.

Note: the higher is the level, the higher is the microphone sensitivity. The VOX function cannot be enabled in SCAN and FM radio mode.

Wide/Narrow bandwidth (W/N) - MENU No.5

This function is used to set the working bandwidth of the radio.
you can choose between wide or narrow bandwidth.
WIDE: 25KHz, NARROW: 12.5 KHz

Note: the radio normally uses the wide band. In channel mode, this function cannot be used.

Backlight (ABR) - MENU No. 6

With this function you can adjust the auto off time of the display backlight (1-5s).

Note: we suggest you setting 4-5s levels.

Dual Watch Operation (TDR) - MENU No. 7

When this function is activated, you can receive the frequency of channel A and channel B at the same time.
If a signal is detected, ▲ will blink on the corresponding channel or frequency.

Note: In Dual Watch operation mode, you can change the parameter of AB channel or frequency freely.

Keypad beep (BEEP) - MENU No. 8

When this function is enabled, everytime a button is pressed, you will hear a beep tone.

Time-Out-Timer (TOT) - MENU No.9

The TOT function is used to prevent a too long transmission and limits the tx time: TOT temporarily stops the transmssion if the radio has been used beyond the max pre-set time (for example 15s, 30s, 45s, etc).

Receiving DCS (R-DCS) - MENU No.10

DCS codes are similar to access codes and can be added to channels, so as to create a sort of personal channel. They enable the radio to communicate with the users that are tuned on the same channel and have set the same DCS code.
You can choose amongst:
OFF: OFF
R-DCS: D023N-D754N **(**Normal DCS**)**

R-DCS: D023I-D754I **(**Inverse DCS**)**

Note: In CT690 there are 208 groups of normal and inverse DCS codes. This function cannot be used in channel mode.

Receiving CTCSS (R-CTCSS) - MENU No.11

As DCS codes, the CTCSS codes can be added to the channels for creating new private channels.

Note: there are 50 groups of CTCSS tones. In channel mode the CTCSS tones cannot be enabled.

Transmitting DCS - (T-DCS) - MENU No.12

In this Menu you activate a DCS code in tx mode.

Note: the groups of DCS codes are 208. DCS codes cannot be set in channel mode.

Transmitting CTCSS (T-CTCSS) - MENU No.13

In this Menu you can set a CTCSS tone in tx mode.
You can choose: OFF or CTCSS (67.0 to 254.1 Hz)

Note: there are 50 groups of CTCSS tones. In channel mode the CTCSS tones cannot be enabled.

Voice function (VOICE) - MENU No. 14

With this function, you activate a voice that informs you about any operation/ selection you are doing.

ANI-ID (ANI-ID) - MENU No.15

With this function you can set your ID-code. It can be programmed by the proper programming software. You can edit up to 5 digits.

DTMFST (DTMFST) - MENU No.16

This function is no more supported from serial number O17100001.

Signal code (S-CODE) - MENU No.17

This function is no more supported from serial number O17100001.

SCAN Resume Mode (SC-REV) - MENU No.18

Thanks to this function, CT690 can **SCAN** in frequency or channel mode. You can choose amongst three options:

TO - Time-operated SCAN

Whenever a signal is detected, the radio will suspend the **SCAN** for 5 seconds, and then will continue to **SCAN** even if the signal is still present.

CO: Carrier-operated SCAN

Whenever a signal is detected, the radio will stop scanning. It will resume to **SCAN** once the signal will disappear.

SE: Search SCAN

The radio will stop scanning once a signal is detected.

PTT-ID (PTT-ID) - MENU No.19

With this function you can decide when sending the ANI-ID code in tx mode. You can choose amongst 4 possibilities.

OFF: press **PTT** to turn it off
BOT: the code is sent when you press the **PTT**
EOT: the code is sent when the **PTT** is released
BOTH: the code is sent when you press and release the **PTT**

Note: select 'OFF' when using in case of affecting the radio.

PTT ID delay (PTT-LT) - MENU No.20

In this **MENU** you can set the delay time (0-30ms) sending the **PTT-ID.**
Note: select '0' in normal using.

