

Awarded "2012 National Invention and Creation Award"

MIPRO is a company driven by the latest wireless technology and an obsession to design, manufacture and market wireless microphone products and is widely considered a top five brand worldwide. In 2011 MIPRO was awarded the prestigious "First Brand" and "Gold Medal Quality Product" by Taiwan Fine Manufacturers Association and in 2012 the National Invention and Creation Award by Taiwan's Intellectual Property Office.



MIPRO[®]
MICROPHONE PROFESSIONALS

Wireless Microphone Systems

2013
General Catalog

Winner of Taiwan National Invention & Creation Awards



MIPRO[®]
MICROPHONE PROFESSIONALS

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Company Profile - MIPRO

Inception

MIPRO was founded in 1995 in Chiayi, Taiwan by CEO and legendary RF & audio engineer, K. C. Chang. Solomon Chang is the company president. Corporate headquarters, strategically located in the heart of the city, is housed in an ultra modern, 7-floor, 13,500-square-meter production and office facility. This modern facility is ISO-9001: 2008 certified by German TÜV . There is a Taipei office & showroom.

Mission Statement

Our motto is “innovation, quality and satisfied users”. The brand name "MIPRO" came from the words Microphone PROfessionals and products are marketed globally via a network of authorized distributors. All products are designed by a seasoned R&D team, produced in advanced facility using latest wireless technology and made in Taiwan. MIPRO is a reputable Taiwanese company and one of the well-known wireless microphone brands in the world.

Differentiation

MIPRO products are designed for professional, commercial and consumer markets. The products are ergonomically designed, innovative, functional and in compliance to worldwide telecom and safety standards.

MIPRO has introduced such innovations as the ACT (Automatic Channel Targeting) feature which facilitates simple frequency synchronization between receiver and transmitter, color LCD & VFD displays for clear viewing as well as the contour-shaped handheld transmitter microphones and fitted with high quality true condenser & dynamic microphone capsules for outstanding audio quality.

Sales Channels

MIPRO wireless systems are distributed worldwide via an authorized, strong international network of 80 distributors. They provide audio reinforcement solutions in fixed installations, live performances and portable applications in education, houses of worship, corporate AV, entertainment, government, military and karaoke markets. MIPRO is Taiwan's biggest wireless microphone brand, producer and has the largest domestic market share.

Achievements

MIPRO has won 2012 National Invention & Creation Award and the prestigious “First Brand” & “Gold Medal Quality Product” awards by Taiwan Fine Manufacturer Association in 2011.

Our wireless products have won Taiwan Excellence awards, often nominated in USA's TEC wireless technology awards and proclaimed as top five AV companies by Gary Kayye, a respected USA-based AV consultant, educator and instructor.



Company Profile - Founder

Education and Interests

K. C. Chang, founder & CEO of MIPRO, was born in 1937 in Chiayi, Taiwan. He was interested in art and music as a child and later developed a keen interest in audio electronics and wireless technology.

Graduating with honors from high school, Mr. Chang was accepted to National Taiwan Normal University on a fully-paid Fine Arts scholarship. He became a full-time teacher for 12 years while studying RF, audio electronics and related subjects in his spare time. Closely involved in wireless microphones manufacturing for nearly 5 decades, in 2011 Mr. Chang was selected as an outstanding NTNU alumnus.

Wireless Microphone Pioneer Earns Accolades

● From Radio Shop to Wireless Microphones

To augment his income as a teacher, a radio shop was established where he became renowned for assembling tube radios, amplifiers and various types of sound equipment in his spare time – the ideal learning combination of good theory and real hands-on practical experience.

● Taiwan's first patent for new microphone design

Secured the first patent for a condenser microphone capsule in 1969 (Taiwan patent 21312). Taiwan first FM wireless microphone system soon followed.

● Established Chiayo in 1971

Passed rigorous A-certified radio license and founded first local producer of wireless systems, Chiayo, with friends. Served as president & chief R&D engineer and turn hobby & passion into a life long career in wireless microphones.

● Taiwan's first wireless microphone approval

Wireless microphones were strictly controlled during martial law period. In 1975, applied & granted Taiwan's first wireless microphone for legal commercial sales into TV broadcast, theaters and schools.

● Taiwan's first electret condenser microphone capsule

Obtained first ECM capsule patent in 1972. Mass produced and supplied to cassette recorder, telephones, walkie-talkie and lavalier microphone manufacturers.

● Taiwan's first VHF & UHF PLL wireless systems

Designed Taiwan's first VHF system for professional markets in 1983. Designed advance UHF PLL 16-channel system in 1992 and started to export worldwide.

● Taiwan's first portable wireless PA system. Won Taiwan Excellence award

Developed first battery-powered portable wireless PA system and won Excellence award on ergonomic and function designs.

● Sold Chiayo in 1995

Several existing shareholders immigrated abroad and welcomed older sister as new shareholder. However, due to irreconcilable differences in management styles and philosophy, a difficult but necessary decision had to be made. After 25 years, he decided to sell his shares at a symbolic cost to his sister.

● Established MIPRO in 1995

At the age of 60, Mr. Chang founded MIPRO to continue his quest to build the next generation, higher performance wireless systems by building an ultra modern, state-of-the-art manufacturing facility with advance R&D and production equipment and a new management team. Progressively, we have introduced ACT sync technology, now industry-standard, and Taiwan's first digitally encrypted wireless, tour-guide & language interpretation systems, true condenser microphones as well as other innovative portable wireless PA systems.

● No. 1 wireless microphone brand in Taiwan

Under his management, MIPRO became the top brand, largest manufacturer & exporter of wireless microphone systems and winning “First Brand” & “Gold Medal Quality Product” awards. We continue to pursuit in designing the finest wireless systems and one of the leading wireless system brands in the world.



Founder & president of Chiayo



Founder & CEO of MIPRO



NTNU Distinguished Alumni Award

Company Profile - Chronicle

- 1995** MIPRO was established in Chiayi, Taiwan
- 1996** Built an ultra-modern US\$3 million headquarters
- 1997** Headquarters began operation
- 1998** ISO-9001 standard certified by German TÜV
"Taiwan Excellence" award by Taiwan government
- 1999** Established Taipei office and showroom center
- 2000** Introduced World's first ACT (Automatic Channel Targeting) sync technology
- 2001** Headquarters expansion – 1st time
- 2002** ACT-707D - Nominated in 18th TEC Awards in Wireless Technology category
- 2003** Austrian leading artist, Christina, became a MIPRO endorser
- 2004** MIPRO wireless systems used during the Vienna Festival Opening Ceremony
- 2005** MA-909 Wireless Mixer-Nominated in 21st TEC Awards in Wireless Technology category
- 2006** 12,000-square-meter headquarters expansion – 2nd time
10th year anniversary celebration
Taiwan's first encrypted true digital wireless microphone system
- 2007** ACT-82 - Nominated in 23rd TEC Awards in Wireless Technology category
- 2008** ACT-51 - Nominated in 24th TEC Awards in Wireless Technology category
Artist Endorsement - A-pay & You Ya - Taiwan
Gary Kayye, A/V consultant & educator, stated MIPRO is "Top Five New Companies to Watch"
- 2009** ACT-727 - Nominated in 25th TEC Awards in Wireless Technology category
Purchased 3,600-square-meter land for future expansion
- 2010** Launched wideband ACT-7 wireless systems, MTG-100 digital tour guide wireless system, and Taiwan's first true condenser handheld transmitter
Purchased 5,000-square-meter land for future expansion
Artist Endorsement - Elisa Lin & Si-En - Taiwan
- 2011** Launched AT-90W and AT-70W wideband antennas
Received "First Brand" & "Taiwan Gold Metal Quality Product" awards
Wireless systems used in Taiwan's 100th anniversary celebration theaters
CEO, K.C. Chang, selected for 11th NTNU Distinguished Alumni Award
- 2012** Launched digital ACT-828 system and AT-100 circularly polarized antenna
President, Solomon Chang, selected for 11th Outstanding southern District Manager Award
President, Solomon Chang, selected for 30th National Executive Manager Award
Won Taiwan's National Invention and Creation Award
CEO, K.C. Chang, appeared on front cover of China Proaudio magazine



Company Profile - Innovative Technology

1. The innovative, comfortable handheld transmitters are inspired by graceful lines of Guanyin vase and ergonomically-designed.
2. Premium condenser microphone capsule features extremely low handling noise and transparent audio quality.
3. Industry's first "Pilotone & NoiseLock" dual-squelch circuits for receivers.
4. Receiver output level is precisely pre-adjusted to match sensitivity level of the microphone capsule.
5. World's first "ACT" (Automatic Channel Targeting) sync function. Now, an industry-standard for multi-channel set-up.
6. PC-control software for real-time control and monitoring up to 64 channels.
7. Industry's first bright and easy-to-read color LCD & VFD display on a receiver.
8. UHF wideband dual directional log antenna and complete accessories.
9. Industry's first personal wireless PA system with built-in shoulder strap.
10. Industry's first personal wireless PA system with built-in antenna design.
11. Industry's first portable wireless PA systems with built-in retractable handle & wheels.
12. Industry's only wireless interlinking system. Allows interlinking multiple MIPRO portable sound systems wirelessly to extend range and expand coverage.
13. Industry's first multi-channel wireless microphone mixer with CD player.
14. High efficiency Class-D amplifier drives 2-way speaker for powerful sound in the personal wireless PA market.
15. Industry's first encrypted true digital wireless microphone system.
16. Industry's smallest headworn transmitter.
17. Industry's first handheld transmitter with built-in antenna design.
18. Taiwan's first true condenser handheld microphone.
19. Taiwan's first 72 MHz wideband wireless systems.
20. Taiwan's first 120 MHz & 64 MHz wideband true digital receivers.
21. Taiwan's first wideband circularly polarized transmitting and receiving antenna.



2. Wireless Microphone Systems

- 8 Professional Digital Models
- 20 Professional Wideband Models
- 27 Popular Models
- 55 Instrument Microphones
- 59 Accessories

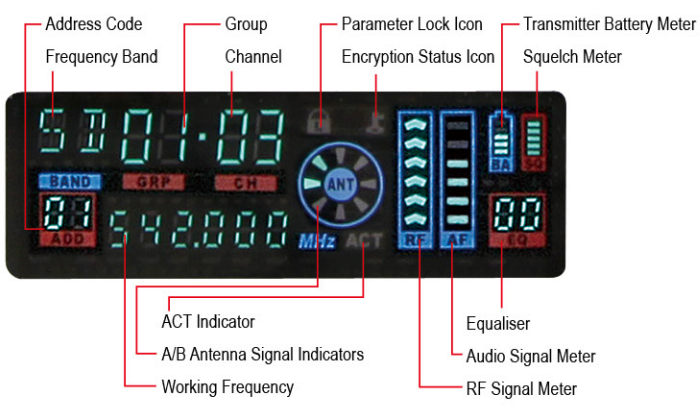


Wireless Systems - Professional Digital Models

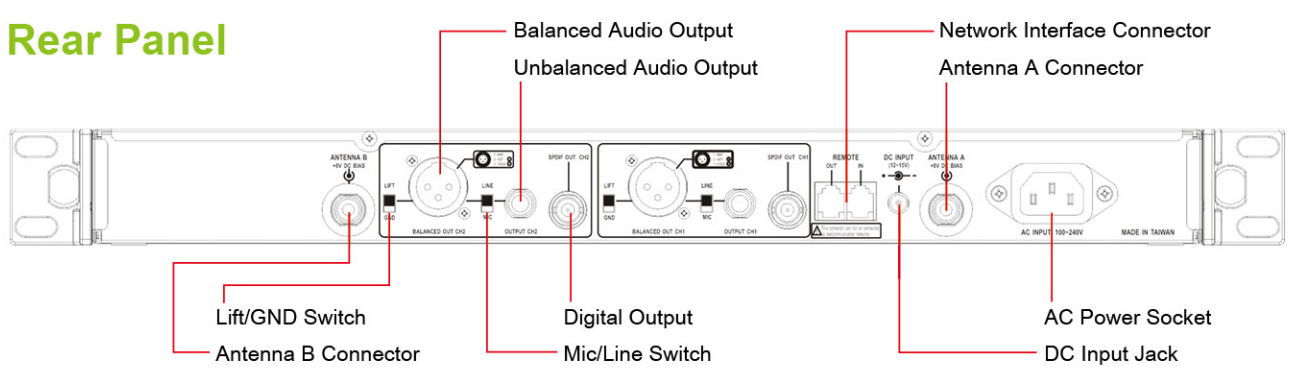
ACT-828 Wideband Dual-Channel Digital Receiver



VFD Screen



Rear Panel



ACT-818 Wideband Single-Channel Digital Receiver



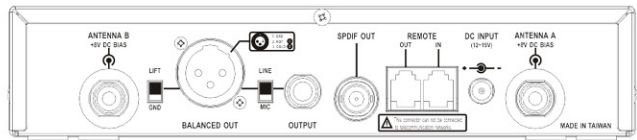
Transmitter (AA alkaline)



Transmitter (rechargeable)



Rear Panel



Profile

MIPRO's industry-leading digital wireless microphone systems feature an excellent sound quality that truly rivals any wired cable transmission. The handheld microphone transmitter is equipped with a true switching-type condenser (TCM) and dynamic microphone capsules that delivers an exceptionally clear, accurate sonic image to the listener.

Building on their highly successful line of true digital wireless, MIPRO has introduced the ACT-818 & ACT-828 which deliver outstanding features at an affordable price. An expanded 64 MHz bandwidth ensures optimal flexibility, allowing more interference-free, compatible channels to select from.

ACT-818 & ACT-828 can work with the transmitters powered by AA battery like ACT-80H and ACT-80T, or the transmitters powered by rechargeable lithium battery like ACT-8Ha and ACT-8Ta.

Features

1. The ACT-828 is an EIA standard 1U dual channel and the ACT-818 is a 1/2U single channel rack-mountable receiver with metal chassis.
2. Full-color VFD (vacuum fluorescent display) for clear viewing of all parameters. All controls are intuitive and easily accessible, allowing for quick and easy system setup via a single rotary control.
3. Enhanced RF circuitry improves anti-interference characteristics and system compatibility with 64 MHz wide bandwidth allows more interference-free channels to be selected.
4. New digital diversity receiving technology eliminates signal dropout and enhances receiving range.
5. Full-Range sound quality won't be changed by the strength of RF signals or operation distance.
6. Digitally-processed RF circuitry and DigitnamicPlus™ technology eliminates compander noise, assuring a wireless sound quality that easily rivals cable transmission.
7. Improved proprietary Audio A/D Converter provides a true dynamic range of 115 dBA, T.H.D. < 0.03% at 1 kHz with < 2.7 ms latency.
8. SPDIF Digital Audio Interface facilitates a direct connection to digital mixing consoles and transmits signal without distortion, ensuring a stable S/N ratio which will not deteriorate in long distance transmission.
9. Proprietary 256-bit encryption, provides secure audio transmission, preventing unauthorized listening.
10. 10 built-in SmartEQ™ presets and user-defined microphone capsule equalization allows faithful sound reproduction to suit artists' preferences.
11. 10 built-in digital anti-feedback SmartEQ™ presets minimize feedback effectively without sacrificing sound quality.
12. Optional MIPRO RCS2.Net software allows real-time network remote-controlling and monitoring of 64 systems.

Specifications

Overall System		
Model	ACT-828	ACT-818
Frequency Range	(5E) 480~544 MHz (US & EU) (6E) 636~700 MHz (EU)	(5F) 540~604 MHz (US & EU) (6F) 696~760 MHz (EU)
Bandwidth	64 MHz	
Channel Grid	25 kHz	
Channel Set-up	Scan & ACT sync	
Audio Sampling	24-bit / 44.1 kHz Rate	
Audio Compression	2nd Generation DSP inertial coding	
Latency	< 2.7ms	
Audio Frequency Response	20 Hz~20 kHz (-2dB)	
S/N Ratio (analog output)	> 115dB(A)	
T.H.D.	< 0.03 % @ 1 kHz	
Encryption	256 bit	

Receivers		
Model	ACT-828	ACT-818
Chassis /Channel	EIA Standard 19 " 1U, Dual	EIA Standard 19 " 1/2U, Single
Sensitivity	15 dB μ V at S/N \approx 118 dBA	
Image and Spurious Rejection	> 85dB	
Receiving Mode	Digital Diversity	
Analog Output	Balanced XLR \times 2 Unbalanced 6.3 mm (1/4 ") \times 2	Balanced XLR \times 1 Unbalanced 6.3 mm (1/4 ") \times 1
Analog Output Switch	Mic / Line \times 2	Mic / Line \times 1
Digital Audio Interface	SPDIF output. BNC female \times 2	SPDIF output. BNC female \times 1
Digital Equalizer	Preset 10 Microphone Capsule Modeling	
Digital Anti-feedback Equalizer	Preset 10 Anti-feedback Microphone Capsule Modeling	
PC Interface	USB or RS-232 Interface. Proprietary MIPRO ACT-BUS	
Display	Full-color VFD	
Battery Meter	Transmitter battery status	
Antenna Input	50 Ω TNC Female Connector \times 2	
Power Supply	Built-in 100~240V AC Switching Power Supply	External AC Power Supply, 12~15V DC, 1A
Dimensions (W \times H \times D)	420 \times 44 \times 245 mm (16.5 \times 1.7 \times 9.6 ")	210 \times 44 \times 230 mm (8.3 \times 1.7 \times 9 ")
Weight	Approx. 2.2 kg (4.8 lbs)	Approx. 1.1 kg (2.4 lbs)
Environment Conditions	-10~+60 $^{\circ}$ C	
Notes	Refer to actual product in the event of product description discrepancy. Frequency range and maximum deviation comply with the regulations of different countries.	

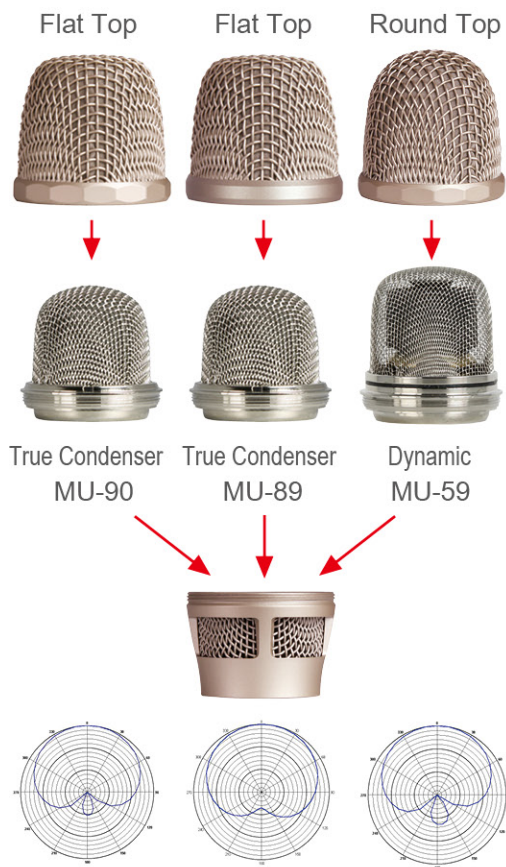
ACT-80H Wideband Digital Handheld Transmitter

Patents : Taiwan Utility M426236 & M426237 ; China Utility ZL201220005942.5 & ZL201220005924.7

Standard Color Champagne



Interchangeable Capsule Modules

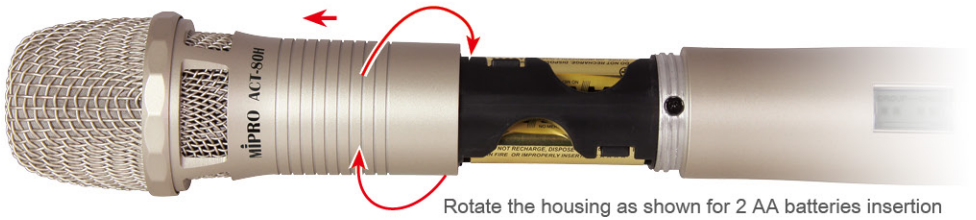


Color-coded ID Caps



Features

- 1. Innovatively designed housing combines aesthetics and ergonomic style.
- 2. Standard champagne-color housing. Optional custom-made colors are available.
- 3. Patented design of the integrated grille and battery housing make it easy to unscrew the grille to open the battery compartment and install 2 AA or rechargeable batteries.



- 4. The unique flat top multi-layered metal grille for condenser capsules and round top for dynamic capsules protect the capsule against impact, rolling and pop noise. The upper grille is able to be detached easily for cleaning and hygiene practices.
- 5. Patented capsule suspension design virtually eliminates vibration and handling noises.
- 6. Interchangeable capsule module with premium condenser or dynamic options for easy and fast changeovers.
- 7. True condenser capsule exhibits high fidelity, wide dynamic range, fast transient responses, good feedback rejection, accurate sound image characteristics, transparent sound quality, and withstands maximum SPL.
- 8. Backlit LCD displays frequency band, group, channel, battery status, encryption status, RF and audio levels.
- 9. The bottom housing with built-in high-efficiency antenna features power switch, mute and setup buttons for programmable gain, limiter, low cut and RF output power.
- 10. Patented end-cap cover with color-coded channel identification clips. Detach the end-cap for parameters set-up. Reversible end-cap allows shielding of power on/off or mute switches during performance.



- 11. Three selectable mute settings: Auto, Manual & Disabled. "Auto" mute activates automatically when handheld transmitter points down towards the ground.
- 12. Three selectable gain settings: 0 dB (same as microphone sensitivity), +3 dB, +6 dB.
- 13. An interference-free channel can be synchronized automatically and quickly without error by stable PLL circuit and MIPRO's patented ACT™ sync function.
- 14. Two selectable transmitter output power settings: HI (high-power) & LOW (low-power).

Specifications

Frequency Range	(5E) 480~544 MHz (US & EU) (5F) 540~604 MHz (US & EU) (6E) 636~700 MHz (EU) (6F) 696~760 MHz (EU)
Oscillation Mode	PLL Synthesized, Frequency Stability $\leq \pm 0.005\%$ (-10~+60°C)
RF Power Output	10 mW / 50 mW (switchable)
Spurious Emission	$\leq -60\text{dBc}$
Modulation Type	New Digital Modulation
Audio Compression	DSP Inertial Coding
Gain Setting	+6 dB, +3 dB, 0 dB (3 settings). 0 dB = MU-89 microphone sensitivity
Battery	2 AA alkaline
Battery Hours	Up to 12 hours (Low Power)
Dimensions (Ø × L)	50 × 258 mm (2 × 10.1 ")
Weight	Approx. 292 g (10.3 oz), excluding batteries
Notes	Refer to actual product in the event of product description discrepancy. Frequency range and maximum deviation comply with the regulations of different countries.

ACT-80T Wideband Digital Miniature Bodypack Transmitter



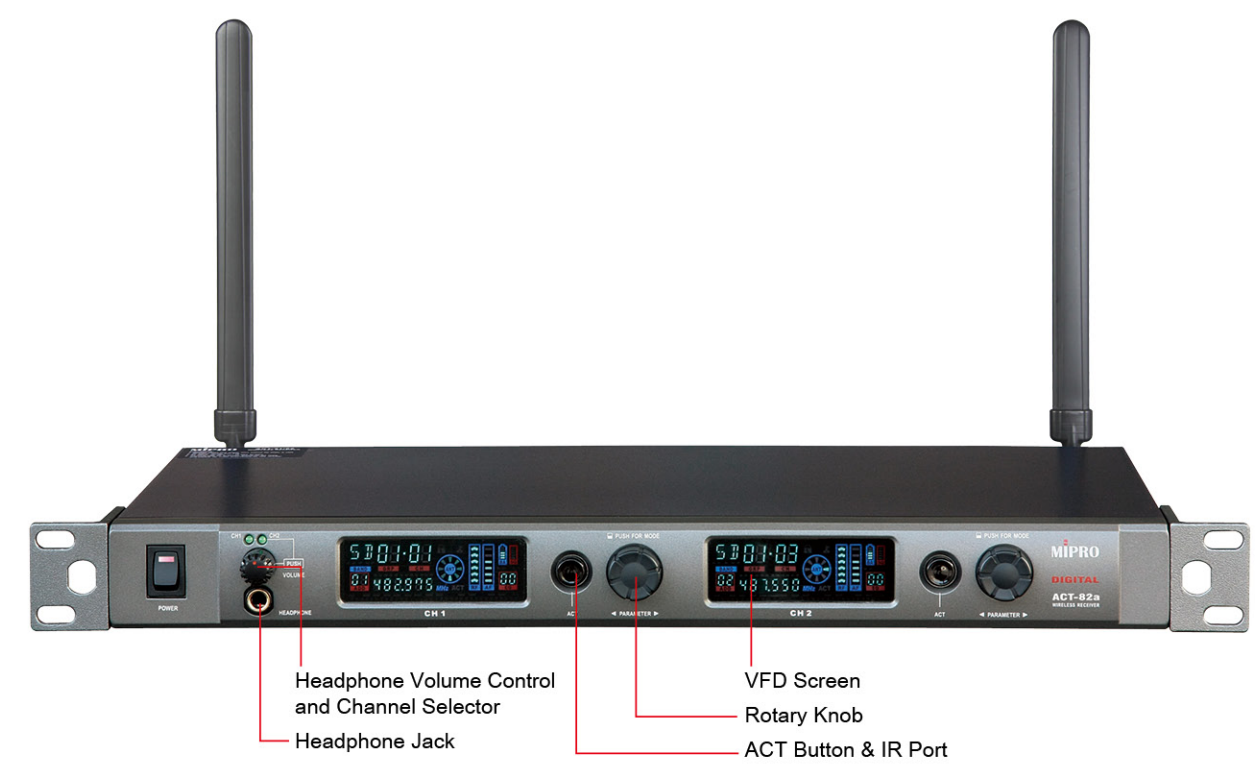
Features

1. Industry's smallest and lightest digital bodypack transmitter with extremely rugged magnesium alloy housing.
2. Equipped with antenna, mini-XLR input socket, mute button and remote mute control input.
3. Backlit LCD displays several operational messages.
4. Innovatively designed battery cover allows easy access to operate buttons and prevents accidental operation.
5. Mute button with remote-control jack for easy activation of mute function.
6. Stable PLL circuit. Synchronized with the receiver's frequency by MIPRO's patented ACT™ function automatically.
7. Selection of polarization for audio input to match different capsules of different polarizations.
8. Six selectable gain settings.
9. Mini-XLR input with secure screw lock connector for lavalier / headworn mics and guitar.
10. 2 AA or rechargeable batteries provide long operation time up to 12 hours.
11. Adjustable belt clip allows wearing transmitter in up or down position.

