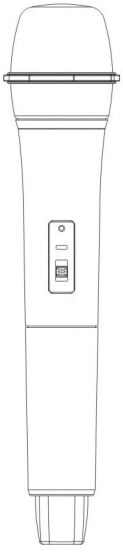
Ansr Audio

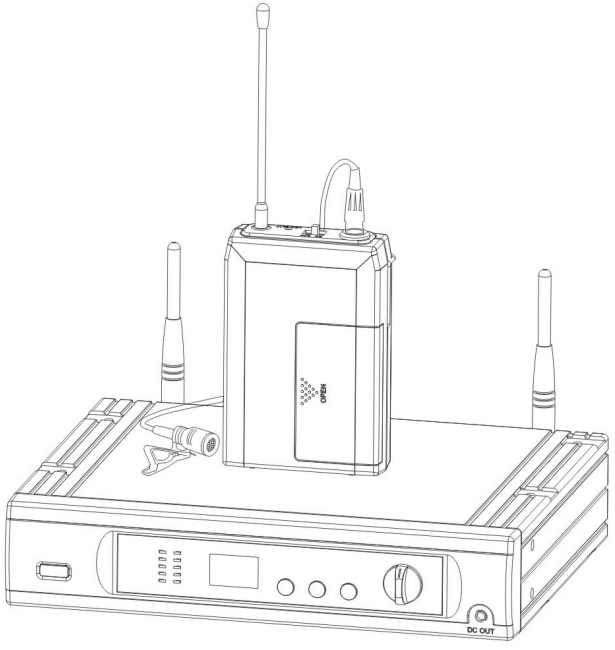
UHF AUTO CHANNEL SELECTION

USER'S MANUAL

Scan16

Professional Wireless





Simple. Solid. Dependable.

Ansr Audio Scan16 Professional Wireless

Table of Contents **PDF Page**

FCC STATEMENT

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

Notice : The changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

IMPORTANT NOTE: 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.

1. Introduction

Thank you for purchasing the Scan16 Professional Wireless Microphone System. This PLL synthesized wireless microphone system operates in an FCC approved UHF band frequency with 16 selectable channels. Please read this instruction manual carefully before operating the system. This manual covers the function and operation of the wireless microphone system.

2. Safety

- Do not spill liquid on the appliance and do not drop it on a hard concrete floor.
- Do not place the appliance near heat sources such as radiators, amplifier, or etc.
- Do not expose it to direct sunlight, extremely dust, excessive moisture, or vibration.
- Take out the battery from transmitter, if the transmitter will not be used for a long period of time. This will avoid the damage resulting from a defective leaking battery.

3. Environment

- Do not throw used batteries into a fire or garbage bin with domestic rubbish. Be sure to dispose of used batteries in accordance with local waste disposal rules.
- When disposing the equipment, remove the batteries, separate the case, circuit boards, and cables, and dispose of all components in accordance with local waste disposal rules. But really, we know you will not throw this away, we just are required to include a statement on the environment.

4. Wireless Notes

- Before setting up, make sure that the transmitter and receiver are tuned to the same frequency.
- Do not use two transmitters tuned to the same frequency.
- Use good quality batteries to avoid the damage resulting from a defective leaking battery.
- Turn the MIC/LINE switch on the rear of receiver to adjust receiver output level to match input level requirements of an audio mixer or amplifier.
- While checking sound, move the transmitter around the area where you use the system to look for dead spots. If you find any dead spots, change the receiver position. If it does not work, avoid such places.
- To avoid interference, do not put the receiver too near metal object and avoid obstructions between transmitter and receiver.
- Avoid the interference from TV, radio, other wireless appliances and etc.

