



Lava LP-4011-E-B  
USER MANUAL

# Introduction

Thank you for purchasing Lava LP-4011-E-B. Lava LP-4011-E-B 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.

## SAR Warning

This device has been tested and meets applicable limits for Radio Frequency (RF) exposure. Specific Absorption Rate (SAR) refers to the rate at which the body absorbs RF energy. SAR limits are 1.6 Watts per kilogram (over a volume containing a mass of 1 gram of tissue) in countries that follow the United States FCC limit and 2.0 W/kg (averaged over 10 grams of tissue) in countries that follow the Council of the European Union limit. Tests for SAR are conducted using standard operating positions with the device transmitting at its highest certified power level in all tested frequency bands. To reduce exposure to RF energy, use a hands-free accessory or other similar option to keep this device away from your head and body. Carry this device at least 5 mm away from your body to ensure exposure levels remain at or below the as-tested levels. Choose the belt clips, holsters, or other similar body-worn accessories which do not contain metallic components to support operation in this manner. Cases with metal parts may change the RF performance of the device, including its compliance with RF exposure guidelines, in a manner that has not been tested or certified, and use such accessories should be avoided.

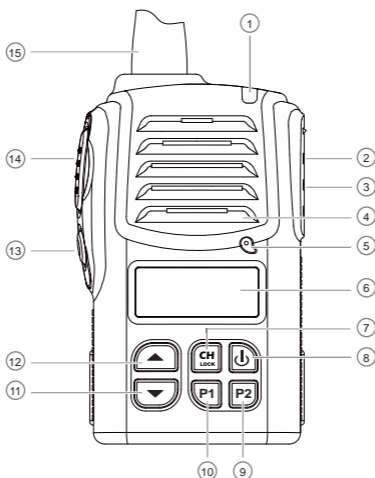
## Features

- Use of TCXO resonator to enhance freq. stability ( $\pm 1.5\text{PPM}$ ).
- 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

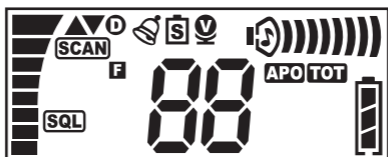
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## Radio Controls / Functions



- |                             |                              |
|-----------------------------|------------------------------|
| 1. LED indicator            | 10. CTCSS / DCS / SCAN key   |
| 2. External speaker jack    | 11. Down key                 |
| 3. External microphone jack | 12. Up key                   |
| 4. Speaker area             | 13. Monitor / Back light key |
| 5. Microphone               | 14. PTT key (Push-To-Talk)   |
| 6. LCD screen               | 15. Antenna                  |
| 7. Channel key              |                              |
| 8. Power key                |                              |
| 9. Function / DW key        |                              |



# Icons Guide



-  Tone Call
-  Auto-Power Save
-  VOX (Voice-activate system)
-  Keypad Tone
-  Volume
-  Auto-Power-Off
-  Transmit Time-Out-Timer
-  Battery Power
-  Channel Number
-  Squelch Level
-  Keypad Lock
-  Scrambler
-  Scanning
-  Signal Strength Indicator
-  Dual Watch Scanning
- 

# 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.

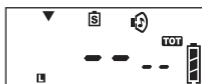
## Dual Watch Scan

Press and hold [P2] about 2 sec to start Dual Watch Scan function. The LCD show **D** and **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 dl 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 / dl 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.



\*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 and LCD back light ON / OFF 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 / b1-b7 can be selected.

Factory default: b1

### 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.

\*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**

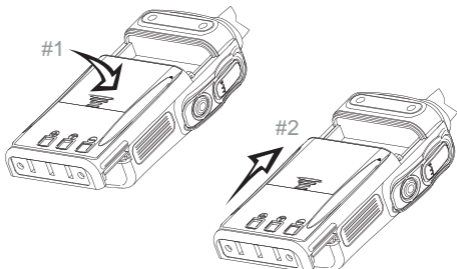
Holding [PTT], temporarily press [P2] to enable VOX. To disable it, hold [PTT] and temporarily press [P2] again. For programming of VOX sensitivity, refer to F4.

