

# RL-328S

## VHF/UHF Transceiver



## USER'S MANUAL

**REXON**<sup>®</sup>  
*What An Excellent Radio!*

## Professional Portable Radio

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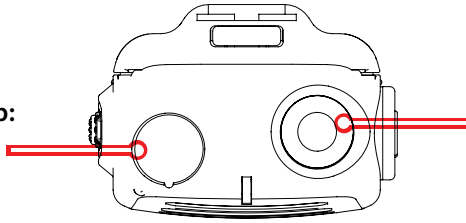
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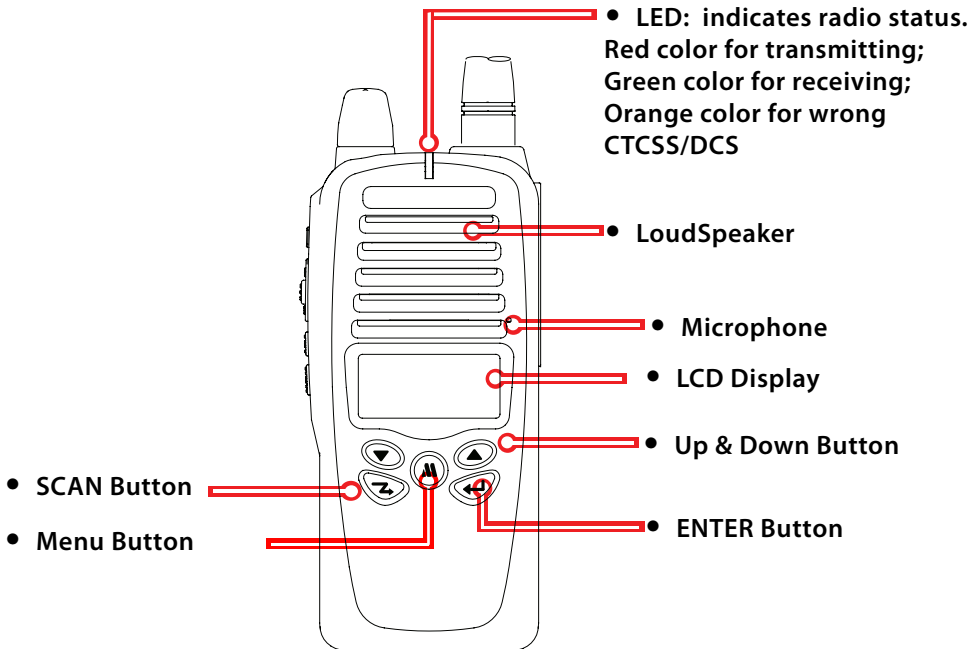
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# Parts Name & Functions

- **Power/Volume Knob:** Rotate it to turn on the transceiver and to adjust the volume.

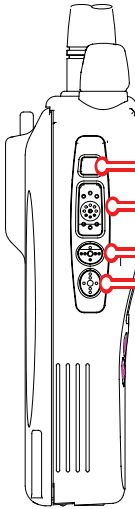


- **Antenna Connector:** Fit the antenna to this MX Type connector



- **LED:** indicates radio status.  
Red color for transmitting;  
Green color for receiving;  
Orange color for wrong CTCSS/DCS

- **LoudSpeaker**
- **Microphone**
- **LCD Display**
- **Up & Down Button**
- **ENTER Button**
- **SCAN Button**
- **Menu Button**



- A key
- B key
- C key
- D key

**A key:**

This key defines three features

- 1) Priority feature (simply press once)
- 2) Emergency feature (keep pressing until trigger time is reached)
- 3) Auto transmitter ( keep pressing the key and turn on the radio)

**B key:**

This key defines two features

- 1) PTT button (typical)
- 2) All group call (CALL 1), (keep pressing until trigger time reach is reached)

**C key:**

This key defines two features

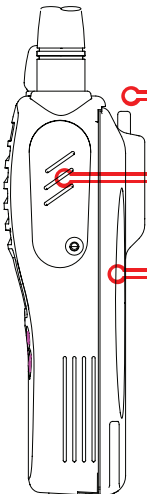
- 1) Unit Call (CALL 2). (keep pressing until trigger time is reached)
- 2) Shunting down Radio feature

**D key:**

This key defines two features

- 1) Monitor feature (simply press once)
- 2) Talk around (keep pressing until trigger time is reached)

