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WIRELESS INTERCOM RI-32 USER MAUNAL



Introduction

RI-32 Wireless Intercom Unit is capable to interconnect up to six speakers at once using different type of headsets:

- Bluetooth (ver. Up to 3.0+) – 3 pcs;
- Wired (3.5mm jack) – 2 pcs;
- External balanced audio – 1 pcs.

Internal rechargeable battery

runtime is up to 5 hours.

Physical dimensions: 127mm x 79mm x 22mm, weight 133 g.
Operational temperature: from -10°C to +40°C.

Device overview

1 Display

Please see the explanations below in this manual.

2 Talk button

This button changes internal audio routing when pressed. You can attach external PTT button using **Talk** jack.

Basic operations: (see “Normal Mode” and “PTT Mode” below for more details)

- Push the button briefly to switch PTT mode on and off;
- Press and hold the button to keep PTT mode on, and release it to turn PTT mode off.

3 ESC button

Push this button to exit settings menu.

4 External connections



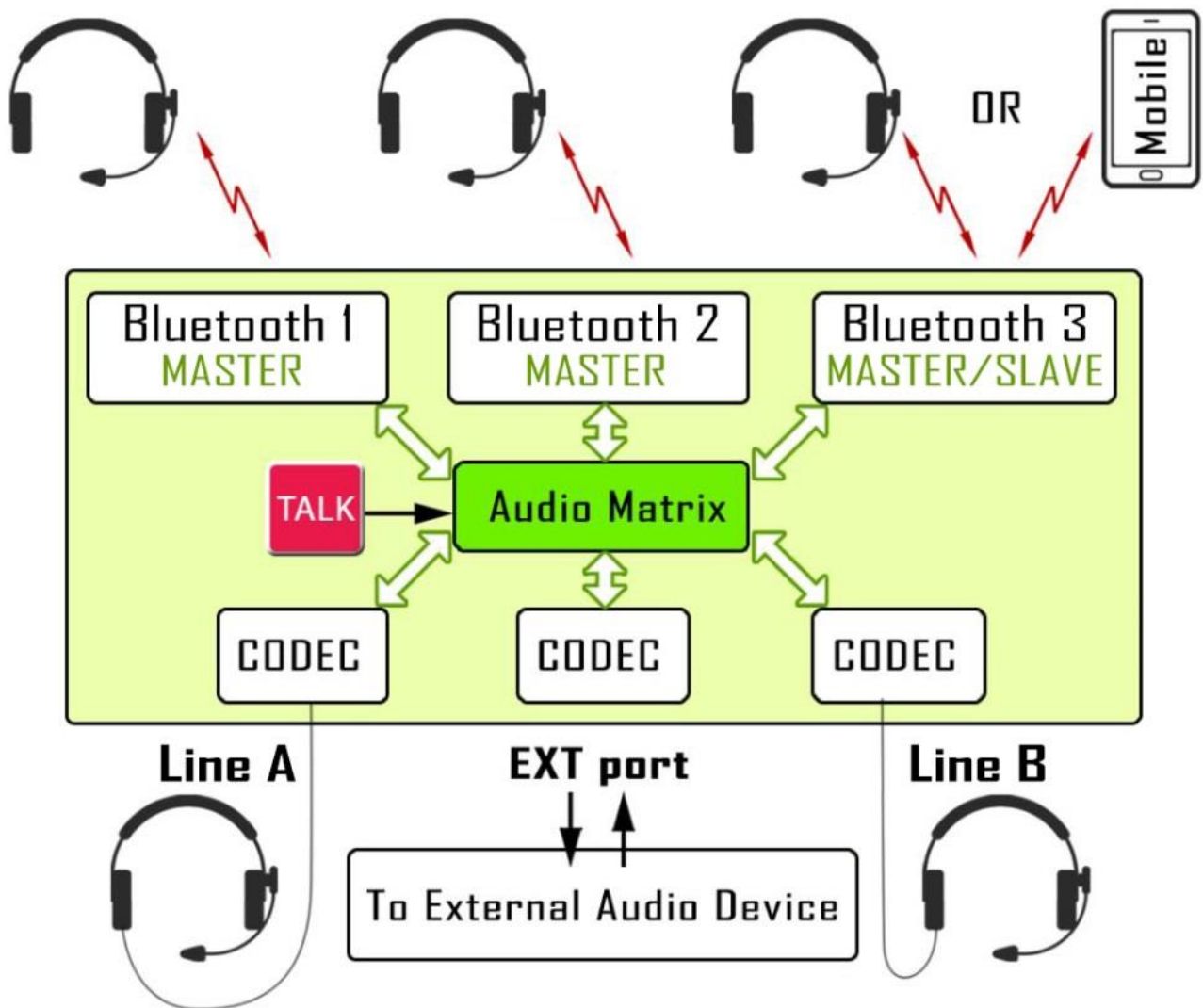
5 Navigation buttons

Use arrows/OK buttons to change settings (see below).

