



CRT[®]

SS 9900

USER'S MANUAL



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FC CE 0700



10 METER RADIO

SYMBOLS DESCRIPTION

Please carefully read the instructions



Information on recycling, not throwing your material in the trash at the end of life,
Bring it to special area to be recycling



DC using



Keep dry



Shield symbol



CE conformity symbol



Alert symbol indicating an incomplete harmonization of the frequency band
which will result in restrictions on the use of the equipment concerned.



Warning



STORAGE , TRANSPORT, USING

Storage : Classe 1 -30/85% (° Humidity)

Transport :- 30/85% (° Humidity)

operating temperature -30 à + 50°

Using cycle TX 10%/RX 90%



This transceiver corresponds to the requirements of European directives R&TTE and answers the European standards of telecommunication EN 60950-1, EN 301 489-1/-15, EN 301 783-1/-2 and EN 62311.

IMPORTANT : This receiving transmitter works on not free frequencies in the use. The user has to possess a radio license amateur radio (certificate of radio operator HAM) to use it (in emission) and only on the frequencies authorized in radio amateurs.

Thank you for choosing this CRT vehicle transceiver CRT always provides high quality products, Though friendly design for user, this transceiver is technically complicated and some features may be new to you. Consider this manual to be a personal tutorial from the designers, allow the manual to guide you through the learning process now, then act as a reference in the coming years.

PRECAUTIONS



Please observe the following precautions to prevent fire, personal injury, or transceiver damage.



Do not attempt to configure your transceiver while driving, it is dangerous.



This transceiver is designed for a 13.8V DC power supply. Don't use a 24V battery to power on the transceiver.



Do not place the transceiver in excessively dusty, humid or wet areas, nor unstable surfaces.



Do not connect the antenna while transmission, risk of burn or electric shock.



Please keep it away from interferential devices (such as TV, generator etc.) devices (such as TV, generator etc.)










For those fitted with pacemakers are advised to move away from the antenna during transmission, mainly in high power, and especially do not touch it.



Never allow metal objects or son electrical contact with the part or internal electrical connection to the risk of electric shock.



-  Avoid exposing the transceiver to temperatures below -30°C . and above $+60^{\circ}\text{C}$, the temperature of the dash-board inside a vehicle can sometimes exceed 80°C , which can damage irreparable damage to your machine in case of prolonged exposure. Not exposed to prolonged direct sunlight or place it near heaters.
Do not place anything on top of the apparatus that would interfere with cooling
-  Check that your battery is sufficiently charged to avoid rapidly exhausting its resources.
-  It is important to turn off your device before starting the vehicle to avoid damage caused by spikes in the ignition.
-  When replacing the fuse, you must use a fuse 10A 250V type F
In no case a higher value!, Otherwise a fire hazard.
-  If an abnormal odor or smoke is detected coming from the transceiver, turn OFF the power immediately.
Contact an CRT service station or your dealer.
-  Do not transmit with high output power for extended periods; the transceiver may overheat.
-  Keep out from children.

Attention:

- Before using your transceiver please connect an antenna on the connector PL on back side then check the SWR before emitting. A too important SWR can entail the destruction of the transistors of power which are not flatware by the guarantee
-



WELCOME TO USE

Welcome to the world of new radios. The new SS 9900 Radio provides you with top performance and best visual enjoyment. With the use of SMT technology to guarantee the best stability, reliability and unprecedented quality, your multi-functional SS 9900 10-meter Radio is a new step in personal communication and is surely the best choice for professional users of radios. Moreover, with multiple connecting ports in the radio, SS 9900 Radio is ready for future upgrading and functions expanding. To ensure that you use the radio to the fullest, please read this manual carefully before installing and using your SS 9900 Radio.