**THESE FEESTURES ARE DEALER PROGRAMMABLE.**

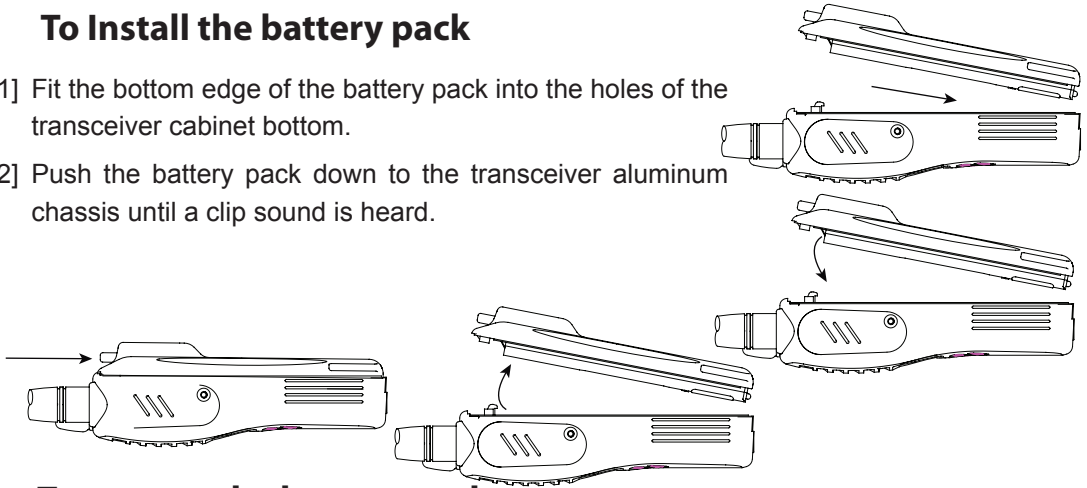


- Release Buckle
- External Speaker/Mic Cover
- Battery Pack

# Fitting & Removing the Battery Pack

- **To Install the battery pack**

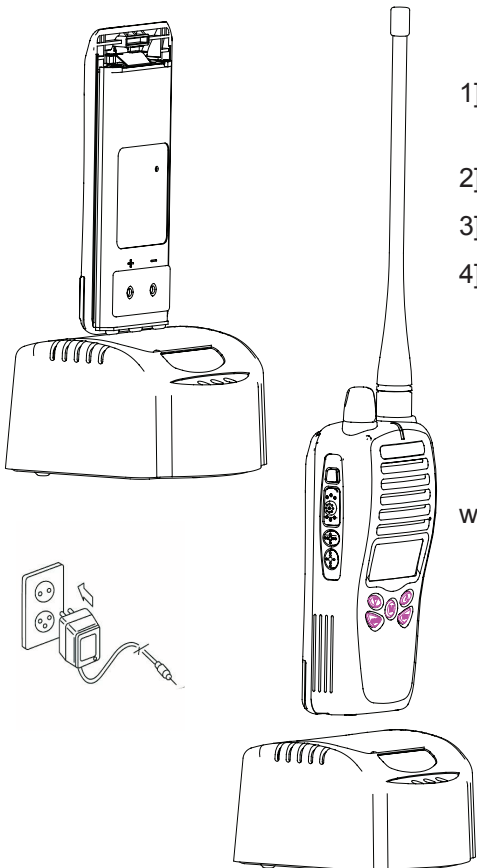
- 1] Fit the bottom edge of the battery pack into the holes of the transceiver cabinet bottom.
- 2] Push the battery pack down to the transceiver aluminum chassis until a clip sound is heard.



- **To remove the battery pack**

Keep pressing the release buckle of the battery pack and lift the battery pack up from the transceiver body. Note: It is normal for this buckle to be stiff.

