Lava LP-4011-E
USER MANUAL

Introduction

Thank you for purchasing Lava LP-4011-E. Lava LP-4011-E is a PMR-product (Private Mobile Radio) that lets you talk to as many people you wish, as often as you like, with no need for a license, subscription or tax payment. It is very easy to use so even children can handle it.

Please read through this manual carefully for many features of this model.

Safety Information

1. Use only the supplied antenna. Unauthorized antennas, modifications or attachments could damage the radio and changes or modifications not expressly approved by the party responsible for the compliance could void the authority to operate the radio.

2. Avoid storing in high temperature or humid place for long time.

3. If strange smell or smoke comes off the radio, dispatch it to service center immediately.

4. Turn to lowest volume if external mic/speaker is used, then adjust appropriately.

5. Never use other power sources for charging other than the standard charger set designed for this radio model.

6. Take off battery pack if out of use for long time.

Features

- Use of TCXO resonator to enhance freq. stability (±1.5PPM).
- Digitally designed to ensure stable quality.
- High quality sound (40mm speaker).
- Extra-small size with sturdy case, comply with US military standards 810E.
- 7 tone calls & MORSE code.
- 9 levels of VOX (voice-activate feature) with quick VOX ON / OFF.
- Auto-power save modes.
- Auto-power-off.
- Transmit time-out-timer.
- Channel scan features.
- Dual Watch Scan features.
- Multi group-code up to 262, CTCSS <52> DCS <210>.
- Multi-Icon Backlit LCD display.

Contents

Radio Controls / Functions
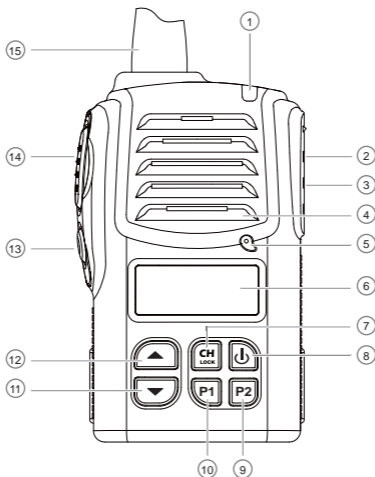
1. LED indicator
2. External speaker jack
3. External microphone jack
4. Speaker area
5. Microphone
6. LCD screen
7. Channel key
8. Power key
9. Function / DW key

10. CTCSS / DCS / SCAN key
11. Down key
12. Up key
13. Monitor / Back light key
14. PTT key (Push-To-Talk)
15. Antenna

Icons Guide

- ⌁ Tone Call
- 𝗦 Auto-Power Save
- ⱱ VOX (Voice-activate system)
- ♪ Keypad Tone
- ◁))))))) Volume
- **APO** Auto-Power-Off
- **TOT** Transmit Time-Out-Timer
- ▯ Battery Power
- 88 Channel Number
- **SQL** Squelch Level
- 🔒 Keypad Lock
- ▲▼ Scrambler
- **SCAN** Scanning
- ▮ Signal Strength Indicator
- Ⓓ Dual Channel Watch

Operation Guide

Power ON / OFF
Hold ⏻ about 1 sec to power radio. While power ON, hold ⏻ about 1.5 sec to turn power off.

Transmitting / Receiving
While holding [PTT], speak to the microphone area. LED glows red during transmission. To receive, release [PTT]. LED glows green when receiving.
*Keep about 10 cm from microphone area when speaking slowly and clearly.

Volume Adjustment
Momentarily press repeatedly on [▲] to adjust volume louder. Momentarily press repeatedly on [▼] to adjust volume lower. Press and hold [▲] or [▼] to swiftly adjust volume. Do adjustment as you need.
*Caution: For external mic/ear user, adjust volume starting from the lowest level.

Channel Selection
Momentarily press [CH]. While channel icon blinks, temporarily press repeatedly on [▲] or [▼] to select channel. To preset channel, temporarily press [CH] / [PTT] / [P1] / [P2].

