

ACT-717a/ACT-727a/ACT-747a ACT-717 /ACT-727 /ACT-747 WIRELESS MICROPHONE SYSTEMS

User Guide



TRUE DIVERSITY RECEIVERS

PRODUCT OVERVIEW	
KEY FEATURES	2
MIPRO'S PROPRIETARY "ACT" FUNCTION & OPERATION	3
PART NAMES AND FUNCTIONS	4
RECEIVER INSTALLATION	7
RECEIVER OPERATING TIPS	9
RACKMOUNT INSTALLATION FOR RECEIVERS	10
RECEIVER VFD INTERFACE	12
COMPUTER NETWORK INTERFACE OPERATION	
HOW TO SET-UP INTERFERENCE-FREE COMPATIBLE SYSTEMS	23
HOW TO SETUP MULTIPLE COMPATIBLE SYSTEMS ····································	24
GENERAL TIPS FOR IMPROVING SYSTEM PERFORMANCE	25

PRODUCT OVERVIEW:

The ACT-171/727/747 \ ACT-717a/727a/747a receivers feature a full-color Vacuum Fluorescent Display (VFD) which delivers a very bright light with exceptionally clear contrast. The VFD has a wide viewing angle and can be viewed clearly in both indoor and outdoor environments. Since it displays all pertinent parameters on the same screen, audio professionals can clearly monitor group, channel, frequency, name, RF & audio signal strength, diversity condition, transmitter battery level, squelch level and indication of interference at a glance.

True diversity technology ensures exceptionally long range for greatest RF reliability and freedom of movement, while the industry's first AutoScan & Automatic Channel Targeting (ACT) channel set-up technology and dual-squelch "PiloTone & NoiseLock" circuits minimize interference.

ACT-717 / ACT-717a Included Accessories:

- Antenna × 2
- · Audio Output Cable × 1
- Power cable × 1
- · Rack-mount kit × 1 set
- Phone Cable × 1
- . User Guide × 1

ACT-727/ACT-747 ACT-727a/ACT-747a Included Accessories:

- Antenna × 2
- Audio Output Cable × 1
- Power cable × 1
- · Phone Cable × 1
- User Guide × 1

MIPRO'S PROPRIETARY "ACT" FUNCTION & OPERATION

What is ACT?

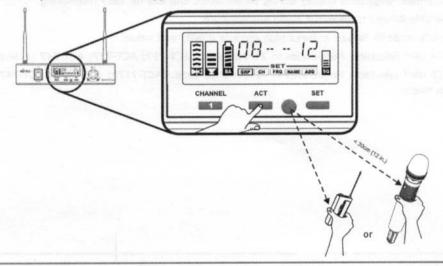
"ACT" stands for "Automatic Channel Targeting". MIPRO was the first manufacturer in the industry to use infrared (IR) technology to automatically synchronize the frequency selected on the receiver to any ACT handheld or bodypack transmitter on the same frequency band.

ACT Features :

- No manual frequency adjusting needed, unlike traditional transmitters.
- Simple, fast and precise frequency set-up without mechanical errors.
- Once the frequency has been set, the data is stored in memory, meaning that the frequency is set until it is changed by performing the "ACT" function again, even after powering off.

ACT Set-Up

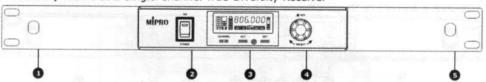
- Ensure a receiver channel is set up.
- Press and release the "ACT" button to activate the ACT function. Once activated, the word "ACT" appears.
- Locate the transmitter infrared (IR) port and bring it within 30cm (12") of the
 receiver's ACT port. The receiver's IR port is a round "window" located between the
 ACT & SET buttons. The transmitter IR port is normally indicated by a round red
 colored spot.
- When the frequencies are synchronized successfully between the transmitter and receiver, the word "ACT" disappears and the original group and channel reappears.