Channel A Display Mode (MDF-A) - MENU No.21

This function is used to set the display mode of channel A.

Display modes:
FREQ.: Frequency + channel No.
CH: Channel number
NAME: Channel name

Note: Channel name mode must be set by the programming software. Up to three numbers or characters can be edited.

Channel B Display Mode (MDF-B) - MENU No.22

This function is used to set the display mode of channel B.

Display modes:
FREQ.: Frequency + channel No.
CH: Channel number
NAME: Channel name

Note: Channel name mode must be set by the programming software. Up to three numbers or characters can be edited.

Busy Channel Lock (BCL) - MENU No. 23

When this function is on, it may prevent other radios' interference. If the selected channel is being used by other radios, when you press key **PTT**, your radio cannot transmit.
It can transmit only when the channel is no longer busy .

Auto Keypad Lock (AUTOLK) - MENU No.24

When this feature is activated, the keypad will be automatically locked after 15s; this prevents accidental pressure of any keys .

Shift direction (SFT-D) - MENU No.25

This function allows to set the direction of the radio frequency offset. It is very useful for communication with repeaters.
You can choose amongst these options:
+: positive offset
-: negative offset
off: no offset

Note: depending on the repeater you are communicating with, it must be set a different frequency deviation. In channel mode, this function cannot be modified.

Frequency offset (OFFSET) - MENU No. 26

In this **MENU** you can set the deviation between tx and rx.
The frequency offset of this radio is 0-69.990MHz.
This function is used for repeaters.

Channel store - (MEM-CH) - MENU No. 27

When the radio is in frequency working mode or standby mode, input the desired frequency or parameters directly.
To set a CTCSS tone or a DCS code in tx or rx on the stored channel, refer to paragraphs MENU 10-13

Note: You cannot overwrite a stored channel, you have to delete it first. See following paragraph No.28.

Channel Delete (DEL-CH) - MENU No.28

In this menu you can delete a channel of the radio.

Standby backlight (WT-LED) - MENU No.29

In this **MENU** you can choose the color of the backlight when the radio is in standby mode.
You can choose amongst :
OFF (backlight off)
GREEN
RED
ORANGE

RX backlight (RX-LED) - MENU No. 30

In this **MENU** you can choose the backlight color when the radio is receiving.
You can choose amongst :
OFF (backlight off)
GREEN
RED
ORANGE

TX backlight (TX-LED) - MENU No.31

You can choose the backlight color when the radio is transmitting.
Available colors:
OFF (backlight off)
GREEN
RED
ORANGE

Alarm Mode (AL-MOD) - MENU No.32

This function can set the tone alarm/code alarm/site alarm of the radio.
Keep pressed the **CALL** button for 3 seconds to start the alarm tone.
The following three options can be selected:
SITE ALARM: the speaker emits an alarm tone but the radio doesn't transmit;

TONE ALARM: the speaker emits an alarm tone and the radio transmits it;
CODE ALARM: the speaker emits an alarm tone and the radio transmits the ANI-ID code.

Frequency band Shift (BAND) - Menu No.33

In frequency mode, push the **BAND** button to choose the desired frequency band.

VHF: 144 - 146MHz **UHF**: 430 - 440MHz

Dual Watch (TDR-AB) - Menu No.34

When this function is on, you may receive signals of A/B channel or frequency. It can also be used for cross band receiving and transmitting.

You can choose amongst the following settings:

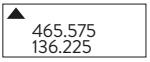
OFF: CT690 can receive in both **VFO** (not simultaneously); ▲ or ▼ will blink on the transmitting frequency band

A: the radio can receive in both VFO (not simultaneously) but can transmit in **VFO A** only.

B: CT690 can receive in both VFO (not simultaneously) but can transmit in **VFO B** only.

If you choose option A, it means that 465.575MHz is the tx frequency band, while 136.225MHz is the rx frequency band; while ***if you choose option B***, 136.225MHz is the tx frequency band and 465.575MHz is the rx frequency band.

Example: the LCD displays



Side tone elimination (STE) - Menu No. 35

This feature is helpful to eliminate the annoying audio tone after the transmission is finished (end transmission noise muffler).