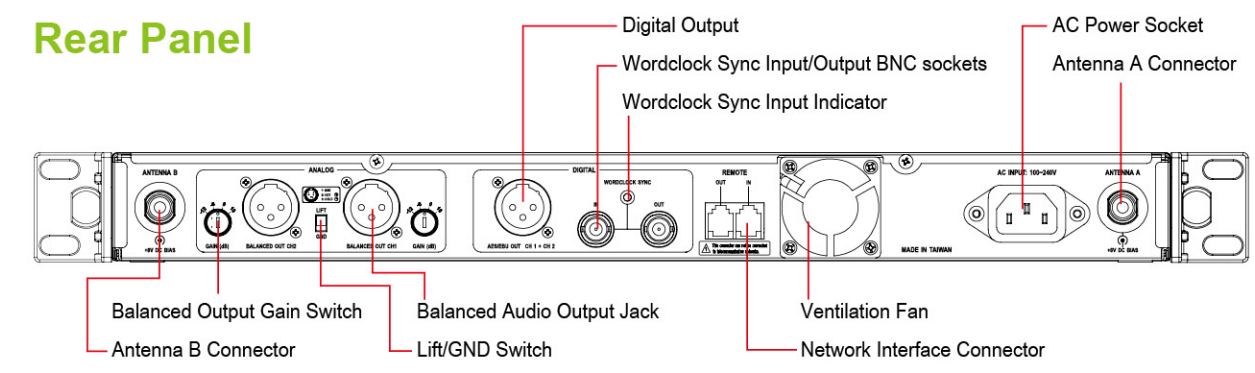
Specifications

Housing	Magnesium alloy
Frequency Range	5E : 480~544 MHz (US & EU) 5F : 540~604 MHz (US & EU) 6E : 636~700 MHz (EU) 6F : 696~760 MHz (EU)
RF Power Output	10 mW / 50 mW (switchable)
Spurious Emission	≤ -60dBc
Oscillation Mode	PLL Synthesized, Frequency Stability $\pm 0.005\%$ (-10~+60°C)
Display	Backlit LCD displays frequency band, group channel, AF gain, limiter, low cut, phase, output power, mute, battery status, encryption status & error codes.
Modulation Type	New Digital Modulation
Audio Compression	DSP Inertial Coding
Gain Setting	+18 dB, +12 dB, +6 dB, 0 dB, -6 dB, -12dB (6 settings). 0 dB = microphone sensitivity
Mute Connector	Optional MJ-70 remote mute switch
Battery	2 AA alkaline
Battery Hours	Up to 12 hours (Low Power)
Dimensions (W × H × D)	63 × 70 × 25 mm (2.5 × 2.7 × 1.0 ")
Weight	Approx. 78 g (2.6 oz), excluding batteries
Notes	Refer to actual product in the event of product description discrepancy. Frequency range and maximum deviation comply with the regulations of different countries.

ACT-82a Wideband Dual-Channel Digital Receiver



Rear Panel



Transmitter (AA alkaline)



Transmitter (rechargeable)



Profile

In 2006, MIPRO introduced the industry-leading ACT-8 digital wireless microphone system. It features excellent sound quality almost as good as the cable transmission. Moreover, the handheld microphone transmitter is fitted with latest interchangeable true condenser (TCM) and dynamic microphone capsules for unsurpassed audio quality and highly recommended by audio professionals.

Due to recent changes of telecom regulations in Europe and US, MIPRO introduced a new wideband digital receiver: ACT-82a. The bandwidth increased from 24 MHz to 120 MHz to adhere regulations in various countries. ACT-82a can work with the transmitters powered by AA battery like ACT-80H and ACT-80T, or the transmitters powered by rechargeable lithium battery like ACT-8Ha and ACT-8Ta.

Features

1. The receiver is an EIA standard 1U rack-mountable metal chassis and the control panel, equipped with full-color VFD, is intuitive and easily accessible, allowing for quick and easy system setup via a single rotary control.
2. MIPRO's latest IF filter circuitry improves RF dynamic range and anti-interference characteristics, increasing interference-free channels. Upgraded 120 MHz wide bandwidth allows more interference-free channels to be selected. Specific auto-tracking filter for the minimum pass-band loss and maximum anti-interference.
3. New digital diversity receiving technology eliminates signal dropout and enhances receiving range and increase stability.
4. Full-Range sound quality won't be changed by the strength of RF signals or operation distance.
5. Digitally-processed RF circuitry and DigitnamicPlus™ technology eliminates compander noise assuring the wireless sound quality almost as good as cable transmission.
6. Improved < 2.9ms latency. Proprietary Audio A/D Converter provides a true dynamic range >115 dBA, T.H.D. < 0.04% at 1 kHz.
7. The AES/EBU Digital Audio Interface facilitates a direct connection to digital mixing consoles and transmits signal without distortion, therefore S/N ratio will not deteriorate in long distance transmission.
8. Proprietary 128-bit encryption guarantees secure audio transmission, preventing unauthorized listening.
9. Built-in 10 SmartEQ™ preset and user-defined microphone capsule equalization for faithful reproduction to suit artists' preferences.
10. Wordclock in/out facility with activity indicator ensures correct synchronization with other digital equipment.
11. Optional MIPRO RCS2.Net software allows real-time network remote-controlling and monitoring of 64 systems.

Specifications

Overall System	
Frequency Range	UHF 482~602 MHz (US & EU), 638~758 MHz (EU)
Bandwidth	120 MHz
Channel Grid	25 kHz
Channel Set-up	Scan & ACT sync
Audio Sampling	24-bit / 44.1 kHz Rate
Audio Frequency Response	20 Hz~20 kHz (-2 dB)
Encryption	128bit
Audio Compression	2nd Generation DSP inertial coding
Latency	< 2.9ms
S/N Ratio (analog output)	> 115dB(A)
T.H.D.	< 0.04 % @ 1kHz

Receivers	
Chassis / Channel	EIA Standard 19 " 1U, Dual
Sensitivity	12 dB μ V at S/N \approx 118 dBA (D)
Image and Spurious Rejection	> 85dB
Receiving Mode	Digital Diversity
Audio Output	Balanced XLR Analog Audio Output: Switchable 10dB / 0dB / -6dB / -12dB
Digital Audio Interface	XLR Connector, AES/EBU Interface, Stereo(CH1+CH2)
Wordclock Input / Output	BNC Female ; 32 kHz~96 kHz
Digital Equalizer	Preset Microphone Capsule Modeling
PC Interface	USB or RS-232 Interface. Proprietary MIPRO ACT-BUS
Display	Full-color VFD
Battery Meter	Transmitter Battery Level
Antenna Input	50 Ω TNC Female Connector \times 2
Power Supply	Built-in 100~240V AC Switching Power Supply
Dimensions (W \times H \times D)	420 \times 44 \times 245 mm (16.5 \times 1.7 \times 9.6 ")
Weight	Approx. 2.7 kg (6 lbs)
Environment Conditions	-10~+60 $^{\circ}$ C
Notes	Refer to actual product in the event of product description discrepancy. Frequency range and maximum deviation comply with the regulations of different countries.

ACT-8Ha Wideband Digital Handheld Transmitter



Patents :
Taiwan Utility M297123
Design D115708
Utility M297121
China Utility ZL200620040304.1
Design ZL200630006688.0
U.S. Invention7978869
Invention7974429
Germany Utility 202007003585.3
Utility 202007002675.7

Features

1. Innovatively designed housing in MIPRO's aesthetics and ergonomic style.
2. Perfect combination of audio and wireless transmission technology creates perfect sound quality.
3. MIPRO proprietary multi-layer metal grille protects the capsule against impact, rolling and pop noise. The grille is able to be detached easily for cleaning and hygiene practices.
4. Interchangeable capsule module with premium condenser or dynamic options for easy and fast changeovers.
5. True condenser capsule exhibits high fidelity, wide dynamic range, fast transient responses, good feedback rejection, accurate sound image characteristics, transparent sound quality, and withstands maximum SPL.
6. Optional MIPRO proprietary dynamic capsule module with low touch-noise and knock-noise.
7. LCD displays working group, channel, battery status, encryption status and error codes.
8. The bottom housing, where high-efficiency antenna is integrated inside, embedded with power switch and setup button for programmed sensitivity, limiter, low cut and RF output power.
9. Patented high performance lithium polymer rechargeable battery pack, easily removable for maintenance, is environmentally friendly and saves expense of replacing batteries.
10. Optional MP-88 battery charger case provides up to 8 transmitters and 8 rechargeable battery packs can be charged concurrently.
11. Switchable High / Low power options. An interference-free working channel can be synchronized automatically and quickly without any error by MIPRO's patented ACT™ function.

Specifications

Frequency Range	UHF 482~602 MHz (US & EU) , UHF 638~758 MHz (EU)
Antenna	Built-in
RF Output Power	10mW / 50 mW (switchable)
Spurious Emission	≤ -60dBc
Oscillation Mode	PLL Synthesized, Frequency Stability ≤± 0.005% (-10~+60°C)
Modulation Type	New Digital Modulation
Audio Compression	2nd DSP Inertial Coding
Battery	1100 mA/h rechargeable lithium battery pack
Battery Hours	> 12 hours (Low Power)
Dimensions (Ø × L)	50 × 248 mm (2 × 9.8 ")
Weight	Approx. 315 g (11.1 oz)
Notes	Refer to actual product in the event of product description discrepancy. Frequency range and maximum deviation comply with the regulations of different countries.

ACT-8Ta Wideband Digital Bodypack Transmitter



Features

1. Ultra slim bodypack transmitter with sturdy magnesium alloy housing.
2. Detachable antenna, mini power switch and XLR input connector are located on the top of transmitter.
3. Backlit LCD displays working group, channel, frequency, battery status, AF input gain and encryption status.
4. MODE and SET buttons for adjust sensitivity, limiter, low-cut and RF output power.
5. Stable PLL circuit. Synchronized with the receiver's frequency by MIPRO's patented ACT™ function automatically.
6. Selection of polarization for audio input to match different capsules of different polarizations.
7. Detachable lithium polymer rechargeable battery pack can be recharged alone or together with transmitter.
8. Optional 3 pin LEMO connector.
9. Spring belt clip allows wearing transmitter upside down.

Specifications

Frequency Range	UHF 482~602 MHz (US & EU) , 638~758 MHz (EU)
Antenna	Detachable
RF Output Power	10 mW / 50 mW (switchable)
Spurious Emission	≤ -60dBc
Oscillation Mode	PLL Synthesized, Frequency Stability ≤± 0.005% (-10~+60°C)
Modulation Type	New Digital Modulation
Audio Compression	2nd DSP Inertial Coding
Battery	1100 mA/h rechargeable lithium battery pack
Battery Hours	> 12 hours (Low Power)
Dimensions (W × H × D)	60 × 84 × 24 mm (2.4 × 3.3 × 0.9 ")
Weight	Approx. 135 g (4.7 oz), rechargeable lithium battery included
Notes	Refer to actual product in the event of product description discrepancy. Frequency range and maximum deviation comply with the regulations of different countries.

MP-8 Battery Charger
MP-88 8-Slot Battery Charger Case



MP-8 Features

- 1. Charges 8Ha handheld, 8Ta bodypack and ACT-8HB / ACT-8TB battery packs.
- 2. High efficiency battery charging circuitry.
- 3. Power and charging indicators for accurate reading.

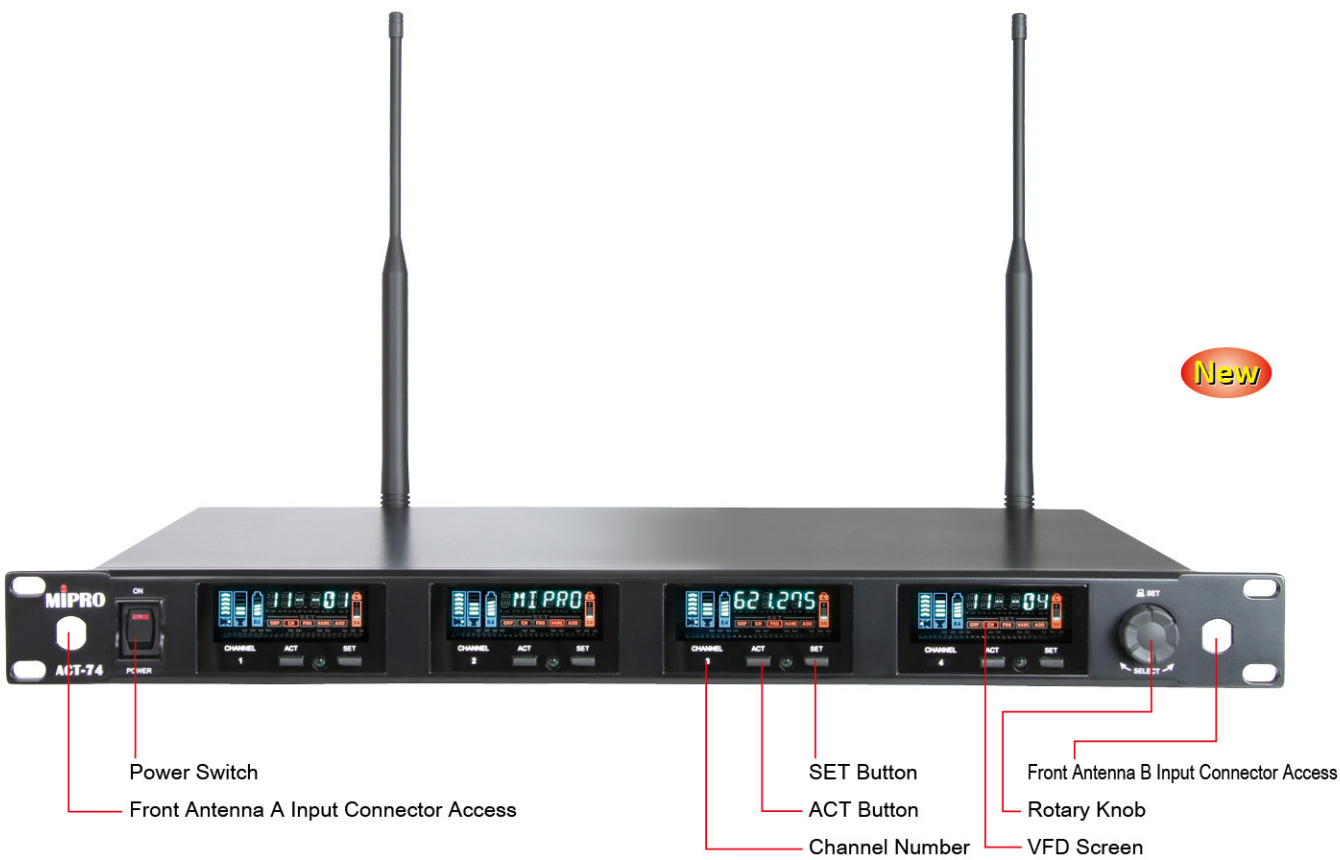
MP-88 Features

- 1. Portable, rugged aluminum case with detachable lid and handle. Each case holds 8 sets of MP-8 battery chargers and 2 detachable switching power supplies.
- 2. Requires universal 100~240V AC power for operation. Up to 8 transmitters and 8 rechargeable battery packs can be charged concurrently.

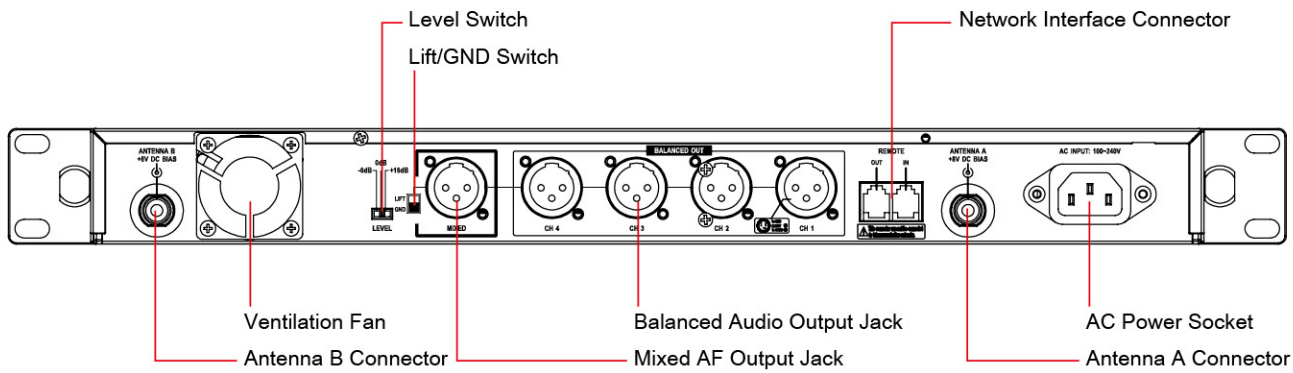
Specifications

Power Supply	100~240V AC
Dimensions (W × H × D)	530 × 125 × 330 mm (20.9 × 4.9 × 13 ")
Weight	Approx. 6.2 kg (13.7 lbs)
Transmitter Slot	8
Rechargeable Battery Slot	8

ACT-74 Wideband Quad-Channel True Diversity Receiver



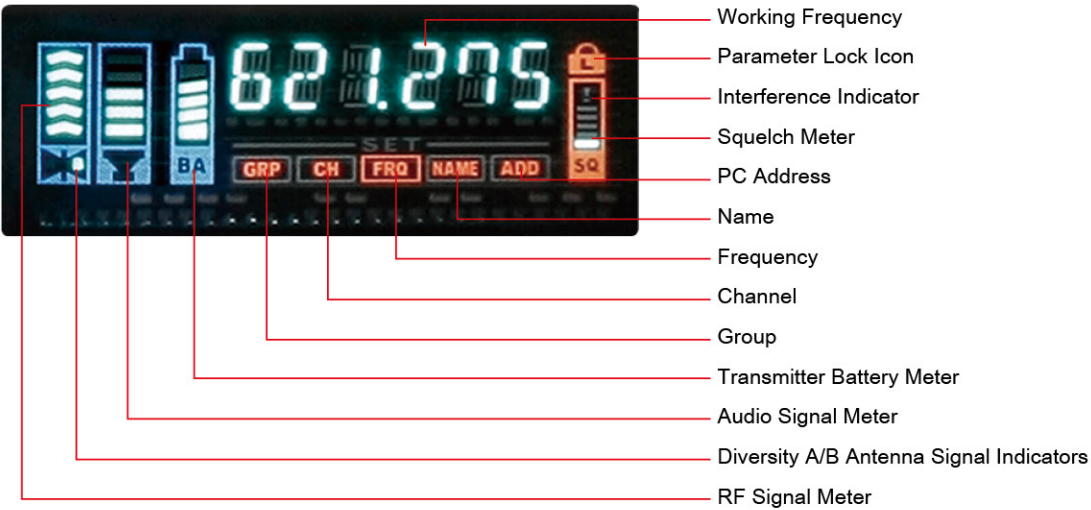
Rear Panel



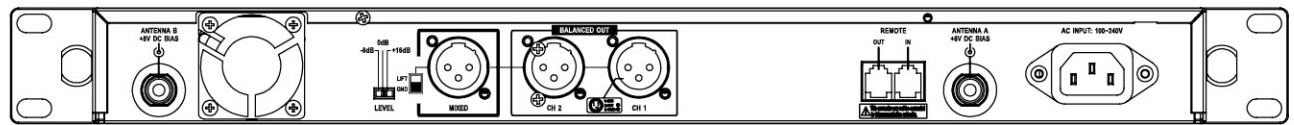
ACT-72 Wideband Dual-Channel True Diversity Receiver



VFD Screen



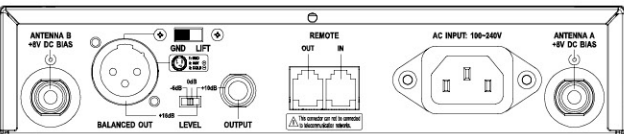
Rear Panel



ACT-71 Wideband Single-Channel True Diversity Receiver



Rear Panel



Transmitters

ACT-70H



ACT-70T



Profile

1. ACT-70 Series is developed to meets the changes in European and American telecom regulations and approvals. Both receivers and transmitters are expanded to 72 MHz.
2. Featuring latest wireless features and functions such as excellent multi-channel systems compatibility and RF stability. Moreover, the handheld microphone transmitter fitted with the latest true condenser microphone capsule (TCM) and dynamic microphone capsule for unsurpassed audio quality.
3. Three receiver configurations are available:
ACT-74: Wideband Quad-Channel True Diversity Receiver
ACT-72: Wideband Dual-Channel True Diversity Receiver
ACT-71: Wideband Single-Channel True Diversity Receiver
4. Matching Transmitters: ACT-70H handheld and ACT-70T bodypack transmitters
5. Below are ACT-70 frequency codes

USA Frequency Codes

5UA 482~554	5UB 554~626	6UA 626~698
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Europe Frequency Codes

5UA 482~554	5UB 554~626	6UA 626~698	7UA 718~790
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Features

1. ACT-74 & ACT-72 receivers are EIA standard 1U rack-mountable & ACT-71 receiver is EIA standard 1/2U rack-mountable metal chassis with excellent heat dissipation & RF shielding characteristics.
2. UHF PLL-synthesized technology for enhanced RF stability, lowered spurious emissions and increased frequency agility.
3. 400 preset channels with 1-set of user-defined group that saves up to 16 channels.
4. Industry's first ACT syncs automatically and quickly a working channel.
5. Dual "PiloTone & NoiseLock" circuits minimize interference.
6. Industry's only full-color VFD screen delivers a bright, clear viewing in day/night environments with automatic lit (Working) and dim (Standby) display during performance.
7. All controls are intuitive and easily setup via a single rotary knob.
8. Industry's only RF interference warning indicator for properly adjusts the SQ level. Increase sensitivity to extend receiving range; decrease the sensitivity to reduce interference.
9. Single channel output or mixed output and switchable three levels for the best sound quality options.
10. High dynamic range and high fidelity characteristics for transparent audio performance.
11. Receiver provides bias voltage for MIPRO antenna systems to enhance reception range and signal stability.
12. MIPRO RCS.Net software allows real-time computer set up, control and monitoring.
13. Built-in 100~240V AC switching power supply ensures system safety and stability.
14. Design and made in Taiwan.

Specifications

Model	ACT-74	ACT-72	ACT-71
Channel	Quad	Dual	Single
Chassis	EIA-Standard 19 " 1U		EIA-Standard 19 " 1/2U
Display	Color VFD displays Frequency, Frequency Code, RF & Audio Meters, Transmitter Battery Meter, Diversity Signals, Interference Warning Indicator. Programmable User Name, Group, Channel, Squelch Meter, PC Address and Lock Status.		
Frequency Range	UHF 482~698 MHz (US) , UHF 480~874 MHz (EU)		
Bandwidth	72 MHz		
Preset Channels	400 preset channels Group 01~10: 16 compatible channels in each group Group 11~15: 48 compatible channels in each group Group 16: 16 channels can be saved & recalled (user-defined)		
Receiving Mode	True Diversity		
Oscillation Mode	PLL Synthesized		
Sensitivity	6dB μ V, at S/N > 80dB		
S/N Ratio	>108dB (A)		
T.H.D.	<0.5% @ 1 kHz		
Frequency Response	50 Hz~18 kHz, with high pass filter		
Squelch	"PiloTone & NoiseLock" dual-squelch circuits. Rotary control for squelch adjustment.		
Audio Output Adjustment	Output level accurately pre-adjusted to equal to the microphone capsule sensitivity		
Max. Output Level	Balanced: +16dBV / 0dBV / - 6dB ; Unbalanced: +10dBV / 0dBV / - 6dB		
Output Connectors	Balanced XLR		Balanced XLR & Unbalanced 6.3 mm (1/4 ")
Output Switch	Single channel output or mixed output		Single channel output
Operation	Manual or PC remote control via optional software		
Power Supply	Built-in 100~240V AC Switching Power Supply		
Dimensions (W x H x D)	482 x 44 x 265 mm (19 x 1.7 x 10.5 ")		210 x 44 x 230 mm (8.3 x 1.7 x 9 ")
Weight	Approx. 3.4 kg (7.5 lbs)	Approx. 3.0 kg (6.6 lbs)	Approx. 1.4 kg (3.1 lbs)
Transmitter	ACT-70H Handheld & ACT-70T Bodypack		
Notes	Refer to actual product in the event of product description discrepancy. Frequency range and maximum deviation comply with the regulations of different countries.		