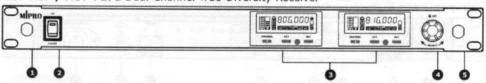
PART NAMES AND FUNCTIONS

Front Panel:

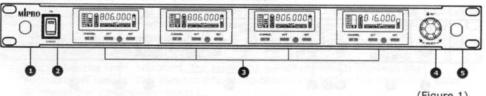
ACT-717 / ACT-717a Single-Channel True-Diversity Receiver



ACT-727 / ACT-727a Dual-Channel True-Diversity Receiver



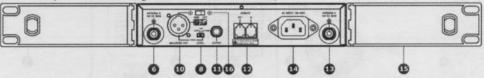
ACT-747 / ACT-747a Four-Channel True-Diversity Receiver



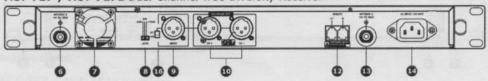
- (Figure 1)
- Antenna "A" Front Mount: Allows an optional FBC-71 rear-to-front antenna cable for front antenna placement.
- Power Switch and Indicator: When the switch is turned on, the red indicator illuminates to denote normal power status.
- Receiver Display: Color VFDs.
- Rotary Controller: To set up parameters. Move cursors by turning the control
 clockwise or counterclockwise.
- Antenna "B" Front Mount: Allows an optional FBC-71 rear-to-front antenna cable for front antenna placement.

Rear Panel:

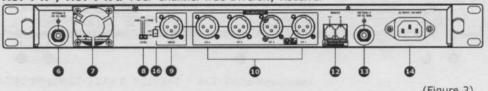
ACT-717 / ACT-717a Single-Channel True-Diversity Receiver



ACT-727 / ACT-727a Dual-Channel True-Diversity Receiver



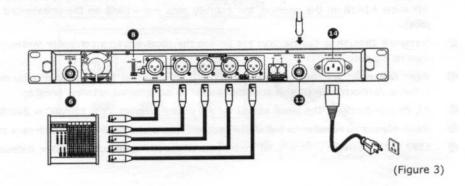
ACT-747 / ACT-747a Four-Channel True-Diversity Receiver



- (Figure 2)
- Rear Antenna "B" Input Connector: The "B" antenna can be installed directly to this antenna connector which also provides power to an optional antenna booster.
- Ventilation Fan: Ensures stable performance in long hours of operation under high temperature environments.
- Level Switch: "0dB" selection is for "Microphone level" output. "+16dB" selection is for "AUX level" output. "-6dB" selection is for half of cable microphone volume.
- Mixed AF Output Jack: A balanced output jack for mixed AF signals from all installed channels; 3 output levels to choose from.
- Balanced Audio Output Jack: XLR type connector provides balanced audio 0 output signal from this jack to the mixer, and output level is selectable from among 3 levels: "-6dB", "0dB" and "+16dB".

- Unbalanced Audio Output Jack: ¼" PHONE PLUG type connector provides unbalanced audio output signal from this jack to the mixer (ACT-717/ACT-717a only). Output level is selectable from among 3 levels: "-6dB", "0dB" and +10dB (the switch will show +16dB on the receiver, but actually puts out +10dB on the unbalanced jack).
- Network Interface Connector: For linking the receivers to a computer systemmonitoring program.
- Rear Antenna "A" Input Connector: The A antenna can be installed directly to this antenna connector which also provides power to an optional antenna booster.
- ♠ AC Power Socket: The input socket for AC power ranging from 100VAC ~ 240VAC.
- Rack-Mount Brackets: To install the receiver into a standard EIA 19-inch rack case.
- C LIFT/GND switch: Lifts ground from Pin 1 of the XLR connector. (GND = default).

