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User Guide

UHF Dual Channel Diversity Wireless Microphone System

ACT-100



ACT-100A / ACT-100B



Thank you for selecting MIPRO dual channel wireless microphone system. Before operating please read this instruction manual carefully and thoroughly in order to attain the correct operating procedures and achieve the best results.

This system is a dual channel wireless receiver with two microphones. MIPRO designs a sophisticated CPU inside the system that can automatically differentiate the receiving signal strength from the 2 antennas of the receiver. When an antenna is at its "Receiving Dead Point" and noise interference starts, the CPU will automatically adjust the system to the antenna that has stronger signal receiving to avoid signal dropouts and noise interference at the moment when the wanted signal falls below noise signal. The system has a "NOISE" indicator to display if the system is under interference and a newly-added balance adjuster to adjust the volume of both microphones.

This system includes the following accessories:

- ① Audio Output Cable ×2 ② User Guide ×1
- ③ Antenna ×2 (ACT-100A/ACT-100B)
- ④ AC/DC Adapter ×1

ACT-100A/ACT-100B Dual-channel Diversity Receiver

Profile

ACT-100 system design has proprietary high performance RF filter and circuitry improve anti-interference characteristics and increase system compatibility. Ideal for general stages and professional karaoke applications.

ACT-100A/ACT-100B Key Features

1. EIA-standard 19" 1-rack unit metal chassis with silver gray front panel.
2. Bright RF & AF 5-segment LED meters. Antenna connector on the back panel connects to a coaxial antenna or extended antenna and provides bias to antenna booster. Antenna divider can be added or complete MIPRO's antenna systems ensure best result for both optimal reception and reliable signal quality.
3. Industry's only "NOISE" LED indicator and "sensitivity adjustor". Allows users to identify the presence of wireless interference and provides adjustability to avoid problems.
4. Enhanced RF filter and circuitry improve anti-interference characteristics and increased compatible systems.
5. PLL-synthesized system in UHF band ensures stable performance and low spurious.
6. Each receiver is preset with 10 channel groups and 102 frequencies total. Easy, fast and precise channel set-up with preproitary "AutoScan" & "ACT " technology.
7. Innovative CPU controlled dual antenna diversity reception and Pilotone & Noiselock dual squelch controlled prevents from signal dropout and noise interferences from computers, karaoke machines and DVD players.
8. 3-step switch for optimum output volume. Output volume is preset to accurately match the sensitivity of the capsule, adjustment of volume is no longer required to avoid saturation distortion and ensure user always obtain the optimal output level and dynamic range.
9. Connects to MIPRO antenna systems.
10. Innovative audio balance tuner replaces traditional design to ensure mixed output volume of two wireless microphones.
11. High dynamic range and fidelity reproduce the true sound at any sound level for

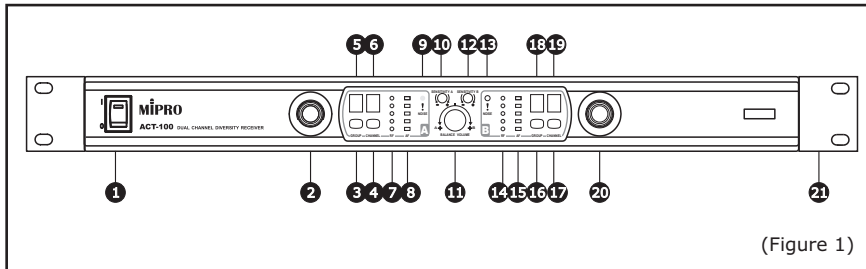
ACT-100 Dual-channel Diversity Receiver with Built-in Antennas

Profile

New ACT-100 system incorporates a built-in antenna design. All other features and benefits are the same as ACT-100A system. Ideal for large-scale karaoke and KTV establishments.

