

Instruction Manual



RF PA Extension Frequency Chart

Group						
Channel	1	2	3	4	5	6
1	520.325	520.000	520.600	520.525	520.825	521.300
2	523.200	521.000	522.475	521.525	521.575	522.425
3	525.450	523.375	523.850	523.400	523.325	523.925
4	526.700	524.875	525.850	524.775	523.950	524.925
5	529.450	530.750	527.600	527.775	524.825	527.175
6	532.450	533.250	530.725	530.400	526.025	529.800
7	536.200	535.375	531.750	531.975	527.700	531.050
8	537.700	538.875	534.225	532.650	530.825	533.800
9	542.325	540.750	536.100	534.400	532.950	534.425
10	544.825	545.000	537.100	535.800	534.325	536.800
11	546.200	546.750	538.475	538.025	535.950	541.300
12	550.325	549.000	541.725	538.775	539.325	542.175
13	552.700	551.750	544.225	542.650	540.575	544.300
14	553.700	553.750	545.650	544.525	543.275	546.675
15	NA	555.375	548.100	546.150	546.325	547.800
16	NA	NA	548.975	548.650	548.375	549.300
17	NA	NA	550.150	550.525	549.950	553.050
18	NA	NA	550.850	551.525	551.825	553.800
19	NA	NA	553.350	553.025	552.825	555.175
20	NA	NA	554.850	553.900	554.200	555.925
21	NA	NA	555.475	555.150	554.950	NA
22	NA	NA	NA	555.850	555.950	NA

8 Notes for the product

1. To achieve the best reception of the signals, keep the receiver at least 3 meters apart from the transmitter.
2. For best results, maintain a three meter minimum distance between the RF-PA-TX and RF-PA-RX.

IMPORTANT NOTICE

- Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.
- To comply with the FCC RF exposure compliance requirements, no change to the antenna or the device is permitted. Any change to the antenna or the device could result in the device exceeding the RF exposure requirements and void user's authority to operate the device.
- This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

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1 Notes for system operations

- Keep the unit away from fire and heat source.
- Turn the volume to minimum at both the mixer and amplifier before setting up the system.
- When multiple transmitters are stacked at the same time, it is recommended to use the same frequency group to avoid frequency interference.
- Caution : The suitable environment for this product is with a temperature between -10°C (14°F) and +50°C (122°F).

2 Features

- The **RF PA Transmitter** provides 2 channels of independent audio via UHF radio link to any number of remote **RF PA Receivers**. It makes it easy to quickly add remote speakers for dance floors, conference breakouts, lobbies, green rooms, dressing rooms, fills, and more—without having to run or strike long, obtrusive cables.
- The **RF PA Receiver** is compact, cable-free, and can be used by simply attaching it to the speaker. It provides users with self-contained groups to avoid interference and perfectly reproduce all frequency bands.
- Two channels operating on distinct, non-interfering frequencies can be used for either left and right channel or individual channel transmission.
- The compact and cable-free **RF PA Receiver** easily attaches to speakers. Each receiver can be configured to provide delay set by distance in feet or meters, or by time in milliseconds.
- The 2.4 GHz Sync Feature provides synchronization of frequency and channel settings with the **RF PA Receiver** at the press of a button.
- The **RF PA Transmitter** combines a 2.4 GHz Sync wireless transmission technology with highly stable circuitry and signal performance, to synchronize frequency and channel settings to the **RF PA Receiver** just by pressing a button. It also includes a pass through circuit that will bypass audio even if the unit is powered off. With its dedicated front panel RF Power switch, remote speakers can be turned on and off as needed during an event. The **RF PA Receiver** can be used in a wide range of projects and performance venues.