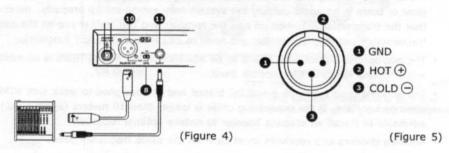
RECEIVER INSTALLATION



- Antenna Installation: Install 2 separate antennas on the antenna sockets 6, 6
 on the rear panel. Illustrated in Figure 3.
- AC Power Operation: Connect the AC power cable to the AC Input Jack (3), then
 plug the other end into an AC outlet having the correct voltage and rating, as shown
 in Figure 3.
- 3. Audio Output Connection:
 - Level Switch Setting Position: When connecting from the receiver's unbalanced ¼" output (ACT-717/ACT-717a only) to the "AUX-IN" jack of a mixer or an electric guitar amplifier, switch the Level Switch to the "+16dB" position. Low sensitivity may occur if switched to the wrong level position; therefore, don't use the "0dB" or "-6dB" positions as they may not deliver a sufficiently high level of input. When connecting from a receiver's balanced output to the "MIC-IN" jack of a mixer, switch the Level Switch to the "0dB" position. Overload distortion may occur if switched to the wrong level position. There are many different amplifiers for Karaoke machines in today's market; however, the gain of many of these amplifier's "MIC IN" is not consistent. Therefore, if distortion is encountered, please switch the Level Switch to the "-6dB" position.

Mixed Output: Balanced output socket (XLR) must connect to the balanced input socket of the mixer. This output socket generates the mixed output of Ch.1~Ch.4 and the output sensitivity can be adjusted to "+16dB" or "0dB" or "-6dB" by the level switch on the right side of the socket. (ACT-727/ACT-727a & ACT-747/ACT-747a)

- Unbalanced Output: Using an audio output cable with ¼" "PHONE PLUG" type connectors, connect one end from the unbalanced output jack
 of the receiver, and the other end to the "LINE-IN" input jack of the mixer or guitar amplifier, as shown in Figure 4. (ACT-717/ACT-717a only)
- Balanced Output: Using audio output cables with "XLR" or "Cannon" type connectors, connect one end to the balanced output jacks of the receiver, and the other end to the "MIC IN" input jack of the mixer or amplifier, as shown in Figure 3. (The configuration of the 3-pin connector is as shown in Figure 5.)



Electric Guitar Output: Using audio output cable with ¼" "phone plug" type connectors, plug one end into the unbalanced output jack of a receiver (ACT-717/ACT-717a only), and the other end into the input jack of a guitar amplifier. Switch the Level Switch to "+16dB" position (the switch will show "+16dB" on the receiver, but actually puts out "+10dB" on the unbalanced jack).

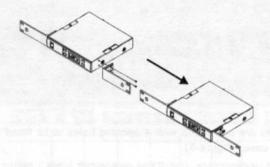
RECEIVER OPERATING TIPS

- Prior to powering on the receiver, ensure all transmitters are turned off and the mixer's volume control is set to a minimized setting. Red LED power indicator is lit when powered on.
- Normally, the RF meter level glows when a transmitter is powered on to indicate the receiver is ready for operation. Once an audio signal is received from the transmitter, the AF meter level glows based on signal strength. If the meter or indicator does not glow or there is no audio output, the system may not be set up properly. Re-check that the transmitter is turned on and the receiver and transmitter are on the same frequency (if not, the transmitter will need to be reset via the ACT function).
- The microphone output level needs to be adjusted at the mixer. There is no need to adjust output levels at the receiver itself.
- The antenna inputs provide 8-volt DC biased and are designed to work with MIPRO antenna boosters. If the connecting cable is longer than 10 meters (approx. 30'), it is advisable to install an antenna booster to ensure optimal reception.
- Antenna dividers and receivers must be from the same frequency band.