Scan Channels
- Press and hold [P1] about 2 sec to start scanning of channel. Jumping of channel numbers increasingly or decreasingly and the LCD indicates SCAN in progress.
- Press [▲] or [▼] to change the channel scanning direction.
- Press [PTT] to Talk with original channel, release [PTT] will be continued to scan after 5 sec.

- When the signal is received, pressing [PTT] will talk on the current channel, Release [PTT] will be continues to scan after 5 sec.
- When scanning, pressing [P2] or Press and hold [P1] will stop scanning and return to the original channel.
- When the signal is received, pressing [P2] or Press and hold [P1] will stop scanning and stay in the current channel.

Dual Watch Scan
Press and hold [P2] about 2 sec to start Dual Watch Scan function. The LCD show $\textcircled{D}$ and $\boxed{\text{SCAN}}$ indicates Dual Watch Scan in progress.
*In the Dual Watch Scan, press [P2] will stop the Dual Watch Scan and return to the original channel.

CTCSS / DCS setting
1. Press [P1] to select the CTCSS / DCS Sub-Tone code for the current channel. If the current channel not setting CTCSS / DCS the LCD will be show:
- CTCSS: LCD will show Ct xx, xx=01~ud, detailed like CTCSS code table.
- DCS: LCD will show dn xx or dI xx, xx=01~99, :00~:04 and ud, detailed like DCS code table.
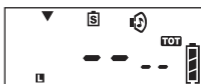
2. Press [P1] once, the LCD will show "▼" and original RX Sub-Tone code (-- -- / Ctxx / dn xx / dI xx), then press [▲] or [▼] to select the new RX Sub-Tone code that you wanted. After selecting, press [P1] again, the LCD will show "▲" and now TX Sub-Tone code, then press [▲] or [▼] to select the new TX Sub-Tone code. After setting finished, press [P1], [PTT], [P2] or [CH] once to jump out of the Sub-Tone code setting mode and save your setting.

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*If the original RX / TX Sub-Tone code is the same and you want to change the RX / TX Sub-Tone code synchronously, just press [P1] once, the LCD will show "▼" and original RX Sub-Tone code, then press [▲] or [▼] to select the new RX Sub-Tone code. After setting finished, just press [P1] twice or press [PTT], [P2] or [CH] once to jump out of the Sub-Tone code setting mode and save your setting.

LCD Back Light ON / OFF
Temporarily press [O] (Monitor / Back light key) to turn back light ON. Temporarily press [O] again to turn back light OFF or it will automatically turn OFF after 10 sec lighting.

Monitoring
Hold on [O] for about 1 sec. Static is heard if the channel is clear or any voice on this channel can be heard regardless of CTCSS or DCS setting. LED glows green.
Monitor is used for following purposes
- To receive weak signal due to distance or for signal intermittently received.
- To receive all signals on same channel even with different CTCSS / DCS setting.

Keypad Lock / Unlock
Hold on [CH] for about 1.5 sec until 🔒 shows on the screen to confirm keypad lock is enabled. To unlock keypad, hold on [CH] again for about 1.5 sec until 🔒 clear from the screen.
*When keypad lock is enabled, only PTT, LOCK, POWER, Monitoring, LCD back light ON / OFF and Volume control can be operated.

Function Settings

Temporarily press [P2] to entry function menu mode.

In the function menu mode, press [P2] to switch the function menu items F1~F10, and then adjust the function data with [▲] or [▼]. After the adjustment is completed, short press [PTT] will leave the function menu mode and save the changed function data.

F1 Tone Call
Under menu item 1, tone call off / 1 - 7 can be selected.
Factory default: 1

F2 Power Save Mode
Under menu item 2, power save modes off / 01-03 can be selected. Choose 03 if talk time is short for best power saving.
Factory default: 02

F3 VOX ON / OFF
Under menu item 3, VOX ON / OFF can be selected.
Factory default: OFF

F4 VOX Sensitivity
Under menu item 4, VOX sensitivity levels 1 - 9 can be selected. L9 is least sensitive.
Note: If VOX is disabled in F3, this feature is invalid.