3 Specifications

3-1 RF-PA Receiver

Model	RF PA Receiver
Carrier Frequency	520 - 556 MHz
Number of Channels	2 Channels
Transmitter Receiver Sync	2.4 GHz RF Sync
Antenna Selection	True Diversity
Signal to Noise Ratio (S/N)	>106 dB(A)
Total Harmonic Distortion (THD)	<0.5% @ 1 kHz
Reception Sensitivity	-95 dBm, S/N>80 dB
Mirror Rejection Ratio	>80 dB
General Frequency Response	50 Hz ~ 18 KHz \pm 2 dB
Antenna Connector	TNC Female
Display	LCD
Functions Displayed	Group, Channel, Frequency, Antenna A/B, AF Indication, RF Indication, Sync ID, Delay Time (distance)
Controls	Power Switch, Group, Channel, Frequency, Reception Sensitivity Key Lock, Delay Time, Display Settings, Language
Audio Output Level (MAX)	Mini XLR Jack: +10 dBu(Line)-10 dBu(MIC)
Audio Output Impedance	600 Ω
Mute	Noise Mute and Pilot Tone
Output Port	Balanced Mini XLR
Power	DCV INPUT 12 V/0.5 A
Dimensions	365 mm(L) x 70 mm(W) x 30 mm(H)

Specification provided above may be slightly different from the product.

3-2 RF-PA Transmitter

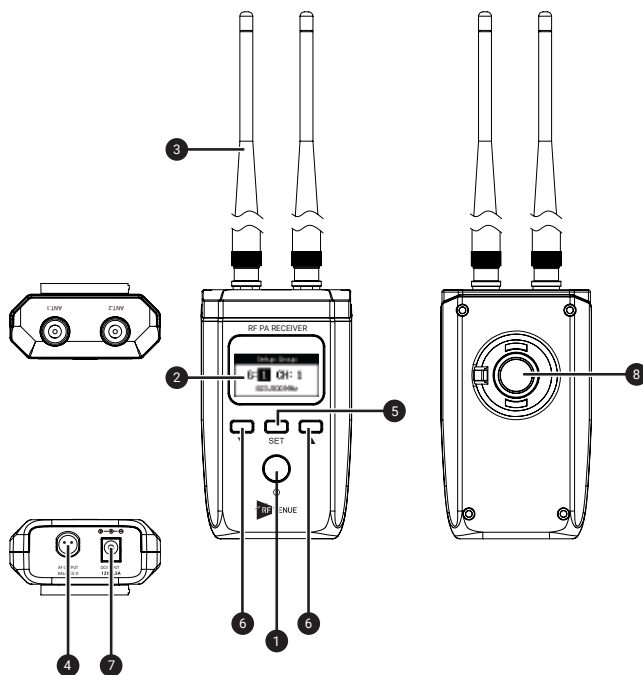
Model	RF PA Transmitter
Carrier Frequency	520 - 556 MHz
Number of Transmit Channels	2 Channels
Frequency Matching	2.4 GHz Sync
RF Power Output	10 mW/50 mW (according to local regulations)
RF Stability	<±10 kHz Fc
Modulation Frequency Deviation	±48 kHz
Spurious Emissions	<-50 dBc
LCD Display	Group, Channel, Frequency, Mute, Remoset ID, Volume
Controls	Power, Group, Channel, Frequency, Transmitted Power, Key Lock
Dimension	200 mm(L) x 480 mm(W) x 46 mm(H)

Specification provided above may be slightly different from the product.

4 Description of Parts

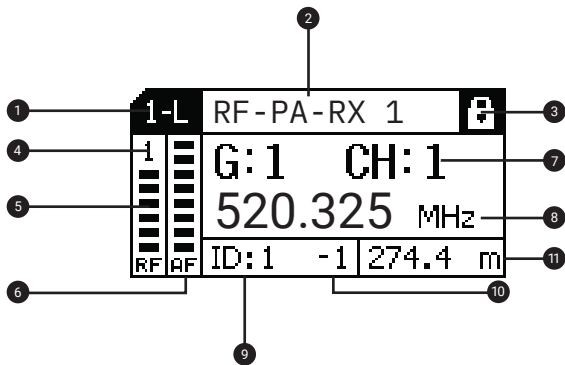
4-1 RF PA Receiver

- 1 **Power Switch:** Press once to turn on; press and hold for two seconds to turn off
- 2 **LCD Display:** Displays the emitter setting parameters
- 3 **Antenna:** Receiver Antenna
- 4 **Audio Output Connector:** 3 pin Mini XLR connector
- 5 **SET:** Set mode for adjusting frequency, group, channel, reception sensitivity, key lock, delay time, display settings, language
- 6 **▲ / ▼:** Use "SET button" to change parameter settings
- 7 **Power Input Jack:** DCV INPUT 12 V/0.5 A
- 8 **Retainer**