RACKMOUNT INSTALLATION FOR RECEIVERS

Single half-rack receiver

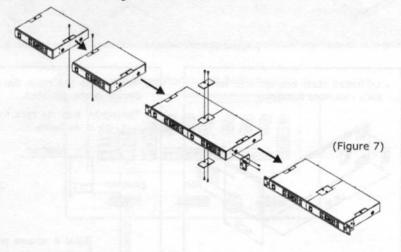
Install provided rack mount kit and fasten with screws on both sides. (Figure 6)



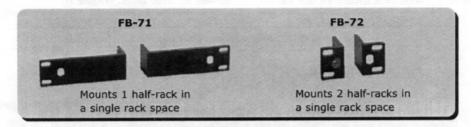
(Figure 6)

Dual half-rack receivers

- Unfasten the top and bottom screws for each receiver. Push the receivers next to each other.
- Place holding plates on top and bottom of the two receivers first, and following the
 directions, slide both plates into position over the screw holes. Then tighten screws
 (screws should be used in their original location; i.e., top screws for top holding plate
 and bottom screws for bottom holding plate).
- After both receivers are fixed together, fasten the rack mount kit on both sides of the joined receivers as shown in Figure 7.

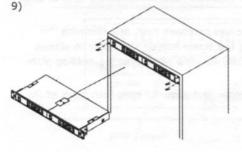


Receiver Rack-Mount Kits:

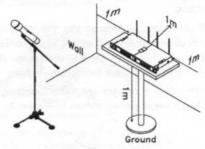


The rack mountable kits are pre-drilled with 4 opening holes to be fitted on an EIA standard 19-inch rack case. (Figure 8)

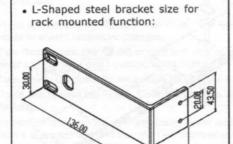
For ideal reception and performance, install the receiver at least 1 meter (3 feet) above the ground and away from EMI / RFI "noise" sources. In addition, place the transmitter microphone at least 1 meter (3 feet) away from the receiving antenna, as shown. (Figure $\frac{1}{2}$)



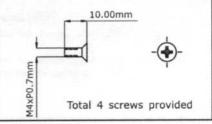
(Figure 8)



(Figure 9)

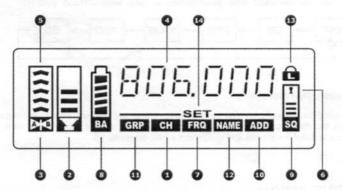


- Please note the main disconnected device is the AC Inlet
- The screw size for rack mounted function is as below:



RECEIVER VFD INTERFACE

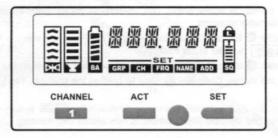
Displays all Parameters



- 1 Channel (can be programmed)
- 3 Diversity A/B Antenna
- 6 RF Signal Meter
- 6 Interference Indicator (lit denotes presence of interference)
- 7 Frequency (can be programmed)
- Squelch Meter (levels can be programmed)
- 1 Group (can be programmed)
- 1 Lock Icon (can be turned on or off)

- 2 Audio Signal Meter
- Working Frequency
- Battery Meter
- PC Address (can be programmed)
- 1 Name (can be programmed)
- Setting Cursor

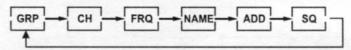
Display Panel and Buttons



Receiver Parameters:

Rotary Control Knob: To set parameter values

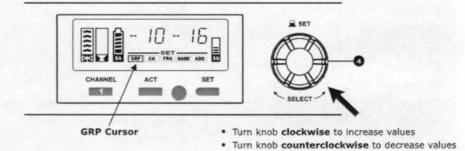
6 parameters can be selected and programmed. See instructions below:



Programmable Parameters:

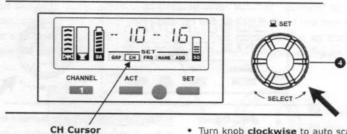
NOTE: To confirm a parameter change and save it into the system, you must press the structure button to end the flashing of the structure. If this step is missing, the new parameter is not saved and will not be stored in the system when powered off.