# Charging the Battery Pack

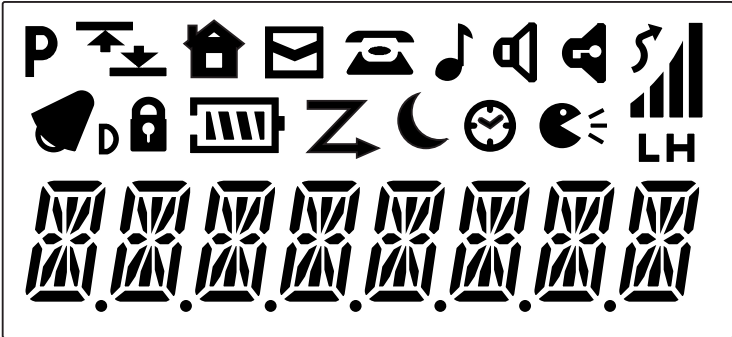


- 1] Connect the jack of AC adaptor into the socket of the charging cradle.
- 2] Plug the AC adaptor into the power outlet.
- 3] Insert the radio into the cradle.
- 4] Charge the radio with standard charger for 10-12 hours; with rapid charger for 2 hours.

⚠ Make sure the radio is turned off while charging.

⚠ Do not forget to remove the radio from the charger when the battery is fully-charged.

# Symbols Description



- 1] **P** : indicates this channel is priority channel. (Dealer Programmable)
- 2] : indicates this channel has **BCLO** feature.
- 3] : indicates this channel with CTCSS(Continuous Tone Coded Squelched System).
- 4] : indicates this channel with DCS(Digital Coded Squelch).
- 5] : indicates this channel with signalling (2/5 tone) feature.
- 6] : indicates this channel with DTMF feature
- 7] : indicates monitor feature is activated.
- 8] : indicates when the keypad has been locked.
- 9] : indicates time-out timer function is activated. (Dealer Programmable)
- 10] : shows battery condition. Replace or recharge the battery pack when this icon displays 1 or fewer segments of the battery. Note: The RL-328S has two further low battery warning systems for critical working radio systems.
- 11] : indicates the radio is transmitting.
- 12] : indicates the strength of TX or RX signal.
- 13] : indicates VOX is activated.
- 14] **H** or **L** : indicates TX output power: H means high; L means low.
- 15] : indicates power saving.
- 16] : indicates this channel is home channel.
- 17] : indicates this channel with scrambler feature
- 18] : indicates channel scan is activated.
- 19] Channel Name (Dealer Programmable)

# Basic Operation

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## ● Turn the radio On & OFF

- 1] Rotate the PWR/VOL knob clockwise until the radio is turned on. The radio gets started to auto test for two seconds. During auto testing, all icons on LCD will appear.
- 2] After auto testing is done, LCD will show channel name tag and what functions have been activated by your dealer.
- 3] Rotate the PWR/VOL knob clockwise to increase its volume or counter-clockwise to reduce its volume.
- 4] To turn the radio off, rotate the PWR/VOL knob counter-clockwise until the end click.

## ● Channel Selection

RL-328S is allowed to be programmed up to 256 channels. Press the ▲ or ▼ button to select a channel. Each channel can be name tagged by programmer.

## ● Receiving

RL-328S can be programmed to work channel by channel in “Open traffic” or “Group Mode”(CTCSS or DCS). Group mode prevents other users on the same channel from being heard on your radio. RL-328S requires a CTCSS or DCS signal to open up its audio path, the LED will glow green when a correct code is received, yellow(amber) if an incorrect code or no code is received on any particular programmed channel.

### Open Traffic:


In this mode, you will hear all communication transmitted on the channel. When a message is received, the squelch function will un-mute and you will hear the message.


### Group Mode:

CTCSS/DCS (Continuous Tone Code Squelch System / Digital Coded Squelch)

CTCSS & DCS Tones are sub audible tones embedded in the carrier (frequency) which when received by any appropriately programmed radio allows the receiving radio to open its audio path and for the user to hear the transmission. CTCSS & DCS allow greater privacy on any channel, more economical use of the channel. CTCSS tones are needed to access repeaters and other PMR systems equipment.

## ● Monitor

Simply press the D key once to open the squelch, the LCD appears”  “. Press D key again to close monitor. This allows you to override the squelch and the CTCSS or DCS tones. It is useful to monitor the channel before you transmit and ensure there is no one using the channel when you have CTCSS or DCS tone programmed.

 Your dealer may program this function out of your RL-328S by disabling the monitor button function per channel.

## Disable Monitor Button

The monitor function can be programmed out by your dealer. Switch to the channel which has been programmed with disable monitor feature.



## ● Transmitting

Before transmitting, you can monitor the channel you are using to ensure it is not busy. Simply press **B** key that is defined as PTT button and start talking at approximately 2 inches from the MIC hole. During transmitting, the LED on the top of the radio will glow red. Release PTT button when you have finished talking.