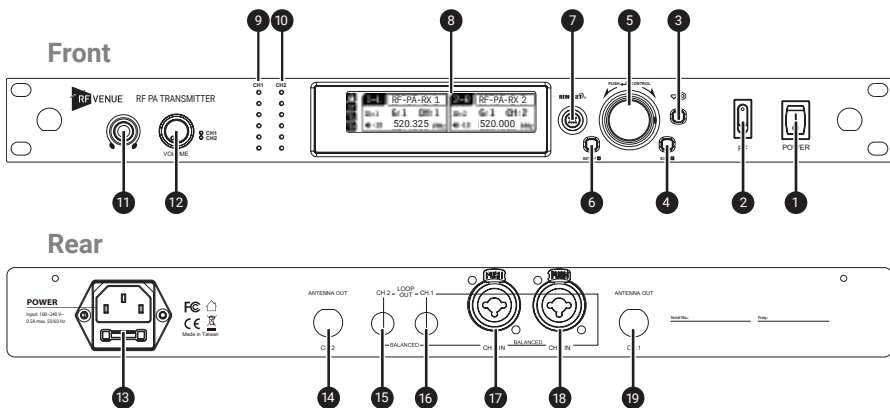
4-2 RF PA Receiver Display

- 1 Transmitter Channel Indication: indicates the transmitter channel
- 2 User Name
- 3 Key Lock
- 4 Receiver Antenna Indication
 - 1: ANT1
 - 2: ANT2
 - ⊗: No signal
- 5 RF Reception Strength Indication
- 6 Audio Indication
- 7 The Current Group Channel
- 8 The Current Frequency
- 9 Sync ID
- 10 Sync ID2
- 11 Delay Time Indication



4-3 RF PA Transmitter

- 1 **Power ON/OFF**
- 2 **RF Switch:** Enables/disables the RF Transmission.
- 3 **Key Lock:** Press and hold for 2 seconds to lock all key functions. Press and hold again for 2 seconds to release the lock.
- 4 **EXIT:** When the RF-PA-TX is the "Setup Menu" mode, press EXIT to cancel the selection or exit the menu.
- 5 **Rotary Switch:** When the RF-PA-TX is in the "Function Setting Menu" mode, rotate the rotary switch to select the desired function up or down. Click the rotary switch (or SETUP button) to enter the option, turn the rotary switch to adjust the setting value. Press the [SETUP] button to save the settings.
- 6 **SETUP:** Press and hold for about 2 seconds to enter the "Setup Menu"; press SETUP to save the setting value after selecting with the rotary controller.
- 7 **Sync:** When the transmitter is set, press Sync signal to the receiver.
- 8 **LCD Display:** See [Description of transmitter LCD display]

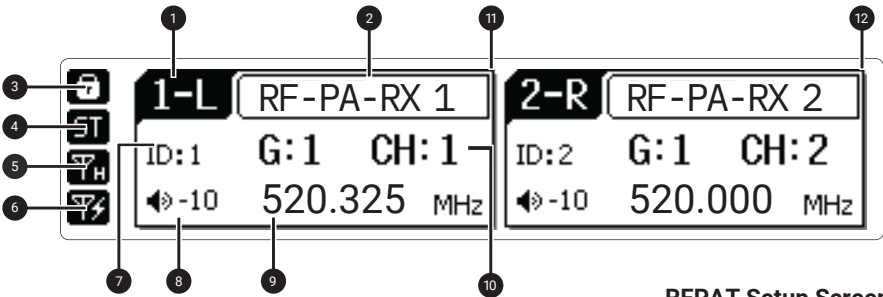


- 9 CH1 Volume Indication
- 10 CH2 Volume Indication
- 11 ¼ inch Stereo Headphone Jack
- 12 Volume Control/Monitoring Channel Indication:
 - Rotate: monitoring volume adjustment
 - Press: switching channels
 - CH1, CH2 on together: listen to both channels at the same time
 - CH1 on: listen to CH1 only
 - CH2 on: Listen to CH2 only
- 13 AC Power Jack: 100~240VAC
- 14 CH2 BNC Antenna Output Jack
- 15 Balanced Loop Out Connector CH2 Loop Out
- 16 Balanced Loop Out Connector CH1 Loop Out
- 17 Balanced XLR/Ø6.3mm Combined Input (CH2 Audio Input (Balanced))
- 18 Balanced XLR/Ø6.3mm Combined Input (CH1 Audio Input (Balanced))
- 19 CH1 BNC Antenna Output Jack