GRP GROUP setting



- Press and release the set button once. The cursor starts flashing to denote it is ready to accept parameter changes.
- Turn Rotary Controller left or right and stop at GRP . Press and release the Rotary Controller once and current GRP number starts flashing.
- 3. Turn Rotary Controller 4 left or right to increase or decrease GRP numbers.
- Press and release the Rotary Controller once to confirm the change. The GRP number stops flashing.
- To confirm and save the new parameter, press and release the str button once. The ——str——cursor stops flashing and the new GRP number is now stored into memory.

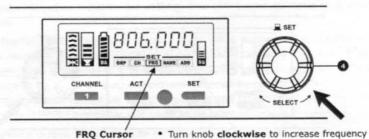
CH CHANNEL setting



- Turn knob clockwise to auto scan from beginning to the end of frequency band
- Turn knob counterclockwise to auto scan from end to the beginning of frequency band

- Press and release the set button once. The set cursor starts flashing to denote it is ready to accept parameter changes.
- Turn Rotary Controller left or right and stop at CH . Press and release the Rotary Controller once and current CH number starts flashing.
- Turn Rotary Controller left or right to increase or decrease H numbers. If there
 is interference on your chosen CH, it will automatically jump to the next interferencefree CH.
- Press and release the Rotary Controller once to confirm the change. The CH number stops flashing.
- To confirm and save the new parameter, press and release the set button once.
 The set cursor stops flashing and the new CH number is now stored into memory.

FRQ FREQUENCY setting



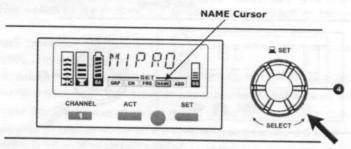
- · Turn knob counterclockwise to decrease frequency

Instructions:

- 1. Press and release the SET button once. The ----- cursor starts flashing to denote it is ready to accept parameter changes.
- 2. Turn Rotary Controller 4 left or right and stop at FRQ . Press and release the Rotary Controller once and the current FRQ number starts flashing.
- 3. Turn Rotary Controller 4 left or right to increase or decrease FRQ numbers in increments of 1mHz (first 3 digits of the frequency #).
- 4. Press and release the Rotary Controller 3 again to confirm the first 3 digits, then turn left or right to adjust the last 3 digits of the FRQ number in increments of 25 kHz.
- 5. Press and release the Rotary Controller once more to confirm the change. The FRQ number stops flashing.
- To confirm and save the new parameter, press and release the stress button once. The ----set ---- cursor stops flashing and the new FRQ number is now stored into memory. If the new frequency is not one of the preset channels for that Group, the display will show asterisks in place of the Group and Channel designations.

NOTE: If a new frequency is selected that is not among the preset channels for the chosen Group, it MAY not be compatible with the other channels within that Group and may potentially cause interference. If this occurs, the frequency will need to be changed to avoid problems. The preset channels within each Group are specifically selected to work together when using multiple systems simultaneously.

NAME NAME setting

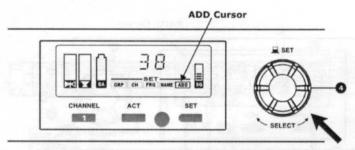


- Turn knob clockwise to increase letters, values, and symbols
- Turn knob counterclockwise to decrease letters, values, and symbols

- Press and release the set button once. The ——set —— cursor starts flashing to denote it is ready to accept parameter changes.
- Turn Rotary Controller left or right and stop at NAME . Press and release the Rotary Controller once and the current NAME alphanumeric characters start flashing.
- Turn Rotary Controller left or right for alphanumeric characters like numbers, letters and signs.
- 4. A total of 6 alphanumeric characters can be changed.
- Turn and press the Rotary Controller once to confirm each character change. Once all 6 characters are changed, the character stops flashing.
- 6. To confirm and save the new parameter, press and release the button once.

 The cursor stops flashing and the new NAME is now stored into memory.