5. Quick Start Guide

1. Insert fully charged batteries into the transmitter. Your Ansr Audio transmitter will operate on either rechargeable or alkaline batteries.
2. Make audio output and power connections as described in Section 7.
3. If connecting to a mixer MIC input, set the AW-25 volume to the one o'clock position. If connecting to a mixer LINE input, set the AW-25 volume to MAX position. Be sure to keep the mixer output turned down until ready to test.
4. Turn on AW-25 receiver by pressing the POWER button for 4 seconds
5. Select operating channel:

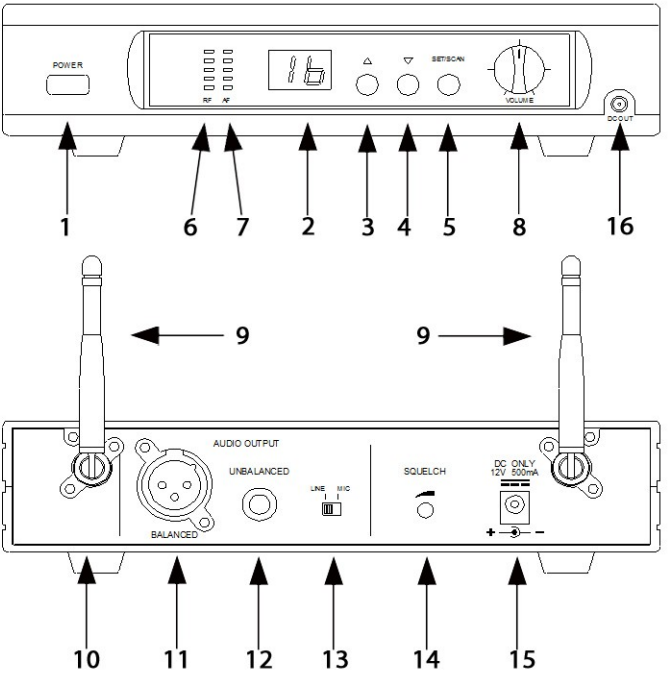
- Auto scan selection: Press SET/SCAN for 3 seconds to search for the next interference-free channel. Channel display will stop flashing when channel is locked in.
- Manual selection: Press SET/SCAN for 1 second, channel display will flash. Press the up/down arrows to select channel. Press SET/SCAN quickly to lock channel in.

6. Turn on your AW-1 handheld or AW-6 bodypack transmitter and select the matching channel. See Section 6 for details.
7. After selecting the transmitter and receiver to the same frequency, the RF meter on the AW-25 front panel will display signal strength. For this, more is better.
8. Slowly raise your mixer volume to test.
9. If setting up additional systems, leave the first transmitter on when using Auto Scan selection – this way, the second receive r will 'see' the first transmitter and avoid that channel. Follow similarly if setting up additional systems.

6. Product Description

6.1 Receiver

The AW-25 receiver is designed for use only with Ansr Audio 16-channel selectable channels transmitters. The receiver operates in UHF 682-697 MHz frequency band with PLL synthesized control. Powered by 12V DC.



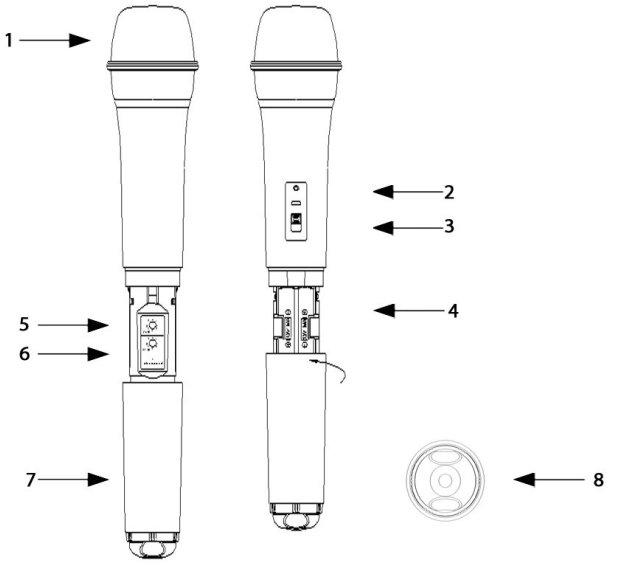
1. **Power:** Press for 4 seconds to power the receiver on or off.
2. **Channel Display:** LED channel displays the channel number.
3. **Button △:** When the LED display starts flashing, press this button to change the channel forward.
4. **Button ▽:** When the LED display starts flashing, press this button to change the channel in backward
5. **Set / Scan Button:**

- Auto Scan: Press 3 seconds to search the next clean channel automatically.
- Set Channel: Press 1 second to let LED channel display flashing, then press the channel button ▵ or ▿ to change the channel. Wait LED channel display flashing five times to lock the channel or press SET button for 1 second to lock the channel.