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FUNCTIONS & FEATURES

1. Big LCD displays frequency and all kinds of information
2. PA、AM、FM、USB、LSB mode
3. Frequency Tuning Step can be 100Hz,1KHz,10KHz,100KHz,1MHz
4. $\pm 1.5\text{KHz}$ Clarifier
5. Flexiable menu function and PC programming software
6. ECHO Function
7. SQ, ASQ Function (FM and AM mode only)
8. RF GAIN Adjustment
9. RF PWR Adjustment
10. SCAN Function
11. Programmable RB Function
12. NB/ANL Function
13. DW DUAL-WATCH Function
14. BEEP Voice Prompt
15. +10KHZ Function
16. SWR、S/RF function
17. TOT function
18. HI-CUT Function
19. EMG CALL
20. SWR PROTECTION
21. Power Supply Voltage Protection
22. Key-Lock Function
23. Seven (7) Color LCD Display
24. Six(6) Groups Memory Channel
25. CTCSS/DCS Code
26. Split function
27. Programmable by computer (option)

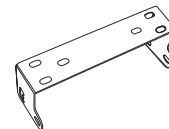
STANDARD ACCESSORIES



Radio



Microphone



Install bracket



Screws



Pads



Adjusting screws



Microphone Hanger



non-slip mat



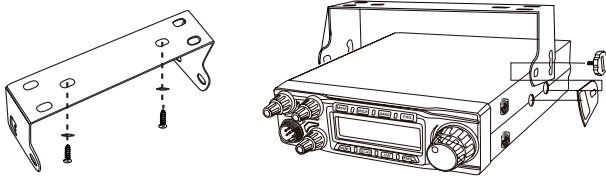
Fuse(10A 250V)



INSTALLATION

Choose the most appropriate setting from a simple and practical point of view. Your radio should not interfere with the driver or crash the driver's knee or leg when rush brake.

1. Using the self-tapping screws and pads(2 sets) to fix the bracket.
2. Put the Non-slip mat on the 2 ends of the bracket and put in the radio. Then insert the adjusting screws and check carefully each screw, make sure the screws and machine will not loose when the car shaking.
3. Choose suitable angle by the 3 screw holes in the two ends of bracket.

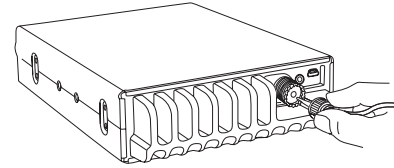


⚡ ANTENNA INSTALLATION

Before using this radio, please install a high efficient and harmonious adjusted CB antenna, suitable antenna type and correct installation will bring excellent communication.

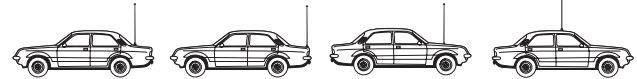
To match with the radio, the antenna and cable shall with characteristic impedance of 50ohm, or the antenna system will not efficient enough and will disturb TV, radio or other electronics.

1. Screw the antenna connector into the antenna jack.
2. Grounding the antenna system to ensure best performance of this radio.



WARNING:

- ▲ Connect antenna firstly before transmitting, or it might damage the radio.
 - ▲ To avoid the risk of fire, electric shock, radio damage, all base station shall equip of lightning protector
 - ▲ Be sure choose a matching antenna, you may enquiry our dealers.
3. The position of antenna can be put as following example:



⚡ POWER CONNECTION

This radio adopt 13.8V power supply, never connect it to 24V battery, And the 13.8V car battery shall with sufficient current, or the LCD will become dark and Transmit power will drop down.

1. Connect positive red power cable with the + terminal of the battery.
 2. Connect negative black power cable with the - terminal of the battery.
- ▲ We suggest not use cigar lighter as it often bring down the voltage.
 - ▲ Locate the power cable away from high temperature, moisture, portfire and cable insulator.
 - ▲ Use a full power cable even it is longer than need, do not take off the fuse holder from the cable.

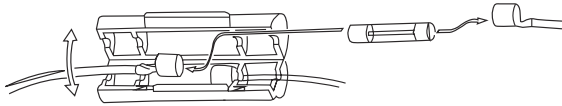


✘ Replacing Fuse

This radio adopt 10A, 250V fuse.

