

TL-55

LUTHOR[®]

TECHNOLOGIES

DUAL BAND
TRANSCEIVER

VHF / UHF
144 / 430 MHz

USER'S MANUAL

CE 1177 Ⓢ



We want to appreciate the confidence shown by purchasing this dual band transceiver **LUTHOR TECHNOLOGIES modelo TL-55**. This transceiver offers an innovative design in terms of technology and multi-functionality. Its high quality and extensive features make it one of the best equipments in its field, we trust in your total satisfaction with your expectations and communication needs.

In the design of **TL-55** every effort, excitement and professionalism has been made to finally reach the obtained result, an **EASY HANDLING DUAL BAND** VHF/UHF transceiver with a **RELIABILITY** only reachable by the best worldwide manufacturers.

An important sector's professional team has taken part in its development, even though maybe the newest aspect has been joining forces with different user profiles to capture the needs of many groups. Besides the transceiver's **QUALITY** and **RELIABILITY**, the main concern was to get an equipment than can be used both by experienced users in this kind of devices, and by beginners with any kind of experience, for that reason the **TL-55 EASY HANDLING** is brilliantly distinguished.

Please read carefully the following manual before using the transceiver in order to guarantee the equipment's maximum performances.

The use of the symbol  shows that this equipment it's under use restrictions in certain countries.

Countries where the use of this equipment is permitted, without prejudice that in any of them their administration request a licence, an authorisation or indicates some restrictions. In case of doubt we recommend you to request the competent authority of the country where you intend to use this equipment.

AT	BE	DK	FI	FR	DE	GR	IS	LT	MT	PL
IE	IT	LI	LU	NL	NO	PT	ES*	SK	SI	
SE	CH	GB	CY	CZ	EE	HU	LV	BG	RO	

*ES: For using this transceiver, the user must have a **personal amateur radio licence**.

The use of amateur radio transceivers is allowed within the frequencies assigned for an amateur use: that is 144-146 MHz on VHF, 430-440 MHz on UHF and both on dual band transceivers.

Contents

Cautions and practical advices	6
Cautions and practical advices for the battery and the charger	10
Main features	13
Unpacking of the equipment and content	14
Supplied accessories	14
Transceiver's description	15
Introduction to display icons	17
Working modes	19
Menu's table	20
Menu's configuration	22
Special features	36
Optional accessories	42
Technical parameters	43

CTCSS (analogical tones)	43
DCS (digital tones)	44
Troubleshooting guide	46
Technical specifications	48
Warranty information	50
Note on environmental protection	51
Declaration of conformity	52

Cautions and practical advices

- △ Both the transceiver and the elements supplied with it are not toys, and as you can see later on this text of compulsory reading for the user, prior to unpacking the equipment and its accessories detailed below, you should consequently keep them out of: children's, persons with reduced cognitive capacity, and domestic or wild animals reach.
- △ Any repair must be made only for qualified personal, in case of any problem in the equipment or any of its components you must contact your dealer or a professional and qualified technical service.
- △ Under no circumstances disassemble, modify or manipulate the transceiver, the battery or the charging elements. Apart from the physical hazard that this implies for the user, the equipment and the accessories would lose their warranty.
- △ The inappropriate handling of the transceiver or its accessories, could make change any of the technical features of them, in such a way that might affect their operation, the equipment's security, the user's physical integrity or the technical parameters, which may affect the features as designed, manufactured and marketed. In those cases the user shall be solely responsible for all the disadvantages and liquidated damages that might result of this action, both the manufacturer and the dealer shall be relieved of such liability.
- △ Do not use the transceiver for any purpose other than it was designed for.
- △ Do not use the transceiver if you see deterioration or breakage in any of its parts. Do not hit the equipment or the battery and by all means avoid the risk of falling that may damage it.
- △ Do not expose the product to extremely high temperatures up to 45° or temperatures below 0°. That could significantly affect its operation and the battery could even ignite or explode (read carefully the cautions and practical advices for batteries described in detail below in this manual).
- △ Do not place the transceiver or the battery above heating sources such as radiators, heaters, etc. that might seriously damage the equipment or the battery with the consequent risk of malfunctioning or overheating of them causing a burn down or an explode.
- △ Do not use or charge both the transceiver and the battery if they are wet. Make sure that

they are completely dry before using it or charging the battery. Neither use the equipment with your hands wet.

⚠ Do not supply the equipment with a different tension than the one indicated by the manufacturer. Neither use a different battery than the one supplied by the manufacturer for this equipment. It might cause a burn down or an explode. Do not following this advice will carry an important risk for both the equipment and the user.

⚠ Do not use the transceiver during a thunderstorm (lightning storm), you would be expose yourself to a potential risk and danger of serious injuries or even the death.

⚠ For cleaning the transceiver and its accessories make sure is turned off, use a damp cloth (not wet). Do not use liquids, detergents nor any other chemical substance. Do not clean with a dry cloth in order to avoid the creation of static electricity.

⚠ Do not use the transmission button PTT if is not necessary.

⚠ An extended transmission could lead to transceiver's or battery's overheating, causing a transceiver's failure, burns or even the battery's explosion. Take care specially if you change the battery, it is not recommended until the temperature has significantly reduced.

⚠ Do not use the transceiver in any susceptible of flammable or potentially explosive environment. Do not use the device specially on petrol stations, chemical industries, explosives factories, ammunition warehouses, close to combustibles, chemical products, storage silos, tank lorries with dangerous goods, in presence of gas, nor in demolition areas. For most of those scenes are some specially designed and authorised transceivers that can be used without any risk, consult your dealer.

⚠ Do not use the transceiver in hospitals nor close to medical equipments that can suffer interferences caused by radio frequencies. If you use medical equipments, get in contact with the manufacturer to ensure that the equipments are protected from the radio frequencies.

⚠ Do not use the transceiver close to a pacemaker. Do not use the device in a distance less than 30 centimetres from a pacemaker, since the device can interfere with it and result in a serious accident. To minimise the possible interference with a pacemaker, use the device on the opposite side of the body from the pacemaker location.

⚠ Turn off the transceiver when you board an aeroplane. The use of electronic devices on

board of an aeroplane is restricted and subjected to the rules applied to those devices. It can interfere with the navigation electronic instruments of the aeroplane. In case of doubt ask the crew members about the possible restrictions of using the transceiver also in other kind of public transports like trains, ships, etc.

△ Do not use the transceiver if you are driving any kind of vehicle. Concentrate yourself exclusively on driving. In addition to infringe traffic laws, you could put passengers, street users and your security, at serious risk.

△ In case of leaving the transceiver, leave it on a stable location. Giving a special attention on vehicles so that the device do not slow down the driving. Never place the transceiver in the operating range or on the inflatable protection systems (Airbag), because in case of a protection system activation, the transceiver will be throw out with at high speed and strength and could hit the driver or passengers with serious or lethal results.

△ On vehicles, it is possible that the transceiver could interfere or be interfered due to radio frequencies. That could cause the wrong operation of vehicle's electronic equipments or otherwise, the transceiver could be the interfered one. In this case, keep in contact with your dealer, technical service or manufacturer to report this abnormality. Keep special attention in case of electric or hybrid vehicles and prior of using the transceiver ask the manufacturer of this kind of vehicles.

△ When walking or moving, use the transceiver with caution to avoid physical risks of yourself and other people around.

△ To guarantee a greater performance of the transceiver's microphone and that the sound clearly arrives to your interlocutor, when you talk, make it keeping the transceiver between 5 and 10 centimetres from your mouth.

△ For connecting accessories like earphones, speakers, programming cables, etc. always turn off the transceiver previously. Once installed the accessory turn it on again. Use the manufacturer recommended accessories.

△ Prior to using earphones or micro-earphones, check the transceiver's volume, a high volume level will damage the ear. A prolonged use of those accessories could cause audition's harm: auditive capacity degradation, vertigo, dizziness, etc. that's why it is recommended to use a suitable volume and not extending its use for a long time, taking breaks and alternating the ear.