Side tone elimination in communication through repeater (RP-STE) - Menu No. 36

This function is used when the radio operates through a repeater; when the **PTT** is released, the repeater will emit the end transmission tone to confirm it is working.

Available settings:
OFF
1,2,3,4,5,....10 to set the delay time.

Note: Please disable this function in normal using, lest affect your normal conversation.

Delay time of side tone elimination in communication through repeater (RPT-RL) - Menu No.37

With this function you have the confirmation that the repeater has transferred the signal.
You can choose amongst:
OFF
1,2,3,4,5,....10 to set the delay time.

Display mode at the turning on (PONMSG) Menu No.38

With this function you can set the display mode when the radio is turned on.
Available options:
FULL: full frequency character is displayed.
MSG: CT690 is displayed.

Roger beep (ROGER) - Menu No. 39

When the **PTT** is released, the radio will beep to confirm to other users that you have finished your transmission and that they can start talking.

Reset (RESET) - Menu No.40

With this function you can reset the transceiver to the factory-programmed settings and parameters. After that, you can set the desired functions.
There are two types of reset:
VFO: Menu Reset
ALL: Menu and channel Reset

Keypad lock - Menu No.41

This function locks the keypad to prevent accidental pressure of the controls.
To unlock the keypad, press # for more than 2 seconds.

FM Radio (FM) - Menu No.42

The frequency range to listen to the radio is 65-108MHz.
In frequency or channel mode, push **CALL**
Select the desired radio frequency with the ▲ or ▼ keys or input the frequency.
Press * to change the radio station
Press **CALL** to exit FM radio.

Note: while you are listening to the radio, the frequency or channel of A/B receiving signal will automatically switch to the frequency or channel mode for normal transmitting and receiving.

When the signal disappears the radio will automatically switch again to FM radio mode.

Rapid Alarm (ALARM) - Menu No.43

In frequency or channel mode, press **CALL** for more than 2 seconds: you will hear an alarm note. Press **PTT** to stop it.

Note: see Menu No.32 for Alarm mode.

Flashlight - Menu No.44

This function is very useful for night illumination.
To turn it on press **MON**; push it again , the flash light will be strobo; push it again: it will turn off.

Monitor (MON) - Menu No.45

The Monitor function excludes (opens) the squelch in order to listen to signals that are too weak to keep the squelch permanently opened.
Press **MON** to turn it on and off.

Cloning function (COPING) - Menu No.46

This function allows you to copy/transfer all data and settings from one radio to another one; the procedure is very simple and does not need a PC: just insert the two plugs of the cloning cable into the jack of the two radios.

1. Connect the optional cable (cod. R73727) to both radios
2. To enter the channel clone condition, press and hold the **MON** button while turning on the main radio; the LCD shows **'COPYING'**.
3. Turn on the sub-radio (radio to program).

4. Press **1** on the main radio. The red led of the main radio and the green led of the sub-radio will blink. **'CL-OUT'** will appear on the display.
5. When the two leds do not blink anymore, the LCD of the main radio shows **'COPYING'** and the sub-radio reboots: this means that cloning is finished. Before using the two radios, at first turn them off and on.

Channel/Frequency Mode conversion (VFO/MR) Menu No.47

To switch between channel and frequency mode push **VFO/MR**.

TX 1750Hz Call Tone - Menu No.48

Press **PTT + BAND** to send 1750Hz call tone. This function is useful for communications through repeaters.

Reverse function (R) - Menu No.49

With the reverse frequency function, the transmitting and receiving frequencies can be interchanged.
Press ***** button to swap the transmit and receive frequencies.

Note: you can turn the reverse function on when you are operating in simplex mode (same tx and rx frequency). However it does not change the tx and rx frequency.

Frequency scanning - Menu No.50

This function can scan the frequency.
1. In frequency mode , press ***** key for more than 2 seconds. The radio will start scanning the frequency according to the set frequency step.
2. You can change the scanning direction with the ▲/▼ keys.
3. Press any key to stop the scanning.

Note: for Scan mode, see Menu No.18.

Channel scanning - Menu No.51

This function can scan the channels.
1. In frequency mode, press ***** key for more than 2 seconds. The radio will start scanning according to the channel you set.
2. You can change the scanning direction with the ▲/▼ keys.
3. Press any key to stop scanning.

