CT590S

DUAL BAND VHF/UHF TRANSCEIVER

› USER MANUAL

SPECIAL FEATURES

Voice announcement

FM radio

3 colors display

MIDLAND®

Index

Content of the packaging

- 1 CT590S transceiver with belt clip
- 1 Li-Ion battery pack 1500mAh 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 UHF/VHF
- 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 (88-108MHz)
- VOX, Scan, Dual Watch functions
- Channel spacing: 25KHz/12.5KHz
- Channel or frequency mode selection
- TOT (Time out timer)
- DTMF function
- Reverse function
- Alarm function
- CTCSS and DCS codes research
- Setting and storing of channel names
- PTT-ID
- Busy Channel Lockout function (BCL)
- High/low power selection
- Frequency step: 2.5/5/6.25/10/12.5/25KHz
- Frequency offset (adjustable): 0-38.000MHz
- Repeater shift
- Squelch adjustable in 9 levels
- VOICE: vocal indication of the function selected
- Keypad lock
- Power Save
- Li-Ion 1500mAh battery pack
- 2pin Kenwood accessory jack

Main controls and parts of the radio
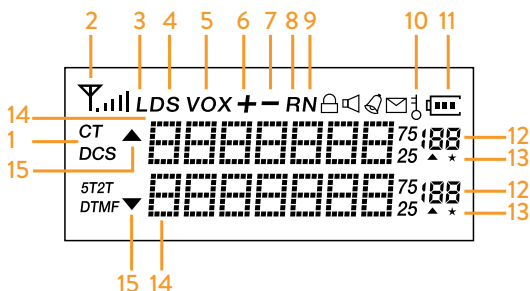
LCD Display

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. When the wide (W) bandwidth is activated, no icon is displayed.
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 blinking and the transmission is blocked. Charge the radio.
12. Indicates the **channel number** that you stored
13. When the radio is in **reception mode**, this icon is displayed
14. Depending on the setting, it will show the frequency in use, the channel name, the menu setting, etc
15. Indicates the **VFO** in use and the current menu or function setting. This icon is displayed close to the band in use or to the menu settings.