⚠ Please pay special attention to the use of transceiver's external accessories like earphones or micro-earphones, etc. The cable used for those accessories could get caught up on machinery, vehicles, etc. causing the consequent transceiver's or accessory material risk or even pose a danger the user's physical integrity. This applies also to cases for protecting the transceiver or the transceiver itself when using the belt clip.

⚠ While using the transceiver avoid the contact of the antenna with your eyes, your face or other parts of your body. Keep the antenna in a vertical position and far from your body during transmission, so the transceiver will give its maximum performance in addition to your physical integrity.

⚠ Do not take nor grab your transceiver through the antenna, making that can cause damages both to the antenna and the transceiver. Besides the bad operation of the equipment can cause physical damages to the user or to others.

⚠ Do not use the transceiver if the covering from the antenna is damaged, immediately replace the antenna if is a removable one or contact your authorised technical service if is a fixed antenna. Do not taking this advice into account can cause burns for radio frequency to the user.

⚠ The cards and documents with a magnetic band, as credit, telephone or medical cards, savings books, etc. can be damaged due to the transceiver's radio frequency. Likewise, take care with information's storage or memory devices, those could be damaged by the transceiver's radio frequency.

⚠ When using the transceiver in public places try not to disturb the people around you.

Cautions and practical advices for the battery and the charger

- △ This transceiver is supplied with a Lithium-Ion (Li-Ion) battery.
- △ The excessive battery's overheating can cause the battery to ignite or explode with the resulting risk of serious physical damages or even the death. Avoid exposing it to temperatures up to 45°.
- △ Be careful with the equipment and specially with the battery. A hit could damage the equipment or the battery and if the worst comes to the worst the explosion or burn of the battery.
- △ If you see a deterioration, a hit or a crack on the battery cover do not use it and replace it immediately. If you do not make it the battery could cause damages to the equipment or the user because of ignite or explode. Be particularly careful if from inside the battery leaks out any kind of liquid or another material, that could cause chemical burns on your skin or your eyes, in that case contact a doctor immediately for advice on how to proceed and go to the nearest emergency unit.
- △ **SERIOUS DANGER:** under no circumstances short-circuit or short across the battery terminals, that could irreversibly damage the battery and if the worst comes to the worst the explosion or burn of the battery with the possible physical damages for the user, that could be extremely serious injuries or even the death. Consequently you must:
 - Transport the equipment properly so that the terminals can not short-circuit accidentally.
 - Do not carry it in your pocket with metallic objects like keys, coins, etc.
 - Do not place the equipment with its terminals making contact on a metallic, wet or conductive surface, that will cause a short-circuit of the terminals.
 - Avoid the contact of the equipment and the battery with water or conductive liquids.
 - Do not lick, bite or touch with your wet hands the battery terminals. No utilice la batería suministrada por el fabricante para otro transceptor que no sea

con el que se suministra. No seguir esta advertencia conlleva un importante riesgo de incendio o explosión, pudiendo dañar gravemente tanto el equipo como a las personas a su alrededor.

⚠ Do not use the supplied battery by the manufacturer for another transceiver than the one supplied. Do not following this advice implies an important risk of ignite or explode, and could seriously damage both the equipment and other people around.

⚠ Do not apply a soldering iron on the battery terminals, could cause the battery overheating with the consequent risk of suffering a serious accident.

⚠ Remember that inside a vehicle could reach extreme heat or cold temperatures, in one of those situations the battery could ignite or explode.

⚠ Never charge the battery with another charger than the one original supplied by the manufacturer. The charger is specific for the battery's technology. Using another charger will damage the battery and could cause the battery to ignite or explode with the consequent risk of suffering a serious accident.

⚠ Both the battery and charger contacts must be at all times clean. A bad maintenance of those elements and its deterioration could cause a bad operation, overheat, ignite or explode from the equipment.

⚠ Do not leave the transceiver or the battery close to magnetic fields. It is possible that this cause the bad operation of the transceiver or the battery. It is also possible the battery's discharge due to the action of this magnetic fields.

⚠ In case of not using the transceiver during a long period of time of weeks or months, it is strongly recommended to take off the Li-Ion battery and store it on a cool and dry place, without direct sun light and with a temperature between 5 and 25 degrees. Never store the battery completely discharged or with only a low load, that could cause an irreparable damage to the battery to the point of becoming unusable. It is also inadvisable to store the battery for a long period of time with 100% of the load, the ideal is store it with a 40% of the load, this will extend the battery's working life.

⚠ After a long period of time without being used, the Li-Ion batteries gradually lose its load. Whereby try to use it and charge it with a certain frequency in order to extend the battery's working life.

- ⚠ Do not use the charger/feeder if the cables or plugs are damaged. That could cause electrical shocks, ignites and explodes. Dispose the product and buy a new one from your dealer.
- ⚠ Do not use the charger/feeder if the socket outlet is damaged or loose. That could cause electrical shocks, ignites and explodes. In that case, call a professional electrician to solve the problem.
- ⚠ During the charging process do not touch none of its components nor the battery. That could cause electrical shocks with serious security risk or even the death.
- ⚠ Do not touch the charger, any of its components nor the battery with wet hands nor your bare feet. That could cause electrical shocks with serious security risk or even the death.
- ⚠ Do not short-circuit the charger/feeder terminals. That could seriously damage the system and void it or even catch on fire with a serious risk for the security of the people and facilities where the equipment is located.
- ⚠ The Li-Ion batteries have a circuit available that cuts the energy supply once the charge is completed. Usually the charger shows this situation through a LED indicator. But facing the possibility of an error or an overheating both on the charger and on the battery, is appropriate not to let the charger permanently connected to the wall outlet and even less with the battery installed. Once the charge is completed it is strongly recommended to quit the battery from the charger and disconnect it from the electricity supplies.
- ⚠ During the charging process, if any of its components: transceiver, battery, cables, charger, wall feeder, etc. will give off smoke or a strange smell, with great caution disconnect the charger from the wall outlet and remove the transceiver or the battery in case is being charged alone. If the battery is installed on the transceiver remove it immediately and do not use the equipment. Get immediately in contact with your dealer or technical service.
- ⚠ Do not cover nor put any kind of objects over the transceiver, the battery, the charger, the feeder or the cables. That could cause an overheating or damages on the elements with the consequent risk of burn or explosion.

Main features

Dual Band VHF/UHF, Dual display, Dual standby
128 channels, 25 radio memories
ANI code
Emergency call
FM Radio reception
8 encryption levels
MSK / DTMF / 2 tones / 5 tones
CTCSS / DCS
VOX function, with adjustable sensibility
Multi-scan function and channel priority scan
Channel's name editor
Calling groups
Welcome message
English voice guide
Software programming
Different channel displaying options
Voice compression function, for a best sound quality
Cloning function



Unpacking of the equipment and content

Unpack carefully the content of your transceiver's box. We recommend you to verify the elements listed in the following table before discarding the package. If some element is missing or it had been damaged due to the shipping, please contact your **LUTHOR TECHNOLOGIES** dealer as soon as possible.