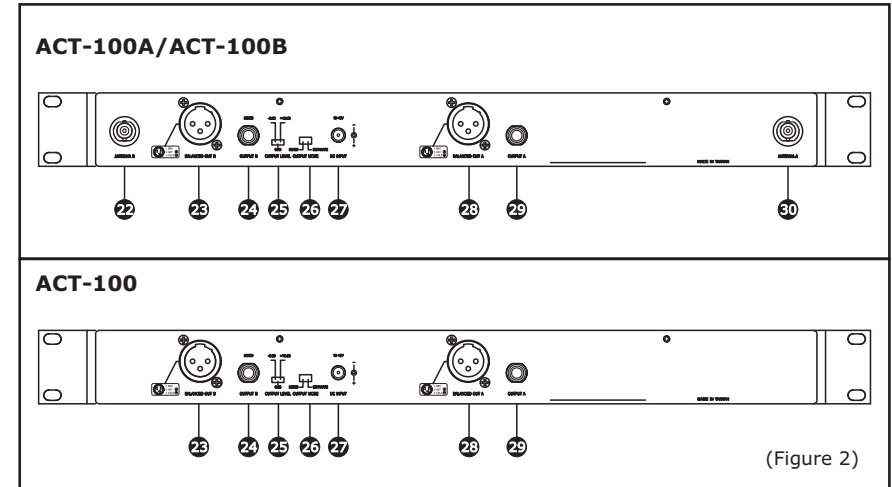
1. Part Names And Functions

A. Front Panel



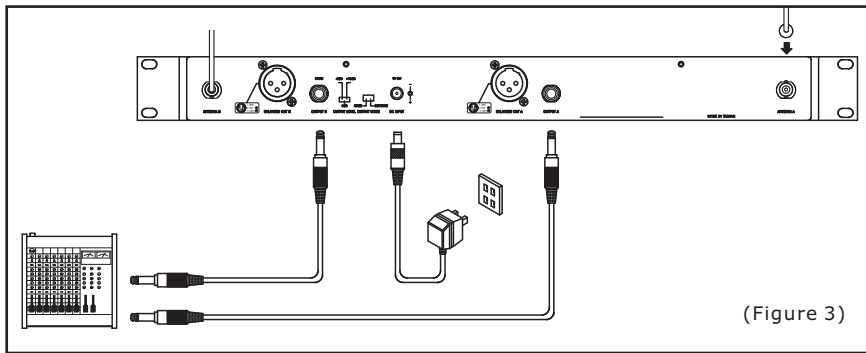
- ❶ **Power Switch & Indicator:** When switch is turned on, red indicator illuminates to denote normal power status.
- ❷ ❷ **ACT Button:** Press to synchronize transmitter and receiver frequencies autotically.
- ❸ ❶ **Group Button:** For selection of Group.
- ❹ ❷ **Channel Button:** For selection of Channel.
- ❺ ❶ **Group LED Screen:** Indicates the selected numeric group.
- ❻ ❶ **Channel LED Screen:** Indicates the selected numeric channel.
- ❼ ❶ **RF Signal Indicators:** Indicates received RF signals from transmitters.
- ❽ ❶ **Audio Signal Indicators:** Indicates the microphone signal.
- ❾ ❶ **Noise Warning Indicator:** Red light glows denoting the presence of interference.
- ❿ ❶ **Sensitivity Adjuster:** To adjust receiver sensitivity that ensures no noise output if receiver is not receiving signals from transmitters.
- ⓫ **Microphone Balance Volume Adjuster:** Allow users to adjust the mixed volume level of two microphones to a balanced or different level. Adjuster is factory preset for balanced level.
- ⓬ **Rackmount Bracket:** To install the receiver into an EIA 19-inch standard rack case.

B. Rear Panel



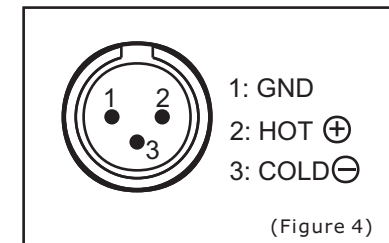
- ❷ **Antenna B input Connector:** To install Antenna B. (ACT-100A/ACT-100B)
- ❸ ❷ **Balanced Audio Output Jack:** With Cannon / XLR type connector provides balanced audio output signal from this jack to the amplifier.
- ❹ **Unbalanced Audio Output Jack B:** 1/ 4 λ Phone Jack provides unbalanced audio output signal from Channel B or the mixed output signals from Channel A & B. (Depend on the position of the unbalanced mixed switch ❷ .)
- ❺ **Unbalanced Level Switch:** "0dB" selection is for "Microphone-level" output. "+10dB" selection is for "AUX level" output. "-6dB" selection is for half of cable microphone volume.
- ❻ **Unbalanced Mixed Switch:** System will have mixed AF output when switch to "MIXED" position. AF signal from both Channel A & B will be transmitted from "Output B" only. When switch to "SEPARATE", AF signal will be transmitted separately from "Output A" and "Output B".
- ❼ **DC Input Jack:** To connect 12V/1A DC from the AC/DC adapter.
- ❽ **Unbalanced Audio Output Jack A:** 1/ 4 λ Phone Jack provides unbalanced audio output signal from Channel A.
- ❾ **Antenna A Input Connector:** To install Antenna A. (ACT-100A/ACT-100B)