If the fuse blows, determine the reason, then correct the problem. After the problem is resolved, replace the fuse. If newly installed fuses continue to blow, disconnect the power cable and contact your autho-rized dealer or an authorized servicecenter

1. Pull the two fuse cover in difference direction and open it.
2. Replace the broke fuse with good one, and close the fuse holder.
3. Be sure to use suggested fuse, or it might damage the radio.



3

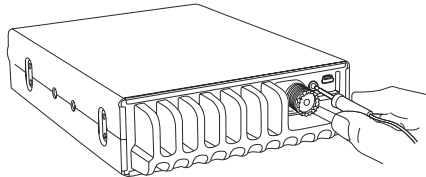
✘ Install Microphone Hanger

Choose a ideal location which will not interfere the driver. Using supplied self-tapping screws and pads(2 sets) to fix the hanger

✘ Install External Speaker

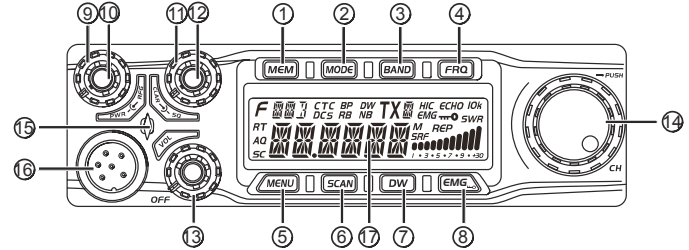
If use an external speaker, please choose 8 ohm speaker with 3.50mm mono band (doulbe cable) plug.

1. Locate the external speaker in a suitablea place.
2. Plug into the speaker jack.



GETTING ACQUAINTED

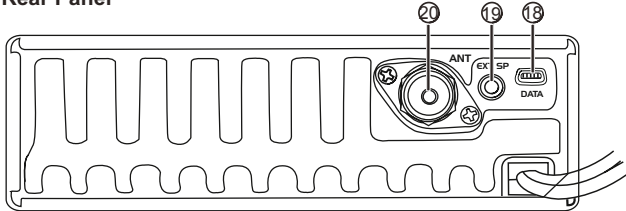
✘ Front Panel



No.	Key	Functions
1	MEM	Use, store or delete memory channel
2	MODE	Switch mode: FM、AM、USB、LSB、PA
3	BAND	Switch band: A-I
4	FRQ	Switch between channel mode and frequency mode
5	MENU	Function Menu key
6	SCAN	Scan; Scan add; Scan delete
7	DW	Dual-watch scan; Dual-watch setup
8	EMG	Emergy Channel; Keypad lock
9	PWR	RF Power Control
10	RFG	RF Gain Control
11	SQ	Squelch Control
12	CLA	SSB Clarifier switch
13	VOL/OFF	Power On/Off; Volume Control
14	CH	Channel Switch, Push key
15		RX/TX Indicator
16		Microphone Jack
17		LCD Display