ACT-70H Wideband Handheld Transmitter New

Standard Color Patents : Taiwan Utility M426236 & M426237 ; China Utility ZL201220005942.5 & ZL201220005924.7



Features

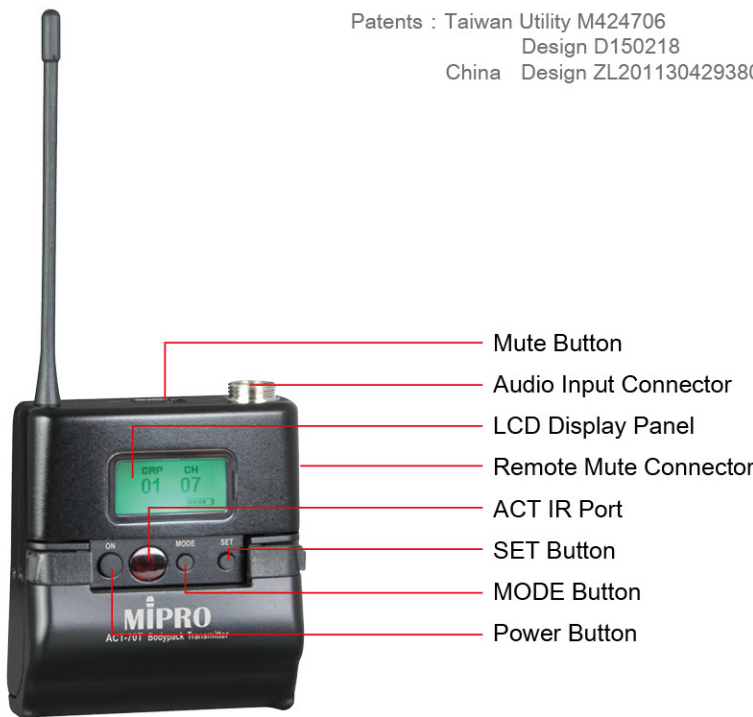
1. Innovatively designed metal housing in MIPRO's aesthetics and ergonomic style.
2. Basic black color with other custom-made colors options.
3. Patented design of the integrated grille and battery housing make it easy to unscrew the grille to open the battery compartment and install 2 AA batteries.
4. Interchangeable capsule module with premium condenser or dynamic options for easy and fast changeovers.
5. The unique multi-layered metal grille protects the capsule against impact, rolling and pop noise and ensures sound clarity.
6. Backlit LCD displays each operational info.
7. Expanded to 72 MHz bandwidth for compatibility with ACT-71/72/74 receivers.
8. Five selectable gain settings with microphone input sensitivity of 0 dB level.
9. Switchable Manual / Disable audio mute options.
10. Switchable High / Low power options.
11. The bottom housing with built-in high-efficiency antenna features power switch, mute and setup buttons for programmable gain, limiter, low cut and RF output power.
12. Patented end-cap cover with color-coded channel identification clips. Detach the end-cap cover for parameters set-up. Reversible end-cap allows shielding of power on/off or mute switches during performance.

Specifications

Frequency Range	US Band : UHF 482~698 MHz EU Band : UHF 482~790 MHz
Bandwidth	72 MHz
Oscillation Mode	PLL Synthesized
Channel Set-Up	ACT Sync
RF Output Power	10 mW / 50 mW (switchable)
Spurious Emissions	<-55dBc
Gain Setting	+6 dB, +3 dB, 0 dB, -3 dB, -6 dB (5 settings). 0 dB = MU-89 microphone sensitivity
Max. Input Level	142dB SPL
Capsules	Interchangeable premium true condenser or dynamic options
Battery	2 AA alkaline
Dimensions (Ø × L)	50 × 258 mm (2 × 10.1 ")
Weight	Approx. 292 g (10.3 oz), excluding batteries
Patents & Approvals	Patented. Telecom and safety regulations approved.
Notes	Refer to actual product in the event of product description discrepancy. Frequency range and maximum deviation comply with the regulations of different countries.

ACT-70T Wideband Bodypack Transmitter New

Patents : Taiwan Utility M424706
Design D150218
China Design ZL201130429380.8



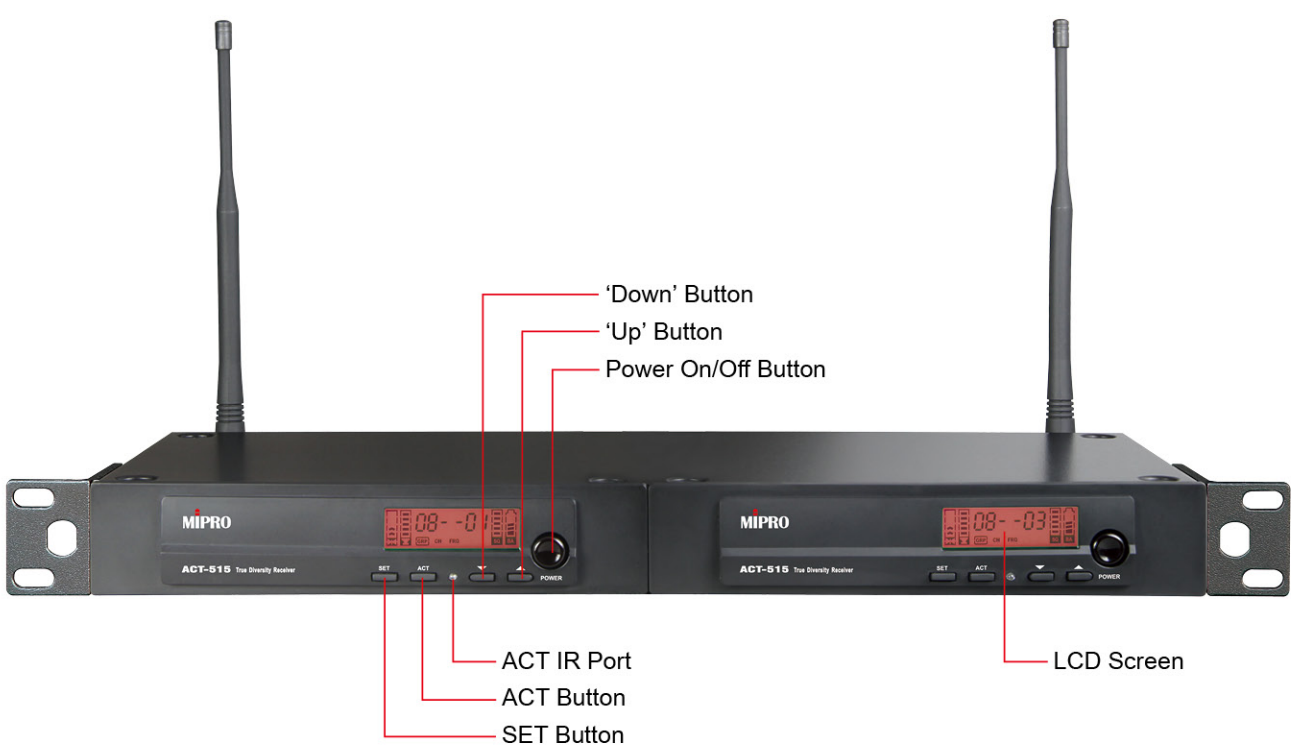
Features

1. Stable PLL circuit. Synchronized with the receiver's frequency by MIPRO's patented ACT™ function automatically.
2. Expanded to 72 MHz bandwidth for compatibility with ACT-71/72/74 receivers.
3. Industry's smallest bodypack transmitter with sturdy magnesium alloy housing for 2 AA batteries.
4. Antenna, mute button and XLR input connector are located on the top of transmitter.
5. Backlit LCD displays group, channel, frequency, AF input gain, RF output power, mute, battery status, lock and error codes.
6. Innovatively designed battery cover allows easy access to operate buttons and prevents accidental operation.
7. Built-in mute button and remote-control jack options for easy mute activation.
8. Can be directly matched to high-low input impedance for microphone and guitar without switching and the input sensitivity is adjustable.
9. Six selectable gain settings.
10. Mini-XLR input connector for quick-lock or screw-lock with lavalier or headworn microphones and guitar.
11. Adjustable belt clip allows wearing transmitter in up or down position.

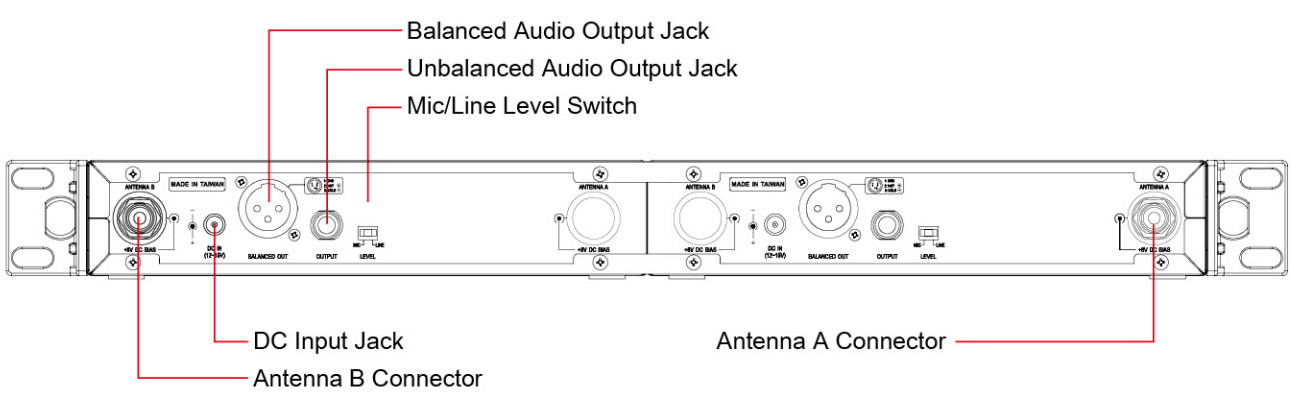
Specifications

Housing	Magnesium Alloy
Frequency Range	US Band : UHF 482~698 MHz EU Band : UHF 482~790 MHz
Oscillation Mode	PLL Synthesized
Bandwidth	72 MHz
Channel Set-Up	ACT Sync
RF Output Power	10 mW / 50 mW (switchable)
Spurious Emissions	<-55dBc
Max. Input Level	0dBV
Gain Setting	+12 dB, +6 dB, 0 dB, -6 dB, -12 dB, -18dB (6 settings). 0 dB = input microphone sensitivity
Mute Connector	Optional MJ-70 remote mute switch
Headworn Microphone	MU-13 / MU-23 / MU-210 / MU-53HN / MU-55HN
Lavalier Microphone	MU-53L / MU-55L
Battery	2 AA alkaline
Dimensions (W × H × D)	63 × 70 × 25 mm (2.5 × 2.8 × 1.0 ")
Weight	Approx. 78 g (2.7 oz), excluding batteries
Patents & Approvals	Patented. Telecom and safety regulations approved.
Notes	Refer to actual product in the event of product description discrepancy. Frequency range and maximum deviation comply with the regulations of different countries.

ACT-515T Dual-Channel True Diversity Receiver



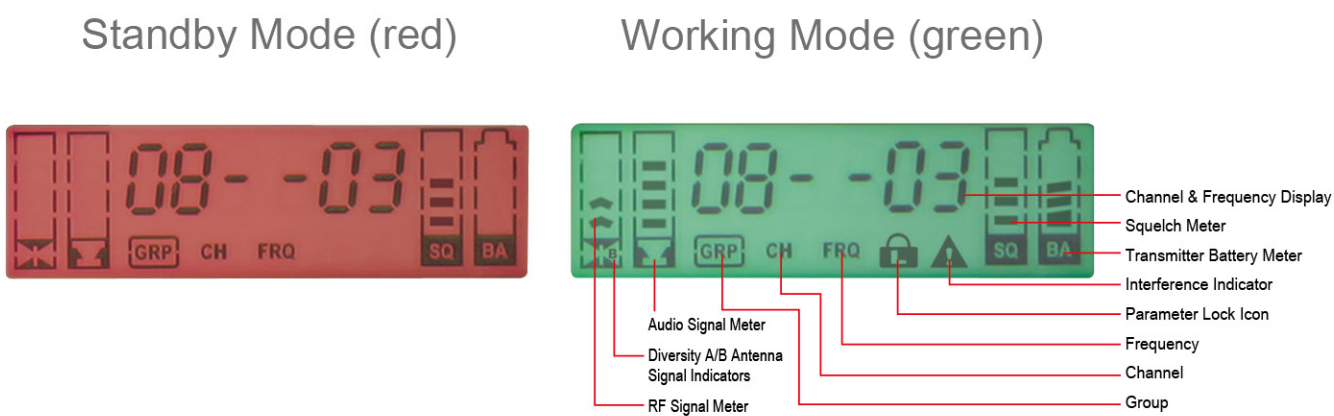
Rear Panel



ACT-515 Single-Channel True Diversity Receiver



LCD Screen



Profile

This series adapts dual-tuner true-diversity circuitry and delivers professional performance at affordable price. Instead of low-cost plastic chassis and plain LED display, EIA standard metal chassis and dual-color backlit LCD are applied to enhance product quality and user convenience. Be sure to pair up with ACT-50H handheld and ACT-50T bodypack metal-cased transmitter where users can easily obtain superb sound quality.

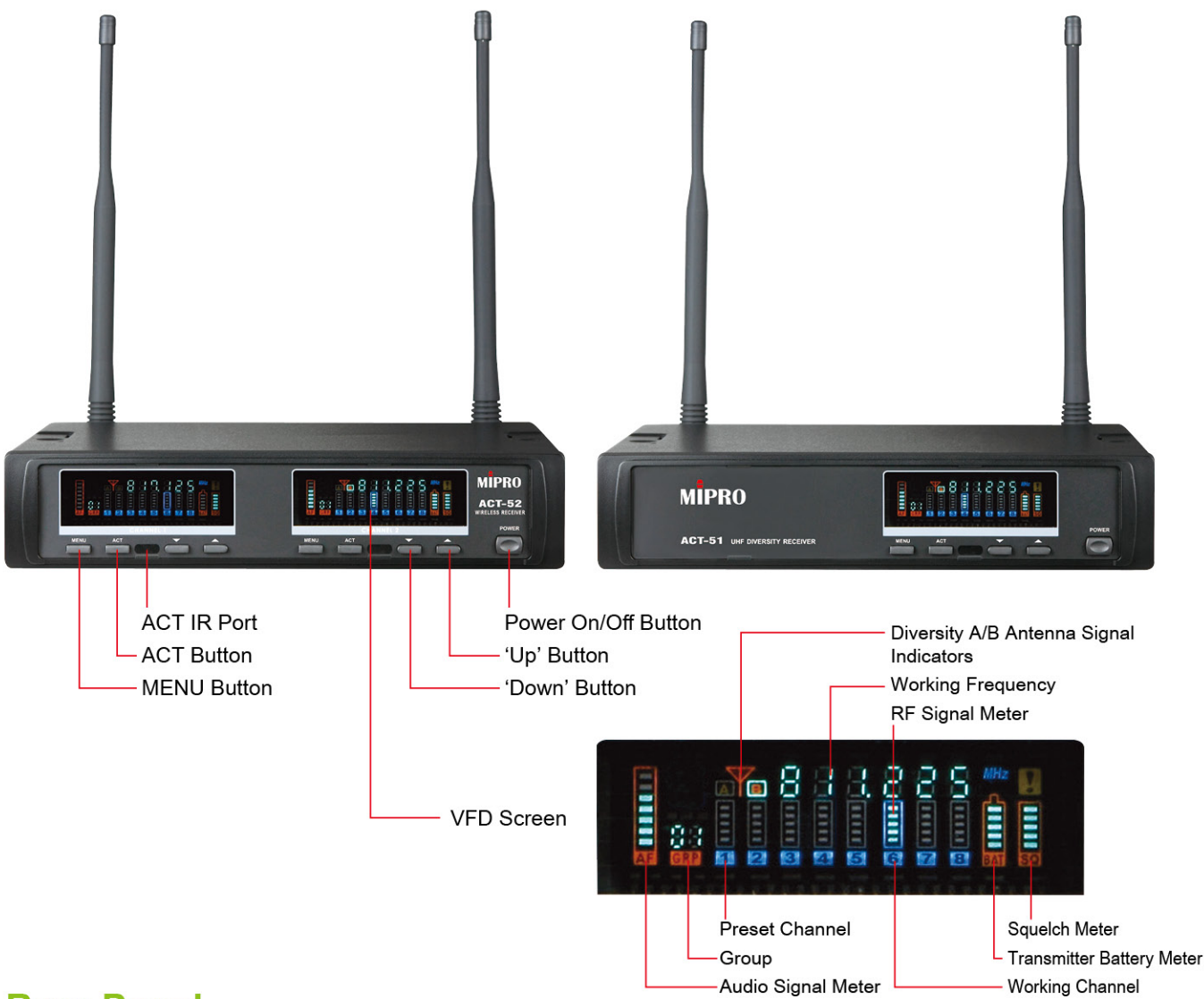
Features

- 1. ACT-515 is an EIA standard 19" 1/2-unit true diversity receiver.
- 2. ACT-515T is composed of two ACT-515 and housed in a 19" 1U receiver.
- 3. Receiver provides bias voltage for MIPRO antenna systems to enhance reception range and signal stability.
- 4. Dual "PiloTone & NoiseLock" circuits minimize interference.
- 5. Backlit LCD displays group, channel, frequency RF & audio strength, A/B antenna, transmitter battery status, interference warning indicator & panel lock.
- 6. Backlit LCD is lit in green when signal is received or button pressed. Backlit LCD is lit in red when no signal or button pressed. Easy to identify working mode (green) and standby mode (red) during performance.
- 7. Balanced XLR / unbalanced 1/4 " audio output jack, output level switch and DC input are on the rear panel.
- 8. UHF PLL-synthesized technology for enhanced RF stability, lowered spurious emissions and increased frequency agility. One-touch Autoscan for a clear, interference-free channel.
- 9. 80 preset condition-free channels and 8 user-defined channels can be saved & recalled
- 10. Adjustable 'SQ' for higher sensitivity to increase receiving distance or lower sensitivity to reduce interference.
- 11. Adjust SQ when Interference warning indicator is lit for ideal sensitivity level

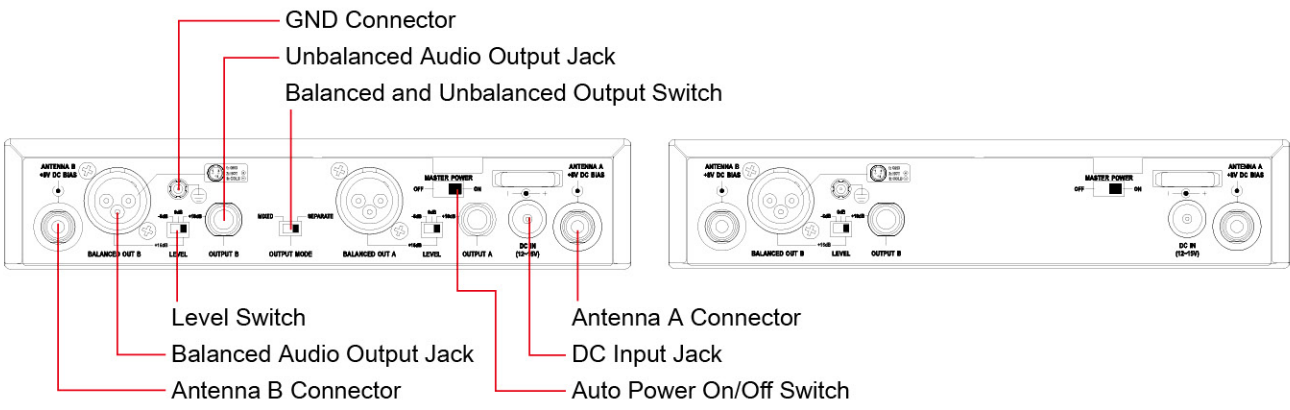
Specifications

Model	ACT-515	ACT-515T
Chassis/Channel	EIA Standard 19 " 1/2U, Single	EIA Standard 19 " 1U, Dual
Frequency Range	UHF 480~934 MHz	
Bandwidth	24 MHz	
Receiving Mode	True Diversity	
Antenna	Rear Panel. Detachable.	
Preset Frequency	80 preset channels. Group 1~10: 8 compatible channels in each group. Group 11: Up to 8 channels can be saved & recalled. 961 user-defined frequencies in group 11.	
Oscillation Mode	PLL Synthesized	
Sensitivity	6 dB μ V, at S/N > 80 dB	
S/N Ratio	>106dB(A)	
T. H. D.	<0.5% @ 1kHz	
Frequency Response	50 Hz~18 kHz, with high pass filter	
Squelch	"PiloTone & NoiseLock" dual-squelch circuits	
Audio Output Adjustment	Output level accurately pre-adjusted to equal to the microphone capsule sensitivity	
Output Connectors	Unbalanced 6.3 mm (1/4 ") & Balanced XLR	
Max. Output Level	Unbalanced: +10 dBV / 0 dBV ; Balanced: +16 dBV / 0 dBV	
Power Supply	External AC Adapter, 12~15V DC, 1A	
Dimensions (W × H × D)	210 × 44 × 180 mm (8.3 × 1.7 × 7.1 ")	420 × 44 × 180 mm (16.5 × 1.7 × 7.1 ")
Weight	Approx. 0.85 kg (1.9 lbs)	Approx. 1.65 kg (3.6 lbs)
Transmitter	ACT-50H , ACT-50T	
Notes	Refer to actual product in the event of product description discrepancy. Frequency range and maximum deviation comply with the regulations of different countries.	

ACT-52 Dual-Channel Diversity Receiver
ACT-51 Single-Channel Diversity Receiver



Rear Panel



Features

- 1. EIA standard 1/2U rack-mountable metal chassis for personal use.
- 2. All controls are intuitive and easily operating via electronic buttons, preventing accidental operation.
- 3. Full-color VFD (vacuum fluorescent display) displays all pertinent parameters on the same screen. Automatic dim for stand-by and lit during performance.
- 4. Each receiver presets 6 groups, and each group presets 8 interference-free channels. A total of 48 preset channels per band.
- 5. World's first ACT™ function provides precise and rapid frequency sync to the transmitters.
- 6. Advanced diversity receiving circuit for the best elimination of signal dropout and the "PiloTone & NoiseLock" dual-squelch circuits prevent noise interference.
- 7. Three switchable output levels. Output level is accurately pre-adjusted to equal to the microphone capsule sensitivity and ensures optimal performance
- 8. Receiver provides bias for booster where MIPRO antenna systems can be added for extended receiving range and stability
- 9. Stable performance, easy installation and more non-interference channels ideal for stage and PA applications.

Specifications

Model	ACT-52	ACT-51
Channel	Dual	Single
Frequency Range	UHF 480~934 MHz	
Antenna	Rear Panel. Detachable	
Preset Frequency	48 selectable channels. 8 compatible channels in Groups 1~6	
Receiving Mode	Diversity	
Oscillation Mode	PLL Synthesized, stability $\leq \pm 0.005\%$ (-10~+60°C)	
Sensitivity	10 dB μ V, at S/N > 80 dB	
S/N Ratio	>105dB(A)	
T.H.D.	<0.5% @ 1kHz	
Frequency Response	50 Hz~18 kHz	
Squelch	"PiloTone & NoiseLock" dual-squelch circuit	
Audio Output Adjustment	Output level accurately pre-adjusted to equal to the microphone capsule sensitivity	
Max. Output Level	3-Level Switch: +10 dBV / 0 dBV / -6 dBV	
Power Supply	External 100~240V AC Switching Power Supply	
Dimensions (W × H × D)	210 × 44 × 200 mm (8.3 × 1.7 × 7.9 ")	
Weight	Approx. 0.9 kg (2 lbs)	Approx. 0.7 kg (1.5 lbs)
Transmitter	ACT-50H , ACT-50T	
Notes	Refer to actual product in the event of product description discrepancy. Frequency range and maximum deviation comply with the regulations of different countries.	

ACT-50H Handheld Transmitter New



Patents :
Taiwan Utility M381162

Features

- 1. Rugged, ergonomically designed metal housing.
- 2. Unique sturdy multi-layered steel grilles not only protect the capsule against impact, anti-roll and pop noise, but also ensure transparent sound clarity.
- 3. Interchangeable capsule module with premium condenser or dynamic options for easy and fast changeovers.
- 4. Proprietary true condenser capsule exhibits high fidelity, wide dynamic range, fast transient responses, good feedback rejection, accurate sound image characteristics, transparent sound quality, and withstands maximum SPL.
- 5. Proprietary dynamic capsule exhibits low handling & impact noise characteristics.
- 6. Proprietary lockable silent on/off switch to avoid accidental power-off during performance.
- 7. Patented, integrated grille and battery housing design enable fast and easy 2 AA battery installation and replacement.
- 8. Impact-resistant battery compartment holds 2 AA batteries with color-coded rings for easy channel identification on stage.
- 9. LCD displays working channel, battery status indicator, and error code messages
- 10. Low spurious PLL-synthesized technology enhances frequency stability and reliability.
- 11. One-touch ACT syncs the transmitter and receiver frequency automatically.
- 12. Maximum 140dB SPL is achieved by the proprietary high dynamic range modulation circuitry.