Supplied accessories



Antenna



Battery pack



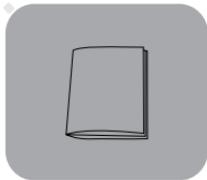
Belt-clip



Charger adapter

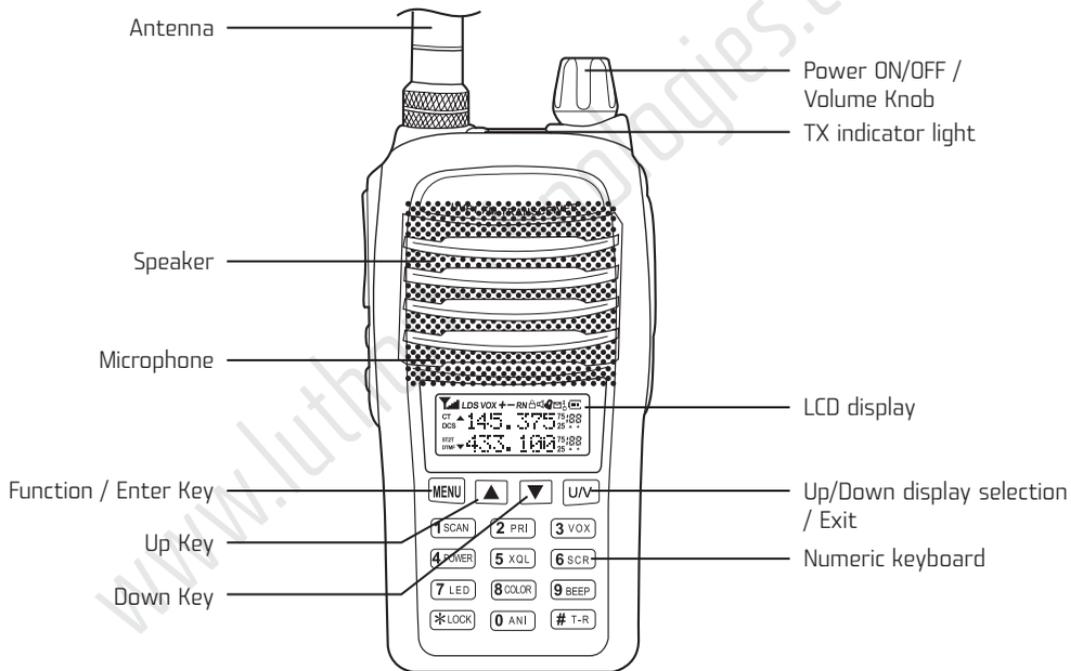


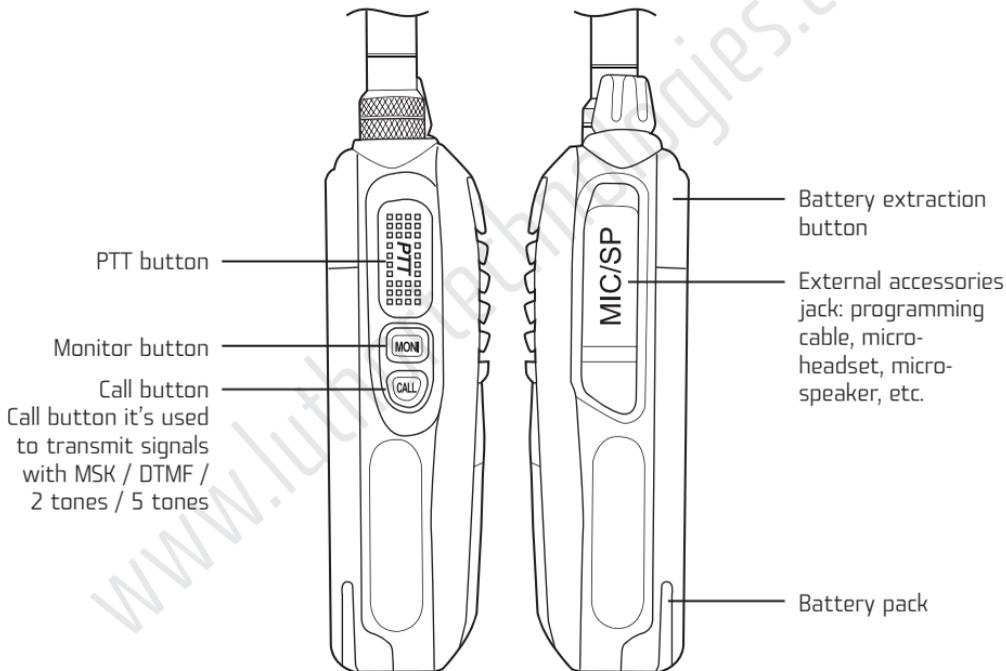
Charger



Manual

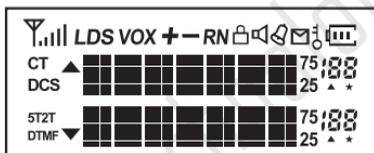
Transceiver's description





Introduction to display icons

When the transceiver is powered on, you can see different icons on the display. The following table helps you to identify the meaning of the display icons.



	Signal's power level, power meter
L	Low power
D	Dual watch ON
S	Power-saving function ON
VOX	VOX function ON
+ -	Repeater shift direction
R	Reverse frequency
N	Narrow band
	Keyboard locked

	Squelch filter ON
	Beep sound ON
	Voice encryption function ON in this channel or frequency
	Battery level indicator
CT	CTCSS ON
DCS	DCS ON
5T	5 tone ON
2T	2 tone ON
DTMF	DTMF ON
	Channel in use indicator
	Channel in use indicator
75 25	Decimal frequency for the 6,25 / 12,5 / 37,5 KHz
188	Channel number / Menu's number indicator
	Busy channel indicator
*	Scan function available in channel mode

Working modes

Channel mode (CH)

To enter this mode, please while keeping pressed the  key power on the transceiver, use the  /  keys to select the channels or introduce the channel number directly.

Note: to use this mode there has to be at least 2 channels memorized.

To return to the Frequency mode, while keeping pressed the  key power on the transceiver, use the  key to select the display line desired, use the  /  keys to change the frequency or introduce it through the keyboard.

CH-FR Mode (Channel + Frequency)

In FR mode, keep pressing the  key for at least 2 seconds, the transceiver will change to CH-FR mode. Keep pressing the  key for at least 2 seconds, the transceiver will change to FR mode. Press the  key to select the display line desired.

Menu's table

N°	Display	Selectable parameters	Function's description
1	SCAN	/	Frequencies / channels scan
2	TX.SEL	EDIT / BUSY	Selection of priority channel in TX
3	VOX	1 - 8	VOX (hands free) sensitivity level
4	POWER	LOW / HIGH	High or Low transmission power
5	SQL	0 - 9	Squelch sensitivity level
6	SCR.No	1 - 8	Selection of the encryption group
7	LED	ON / OFF / AUTO	Turn on / off display light
8	LIGHT	BLUE/ORANGE/PURPLE	Display colour selection
9	BEEP	ON / OFF	Turn on / off keyboard's sound
10	ANI	ON / OFF	Turn on / off ANI code
11	D.WAIT	ON / OFF	Turn on / off dual standby
12	APRO	OFF / SCR / COMP	Selection of the audio mode
13	TOT	OFF / 30 / 60 /... /270	Time Out Timer
14	BCLO	OFF / CALL / WAVE	Busy channel lock
15	VOX.SW	ON / OFF	Turn on / off VOX (hands free)
16	ROGER	ON / OFF	Turn on / off transmission's end notice
17	DW	ON / OFF	Monitor option for FM radio

N°	Display	Selectable parameters	Function's description
18	RX.SAV	ON / OFF	Turn on / off reception's energy save
19	SCANS	TIME / SEEK / CARRY	Scanner searching mode
20	AUTOLK	ON / OFF	Automatic keyboard lock
21	VOICE	ON / OFF	Turn On / off English voice guide
22	OPNSET	OFF / DC / MSG	Display information when powering on
23	VLT	/	Battery voltage information
24	PON.MSG	Alphanumeric symbols	Display message when powering on
25A	OFFSET	0.000 - 99.995 MHz	Frequency offset value
25B	DIS.NM	ON / OFF	Shows channel name (CH mode)
26	CH.NAME	Alphanumeric symbols	Edit of the channel name
27	C-CDC	OFF / 67.0 / D023N	CTCSS / DCS tones in TX / RX
28	R-CDC	OFF / 67.0 / D023N	CTCSS / DCS tones in RX
29	T-CDC	OFF / 67.0 / D023N	CTCSS / DCS tones in TX
30	S-D	+ / - / OFF	frequency offset direction
31	STEP	5K / 6.25K / ... / 100K	Selection of frequency steps
32	N / W	WIDE / NARROW	Bandwidth selection

Menu's configuration

Searching mode **MENU** + **1 SCAN**

1. In FR mode, press the **MENU** key, then press the **▲** key, the LCD display will show "SCAN", press the **MENU** key to start search. While searching or scanning the signals, the frequency step will be the one previously selected on menu number 31.