6 Power on/off button

Use the buttons to switch unit on and off

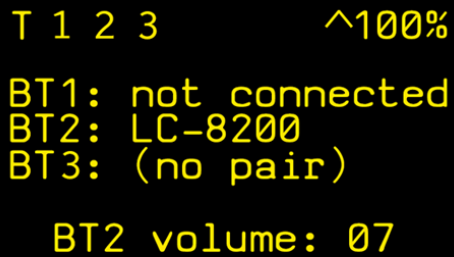
Operational diagram



Please note:

- You can use **BT3** port to connect Bluetooth-enabled GSM mobile phone instead of BT headset;
- EXT jack has galvanic isolation transformer and support balanced audio in/out.

Initial screen status



```
T 1 2 3      ^100%  
BT1: not connected  
BT2: LC-8200  
BT3: (no pair)  
  
BT2 volume: 07
```

Upper right

Percentage of battery charge and recharging sign “Λ” when connected to an external DC power source.

Upper left

“T” symbol indicates that **Talk/PTT** mode is active. Symbols “1”, “2” or “3” indicate that **MFB** mode is currently on for the corresponding headset.

(See more details below at 1. CONNECTIONS and 10. PTT)

Central area

Status of Bluetooth ports (**BT1 – BT3**) showing useful information on connected headsets:

- Headset model - in case if this port is connected
- <no pair> - if no headset has been designated to this port
- <not connected> - when designated headset is not available

Lower part

You can revise or modify input volume level for each of the Bluetooth ports. Use **Left / Right** arrow keys to select one of **BT1 – BT3** ports and **Up / Down** to adjust input level.

MAIN MENU:

Please use **OK** button to enter the **Main Menu**:

1. Connections
2. Saved devices
3. Bluetooth 1
4. Bluetooth 2
5. Bluetooth 3
6. GSM mode
7. Line A
8. Line B
9. Line Ext
10. PTT
11. Presets
12. Full reset

```
MAIN MENU
>Connections
  Saved devices
  Bluetooth 1
  Bluetooth 2
  Bluetooth 3
  GSM mode
  Line A
```

```
MAIN MENU
  GSM mode
  Line A
  Line B
  Line Ext
  PTT
  Presets
>Full reset
```

Use **Up** / **Down** arrow buttons to select menu item and **OK** button to review its settings.

1. CONNECTIONS:

There're 5 different sub-items in Connection menu:

- Normal Mode
- PTT mode
- BT1 MFB
- BT2 MFB
- BT3 MFB

NORMAL MODE

Normal audio routing mode is active when Talk/PTT and MFB modes are off, so this is the default operation mode for the unit. Leftmost column represent all the sources, and the upper row contains all the destinations.

The numbers at the sources and destinations cross-points represent audio levels for each pair of source & destination.

	B1	B2	B3	LA	LB	EX
B1	> * 04	* 02				05
B2			*			
B3				*		
LA					*	
LB						*
EX	01	07	08	05		*

Use arrow keys to navigate and short OK button clicks to select volume level from 0 to 10.

PTT MODE

PTT mode is an alternative routing table being activated when the **TALK** (or external **PTT**) button is pressed. Follow the same process as for the Normal mode to set the audio levels between sources and destinations.

BT1 MFB

BT2 MFB

BT3 MFB

MFB (Multi-Function button) is usually the main button of a Bluetooth headset. In case of AirPods™ just use double tap.

	B1	B2	B3	LA	LB	EX
B1	> * 04	* 02				
B2			*			
B3				*		
LA					*	
LB						*
EX						*

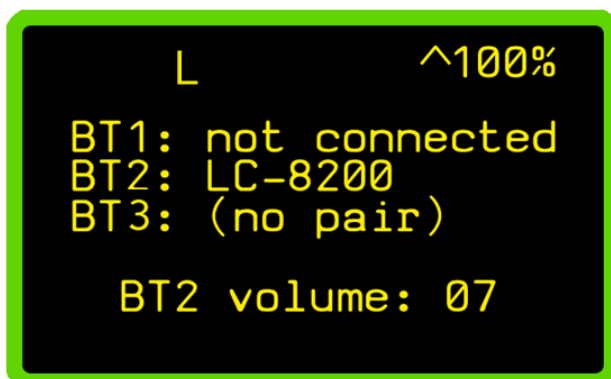
MFB mode is an alternative routing table being activated when the **MFB** button of a specific headset (**BT1-BT3**) is pressed. Follow the same procedure to set audio levels between sources and destinations as for the Normal mode, for each of connected headset.

Please note that **MFB** (and **PTT**) mode fully overrides **Normal** routing table when activated. If some of **Normal** mode interconnections are not configured for **MFB** (or **PTT**) mode – they will be disconnected. In addition, you can set priority of **PTT** mode over **MFB**. (More details at 10. PTT)

Press **MFB** button one more time to deactivate MFB mode and revert routing table to **Normal** mode. You can set timeout for automatic deactivation if needed. (Please see 10. PTT)

While **MFB** mode is activated, you will see the number of active headset in the upper left corner of the display and will hear confirmation tone in the headset. Lower pitched tone will indicate deactivation of this mode.

MFB mode functionality can be completely deactivated by pressing **ESC** button for a few seconds while you in the main menu. You will see **L** (lock) symbol at the top row of the screen as a confirmation.