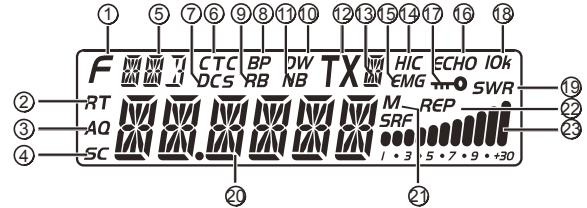


✕ Rear Panel



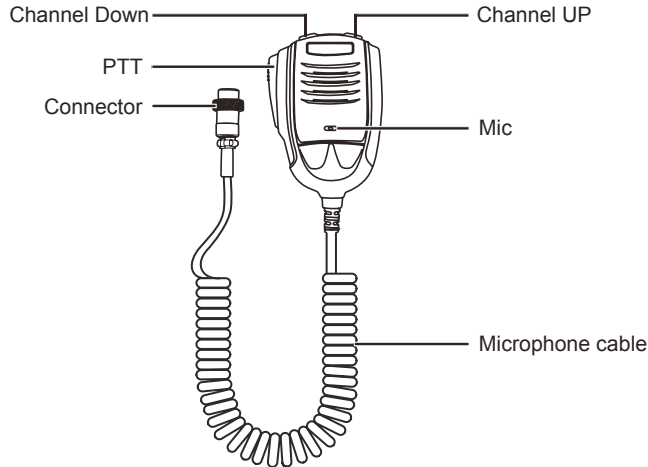
18	PC Cable Jack
19	External Speaker Jack
20	Antenna Jack

✕ LCD Display



1	F	Appears when press MENU key.
2	RT	Appears when adjust SSB clarifier frequency.
3	AQ	Appears when use ASQ.
4	SC	Appears during scan function.
5		Indication of working mode.
6	CTC	Appears when set with CTCSS code.
7	DCS	Appears when set with DCS code.
8	BP	Appears when Beep voice is ON.
9	RB	Appears when RB function is ON.
10	DW	Appears when Dual-watch function is ON.
11	NB	Appears when adjust Noise Blanker is ON.
12	TX	Appears during transmitting.
13		Indiation of working band.
14	HIC	Appears when Hi-cut function is ON.
15	EMG	Appears when using Emergency channel.
16	ECHO	Appears when Echo function is ON.
17		Appears when the Keypad lock function is ON.
18	IOk	Appears when +10KHz function is ON.
19	SWR	Indication of SWR level.
20		Display of frequency and channel.
21	M	Appears when using memory channels
22	REP	Appears when repeater function is ON.
23		Display of TX/RX Signal strength.

✕ Microphone





HOW TO USE YOUR RADIO

✘ OFF/ON Radio

1. Turn VOL clockwise to switch on the radio, the radio emit a beep. When the LCD displays frequency or channel, the radio is on.
2. Turn VOL anti-clockwise to switch off the radio, the radio is OFF. when hear Ka Ta from the switch.

✘ Volume Control

When the radio is turned on, turn VOL clockwise will increase the volume, turn VOL anti-clockwise will reduce the volume. The LCD displays VOL: XX (XX stands for the volume level, total 1-36 levels).

Note: Adjust the volume during communication to get suitable level.

✘ RF Power Control

When the radio is transmitting, turn PWR outer shaft to adjust power Turn it clockwise to increase power, anti-clockwise to reduce power.

✘ RF Gain Control

When the radio is receiving, turn RFG inner shaft to adjust RF gain Turn it clockwise to increase gain, anti-clockwise to reduce gain.

✘ SQUELCH Control

When the radio is standby, turn SQ outer shaft clockwise to adjust squelch level. The LCD displays SQ: XX. (XX stands for the squelch level, total 1-36 levels).

✘ SSB Clarifier control

When the radio is transmitting or receiving, turn CLA inner shaft to adjust USB/LSB TX or RX frequency. Turn it clockwise to increase frequency, anti-clockwise to reduce frequency.

✘ Channel Selection

When radio in channel mode, turn channel knob to select desired channel. Clockwise to increase, anti-clockwise to reduce channel.

Note: In channel display mode, each press PUSH key will increase the frequency by 10 times of channel step size.

✘ Frequency control

1. In frequency mode, press **PUSH** key, then you can adjust frequency for present channel.
2. When the frequency is flashing, turn CH clockwise to increase frequency, anti-clockwise to reduce frequency.
3. When the frequency is flashing, press **PUSH** again to adjust frequency step size.

KEYPAD FUNCTION

✘ [MEM]

Using memory channel:

1. Short press [**MEM**] to enter memory channel, turn CH to choose memory channel.M1-M6, Total 6 memory channels.
2. Short press [**MEM**] again to exit memory channel mode.