6. **RF Level Indicators:** 5-segment meter glows to indicate RF signal strength. The more segment glow, the stronger the received signal. If none of these segments glow, no signal is being received.
7. **AF Level Indicators:** 5-segment meter glows to indicate audio signal strength. The more segment glow, the stronger the received signal. If none of these segments glow, no signal is being input.
8. **Level Control:** Use this rotary control to adjust the receiver output level to match the input sensitivity of an audio mixer or an amplifier.
9. **Antenna:** Fixed-length UHF antenna permanently mounted.
10. **Antenna Position Adjust:** For best results, position antennas pointing upward and away from each other, approximately 45 degrees from horizontal
11. **Balanced Output:** 3-pin XLR connector provides balanced low-impedance output
12. **Unbalanced Output:** Unbalanced 6.3mm mono jack audio output for connecting to, e.g., a guitar amplifier.
13. **Mic/Line Switch:** Select output of XLR balanced connector or 6.3φ unbalanced phone jack. It can be set for microphone (-20dB) or line-level (0dB).
14. **Squelch Adj. :** The squelch adjusts the output level to prevent from the external noise. Setting the squelch too high will reduce the range of the system. Set the squelch to minimum before turning the receiver on.
15. **AC IN:** AC input connector for the supplied AC adapter.
16. **DC OUT:** Connect the supplied cable to the receiver and the transmitter, it takes around 10 hours to charge the re-chargeable batteries inside the transmitter.

6.2 AW-1 Handheld Microphone

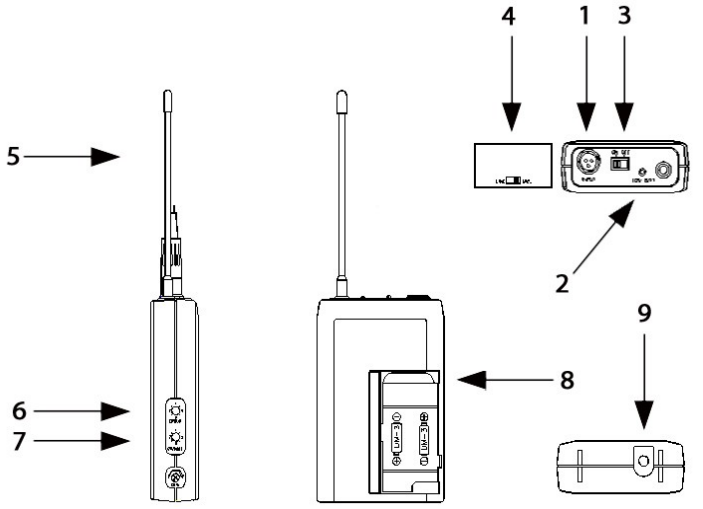
The handheld microphone operates in UHF band frequency with PLL synthesized control. UHF 16 pre-programmed selectable frequencies to avoid interference. Uni-directional dynamic element provides excellent sound and durability. Use 2 x DC1.5V AA size dry or rechargeable batteries for low operating cost.



1. **Grille:** Protects the microphone capsule and helps reduce breath sounds and wind noise. The grille for the various microphone capsules differ in appearance.
2. **Low Battery LED:** LED indicates battery life status. Switching the power to "ON", the LED flashing once indicates that the transmitter has sufficient power. If the LED stays on, it indicates that the battery has insufficient power and should be changed soon. If the status LED fails to flash, the battery is either dead or not positioned correctly, and you should correct the positioning or change the battery.
3. **On/off Switch:** Turns transmitter power on and off.
4. **Battery Compartment:** Insert two AA dry (alkaline) or rechargeable batteries into the compartment and make sure that the polarity of batteries is correct.
5. **Group Selector:** Changes transmitter Group setting.
6. **Channel Selector:** Changes transmitter Channel setting.
7. **Battery Cover:** Unscrew to expose battery compartment and Channel selector.
8. **Charging Input:** The inserted rechargeable batteries are charged by using the supplied DC-plug cable connection to DC out on the receiver. It takes up to 10 hours for full charging.