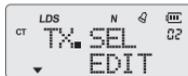
Use the **▲** / **▼** keys to change the search direction.

2. Following the step 1 you can also perform the searching in CH-FR or CH modes. Press the **MENU** key to exit.

Selection of priority channel **MENU** + **2 PRI**

Press the **MENU** key, use the **▲** / **▼** keys to select the menu number 2, selection of priority channel. The LCD display will show "TX.SEL EDIT" or "TX.SEL BUSY", press the **MENU** key and select your desired option using the **▲** / **▼** keys. Once selected your option press the **MENU** key again to confirm.

1. Selecting "EDIT" the transceiver will transmit on the channel chosen as predetermined or priority. If selecting "BUSY" the transceiver will transmit on the last channel used for transmitting.
2. When pressing the PTT button, the "up" symbol will appear on the lower right side of the used channel.



Configuration of VOX level **MENU** + **3 VOX** (hands free)

This function allows the user to transmit without pressing the PTT button, when the equipment hears a sound, it activates the transmission automatically. The equipment can realize this function individually with its own microphone or can be used another external element such an earphone with PTT/VOX switch.

1. Press the **MENU** key, use the **▲** / **▼** keys to select the menu number 3, selection of VOX sensibility level. Press the **MENU** key to select the level between 1 and 8, where 1 is the level with lower sensibility and 8 the level with higher sensibility, that's why in this last one the necessary noise level to activate the VOX will be smaller. Use the **▲** / **▼** keys to select your option, confirm it pressing the **MENU** key. Press the **U/V** key twice to exit.
 
2. On menu number 3 you can select the VOX sensibility level, to turn on/off this function you must use the menu number 15: Press the **MENU** key, use the **▲** / **▼** keys to select the menu number 15, press the **MENU** key again, using the **▲** / **▼** keys select "ON" (turns the VOX function on) or "OFF" (turns the VOX function off). Once selected your option confirm it pressing the **MENU** key and press the **U/V** key twice to exit.
 

Selection of High or Low transmission power **MENU** + **4 POWER**

Press the **MENU** key, use the **▲** / **▼** keys to select the menu number 4, press the **MENU** key again, the LCD display will show "HIGH" or "LOW", and select your desired option using the **▲** / **▼** keys. "HIGH" means the transceiver will transmit with high power (5watt on VHF or 4watt on UHF) and "LOW" means the transceiver will transmit with low power (1watt on VHF and UHF). Note: Press the **U/V** key twice to exit.



Configuration of Squelch level **MENU** + **5 XQL**

Press the **MENU** key, use the **▲** / **▼** keys to select the menu number 5, press the **MENU** key again, using the **▲** / **▼** keys you can select the squelch level between 0 and 9. Once selected your option press the **MENU** key again to confirm and press the **U/V** key twice to exit.

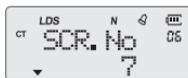


"0" is squelch opened and from 1 to 9 you will obtain the different levels of noise reduction, where "9" is the highest level of reduction. If you set a too high level, the signal that you will receive

will be very clean of noise, but it will go to the detriment of the communication, that is, in this case you will lose reception distance. On the contrary if you set a too low level or deactivate the squelch, you will count with an increased reception distance but the radio will be object to receive noises or worse quality signals (we recommend you the level "5").

Selection of the encryption group **MENU** + **6 SCR**

This exclusive function that offers this transceiver is certainly one of its greater attractive aspects, you can use this function to obtain the maximum of privacy in your conversations, 8 different encryption groups make almost impossible to hear a conversation by a non desired user. This function distorts the voice and it only can be understood by another user with the same transceiver and the same encryption group, otherwise, the conversation will be intelligible.



Press the **MENU** key, use the **▲** / **▼** keys to select the menu number 6. Press the **MENU** key and using the **▲** / **▼** keys select the encryption level between 1 and 8. Once selected your option press the **MENU** key again to confirm, press the **U/V** key twice to exit.

To use the different encryption groups, you should activate the "SCR" function in the menu number 12.

Press the **MENU** key, use the **▲** / **▼** keys to select the menu number 12, press the **MENU** key again, using the **▲** / **▼** keys you can select the "OFF" option (normal audio), "SCR" (voice encryption activated) or "COMP" (audio compressor enabled, gives the transceiver a greater audio quality) and next press the **MENU** key again to confirm, press the **U/V** key twice to exit.



Display light **MENU** + **7 LED**

Press the **MENU** key, use the **▲** / **▼** keys to select the menu number 7, press the **MENU** key again,

using the ▲ / ▼ keys you can select between “AUTO” (automatic light, the light turns on when any operation is done and turns off automatically a few seconds after the last operation), “ON” (the display light will be always on) or “OFF” (the display light will be always off). Once selected your option press the **MENU** key again to confirm and press the **U/V** key twice to exit.



Display's colour selection **MENU** + **8** COLOR

Press the **MENU** key, use the ▲ / ▼ keys to select the menu number 8, press the **MENU** key again, using the ▲ / ▼ keys you can select between “ORANGE” (the light turns orange), “PURPLE” (the light turns purple) or “BLUE” (the light turns blue). Once selected your option press the **MENU** key again to confirm and press the **U/V** key twice to exit.



Keyboard's sound **MENU** + **9** BEEP

Turning on this function, by pressing any key you can hear a “beep” sound that warn you that you are operating the equipment. Press the **MENU** key, use the ▲ / ▼ keys to select the menu number 9, press the **MENU** key again, using the ▲ / ▼ keys you can select between “ON” (activate the keyboard's sound) or “OFF” (deactivate the keyboard's sound). Once selected your option press the **MENU** key again to confirm and press the **U/V** key twice to exit.



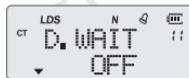
ANI code activation **MENU** + **0** ANI

Press the **MENU** key, use the ▲ / ▼ keys to select the menu number 10, press the **MENU** key again, using the ▲ / ▼ keys you can select between “ON” (activate the ANI code) or “OFF” (deactivate the ANI code). Once selected your option press the **MENU** key again to confirm and press the **U/V** key twice to exit. The ANI code programming has to do it through a PC with the optional programming software and the USB cable.



Activation of the dual standby system

Press the **MENU** key, use the **▲** / **▼** keys to select the menu number 11, press the **MENU** key again, using the **▲** / **▼** keys you can select between “ON” (activate the dual standby system) or “OFF” (deactivate the dual standby system). Once selected your option press the **MENU** key again to confirm and press the **U/V** key twice to exit. By selecting “ON” the transceiver while its operating in one channel, can receive signals in another selected channel, in this case the “D” icon will appear on the upper left side of the LCD display. By selecting “OFF” the transceiver will operate in the frequency or channel selected.



Time Out Timer (TOT)

The TOT function has been designed for limiting the maximum transmission time. When the transmission exceeds a fixed time a “beep” sound warns you about it and the transceiver will cut the transmission. This transceiver can be set with 9 different times in 30 second steps, between 30 and 270 seconds. Press the **MENU** key, use the **▲** / **▼** keys to select the menu number 13, press the **MENU** key again, using the **▲** / **▼** keys you can select between “30s” to “270s” or “OFF” if you don’t want to limit the maximum transmission time. Once selected your option press the **MENU** key again to confirm and press the **U/V** key twice to exit.



Busy channel lock

You can activate this function to prevent interfering another user that’s transmitting. If the selected channel it’s been used by another user and you press the PTT button your transceiver will not allow you to transmit, avoiding to interfere the other user.