A

B

C

D

Q

P

O

N

G

J

U

SP

MIC

R

S

T

V

E

F

M

H

I

K L
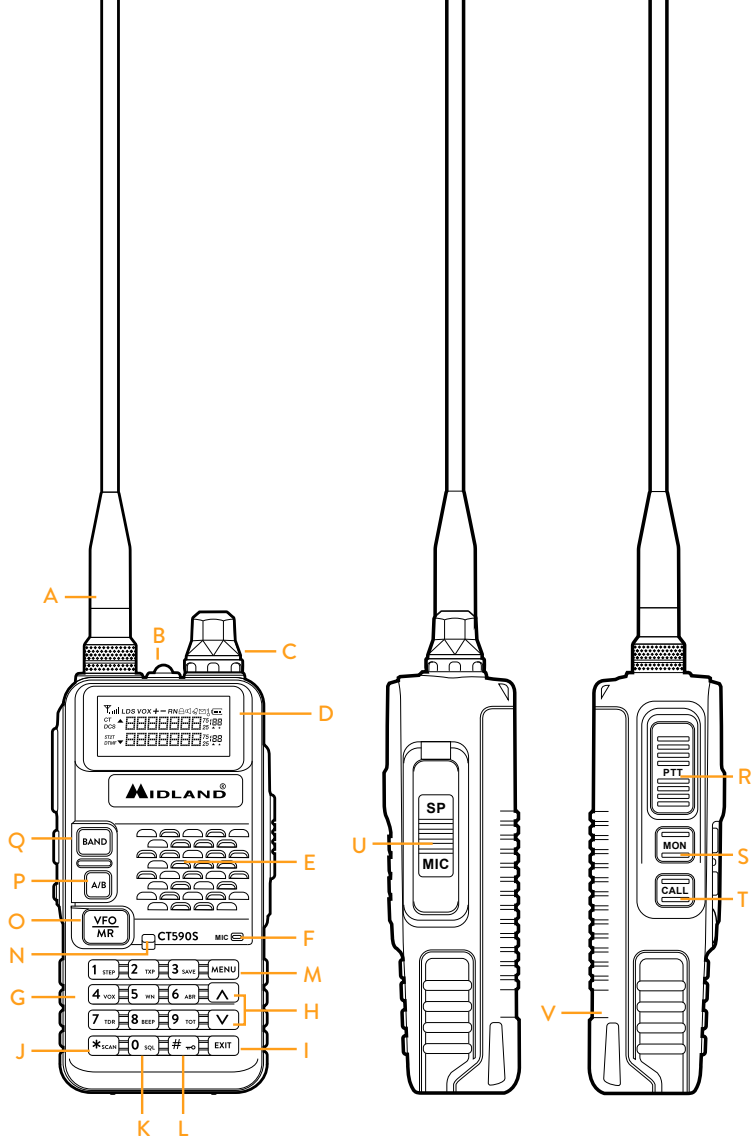
Buttons and controls of the radio

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. **#/⌂: 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 confirms the selection.
N. **Led:** transmission (red) ; reception (green).
O. **VFO/MR:** to change the frequency or the channel mode
P. **A/B.** This control is useful to select the desired frequency, VHF or UHF.
Q. **BAND:** to switch from VHF to UHF band or viceversa.
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 activate the FM radio. If you keep it pressed for 5 seconds you will hear an alarm note and the radio will switch to alarm mode (see paragraph 30).
U. **MIC/SP:** External speaker/mike jacks.
V. **1500mAh 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 power cable of the desktop charger 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.
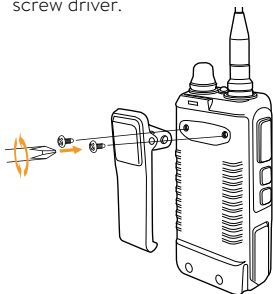
Installing the pattery pack

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.
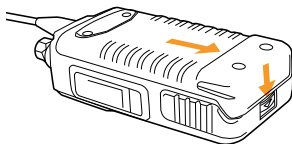
Main keypad controls

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.

∨ key: Keep it pressed 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.
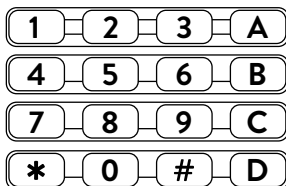
Basic operations

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);
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

	Menu No
▲	
Menu	
	Parameter

	Menu No
Menu	
▼	Parameter

	Menu No
Menu	
▼	Parameter Settings

	Menu No
▲	
Menu	
	Parameter Confirm
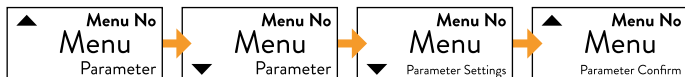
Note1: in channel mode, the setting of these features is not possible: CTCSS/ DCS tones, wide/narrow bandwidth, PTT-ID, Busy channel lock out, channel name edit.

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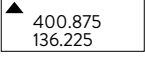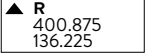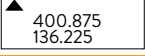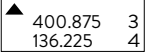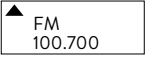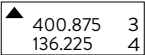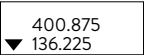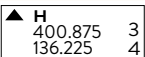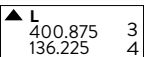
Menu operations