Store/Delete memory channel:

1. Store memory channel:

When the radio is not in memory channel mode, choose the channel to be stored, and hold [**MEM**] enter storage mode, the channel number flashes, Turn Channel switch to choose the location to be stored (M1-M6), then hold [**MEM**] until the flashing channel number disappears, the storage is done.



2. Delete memory channel:

In channel mode, hold [**MEM**] for over 2 seconds, the memory channel number flashes, turn the CH switch to choose the memory to be deleted. Then hold [**MEM**] until the flashing channel number disappears, the delete is done.

✖ [**MODE**]

Short press [**MODE**] to choose mode FM-AM-USB-LSB-PA.

✖ [**BAND**]

Short press [**BAND**] to choose band A-B-C-D-E-F-G-H-I.

✖ [**FRQ**]

Short press [**FRQ**] to switch between frequency display mode and channel display mode.

✖ [**MENU**]

1. Short press [**MENU**], the top left of LCD display "F", PressPUSH to enter channel function menu list.
2. Long press [**MENU**] for 2 seconds to enter Background Function menu.

✖ [**SCAN**]

Scan function

1. Short press [**SCAN**] to start scan function, "SC" flashes in the LCD.
2. In scan mode, Turn Channel switch will change scan direction.
3. Short press [**SCAN**] again to exit scan.

Add/delete scan list

In channel mode, Long press [**SCAN**] for over 2 seconds will add or delete present channel from scan list.

1. When LCD displays "SC", present channel added to scan list.
2. When LCD does not displays "SC", present channel is not added to scan list.

Note: This function is equal the operation in Channel data function No.05 menu.

✖ [**DW**]

Dual-Watch function

1. Short press [**DW**] to turn on Dual watch, LCD displays "DW";
2. Short press [**DW**] again or press PTT to exit DW mode;

Dual-Watch channel setup

1. Choose first Dual-Watch channel.
2. Hold [**DW**] for 2 seconds, LCD displays "DW";
3. Turn Channel switch to choose second dual watch channel. Long press DW again to store and exit.

✖ [**EMG**]

Choose EMG channel:

Short press [**EMG**] to use Emergency channel, LCD displays "EMG".

1. Short press [**EMG**] once to choose CH9;
2. Short press [**EMG**] again to choose CH19;
3. Short press [**EMG**] thrice to return to last normal channel.

Keypad Lock Function:

1. Long press [**EMG**] to lock keys, LCD displays "🔒";
2. Long press [**EMG**] again to unlock the keys.

Note: When this function is turned on, only PTT button is valid.

Split function (REP menu 3 page 7)

To transmit and receive on different frequencies with a shift (+ or-).
To adjust the shift value between frequencies, see menu 11 page 9.



Split function.(REP menu 3 page 11)

to transmit and receive on different frequencies with a shift (+ or-).
To adjust the shift value between frequencies, see menu 11 page 14.

CHANNEL FUNCTION MENU OPERATION

1. Press [MENU], the top left of LCD display "F", Press [PUSH] to enter menu list.
2. Turn Channel switch to find No.1- No.5 menus.
3. Press [PUSH] to choose the menu.
4. Turn Channel switch to choose wanted value.
5. Press [PUSH] to return to previous menu, press any other key or wait 5 seconds, the setting will be stored and exit.

No.	Function	LCD Display	Values and Descriptions
1	Public Data		OFF: Choose independent channel menu; ON: Choose public channel menu; Default: ON Note: If choose OFF, there will 5 more Menus, please refer to the Public Channel Menu Operation.
2	Busy Channel Lockout		OFF: Shut busy channel lockout function; ON: Open busy channel lockout function; Default: OFF.