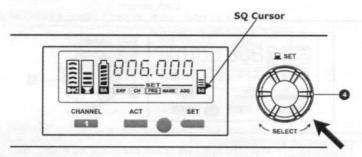
ADD ADDRESS setting



- · Turn knob clockwise to increase values
- · Turn knob counterclockwise to decrease values

- Press and release the state button once. The ——state cursor starts flashing to denote it is ready to accept parameter changes.
- Up to 64 receiver channels can be remotely monitored and controlled by MIPRO proprietary software and hardware via its ACT-BUS computer interface.
- 3. Address numbers need to be pre-programmed in advance from "01 ~ 64" before interfacing for network monitoring and control. However, to ensure networking is working properly, all address numbers need to be different from each other to avoid address conflicts. (Note: The same address number can be repeated for different receiver channels IF a computer is not being used to control / monitor the systems.)
- Turn Rotary Controller left or right and stop at ADD. Press and release the Rotary Controller once and the current ADD number starts flashing.
- 5. Turn Rotary Controller 1 left or right to increase or decrease ADD numbers.
- Press and release the Rotary Controller once to confirm the change. The ADD number stops flashing.
- To confirm and save the new parameter, press and release the set button once.
 The set cursor stops flashing and the new address is now stored into memory.

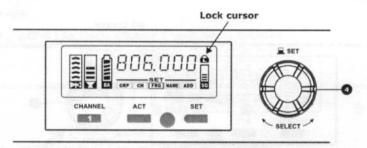
SQ SQUELCH setting



- . Turn knob clockwise to increase one segment at a time
- · Turn knob counterclockwise to decrease one segment at a time

- Press and release the still button once. The str—— cursor starts flashing to denote it is ready to accept parameter changes.
- Turn Rotary Controller left or right and stop at SQ. Press and release the Rotary Controller once and current SQ setting starts flashing.
- Turn Rotary Controller left to decrease sensitivity level by 1 indicator or turn right to increase sensitivity level by 1 indicator.
- 4. The higher the level indicators, the lower the sensitivity which shortens the transmission ranges. The lower the level indicators, the higher the sensitivity which increases the transmission ranges.
- Press and release the Rotary Controller once to confirm the change. The SQ number stops flashing.
- To confirm and save the new parameter, press and release the still button once.
 The still cursor stops flashing and the new SQ level is now stored into memory.

Receiver Lock & Unlock



Press and hold knob to lock and unlock the display panel

Instructions:

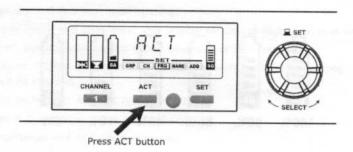
ACT-717 / ACT-717a Receiver

- Receiver Lock: Press and hold the Rotary Controller until the " ⋒ " icon appears.
 Release the Rotary Controller immediately when the " ⋒ " icon appears. When locked, the receiver parameters can no longer be changed. However, you can still navigate the Rotary Control Knob to view existing settings and parameters.

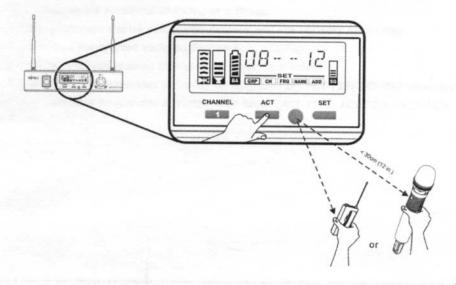
ACT-727 / ACT-727a & ACT-747 / ACT-747a Receivers