2. Installation Of The Receiver

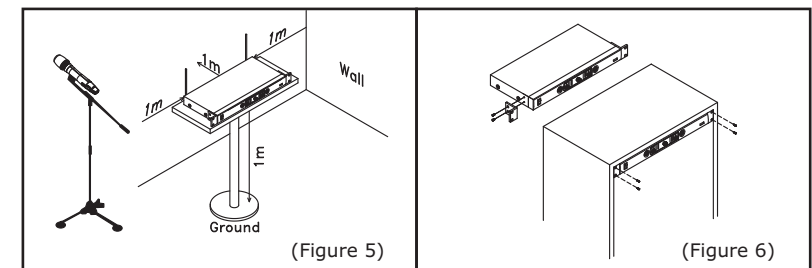


1. Install two antennas, perpendicularly and fully extended, to the antenna input connectors 22 & 30 at the rear panel of the receiver, as shown in Figure 3. (ACT-100A/ACT-100B)
2. Connect the AC/DC adapter cable to DC 12V INPUT JACK 27, then plug the adapter unit into an appropriate AC outlet with caution to the correct voltage under both AC outlet and adapter marked, as shown in Figure 3.
3. Audio Output Connection:
 - (a) Unbalanced Level Switch 25 Setting Position: When connecting from receiver's unbalanced output to the "AUX-IN" jack of a mixer or amplifier or "Electric Guitar", switch the Level Switch 25 to "+10dB" position. Low sensitivity may occur if switch to the wrong level position. When connecting from receiver's unbalanced output to the "MIC-IN" jack of a mixer or amplifier; switch the Level Switch 25 to "0dB" position. Overload distortion may occur if switch to the wrong level position. When using electric guitar, don't use "0dB" or "-6dB" position as it may have generated insufficient level. There are lots of amplifiers for Karaoke machine in today's market, however, gain of amplifier's "MIC IN" is not unified. Therefore, if distortion is encountered, please switch the Level Switch 25 to "-6dB" position.
 - (b) Connection for Unbalanced Outputs: When the receiver is near the input/output jacks of mixers/amplifiers, or both systems use phone jacks, one can connect two separate output cables to unbalanced output jacks B 24 and A 29 in the receiver. If output mode selector 26 switches to "MIXED" mode, connect only one unbalanced cable to unbalanced output jack B 24 as shown in Figure 3.

- (c) Guitar Output: Using audio output cable attached with "PHONE PLUG" type, plug one end from the unbalance-mixed output jack of a receiver, and the other end to the input jack of a guitar amplifier. Switch the Level Switch 25 to "+10dB" position.
- (d) Balanced Output: Using audio output cables attached with "XLR" or "Canon" type, connect one end from the balanced output jacks B 23 and A 28 of the receiver, and the other end to the "MIC IN" input jack of the mixer or amplifier, as shown in Figure 3. (The characteristic of the 3-pin connector is as shown in Figure 4)



4. Make sure the system performs correctly, please place the system away from noise sources. Place the receiver at least 1 meter above the ground and away from noise sources. Place the microphone at least 1 meter away from the receiving antenna, as shown in Figure 5.
5. With two rackmount brackets installed, receiver can be mounted into an EIA standard rackmount case, as shown in Figure 6. As an accessory, you may purchase from nearest dealer a front antenna kit, which not only allows easy front antenna installation, but also improves efficiency of signal reception.