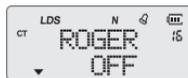
Press the **MENU** key, use the **▲** / **▼** keys to select the menu number 14, press the **MENU** key again, using the **▲** / **▼** keys you can select between “CALL” (if the radio receives a signal, will not allow transmitting until that reception ends, even will not allow transmitting on the second standby frequency while the reception is on, pressing the PTT button the LCD display will show “BCL0”), “WAVE” (if the radio receives a



signal, will not allow transmitting until that reception ends, when pressing the PTT button the LCD display will show “BCLO” but will allow transmitting on the second standby frequency) or “OFF” (turn off the transmission busy channel lock). Once selected your option press the **MENU** key again to confirm and press the **U/V** key twice to exit.

Transmission's end notice (ROGER BEEP)

Press the **MENU** key, use the **▲** / **▼** keys to select the menu number 16, press the **MENU** key again, using the **▲** / **▼** keys you can select between “ON” (activate the transmission's end notice, the radio will emit a “beep” sound when the transmission ends, this sound will be heard by the emitting user and by the others on the same frequency) or “OFF” (deactivate the transmission's end notice). Once selected your option press the **MENU** key again to confirm and press the **U/V** key twice to exit.



Monitor option for FM radio

Press the **MENU** key, use the **▲** / **▼** keys to select the menu number 17, press the **MENU** key again, using the **▲** / **▼** keys you can select between “ON” (allows that while listening to the FM radio, if a signal is received on the last frequency used, the equipment changes immediately to that frequency or channel, and when the reception of that signal ends, the equipment will return in a few seconds to the FM radio station you were listening) or “OFF” (if you do not want to receive any signal while listening to the FM radio). Once selected your option press the **MENU** key again to confirm and press the **U/V** key twice to exit.



Reception's energy save

Press the **MENU** key, use the **▲** / **▼** keys to select the menu number 18, press the **MENU** key again, using the **▲** / **▼** keys you can select between “ON” (activate the reception's energy save system, this function turns on and off the power of the receptor of your transceiver in an imperceptible way with micro-cuts that



produce a considerable energy saving) or “OFF” (if you do not want to use this function). Once selected your option press the **MENU** key again to confirm and press the **U/V** key twice to exit.

Scanner searching mode

Press the **MENU** key, use the **▲** / **▼** keys to select the menu number 19, press the **MENU** key again, using the **▲** / **▼** keys you can select between:

“**TIME**”: using the SCAN function the search will stop in the signal found, and will stay in this signal for a few seconds. If you don’t make any action to cancel the search during this period of time, the search will restart although the signal is still active.

“**SEEK**”: using the SCAN function the search will stop in the signal found, and will not restart automatically, you will have to restart the search if you want it to continue.

“**CARRY**”: using the SCAN function the search will stop in the signal found, and will stay in this signal until it ends. Once the signal ends, the search will restart.

Once selected your option press the **MENU** key again to confirm and press the **U/V** key twice to exit.



Automatic keyboard lock

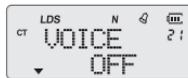
Press the **MENU** key, use the **▲** / **▼** keys to select the menu number 20, press the **MENU** key again, using the **▲** / **▼** keys you can select between “ON”

(spent a few seconds from the last transceiver’s operation, the keyboard will be automatically locked to avoid accidentally operating the transceiver, only the PTT and MONI buttons will be operative) or “OFF” (if you do not want to use this function). If the equipment is locked, press the **LOCK** key during a few seconds to unlock it. Once selected your option press the **MENU** key again to confirm and press the **U/V** key twice to exit.



English voice guide

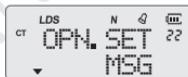
Press the **MENU** key, use the **▲** / **▼** keys to select the menu number 21, press the **MENU** key again, using the **▲** / **▼** keys you can select between “ON” (an English voice will tell you all the functions or movements made through the



keyboard) or “OFF” (if you do not want to use this function, so, you will not hear the voice). Once selected your option press the **MENU** key again to confirm and press the **U/V** key twice to exit.

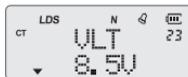
Display information when powering on

Press the **MENU** key, use the **▲** / **▼** keys to select the menu number 22, press the **MENU** key again, using the **▲** / **▼** keys you can select between “MSG” (when powering on the equipment the LCD display will show a message. See menu 24 to customize it), “DC” (when powering on the equipment the LCD display will show the current battery voltage) or “OFF” (when powering on the equipment the LCD display will show the current frequency or channel). Once selected your option press the **MENU** key again to confirm and press the **U/V** key twice to exit.



Battery voltage information

Press the **MENU** key, use the **▲** / **▼** keys to select the menu number 23. This menu it's only for your information and you can not change anything. On the LCD display you can see the current battery voltage, so you can know its charge.



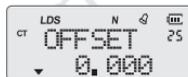
Display message when powering on

1. Press the **MENU** key, use the **▲** / **▼** keys to select the menu number 24, on the screen you will see “PON.MSG”.
2. Press the **MENU** key to enter into the edition mode, the message will blink on the LCD display.
3. Using the **▲** / **▼** keys select the desired letters.
4. Once selected your desired letter, press the **# T-R** key to confirm it and go to the next letter. If you want to return to the last letter, you can edit it again by pressing the ***LOCK** key.
5. Once selected your option press the **MENU** key again to confirm and press the **U/V** key twice to exit.



Frequency offset value

This is an important parameter to work through a repeater where the transmission and reception frequencies have to be displaced between them. Selecting the frequency offset value in MHz, it will be automatically made, displacing the emission from the reception in the direction wished by the user (to choose the frequency offset direction see menu number 30).



Press the **MENU** key, use the **▲** / **▼** keys to select the menu number 25, press the **MENU** key again, using the **▲** / **▼** keys you can select the desired frequency offset value. This value goes between 0.000 and 99.995 MHz. Once selected your option press the **MENU** key again to confirm and press the **UV** key twice to exit.

Channel name edit

1. Press the **MENU** key, use the **▲** / **▼** keys to select the menu number 26.
2. Using the **▲** / **▼** keys select the desired letters.
3. Once selected your desired letter, press the **# T-R** key to confirm it and go to the next letter. If you want to return to the last letter, you can edit it again by pressing the ***LOOK** key.
4. Once selected your option press the **MENU** key again to confirm and press the **UV** key twice to exit.

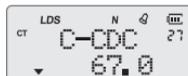
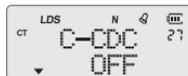


Warning: to use this menu the number of channels stored has to be at least two.

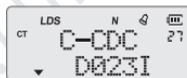
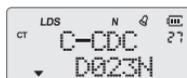
CTCSS / DCS tones in transmission TX and reception RX

With this function you can select the analogical CTCSS or digital DCS tones in both transmission and reception, so that both will use the same tone.

1. Press the **MENU** key, use the **▲** / **▼** keys to select the menu number 27.
2. Press the **MENU** key to enter into the selection, the LCD display will show "OFF".



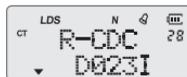
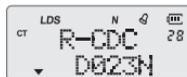
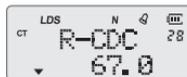
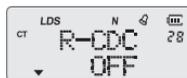
3. Press the **LOCK** key, pressing it several times you will be able to access to analogical CTCSS, digital DCS tones or OFF to deactivate the use of tones.
4. Using the **▲** / **▼** keys you can select the desired tone number for analogical CTCSS or digital DCS tones, once selected your option press the **MENU** key again to confirm and press the **U/V** key twice to exit.
5. If the selection is OFF, the tones will be deactivated.



CTCSS / DCS tones in reception RX

With this function you can select the analogical CTCSS or digital DCS tones only in reception.

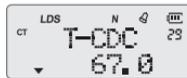
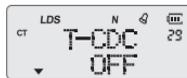
1. Press the **MENU** key, use the **▲** / **▼** keys to select the menu number 28.
2. Press the **MENU** key to enter into the selection, the LCD display will show "OFF".
3. Press the **LOCK** key, pressing it several times you will be able to access to analogical CTCSS, digital DCS tones or OFF to deactivate the use of tones in reception.
4. Using the **▲** / **▼** keys you can select the desired tone number for analogical CTCSS or digital DCS tones, once selected your option press the **MENU** key again to confirm and press the **U/V** key twice to exit.
5. If the selection is OFF, the tones in reception will be deactivated.



