



CRT[®] *MILLENNIUM*

MOBILE CB TRANSCEIVER AM-FM
CITIZEN BANDEUROPEAN MULTI-NORMS



USER MANUAL

copyright **CRT France 2017**



ISO
9001
QUALITY
ASSURANCE



CRT[®] and **SUPERSTAR[®]** are registered and protected brands.

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



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%



Warned before use

This transceiver corresponds to the requirements of European directives R&TTE 1999/5/CE documents **EN 301 489-1-13/EN 300 433-1-2/ EN 300 135-1-2 EN 60950-1+A1+A11+A12+A2 EN 62311**

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 dashboard 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 2 A 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

1、 Introduction

Thank you for your choose and buy the CRT MILLENIUM CB radio . In order to make your CB Radio to use in the best condition, please read this manual in detail.CRT MILLENIUM is a small, simple operation and convenient vehicle CB Radio which has good performance.

Up/down keys on the microphone

Scan channel

LCD display

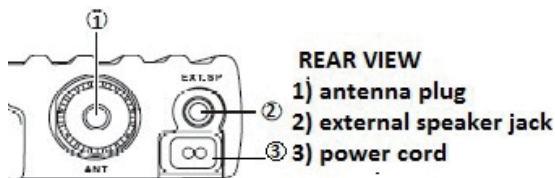
Auto ASQ/SQ adjustable

RF GAIN

External Speaker

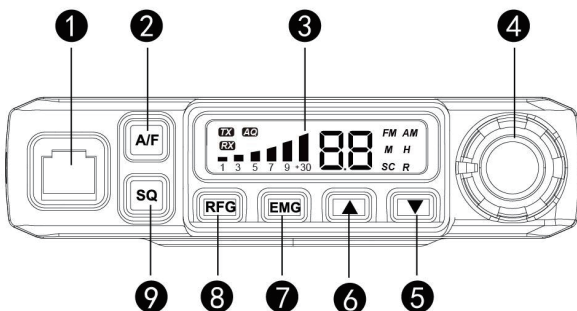
2、 Installation instructions

Check the materials before the installation, car charger is connected to the car's 12 v power supply socket , the radio's positive and negative electrode connected to the car charger's. Power supply support 12 V to 13.8 V. Check all wiring are in good condition before starting, ensure do not short circuit, ensure the radio can boot running normally.



3、Control panel function

Front view



No	Name	Short Press Function	Long Press Function
①	Microphone socket		
②	A/F	AM/FM Mode Switch	Scan Function
③	LCD Display		
④	Power On/Off Volume		

⑤ 、 ⑥	Channel UP/DOWN select		
⑦	EMG(Emergen cy Channel)	9/19 Channel Switch	
⑧	RFG	Enter RF GAIN Model	
⑨	SQ/ASQ Function Switch	Enter SQ (ASQ) Level Switch	Switch To ASQ Mode

4、 Operation

4.1 Power On/Off the radio

1. Turn VOL switch clockwise to power on the radio, the LCD full screen display after spectrum model 1 s into the channel state.
2. Turn the VOL Knob counterclockwise, until it clicks. The radio is power off.

4.2 Volume Control

Turn clockwise to increase volume, turn counterclockwise to decreases volume.

4.3 Channel Selection

1. Shortly press microphone 【UP】 or 【DOWN】 to change working channel.

2. Hold microphone **【UP】** or **【DOWN】** to change working channel fast.

4.4 Squelch level control

1. Shortly press **【SQ】**, until LCD shortly displays SQ and then display X.X. X.X stands for the SQ level

0.F	SQ off
0.1	Lowest SQ level
...	...
2.8	Highest SQ level

2. Press microphone **【UP】** / **【DOWN】** shortly to change SQ level.

3. Hold microphone **【UP】** / **【DOWN】** to change the SQ level fast.

4. Hold **【SQ】** or wait for 3 seconds to store and exit.

4.5 ASQ control (9 level)

1. Hold **【SQ】** key, until LCD display AQ, the ASQ function is turned on. The LCD will display A.X. X stands for the ASQ level.