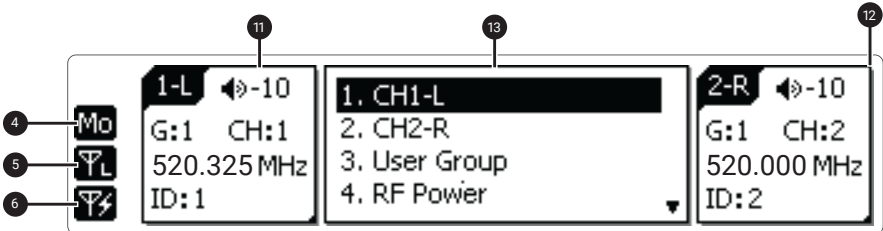
4-4 RF PA Transmitter LCD Display Content

- 1 Transmitting Channel Indication
- 2 User's Name
- 3 Key Lock
- 4 Stereo/Mono Status Indication
ST: Stereo Mo: Mono
- 5 Transmitted Power Status Indication
TH: High transmit power TL: Low transmit
- 6 RF Transmission Status Indication
TX: RF transmit on TX: RF transmit off
- 7 Sync ID
- 8 Volume
- 9 Frequency
- 10 Preset Group Channels
- 11 CH1 BNC Antenna Output Jack
- 12 CH1L Windows
- 13 CH2R Windows

RF-PA-TX LCD Screen Display Content



RFPAT Setup Screen

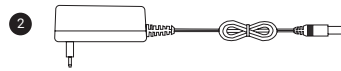


4-5 Accessories

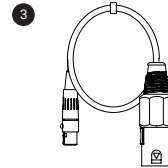
- 1 AC Power Cable
(RF-PA-TX Accessory)



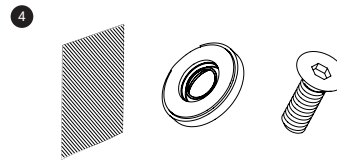
- 2 Switching Power Transformer
(RF-PA-RX Accessory)



- 3 Ø3.5 mm X 50 cm Cable
(mini XLR female to XLR male/RF-PA-RX Accessory)



- 4 Hook and Loop Tape, Mount, Screws
(RF-PA-RX Accessory)



5 Connecting

5-1 RF-PA Receiver

Step 1

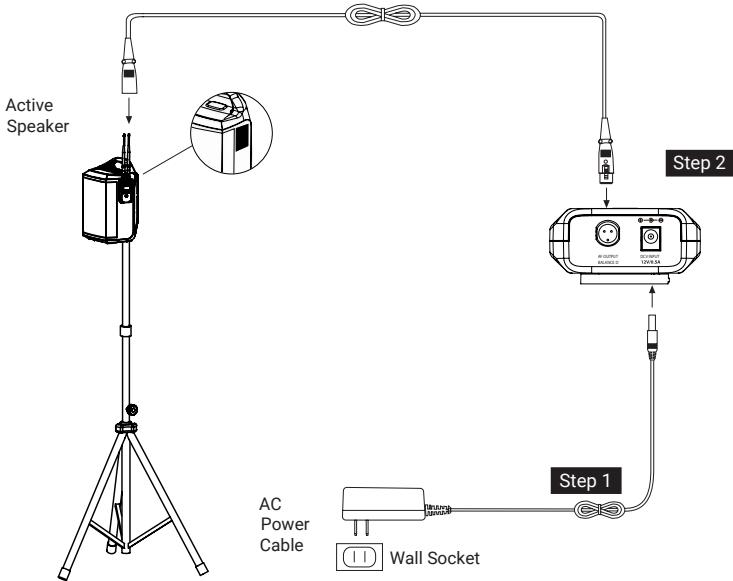
Connecting to the power supply

Connect to the power adapter: Plug the receiver into the DC socket first, and then plug the other end into the AC socket (100~240VAC).