## ● Scan

The advanced scan function of RL-328S allows optionally looking for carrier or carrier with CTCSS or DCS. Your dealer can program the channels to be scanned on the scan list. When the dealer sets your CTCSS or DCS tone, then RL-328S will automatically scan both carrier and tone, if no tone is set RL-328S will only scan for carrier.

## ● Channel Scan

Allows you to scan all the channels you have listed through PC programming.(dealer programmable). Press **↶** button, LCD appears **Z** icon and you will see the channel numbers cycling continuously. When the radio stops and stays on this busy channel, resume when stay time is timeout. If your radio has scanned a channel on which there is a party you want to talk to, you can directly communicate with the party by pressing the PTT button. To stop scanning, press the **↶** button again.

 Your dealer can set scan time and pause time.

## ● Dual Watch

Dual watch is a function that allows you to scan one or two channel along with one active channel. Choose the active channel. Keep pressing **↶** button until trigger time is reached, the radio will begin scanning between the active channel and the dual watch channel. RL-328S provide below scan types.

1	priority ch	4	priority ch -emergency ch
2	emergency ch	5	emergency ch- lonework ch
3	lone work ch	6	priority ch -lonework ch

Such as PRI -> EMG -> ACH -> PRI-> EMG-> ACH->... when you set type 4  
PRI=priority channel ; EMG=emergency channel ; ACH= active channel.

 This function is dealer programmable.

## Transmission channel while scanning


Your dealer can set a transmission channel while scanning. It means that in the event of your wishing to transmit whilst in any scan menu, you transmit only on the designated channel. RL-328S have priority channel, home channel, last busy channel and running busy channel for you choose which can be disable by your dealer.

## Home Channel


Press **M** button continuously until LCD shows [HOME-On ], press **▲** or **▼** button to select On or OFF, or press **←** button to enter setting home channel, press **▲** or **▼** button to select home channel.

 This function can be disable by your dealer.

## Delete A Nuisance Channel




Allows you remove temporarily the channels which you don't want to hear from the scan list. During scanning, when the radio is locked onto a busy channel, press  button to remove this channel from the scan list, and it won't be scanned until the radio is turned on again. This function should not be used in systems critical or mission critical communication systems and can be disabled by your dealer.



## Menu Setting

By locking  button without user's access (dealer programmable) in the programming software, the following settings cannot be changed by end user.







 Your dealer is able to setup following menu is available or not available by programmer.

### ● Squelch Level






Press  button continuously until LCD shows [SQUL-3], and then press  or  button to increase or decrease squelch level from 0 to 10: 0 means squelch canceling; 10 means tight squelch.

Setting the radio to the tight squelch level, you can avoid unwanted signals or noise, but you may not receive a weak signal. So, it will be better for you to select the normal squelch level (default value: 3). Press  button to save the setting and to get back to operation menu or press  again to gain access to other settings.






### ● VOX Sensitivity Level

VOX feature can be programmed at per channel. If this channel is set with vox feature,  icon will flash. Press  button continuously until LCD shows [VXL:3]. Press  or  button to adjust VOX sensitivity from 0 to 10. 0 means VOX canceling; 1 means the most sensitive (for quiet environment); 5 means the least (for noisy environment). Press  button to save the setting and get back to operation menu or press  button again to gain access to other settings.

### ● BEEP







Press  button continuously until LCD shows [BEEP-On]. Press  or  button to choose turning beep On or OFF. Press  button to save the setting and get back to operation menu or press  again to gain access to other settings.

### ● TX Power Selection

Press  button continuously until LCD shows [PWR-H]. Press  or  to choose TX output power. H means high power; L means low power. Press  button to save the setting and get back to operation menu or press  button again to gain access to other settings.

### ● Keypad Lock

There are two kinds of keypad lock/unlock functions: with users access or without users access. Your dealer can set either key of the front five buttons to be locked permanently without users access, or to be temporarily unlocked with users access. Locking the key pad correctly is very important to ensure that the RL-328S works at its best for the end user, time should be taken to ensure that the various levels of key pad lock are fully understood.