A.1	Lowest ASQ level
...	...
A.9	Highest ASQ level

2. Shortly press microphone **【UP】** / **【DOWN】** to change ASQ level.
3. Hold microphone **【UP】** / **【DOWN】** to change ASQ level fast.
4. Hold **【SQ】** or wait for 3 seconds to store and exit.

4.6 Modulation Type

Shortly press **【A/F】** key to switch between AM/FM mode and the LCD displays the selected mode.

4.7 RF GAIN control

1. Shortly press **【RFG】** key, LCD displays R and the present RF GAIN level flashes.
2. Shortly press microphone **【UP】** / **【DOWN】** to change the level.
3. Shortly press **【RFG】** key to exit RF GAIN level control.

4.8 Emergency Channel

1. Shortly press **【EMG】** key to choose CH9, the channel LC » number flashes.
2. Shortly press **【EMG】** key again to choose CH19, the channel number flashes.
3. Shortly press **【EMG】** key third time to return to last normal channel.

4.9 Key Lock

1. Hold **【EMG】** key for over 2 seconds to lock the keys, LCD displays “LC” .
2. Hold **【EMG】** for over 2 seconds again to unlock the keys, LCD displays “OF” .

4.10 Scan Function

1. Hold **【A/F】** to start scan function, LCD displays “SC” .
2. Press microphone **【UP】** / **【DOWN】** can choose scanning clockwise or counterclockwise.
3. Press **【A/F】** or **【PTT】** key to exit scan function.

4.11 Changing the CB-Standard

1. Hold **【A/F】** while powering the radio on, until LCD displays the norms.
2. Press microphone **【UP】** / **【DOWN】** to choose wanted Norms.
3. Power off and power on again

Standard	Channels	Fequency Range
EU	40FM/40AM	26.965-27.405MHZ
CE	40 FM	26.965-27.405MHZ
UK	40 FM	27.60125-27.99125MHZ

PL	40FM/40AM	26.960-27.400MHZ
I2	34FM/34AM	26.965-26.865MHZ
DE	40FM/40AM	26.965-27.405MHZ
	80FM	26.565-26.955MHZ
IN	27FM/27AM	26.965-27.275MHZ

4.12 Restore factory default

1. Hold **【SQ】** key while powering the radio on, until the LCD displays “rt” .
2. All channel and function setting will resume factory default after above operation.

GENERAL

Modulation Mode	AM/FM	
Frequency Range	26.565-27.99125MHz	
Frequency Tolerance	±300HZ	
Input Voltage	13.2V	
Dimensions(in mm)	120mm(L)*110mm(W) *27mm(H)	
Frequency Control	PLL Synthesizer	
Operating Temperature Range	-20- +60	
Current Drain	Transmit	max 1.8A @4w
	Receive	SQ open max 0.5A
	VOL Max	max 0.5A
Weight	0.32kg	
Antenna Connector	UHF,SO-239	

TRANSMITTER

Power Output	4 Watts FM/AM
Transmission interference	inferior to 4w (-54dbm)
Frequency Response	300-3000
Modulated signal distortion	inferior to 8%
Output Impedance	50 ohms

RECEIVER

Sensitivity	0.25uv@12db
Image Rejection	70DB
Adjacent Channel Rejection	60DB
IF Frequencies	1ST 10.7M
	2nd 450HZ
Automatic Gain Control(AGC)	less than 10db change in audio output for inputs from 10 to 50000uv
Squelch	less than 1uv
Audio Output Power	max 1w
Frequency Response	300-3000



Troubleshooting

Your CB radio set does not transmit at all or transmission power is poor:

With the push-to-talk button activated, TX should be lit and your radio set should start transmission. By releasing the button once again, the indicator should go out and your radio set should again switch over to reception mode.

Check the standing wave ratio of your antenna as well as the cable with regard to possible interruptions or loose contacts!

Your radio set does not receive any response to your transmission or reception is poor:

Correctly adjust the **SQ** control!

Adjust the **VOL** control to an appropriate playback volume.

Check the standing wave ratio of your antenna as well as the cable with regard to possible interruptions or loose contacts!

Make sure that you are using the same modulation mode (AM or FM) as your contact partner!

The displays do not light up:

Check whether your power supply unit is switched on.

Check the connections for proper wiring: plus pole (= RED) and negative pole (= BLACK)! Exchange the connections if they are mixed up.