3	Offset Direction		REP+: Open offset direction function, TX frequency> RX frequency; REP-: Open offset direction function, RX frequency> TX frequency; OFF: Shut offset direction function Default: OFF.
4	CTCSS/DCS		CTCSS: 67.0~250.3Hz, Total 38 groups; DCS: D023N~D754N, Total 104 groups; OFF: Shut CTCSS/DCS code function. Default: OFF
5	Add/delete Scan list		ADD: LCD displays "SC", present channel is added to scan list. DEL: LCD does not display "SC", present channel is not added to scan list. Default: OFF



PUBLIC DATA FUNCTION MENU OPERATION

1. Hold [**PUSH**] for 2 seconds to enter menu list;
2. Turn Channel switch to find menu No.1 to No.5;
3. Press [**PUSH**] to choose the menu;
4. Turn channel switch to choose wanted value.
5. Press [**PUSH**] to return to previous menu, press any other key or wait 5 seconds, the setting will be stored and exit.

No.	Function	LCD Display	Values and Descriptions
1	Hi-cut		OFF: Shut HI-CUT function; ON: Open HI-CUT function; Default : OFF.
2	NB		OFF: Shut NB function; ON: Open NB function; Default : ON.
3	ECHO		OFF: Shut ECHO function; ON: Open ECHO function; Default : OFF
4	10KHz		OFF: Shut +10KHz function; ON: Open +10KHz function; Default: OFF
5	ROGER		OFF- 5, Total 6 groups. Default: OFF, Off means shut off Roger.

BACKGROUND FUNCTION MENU OPERATION

1. Hold [**MENU**] for 2 seconds to enter menu list;
2. Turn Channel switch to find menu No.1 to No.12;
3. Press [**PUSH**] to choose the menu;
4. Turn channel switch to choose wanted value;
5. Press [**PUSH**] to return to previous menu, press any other key or wait 5 seconds, the setting will be stored and exit.

No.	Function	LCD Display	Values and Descriptions
1	BEEP		OFF: Shut BEEP function; ON: Open BEEP function; Default: ON.
2	LCD display in TX mode		OFF: Displays TX frequency when TX; SWR: Displays SWR value when TX TOT: displays TOT remain time when TX; DC: Displays voltage when TX; Default: OFF.
3	Mic Gain		1-36, Total 36 levels available. Default: 15.
4	Monitor Gain		1-32, OFF, Total 33 levels available; Default: OFF (Shut NOG function)
5	TOT		1-600s, OFF, Total 10minutes available; Default: 180S (Shut TOT function)
6	SWR Protection		OFF: Shut SWR function; ON: Open SWR function; Default: ON



7	Voltage Protection		OFF: Shut voltage protection function; ON: Open voltage protection function; Default: ON
8	Scan Type		SQ: SQ scan function; TI: Time scan function; Default: SQ
9	Clarifier		OFF: Shut frequency adjustment R: Open RX frequency adjustment; T: Open TX frequency adjustment; RT: Open TX/RX frequency adjustment; Default: R
10	Backlight		WHITE, BLUE, GREEN, YELLOW, RED, PURPLE, CYAN Default: WHITE
11	REP frequency		Frequency Range: 100Hz-5MHz Default: 100KHZ
12	Reset		OPT: All function setup resume default; ANL: All channels and setup resume default; Default: OPT

SPECIFICATIONS

GENERAL	
Frequency Range	28.000-29.700MHz(Programmable)
Frequency Band	A/B/C/D/E/F/G/H/I
Channel	40channels(programmable)in each band
Frequency Control	Phase-Locked-Loop Synthesizer
Frequency Step	100Hz、1KHz、10KHz、100KHz、1MHz
Frequency Tolerance	0.005%
Frequency Stability	0.001%
Temperature Range	-20°Cto +50°C
Microphone	with push-to-talk /UP/DN and coiled cord
Input Voltage	13.8V
Dimensions (in mm)	245(W) x 158(D) x 48(H)
Weight	1.5kg
Antenna Connector	UHF,SO239
TRANSMITTER	
Power Output	AM: 15W / FM:45W / SSB: 60W(PEP)
Drain	12A(with modulation)
Modulation	FM/AM/USB/LSB
Inter-modulation Distortion	SSB: 3rd order, more than -25dB; 5th order, more than -35dB
SSB Carrier Suppression	55dB
Unwanted Sideband	50dB
Frequency Response	AM/FM: 300 to 3000Hz SSB: 450 to 2500Hz
Output Impedance	50ohms, unbalanced