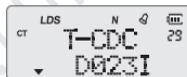
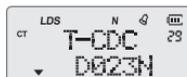
CTCSS / DCS tones in transmission TX

With this function you can select the analogical CTCSS or digital DCS tones only in transmission.

1. Press the **MENU** key, use the **▲** / **▼** keys to select the menu number 29.
2. Press the **MENU** key to enter into the selection, the LCD display will show "OFF".



- Press the **LOCK** key, pressing it several times you will be able to access to analogical CTCSS, digital DCS tones or OFF to deactivate the use of tones in transmission.
- Using the **▲** / **▼** keys you can select the desired tone number for analogical CTCSS or digital DCS tones, once selected your option press the **MENU** key again to confirm and press the **U/V** key twice to exit.
- If the selection is OFF, the tones in transmission will be deactivated.



Frequency offset direction

Press the **MENU** key, use the **▲** / **▼** keys to select the menu number 30, press the **MENU** key again, using the **▲** / **▼** keys you can select between:

“-”: the frequency offset direction will be down.

“+”: the frequency offset direction will be up.

“OFF”: there are no frequency offset direction.

Once selected your option press the **MENU** key again to confirm and press the **U/V** key twice to exit. In order to use this function remember to give a value to the frequency offset value through the menu number 25.



Selection of frequency steps

Press the **MENU** key, use the **▲** / **▼** keys to select the menu number 31, press the **MENU** key again, using the **▲** / **▼** keys you can select the desired frequency step, the next ones are available: 5K, 6.25K, 10K, 12.5K, 25K, 37.5K, 50K, 100K. Once selected your option press the **MENU** key again to confirm and press the **U/V** key twice to exit.



Selection of bandwidth

Press the **MENU** key, use the **▲** / **▼** keys to select the menu number 32, press the **MENU** key again, using the **▲** / **▼** keys you can select between “WIDE”



(wide band 25KHz) or “NARROW” (narrow band 12,5KHz). Once selected your option press the **MENU** key again to confirm and press the **U/V** key twice to exit.

Storage of a memory channel

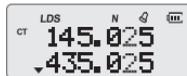
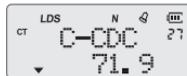
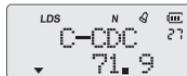
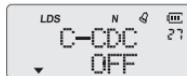
In the frequency mode, introduce the wished frequency and the other parameters to store (CTCSS tones, DCS, frequency offset, etc.). Press the **MENU** key, then press the **U/V** key, the memory number will be showed on the right side of the LCD display. Press the **▲** / **▼** keys to select the channel number where the data will be stored, once selected the number press the **U/V** key to confirm and end the memory storing. Keeping pressed the **U/V** key you can enter and exit the memory mode.

Example: to save the 435.025MHz Rx/Tx frequency, tone 71,9 in the channel 10, follow the next steps:

1. Introduce the frequency pressing the following keys:

4 POWER **3** VOX **5** XQL **0** ANI **2** PRI **5** XQL

2. Press the **MENU** key followed by the **LOCK** key (this will take you quickly to the menu number 27).
3. Press the **MENU** key to confirm, press the **LOCK** key to select the tone number and using the **▲** / **▼** keys select 71,9, confirm it pressing the **MENU** key, the “CT” icon will appear on the left side of the LCD display.
4. Press the **U/V** key twice to exit.
5. Once the frequency and the rest of the parameters are introduced, press the **MENU** key followed by the **U/V** key, press the **1**SCAN and the **0** ANI keys or look for this number using the **▲** / **▼** keys. Once introduced the number 10, confirm it by pressing the **U/V** key to complete the channel storage.



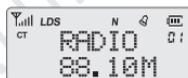
FM Radio function

This transceiver comes with an FM Radio to listen to commercial stations.



To use the transceiver as an FM Radio:

1. Activate the FM Radio mode by pressing the **MENU** key followed by MONI side key.
2. You can directly introduce the desired frequency through the numeric keyboard or select one using the **▲** / **▼** keys. (With 100KHz steps.)
3. To make an automatic stations search or scan, press the **MENU** key followed by the **1SCAN** key and press the **MENU** key again to start the FM radio search, the search will stop in the first station found. Pressing the **▲** / **▼** keys you can change the search direction.
4. To exit the FM Radio mode, press the **MENU** key followed by MONI side key and it will return to transceiver mode.



Storage of FM radio channels

In FM radio mode, introduce the radio frequency to store, press the **MENU** key followed by the **UVV** key, then introduce the wished memory number through the numeric keyboard or select it by pressing the **▲** or **▼** keys, once selected the memory number, press the **UVV** key to confirm. For the FM radio mode the maximum capacity of memories is 25. To enter or exit the Channels / Memories mode, keep pressed the **UVV** key for about 2 seconds. In the Memories mode you will be able to select the desired memory by pressing its number or using the **▲** and **▼** keys.

Delete of FM radio channels

In FM radio mode, power off the transceiver, keep pressing the **UVV** key while you power on the transceiver again, on the LCD display the text "DEL ?" will be showed, select the number of memory you want to delete directly or by pressing the **▲** / **▼** keys, press the **MENU** key to confirm and the channel / memory will be deleted.



Battery level display indicator

An icon showed on the right upper side of the LCD display with battery form



 shows the current charge of the equipment's battery, three bars shows that the battery it's completely charged, as the battery gets losing its charge one by one the bars will disappear.

Low battery warning

When the battery voltage is less than 6 volts, the equipment will show the message "Low voltage" on the LCD display, and the icon  showed on the right upper side of the LCD display will show none of its bars.

Manual keyboard lock

To avoid operating the keyboard in an involuntary way, this transceiver gives the possibility of locking the keyboard, to manually lock the keyboard press the  key during about 2 seconds. When the keyboard is locked the icon  will be showed in the upper side of the LCD display, and if any key is pressed the LCD display shows the text "LOCKED" indicating us that the keyboard is locked. This equipment gives the possibility of an automatic lock, for more details see the menu number 20.

Reverse frequency function

By pressing the  key during almost 2 seconds the transceiver will activate/deactivate the reverse frequency function. When this function is on, the icon "R" will be showed in the upper side of the LCD display, and it makes that the emission frequency turns into reception frequency and reception frequency into emission frequency, in the cases where both are different.

Special features

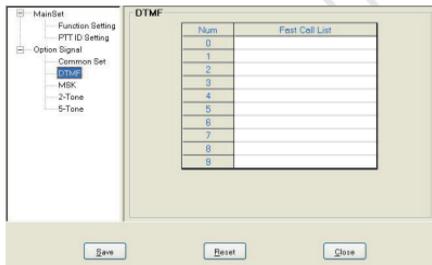
This transceiver comes with some advanced special features that only a few equipments can offer you. This functions provide your equipment an important number of advanced possibilities of selective call, group call, etc.

The four optional signalling are: MSK, DTMF, 2-Tones and 5-Tones (in DTMF case only for coding).

DTMF

Editing the DTMF message

1. Edit the quick call signal, the transceiver can store up to 10 groups of quick call signals. To access the DTMF table on the programming software, follow the next steps:
Press “Edit” – “Optional features” – “Optional Signal” – “DTMF”
2. Introduce the desired codes (up to 16 characters) in the corresponding list, press “save” when finished, and exit by pressing “close”.



3. Configure the optional signal on selected channel to have DTMF available. To find the optional signalling on the programming software:
Press “More”, in “Option Signal” select “DTMF” to edit the DTMF signal on the transceiver.

To make a DTMF call with your transceiver:

1. Power on the transceiver, select the channel with a programmed DTMF.
2. Press the CALL red button on the left side, the LCD display will show "CALL/DTMF?", press any of the **0 ANI** - **9 BEEP** keys to make the call to the programmed call list. If the call corresponds with a non edited (blank) number you will hear a "du" sound.