Specifications

Housing	Metal
Oscillation Mode	PLL Synthesized
Frequency Range	UHF 480~934 MHz
Bandwidth	24 MHz
Channel Set-Up	ACT Sync
RF Output Power	30mW (country dependent)
Spurious Emissions	<-55dBc
Max. Input Level	140dB SPL
Display	LCD displays group, channel, battery status & error codes
Battery	2 AA alkaline
Capsules	Choose from : MU-79 ECM, MU-89 TCM, or MU-59 Dynamic
Dimensions (Ø × L)	50 × 253 mm (2 × 10 ")
Weight	Approx. 301 g (10.6 oz), excluding batteries
Patents & Approvals	Patented. Telecom and safety regulations approved.
Notes	Refer to actual product in the event of product description discrepancy. Frequency range and maximum deviation comply with the regulations of different countries.

ACT-50T Bodypack Transmitter New



Features

1. Lightweight, compact size with sturdy metal housing.
2. Antenna, mute button and XLR input connector are located on the top of transmitter.
3. Backlit LCD displays various parameters and status.
4. Innovatively designed battery cover allows easy access to operate buttons and prevents accidental operation.
5. Mute button and remote-control jack is equipped for easy activation of mute function.
6. PLL-synthesized technology enhances frequency stability and an interference-free working channel can be synchronized quickly and precisely by MIPRO's patented ACT™ function.
7. Can be directly matched to high-low input impedance for microphone and guitar without switching and the input sensitivity is adjustable.
8. Mini-XLR input connector for quick-lock or screw-lock with lavalier or headworn microphones and guitar.
9. High efficiency, low power consumption and low spurious emissions transmitting circuit for long battery hours of 2 AA batteries.
10. Adjustable belt clip allows wearing transmitter in up or down position.

Specifications

Housing	Composite of various metal
Frequency Range	UHF 480~934 MHz
Bandwidth	24 MHz
Oscillation Mode	PLL Synthesized
Channel Set-Up	ACT Sync
Display	LCD displays working band-code, group, channel, frequency, AF input gain, RF output power, mute & lock status, battery status and error codes.
RF Output Power	10 mW / 50 mW (switchable)
Spurious	<-55dBc
Max. Input Level	0dBV
Mute Connector	Optional MJ-70 remote mute switch
Battery	2 AA alkaline
Dimensions (W x H x D)	63 x 82 x 22 mm (2.5 x 3.2 x 0.9 ")
Weight	Approx. 98 g (3.5 oz), excluding batteries
Patents & Approvals	Patented. Telecom and safety regulations approved.
Notes	Refer to actual product in the event of product description discrepancy. Frequency range and maximum deviation comply with the regulations of different countries.

ACT-312 Dual-Channel Diversity Receiver

Profile

The innovative ACT-3 Series wireless microphone systems are a culmination of years of extensive design and manufacturing experience. No wiring and adjustment required as PCB, LCD and front panel are integrated. Featuring 1/2U receivers of single-channel ACT311 & dual-channel ACT-312 and 1U receivers of single-channel ACT300 & dual-channel ACT-312T.

EIA standard 19" rack-mountable metal chassis is used instead of cheap plastics. Featuring backlit LCD instead LED display for ease of use and professional appearance. PLL-synthesized technology for RF stability and matched with rugged ACT-30H & ACT-30T transmitters.

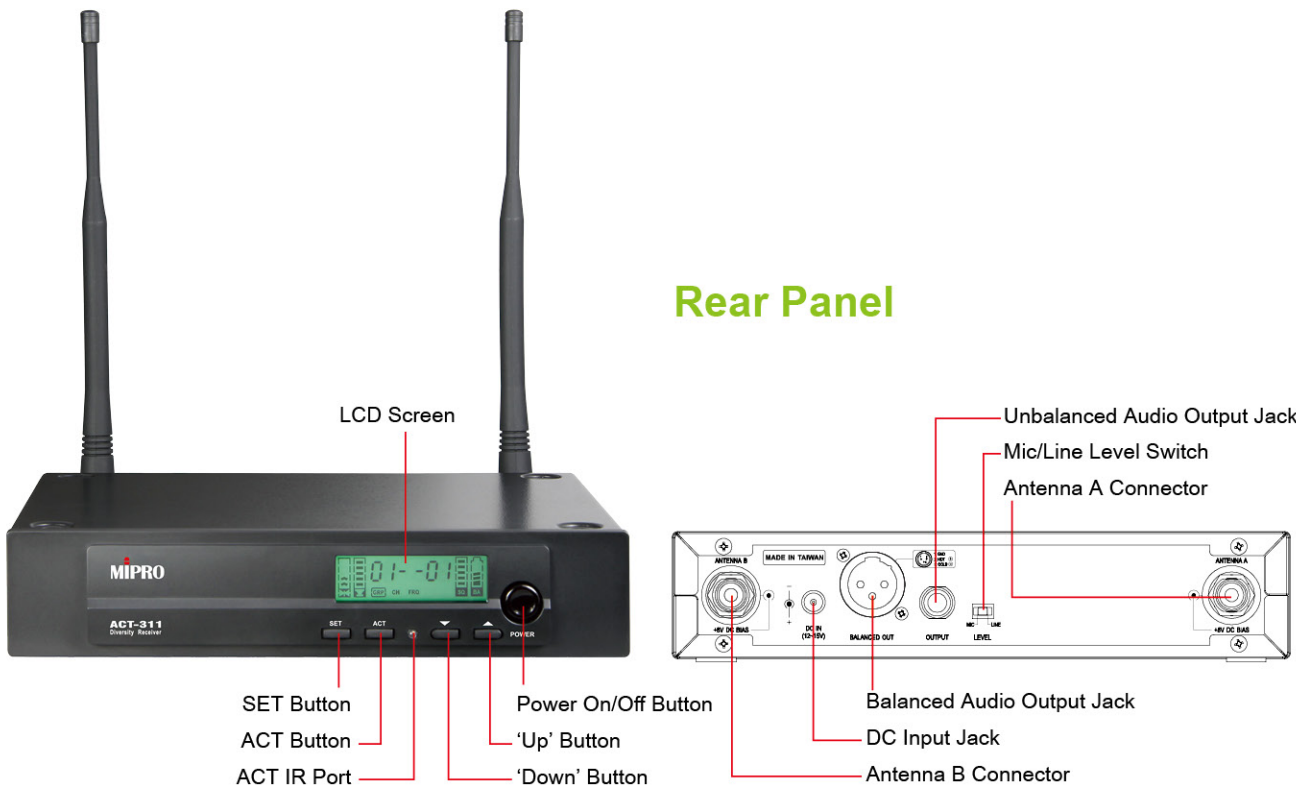
Design and made in Taiwan. Advanced features and functions make it ideal for professional applications with affordable prices.

Rear Panel



ACT-311 Single-Channel Diversity Receiver

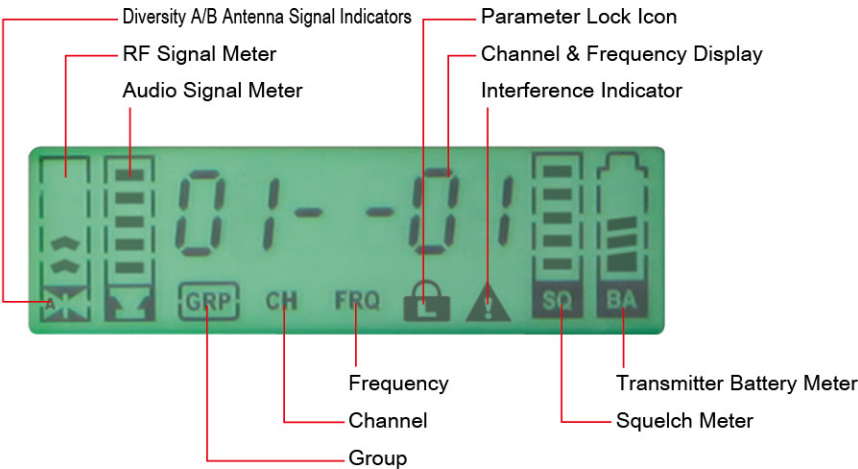
Rear Panel



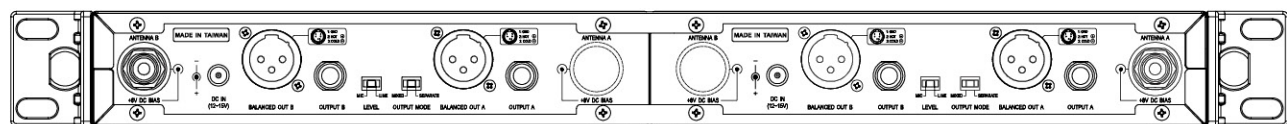
ACT-312T Quad-Channel Diversity Receiver



LCD Screen



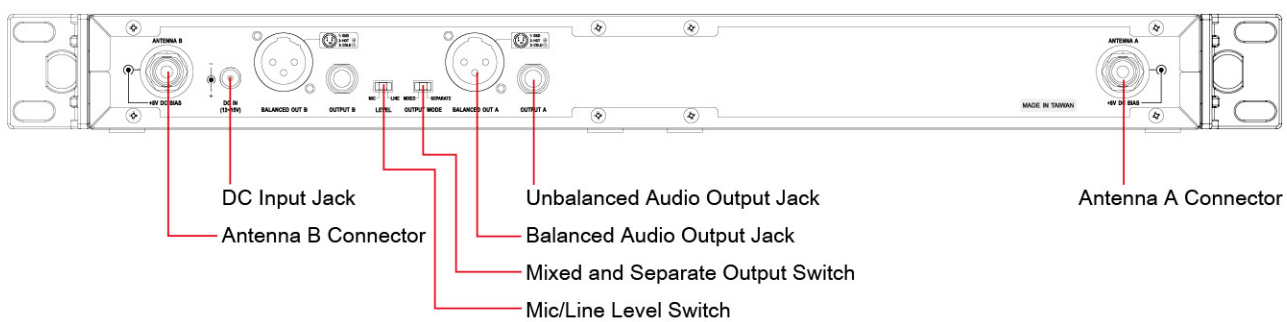
Rear Panel



ACT-300 Dual-Channel Diversity Receiver **New**



Rear Panel



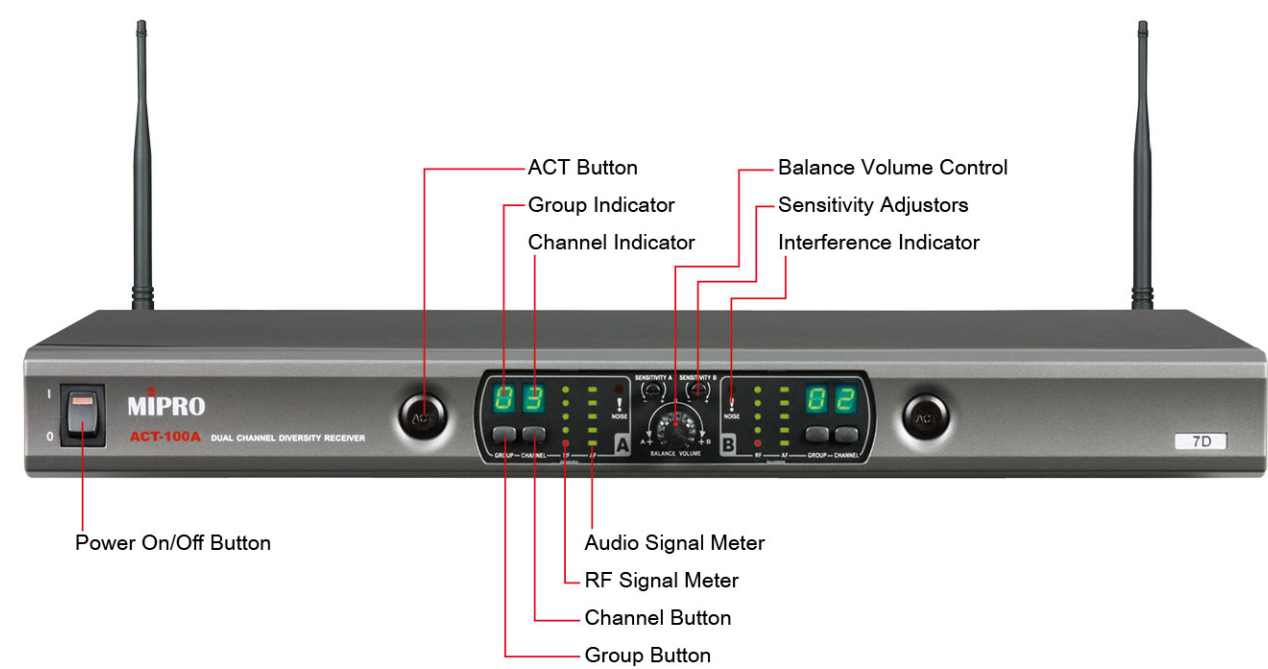
Features

- 1. ACT-311 & ACT-312 are EIA standard 1/2U metal receivers. ACT-300 & ACT-312T are EIA standard 1U metal receivers.
- 2. Receiver provides bias for booster where MIPRO antenna systems can be added for extended receiving range and stability.
- 3. Backlit LCD displays group, channel, frequency, RF level, antenna selection, AF level, battery level indicator, interference warning indicator, and panel lock indicator.
- 4. A lit green light indicates a working mode when receiver detects an incoming signal or buttons touched. Light dims automatically when receiver is idle for about 10 seconds.
- 5. Balanced XLR / unbalanced 1/4 " audio output jack, output level switch and DC input are on the rear panel. One mixed-output switch is available for dual-channel receivers.
- 6. High efficiency and low spurious PLL circuitry with Auto Scan function. Each receiver is presets with 11 groups, Groups 1~6, 7~10 have 8 &16 compatible channels respectively. Up to 8 channels in group 11 can be saved and recalled within 961 user-defined frequencies. A total of 112 preset channels per band.
- 7. World's first ACT™ function provides precise and rapid frequency sync to the transmitters.
- 8. Advanced diversity technology for optimum reception range and reduces signal dropouts and the "PiloTone & NoiseLock" dual-squelch circuits prevent noise interference.
- 9. Adjustable 'SQ' for higher sensitivity to increase receiving distance and lower sensitivity to reduce interference.
- 10. Industry's only RF interference warning indicator for ideal SQ level adjustment.
- 11. DC input socket accepts 12~15V power supply.
- 12. Matching ACT-30H handheld and ACT-30T bodypack transmitters.

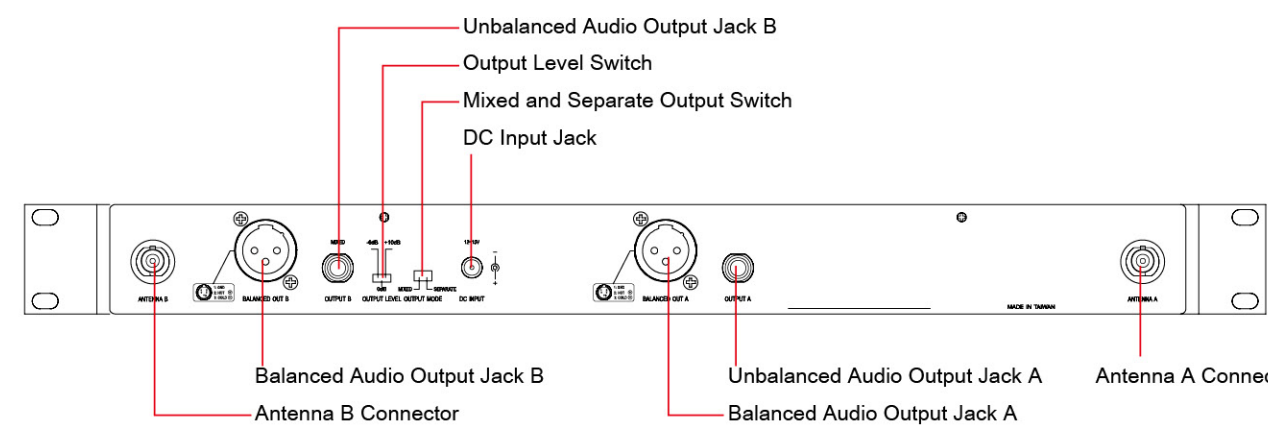
Specifications

Model	ACT-311		ACT-312	ACT-312T	ACT-300
Channel	Single		Dual	Quad	Dual
Chassis	EIA-Standard 19 " 1/2U			EIA-Standard 19 " 1U	
Receiving Mode	Diversity				
Frequency Range	UHF 480~934 MHz				
Antenna	Rear Panel. Detachable.				
Preset Channels	112 preset channels. Group 1-6: 8 compatible channels in each group. Group 7-10: 16 compatible channels in each group. Group 11: Up to 8 channels can be saved & recalled. 961 user-defined frequencies in group 11.				
Oscillation Mode	PLL Synthesized, Frequency Stability: ± 0.005% (-10~+60°C)				
Sensitivity	10 dB μ V, at S/N > 80 dB				
S/N Ratio	>106dB(A)				
T.H.D.	<0.5% @ 1 kHz				
Frequency Response	50 Hz~18 kHz				
Squelch	“PiloTone & NoiseLock” dual-squelch circuit				
Audio Output Adjustment	Output level accurately pre-adjusted to equal to the microphone capsule sensitivity				Each channel has individual volume control
Max. Output Level	2-Level Switch: Line & Mic				
Power Supply	External AC Adapter, 12~15V DC, 1A				
Dimensions (W × H × D)	210 × 44 × 180 mm (8.3 × 1.7 × 7.1 ")			420 × 44 × 180 mm (16.5 × 1.7 × 7.1 ")	
Weight	Approx. 0.8 kg (1.8 lbs)	Approx. 0.95 kg (2.1 lbs)		Approx. 1.75 kg (3.9 lbs)	Approx. 1.4 kg (3.1 lbs)
Transmitter	ACT-30H Handheld, ACT-30T Bodypack or ACT-50H Handheld, ACT-50T Bodypack				
Notes	Refer to actual product in the event of product description discrepancy. Frequency range and maximum deviation comply with the regulations of different countries.				

ACT-100A Dual-Channel Diversity Receiver



Rear Panel



Features

- 1. EIA standard 1U rack-mountable metal receiver equipped with clear LED control panel. Receiver provides bias for booster where MIPRO antenna systems can be added for extended receiving range and stability.
- 2. Sensitivity adjustor to manage the sensitivity levels and interferences.
- 3. Industry's only RF interference warning indicator with adjustor.
- 4. Enhanced RF filter and circuitry for improved anti-interference characteristics and increased compatible systems.
- 5. 10 groups and a total of 102 selectable frequencies per band. One-touch Autoscan for a clear, interference-free frequency. World's first ACT™ function provides precise and rapid frequency sync to the transmitters.
- 6. Advanced diversity receiving circuit for the best elimination of signal dropout. "PiloTone & NoiseLock" dual-squelch circuits prevent noise interference.
- 7. Three switchable output levels. Output level is accurately pre-adjusted to equal to the microphone capsule sensitivity and ensures optimal performance and no distortion during loud singing performance.
- 8. A balanced volume control enables users to adjust the mixed output volume of two wireless microphones.
- 9. Increased interference-free channels and ideal for large, multiple KTV rooms.

Specifications

Frequency Range	UHF 480~934 MHz
Antenna	Rear Panel. Detachable.
Channel	Dual
Preset Channels	102 preset channels. Group 1~6: 8 compatible channels in each group. Group 7~8: 12 compatible channels in each group. Group 9~10: 15 compatible channels in each group.
Receiving Mode	CPU-controlled Diversity
Oscillation Mode	PLL Synthesized, Frequency Stability: ± 0.005% (-10~+60°C)
Sensitivity	10 dB μ V, at S/N > 80 dB
S/N Ratio	>106dB(A)
T.H.D.	<0.5% @ 1kHz
Frequency Response	50 Hz~18 kHz
Squelch	"PiloTone & NoiseLock" dual-squelch circuit
Audio Output Adjustment	Output level accurately pre-adjusted to equal to the microphone capsule sensitivity
Max. Output Level	3-Level Switch: +10 dB / 0 dB / -6 dB
Power Supply	External AC Adapter, 12~15V DC , 1A
Dimensions (W × H × D)	420 × 44 × 204 mm (16.5 × 1.7 × 8 ")
Weight	Approx. 1.7 kg (3.7 lbs)
Transmitter	ACT-30H Handheld, ACT-30T Bodypack
Notes	Refer to actual product in the event of product description discrepancy. Frequency range and maximum deviation comply with the regulations of different countries.

ACT-30H Handheld Transmitter



Patents :
Taiwan Utility M381162

ACT-30Hr Remote Volume Control Handheld Transmitter



Patents :
Taiwan Utility M381162

Features

- 1. Extremely rugged, ergonomically designed housing.
- 2. The unique flat top multi-layered steel grille protects the capsule against impact, rolling, pop noise and ensures sound clarity.
- 3. The unique flat top multi-layered steel grille for condenser capsules and round top for dynamic capsules protect the capsule against impact, rolling and pop noise. The upper grille is able to be detached easily for cleaning and hygiene practices.
- 4. Premium true condenser microphone capsule provides high fidelity, wide frequency response, high dynamic range, rapid transient response, clarity and accurate sound reproduction.
- 5. Proprietary lockable silent on/off switch to avoid accidental power-off during performance.
- 6. Impact-resistant battery compartment holds 2 AA batteries.
- 7. Interchangeable colored rings for microphone channel identification on stage.
- 8. LCD displays group, channel, battery level & error message codes.
- 9. Low spurious PLL-synthesized technology enhances frequency stability and reliability. Patented “Built-in” antenna design.
- 10. World’s first ACT™ function provides precise and rapid frequency sync to the transmitters.
- 11. Industry’s only digital master control can be adjusted manually or wireless via new ACT-30Hr handheld transmitter microphone. (for MA-708 & MA-808 portables)

Specifications

Model	ACT-30H	ACT-30Hr
Built-in Volume Control	N/A	Yes. For MA-708 & MA-808 portables installed with MRM-70 & MRM-72 receiver modules
Housing	Rugged Plastic	
Oscillation Mode	PLL Synthesized	
Frequency Range	UHF 480~934 MHz	
Bandwidth	24 MHz	
Channel Set-Up	ACT Sync	
RF Output Power	10~30 mW (country dependent)	
Spurious Emissions	<-55dBc	
Max. Input Level	140dB SPL	
Display	LCD displays group, channel, battery status & error codes	
Battery	2 AA alkaline	
Capsules	Standard: MU-79 ECM, Optional: MU-89 TCM or MU-59 Dynamic	
Dimensions (Ø × L)	50 × 233 mm (2.0 × 9.2 ")	
Weight	Approx. 246 g (8.68 oz), excluding batteries	
Patents & Approvals	Patented. Telecom and safety regulations approved.	
Notes	Refer to actual product in the event of product description discrepancy. Frequency range and maximum deviation comply with the regulations of different countries.	