F5 Keypad Tone
Under menu item 5, select ON / OFF to enable / disable the beep sounds.
Factory default: OFF

F6 Auto Power Off
Under menu item 6, choose OFF / 30 / 60 / 120 min. depending on your need. If 30 is selected, the radio automatically turns power off if none of the keys is operated or no signal received after 30 min.
Factory default: OFF

F7 Transmit Time Out Timer
Under menu item 7, choose OFF / 30 / 60 / 90 / 180 /360 depending on your need. If 30 is selected, the radio will stop transmission if continuous talk exceeds over 30 sec and the radio will automatically swift to receiving mode.
Factory default: 90 sec

F8 Squelch
Under menu item 8, choose squelch level 0 to 7 depending on your need. If the squelch level is at 0, the static sound is heard all the time. If setting at 1, the radio is best to pick up weak signal but susceptible to interferences. Squelch level 7 is the least sensitive and suited for use against high interferences.
Factory default: 3

F9 End of Call Confirmation
ON / OFF (factory default is OFF). When this function is on, each time the Call is finished, the unit will send a tone to confirm the end of the call.

F10 DW Channel Selection
With [▲] or [▼] to select the channel is programmed for the DW channel, select the DW channel after short press [CH] that is selected as the DW channel.
Factory default: On, The default channel is user-defined.

*F3 / F4 / F7, these are the channel parameters, there are just temporary change, after turn off the device or switch the current channel, these setting are restore to the original settings.

Tone Call
Holding [PTT], temporarily press [P1] to send tone call to other receivers. (For selection of tone call, refer to F1).

VOX ON / OFF
Holding [PTT], temporarily press [P2] to enable VOX. To disable it, hold [PTT] and temporarily press [P2] again. For programming of VOX sensitivity, refer to F4.
*While VOX is enabled, press of [PTT] is no longer required during transmission. Just talk into the microphone area with appropriate sound (depending on VOX sensitivity).

Installing / Removing Battery Pack

To Install

1. Place the battery pack into battery compartment as in illus #1.

2. Push battery pack forward as in illus #2. It will lock into compartment.
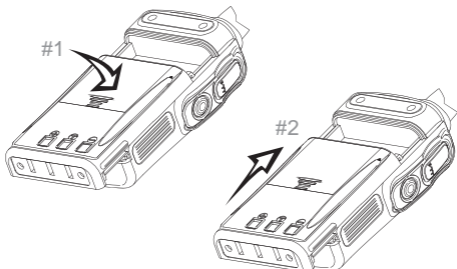
To Remove

1. Holding the radio in one hand, push down battery latch as in illus #3.

2. Slide battery pack backwards as in illus #4.
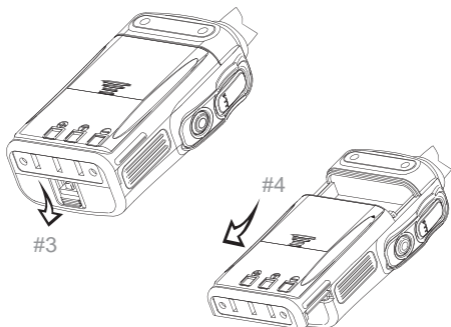
Battery Charging

1. Power drop-in charger with standard AC/DC wall charger #1.
2. Drop radio with installed battery into the charger slot #2.