Step 2

Connect the audio signal cable

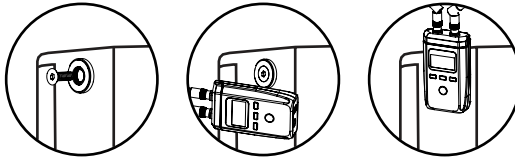
Connect RF-PA-RX audio output to active speaker, mixer or amplifier input.



There are two ways to mount receivers to active speakers:

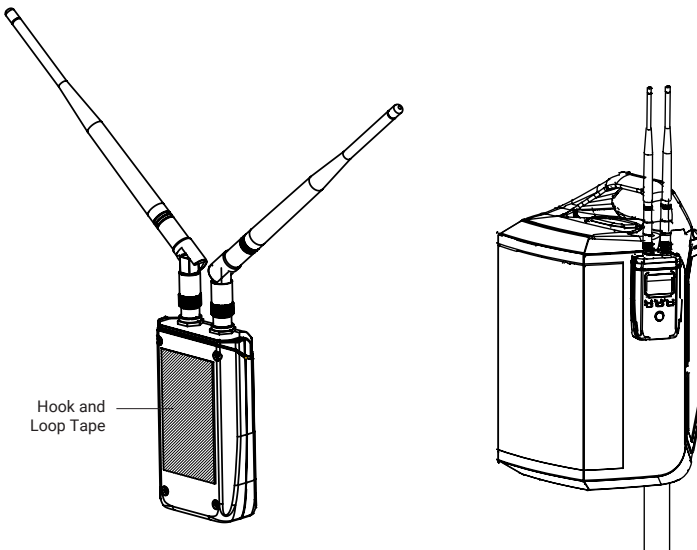
Method 1 (speaker with screws):

Attach the mounting bracket to the speaker with the provided 10mm bolt.



Method 2 (speaker without screws):

Affix adhesive backed hook and loop tape to speaker and to RF-PA-RX



5-2 RF PA Transmitter

Step 1

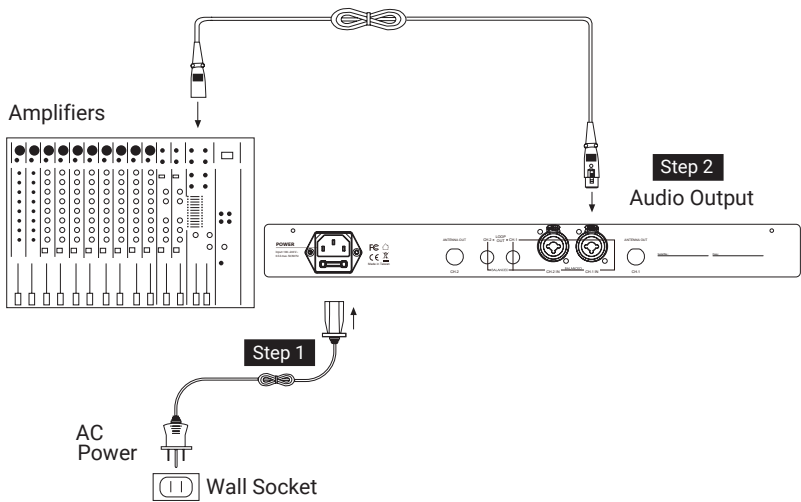
Connecting to the power supply

Plug the transmitter into the AC, and then plug the other end into the AC outlet (100~240VAC).

Step 2

Connecting to the audio signal cable

XLR or ¼ inch audio cable, one end connects the audio source to the “BALANCED” audio input of the RF-PA-TX, and the other end connects to the audio output of the MIXER.



6 Instruction for use

6-1 How to use RF-PA Receiver

Parameter Settings

Hold the SET button for 2 seconds to enter the setting mode; press the / button to select the item, and press SET again to enter the setting mode. Press / keys for parameter setting, hold SET again to save the setting and exit.

- 1. Frequency
- 2. Group/Channel
- 3. Squelch
- 4. Sync
- 5. Delay
- 6. User Name
- 7. Key Lock
- 8. Display Options
- 9. Language
- 10. Factory Reset
- 11. Exit

System Settings

1. Frequency

1MHz per unit	Press the / keys to set the frequency
0.025MHz per unit	Press the / keys to set the frequency

Setup Frequency

520.325 MHz
G:1 CH:1

2. Group Channel

G : Group	Select the default group 1~6.
CH : Channel	Select a default channel.