ACT-30T Bodypack Transmitter



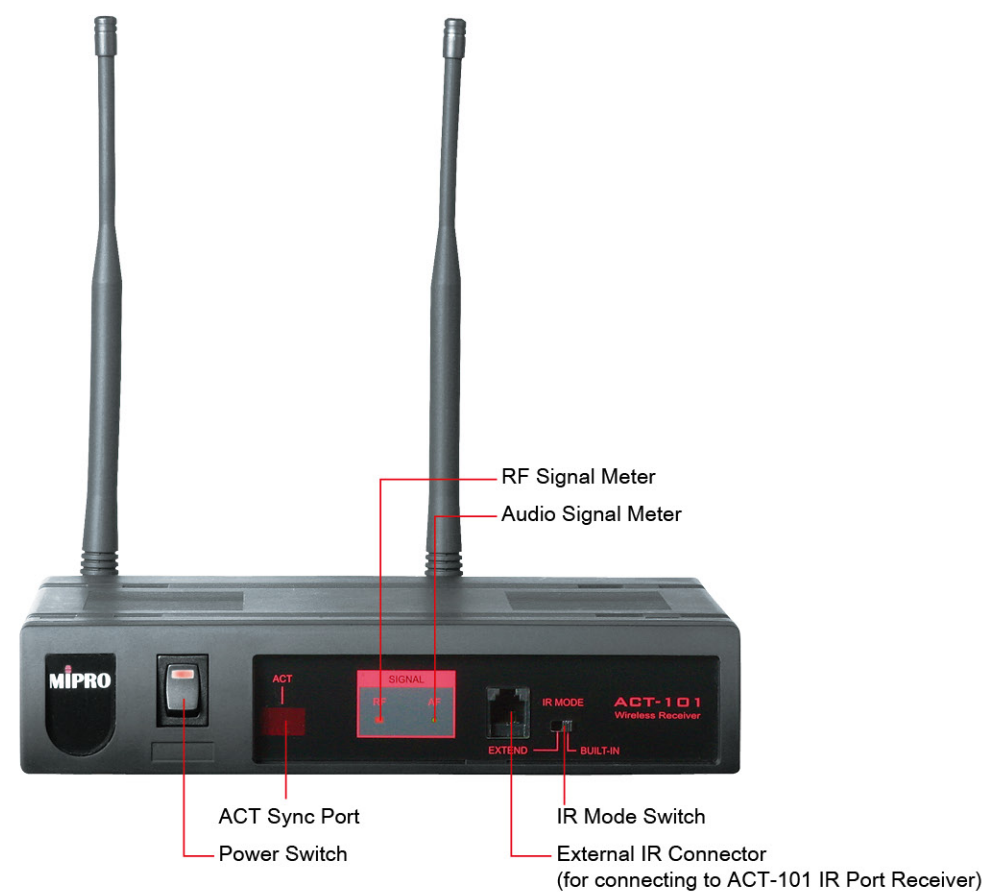
Features

- 1. Miniature, compact design.
- 2. Top features mute switch, mini-XLR connector and antenna.
- 3. Backlit LCD displays various parameters and indicators.
- 4. Unique battery cover design provides easy access to operational controls and protects against accidental change of settings.
- 5. Connector for optional MJ-70 remote mute switch cable.
- 6. Low spurious PLL-synthesized technology enhances frequency stability and reliability. One-touch ACT syncs the transmitter and receiver frequency automatically.
- 7. Selectable impedance for microphone or guitar/line inputs.
- 8. 4-pin mini XLR connector is compatible with all MIPRO lavalier, headworn microphones and instrument cable.
- 9. Highly efficient power consumption circuitry ensures long operating hours from 2 AA batteries.
- 10. Adjustable belt clip allows wearing transmitter in up or down position.

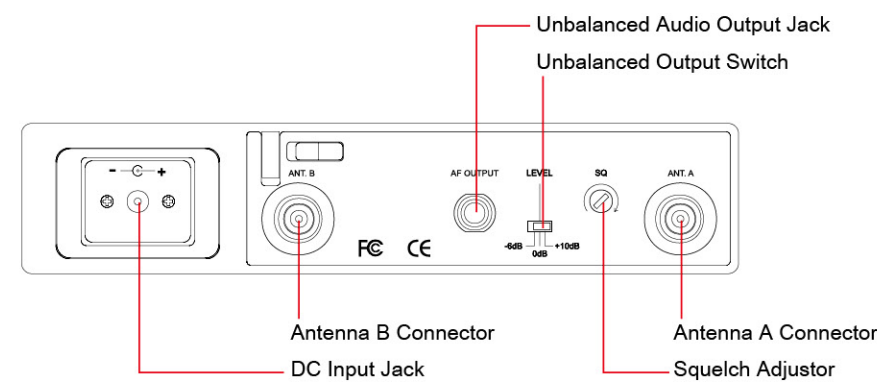
Specifications

Housing	Rugged Plastic
Frequency Range	UHF 480~934 MHz
Bandwidth	24 MHz
Oscillation Mode	PLL Synthesized
Channel Set-up	ACT Sync
LCD Display	LCD displays working band-code, group, channel, frequency, AF input gain, RF output power, mute & lock status, battery status and error codes.
RF Output Power	10 mW / 50 mW (switchable)
Spurious Emissions	<-55dBc
Max. Input Level	0dBV
Mute Connector	Optional MJ-70 remote mute switch
Battery	2 AA alkaline
Dimensions (W × H × D)	63 × 82 × 22 mm (2.5 × 3.2 × 0.9 ")
Weight	Approx. 81 g (2.9 oz), excluding batteries
Patents & Approvals	Patented. Telecom and safety regulations approved.
Notes	Refer to actual product in the event of product description discrepancy. Frequency range and maximum deviation comply with the regulations of different countries.

ACT-101
IR Remote-Controlled Single-Channel Diversity Receiver



Rear Panel



Features

- 1. EIA standard 1/2U rack-mountable sturdy metal chassis with built-in single channel receiver module features shielding of spurious interference during performance.
- 2. Advanced diversity technology for the best elimination of signal dropout and the “PiloTone & NoiseLock” dual-squelch circuits prevent noise interference.
- 3. 97 built-in UHF frequencies and world first ACT function provides fast and automatic frequency set-up to the transmitters.
- 4. Output level is accurately pre-adjusted to equal to the microphone capsule sensitivity and ensures optimal performance.
- 5. Switching power supply ensures system stability during 100~240V AC.
- 6. Ideal for classrooms, meeting rooms, lecture halls and similar environments.

Specifications

Channel	Single	S/N Ratio	>100dB(A)
Receiver Construction	Plastic Panel, Plastic Chassis	T.H.D.	<0.5% @ 1kHz
Assembly	Built-in Fixed Receiver Module	Frequency Response	50 Hz~18 kHz
Display	RF and AF indicator	Max. Output Level	Unbalanced Line-level: -4 dBV/5K Ω
Oscillation Mode	PLL Synthesized, Frequency Stability: $\pm 0.005\%$ (-10~+60 $^{\circ}\text{C}$)	Audio Output Connector	6.3 mm (1/4 ")
Frequency Range	UHF 480~934 MHz	Audio Output Adjustment	Output level accurately pre-adjusted to equal to the microphone capsule sensitivity
Bandwidth	24 MHz	Squelch	PiloTone
Step	125 kHz	AC Power Supply	External 100-240V AC Switching Power Supply, 12~15V DC, 0.5A
Audio Input	Transmitter accepts Mic or Line input	Dimensions (W \times H \times D)	210 \times 44 \times 170 mm (8.3 \times 1.7 \times 6.7 ")
Operating Mode	Remote controlled with ACT multi-functional transmitter	Weight	Approx. 0.6 kg (1.3 lbs)
Receiving Mode	Diversity	Notes	Refer to actual product in the event of product description discrepancy. Frequency range and maximum deviation comply with the regulations of different countries.
Sensitivity	6 dB μ V, at S/N > 80 dB, 40 kHz		

MT-101ACT



Features

- 1. Powerful and clarity sound, easy operation and unsurpassed value.
- 2. Once programmed, the same MT-101ACT transmitter can be wirelessly remote controlled the power and volume of each receiver.
- 3. Integrated antenna design prevents the annoyance of antenna's break in use.
- 4. MT-101ACT can be worn around the neck via a lanyard for easy adjusting a proper distance between the microphone and mouse for the best sound quality.
- 5. Built-in 3.5mm minijack line input accepts an external headset microphone or other audio sources like CD, MP3 or iPod player.
- 6. Built-in rechargeable battery can be recharged after use through plugging the transmitter into a special charger. Prevent inconvenience of battery replacement and save expense of replacing batteries.

Specifications

Oscillation Mode	PLL Synthesized
Frequency Range	UHF 480~934 MHz
Bandwidth	24 MHz
Operating Mode	Remote controlled with ACT multi-functional transmitter
Applications	Classrooms or multi-area installations
Programmable Frequencies	97
Preset Channel	1
Power Supply	Built-in rechargeable battery with battery charger
Channel Set-Up	ACT Sync
Charge Time	Up to 3 hours
Operating Time	Up to 24 hours
Dimensions (W x H x D)	182 x 40 x 32 mm (7.1 x 1.6 x 1.3 ")
Weight	Approx. 150 g (5.3 oz),
Notes	Refer to actual product in the event of product description discrepancy. Frequency range and maximum deviation comply with the regulations of different countries.

ACT-101 ACT IR Port Receiver



- IR Output Socket
- ACT Sync Port

Features

ACT-101 is an external IR port receiver that can be installed and positioned for improved power on/off reception angles if ACT-101 receiver is installed inside locked, shielded and unfriendly RF environments.

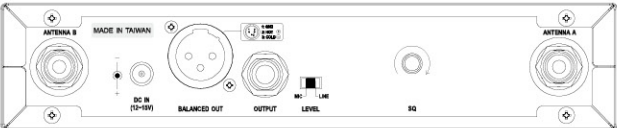
Specifications

Transmitter	MT-101ACT
Output Socket	6-line telephone
Dimensions (W x H x D)	186 x 43 x 24 mm (7.3 x 1.7 x 0.9 ")
Weight	Approx. 138 g (4.9 oz)

MR-818 Single-Channel True Diversity Receiver



Rear Panel

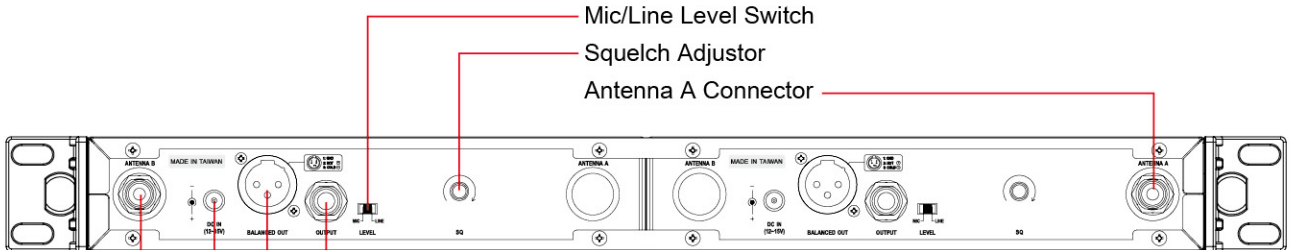


MR-818T Dual-Channel True Diversity Receiver



- Power Switch & Volume Control
- Interference Indicator
- RF Signal Meter
- Audio Signal Meter

Rear Panel



- Mic/Line Level Switch
- Squelch Adjustor
- Antenna A Connector
- Unbalanced Audio Output Jack
- Balanced Audio Output Jack
- DC Input Jack
- Antenna B Connector

Profile

This series features new UHF PLL fixed frequency design with proven quality, easy to use and affordable price for a wide selection of wireless applications.

This series has advanced RF circuitry to improve anti-interference characteristics and increase compatible interference-free channels. Advanced true diversity technology ensures optimal reception range and eliminates signal drop-outs.

Features

- 1. EIA Standard 19" metal housings improve heat dissipation and shielding from spurious interference.
- 2. MR-818 is a single-channel true diversity receiver. MR-818T is a dual-channel true diversity receiver.
- 3. PLL synthesized fixed frequency circuit for stability and effortless frequency setup.
- 4. Advanced true diversity technology ensures optimal reception range and eliminates signal drop-outs.
- 5. RF and audio level indicators.
- 6. Output level is accurately pre-adjusted to equal to the microphone capsule sensitivity and ensures optimal performance.
- 7. Adjustable 'SQ' for increased or decreased sensitivity level for increased reception range or interference management.
- 8. Industry's only RF interference warning indicator for SQ adjustment.
- 9. Up to 24 compatible channels can be used simultaneously at the same venue (country dependent).
- 10. New MH-80 handheld transmitter features sturdy housing, high-efficiency transmitting circuit, and brilliant sound quality.
- 11. Quick to install and easy to operate with high reliability and affordability.
- 12. Ideal for entry-level stage and PA applications.

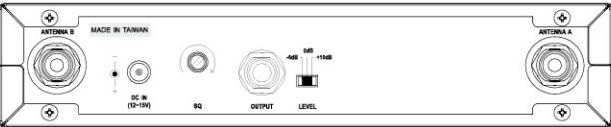
Specifications

Model	MR-818	MR-818T
Channel	Single	Dual
Chassis	EIA-Standard 19 " 1/2U	EIA-Standard 19 " 1U
Receiving Mode	True Diversity	
Frequency Band	UHF 780~930 MHz	
Antenna	Rear Panel. Detachable.	
Oscillation Mode	PLL Synthesized Fixed-Frequency, Frequency Stability $\pm 0.005\%$ (-10~+60°C)	
Sensitivity	8 dB μ V, at S/N > 80 dB	
S/N Ratio	> 106 dB(A)	
T.H.D.	< 0.5% @ 1 kHz	
Frequency Response	50 Hz~18 kHz	
Squelch	"NoiseLock" squelch circuit	
Audio Output Adjustment	Output level accurately pre-adjusted to equal to the microphone capsule sensitivity	
Max. Output Level	2-Level Switch: Line & Mic	
Power Supply	External AC Adapter, 12~15V DC, 1A	
Dimensions (W x H x D)	210 x 44 x 180 mm (8.3 x 1.7 x 7.1 ")	420 x 44 x 180 mm (16.5 x 1.7 x 7.1 ")
Weight	Approx. 0.8 kg (1.7 lbs)	Approx. 1.6 kg (3.5 lbs)
Transmitter	MH-80 , MT-801a	
Notes	Refer to actual product in the event of product description discrepancy. Frequency range and maximum deviation comply with the regulations of different countries.	

MR-811 Single-Channel Diversity Receiver



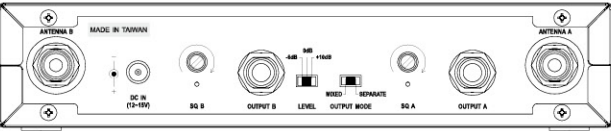
Rear Panel



MR-812 Dual-Channel Diversity Receiver



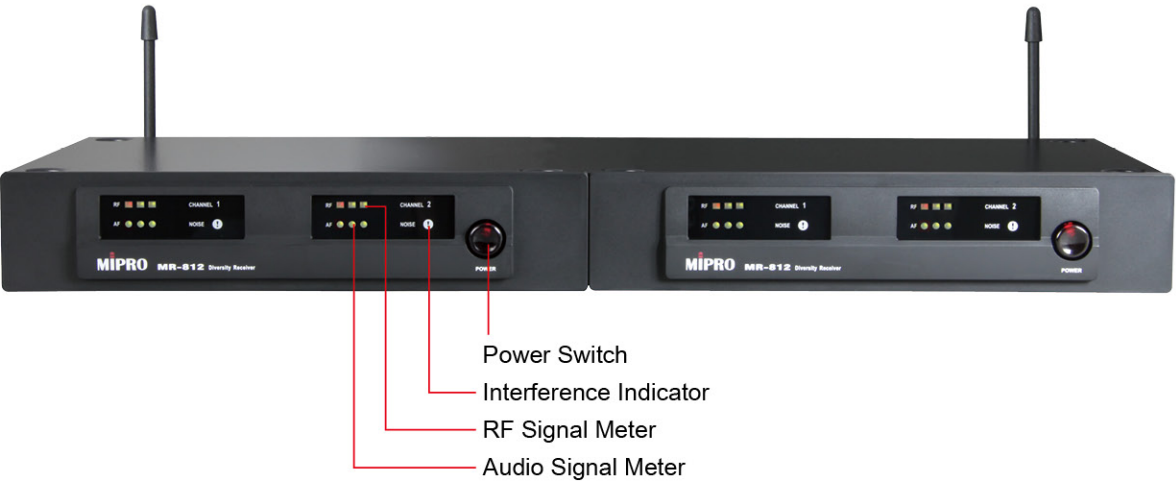
Rear Panel



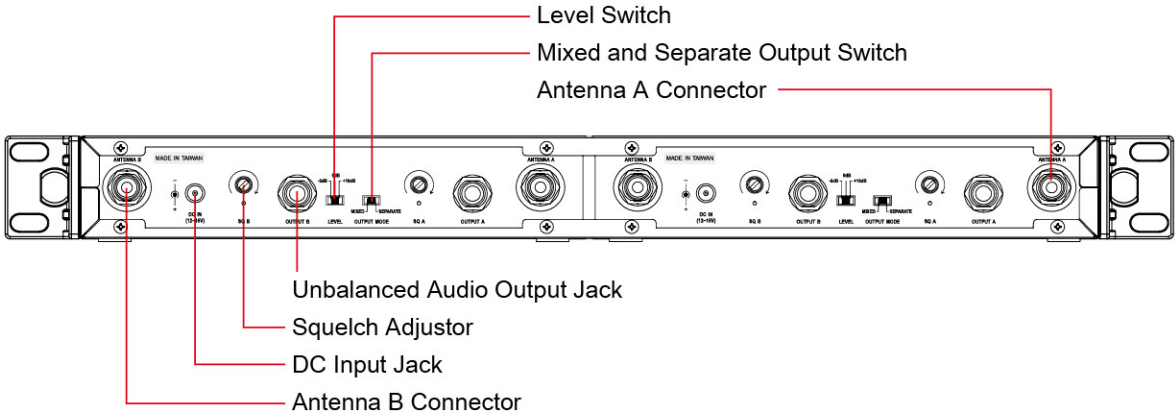
Transmitters



MR-812T Quad-Channel Diversity Receiver

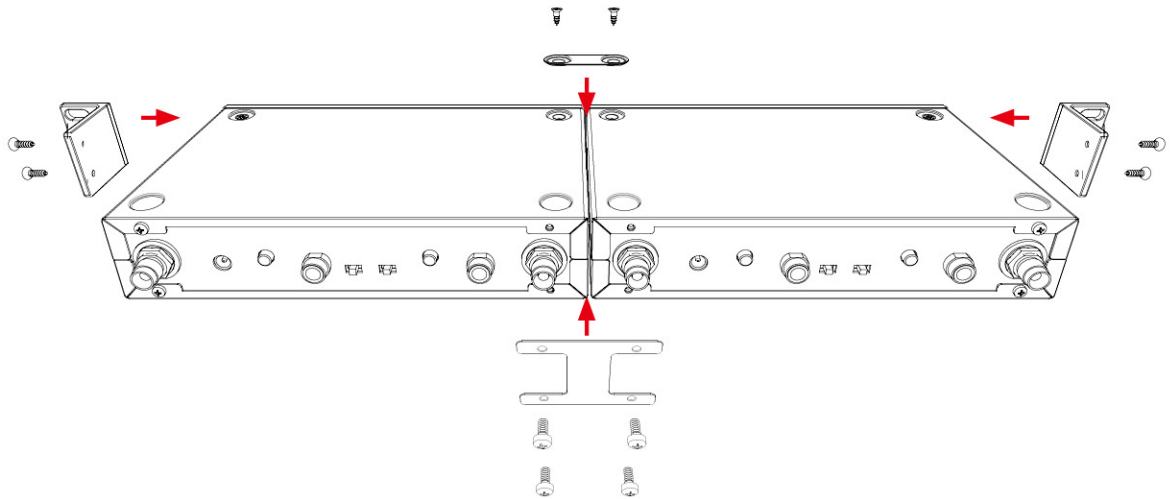


Rear Panel



Accessories for 2 half-rack receivers side by side assembly

Accessories and assembly figures for 2 half-rack receivers ACT-515、ACT-311、ACT-312、MR-818、MR-811



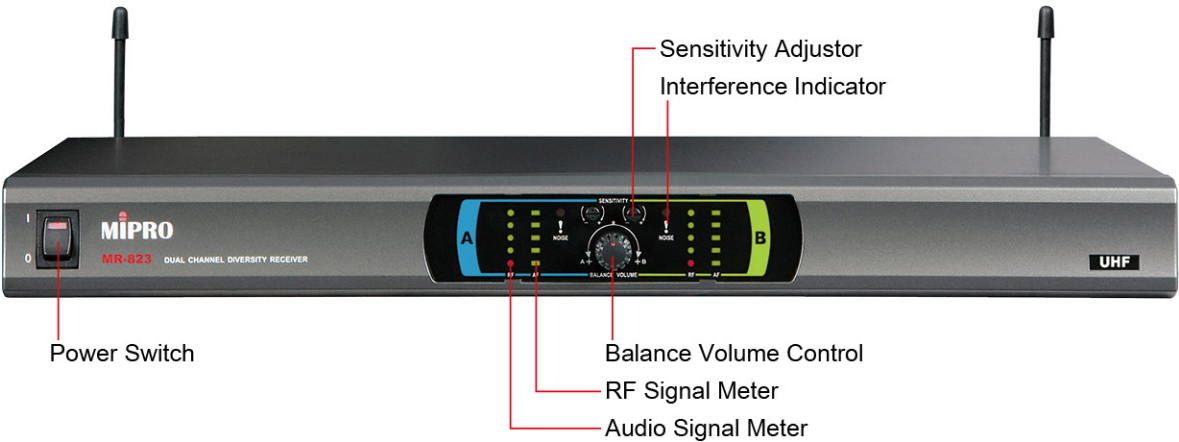
Features

1. EIA Standard metal housings improve heat dissipation and shielding from spurious interference.
2. MR-811 is a 1/2U single-channel diversity receiver. MR-812 is a 1U dual-channel diversity receiver.
3. MR-812T is a 1U quad-channel diversity receiver.
4. PLL synthesized fixed frequency circuit for stability and effortless frequency setup.
5. Advanced diversity technology ensures optimal reception range and eliminates signal drop-outs.
6. RF and audio level indicators.
7. Output level is accurately pre-adjusted to equal to the microphone capsule sensitivity and ensures optimal performance.
8. Adjustable 'SQ' for increased or decreased sensitivity level for increased reception range or interference management.
9. Industry's only RF interference warning indicator for SQ adjustment.
10. Up to 24 compatible channels can be used simultaneously at the same venue (country dependent).
11. New MH-80 handheld transmitter features sturdy housing, high-efficiency transmitting circuit, and brilliant sound quality.
12. Quick to install and easy to operate with high reliability and affordability.
13. Ideal for entry-level stage and PA applications.

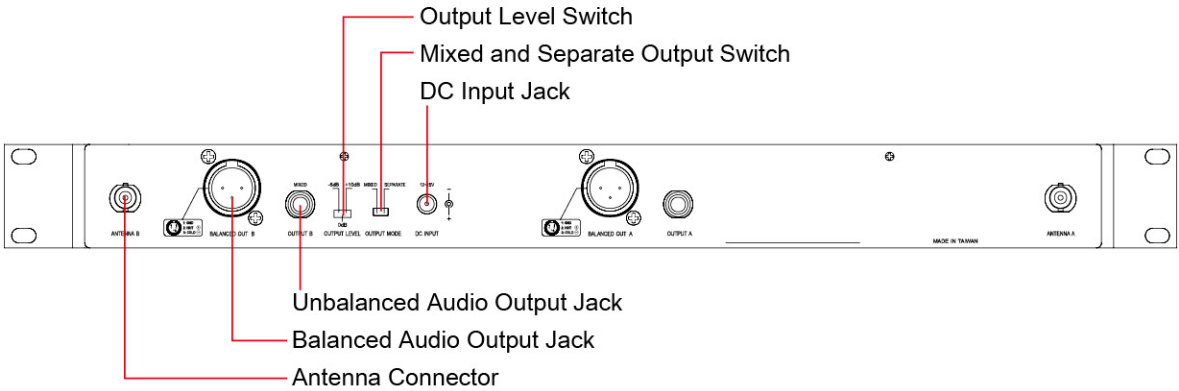
Specifications

Model	MR-811	MR-812	MR-812T
Channel	Single	Dual	Quad
Chassis	EIA-Standard 19 " 1/2U		EIA-Standard 19 " 1U
Receiving Mode	Diversity		
Frequency Range	UHF 480~934 MHz		
Antenna	Rear Panel. Detachable.		
Oscillation Mode	PLL Synthesized Fixed-Frequency, Frequency Stability : $\pm 0.005\%$ (-10~+60°C)		
Sensitivity	10 dB μ V, at S/N > 80 dB		
S/N Ratio	> 106 dB(A)		
T.H.D.	< 0.5% @ 1 kHz		
Frequency Response	50 Hz~18 kHz		
Squelch	"NoiseLock" squelch circuit		
Audio Output Adjustment	Output level accurately pre-adjusted to equal to the microphone capsule sensitivity		
Max. Output Level	3-Level Switch: +10 dB / 0 dB / -6 dB		
Power Supply	External AC Adapter, 12~15V DC, 1A		
Dimensions (W x H x D)	210 x 44 x 180 mm (8.3 x 1.7 x 7.1 ")		420 x 44 x 180 mm (16.5 x 1.7 x 7.1 ")
Weight	Approx. 0.8 kg (1.7 lbs)	Approx. 0.95 kg (2.1 lbs)	Approx. 1.75 kg (3.8 lbs)
Transmitter	MH-80 , MT-801a		
Notes	Refer to actual product in the event of product description discrepancy. Frequency range and maximum deviation comply with the regulations of different countries.		

MR-823 Dual-Channel Diversity Receiver



Rear Panel



Features

- 1. EIA Standard 19" metal housings improve heat dissipation and shielding from spurious interference.
- 2. PLL synthesized fixed frequency circuit for stability and effortless frequency setup.
- 3. Diversity technology ensures optimal reception range and eliminates signal drop-outs.
- 4. RF and audio level indicators.
- 5. Increased bandwidth from 480-934 MHz.
- 6. Adjustable 'SQ' for increased or decreased sensitivity level for increased reception range or interference management.
- 7. Industry's only RF interference warning indicator for SQ adjustment.
- 8. Output level is accurately pre-adjusted to equal to the microphone capsule sensitivity and ensures optimal performance.
- 9. A balanced volume control enables users to adjust the mixed output volume of two wireless microphones.
- 10. Ideal for entry-level stage and PA applications.