5.3 AW-6 Bodypack Transmitter

The bodypack transmitter operates in UHF band frequency with PLL synthesized control. UHF 16 preprogrammed selectable frequencies to avoid interference. Use 1.5V x 2 AA size dry or rechargeable batteries for low operating cost.



1. **Mini XLR connector:** Note that any Ansr Audio wireless microphone can be used with the AW-6 transmitter. Never attempt to use a non-Ansr Audio microphone with the AW-6.
2. **Low Battery LED:** LED indicates battery life status. Switching the power to "ON", the LED flashing once indicates that the transmitter has sufficient power. If the LED stays on, it indicates that the battery has insufficient power and should be changed soon. If the status LED fails to flash, the battery is either dead or not positioned correctly, and you should correct the positioning or change the battery.
3. **On/Off Switch:** Turns transmitter power on and off.
4. **Mic/Line Selector (optional for use with mini XLR connector) :** The switch sets the audio input either to microphone level or line level.
5. **Antenna:** Permanently connected, helical antenna.
6. **Channel Selector:** Changes transmitter Channel setting.
7. **Gain:** The rotary control adjusts the sensitivity of the transmitter's audio to the level of the connected lapel microphone or instrument.
8. **Battery Compartment:** Insert two AA size dry (alkaline) or rechargeable batteries into the compartment and make sure that the polarity of batteries is correct.
9. **Charging Input:** The inserted rechargeable batteries are charged by using the supplied DC-plug cable connection to DC out on the receiver. It takes up to 10 hours for full charging and the LED of transmitter is flashing all the time.

7. Setting Up

NOTICE: Prior to setting up, please check that the transmitter and receiver are tuned to the same frequency. Two or more transmitters operating in the same frequency can not be used at the same time and area. So for each extra transmitter, please select a different frequency which can be used simultaneously at local area.

7.1 Connecting the receiver to power

- Plug the antennas into the TNC socket on the receiver, if the antennas are detachable and point them upward.
- Check that the voltage of the supplied AC adapter conforms to the voltage available (AC110 or 220) in local area. Using the wrong AC adapter may cause irreparable damage to the unit.
- Plug the feeder cable of the supplied AC adapter into DC IN socket on the receiver. Then plug the AC adapter into a power outlet.

7.2 Connecting the receiver to an audio mixer or an amplifier

In order to make sure the sound quality and avoid distortion, please adjust the volume level according to following instructions.

- When using a standard audio cable with 3-pin XLR connectors or 6.3φ phone plugs to plug into the MIC IN on the audio mixer or on the amplifier, please turn the Volume Level Control of the receiver to around 1 o'clock position, the output level for balanced and unbalanced output is about at 77mV.
- When using a standard audio cable with 3-pin XLR connectors or 6.3φ phone plugs to plug into the LINE IN on the audio mixer or on the amplifier, please turn the Volume Level Control of the receiver to around MAX. position, the output level for balanced and unbalanced output is about at 770mV.
- When select the MIC/LINE switch to "MIC", please use a standard 6.3φ plug cable to connect the UNBALANCED connector on the receiver rear panel to an unbalanced MIC. input on the audio mixer or on the amplifier,
- When select the MIC/LINE switch to "MIC", please use a standard 3-pin XLR cable to connect the BALANCED connector on the receiver rear panel to an balanced MIC. input on the mixer or on the amplifier.
- When select the MIC/LINE switch to "LINE", please use a standard 6.3φ plug cable to connect the UNBALANCED connector on the receiver rear panel to an unbalanced line input on the audio mixer or on the amplifier.
- When select the MIC/LINE switch to "LINE", please use a standard 3-pin XLR cable to connect the BALANCED connector on the receiver rear panel to an balanced line input on the mixer or on the amplifier.
- Never use the balanced and unbalanced audio outputs at the same time! This may cause signal loss or increased noise.

7.3 Setting up channel on receiver

Notice: Do not put two or more transmitters operating nearby when setting up the frequency channel. Please keep transmitter at least one meter away from receiver.

7.3.1 Manual Mode

Setting interference-free channel by manual operation.

- Press button “Set/Scan” for 1 second to let LED channel display flashing.
- Press button ▵ or ▿ for 2 seconds to change the channel forward or backward.
- Stop pressing button and let LED display flashing five times to lock the setting.