Tips on radio communication

After switching on the radio set, always listen first whether the set channel is free (To do so, deactivate the squelch function such that you are also able to hear weaker radio stations.)! Start your own call only if the channel is absolutely free.

Transmit nothing but short calls! After each call carefully listen to a station possibly answering your call. Repeat your call only after having carefully listened.

After each transmission of your contact partner wait for several seconds before answering in order to give further radio stations the chance to participate in the radio communication ("change-over delay").

International phonetic alphabet

When the radio contact is weak or intense interferences occur, it is quite often difficult to understand everything perfectly, as e.g. proper names or geographical names.

In this case, you can fall back on the international alphabet which is also applied in air traffic (ICAO) and NATO communications:

A Alpha	F Foxtrott	K Kilo	P Papa	U Uniform	Z Zulu
B Bravo	G Golf	L Lima	Q Quebec	V Victor	
C Charlie	H Hotel	M Mike	R Romeo	W Whiskey	
D Delta	I India	N November	S Sierra	X X-ray	
E Echo	J Juliett	O Oscar	T Tango	Y Yankee	



Evaluating the reception quality

For informing the respective contact partner clearly on the strength and quality of reception, the numbers of the R/S code are used. The R-value is used for comprehensibility (readability) and the S-value (signal strength) for signal strength and/or volume of the contact partner.

R = readability

- 1 not readable, incomprehensible
- 2 temporarily or partially readable
- 3 difficult to read
- 4 readable, comprehensible
- 5 easy to read

S = signal strength

The S-value (= signal strength) can be read on the S-meter.

CB Language

Typically a special slang is used in CB radio. Some special terms originate, for instance, from amateur radio or the professional radio communication, other expressions stand for periphrases or abbreviations:

Advertising	Flashing lights of police car
Back off	Slow down
Basement	Channel 1
Base station	A CB set in fixed location
Bear	Policeman
Bear bite	Speeding fine
Bear cage	Police station
Big slab	Motorway
Big 10-4	Absolutely
Bleeding	Signal from an adjacent channel interfering with the transmission
Blocking the channel	Pressing the PTT switch without talking
Blue boys	Police
Break	Used to ask permission to join a conversation
Breaker	A CBer wishing to join a channel
Clean and green	Clear of police
Cleaner channel	Channel with less interference
Coming in loud and proud	Good reception
Doughnut	Tyre
Down and gone	Turning CB off
Down one	Go to a lower channel
Do you copy?	Understand?
DX	Long distance
Eighty eights	Love and kisses
Eye ball	CBers meeting together
Good buddy	Fellow CBer
Hammer	Accelerator
Handle	CBer's nickname
Harvey wall banger	Dangerous driver
How am I hitting you?	How are you receiving me?
Keying the mike	Pressing the PTT switch without talking
Kojac with a kodak	Police radar
Land line	Telephone
Lunch box	CB set
Man with a gun	Police radar
Mayday	SOS
Meat wagon	Ambulance

Midnight shopper	Thief
Modulation	Conversation
Negative copy	No reply
Over your shoulder	Right behind you
Part your hair	Behave yourself - police ahead
Pull your hammer back	Slow down
Rat race	Congested traffic
Rubberbander	New CBER
Sail boat fuel	Wind
Smokey dozing	Parked police car
Smokey with a camera	Police radar
Spaghetti bowl	Interchange
Stinger	Antenna
Turkey	Dumb CBER
Up one	Go up one channel
Wall to wall	All over/everywhere
What am I putting to you?	Please give me an S-meter reading

Q groups

Quite often, abbreviations from the internationally binding Q code are used which is also applied in naval or amateur radio. Thanks to these three-letter acronyms, information can be submitted very fast:

QRA:	The name of my vessel (or station) is ...
QRG:	Your exact frequency (or that of ...) is ... kHz (or MHz).
QRL:	I am busy (or I am busy with ...). Please do not interfere.
QRM:	Your transmission is being interfered with ... or I am being interfered with
QRN:	I am troubled by static
QRP:	Decrease transmitter power
QRT:	Stop sending
QRU:	I have nothing for you
QRV:	I am ready
QRX:	I will call you again at ... hours (on ... kHz (or MHz))
QRZ:	You are being called by ... (on ... kHz (or MHz))
QSB:	Your signals are fading
QSL:	I am acknowledging receipt
QSO:	can communicate with ... direct (or by relay through ...)
QSP:	I will relay to ... free of charge
QST:	General call to all stations
QSY:	Change to transmission on another frequency (or on ... kHz (or MHz))
QTH:	My position is ... latitude, ... longitude (or according to any other indication)