Specifications

Chassis	EIA-Standard 19 " 1U
Frequency Range	UHF 480~934 MHz
Receiving Mode	Diversity
Oscillation Mode	PLL Synthesized Fixed-Frequency, Frequency Stability: ± 0.005% (-10~+60℃)
Sensitivity	10 dB μ V, at S/N > 75 dB
S/N Ratio	> 105 dB(A)
T.H.D.	< 0.5% @ 1 kHz
Frequency Response	50 Hz~18 kHz
Squelch	"NoiseLock" squelch circuit
Audio Output Adjustment	Output level accurately pre-adjusted to equal to the microphone capsule sensitivity
Max. Output Level	3-Level Switch: +10 dB / 0 dB / -6 dB
Power Supply	External AC Adapter, 12~15V DC , 1A
Dimensions (W × H × D)	420 × 44 × 204 mm (16.5 × 1.7 × 8 ")
Weight	Approx. 1.7 kg (3.7 lbs)
Transmitter	MH-80 Handheld, MT-801a Bodypack
Notes	Refer to actual product in the event of product description discrepancy. Frequency range and maximum deviation comply with the regulations of different countries.

MH-80 Handheld Transmitter New



Patents :
Taiwan Utility M381162

Mic Capsule Options

- 1. **MU-86:**
Condenser Mic Capsule. Fixed to housing.
- 2. **MU-87:**
Premium Condenser Mic Capsule. Fixed to housing.
- 3. **MU-89:**
Interchangeable True Condenser Capsule.
- 4. **MU-56:**
Dynamic Mic Capsule. Fixed to housing.
- 5. **MU-57:**
Premium Dynamic Mic Capsule. Fixed to housing.
- 6. **MU-59:**
Interchangeable Dynamic Capsule.



Features

- 1. Fixed frequency with PLL synthesized technology ensures no need for frequency setup.
- 2. Innovatively designed housing combines aesthetics and ergonomic style.
- 3. Unique sturdy multi-layered steel grilles protect the capsule against impact, anti-roll and pop noise. Interior grille with fine metal mesh instead of sponge foam minimizes pop & breath noises and ensures transparent sound clarity.
- 4. Patented, integrated grille and battery housing design enable fast and easy 2 AA battery installation and replacement.
- 5. Sturdy housing with color-coded channel identification rings.
- 6. Low-battery warning indicator also determines battery freshness.
- 7. Patented lockable, silent on/off switch.
- 8. Proprietary quality condenser capsule exhibits high fidelity, wide dynamic range, transparent sound quality, and withstands maximum SPL.
- 9. Up to 24 hours of continuous operation with 2 AA alkaline batteries.

Specifications

Housing	Plastic
Frequency Range	UHF 480~934 MHz
Oscillation Mode	PLL Synthesized Fixed-Frequency
RF Output Power	10~30 mW (country dependent)
Spurious Emissions	< -55 dBc
Max. Input Level	140 dB SPL
Display	Battery-low & Battery is good LED indicator
Battery	2 AA alkaline
Capsules	MU-86 Condenser Capsule
Dimensions (Ø × L)	50 × 233 mm (2.0 × 9.2 ")
Weight	Approx. 245 g (8.6 oz), excluding batteries
Patents & Approvals	Patented. Telecom and safety regulations approved.
Notes	Refer to actual product in the event of product description discrepancy. Frequency range and maximum deviation comply with the regulations of different countries.

MT-801a Bodypack Transmitter



Features

- 1. Lightweight, compact size with sturdy plastic housing.
- 2. Fixed frequency with PLL synthesized technology ensures no need for frequency setup.
- 3. High dynamic range modulation circuit sustains high SPL without distortion.
- 4. Accepts any MIPRO headworn, lavalier microphones or instrument cable.
- 5. Up to 24 hours of continuous operation with 2 AA alkaline batteries.

Specifications

Oscillation Mode	PLL Synthesized Fixed-Frequency
Frequency Range	UHF 480~934 MHz
RF Output Power	10~30 mW (country dependent)
Spurious Emissions	< -55 dBc
Max. Input Level	0 dBV
Headworn Microphone	MU-13 / MU-23 / MU-210 / MU-53HN / MU-55HN
Lavalier Microphone	MU-53L / MU-55L
Battery	2 AA alkaline
Dimensions (W × H × D)	63 × 105 × 21 mm (2.5 × 4.1 × 0.8 ")
Weight	Approx. 90g (3.2 oz), excluding batteries
Patents & Approvals	Patented. Telecom and safety regulations approved.
Notes	Refer to actual product in the event of product description discrepancy. Frequency range and maximum deviation comply with the regulations of different countries.

Profile

MIPRO introduces two musical instrument microphone sets:

VM-10 Violin Microphone set and SM-10 Saxophone Microphone Set.

VM-10 Violin Microphone Set New

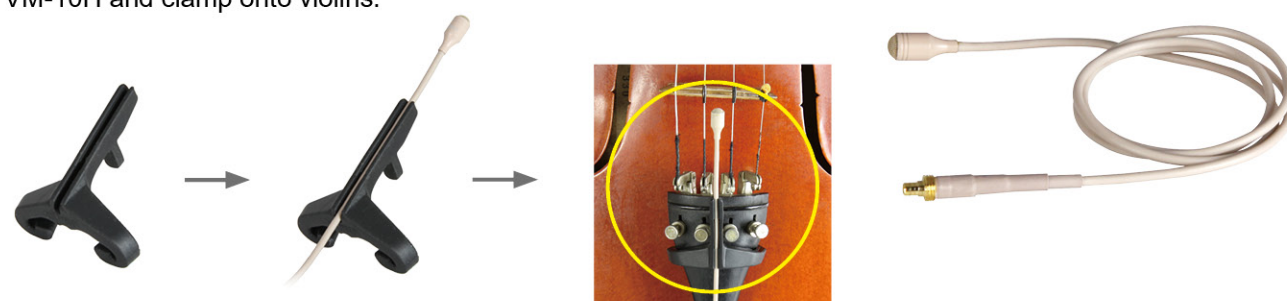
VM-10 Violin set is designed after years of collaborating together with professional musicians. It fits snugly, easy to install and remove and protects the expensive instruments from surface scratches. Strategically placed in positions that pick up accurate sound reproduction while minimizing handling and hitting noises during performance. Each set includes the following components.

VM-10H Violin Microphone Clip

VM-10H clip holds VM-10M microphone and is specially designed for violin or viola application.

VM-10M Violin Microphone

The miniature VM-10M omni-directional microphone attaches to VM-10H and clamp onto violins.

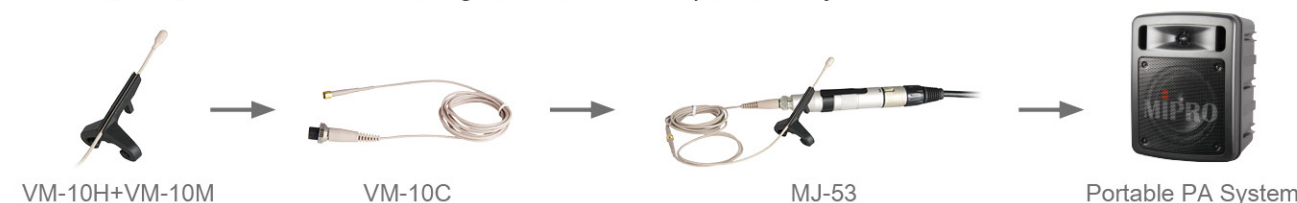


VM-10C Violin Microphone Cable

For audio output, connect VM-10M with VM-10C. Two connecting methods:

Wired: Connect VM-10 with MJ-53 condenser microphone adaptor and plug into a PA system.

Wireless: Connect VM-10 with any MIPRO ACT series bodypack transmitter for wireless transmission to a matching receiver hooked up to a PA system.



SM-10 Saxophone Microphone Set New

SM-10 Saxophone set is designed after years of collaborating together with professional musicians. It fits snugly, easy to install and remove and protects the expensive instruments from surface scratches. Strategically placed in positions that pick up accurate sound reproduction while minimizing handling and hitting noises during performance. Each set includes the following components.

SM-20H Saxophone Microphone Clip

SM-20H clip holds SM-10M microphone and is specially designed for saxophone application.

SM-10M Saxophone Microphone

The SM-10M gooseneck microphone attaches to SM-20H and clamp onto saxophones.

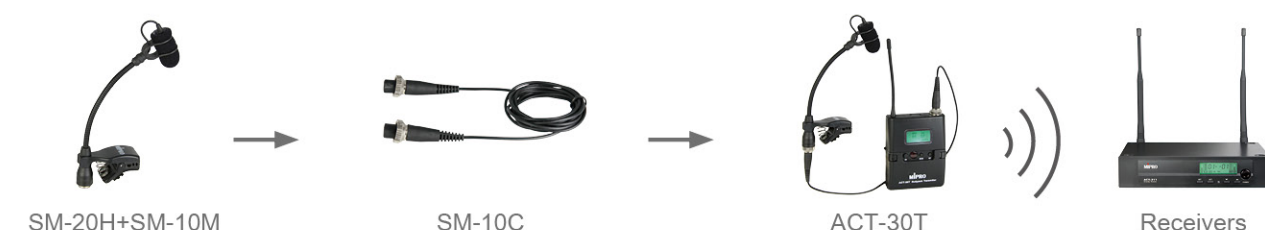
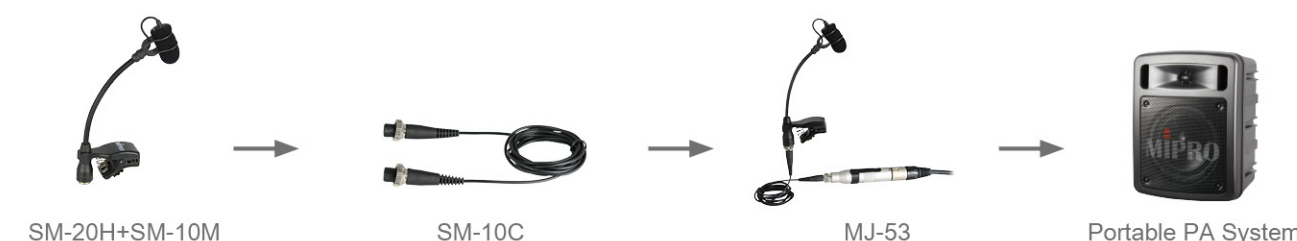


SM-10C Saxophone Microphone Cable

For audio output, connect SM-10M with SM-10C. Two connecting methods:

Wired: Connect SM-10 with MJ-53 condenser microphone adaptor and plug into a PA system.

Wireless: Connect SM-10 with any MIPRO ACT series bodypack transmitter for wireless transmission to a matching receiver hooked up to a PA system.



VT Series Wireless Violin Set New

VT Series Wireless Violin set is designed for a cable-free, wireless violin audio performances.

No external connecting cable is required. Simply integrate the miniature, lightweight transmitter to a proprietary violin holder. This holder clamp snugly to violin, easy to install and remove and protects the expensive instruments from surface scratches. Strategically placed in flexible positions that will not interference during performances. Four optional sets are available.

VT-20 Wireless Violin Set

VT-20 includes VT-20H violin holder and ACT-20T(VT) mini transmitter. It is compatible with any existing ACT 3, 5, 7 series receivers.



VT-30 Wireless Violin Set

VT-30 includes VT-20H violin holder and ACT-20T(VT) mini transmitter. It is compatible with ACT-311/312/312T receivers.



VT-50 Wireless Violin Set

VT-50 includes VT-20H violin holder and ACT-20T(VT) mini transmitter. It is compatible with any ACT-515/515T or ACT-51/52 receivers.



VT-70 Wireless Violin Set

VT-70 includes VT-20H violin holder and ACT-20T(VT) mini transmitter. It is compatible with any ACT-717/727/747 receivers.



ST Series Wireless Saxophone Set New

ST Series Wireless Saxophone set is designed for a cable-free, wireless saxophone audio performances. No external connecting cable is required. Simply integrate the miniature, lightweight transmitter to a proprietary saxophone holder. This holder clamp snugly to saxophone, easy to install and remove and protects the expensive instruments from surface scratches. Strategically placed in flexible positions that will not interference during performances. Four optional sets are available.

ST-20 Wireless Saxophone Set

ST-20 includes SM-20H saxophone holder and ACT-20T(ST) mini transmitter. It is compatible with any existing ACT 3, 5, 7 series receivers.



ST-30 Wireless Saxophone Set

ST-30 includes SM-20H saxophone holder and ACT-20T(ST) mini transmitter. It is compatible with ACT-311/312/312T receivers.



ST-50 Wireless Saxophone Set

ST-50 includes SM-20H saxophone holder and ACT-20T(ST) mini transmitter. It is compatible with any ACT-515/515T or ACT-51/52 receivers.

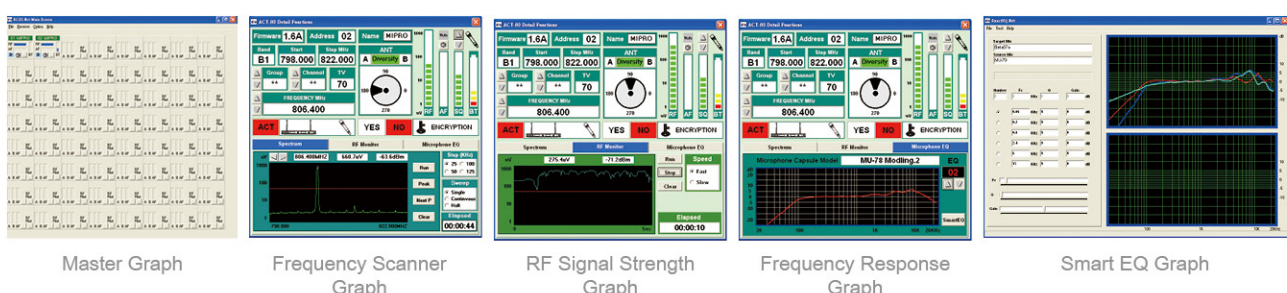


ST-70 Wireless Saxophone Set

ST-70 includes SM-20H saxophone holder and ACT-20T(ST) mini transmitter. It is compatible with any ACT-717/727/747 receivers.



ACT-8D Digital Receivers PC Management Software



ACT-707SD Analog Receivers PC Management Software



Features

This software is an advanced and user-friendly PC interface management program. The interface uses a MIPRO DVU USB connector or DVJ RS-232 connector to link an IBM-compatible PC to receiver. Real time monitored, remote controlled up to 64 receiver modules simultaneously up to 300 meters away from PC. The management software has a built-in high performance spectrum analyzer allows direct setup of non-interference channels and monitors the wireless environment for all operating channels and interference signals.

The software is also capable of monitoring transmitter battery status, AF/RF & Antenna A/B strength. Features like signal dropouts recording system where history of signal path can be reviewed for analysis, real-time program editing, multi-function and status display are also included for your convenience.

MIPRO DVU Network Connection



MIPRO DVJ Network Connection



Network Cable



Profile

MIPRO introduces ACT-20T, a compact, miniature transmitter. It becomes a complete freedom of mobility when connected with a headworn microphone with no bodypack and no cable. This true wireless solution offers a hands-free operation without cable entanglement and poor connection problems.

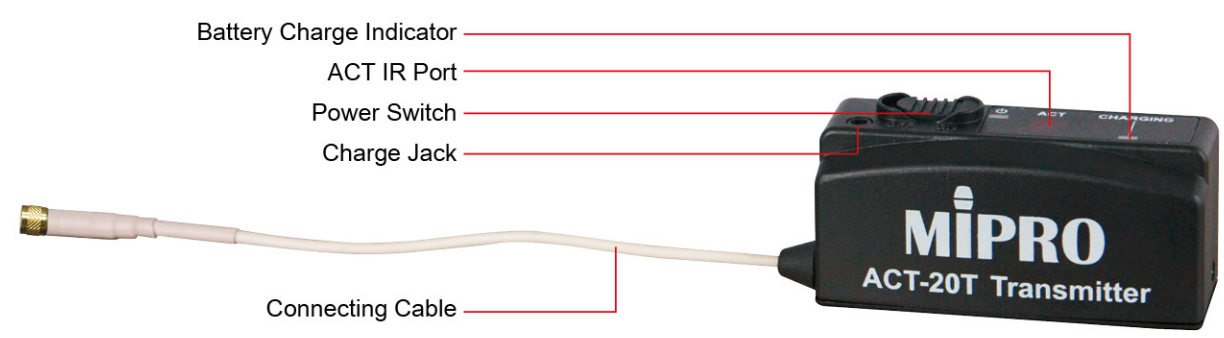
The ACT-20T utilizes PLL synthesized technology for increased RF stability and packed in a lightweight, miniature housing so transmitter can rest comfortably and secure behind the head of the performer for an unobtrusive view.

Featuring built-in rechargeable lithium battery with a quick charger for extended battery hours and patented ACT sync enables fast and easy transmitter setup from any MIPRO receivers.

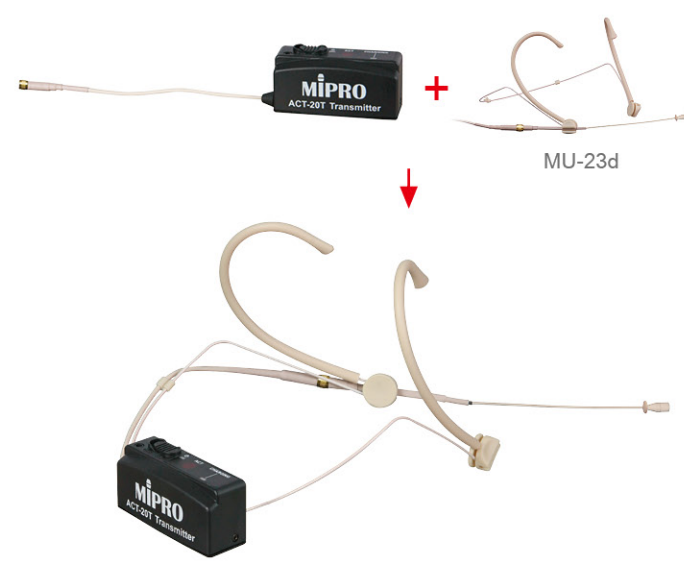
ACT-20T can be connected to MU-210d or MU-23d headworn microphone or VM-10M instrument microphone. Coupled with an anti-scratch device, it can be attached to percussion, string and wind musical instruments for wireless audio amplification.

ACT-20T is easy to use and ideal for education, theater, aerobics/fitness, houses of worship applications.

ACT-20T Miniature Headworn Transmitter



Assembled with MU-23d Headworn Microphone



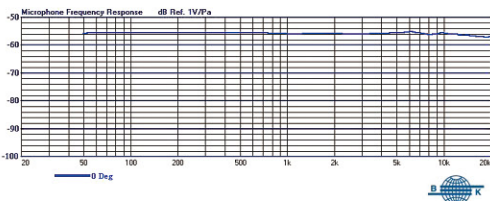
Specifications

Oscillation Mode	PLL Synthesized
Frequency Range	UHF 480~934 MHz
Bandwidth	24 MHz
Channel Set-up	ACT Sync
RF Output Power	10~30 mW (country dependent)
Spurious	< -55 dBc
Battery	Built-in Rechargeable Lithium Battery
Operating Time	Up to 6 hours
Dimensions (W x H x D)	57 x 28 x 20 mm (2.2 x 1.1 x 0.8 ")
Weight	Approx. 38 g (1.3 oz), battery included
Patent & Approvals	Patented. Telecom and safety regulations approved.
Notes	Refer to actual product in the event of product description discrepancy. Frequency range and maximum deviation comply with the regulations of different countries.

MU-13 Single-Sided Earworn Microphone
MU-13d Single-Sided Earworn Microphone



Frequency Response



Features

- 1. Proprietary over-the-ear, shapeable frame design for an ultra secure, comfortable fit.
- 2. Supplied in three earworn sizes for ideal fit.
- 3. Fixed or detachable boom can be worn on left or right and detached for replacement or servicing.
- 4. Subminiature 3mm omni-directional condenser capsule.
- 5. Resistant to moisture, perspiration and salts.
- 6. Detachable cables with various types of plug are available.
- 7. Soft yet flexible thin boom can be bent 120 ° and boom holder can be height rotated for an ideal fit.
- 8. Ideal for speech applications.

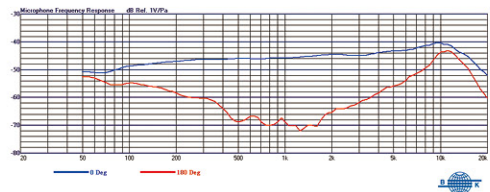
Specifications

Capsule Module	3 mm Ø omni-directional condenser microphone
Frequency Response	40 Hz~20 kHz
Sensitivity	-56 ± 3 dBV/Pa (0dB=1V/Pa)
Max. SPL	138 dB (1%THD typical)
Microphone Holder	Single-side
Plug	4-pin mini XLR (screw-lock)
Color	Beige
Cable Length	150 cm (59 ")
Weight	Approx. 16 g (0.56 oz)
Note	Refer to actual product in the event of product description discrepancy.

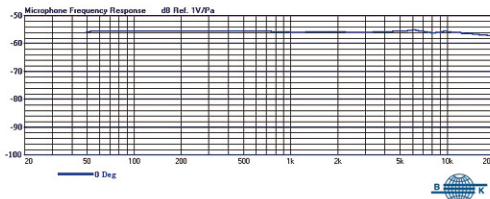
MU-210/MU-210d Dual-Sided Headworn Microphone



MU-210 Frequency Response



MU-23 Frequency Response



Features

- 1. Compact ear-hook design for a secure, ultra comfortable fit.
- 2. Supplied in three ear-hook sizes for ideal fit.
- 3. Detachable boom can be worn on left or right & detached for replacement or servicing.
- 4. MU-210 features a 10mm uni-directional capsule.
- 5. MU-23 features a 3mm omni-directional capsule.
- 6. Resistant to moisture, perspiration and salts.
- 7. Detachable or fixed microphone boom options.
- 8. Soft yet flexible thin boom bends 120° and holder can be height rotated for an ideal fit.
- 9. Ideal for speech and vocal applications.

MU-23/MU-23d Dual-Sided Headworn Microphone



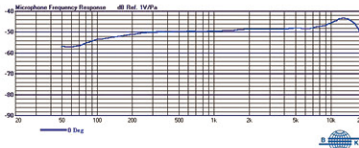
Specifications

Models	MU-210 / 210d	MU-23 / 23d
Capsule Module	10 mm Ø uni-directional condenser microphone	3 mm Ø omni-directional condenser microphone
Frequency Response	50 Hz~18 kHz	40 Hz~20 kHz
Sensitivity	-46 ± 3 dBV/Pa (0dB=1V/Pa)	-56 ± 3 dBV/Pa (0dB=1V/Pa)
Max. SPL	142 dB (1%THD typical)	138 dB (1%THD typical)
Microphone Holder	Can be installed right or left side.	
Plug	4-pin mini XLR (screw-lock)	
Color	Beige	
Cable Length	150 cm (59.1 ")	
Weight	Approx. 27 g (1.0 oz)	Approx. 22 g (0.8 oz)
Note	Refer to actual product in the event of product description discrepancy.	

MU-53L / MU-53LS
Uni-Directional Lavalier Microphones



Frequency Response



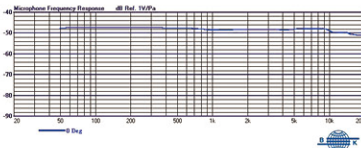
Features

- 1. MU-53 features high dynamic range characteristic and sustains up to 142 dB SPL with 1% T.H.D.
- 2. Miniature MU-55 is inconspicuous, lightweight and waterproof.
- 3. Supplied with 4-pin mini XLR and fits all MIPRO bodypack transmitters.
- 4. Featuring a smooth, warm, natural sound.
- 5. Available in black or beige colors.
- 6. Ideal for theater, houses of worship and educational applications.

MU-55L / MU-55LS
Omni-Directional Lavalier Microphones



Frequency Response



Specifications

Models	MU-53L / MU-53LS	MU-55L / MU-55LS
Capsule Module	10 mm Ø uni-directional condenser microphone	4.5 mm Ø omni-directional condenser microphone
Frequency Response	50 Hz~18 kHz	40 Hz~20 kHz
Sensitivity	-46 ± 3 dBV/Pa (0dB=1V/Pa)	-49 ± 3 dBV/Pa (0dB=1V/Pa)
Max. SPL	142 dB (Typical , 1%THD)	135 dB (Typical , 1%THD)
Plug	4-pin mini XLR or TA4F	
Color	Black or Beige	
Cable Length	150 cm (59 ")	
Weight	Approx. 19 g (0.7 oz)	Approx. 14 g (0.5 oz)
Note	Refer to actual product in the event of product description discrepancy.	

MJ-53 Condenser Microphone Adaptor

MJ-53 enables condenser microphone with mini XLR plug to connect directly to the mixer input which has XLR jack and provides 12~48V DC phantom power. High output impedance of a condenser microphone will be transformed to low output impedance at about 200 Ohms.

Features

- 1. Balanced OP amplifier for wide frequency response.
- 2. Suitable for any mixer input due to constant output impedance.
- 3. High S/N ratio prevents noise interference at long distance transmission.
- 4. High dynamic range ensures accurate output level.
- 5. No overload distortion under high SPL input.
- 6. Mini XLR connector for input and XLR connector for output. Belt clip for easy wearing.
- 7. Rugged metal housing ensures a long operating life.