3. Operation Instructions

1. Sets the volume of the mixer to its minimum before turning on the receiver or transmitters. Then, turn on the receiver. The moment when the receiver is on, indicator on the front panel will flash once to indicate the system is normal.
2. Sensitivity Adjustors ⑩ ⑫ allow receiver sensitivity adjustment and "NOISE" indicators display the optimal adjustment. When neither transmitters nor "NOISE" indicators turn on, it indicates the system is under normal standby status. When "NOISE" indicators ⑨ ⑬ turn on while transmitters are off, the receiver is now under interference.
3. If "NOISE" indicators ⑨ ⑬ turn on while transmitters are off, it indicates the receiver is under interference and the receiver will burst loud noises. Under such circumstances, one can adjust sensitivity adjusters ⑩ ⑫, conveniently located on the front panel, counterclockwise until "NOISE" indicators ⑨ ⑬ turn off to avoid unwanted loud noise. However, if above attempt should fail, the signal strength of interference is too strong and other frequencies must be selected to avoid interference. Turning sensitivity adjusters ⑩ ⑫ counterclockwise will reduce both receiver sensitivity and receiving distance; turning clockwise will increase both sensitivity and receiving distance.
4. The microphone output level needs to be adjusted at the amplifier or mixer. No need to adjust at the receiver itself.

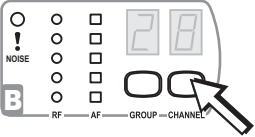
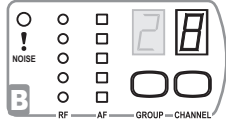
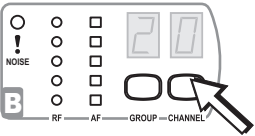
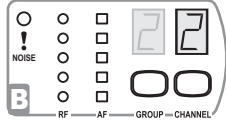
4. Switchable Channels Functions

1. Functions:

- (a) This system incorporates advanced PLL synthesized oscillator design with preprogrammed frequencies and displayed on selectable Group and Channel LED screens.

2. How To Select a Frequency:

- (a) Manual Channel Set-up: Press and hold CHANNEL button ④ ⑰ for at least 1 second the CHANNEL LED screen ⑥ ⑱ start flashing. If Channel button is not press again within 5 seconds the existing Channel will stay unchanged. If Channel button is pressed once and hold within 5 seconds it will move to the next channel. If channel button is pressed and hold continuously it will move to next channel until you release the channel button.

a) Press and hold "CHANNEL" button for at least 1 second.	b) CHANNEL LED screen flashes.
	
c) Press "CHANNEL" button and hold again will move to another numeric channel.	d) When Channel button is released the selected channel will be saved. automatically.
	

3. Change channel when:

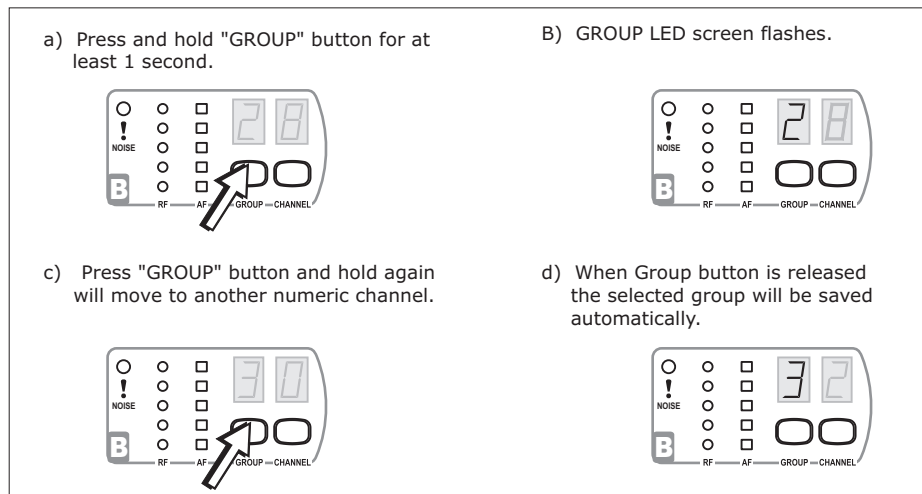
- (a) Existing channel is being interfered or channel is malfunction.
- (b) Select channel for multiple non-interference usage.

4. Caution while changing channels:

- (a) When multiple channels are utilized do not change channel to avoid exiting channel interference.

5. How To Select a Group:

- (a) Manual Group Set-up: Press and hold GROUP button **3** **16** for at least 1 second the GROUP LED screen **5** **18** start flashing. If Group button is not press again within 5 seconds the existing Group will stay unchanged. If Group button is pressed once and hold within 5 seconds it will move to the next group. If Group button is pressed and hold continuously it will move to next group until you release the Group button.