RECEIVER	
Sensitivity	SSB: 0.25 μ V for 10dB(S+N)/N AM: 1.0 μ V for 10dB(S+N)/N FM: 1.0 μ V for 20 dB (S+N)/N (All at greater than 1/2 watt of audio output)
Adjacent-Channel Selectivity	AM/FM: 60dB SSB: 70dB
Image Rejection	More than 65dB
IF Frequency	AM/FM: 10.695MHz 1st IF, 455KHz 2nd IF SSB: 10.695MHz
RF Gain Control	45dB adjustable for optimum signal reception
Automatic Gain Control(AGC)	Less than 10dB change in audio output for inputs from 10 to 100,000 microvolt.
Squelch	Adjustable; threshold less than 1.0 μ V. Automatic Squelch Control(only AM/FM)1.0 μ V
Audio Output Power	3 watts into 8 ohms
Frequency Response	AM/FM: 300 to 3000Hz SSB: 450 to 2500Hz
Built-in Speaker	8 ohms, round.
External Speaker(Not Supplied)	8 ohms; disables internal speaker when connected.

PC programming:

Please use PC software CRT SS9900 and programming cable ref tx 000991.



DECLARATION OF CONFORMITY (CE 0700)!

We hereby declare under our responsibility that the product :

Description : mobile transceiver HF amateur radio

Brand : CRT

Model : SS 9900

satisfies all the technical regulations applicable to the product within the scope of
directive R .TTE 1999/5/CE european standarts

EN 60950-1+A1+A11+A12

EN 301 489-1

EN 301 489-15

EN 301 783-1

EN301 783-2

EN 62311

The HAM version was approved in the CEPT countries and those non CEPT countries
that implement the CEPT regulation TR 61/01

CEPT Countries Codes : ALB-AND-AUT-AZE-BLR-BEL-BIH-BUL-HRV-CYP-CZE-DNK-EST-FIN-F-GEO-D-GRC-HNG-
ISL-IRL-I-LVA-LIE-LTU-LUX-MKD-MLT-MDA-MCO-MNE-HOL-NOR-POL-POR-ROU-RUS-SMR-SRB-SVK-SVN-E-S-SUI-
TUR-UKR-G-CVA

Notified body PHOENIX TESTLAB Gmbh Germany

Mr CELESTRANO PHILIPPE

Manager

Date 04/16/2014



RECYCLABLE



ISO9001
ISO14001

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Web site : www.crtfrance.com

CONDITIONS OF GUARANTEE

Our transceivers CRT SUPERSTAR are guaranteed on 2 year. The other equipments: 6 months.

Any abnormality of functioning must be indicated to your retailer, who will intervene or will send it to our technical service for control

The spare parts of our devices are the object of no sending under guarantee

Are excluded of the guarantee:

- The damages caused by accidents, shocks, natural elements (lightning, thunderstorm, static electricity etc.)
- The transistors of power, the microphones, the fuses, the bad uses: badly adjusted antenna (too excessive), inversion of polarity, surge, bad connection etc. recognized by our technical service.
- The interventions having modified the standards of approval of the device.

PROCEDURE ON RETURNING TO THE AFTER-SALES SERVICE CRT

- If you send back a radio under guarantee for repair: You must pay the freight costs to go. CRT will pay the freight costs return. If the radio is not under guarantee postal charges are at your expense.
- Each device must be sent accompanied with a photocopy of the invoice as well as with a descriptive note of the noticed defect. If our AFTER-SALES SERVICE estimates the repair more expensive than the value of the device, this one will send you an estimate which must have returned to him accepted or refused. If the estimate is refused, the device will have carriage forward return.



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