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

No.	Feature	Function character	Function set	LCD display	Parameter	LCD display	Selectable	Confirm key	Back key
13	Transmit CTCSS	T-CTCS	MENU+13	▲ T-CTCS **13** OFF	Press **Menu** key,and then press ▲/▼ key to choose	T-CTCS **13** ▼ 67.0HZ	OFF 67.0-254.1HZ	MENU	PTT/EXIT
14	Voice Reminding	VOICE	MENU+14	▲ VOICE **14** OFF	Press **Menu** key,and then press ▲/▼ key to choose	VOICE **14** ▼ ON	OFF CHI ENG	MENU	PTT/EXIT
15	ANI-ID	ANI-ID	MENU+15	ANI-ID **15** *****		ANI-ID **15** ▼ *****	It can be programmed by software	MENU	PTT/EXIT
16	Scan Resume Mode	SC-REV	MENU+16	▲ SC-REV **16** TO	Press **Menu** key,and then press ▲/▼ key to choose	SC-REV **16** ▼ SE	TO: Time scanning CO: Carrier wave scanning SE: Search scanning	MENU	PTT/EXIT
17	PTT ID	PTT-ID	MENU+17	▲ PTT-ID **17** OFF	Press **Menu** key,and then press ▲/▼ key to choose	PTT-ID **17** ▼ BOT	OFF: PTT ID is not sent BOT: PTT ID is sent when you start transmitting EOT: PTT ID is sent at the end of transmission BOTH: Press or release PTT to send		PTT/EXIT
18	PTT ID delay	PTT-LT	MENU+18	▲ PTT-LT **18** 0	Press **Menu** key,and then press ▲/▼ key to choose	PTT-LT **18** ▼ 1	0,1,2······ 30ms	MENU	PTT/EXIT
19	Memory A Display Mode	MDF-A	MENU+19	▲ MDF-A **19** FREQ	Press **Menu** key,and then press ▲/▼ key to choose	MDF-A **19** ▼ CH	FREQ: Channel+ frequency CH: Channel number NAME: Channel name(It can be programmed by software)	MENU	PTT/EXIT
20	Memory B Display Mode	MDF-B	MENU+20	▲ MDF-B **20** FREQ	Press **Menu** key,and then press ▲/▼ key to choose	MDF-B **20** ▼ CH	FREQ: Channel + frequency CH: Channel number NAME: Channel name(It can be programmed by software)	MENU	PTT/EXIT
21	Busy Channel Lock	BCL	MENU+21	▲ BCL **21** OFF	Press **Menu** key,and then press ▲/▼ key to choose	BCL **21** ▼ ON	ON OFF	MENU	PTT/EXIT
22	Auto Keypad Lock	AUTOLK	MENU+22	▲ AUTOLK **22** OFF	Press **Menu** key,and then press ▲/▼ key to choose	AUTOLK **22** ▼ ON	ON OFF	MENU	PTT/EXIT
23	Frequency offset direction	SFT-D	MENU+23	▲ SFT-D **23** OFF	Press **Menu** key,and then press ▲/▼ key to choose	SFT-D **23** ▼ +	OFF +:TX frequency >RX frequency -:TX frequency <RX frequency	MENU	PTT/EXIT
24	Frequency of Different Frequency	OFFSET	MENU+24	▲ OFFSET **24** 00.000	Press Menu key and then input numbers directly.	OFFSET **24** ▼ 05.000	00.000-38.000MHZ	MENU	PTT/EXIT

No.	Feature	Function character	Function set	LCD display	Parameter	LCD display	Selectable	Confirm key	Back key
25	Channel Store	MEM-CH	MENU+25	▲ MEM-CH 25 000	Press **Menu**,and then press ▲/▼ key to choose. Or input three numbers directly.	MEM-CH 25 ▼ 036	001-128 Channels	MENU	PTT/EXIT
26	Channel Delete	DEL-CH	MENU+26	▲ DEL-CH 26 000	Press **Menu**,and then press ▲/▼ key to choose. Or input three numbers directly.	DEL-CH 26 ▼ 006	Any one of the stored channels	MENU	PTT/EXIT
27	Standby Backlight	WT-LED	MENU+27	▲ WT-LED 27 OFF	Press **Menu** key,and then press ▲/▼ key to choose	WT-LED 27 ▼ BLUE	OFF Green Purple Sky blue	MENU	PTT/EXIT
28	RX Backlight	RX-LED	MENU+28	▲ RX-LED 28 OFF	Press **Menu** key,and then press ▲/▼ key to choose	RX-LED 28 ▼ GREEN	OFF Green Purple Sky blue	MENU	PTT/EXIT
29	TX Backlight	TX-LED	MENU+29	▲ TX-LED 29 OFF	Press **Menu** key,and then press ▲/▼ key to choose	TX-LED 29 ▼ GREEN	OFF Green Purple Sky blue	MENU	PTT/EXIT
30	Alarm Mode	AL-MOD	MENU+30	▲ AL-MOD 30 OFF	Press **Menu** key,and then press ▲/▼ key to choose	AL-MOD 30 ▼ SITE	SITE: Site alarm TONE: Sending alarm tone CODE: Sending alarm code	MENU	PTT/EXIT
31	Frequency Band	BAND	MENU+31	▲ BAND 31 UHF	Press **Menu** key,and then press ▲/▼ key to choose	BAND 31 ▼ VHF	UHF: 400-480MHz VHF: 136-174MHz	MENU	PTT/EXIT
32	Dual-watch Operation (Cross Band TX/RX)	TDR-AB	MENU+32	▲ TDR-AB 32 OFF	Press **Menu** key,and then press ▲/▼ key to choose	TDR-AB 32 ▼ A	OFF A band transmit (Upper row frequency) B band transmit (Bottom row frequency)	MENU	PTT/EXIT
33	Tail Tone Elimination	STE	MENU+33	▲ STE 33 OFF	Press **Menu** key,and then press ▲/▼ key to choose	STE 33 ▼ ON	ON OFF	MENU	PTT/EXIT
34	Displays Mode at the Turning On	PONMSG	MENU+34	▲ PONMSG 34 FULL	Press **Menu** key,and then press ▲/▼ key to choose	PONMSG 34 ▼ MSG	FULL: All display segments are displayed MSG: MIDLAND CT590S	MENU	PTT/EXIT
35	Roger Beep	ROGER	MENU+35	▲ ROGER 35 OFF	Press **Menu** key,and then press ▲/▼ key to choose	ROGER 35 ▼ ON	ON OFF	MENU	PTT/EXIT
36	Reset	RESET	MENU+36	▲ RESET 36 ALL	Press **Menu** key,and then press ▲/▼ key to choose	RESET 36 ▼ VFO	VFO: Menu initialization ALL: Menu and channel initialization	MENU	PTT/EXIT
	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
	FM Radio	FM	**Slightly press Call key**	▲ FM 100.700				Auto	PTT or tap call key