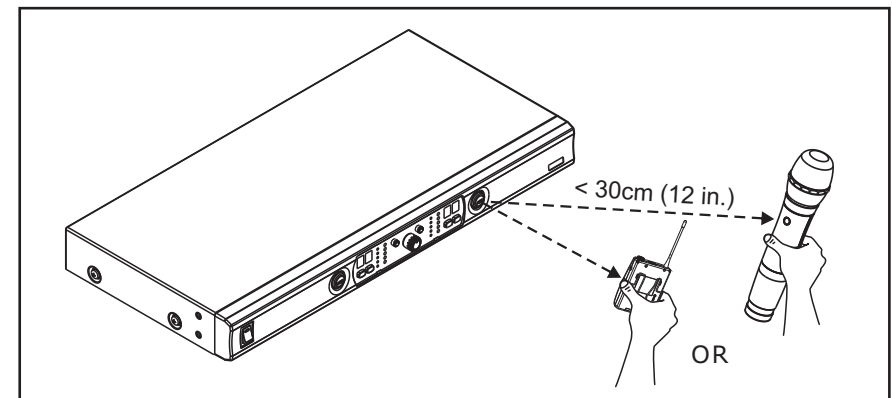


6. Change Group when:

- (a) Existing group is being interfered or group is malfunction.
- (b) Select group for multiple non-interference usage.

5. ACT Button

1. Press ACT Button **2** **20** once and release to activate the ACT function. The Group LED and Channel LED screens will start flashing.
2. Position the red "ACT" marking on the handled or bodypack transmitter within 30cm towards the ACT Button **2** **20** on the receiver as illustrated in below diagram (see diagram 8) .
3. If ACT was synced successfully, the Group LED and Channel LED screens will stop flashing.



6. Cautions

1. Since the installation of antenna influences the operating efficiency of the receiver, the most important rule is to minimize the distance between receiving antenna and microphone for better reception and performance.
2. The external DC power supply should not fall under 12V, otherwise it would not work properly. If it is over 15V, some components of the receiver will be damaged.
3. When using multi-channel systems simultaneously, proper channel frequency selection is very important to avoid mutual interference.
4. Do not use this apparatus near water or any vessel full of liquid (ex. do not put a vase onto the apparatus).

WARNING

1. FOR OUTDOOR USE:

To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture.

2. UNDER WET LOCATION:

Apparatus should not be exposed to dripping or splashing and no objects filled with liquids, such as vases should be placed on the apparatus.

3. SERVICE INSTRUCTIONS:

CAUTION - These servicing instructions are for use by qualified service personnel only. To reduce the risk of electric shock, do not perform any servicing other than that contained in the operating instructions unless you are qualified to do so.



This symbol indicates that dangerous voltage constituting a risk of electric shock is present within this unit.



This symbol indicates that there are important operating and maintenance instructions in the literature accompanying this unit.

FC & IC - ID

THIS DEVICE COMPLIES WITH PART 15 OF THE FCC RULES AND RSS-123 ISSUE1 OF CANADA. OPERATION IS SUBJECT TO THE FOLLOWING TWO CONDITIONS:

(1) This device may not cause interference.

(2) This device must accept any interference, including interference that may cause undesired operation of the device. This equipment complies with FCC RF radiation exposure limits set forth for an uncontrolled environment.

Disposal Dispose of any unusable devices or batteries responsibly and in accordance with any applicable regulations.



Disposing of used batteries with domestic waste is to be avoided!

Batteries / NiCad cells often contain heavy metals such as cadmium(Cd), mercury(Hg) and lead(Pb) that makes them unsuitable for disposal with domestic waste. You may return spent batteries/ accumulators free of charge to recycling centres or anywhere else batteries/accumulators are sold.

2005-08-13

By doing so, you contribute to the conservation of our environment!

! IMPORTANT SAFETY INSTRUCTIONS !

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with a dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarised or ground plug: A polarised plug has two blades with one wider than the other. The wide blade is provided for your safety. When the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at plug, convenience receptacles, and the point where they exit from the apparatus.
11. Only use attachments/accessories specified by the manufacturer.
12. Use only with a cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
13. Unplug this apparatus during lightning storms or when unused for long periods of time.
14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
15. To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture.
16. Apparatus should not be exposed to dripping or splashing and no objects filled with liquids, should be placed on the apparatus.
17. Use only with the battery which specified by manufacturer.
18. The power supply cord set is to be the main disconnected device.