Press  button continuously until LCD shows [KEY.L:OFF]. Press  or  button to choose keypad lock: "OFF" means unlock; "On" means lock. When keypad is locked, LCD shows  and only keys on left side is still working. Press  button to save the setting and get back to operation menu or press  button again to gain access to other settings.


e.g. For most licensed radios, we suggest the dealer should set ▲, ▼, ■ & ↻ buttons to be locked and unlocked with user's access. By this way, the user can only switch channels & activate scan without changing other setting.

## ● Keypad Unlock

By keep pressing the ■ button to be unlocked for 5 seconds, the button can be unlocked for 10 seconds. It will be automatically locked again after 10 seconds. If dealer sets the RL-328S in keypad locked without user's access, it is impossible to unlock it unless through PC programmer.

## ● Handsfree Transmit (VOX)

VOX (Voice Operated Transmit) allows you to switch the transmission in hands free menu just by speaking to the built-in microphone, no need to press PTT button.

- 1] To activate VOX: Turn off the radio. Keep Pressing C key and turn the radio on.  icon will be displayed. During VOX menu, PTT button is disabled. If you would not like to activate VOX by accident, you can set VOX sensitivity at 0 to disable VOX function.
- 2] To select VOX sensitivity according to the environment: We suggest that you should set VOX for minimum sensitivity. Sensitivity set too high could cause accidental transmissions, especially in high noise environments.
- 3] To deactivate VOX: Turn the radio off and turn it on again.

your conversation private. The tone of RL-328S can be either fixed by dealer without user's access, or set by user. Ask your dealer for the way you want. Setting Group Menu (CTCSS/DCS) codes

Select the channel which has been programmed with CTS or DCS code. Press ■ button until LCD shows [SUB.T-SET], Press ← button to enter, press ▲ or ▼ button to choose tx or rx tone set and then press ← button to enter, press ▲ or ▼ to select DCS or CTS setting, press ← button to enter, press ▲ or ▼ to choose your tone code, finally press ← button to save the setting and get back to operation menu or press ■ button again to gain access to other settings.

## ● Group Menu (CTCSS/DCS)

CTCSS/DCS prevents you from hearing any conversation that are not using the same (CTCSS or DCS) code. This does not make

### ● CTCSS table

67.0	97.4	135.5	192.8	165.5
71.9	100	141.3	203.5	171.3
74.4	103.5	146.2	210.7	177.3
77.0	107.2	151.4	218.1	183.5
79.7	110.9	156.7	225.7	189.9
82.5	114.8	162.2	233.6	196.6
85.4	118.8	167.9	241.8	199.5
88.5	123.0	173.8	250.3	206.5
91.5	127.3	179.9	69.3	229.1
94.8	131.8	186.2	159.8	254.1
150	OFF			

### ● DCS code

023	025	026	031	032
043	047	051	054	065
071	072	073	074	114
115	116	125	131	132
134	143	152	155	156
162	165	172	174	205
223	226	243	244	245
251	261	263	265	271
306	311	315	331	343
346	351	364	365	371
411	412	413	423	431
432	445	464	465	466
503	506	516	532	546
565	606	612	624	627
631	632	654	662	664
703	712	723	731	732
734	743	754	OFF	

## ● TOT (Time-Out Timer)

TOT is the function that prevents from locking up a repeater or frequency by prolonged keying of PTT. The time-out timer limits the amount of time you have to transmit your message. When you reach the time limit which has been programmed by your dealer, your transmission will be cut off. In order to transmit again, you must push PTT button to reset the timer.

## ● BCLO (Busy Channel LockOut); BTLO (Busy Tone LockOut)

They are dealer programmable features as following:

Lockout type	LCD show icon	Lockout type	LCD show icon
BCLO		RBCLO	
BTLO		RBTLO	

**BCLO:** is to disable the Tx while receiving.

**BTLO:** is to disable Tx when receiving with same tone.

**RBCLO :** it will be Tx while receiving (for repeater used).

**RBTLO :** it will be Tx while receiving with same tone (for repeater used).

If the repeater is occupied by other group when you press PTT button, RBTLO will standby until the using group is leaving. And then, the radio's loudspeaker will beep for 3 times to remind you that you are allowed to use the repeater now.

## Busy Lockout On/OFF

Press button continuously until LCD show BCL-On( or BTL-On, RBTL-On, RBCL-On), press or button to select On or OFF, press button to save the setting and get back to operation menu or press again to gain access to other settings.

This function can be disable by your dealer.