Note: for Scan mode, see Menu No.18.

Automatic search FM Radio (FM) - Menu No.52

This feature automatically searches the FM radio frequency.
The frequency range is 65-108MHz.

1. In frequency or channel mode, press **CALL**.
2. Repeatedly press * to automatically seach the FM Radio frequency.
3. To exit FM, push **CALL** again.

Note: while you are listening to the radio, the frequency or channel of A/B receiving signal will automatically switch to the frequency or channel mode for normal transmitting and receiving.

When the signal disappears the radio will automatically switch again to FM radio mode.

See Menu No.42.

Search CTCSS/DCS Code - Menu No.53

With this function you can search and store the CTCSS/DCS code used by other radios.
Procedure:

1. In frequency mode press **MENU+11**.
2. Push **MENU** again.
3. Push *; **CT** will blink on the display.
4. When another radio is transmitting, the display will show the CTCSS/DCS code.
5. After searching the CTCSS code, the radio will beep and stop scanning.
6. After setting, press **MR/VFO** for confirmation and store, or press **PTT** or **EXIT** to return to standby mode.

NOTE 1: the DCS scanning has the same procedure of CTCSS code, but you have to select MENU+10 to enter scanning.

NOTE 2: if CTCSS has not searched the code, you can search using the DCS mode.

Cursor "▲" Conversion (A/B) - Menu No.54

Directly press **AB** to move the cursor up and down. Then, you can modify or confirm the parameters indicated by the cursor.

High/low power selection - Menu No.55

In channel mode, press # to shift between high and low power.

Technical specifications

Frequency band	VHF 144-146MHz / UHF 430-440MHz;
Rated voltage	7.4V (Rechargeable Li-Ion battery pack)
Memory channels	128
Working mode	monoband/dualband
Output power	5W (High power: 6W VHF / 5W UHF)
CTCSS tones	50
DCS codes	208
Working temperature	-20° +50°C
Battery capacity	2500mAh
Frequency step	2.5/5/6.25/10/12.5/25KHz
Frequency offset	0 - 69.990KHz
Duty cycle	TX 5%, RX 5%, Stan-by 90%
Antenna impedance	50 Ohm
Spurious radiation	<7.5µV
Sensitivity	-122dBm (12dB SINAD)
Weight	203 gr.
Dimensions	100 x 58 x 33 mm
Connection for accessories	2 pin Kenwood jack

Specifications are subject to change without notice.

WARNING. Direct plug-in ac/dc power supply must be used for disconnecting the transceiver from the mains; the desktop charger must be positioned close to the unit and easily accessible.

All articles displaying this symbol on the body, packaging or instruction manual of same, must not be thrown away into normal disposal bins but brought to specialised waste disposal centres. Here, the various materials will be divided by characteristics and recycles, thus making an important contribution to environmental protection.

Prodotto o importato da:
CTE INTERNATIONAL s.r.l.
Via. R.Sevardi 7- 42124 Reggio Emilia Italia
www.cte.it - www.midlandeurope.com
L'uso di questo apparato può essere soggetto a restrizioni nazionali. Prima dell'uso leggere attentamente le istruzioni.

Produced or imported by:
CTE INTERNATIONAL s.r.l.
Via. R.Sevardi 7 42124 Mancasale Reggio Emilia Italy

Imported by:
ALAN - NEVADA UK
Unit 1 Fitzherbert Spur Farlington Portsmouth Hants.
P06 1TT - United Kingdom
www.nevada.co.uk
The use of this transceiver can be subject to national restrictions. Read the instructions carefully before installation and use.

Importado por:
MIDLAND IBERIA, SA
C/Cobalt, 48 - 08940 Cornellà de Llobregat (Barcelona - España)
www.midland.es
El uso de este equipo puede estar sujeto a la obtención de la correspondiente autorización administrativa. Lea atentamente las instrucciones antes de usar el equipo.

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ALAN ELECTRONICS GmbH
Daimlerstraße 1K - D-63303 Dreieich Deutschland
www.alan-electronics.de
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