2. SAVED DEVICES:

This menu item will let you browse the list of twelve last connected Bluetooth headsets. You can select desired headset and assign it to the specific BT port of the Intercom. During the process, you have to put this headset into the pairing mode. Since paired, the headset will reconnect to this BT port until it will be replaced or forgotten (refer to 3.-5. BLUETOOTH 1,2,3).

The pairing procedure can take some time (up to minutes) and will very likely fail if your headset was not in pairing mode at the right moment.

3. - 5. BLUETOOTH 1,2,3:

This menu item indicates BT port status and gives you control over the BT headset connection.

Please use the headset's pairing mode to connect:

- Refer to headset's manual to put the headset to pairing mode
- Start Bluetooth scanning by selecting **Scan** menu item and pressing **OK** button
- Choose desired headset and press **OK**
- Exit menu by pressing **ESC**

Since BT headsets broadcast themselves periodically, it may take some time to appear in scan results – please be patient.

In order to disconnect BT headset please select corresponding BT port, select **Pair** from the menu, press **OK**. Then you will see **Forget device**, so press **OK** to release the headset.

You can also adjust input audio level from -18 dB to 0 dB for the specific BT port by using **Left** and **Right** arrow buttons.

6. GSM MODE:

This menu item will convert BT3 port to a “headset mode”, so you will be able to connect **Intercom** to your Bluetooth-enabled mobile phone as a wireless headset (name – **Intercom**).

Important notice: only HFP/HSP protocol is supported by this mode, meaning that only incoming/outgoing phone calls will be routed to **Intercom**, but not the music played.

7.- 8. LINE A-B:

These items will let you to adjust input audio level for wired headsets **A** and **B** from -18 dB to 0 dB by using **Left** and **Right** arrow buttons. Press **ESC** to exit.

9. LINE EXT:

This item allows to adjust **Input audio level** from -18 dB to 0 dB and **Output audio level** from -24 dB to 0 dB (and Mute) for **EXT** connection by using **Left** and **Right** arrow buttons. Press **ESC** to exit.

Please note that **PTT** (Push To Talk) function that changes internal audio routing is being activated by **TALK** button on the front panel, or by external button connected to **PTT** port.

10. PTT:

PTT mode activates alternative audio routing table configured at [1.Connections – PTT Mode](#) and it fully overrides **NORMAL** mode routing, all **NORMAL** mode connections will be dropped if not configured for **PTT** mode.

This menu item lets you to setup the following parameters:

PTT timeout (5, 10, 20, 60 seconds or OFF) is intended to switch **PTT** mode (or **MFB** mode) off after certain amount of time

and return to **NORMAL** routing mode. In case if this timeout set to OFF, the only way to return to **NORMAL** mode is to click **PTT** (or **MFB**) button again.

```
PTT
>PTT timeout: OFF
MFB1 priority: Low
MFB2 priority: Low
MFB3 priority: Low
```

You can also set here **MFB** button priority over **PTT** – any **High** priority **MFB** button will override active **PTT** mode.

11. PRESETS:

You can backup and restore all connection settings to/from **Intercom**'s memory using this menu item.

12. FULL RESET:

Press and hold **OK** button for 3 seconds to revert **Intercom** to factory settings (this will clear audio levels, headset connections, presets, etc.)

CABLES PINOUT:

Please use typical stereo headset pinout for **ports LA – LB:**



PTT (TALK) port pinout:



EXT port pinout:



EXT port has 100-Ohm isolation transformers for input and output audio lines.

If you **Intercom** set contains red colored Jack(4pin) – Jack(4pin) cable please use it to connect external device to **EXT** port. Red plug of this cable is designated for **EXT** port, and pink one – for external device like mobile phone or A/V sender over cellular network (LiveU™, TVU™, etc).

Important notice: Some of audio devices detect connection of external microphone by electric resistance. In this case you have to use ~3.5 kOhm resistor at the mic input circuit for your **EXT** port cable (LIN+ pin at the diagram above, biggest one closer to cable).

Additional tips:

1) The working range of Bluetooth headsets mainly depends on two factors: its transmitter power and how busy is the 2.4 GHz radio band with another Wi-Fi and Bluetooth devices.

Transmission power is defined by BT Class:

Class 1 – 100 mW (expect up to 100 meters range)

Class 3 – 1 mW (usually about 10 meters)

If you need bigger range – choose Class 1 and try to avoid places with high density of Wi-Fi networks at 2.4 GHz.

Sometimes the same headset can reach up to 100 meters in a park but only 20 meters in a city center.

2) **LA – LB ports** pinout was designed for typical PC/smartphone headsets and provides necessary power to electret mic. You can use special adapter (not included) to connect dynamic microphone but due to asymmetric input there may be output sound leakage to input line. This interference comes from cable inter-lines electric capacity and fully depends on quality of headset's cable. Try to use shielded one.

3) Use only high quality microUSB cable to recharge internal battery of **Intercom**. Low quality thin cables has higher electric resistance, this can overload and break the internal power driver of **Intercom**. Fully charged battery can power the device for more than 5 hours.

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