MSK

Editing the MSK message on the transceiver (ID code to receive, message to the call list to transmit)

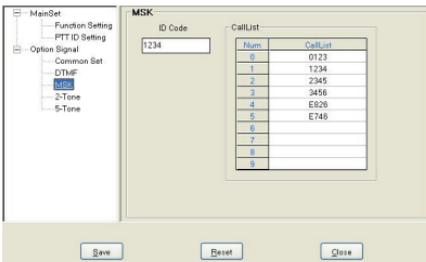
1. Edit the quick call signal through the programming software, the transceiver can store up to 10 groups of quick call signals.
To access the MSK signal on programming software, follow the next steps:
"Edit" – "Optional features" – "Optional Signal" – "MSK"
2. Introduce the desired code (up to 4 characters) in the corresponding list, press "save" when finished, and exit by pressing "close".
3. Introduce the corresponding ID decode on the "ID Code" setting.
4. Edit the optional signal on the channel desired to be MSK.

To find the optional signalling on the programming software:

Press "more", in "Option Signal" select "MSK" to edit the MSK signal in the transceiver.

To make a MSK call with your transceiver:

1. Power on the transceiver, select a channel with the MSK programmed.
2. Press the CALL red button on the left side, the LCD display will show "CALL/DTMF?", press any of the **0 ANI** - **9 BEEP** keys to make the call to the programmed call list. If the call corresponds with a non edited (blank) number you will hear a "du" sound.



2 Tone

Editing the 2 Tone message:

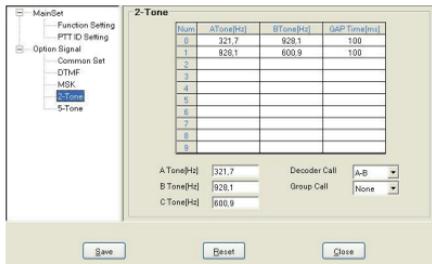
1. Edit the quick call signal through the programming software, the transceiver can store up to 10 groups of quick call signals.
To access the 2 Tone signal on programming software, follow the next steps:
“Edit” – “Optional features” – “Optional Signal” – “2 Tone”
2. Introduce requested A-Tone code (the first tone), B-Tone (the second tone) and the interval time between the A-Tone and the B-Tone in the corresponding list.
On A-Tone coding sounds 1 second, and B-Tone sounds 3 seconds; but when the call list has only A-Tone, this will sound 5 seconds. (Like the group call tone in a real use)
3. Edit desired decoding, frequencies for the A, B and C Tone.
4. Edit decoding call mode, 6 optional modes: A-B, C-B, C-A, B-C, B-A, A-C.
Example: if you select C-B, then decoder requires the first tone to be C-Tone, and the second one to be B-Tone.
5. Select (group call) to be “None” or A-Tone, B-Tone, C-Tone, press “save” when done, and exit pressing “close”.
6. Edit optional signal on desired channel to be 2 Tone.

To find optional signalling on programming software:

Press “More”, in “Option Signal” select “2 Tone” to edit the 2 Tone signal in the transceiver.

To make a 2 Tone call with your transceiver:

1. Power on the transceiver, select a channel with the 2 Tone programmed.
2. Press the CALL red button on the left side, the LCD display will show “CALL/DTMF?”, press any of the **0 ANI** - **9 BEEP** keys to make the call to the programmed call list. If the call corresponds with a non edited (blank) number you will hear a “du” sound.



5 Tone

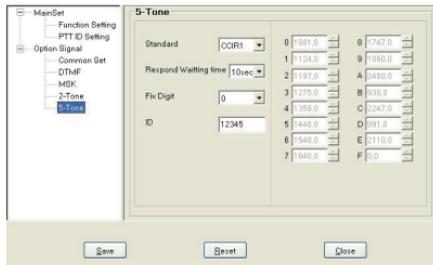
Editing the 5 Tone message

To access 5 Tone signal on programming software, follow the next steps:

“Edit” – “Optional features” – “Optional Signal” – “5 Tone”

1. Select the desired standard, you can select up to 8 international standards; programming software shows the codes corresponding each specific international standard.
2. Introduce the transceiver’s 5 Tone ID on ID frame. 5 digits maximum.
3. Configure optional signal on desired channel to be 5 Tone.

To find optional signalling on programming software:



Press “More”, in “Option Signal” select “5 Tone” to edit the 5 Tone signal in the transceiver.

To make a 5 Tone call with your transceiver:

1. Power on the transceiver, select a channel with the 5 Tone programmed.
2. Press the CALL red button on the left side, the LCD display will show “ALL/-----”.
3. Introduce the 5 Tone of the radio you want to call. Example: 12345
4. Press the PTT button to transmit.
5. Example: there are 2 transceivers, the 5 Tone ID for the A transceiver are: 12345, for the B transceiver are 67890. Those are the steps to follow by A transceiver to call B transceiver: press the CALL red button on the left side, press the key sequence **6 SCR** **7 LED** **8 COLOR** **9 BEEP** **0 ANI** next press PTT button to transmit.

Cloning the LUTHOR TL-55

This function allows sending the same information and configuration from one equipment to another.

Prepare 2 units of the TL-55 model, the first unit will be the “Master” unit that will have all the information we want to transmit to the other equipment, the second equipment, the unit called “Receptor”, it will be the unit in which we want to store all the information contained in the first

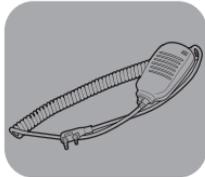
equipment.

1. The “Receptor” equipment will be powered on and the “Master” equipment will be powered off.
2. Connect the cloning cable between the two equipments. On “Master” equipment, when pressing both PTT button and  power it on, the LCD display will show “CLONE”.
3. Press MONI button on “Master” equipment to start cloning. During cloning process the LCD display of “Master” equipment will show “SENDING” and its indicator light will blink in red colour, on “Receptor” equipment its indicator light will blink in green colour. When cloning process ends in a successful way the LCD display of “Master” equipment will show “END”. When the cloning fails the LCD display of “Master” equipment will show “ERROR”. To clone another equipment you only need to connect “Master” equipment with the cloning cable to the next “Receptor” equipment and then press MONI on “Master” equipment to start cloning process again.

Optional accessories



Car Charger



Microphone



Earphone



Cloning cable



Programming cable



Alternative battery

Technical parameters

CTCSS (analogical tones)

1	67.0	11	94.8	21	131.8	31	171.3	41	203.5
2	69.3	12	97.4	22	136.5	32	173.8	42	206.5
3	71.9	13	100.0	23	141.3	33	177.3	43	210.7
4	74.4	14	103.5	24	146.2	34	179.9	44	218.1
5	77.0	15	107.2	25	151.4	35	183.5	45	225.7
6	79.7	16	110.9	26	156.7	36	186.2	46	229.1
7	82.5	17	114.8	27	159.8	37	189.9	47	233.6
8	85.4	18	118.8	28	162.2	38	192.8	48	241.8
9	88.4	19	123.0	29	165.5	39	196.6	49	250.3
10	91.5	20	127.3	30	167.9	40	199.5	50	254.1

DCS (digital tones)

1	D023N	16	D074N	31	D165N	46	D261N	61	D356N
2	D025N	17	D114N	32	D172N	47	D263N	62	D364N
3	D026N	18	D115N	33	D174N	48	D265N	63	D365N
4	D031N	19	D116N	34	D205N	49	D266N	64	D371N
5	D032N	20	D122N	35	D212N	50	D271N	65	D411N
6	D036N	21	D125N	36	D223N	51	D274N	66	D412N
7	D043N	22	D131N	37	D225N	52	D306N	67	D413N
8	D047N	23	D132N	38	D226N	53	D311N	68	D423N
9	D051N	24	D134N	39	D243N	54	D315N	69	D431N
10	D053N	25	D143N	40	D244N	55	D325N	70	D432N
11	D054N	26	D145N	41	D245N	56	D331N	71	D445N
12	D065N	27	D152N	42	D246N	57	D332N	72	D446N
13	D071N	28	D155N	43	D251N	58	D343N	73	D452N
14	D072N	29	D156N	44	D252N	59	D346N	74	D454N
15	D073N	30	D162N	45	D255N	60	D351N	75	D455N