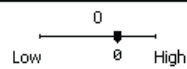
Setup Group

G: 1 CH: 1
520.325 MHz

3. Squelch

+5~-10: The higher the value, the higher the reception sensitivity. (Default value is 0)

Setup Squelch



4. Sync

Enabled (En)	Frequency can be matched to the transmitter
Disabled (Dis)	No frequency can be matched to the transmitter

1. Sync	En
2. Use ID	Yes
3. ID	1
2. ID2	1
3. Save and Exit	
4. Exit without Save	

(1) Use ID

Yes	The ID should be the same as the transmitter in order to match the frequency of the transmitter.
No	All transmitters can be matched to the transmitter regardless of the ID.

(2) ID

ID of **RF-PA-TX** and **RF-PA-RX** should be the same to complete pairing

(3) ID2

Please refer to the "**Sync**" section of the instruction manual

(4) Save and Exit

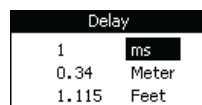
Save the settings and return to the main menu

(5) Exit without Save

Return to the main menu without saving the setting

5. Delay

Select the unit to be displayed first, either ms, meter or feet, and then press / to adjust the delay time.



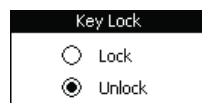
6. Edit User Name

Press the / keys to select a letter, number or symbol, press Set to fill and set the next word



7. Key Lock

Lock	When the frequency pairing is completed, the receiver would stay in the Lock ON mode
Unlock (default)	The receiver does not lock when the pairing is completed.



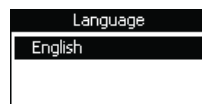
8. Display Options

Contrast : 0~9 (default 5)

Brightness : 0~9 (default 5)

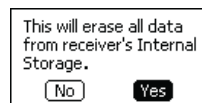


9. Language



10. Factory Reset

Yes	Restore factory settings
No	Cancellation



6-2 How to use RF PA Transmitter

Hold the SETUP key for 2 seconds to enter the setting mode. Use the rotary controller to select the setting, push the rotary controller (or press the setup key) to enter the screen setting. Turn the rotary controller to adjust the desired value or function. Press the SETUP key to save the setting value and the EXIT button to return to the previous screen. Rotate the rotary switch to adjust the desired value or function, and click the SETUP key to save the setting value. Press the EXIT button to return to the previous screen.

1. CH1-L
2. CH2-R
3. User Group
4. RF Power
5. Stereo/Mono
6. System Options
7. Exit

1. Frequency
2. Group/Channel
3. Volume
4. Sync ID
5. Sync Config
6. User Name
7. Return

CH1-L, CH2-R Select a list

1. ~2. CH1-L / CH2-R

(1) Frequency

Adjust the left 3-digit frequency; rotate the rotary controller to "+/- ".

Click the rotary controller after adjusting.

To adjust the right 3-digit frequency, turn the rotary controller to "+/- ".

After setting, press SETUP to save the setting value.

Setup Frequency	
553.700	MHz
G:1	CH:14

Set the frequency number in 1MHz and then in 0.025MHz.

(2) Group / Channel

Spin the rotary switch to select group "G:" group 1~6; press the rotary switch after adjustment.

Spin the rotary switch to adjust the channel "CH:" up to 22 selectable channels and press the SETUP button to save the settings when finished.

Setup Group	
G: 1	CH: 1
520.325 MHz	

Set the group number first, then set the channel number.

(3) Volume

Adjustment range: -20dB ~

Setup Volume
- 10 dB

The graph currently sets the sensitivity to Gain 0dB (default)

(4) Sync ID

Sync ID: 0~255. This setting affects the usage of Sync; The Sync ID settings of the receiver and transmitter must be the same to enable the

Setup Remoset ID
ID: 2

(5) Sync Config

RF-PA-TX can set up 5 different audio delay times to synchronize to 5 receivers with different ID2s when using the Sync function. Note that any number of **RF-PA-RX** can be used with **RF-PA-TX**, but the number of Receiver devices that can be synchronized from the Transmitter is limited to 5. Additional Receivers are easily configured for the correct frequency manually.