- To Lock or Unlock All Receiver Channels: Same instructions as ACT-717/ACT-717a receiver. (See "1" above)
- 2. **To Lock 1 Receiver Channel only:** For example, locking Channel 1. Press & hold Rotary Controller until all " " icons start flashing. Press & hold the set button on Channel 1 when the " " icon appears, then release the "Rotary Controller" and set button of Channel 1 simultaneously when the rest of the " " icons in the other channels disappear. Press & release the set button again while the set cursor is flashing to confirm and save.
- 3. To Unlock 1 Receiver Channel only:
 For example, unlocking Channel 1. Press & hold Rotary Controller Quntil all " \(\text{A"}\) icons start flashing. Press & hold the \(\text{SET}\) button on Channel 1 until the " \(\text{A"}\) icon disappears, then release the "Rotary Controller" and \(\text{SET}\) button of Channel 1 simultaneously when the rest of the "\(\text{A''}\) icons in the other channels appear. Press & release the \(\text{SET}\) button again while the \(\text{—set}\)— cursor is flashing to confirm and save.
- 4. To Lock or Unlock 2~3 Channels (ACT-747 / ACT-747a): Follow the same procedure as above, using the set button on each channel to set the lock status as desired. (Note: This is easier if you keep an eye on the unset channels' icons as they flash on and off.)

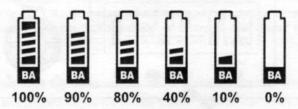
Setting ACT transmitter frequency



- Press the Act button once to activate the syncing function. The word "R[I" appears immediately on the receiver screen.
- Bring handheld or bodypack transmitter within 30cm (12") of the IR port on the receiver. The IR port is located between the acr and ser buttons. The frequency will sync automatically.
- When the sync is done successfully, the word "ACT" will disappear from the receiver screen and the transmitter LCD will show the group & channel.
- 4. The word "A--LOSE " will appear on the receiver screen after 10 seconds if the syncing was unsuccessful. To start the " ACT " syncing again, press the ACT button again.



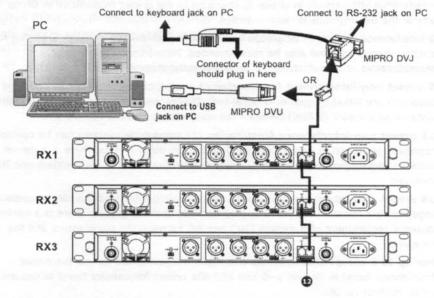
BA:Transmitter Battery Meter



The battery meter is lit when the transmitter is powered on. The LCD battery meter gives a % indication of remaining battery life, as shown above. Replace with new, fresh batteries when battery indicators fall to 10% (1 level remaining).

COMPUTER NETWORK INTERFACE OPERATION

- 1. MIPRO ACT receivers have an advanced computer network-interfaced controlling system.
- 2. Wiring Instructions
 - The network interface of ACT-717/727/747. ACT-717a/727a/747a receivers is the
 "REMOTE" connector
 that can be linked to a computer by a MIPRO-DVU or
 MIPRO-DVJ hardware device. By using a RS-232 or USB connector, you can link to a
 computer through the RS-232 COM PORT or USB PORT. (See diagram below)



- Plug one side of the provided cable (w/ RJ-11 connectors) to the REMOTE OUT socket ① on the rear of the receiver and the other end of the phone cable to the REMOTE IN socket ② on the rear of the second receiver. Repeat this connection for each receiver in the system as per the illustration. Finally, connect the REMOTE IN socket ② on the rear of the first receiver to the MIPRO-DVU or MIPRO-DVJ.
- This system can link, monitor and control up to 64 receiver channels simultaneously.
- The connecting cable to the computer can be up to 300 meters (330 yards) in length; however, signal stability decreases the longer the cable distance. Therefore, the cable length is recommended not to exceed 100m (110 yards) to maintain the highest quality as well as a high speed of transmission.