FREQUENCIES TABLE

Channel	IN	D		EU	EC	PL	UK
	1-27	1-40	41-80	1-40	1-40	1-40	1-40
	FM=4W	FM=4W	FM=4W	FM=4W	FM=4W	FM=4W	FM=4W
	AM=4W	AM=4W	FM=4W	AM=4W	FM=4W	AM=4W	FM=4W
1	26,965	26,965	26,565	26,965	26,965	26,960	27,6013
2	26,975	26,975	26,575	26,975	26,975	26,970	27,6113
3	26,985	26,985	26,585	26,985	26,985	26,980	27,6213
4	27,005	27,005	26,595	27,005	27,005	27,000	27,6313
5	27,015	27,015	26,605	27,015	27,015	27,010	27,6413
6	27,025	27,025	26,615	27,025	27,025	27,020	27,6513
7	27,035	27,035	26,625	27,035	27,035	27,030	27,6613
8	27,055	27,055	26,635	27,055	27,055	27,050	27,6713
9	27,065	27,065	26,645	27,065	27,065	27,060	27,6813
10	27,075	27,075	26,655	27,075	27,075	27,070	27,6913
11	27,085	27,085	26,665	27,085	27,085	27,080	27,7013
12	27,105	27,105	26,675	27,105	27,105	27,100	27,7113
13	27,115	27,115	26,685	27,115	27,115	27,110	27,7213
14	27,125	27,125	26,695	27,125	27,125	27,120	27,7313
15	27,135	27,135	26,705	27,135	27,135	27,130	27,7413
16	27,155	27,155	26,715	27,155	27,155	27,150	27,7513
17	27,165	27,165	26,725	27,165	27,165	27,160	27,7613
18	27,175	27,175	26,735	27,175	27,175	27,170	27,7713
19	27,185	27,185	26,745	27,185	27,185	27,180	27,7813
20	27,205	27,205	26,755	27,205	27,205	27,200	27,7913
21	27,215	27,215	26,765	27,215	27,215	27,210	27,8013
22	27,225	27,225	26,775	27,225	27,225	27,220	27,8113
23	27,255	27,255	26,785	27,255	27,255	27,250	27,8213
24	27,235	27,235	26,795	27,235	27,235	27,230	27,8313
25	27,245	27,245	26,805	27,245	27,245	27,240	27,8413
26	27,265	27,265	26,815	27,265	27,265	27,260	27,8513
27	27,275	27,275	26,825	27,275	27,275	27,270	27,8613
28		27,285	26,835	27,285	27,285	27,280	27,8713
29		27,295	26,845	27,295	27,295	27,290	27,8813
30		27,305	26,855	27,305	27,305	27,300	27,8913
31		27,315	26,865	27,315	27,315	27,310	27,9013
32		27,325	26,875	27,325	27,325	27,320	27,9113
33		27,335	26,885	27,335	27,335	27,330	27,9213
34		27,345	26,895	27,345	27,345	27,340	27,9313
35		27,355	26,905	27,355	27,355	27,350	27,9413
36		27,365	26,915	27,365	27,365	27,360	27,9513
37		27,375	26,925	27,375	27,375	27,370	27,9613
38		27,385	26,935	27,385	27,385	27,380	27,9713
39		27,395	26,945	27,395	27,395	27,390	27,9813
40		27,405	26,955	27,405	27,405	27,400	27,9913