7.3.2 Auto-Scan Mode

Setting interference-free channel by auto-scan programmed search.

- Press button “Set/Scan” for 3 seconds to search the next free-interference channel automatically. The auto-scan system would stop at the next free-interference channel.
- Stop pressing button and let LED display flashing five times to lock the setting.
- If user need to set up a multi-receiver system, please keep your previous receiver-microphone pair power on. Then go on to next scanning procedure.

7.4 Inserting batteries into the handheld / bodypack transmitter

- Push to open the battery cover and insert batteries into the battery compartment conforming to the polarity (+)(-) marks. The transmitter can not work with incorrectly inserted batteries.
- When push the ON/OFF switch to “ON” to switch the power on, the LED will flash momentarily.

  If the battery has sufficient power, the LED flashes once. If the LED stays on, it indicates that the battery has insufficient power and should be changed soon. If the status LED fails to flash, the battery is either dead or not positioned correctly, and you should correct the positioning or change the battery.
- Push back the battery cover to click it shut.

7.5 Setting up the handheld transmitter

- Use the AC adaptor to connect the DC input connector for on the receiver and check the frequency.
- Switch the transmitter and hi-fi appliance (amplifier, tape deck etc.) power on.
- Adjust the channel setting of the transmitter according to receiver’s channel setting.
- Test the microphone and adjust the levels on your audio mixer or amplifier.

7.6 Setting up the bodypack transmitter

A. Connecting a microphone

- Open the battery cover. Push the MIC/LINE switch to “MIC” and use the supplied screw-driver to adjust the GAIN at appropriate position.
- Plug the mini XLR connector of the microphone cable into the audio input connector on the bodypack transmitter.
- Switch the transmitter and hi-fi appliance (amplifier, tape deck etc.) power on.
- Adjust the channel setting of the transmitter according to receiver’s channel setting.
- Test the microphone and adjust the levels on your audio mixer or amplifier.

B. Connecting an instrument

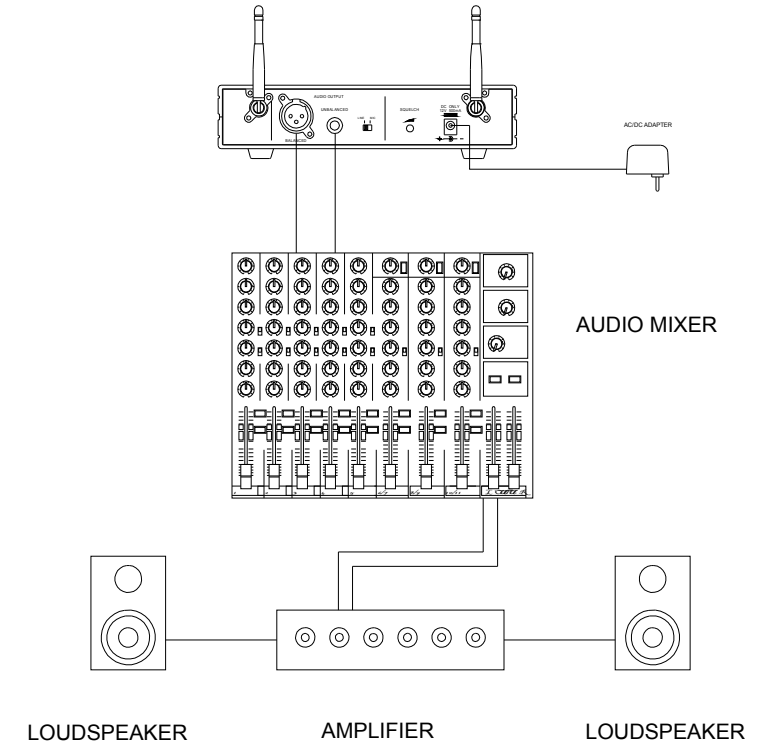
- Open the battery cover. Push the MIC/LINE switch to “LINE” and use the supplied screwdriver to adjust the GAIN at appropriate position.
- Plug the 6.3φ phone plug of the optional guitar cable to the output jack on the instrument and the mini XLR into audio input connector on the bodypack transmitter.
- Switch the transmitter and hi-fi appliance (amplifier, tape deck etc.) power on.
- Adjust the channel setting of the transmitter according to receiver’s channel setting.
- Play the instrument for testing and adjust the levels on your audio mixer or amplifier.