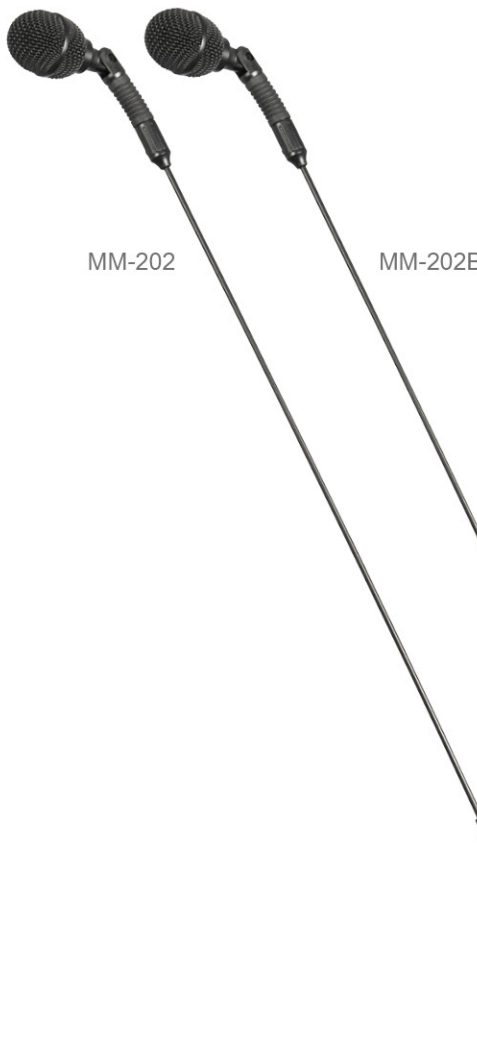
Specifications

Frequency Response	80 Hz (-3 dB) ~ 20 kHz (0 dB) @ 94 dB SPL
Output Impedance (Balanced)	200 Ohms @ 1V/1 kHz
Max. Output Voltage	2.52 V @ 1% THD 1 kHz
Dynamic Range	120 dB (A-weighting)



Power Supply	Phantom Power : 12~48V DC Current Drain : 2.0 mA
Dimensions (Ø × L)	19 × 902 mm (0.7 × 35.5 ")
Weight	Approx. 72 g (2.5 oz)
Note	Refer to actual product in the event of product description discrepancy.

MM-202
MM-202B
Gooseneck Microphone



MM-202A
Gooseneck Microphone



MM-202S
Gooseneck Microphone

New



MM-202P
Gooseneck Microphone

New



Features

- 1. Ultra slim profile design for podiums, pulpit and lectern applications.
- 2. Proprietary microphone mount design allows 110° up/down and 300° left/right angle adjustments.
- 3. Shock isolation mount design minimizes handling and vibration noise.
- 4. Multi-layered microphone grill minimizes pop noise.
- 5. Can be connected to MJ-53 Condenser Microphone Adaptor and provides with 48V phantom power and used as a desktop gooseneck microphone.
- 6. Unmatched high fidelity sound reproduction.
- 7. MM-202P is designed to fit MTG-100T or MTG-100Ta digital miniature transmitter and used as a handheld microphone for either tour guides or language interpretation applications.

Specifications

Models	MM-202	MM-202B	MM-202A	MM-202S	MM-202P
Capsule Module	10 mm Ø uni-directional condenser microphone				
Frequency Response	50 Hz~18 kHz				
Sensitivity	-46 ± 3 dBV/Pa (0dB=1V/Pa)				
Max. SPL	142dB (Typical , 1%THD)				136dB(Typical , 1%THD)
Plug	TA4F 4 PIN				3.5 mm Ø mini jack
Color	Black				
Length	470 mm (18.5 ")	370 mm (14.5 ")	130 mm (5.1 ")	130 mm (5.1 ")	136 mm (5.3 ")
Weight	Approx. 36 g (1.3 oz)	Approx. 34 g (1.2 oz)	Approx. 27 g (1 oz)	Approx. 27 g (1 oz)	Approx. 22 g (0.8 oz)
Note	Refer to actual product in the event of product description discrepancy.				

BC-100 Wireless Boundary Microphone New

Front



Rear



Bottom



Gooseneck Mic Installation



installed with MM-202/202B mic

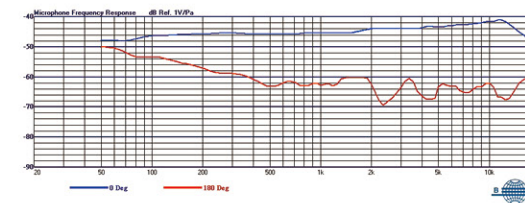
Wireless Mic Installation



Boundary Mic Installation



Frequency Response



Features

- 1. BC-100 can be installed with MIPRO ACT-30T or ACT-50T bodypack transmitter to form a wireless boundary microphone or connected with any of three gooseneck microphones.
- 2. Back panel has a balanced XLR connector with switch for external gooseneck or wireless boundary microphone option.
- 3. Built-in MIPRO ECM (electret condenser microphone) for excellent sensitivity and clear, highly intelligible sound reinforcement.
- 4. Built-in unidirectional microphone is used as a desktop interface microphone. The BC-100 has accepts optional longer gooseneck MM-202 & MM-202B longer gooseneck microphones or MM-202A short version.
- 5. Simply plug the mini XLR into a MIPRO bodypack transmitter connector and insert the transmitter into the back slot for an easy to use wireless conference system.
- 6. Talk/Mute button provides easy speaking or mute option.
- 7. Ideal solution for boardrooms and conference centers.

Specifications

Built-in Microphone	Input Microphone Sensitivity : 50 Hz~20 kHz, Uni-directional (hypercardioid) Frequency Response : 50 Hz~20 kHz Maximum SPL : 132 dB SPL (1% T.H.D@1 kHz)
Power Supply	built-in transmitter provides 12-48V DC phantom power
Input Connector	Mini TA4F XLR-4pin (male) x 1
Output Connector	Balanced XLR
TALK/MUTE Button	Mechanical PUSH-HOLD switch
Color	Black
Dimensions (W x H x D)	100 x 55 x 150mm (4 x 2.2 x 6 ")
Weight	Approx. 170 g (6 oz)
Note	Refer to actual product in the event of product description discrepancy.

MD-101 Bodypack Transmitter Holder Base



Bodypack fitted with MM-202A

Bodypack fitted with MM-202

Features

- 1. MD-101 is a holder base for MIPRO bodypack transmitters.
- 2. Connects to MM-202, MM-202B or MM-202A gooseneck microphones for installation at podiums, lecterns, conference tables.
- 3. No set-up or power required. Simply insert the bodypack transmitter into the base slot.

Specifications

Dimensions (W x H x D)	92 x 61 x 120 mm (3.6 x 2.4 x 4.7 ")
Weight	221 g (7.8 oz)
Color	Black
Note	Refer to actual product in the event of product description discrepancy.

Interchangeable Capsule Modules

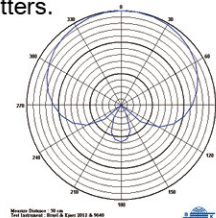
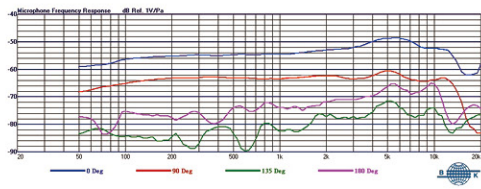
Profile

MIPRO's latest premium true condenser capsule module MU-90, with CNC-lathed copper unit and multi-layered anti-pop metal grille, features full-range superb directionality and provides high-fidelity, wide frequency response, high dynamic range, rapid transient response, low feedback and handling noise and accurate sound reproduction.

MIPRO's first premium dynamic capsule module MU-59, with steel-made air chamber and multi-layered anti-pop metal grille, features superb directionality and provides high-fidelity, wide frequency response, high dynamic range and low feedback.

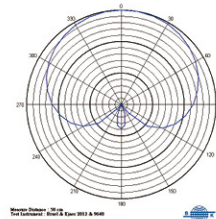
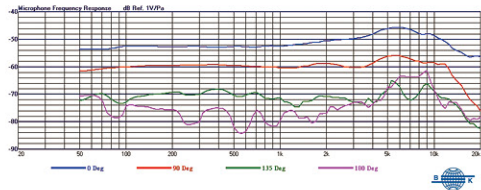
MU-90 True Condenser Capsule New

Fits ACT-80H, ACT-70H, ACT-50H handheld transmitters.



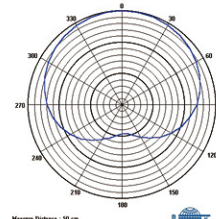
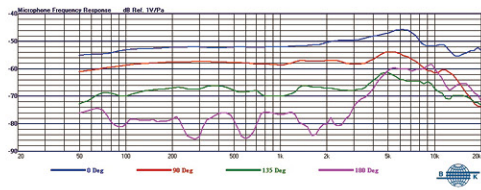
MU-89 True Condenser Capsule New

Fits any MIPRO handheld transmitters.



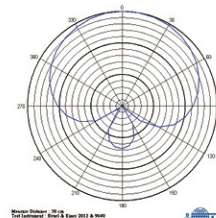
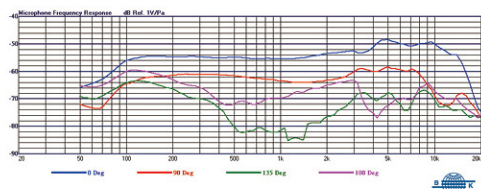
MU-79 Condenser Capsule

Fits any MIPRO handheld transmitters.



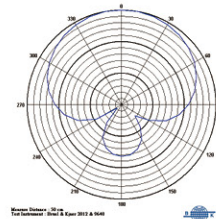
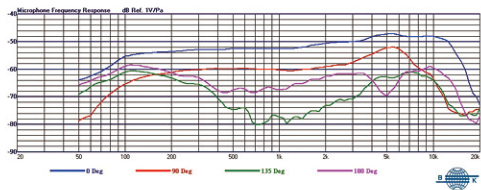
MU-59 Professional Dynamic Capsule New

Fits any MIPRO handheld transmitters.



MU-39 Premium Dynamic Capsule

Fits any MIPRO handheld transmitters.



TC-18 Transmitter Shielding Case New

Profile

TC-18 is an important accessory case for large-scale wireless microphone applications. The main function is the storage of up to 18 powered-on handheld or bodypack transmitters and acts as an ideal shielding solution for preventing intermodulation interference and ensures reliable RF transmission during performance.



Features

- 1. Rugged and durable carrying case.
- 2. Specialized shielding materials protects the transmitters from scratches and impact damage.
- 3. Ideal shielding solution prevents intermodulation interference and ensures reliable RF transmission during performances.
- 4. Divided storage spaces for fast and easy access to transmitters.

Specifications

Storage	Up to 18 handheld or bodypack transmitters
Intermodulation Attenuation	> 40 dB
Dimensions (W x H x D)	52 x 37 x 30 cm (20 x 14.6 x 11.8 ")
Weight	12.6 kg (27.8 lbs)

MS-80 Microphone Tripod Stand



MS-50 Desktop Mic Stand



Features

Robust design with stable base. Heights and angles adjustable. Durable, dependable performance.

MS-20 Desktop Mic Tripod

MD-20 is required for operation.



MD-20 Microphone Holder

MS-20 or any microphone stand is required for operation.



Wireless Systems - Accessories

FB-10 Rack Mount Kit

Fits 1 MR-823, MR-812T, MR-818T receiver alone.



FB-30 Front Antenna Rack Mounting Kit

Fits 1 MR-823, MR-812T, MR-818T receiver alone.



FB-70 Front-to-Rear Antenna Kit



FB-71 Rack Mount Kit



Fits 1 ACT-311, ACT-312, ACT-515, ACT-51, ACT-52, ACT-71, ACT-818 receiver alone.
Fits 1 MR-811, MR-812, MR-818 receiver alone.
Fits 1 MI-808T, MT-90A, MTS-100T, AD-90S, AD-90A, AD-808.

FB-72 Rack Mount Kit

Fits 2 ACT-71, ACT-51, ACT-52, ACT-311, ACT-312 receivers side-by-side.
Fits 1 ACT-300, ACT-312T, ACT-515T, ACT-82a, ACT-828 receivers.



FBC-71 Rear-to-Front Cables

Fits FB-71, FB-72, FB-10 rack mount kits (1-pair).



MU-40G Instrument Cable

Fits all MIPRO bodypack transmitters. For guitar or bass.



MJ-70 Remote Mute Switch

Fits ACT-30T, ACT-50T, ACT-70T, ACT-80T bodypack transmitters.

New



ASP-10 Neoprene Sports Pouch

Fits all MIPRO bodypack transmitters.



RH-77a Multi-Colored Rings

Fits ACT-30H, ACT-30Hr, ACT-50H, MH-80 handheld transmitters. (set of 10 colors)



RH-87 Multi-Colored Rear Clips

Fits ACT-80H, ACT-70H handheld transmitters. (set of 10 colors)

New



SW-20 Foam Windscreens

Fits all MIPRO handheld transmitters. (set of 10 same colors)



PC-11 Controller



3. Microphones

72 True Condenser Microphones

73 Dynamic Microphones



Profile

MM Series wired microphones include two types: condenser microphones and dynamic microphones. Equipped with cardioid microphone capsule, condenser microphones present a clear, crisp and detailed sound that is extremely close to the natural sound, thus it's the ideal choice for capturing vocals and acoustic instruments. Especially ideal for percussion instruments, high-pitched orchestral instruments, and places with low background noises such as concert halls, theaters and recording studios where the best sound quality is desired.

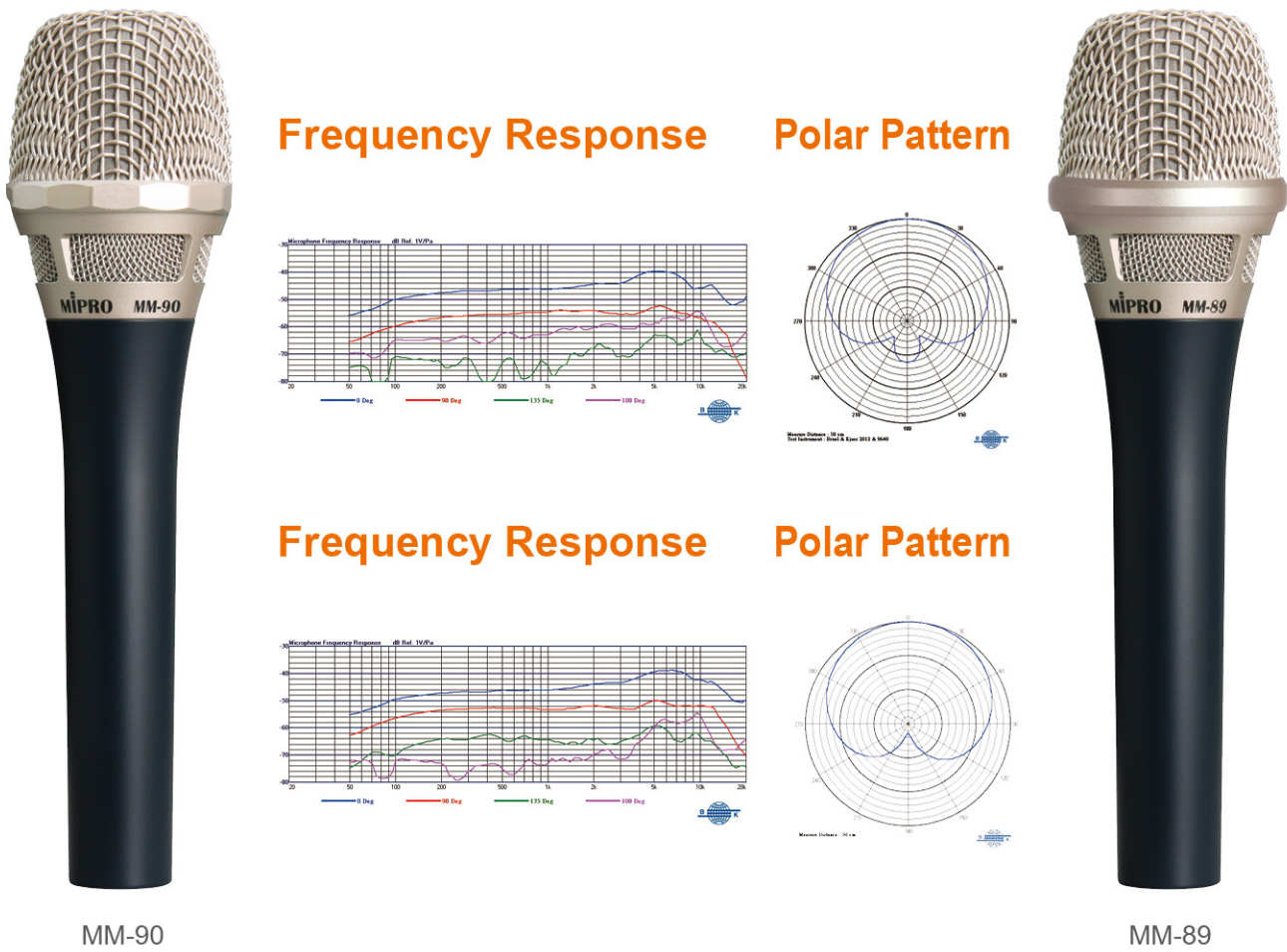
Equipped with hypercardioid microphone capsule, dynamic microphones present a softer, mellower and misty sound quality. Ideal for rock-and-roll singers or outdoor venues that have loud background noises and violent acoustic effects.

Dynamic and Condenser Microphones Comparison Chart

Item	Dynamic Microphone	Condenser Microphone
Design Principle	Based on the principle of an electromagnetic generator, a voice coil is attached to a thin plastic diaphragm in the magnetic field of the magnet. When the diaphragm picks up sound, the voice coil indirectly converts the sound into an electrical signal.	Based on the charging/discharging principle of a capacitor, it employs an extremely thin metal or metal-coated plastic diaphragm. Sound pressure changes a static electric voltage between two poles and converts it directly into an electrical signal.
Diaphragm	A dynamic microphone's diaphragm has to bear the weight of the voice coil, which is a hundred times more than itself, so the diaphragm cannot be too thin. The total weight of its vibration system is 1000 times more than a condenser's.	The diaphragm is 1/10 the thickness and 1/1000 the weight of a dynamic capsule's. Utilizing this extremely thin and light diaphragm to pick up sound pressure directly ensures excellent performance in frequency response, transient response, sensitivity, and touch noise.
Voice Coil	The voice coil is the main component that converts sound pressure on the diaphragm into an electrical signal.	No voice coil is required.
Signal Output	The output is either directly from the voice coil or through a coupling transformer.	The output signal is coupled by vacuum tube or FET.
Frequency Response	Due to the thickness of the diaphragm and heavy weight of the voice coil, the high-frequency response cannot be expanded; moreover, the low-frequency response drops rapidly because the impedance of the voice coil grows weaker as the frequency decreases.	Because the diaphragm is extremely thin and light, it can directly convert sound into signal output. Hence, its frequency response can be expanded from ultra-low frequencies to ultrasonic at a flat and wide response.
Sensitivity	Limited by the thick diaphragm and the number of voice coil turns, sensitivity to weak sounds is compromised.	Diaphragm does not carry any voice coil and is extremely thin; hence, it is very sensitive to even the weakest sound.
Touch Noise	The thick and heavy diaphragm and voice coil make it hard to overcome the touch noise problem, thus adversely affecting sound quality.	Because its diaphragm is extremely light and thin, it has the advantage of extremely low touch noise.
Durability	Since the capsule is large and heavy, it has a high failure rate if accidentally dropped.	The capsule itself is very light, so chances of accidental damage by dropping are very slim.
Dimension & Weight	Large size and heavy weight limits uses.	Advantage of miniature size.
Phantom Power	No phantom power is required.	Phantom power is required
Transient Response	Transient response is slow due to the much heavier diaphragm and voice coil. Thus, the response to the sound is just like a fully loaded truck that responds slowly when accelerating and braking.	Because the diaphragm is very thin and light, the transient response is fast. The sound pickup is just like a sport car that can accelerate and brake very quickly.
Sound Quality	Due to a slow transient response, these capsules present a softer, mellower and misty sound.	With its rapid transient response, these capsules present a clear, crisp and detailed sound that is extremely close to the natural sound.
Applications	Ideal for rock-and-roll club singers or outdoor venues that have loud background noises and violent acoustic effects.	Ideal especially for percussion instruments, high-pitched orchestral instruments, and places with low background noises such as concert halls, theaters and recording studios where the highest sound quality is desired.

MM-90 True Condenser Vocal Microphone

MM-89 True Condenser Vocal Microphone



Features

For over a decade, MIPRO wire & wireless condenser handheld microphones provide clear, detailed sound quality and become preference of audio professionals.

MM-90 is fitted with MU-90 capsule module and MM-89 with MU-89 capsule module. The exterior multi-layer metal grille protects the capsule to prevent impact and pop noise. The upper exterior grille is able to be detached easily for cleaning and hygiene practices.

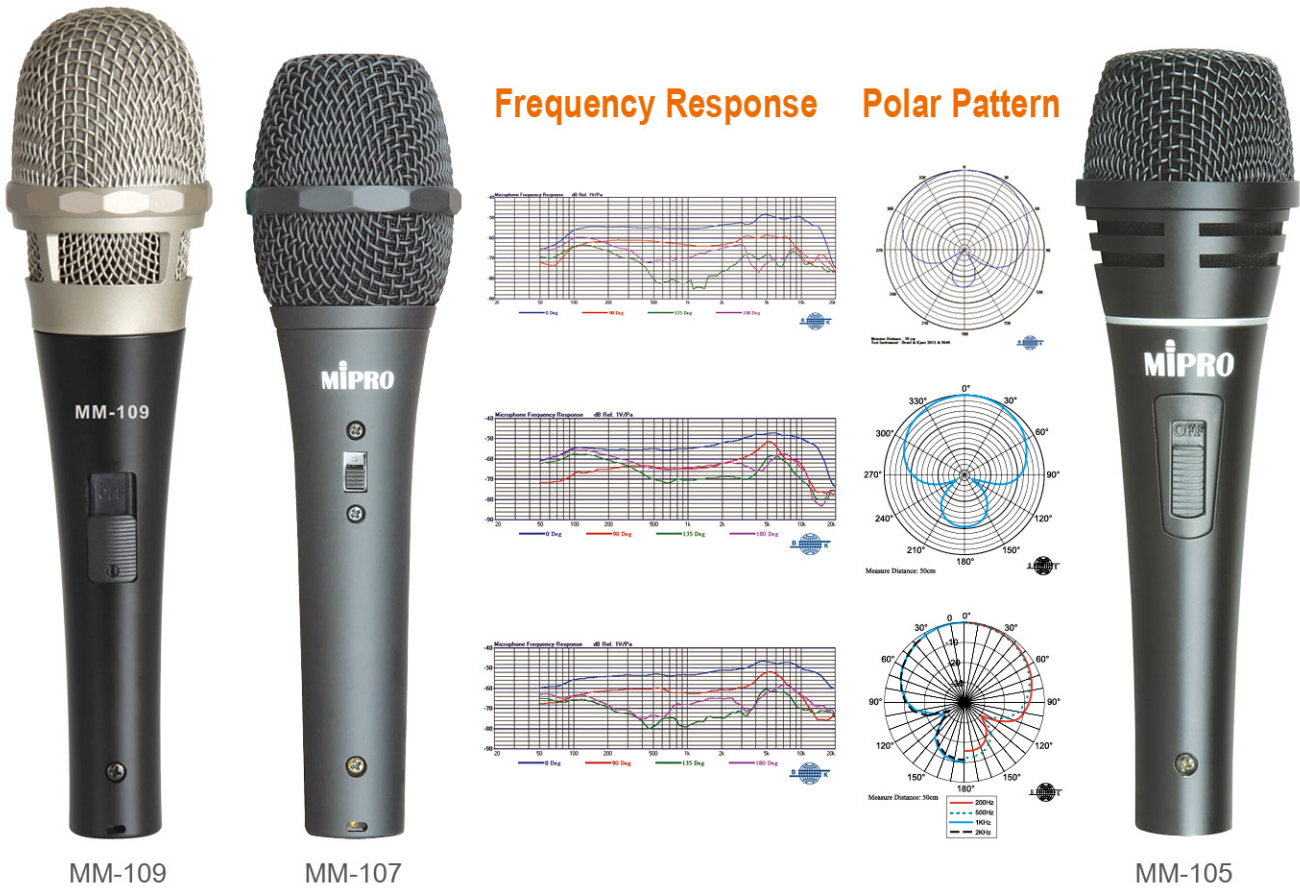
They provide superb directionality and feedback suppression for bright and detailed sound quality. Proprietary capsule suspension design eliminates vibrations and touch noise characteristics for natural sound reproduction.

External 12~48V DC phantom power is required for MM-89 & MM-90 microphone. It's ideal for stage, broadcast, studios and musical hall applications.