PMR Channel Frequency Table

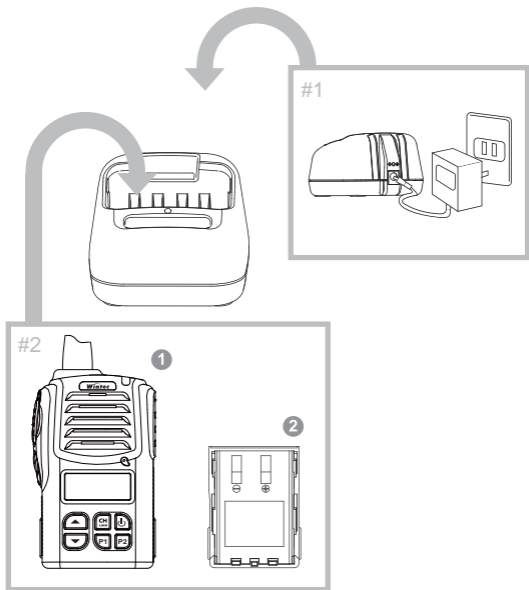| Channel	Frequency(MHz)	Channel	Frequency(MHz)
1	446.00625	9	446.10625
2	446.01875	10	446.11875
3	446.03125	11	446.13125
4	446.04375	12	446.14375
5	446.05625	13	446.15625
6	446.06875	14	446.16875
7	446.08125	15	446.18125
8	446.09375	16	446.19375

CTCSS Code Table

1	67.0	11	97.4	21	136.5	31	192.8	41	159.8
2	71.9	12	100.0	22	141.3	32	203.5	42	165.5
3	74.4	13	103.5	23	146.2	33	210.7	43	171.3
4	77.0	14	107.2	24	151.4	34	218.1	44	177.3
5	79.7	15	110.9	25	156.7	35	225.7	45	183.5
6	82.5	16	114.8	26	162.2	36	233.6	46	189.9
7	85.4	17	118.8	27	167.9	37	241.8	47	196.6
8	88.5	18	123.0	28	173.8	38	250.3	48	199.5
9	91.5	19	127.3	29	179.9	39	69.3	49	206.5
10	94.8	20	131.8	30	186.2	40	62.5	50	229.1
								51	254.1

★CTCSS ud: 60 Hz

DCS Code Table

1	023	19	131	37	261	55	431	73	654	91	252
2	025	20	132	38	263	56	432	74	662	92	255
3	026	21	134	39	265	57	445	75	664	93	266
4	031	22	143	40	271	58	464	76	703	94	274
5	032	23	152	41	306	59	465	77	712	95	325
6	043	24	155	42	311	60	466	78	723	96	332
7	047	25	156	43	315	61	503	79	731	97	356
8	051	26	162	44	331	62	506	80	732	98	446
9	054	27	165	45	343	63	516	81	734	99	452
10	065	28	172	46	346	64	532	82	743	100	454
11	071	29	174	47	351	65	546	83	754	101	455
12	072	30	205	48	364	66	565	84	036	102	462
13	073	31	223	49	365	67	606	85	053	103	523
14	074	32	226	50	371	68	612	86	122	104	526
15	114	33	243	51	411	69	624	87	145		
16	115	34	244	52	412	70	627	88	212		
17	116	35	245	53	413	71	631	89	225		
18	125	36	251	54	423	72	632	90	246		

★DCS ud: 001

Specifications

Modulation Mode	FM
SAR	< 1.6 W/Kg
Number of Channels	16 (446.00625~446.19375MHz)
Number of CTCSS	52 (60~254.1Hz)
Number of DCS	210 (001~754)
Frequency Stability	1.5ppm
Max Frequency Deviation	+/- 2.5khz
Frequency Resolution	12.5kHz
Power Supply	7.2V
RX Current	< 40mA (auto power save off)
Audio Output Power	> 500mW
RF Output Power	< 500mW
Sensitivity(12dB sinad)	< 0.22µV
Operating Temp. Range	-30℃ to +70℃
Weight	224g (with antenna & battery)
Dimension(H×W×D)	95×60×34mm (w/o antenna)
External Mic Connector	2.5 mm(d), 3-conductor
External SP Connector	3.5 mm(d), 2-conductor

Hereby, Wintec declares that the radio equipment type Lava LP-4011-E is in compliance with Directive 2014 / 53 / EU.