8. Troubleshooting

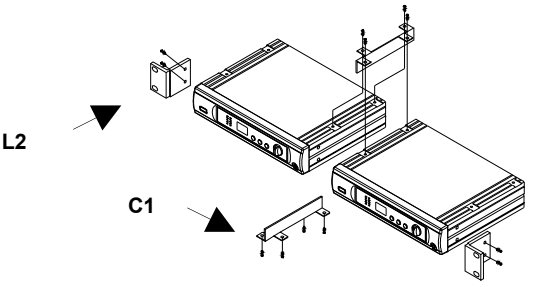
Problem	Solution
No sound	➢ Check the power supply of the microphone and receiver. ➢ Check that the transmitter and receiver are tuned to the same frequency. ➢ Check whether the hi-fi appliance is switched on and the receiver output is connected to audio mixer or amplifier input. ➢ Check whether transmitter is too far away from receiver or SQUELCH control set too high. ➢ Check whether receiver is located too near metal object or there are obstructions between transmitter and receiver.
Sound interference	➢ Check the antenna location. ➢ When using 2 or above microphone sets simultaneously, make sure that the chosen frequencies are not interfered. ➢ Check whether the interference comes from other wireless microphones, TV, radio and etc.
Distortion	➢ Check the receiver volume level is set too high or too low. ➢ Check whether the interference comes from other wireless microphones, TV, radio and etc.

9. Basic Connections

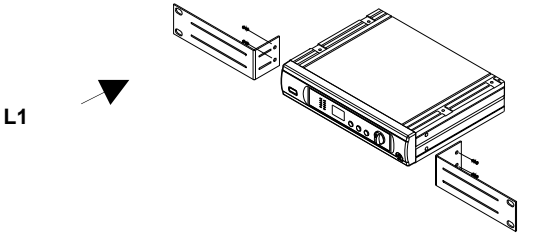
Connect the receiver output to the audio mixer or amplifier input, using a standard audio cable with 6.3φ phone plugs. Never use the balanced and unbalanced audio outputs at the same time! This may cause signal loss or increased noise.



To combine two receivers in a 19” standard rack by using 2 short L type plastics racks (L2) and 2 metal connecting plates (C1). (Each system includes a L2 and a C1.)



To mount a receiver in a 19” standard rack by using 2 L type long metal racks (L1).
(L1 is an optional product, so please see your dealer.)

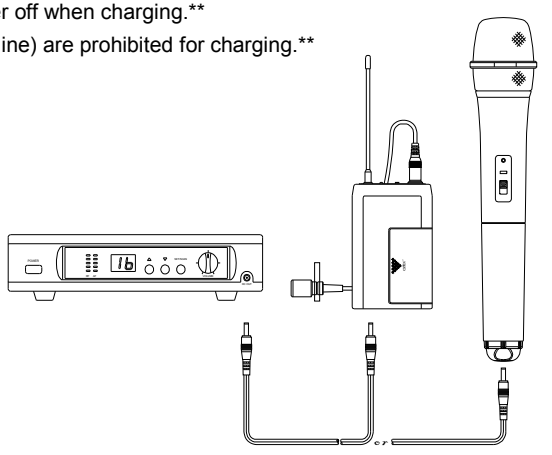


Charging Connecting Diagram

Connect the supplied DC1.5 cable to the receiver and the transmitter, and it takes around 10 hours to charge. The LED of transmitter is flashing all the time until charging completed.

** Turn transmitter power off when charging.**

** AA dry batteries (alkaline) are prohibited for charging.**



10. System Features

- Operating in an FCC-safe UHF frequency band – 16 operating frequencies over 3 television channels (49, 50, 51).
- Automatically scans upward to the next open frequency at the touch of a button.
- Switching antenna diversity to ensure the reception quality and avoid dropouts.
- Super high sensitivity, extremely low noise transmission and reception.
- Built- in recharging system eliminates battery cost.