## ● Burst Tone

Burst tone is an alternative means of accessing the repeater, in addition to CTS or DCS tone.

1	1050Hz	5	1450Hz	9	1850Hz	13	2175Hz
2	1150Hz	6	1550Hz	10	1950Hz	14	2800Hz
3	1250Hz	7	1650Hz	11	2050Hz		
4	1350Hz	8	1750Hz	12	2135Hz		

## Burst Tone On/OFF

Press button continuously until LCD show [BUTST-01], press or button to select burst tone, press button to save the setting. To activate burst tone, you need to press button when PTT button is pressed.

This function can be disable by your dealer.

## ● Talk Around


This feature for you are out of the repeater range or repeater is not activated. you can directly communicate with other radios in your group by using the talk around function. to set talk around. press button continuously until LCD appear [TALKARUN]. Press or button to select [AR-TO-RV],[ AR-TO-TX] or [AR-TO-RX]. Press button to save setting.

## ● Start to talk around

Press D key until trigger time reach, the radio will transmit in according of talk around setting.

☞ These functions should only be used after a full discussion with your dealer, misuse of these functions can disrupt your radio system.

## ● Emergency Call

You have to enable emergency setting and set an emergency channel by pc programmer before activating emergency call, Holding press A key until trigger time reach. All the radios within your group will show emergency code on their LCD display. when you receive an emergency code and you want to know who sent it, you can press  button to view the caller's ID.

☞ There are siren, return channel, trigger time, auto vox on & command code parameters can be set by your dealer.

## ● PTT Code

Recipients will open squelch at the same channel with same PTT code. Without receiving correct PTT code, muting can not be opened. Each channel can be set a 3- digit PTT code respectively.

☞ Your dealer is able to enable the PTT code.

## ● 5 tone Selective Calling (SelCal)

You can make a Selective Calling to individuals, sub-group, or the whole group. If a channel is programmed with SelCal function, Its speaker will be mute until a correct SelCal is received.




You have to set unit ID( 2 digit) and unit call. sub group call, all group call's command by pc programmer,

### Group call (Call 1)

To make a group call, please under a SelCal channel, press B (Call1) key until trigger time reach, the LCD shown [ALLGROUP] then all recipients of the group will hear the beep and open their squelch,

☞ RL-328S provide trigger time, talking time for dealer set.

### Individual or sub-group call (Call 2)

To make a sub-group call or individual call, please under a SelCal channel, press C (Call2) key until trigger time reach, the LCD appear [SUB.GROUP] or [Name..], press  or  to choose the one you wish to talk, and then press  button to start.

☞ RL-328S provide 100 call list for individual call. please contact your dealer.

## Receiving A Selective Call

When the Called radio receives a SelCal, Its LCD will show the ID of the Calling radio. Then, the called radio will automatically make a response call, a beep will be heard. In the meantime, the speaker will be program(open) and PTT will be enabled. Both of the called and the calling can get started to talk for a period of time, which was set-up by the dealer.

## ● Auto transmission

When you have to make a security and safety communication, holding press the A key while radio is turning on, this radio is standby to transmit, press PTT button to start transmission while

it is transmitting the radio without any LCD display & any LED indicate.

☞ Your dealer is able to set tx channel, tx time, rx enable, send alarm & send ANI parameters by pc programmer.

## ● Remote killer

This function is to override radio transmission through pc programmer.

☞ The dealer can set Kill I.D and Revive I.D on Kill feature in programming software.

## ● Power on password

Your dealer can set-up a four-digit password. Every time you turn the radio on, you have to keep in (enter) the correct password to allow use of the radio.

## ● CLONE

Clone is a function that allows you to copy the original setting of one radio to the others.

- 1] Un-screw the mic/spk cover and make sure two radios are connected at 3.5mm TRS jack by clone cable.
- 2] Keep pressing ▲ & ▼ button and turn on the radio to be copied (TX), LCD will appears [CLONe].
- 3] Repeat procedure 1 for the other radio to copy [RX].
- 4] Press ENT button of TX radio. If clone is OK, the LCDs of both radios will show [ End] .
- 5] If clone is not successful, the LCD of both radios will show [E01] .Please repeat procedure 4 again.

CLONING OF RADIOS IS ONLY ALLOWED BY QUALIFIED DEALERS OR END USER PERSONAL WHO HAVE COMPLETED THE RL-328S PROGRAMMING COURSE.