RESTRICTIONS

PAYS	CB	RESTRICTIONS	REGLAGE		
GERMANY	YES	80 ch – 4W FM – free use	EC	D	EU
		40 ch – 4 W AM - free use			
		40 ch – 4 W FM – free use			
UK	YES	Sept 40 ch – 4 W FM + ENG 40 ch – 4 W FM – individual license required AM : Not authorized	EC UK		
AUSTRIA	YES	40 ch – 4 W FM AM : Not authorized	EC		
BELGIUM	YES	40 ch – 4 W FM - free use	EU	EC	
		40 ch – 4 W AM - free use			
BULGARIA	YES	40 ch – 4 W FM - free use	EC		
CYPRUS	YES	40 ch – 4 W FM - free use	EU	EC	
		40 ch – 4 W AM - free use			
CROATIA	YES	40 ch – 4 W FM - free use AM : Not authorized	EC		
DANEMARK	YES	40 ch – 4 W FM - free use AM : Not authorized	EC		
SPAIN	YES	40 ch – 4 W FM – individual license required	E	EC	EU
		40 ch – 4 W AM – individual license required			
		12 W pep BLU/SSB			
ESTONIA	YES	40 ch – 4 W FM - free use	EU	EC	
		40 ch – 4 W AM - free use			
FINLAND	YES	40 ch – 4 W FM - free use	EU	EC	
		40 ch – 4 W AM - free use			
FRANCE	YES	40 ch – 4 W FM - free use	EU	EC	
		40 ch – 4 W AM – free use			
GREECE	YES	40 ch – 4 W FM - individual license required	EU	E	EC
		40 ch – 4 W AM - individual license required			
HUNGARY	YES	40 ch – 4 W FM - free use AM : Not authorized	EC		
IRELAND	YES	40 ch – 4 W FM – free use AM : Not authorized	EC		

ISLAND	YES	40 ch – 4 W FM - free use	EC	EU	
		40 ch – 4 W AM - free use			
ITALY	YES	40 ch – 4 W FM – general autorisation required	E	EC	EU
		40 ch – 4 W AM - general autorisation required			
		12 W pep BLU/SSB			
LATVIA	YES	40 ch – 4 W FM - free use	EU	EC	
		40 ch – 4 W AM - free use			
LITHUANIA	YES	40 ch – 4 W FM - free use AM : Not authorized	EC		
LUXEMBOURG	YES	40 ch – 4 W FM - free use AM : Not authorized	EC		
MALTA	YES	40 ch – 4 W FM - individual license required AM : Not authorized	EC		
NORWAY	YES	40 ch – 4 W FM - free use AM : Not authorized	EC		
NETHERLAND	YES	40 ch – 4 W FM - free use	EU	EC	
		40 ch – 4 W AM - free use			
POLAND	YES	40 ch – 4 W FM - free use		EC	
		40 ch – 4 W AM/FM - free use	PL		
		12 W pep BLU/SSB			
PORTUGAL	YES	40 ch – 4 W FM - free use	EU	EC	
		40 ch – 4 W AM - free use			
CZECH	YES	80 ch – 4 W FM - free use AM : Not authorized	EC		
ROMANIA	YES	40 ch – 4 W FM - free use	EU	EC	
		40 ch – 4 W AM - free use			
SLOVAKIA	YES	40 ch – 4 W FM - free use AM : Not authorized	EC		
SLOVENIA	YES	40 ch – 4 W FM - free use AM : Not authorized	EC		
SWEDEN	YES	40 ch – 4 W FM - free use	EU	EC	
		40 ch – 4 W AM - free use			
SWITZERLAND	YES	40 ch – 4 W FM – free use	EU	EC	
		40 ch – 4 W AM - free use			
LIECHTENSTEIN	YES	40 ch – 4 W FM - individual license required AM : individual license required	EC		



DECLARATION OF CONFORMITY



We hereby declare under our responsibility that the product :

BRAND : CRT

Model: MILLENIUM

Description : Mobile transceiver

Satisfies all the technical regulations applicable to the product within the scope of
directive R.TTE 99/5/CE european standarts

EN 609501 +A1+A11+A12

EN 301489-1 V 1.9.2

EN 301489-13 V 1.2.1

EN 300433-1 V 1.3.1

EN 300433-2 V 1.3.1

EN 300 135-1 V 1.2.1

EN 300 135-2 V 1.2.1

EMF : EN 62311

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Capital de 762 500 euros
Tél. 03 80 26 91 91 - Fax : 03 80 26 91 00
E-mail : superstar@crtfrance.com
Web site : www.crtfrance.com

Mr CELESTRANO PHILIPPE

GERANT

Le 04/01/2017



RoHS
compliant

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.