\*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

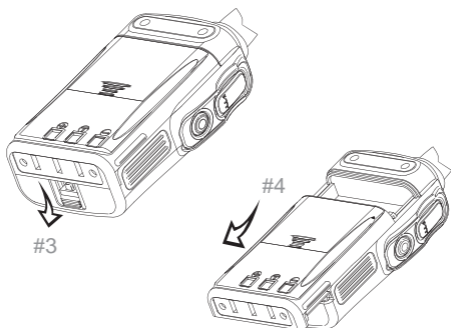
## To Install

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.



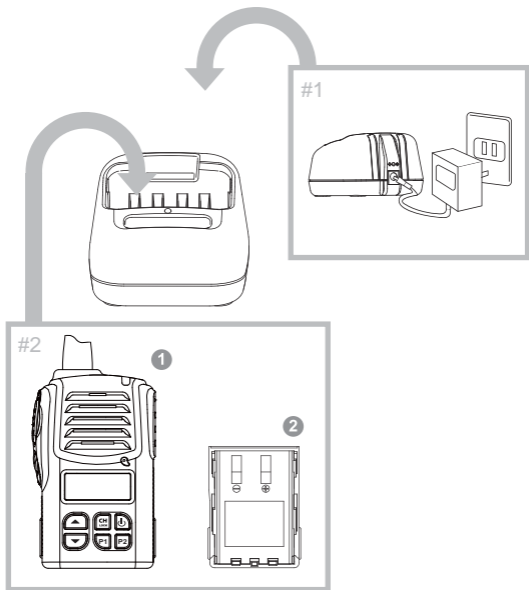
## To Remove

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

★CTCSS ud: 60 Hz

# DCS Code Table

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

★DCS ud: 001



# Specifications

<b>Modulation Mode</b>	FM
<b>SAR</b>	0.69 W/kg
<b>Number of Channels</b>	16 (446.00625~446.19375MHz)
<b>Number of CTCSS</b>	52 (60~254.1Hz)
<b>Number of DCS</b>	210 (001~754)
<b>Frequency Stability</b>	1.5ppm
<b>Max Frequency Deviation</b>	+/- 2.5kHz
<b>Frequency Resolution</b>	12.5kHz
<b>Power Supply</b>	7.2V
<b>RX Current</b>	< 40mA (auto power save off)
<b>Audio Output Power</b>	> 500mW
<b>RF Output Power</b>	< 500mW
<b>Sensitivity(12dB sinad)</b>	< 0.22 $\mu$ V
<b>Operating Temp. Range</b>	-30°C to +70°C
<b>Weight</b>	224g (with antenna & battery)
<b>Dimension(HxWxD)</b>	95×60×34mm (w/o antenna)
<b>External Mic Connector</b>	2.5 mm(d), 3-conductor
<b>External SP Connector</b>	3.5 mm(d), 2-conductor

# EU- DECLARATION OF CONFORMITY

We, the undersigned,

Company	Basisrausch GmbH
Address, City	Bahnhofstrasse 3, 8753 Mollis
Country	Switzerland

Declare under our sole responsibility that the following equipment:

Product description / Intended use	Professional Portable 2-Way Radio (PMR446 Two Way Radio)
Name / model	Basisrausch LP-4011-E-B

In compliance with the procedure specified in RD\_061, Telefication declares as designed Notified Body 0560 for the European Radio Equipment Directive, that the stated product, complies with the essential requirements, in accordance with Article 3 of Directive 2014/53/EU.

Operating Frequency Range: 446.00625 –446.19375MHz Maximum Power: 26.98 dBm Chanel Spacing: 12.5kHz Modulation Type: FM
<b>Technical Standards and Specifications</b> The product is complaints with: EN 300 296                      March, 2016                      V2.1.1 EN 301 489-1                    November, 2019                    V2.2.3 EN 301 489-5                    April, 2019                         V2.2.1 EN 50566                         October, 2017 EN 62209-2                      June, 2010 EN 62368-1                      August, 2014 EN 62368-1/A11                 January, 2017

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

The full text of the EU declaration of conformity is available at the following internet address:  
[www.basisrausch.ch](http://www.basisrausch.ch)

Signature

D. Kamm CEO



Mollis, 29.Aug 2023

Hiermit erklärt Wintec,  
dass der Funkgerätetyp LP-4011-E-B  
der Richtlinie 2014/53 / EU entspricht.

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