76	D462N	82	D516N	88	D606N	94	D645N	100	D723N
77	D464N	83	D523N	89	D612N	95	D654N	101	D731N
78	D465N	84	D526N	90	D624N	96	D662N	102	D732N
79	D466N	85	D532N	91	D627N	97	D664N	103	D734N
80	D503N	86	D546N	92	D631N	98	D703N	104	D743N
81	D506N	87	D565N	93	D632N	99	D712N	105	D754N

Troubleshooting guide

Problem	Possible cause	Possible solution
The transceiver does not ignite.	<ol style="list-style-type: none"> 1. The battery is not properly adjusted. 2. The battery is exhausted. 3. The battery is too old. 	<ol style="list-style-type: none"> 1. Reinstall the battery. 2. Charge the battery. 3. Replace the battery.
The transceiver is powered on and no sound is heard on the speaker.	<ol style="list-style-type: none"> 1. The power on/off knob is not correctly adjusted. 2. Confirm that the CTCSS/DCS or DTMF tone is adjusted like the rest. 3. Confirm that you use the right silence mode. 	<ol style="list-style-type: none"> 1. Turn on the volume. 2. Reset CTCSS/DCS. 3. Reset the silence mode.
Keyboard and PTT button do not work.	<ol style="list-style-type: none"> 1. Keyboard is locked. 2. Radio mode is turned on, see FM display 	<ol style="list-style-type: none"> 1. Unlock the keyboard. 2. Get out of radio mode.
Reception indicator light is on but you are not able to transmit.	The transceiver had been adjusted to busy channel.	Disable the busy channel lock.
Unable to save some settings.	On Channel or Frequency + Channel Modes you are not able to adjust some settings.	Set the transceiver to Frequency Mode.

Problem	Possible cause	Possible solution
Auto-transmit on standby mode.	The VOX level is adjusted too low.	Turn off VOX function or adjust it to a higher level.
During communication you have received other groups or a distorted signal.	The frequency and CTCSS/DCS you use are the same for other users.	Change CTCSS/DCS, frequency or channel settings.

Technical specifications

General

Reference	LUTHOR TECHNOLOGIES TL-55
Frequency range	88-108 MHz (commercial FM, only for reception) 144 - 146 MHz [Tx/Rx] 430 - 440 MHz [Tx/Rx]
Frequency stability	5 ppm
Operating voltage	DC 7,2V (rechargeable lithium battery)
Memory channels	128 channels
Antenna	Dual Band VHF/UHF high gain, SMA male connector
Antenna impedance	50Ω
Operating mode	Simplex or semi-duplex
Dimensions (H x M x L)	115mm x 55mm x 31mm

Transmitter

Power output	High power 5W in VHF, 4W in UHF / Low power 1W VHF/UHF
Modulation mode (wide / narrow band)	16kF C 3E / 11k C F3E
Max. deviation (wide / narrow band)	< 5kHz / < 2.5KHZ
Adjacent channel power (wide / narrow band)	≥ 65dB / ≥ 60dB
Spurious radiation	< 7μW
Pre-emphasis characteristics	6dB
Current	≤ 1.6A (5W)
CTCSS/DCS deviation (wide / narrow band)	0.5KHz ± 0.1kHz / 0.3KHz ± 0.1kHz

Intermediation sensitivity	8 - 12 mV
Intermediation distortion	< 10%

Receiver

RF sensitivity	-122dBm (12dB SINAD)
Audio power	> 0.5 W
Audio distortion	< 10%
Block	≥ 85
Intermediation (wide / narrow band)	≥ 60dB ≥ 55dB
Selectivity (wide / narrow band)	≥ 65dB ≥ 60dB
Spurious reject	≥ 65dB

ATTENTION: Some of these specifications can be subject to modification without previous notice.

Warranty information

Period:

2 years from transceiver's date of purchase.

Note: keep your equipment's sales receipt. Is essential to give it for any complaint related to the equipment and for applying your warranty claim of it.

Warranty exclusions:

The equipment will lose its warranty in the next cases:

- Do not give the sales receipt.
- The product has not the serial number or is totally or partially illegible.
- The serial number does not match with the one in sales receipt.
- The product has been manipulated by non authorised personal.
- If the product damage has been caused by using non official accessories.
- If the has been used for any other purpose different from communicating between users of the frequencies assigned for amateur use that are: 144-146 MHz in VHF, 430-440 MHz in UHF and both of them on dual band transceivers.
- Misuse, abuse, abnormal use or inadequate care by the user, both deliberately or accidentally.
- If any of the Cautions and practical advices (from pages 6 to 9) or the Cautions and practical advices for the battery and the charger (from 10 to 12) were reneged on.

We have done everything possible to obtain the maximum of detail in this manual, but we are not responsible for any possible omission as well as printing errors or translation. All the specifications are subject to change by **LUTHOR TECHNOLOGIES** without previous notice.

Total or partial reproduction of this manual contents without the express authorisation of **LUTHOR TECHNOLOGIES** is prohibited

Note on environmental protection



This symbol on the equipment or its packaging indicates that at the end of the useful life of this product the user is legally obligated to fulfil the European Directive 2012/19/EU, on 4 July 2012 (in the legislative Spanish system RD 110/2015 on 20 February 2015), on Waste Electrical and Electronic Equipment, which applies the following: the electrical and electronic equipment, as well as batteries and rechargeable batteries, can not be treated as normal household waste, but must be delivered to the corresponding collection point. By ensuring that this product is rejected correctly, you help with this action to prevent negative consequences for the environment and human health which could be caused by its inappropriate management. The recycling of materials helps to preserve natural resources.

To receive detailed information about the recycling of this product, please contact the city office, the most nearby waste disposal service or the establishment where you purchased the product.

Declaration of conformity

CE 1177 Ⓢ

The undersigned, in representation of:

Company: GENEREUS S.L.
Address: Industria, 5, Nave 8 08160 Montmeló - Barcelona (Spain)
Telephone number: (+34) 93 599 17 65
VAT number: B66339029
e-mail address: gestiontecnica@generesus.com

We declare under our sole responsibility the conformity of the following product:

Type of equipment: Dual band VHF / UHF in Fm mobile transceiver for amateur
Brand name: LUTHOR TECHNOLOGIES
Model number: TL-55
Manufacturer: GENEREUS S.L.
Manufacturing site: China

Which it refers this declaration, with the following rules or other policy documents:

EN 60950-1:2001+A11:2004 Safety regarding information technology equipments. General requirements.

EN 301 489-1 V 1.8.1:2008 Electromagnetic compatibility and Radio spectrum Matters (ERM); ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 1: Common technical requirements; Part 5: Specific conditions for Private land Mobile Radio (PMR) and ancillary equipment (speech and non-speech).

EN 301 489-5 V 1.3.1:2002

EN 300 086-1 V 1.3.1:2008/09 Electromagnetic compatibility and Radio spectrum Matters (ERM); Land Mobile Service; Technical features and testing conditions for Radio equipment with an internal or external RF connector intended primarily for analogue speech; Part 2: Harmonized EN covering the essential requirements of article 3.2 of the R&TTE Directive.

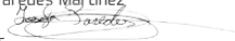
EN 300 086-2 V 1.2.1:2008/09

Directive RoHS 2011/65/UE About restrictions of the use of certain hazardous substances in electrical and electronic equipment (EEE).

In accordance with the requirements of Directive 2014/53/UE, of the European Parliament and the 16th April 2014 Council, transposed into Spanish law by Royal Decree 188/2016 of 6th May 2016.

More additional information related with the equipment, accessories, images, updated management software, etc... are available on the official website: www.luthortechnologies.com

Josefa Paredes Martínez


Manager

Montmeló 11h May 2016

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COMMUNICATION”

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