HOW TO SET-UP INTERFERENCE-FREE COMPATIBLE SYSTEMS FOR ACT-717/727/747 RECEIVERS

- To set up multi-channel operation, the user must select preset frequencies within the same group. A combination of preset frequencies under different groups can result in possible interference.
- 2. When preset frequencies (Channels 1,2,3, etc.) within the same group experience interference and cannot work together, it is highly recommended to change to another set of preset frequencies in a different group. For example, if interference occurs on Channel # 3 in the preset frequencies 1, 2, 3, 4 in Group 1, 6A, we suggest selecting Channel # 5 or other non-interfering frequency within Group 1. If interference still persists in Group 1, changing to the preset frequencies in Group 2 or any of the other groups is recommended.
 - If interference persists in all groups within the chosen frequency band, changing to another frequency band may be recommended. Please contact your local representative or manufacturer for technical assistance.
- 8 preset non-interference frequencies (8 compatible systems can be operated together) are found in each of Groups 1~6. It is recommended to have a minimum distance of 1 meter (3 feet) between the transmitters and the receivers.
- 4. 12 preset non-interference frequencies (12 compatible systems can be operated together) are found in each of Groups 7 and 8. In these groups, there is a minimum distance requirement of 2 meters (6 feet) needed between the transmitters and the receivers.
- 16 preset non-interference frequencies (16 compatible systems can be operated together) are found in each of Groups 9 and 10. In these groups, there is a minimum distance requirement of 3 meters (10') needed between the transmitters and the receivers.
- For up to 8 compatible systems it is highly recommended to use the preset frequencies found in Groups 1~6 and NOT the preset frequencies found in Groups 7~10 for best results.
- The 3 preset frequencies found in Group 11 are for testing purposes. Do not use them!

NOTE:

The preset non-interfering frequencies are designed specifically to perform optimally for MIPRO ACT-717, ACT-727 and ACT-747 receivers only. DO NOT mix and use with wireless microphone systems from other brands!

HOW TO SETUP MULTIPLE COMPATIBLE SYSTEMS ACT-717a/727a/747a RECEIVERS

1. For up to 16 compatible channels:

Use all 16 factory preset channels found in groups 1, 2, 3, 4, 5, 6, 7, 8, 9 or 10. No minimum safe distance is needed between the transmitters and the receivers for operation.

For up to 32 compatible channels:

Use all 32 factory preset channels found in groups 11, 12, 13, 14, 15.

3-meter minimum safe distance is needed between the transmitters and the receivers for operation.

Change to preset channels from a different group if interference occurs with any of the preset channels being tested.

GENERAL TIPS FOR IMPROVING SYSTEM PERFORMANCE

- Since the installation of the antenna influences the operating efficiency of the receiver, the most important rule is to minimize the distance as much as possible between the receiving antenna and the microphone for the best reception and performance.
- 2. Use MIPRO supplied antennas to ensure proper receiver sensitivity.
- A built-in worldwide approved switching power supply assures stable performance in the range of 100~240V AC power input.
- Please note the main disconnected device is the AC Inlet. (ACT-717/727/747 & ACT-717a/727a/747a)
- 5. The antenna socket provides an 8V DC biased output. Therefore, shorting on the antenna socket should be avoided. Temporary shorting on the antenna socket will not affect system performance; however, continuous shorting on the antenna socket will cause permanent system damage.
- If extended reception distance is needed, installing a MIPRO directional antenna kit (AT-90W) will increase the reception distance.
- 7. Proper antenna distribution is vital to achieving ideal performance from multiple wireless systems operating in the same environment. To greatly reduce antenna clutter in multi-system installations, a MIPRO AD-707/AD-707a UHF antenna divider system is recommended. Each AD-707/AD-707a supports up to four UHF diversity receivers to operate from a single pair of antennas. When combined with an AT-70A omnidirectional extension antenna and an AT-70B antenna booster or an AT-90W directional antenna, the AD-707/AD-707a antenna divider provides optimal signal reception with minimal dropouts or interference.
- Preset non-interfering channels within the same channel group are recommended to
 ensure optimum performance from multiple wireless systems installed in the same
 venue. Use of preset non-interfering channels from <u>different</u> channel groups
 may cause interference, thus is not recommended.