No.	Feature	Function character	Function set	LCD display	Parameter	LCD display	Selectable	Confirm key	Back key
	Rapid Alert	ALARM	**Press CALL key for more than 2s.**	▲ ALARM 138.625				Auto	PTT
	Flashlight		**Tap MON key**				Repeatedly tap MON key to turn it on or off	Auto	Auto
	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
	Cloning Function	COPING	**Turn on the radio Press key MON to turn the power on**	COPING				Auto	Auto
	Memory/Frequency Mode Conversion	VFO/MR	**Press the VFO/MR key**	▲ 400.875 136.225			Display channel mode according to menu21 and 22	Auto	Auto
	TX 1750Hz Call Tone		**Press key PTT+BAND**					Auto	Release PTT
	Reverse Function	R	**Tap * key**	▲ R 400.875 136.225			Repeatedly tap key * to turn it on or off	Auto	Auto
	Frequency Scanning		**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
	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
	Auto Search FM Radio		**In FM Radio mode, press key ***	▲ FM 100.700	Repeatedly press key *		FM Radio band: 65-108MHz	Auto	PTT or tap call key
	Research CTCSS/DCS Code		**MENU+10 or MENU+11**	R-CTCS or R-DCS	Press * key		Automatcally research CTCSS/DCS code	MENU	PTT/EXIT
	Cursors ▲▼ 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
	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: CT590S has a dual-frequency display function. In frequency mode, you will see on the display the operating frequency; while in memory mode the frequency and memory will be displayed.

Important2: In frequency or memory mode, press the A/B control to shift between memory/frequency A and memory/frequency B.

▼/▲ on the display indicate on which channel (main channel A or sub channel B) you are operating. The icons are displayed next to the channel.

Functions and operations

Squelch level (SQL) - MENU No.0

Thanks to this function you can adjust the squelch in 10 different levels:
- **level 0:** opened squelch. With this setting, CT590S will detect all signals, also the weakest ones, but will also receive the background noise or undesired signals.
- **levels 1- 9:** level 1 (lowest squelch level), level 9 (highest squelch level).

If the squelch is set to the highest level, the radio will receive the strongest signals only.

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 modified.

Output power (TXP) - MENU No.2

In this **MENU** you can select the high/low output power.
Low power = 1W; High power = VHF 5W / 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. Press the fast key "#" to switch between the high or low output power.

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.

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: In channel mode, this function cannot be modified.

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.

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)

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

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

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

In this Menu you activate DCS codes in tx mode. You can choose between normal R-DCS (D023N-D754N) and inverted R-DCS (D023I-D754I)

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)

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.

SCAN Resume Mode (SC-REV) - MENU No.16

Thanks to this function, CT590S 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.17

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

OFF: No PTT ID sent
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**

PTT ID delay (PTT-LT) - MENU No.18

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

Memory A Display Mode (MDF-A) - MENU No.19

This function is used to set the display mode of memory A.
Display modes:
FREQ.: Frequency + memory
CH: Channel number
NAME: Channel name

Note: Channel name mode can be set by the programming software.

Memory B Display Mode (MDF-B) - MENU No.20

This function is used to set the display mode of memory B.
Display modes:
FREQ.: Frequency + memory
CH: Channel number
NAME: Channel name

Note: Channel name mode can be set by the programming software.