1. Rx1 Delay	0 ms
2. Rx2 Delay	0 ms
3. Rx3 Delay	0 ms
4. Rx4 Delay	0 ms
5. Rx5 Delay	0 ms
6. Key Lock	Unlock
7. Sync Options	
8. Return	

#1. ~ 5. Delay Time

Select the unit to be displayed first. You can choose from milliseconds, meters and feet, then click the shuttle to adjust the time delay.

Delay Time	
1	ms
0.34	meter
1.115	Feet

#6. Key Lock

Lock	When the frequency pairing is completed, the receiver should remain in the Lock ON mode.
Unlock	The receiver would not be locked when the frequency pairing is completed. (Default value)

Rx Key Lock
<input type="radio"/> Lock
<input checked="" type="radio"/> Un Lock

#7. Synchronization Options

Use the rotary controller to select the Sync synchronous transmission setting item, and then press the rotary controller button to perform the check.

<input checked="" type="checkbox"/> Frequency
<input checked="" type="checkbox"/> Delay
<input checked="" type="checkbox"/> Language
<input checked="" type="checkbox"/> Key Lock
<input checked="" type="checkbox"/> UserName

(6) User Name

Rotate the rotary controller to select a letter, number or symbol, then click the rotary controller to fill in and set the next word.

Edit User Name	
S	1/10
MNOPQRS	TUVWXY

3. User Group

1. Edit
 2. Clear Group
 3. Return

(1) Edit

G: U1~U6 , CH : 1~24
this channel is not enabled.



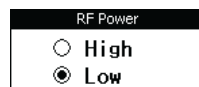
(2) Clear Group

Select the group U1~U6 you want to delete
click SETUP. The program will confirm the
group you want to delete again, click "Yes"
to start deleting.

Group: **U1**
Rotary to select
Push **←** to clear
Push **⊗** to return

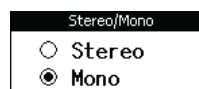
4. RF Power

High	High transmitted power
Low	Low transmitted power



5. Stereo / Mono

Stereo	CH-1L, CH-2R input audio with individual transmission.
Mono	CH-1L, CH-2R input audio are mixed and sent.



6. System Options

(1) Screen Contrast : 0~9 (default 5)



(2) Screen Brightness: 0~9 (default 5)

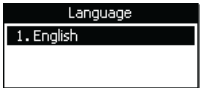


(3) Indicator Brightness: 0~9 (default 5)



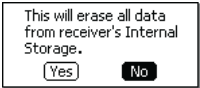
(4) Language

English



(5) Factory Reset

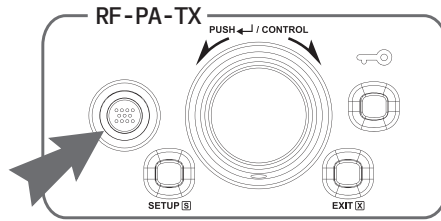
Yes	Restore factory settings
No	Cancellation



7 Sync

1. Sync: Press the Sync button and the blue light will start flashing indicating that the frequency data is being transmitted.
2. Sync success: The receiver screen flashes three times
3. Sync failure: If the receiver does not respond, please check:
 - (1) If the "frequency range label" is set to the receiver and the transmitter is the same.
 - (2) "Allowed" setting is required for the "FM function" in the receiver function menu.
 - (3) The receiver and transmitter "Device ID" settings must be the same.

*When using the Sync function, please avoid using the Sync function with more than two transmitters at the same time. Avoid interfering with each other's Sync signals, which may result in a loss of frequency pairing.



4. RF-PA-TX can set 5 different delay times altogether, and simultaneously send them to 5 receivers, so that the 5 receivers can have their own delay time settings.

- (1) Rx1 Delayed mapping to receiver ID2 = 1
- (2) Rx2 Delayed mapping to receiver ID2 = 2
- (3) Rx3 Delayed mapping to receiver ID2 = 3
- (4) Rx4 Delayed mapping to receiver ID2 = 4
- (5) Rx5 Delayed mapping to receiver ID2 = 5