11. System Specification

Receiver

- Carrier Frequency Range : UHF band, 682.375 – 697.125 MHz
- Frequency Stability : ±0.005%
- Receiving Sensitivity : At 8 dBμV over 80dB S/N ratio
- Image and Spurious Rejection : 80 dB minimum
- Selectivity : ＞50dB
- Modulation Mode : FM
- IF Frequency : 1st: 56MHz; 2nd: 10.7MHz
- Tone Signal : 32.768KHz
- S/N ratio : ＞94dB, at 48KHz deviation and 60dBμV antenna input
- AF Response : 80Hz to 12KHz (±3dB)
- T.H.D. : Less than1.0% (at 1KHz)
- Power Supply : DC 12V ~ 18V
- Audio Output : Balanced and unbalanced outputs (Mic.=-20dB / Line = 0dB)
- Battery Charging Output: : via included cable
- Current consumption : 150mA (Max.) A

Handheld/Bodypack Transmitter

- Carrier Frequency Range : UHF band, 682.375 – 697.125 MHz
- RF Power Output : 10mW (max.)
- Oscillation Mode : PLL synthesized, 16Channel selectable
- Frequency Stability : ±0.005%
- Maximum Deviation : ±48KHz with limiting compressor
- Spurious Emission : ＞60dB below carrier frequency
- T.H.D. : ＜1% (at 1KHz)
- Tone Signal : 32.768KHz
- Battery : DC3V (2 x 1.5V AA size batteries) or DC 2.4V (2 x 1.2V AA size rechargeable batteries)
- Battery Charging : via included cable
- Current consumption : 110mA at 3V

WIRELESS	MICROPHONES

The Ansr Audio AW-6 bodypack transmitter will accept any properly wired Ansr Audio or Special Projects microphone. A wide variety of headworn and lavalier microphones are available from your Ansr Audio / Special Projects dealer.

AM-17 / AM-17T The ultimate in headworn wireless. Unlike other single ear head worn microphones which tend to have difficulty staying in place, the AM-17 incorporates a soft moldable plastic earpiece which is flexible and can be formed to fit every ear. The superior design of the AM-17 has the boom coming *over* the ear as compared to other mics in which the boom comes *under* the ear and lays against the cheek bone. This improved design provides a counterbalance which keeps the mic in place better than other single ear model. Even wearing eyeglasses or during rigorous movement this mic stays firmly in place. For fit, comfort, price, and quality of sound the AM-17 is the best single ear microphone on the market today. Available in tan or black.

AM-14 / AM-14T Incorporating a 'behind the head' double ear design, the AM-14 features a flexible 'gooseneck' boom for perfect positioning. Lightweight and unobtrusive, the AM-14 offers a precision omnidirectional element for a pure, natural sound. Available in tan or black.

AM-15 Built on the same 'behind the head' double ear frame as the AM-14, the AM-15 offers a super-cardioid element for applications where isolation is vital. A wide, flat frequency response and excellent feedback resistance make the AM-15 a favorite for live sound and stage use. Available in black only.

SP-H2O This comfortable heavy duty headworn is the industry standard in waterproof / sweatproof microphones. The noise-canceling element provides excellent sound while resisting feedback. A favorite of fitness professionals, the SP-H2O features a unique replaceable cable. Should the need arise, the user can simply remove and replace the cable, minimizing down-time and cost.

SP-746 All of the rugged waterproof / sweatproof features of the SP-H2O, but with an attached cable. Comfortable, durable and lightweight, this mic will stand up where other mics can't.

AM-11 This attractive miniature omni-directional lapel microphone has a suprisingly bold and rich sound for an economically priced unit. Almost as small as the sub-miniature AM-18, the AM-11 is also an excellent choice when replacing your existing lapel microphone.

AM-18 When only the best will do, the sub-miniature AM-18 is the right choice. The omni-directional element provides an extended and extremely smooth frequency response. The super small case is designed for minimal clothing and wind noise, making it a favorite for concealed stage and broadcast use.

AM-19 The uni-directional patteren adds excellent performance sound isolation with better feedback control. The three wire circuit design and the high tensile strength cable promote low contact noise. These features make the microphone well suited for professional broadcasting, speech and lecture, film and video production.

Ansr Audio, Inc.
3800 HWY 271 N
Powderly, TX 75476

Phone: 866-491-2677
Fax: 866-746-4366

www.ansraudio.com