Busy Channel Lock (BCL) - MENU No. 21

When this function is on, it will inhinibir the transmission when a signal is detected. If the selected frequency is being used by other radios, when you press key **PTT**, your radio cannot transmit.
Release the PTT and transmit as soon as the frequency is no longer busy.

Auto Keypad Lock (AUTOLK) - MENU No.22

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

Frequency offset direction (SFT-D) - MENU No.23

Using this function, you can set the direction of the frequency offset in rx and tx.

You have the following options:

+: Positive offset;
-: Negative offset;
OFF: no offset

Note: you should set different frequency deviation according to the repeaters selected.

Frequency offset (OFFSET) - MENU No. 24

In this **MENU** you can set the deviation between tx and rx.
The frequency offset of this radio is 0-38.000MHz.

Channel store - (MEM-CH) - MENU No. 25

When the radio is in frequency working mode or standby mode, you can store frequencies or parameters directly. The memories available are 128.
To set a CTCSS tone or a DCS code in tx or rx on the stored channel, refer to MENU 10-13

Note: You cannot overwrite a stored channel, you have to delete it first. See following paragraph No.26.

Channel Delete (DEL-CH) - MENU No.26

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

Standby backlight (WT-LED) - MENU No.27

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
PURPLE
SKY BLUE

RX backlight (RX-LED) - MENU No. 28

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

TX backlight (TX-LED) - MENU No.29

You can choose the backlight color when the radio is transmitting.
Available colors:
OFF (backlight off)
GREEN
PURPLE
SKY BLUE

Alarm Mode (AL-MOD) - MENU No.30

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 tra-
                   smit;
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 it
                   followed by ANI-ID code.

Frequency band (BAND) - Menu No.31

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.32

When this function is on, you may receive signals on both frequencies A and B. It can also be used for cross band receiving and transmitting.
You can choose amongst the following settings:

OFF: CT590S can receive in both frequencies (not simultaneously); ▲ or ▼ will appear on the transmitting frequency band

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

B: CT590S can receive in both frequencies (not simultaneously) but can transmit in frequency **B** only.

Side tone elimination (STE) - Menu No. 33

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

Display mode at the turning on (PONMSG) Menu No.34

With this function you can set the display mode when the radio is turned on.
Available options:
FULL: all display segments are displayed.
MSG: MIDLAND CT590S is displayed.

Roger beep (ROGER) - Menu No. 35

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.36

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

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)

The frequency range to listen to the radio is 88-108MHz.
In frequency or channel mode, push **CALL**
Select the desired radio frequency with the ▲ or ▼ keys or input the frequency.
Press * to automatically search a 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)

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.30 for Alarm mode.

Flashlight

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)

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** for 2 seconds to turn it on and release it to deactivate the monitor.

Cloning function (COPING)

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 **'COPING'**.
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 '**COPING**' and the sub-radio reboots: this means that cloning is finished. Before using the radios, turn them off and then on.

Memory/Frequency Mode conversion (VFO/MR)

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

TX 1750 Hz Call Tone

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

TX/RX Reverse function (R)

The reverse frequency function interchanges the TX frequency with RX. This function is very helpful when you operate with a repeater; you can check whether it is possible to receive the communication from the other part without the use of the repeater.

*Note: Briefly press * to enable/disable this function.*

Frequency scanning

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.16.

Channel scanning

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.16.

Automatic search FM Radio (FM)

This feature automatically searches the FM radio frequency.
The frequency range is 88-108MHz.
1. In frequency or memory 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.

Search CTCSS/DCS Code

With this function you can search and store the CTCSS/DCS code used by other radios.
Procedure:
1. In frequency mode enter **MENU+10** (for DCS codes) or 11 (for CTCSS tones).
2. Push **MENU**.
3. Push *****; **CT** or DCS will blink on the display and the radio will scan CTCSS/DCS tones.
4. If another radio is transmitting on a CTCSS/DCS tone, the radio will beep, stop scanning and the display will show the TX CTCSS/DCS tone.

Cursors ▼▲ Conversion (A/B)

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

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 VHF/UHF
CTCSS tones...50
DCS codes 208
Working temperature .... -20° +50°C
Battery capacity...1500mAh
Frequency step 2.5/5/6.25/10/12.5/25KHz
Frequency offset...0 - 38.000KHz
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.

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