Specifications

Housing	Die-cast Zinc Alloy Housing
Directionality	MM-90: Hypercardioid MM-89: Cardioid
Sensitivity	-46 ± 1 dBV / Pa (0dB=1V Open-circuit voltage)
Frequency Response	50 Hz~20 kHz @ 94 dB SPL
Self-Noise	< 22 dB SPL (Typical, A-weighted)
S/N Ratio	> 72 dB @ 94dB SPL (1 Pa)
Max. Input SPL	147 dB (Typical, 1% T.H.D.)
Dynamic Range	125 dB
Power Supply	External phantom power 12~52V DC
Current Consumption	5.6 mA
Output Impedance	200 Ω
Dimensions (Ø × L)	50 × 189 mm (2.0 × 7.4 ")
Weight	Approx. 285 g (10 oz)
Note	Refer to actual product in the event of product description discrepancy.

MM-109/107/105 Hypercardioid Dynamic Microphone



Features

- 1. Fitted with interchangeable MU-59 hypercardioid capsule module.
- 2. The exterior multi-layer metal grille protects the capsule to prevent impact and pop noise.
- 3. The upper exterior grille is able to be detached easily for cleaning and hygiene practices.
- 4. Superb directionality. Focuses on the main sound source and minimizes background noise and feedback.
- 5. Soft and mellow sound quality; Rich high- & low-frequency presence.
- 6. Sustains high SPL without distortion.
- 7. Low handling noise.

Features

- 1. Fitted with MU-39 hypercardioid capsule module.
- 2. The exterior multi-layer metal grille protects the capsule to prevent impact and pop noise.
- 3. Focuses on the main sound source and minimizes background noise and feedback.
- 4. Soft and mellow sound quality; Rich high- & low-frequency presence.
- 5. Sustains high SPL without distortion.
- 6. Low handling noise.

Features

- 1. Uniform hypercardioid pickup pattern.
- 2. Focuses on the main sound source and minimizes background noise.
- 3. Maximum gain-before-feedback.
- 4. Smooth sound quality and wide frequency response.
- 5. Sustains high SPL without distortion.

Specifications

Model	MM-109	MM-107	MM-105
Capsule	MU-59 Dynamic (interchangeable)	MU-39 Dynamic	MU-29 Dynamic
Housing	Die-cast Zinc Alloy		
Directionality	Hypercardioid		
Sensitivity	-54 dBV/Pa (0dB=1V Open-circuit voltage)		-53 dBV/Pa (0dB=1V Open-circuit voltage)
Frequency Response	50 Hz-18 kHz	50 Hz-16 kHz	50 Hz-14 kHz
Output Impedance	400 Ω± 30%		300 Ω± 30%
Dimensions (Ø × L)	51 × 204 mm (2.0 × 8.0 ")	51 × 178 mm (2.0 × 7.0 ")	
Weight	Approx. 348 g (12.3 oz)	Approx. 235 g (8.3 oz)	Approx. 375 g (13.2 oz)
Note	Refer to actual product in the event of product description discrepancy.		

4. Wireless Transmission Systems

- 75 Digital Wireless Tour Guide & Language Interpretation Systems
- 83 Wireless In-Ear Monitoring System
- 85 Wireless ENG Receiver
- 88 Wireless Interlinking Transmitters



Profile

MTG-100 is an innovative digital wireless tour guide system. It is ultra compact, lightweight and easy to use. Digital design provides crystal-clear audio quality, secured and reliable transmission, and insensitive to interference attributes that are unmatched by the deficiency of simple analog design systems.

It operates in the license-free 865 & 928 MHz ISM band. ISM band requires no user licensing; thus, no worries about changing groups and channels when operating in multiple countries. Each band is preset with 16 switchable frequencies and ensures several different tours or groups can be operated at the same venue without interfering with each other.

This system comprises of two power models: rechargeable battery system and disposable battery system. Rechargeable battery system comprises MTG-100R receiver, MTG-100T transmitter and MTG-100C-12 or MTG-100C-28 storage and charger carry case. Built-in lithium polymer rechargeable battery is used to resolve the troubles of changing battery and save you a significant amount of money years to come.

Disposable battery system comprises of MTG-100Ra receiver and MTG-100Ta transmitter. 2 AA batteries are used for convenient personal usage.

This system is ideal for small to large, indoor or outdoor applications for guides, interpreters or presenters to communicate effectively to a group of people, rejecting irritating surrounding noise.

Ideal Applications

Guided Tours:

Factories, Museums, Tourist Attractions, Zoos, Cruise Ships, Buses/Vans, School field, Gardens, Employee & Dealers Training, Hotels and Resorts, Special Events.

Assistive Listening:

Educational Institutions, Corporate Meetings, Training and Seminars, Theaters, Governmental Agencies, Houses of Worship, Conventions and Auditoriums.

Language Interpretation:

Courtrooms, Educational Institutions, Conferences or Conventions, Houses of Worship, Medical Facilities, Employee & Dealers Training, Hotels & Resorts.

Manufacturers Comparison

Item	MTG-100	Other Brands
Modulation	Digital Narrow Band	Analog or Digital Wide Band
Frequency Range	UHF 865 & 928 MHz ISM band	VHF, UHF or 2.4 GHz industry band
Certification	No user licensing required	Only 2.4 GHz requires no licensing
Anti-Interference	Insensitive to Wi-Fi, Bluetooth and 2.4 GHz interference	2.4 GHz is susceptible to Wi-Fi, Bluetooth interference
Transmission Stability	True diversity design for reliable transmission and prevents signal dropouts	Non-diversity design is susceptible to interference and signal dropouts
Encryption	Digitally transmission prevents unauthorized listening	Analog transmission is susceptible to unauthorized listening
Operating Range	Approx. 100 m (line-of-sight)	Approx. 15~30 m (2.4 GHz)
RF Output Power	Switchable (High, Mid or Low)	Fixed
Audio Quality	16-bit Hi-Fi audio quality	Analog communication voice quality
System Channel Setting	MIPRO's proprietary ACT™ sync function: Synchronize all receivers and transmitters channel with a touch of 'Sync' button	Manual Setting
Operating Display	Backlit LCD displays parameters	LCD is available for higher-end systems
System Management	Ethernet interface allows system setting and management	Manual management
Dimensions & Weight	Compact and lightest	Bulky and heavier
Power Supply	High capacity lithium polymer rechargeable battery or 2 AA batteries for option	Regular disposable or lower quality rechargeable battery
Auto Shut-Off Time	Yes. To reduce battery consumption.	No
Affordability	Best Price / Quality ratio	Lower Price / Quality ratio
Country of Origin	100% designed & made in Taiwan.	Taiwan or other OEM manufacturers

MTG-100R Digital Receiver (Rechargeable Battery)



MTG-100T Digital Transmitter (Rechargeable Battery)



MTG-100Ra Digital Receiver (AA Battery) New



Front Panel



Rear Panel

MTG-100Ta Digital Transmitter (AA Battery) New



Features

	MTG-100R / T	MTG-100Ra / Ta
1	Built-in rechargeable lithium battery for long time continuous use.	AA batteries for personal convenient use. Easy to carry and replace.
2	PC controllable Channel-Lock to prevent accidental change.	N/A
3	Convenient 12 or 28-slot storage and charger carry case for easy charging, storage and manage inventory.	N/A
4	Ethernet interface allows system setting and management.	N/A
5	Operates on user license-free ISM bands: EU 863~865 MHz and USA 926~928 MHz.	
6	Up to 100 m (330 ft) line-of-sight reception range.	
7	Interference-free from Bluetooth, Wi-Fi and 2.4 GHz wireless transmission.	
8	Digitally encrypted technology enables secure audio transmission, preventing unauthorized listening.	
9	Digital technology ensures crystal-clear audio quality and listeners have the best tour experience.	
10	Industry's only true diversity technology for exceptional reception quality.	
11	Durable, ultra-lightweight and pocket-sized portable receiver and transmitter. Incredibly easy to set-up and use.	
12	Industry's only auto shut-off timer for saving power consumption to extend the operation time.	
13	Backlit LCD screen displays all relevant parameters.	

Specifications

Model	MTG-100R	MTG-100T	MTG-100Ra	MTG-100Ta
Frequency Range	CEPT/EU: 863~865 MHz / USA: 926~928 MHz			
Oscillation Mode	PLL Synthesized			
Preset Channels	16			
Switching Bandwidth	2 MHz			
Channel Grid	125 kHz			
RF Output Power	N/A	< 10 mW (Low / Mid / High, switchable)	N/A	< 10 mW (Low / Mid / High, switchable)
Sensitivity	Approx. -90 dBm	N/A	Approx. -90 dBm	N/A
Operating Range	Up to 100 meters (330 feet) line-of-sight			
Frequency Response	50 Hz~10 kHz			
Power Supply	Built-in high capacity lithium polymer rechargeable battery		2 × AA batteries	
Operating Time	> 12 hours			
Automatic Shut-Off Time	10 minutes~42 hours (programmable)		6 hours	
Dimensions (W×H×D)	45 × 84 × 21 mm (1.8 × 3.3 × 0.8 ")		45 × 84 × 28 mm (1.8 × 3.3 × 1.1 ")	
Weight	Approx. 65 g (2.3 oz), Li-poly battery included		Approx. 72 g (2.5 oz), excluding AA batteries	
Notes	Refer to actual product in the event of product description discrepancy. Frequency range and maximum deviation comply with the regulations of different countries.			

MTG-100R / 100Ra Accessories



MTG-100T / 100Ta Accessories




MM-10
Mini-gooseneck Microphone

	
Capsule Module	4.5 mm Ø omni-directional condenser microphone
Frequency Response	40 Hz~20 kHz
Maximum SPL	135 dB (Typical, 1% T.H.D.)
Sensitivity	-49 dBV ± 3 dB at 1 kHz (0 dB=1V/Pa)
Plug	3.5 mm Ø mini jack screw-lock
Length	11 cm (4.3 ")
Weight	Approx. 8 g (0.3 oz)
Note	Refer to actual product in the event of product description discrepancy.


MM-202P
Mini-gooseneck Microphone

	
Capsule Module	10 mm Ø uni-directional condenser microphone
Frequency Response	50 Hz~18 kHz
Maximum SPL	136 dB (Typical, 1% T.H.D.)
Sensitivity	-46 dBV ± 3 dB at 1 kHz (0 dB=1V/Pa)
Plug	3.5 mm Ø mini jack screw-lock
Length	13.6 cm (5.4 ")
Weight	Approx. 22 g (0.8 oz)
Note	Refer to actual product in the event of product description discrepancy.

MU-101P
Headworn Microphone

	
Capsule Module	10 mm Ø uni-directional condenser microphone
Frequency Response	50 Hz~18 kHz
Maximum SPL	135 dB (Typical, 1% T.H.D.)
Sensitivity	-49 dBV ± 3 dB at 1 kHz (0 dB=1V/Pa)
Plug	3.5 mm Ø mini jack screw-lock
Cable Length	150 cm (59.1 "), cable only
Weight	Approx. 24 g (0.8 oz)
Note	Refer to actual product in the event of product description discrepancy.


MU-53HNP
Headworn Microphone

	
Capsule Module	10 mm Ø uni-directional miniature condenser microphone
Frequency Response	50 Hz~18 kHz
Maximum SPL	136 dB (Typical, 1%THD)
Sensitivity	-46 dBV ± 3 dBV at 1 kHz (0 dB=1V/Pa)
Plug	3.5 mm Ø mini jack screw-lock
Cable Length	150 cm (59.1 "), cable only
Weight	Approx. 30 g (1.1 oz)
Note	Refer to actual product in the event of product description discrepancy.

MU-23P
Headworn Microphone

	
Capsule Module	3 mm Ø omni-directional condenser microphone
Frequency Response	40 Hz~20 kHz
Maximum SPL	138 dB (Typical, 1% T.H.D.)
Sensitivity	-56 dBV ± 3 dB at 1 kHz (0 dB=1V/Pa)
Plug	3.5 mm Ø mini jack screw-lock
Cable Length	150 cm (59.1 "), cable only
Weight	Approx. 22 g (0.8 oz)
Note	Refer to actual product in the event of product description discrepancy.

E-5S
Stereo Earphones

	
Driver Unit	24 mm Ø
Frequency Response	100 Hz~20 kHz
Sensitivity	108 dB ± 3 dB at 1 mW
Max. Input Power	100 mW
Impedance	32 ± 15% Ω at 1 kHz 1 mW
Plug	3.5 mm Ø stereo mini jack
Cable Length	120 cm (47.2 ")
Weight	Approx. 10 g (0.35 oz), cable included
Note	Refer to actual product in the event of product description discrepancy.

E-10S
Stereo Earphones

	
Driver Unit	10 mm Ø
Frequency Response	20 Hz~15 kHz
Sensitivity	103 dB ± 3 dB at 1 mW
Max. Input Power	20 mW
Impedance	16 Ω at 1 kHz 1 mW
Plug	3.5 mm Ø stereo mini jack
Cable Length	R side: 40 cm + 55 cm (15.7 " + 21.7 ") L side: 10 cm + 55 cm (3.9 " + 21.7 ")
Weight	Approx. 20 g (0.7 oz), cable included
Note	Refer to actual product in the event of product description discrepancy.

E-20S
Stereo Headphones

	
Driver Unit	30 mm Ø
Frequency Response	20 Hz~20 kHz
Sensitivity	105 dB ± 3 dB at 1 mW
Max. Input Power	100 mW
Impedance	24 Ω at 1 kHz 1 mW
Plug	3.5 mm Ø stereo mini jack
Cable Length	120 cm (47.2 ")
Weight	Approx. 80 g (2.8 oz), cable included
Note	Refer to actual product in the event of product description discrepancy.

MTG-100C-28
28-Slot Storage and Charger Carry Case



Features

- 1. The protective case provides a convenient way to charge, carry and store your entire system.
- 2. Quick-charge in less than 4 hours.
- 3. Each charging slot has separate "red" charging and "green" ready indicator.
- 4. Innovative "Sync" button for automatic frequency synchronization from master to all MTG-100R receivers.
- 5. Built-in certified 100~250V AC switching power supply with well-vented design.
- 6. Organizes 24 earphones and 2 headset microphone neatly in one case.(MTG-100C-28)
- 7. Organizes 10 earphones and 2 headset microphone neatly in one case. (MTG-100C-12)

Specifications

Model	MTG-100C-28	MTG-100C-12
Charge Systems	28 (portable receivers and transmitters)	12 (portable receivers and transmitters)
Charge Time	< 4 hours	< 4 hours
Max. Power Consumption	80 W	26 W
Dimensions (W × H × D)	530 × 190 × 330 mm (20.9 × 7.5 × 13 ")	403 × 133 × 306 mm (15.9 × 5.2 × 12 ")
Weight	< 9 kg (20 lbs)	< 6 kg (13 lbs)
Ethernet Networking Interface	Yes	No
ACT-BUS static IP set up interface	Yes	No
Note	Refer to actual product in the event of product description discrepancy.	

Features

- 1. 4-slot convenient charging for up to 4 portable receivers or transmitters.
- 2. Quick-charge in less than 4 hours.
- 3. Each charging slot has separate "red" charging and "green" ready indicator
- 4. Battery charging via DC output, 8V/0.75A power supply

Specifications

Charge Systems	4 (portable receivers and transmitters)
Charge Time	< 4 hours
Max. Power Consumption	<6W
Dimensions (W × H × D)	112.5 × 85 × 158.5mm (4.4 × 3.3 × 6.2 ")
Weight	408 g (14.4 oz)
Power Supply	DC 8~15V max 0.75A
Note	Refer to actual product in the event of product description discrepancy.

MTG-100C-4
4-Slot Charger



MTS-100T Digital Stationary Transmitter



Features

- 1. Modular design for easy set-up, operation and maintenance.
- 2. Preset with 16 selectable channels.
- 3. Bright LED channel display.
- 4. Direct output for low level or switch to wideband amplifier for high level output.
- 5. Selectable input audio signal level for optimal modulation index.
- 6. Audio input and RF output LED indicators.
- 7. 48V phantom power for condenser microphones.

Specifications

Frequency Range	CEPT/EU: 863~865 MHz / USA: 926~928 MHz
Oscillation Mode	PLL Synthesized
Switching Bandwidth	2 MHz
Preset Frequencies	16
Modulation	2 FSK
Stability	± 0.005% (-10~+60°C)
Channel Grid	125 kHz
RF Output Power	< 10 mW (Low), < 50 mW (High)
Antenna	TNC × 1, 50 Ω
Spurious	< 250 nW @> 1 GHz
Transmission Range	> 100 meters (High setting)
Frequency Response	50 Hz~10 kHz
Max. AF Input Level	<15V RMS (Line In)
Microphone Input	XLR & 6.3 mm Ø (Combo)
Input Level Switch	Mic or Line Level
Input Level Adjustment	Adjustable VR
Phantom Power Switch	ON / OFF
Panel Display	AF Meter, AF Limit, RF Hi/Low Power indicators, numeric channel.
Power Supply	12~15V DC
Dimensions (W × H × D)	210 × 44 × 206 mm (8.3 × 1.7 × 8.1 ")
Weight	Approx. 1.1kg (2.4lbs)
Notes	Refer to actual product in the event of product description discrepancy. Frequency range and maximum deviation comply with the regulations of different countries.

Optional Accessories



Stereo Wireless Monitoring System
Wireless Simultaneous Language Interpretation System

MI-808 is an IEM system designed for stage performance and broadcasting. Also, it can be served as a simultaneous language interpretation system. It is frequency-agile over a 24 MHz bandwidth with 16 selectable frequencies. Advanced dual-antenna true diversity technology eliminates signal dropouts and enhances signal stability. High S/N ratio and dynamic range ensures optimal audio quality.

MI-808R Stereo Bodypack Receiver



Features

- 1. UHF PLL Synthesized circuit.
- 2. 16 preset channels in 24 MHz band, selectable via one button.
- 3. Industry's only dual-antenna true diversity technology for optimal reception.
- 4. Dynamic expander circuitry delivers S/N ratio greater than 90 dB.
- 5. Mono and Stereo Operating mode.
- 6. Numeric LED with auto power saver.
- 7. POWER on/off and RF signal indicators.
- 8. 2 AA batteries and high efficiency circuit for long continuous use.
- 9. Compact and durable magnesium alloy housing.
- 11. Multi-language interpretation system application. Simple interface for easy operation.

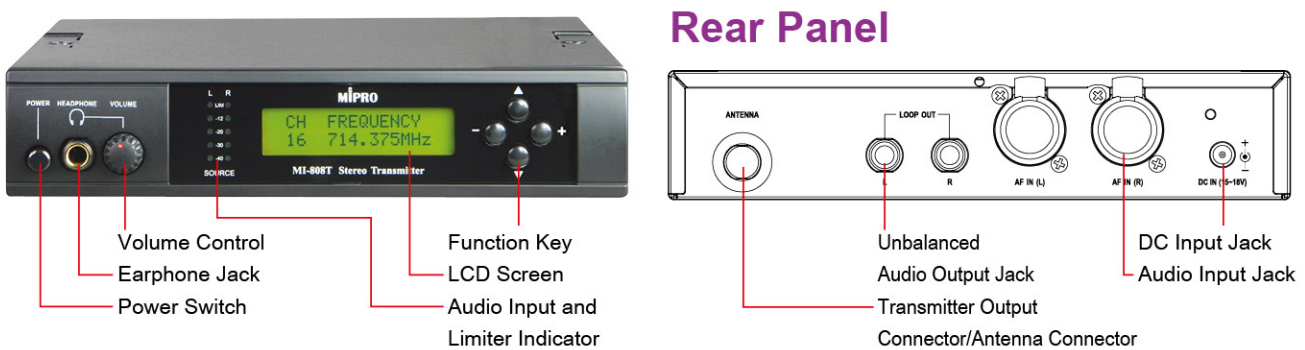
Specifications

Frequency Range	620~874 MHz
Bandwidth	24 MHz
Oscillation Mode	PLL Synthesized
Channel Grid	25 kHz
Frequency Stability	± 0.005% (-10~+60°C)
Modulation Mode	FM stereo modulation
Receiving Mode	Diversity receiving
Receiving Sensitivity	S/N > 58 dB (mono) @ 2 μ V input level
Squelch Level	2~100 μ V
T.H.D.	< 0.5% @ 1 kHz
Max. S/N Ratio	94 dBA
Frequency Response	80 Hz~15 kHz
Stereo Separation	≥ 45 dB @ 1 kHz
Output Jack	3.5 mm stereo earphone jack
Output Power (32 Ω)	2 × 50 mW @ 1 kHz (T.H.D. 3%)
Earphone Impedance	≥ 16 Ω
Power Supply	2 AA batteries
Current Consumption	Approx. 130 mA (under moderate volume)
Operating Time	8 hours (under moderate volume)
Antenna	Fixed 1/2 λ × 2
Matching Transmitter	MI-808T
Dimensions (W × H × D)	65 × 105 × 25.5 mm (2.6 × 4.1 × 1 ")
Weight	Approx. 128 g (4.5 oz)
Operating Temperature	-10~+60°C
Note	Refer to actual product in the event of product description discrepancy.

Illustrations



MI-808T Stereo Transmitter



Features

- 1. Multi-function LCD panel.
- 2. EIA standard 1/2U rack-mountable metal chassis.
- 3. Balanced and unbalanced combo jack.
- 4. Mono and Stereo operating modes.
- 5. UHF PLL Synthesized circuit.
- 6. 16 preset channels in 24 MHz band.
- 7. Dynamic compander circuitry delivers S/N ratio greater than 90 dB.
- 8. Built-in level limiter prevents distortion at the maximum input level.
- 9. Monitoring headphone jack.
- 10. Multi-language interpretation system application. Simple interface for easy operation.

Specifications

Frequency Range	620~874 MHz
Bandwidth	24 MHz
Oscillation Mode	PLL Synthesized
Channel Grid	25 kHz
Frequency Stability	± 0.005% (-10~+60°C)
Modulation	FM stereo modulation
Output Power	< 10 mW (Low) ; < 100 mW (High)
Spurious Rejection	< 4 nW
Frequency Response	80 Hz~15 kHz
T.H.D.	< 1% (at 1 kHz, max. deviation)
Audio Input	line level × 2, XLR / 6.3 mm Ø phone combo socket
Audio Output	6.3 mm Ø phone jack × 2
Earphone Output	6.3 mm Ø stereo phone jack with adjustable volume
Earphone Output Impedance	≥ 16 Ω
Amplifier Gain	N/A
Antenna Connector	TNC (50 Ω impedance)
Dimensions (W × H × D)	210 × 44 × 206 mm (8.3 × 1.7 × 8.1 ")
Weight	Approx. 1.1 kg (2.4 lbs)
Note	Refer to actual product in the event of product description discrepancy.

E-8P Premium Earphones



- 1. Adjustable ear hook design for better fit and invisibility.
- 2. Ear canal design for easy earplug replacement.
- 3. Sub-miniature speaker design.
- 4. 1.5 meter ultra durable cable and exterior in beige.
- 5. Sensitivity >116 dB.
- 6. Superb audio bandwidth and isolation.

MR-90a Wireless ENG Receiver



Detachable Antenna
LCD Display Panel

Matching Transmitters

ACT-7H Handheld Transmitter



ACT-7T Bodypack Transmitter



MT-90A Wireless Interlinking Transmitter



Accessories

MJ-90 Power Cord for SONY Camcorders



Profile

The MIPRO MR-90a is a compact wireless receiver designed for professional camcorder applications, matched with MIPRO ACT transmitters to achieve natural sound reproduction and eliminate the need for microphone cables during recording, ensuring safe and agile operation of camcorders. Furthermore, MR-90a can also be installed on an active PA speaker via ACT transmitters or MT-90 wireless interlinking transmitter of MA-909 wireless mixer to turn active speakers into a wireless system.

Features

1. Waterproof, compact, and ultra-thin rugged aluminum housing construction.
2. Various interface socket modules can be easily detached and installed to work with different camcorders, active speakers and other audio equipments.
3. Detachable battery pack accessory needs only two AA batteries to provide at least 8 continuous hours of operation, eliminating the need for external power.
4. UHF PLL synthesized circuit and dual-antenna true diversity technology for best reception quality.
5. 100 preset channels in each 24 MHz band can be easily auto-scanned for a clear, interference-free frequency.
6. Presets 16 channels specifically for wireless interlinking transmitter.
7. World's first ACT™ (Automatic Channel Targeting) provides precise and rapid frequency sync to the transmitters.
8. LCD panel shows frequency, RF and AF signal strength, function, diversity, and battery status.
9. Control panel has setup buttons for SCAN, ACT, SQUELCH, and LOCK functions, allowing easy and error-free setup.
10. High fidelity and dynamic compander circuit. Balanced, high-gain audio signal output.
11. Electronic power switch eliminates popping noise during power on/off.
12. Working voltage is 6.5~12V DC and the efficient power-saving design makes current consumption lower than 70 mA.
13. Precision SMA antenna connectors with removable soft antennas.

Specifications

Frequency Range	620~934 MHz	Max. S/N Ratio	107 dBA
Bandwidth	24 MHz	Max. Output Level	Balanced 2.2V rms open (T.H.D.=1%)
Oscillation Mode	PLL Synthesized. Frequency stability at $\pm 0.005\%$ (-10~+60°C)	Display	LCD
Preset Channels	100 selectable channels	Power	6.5~12V DC
Channel Setup	AutoScan	Current Consumption	Approx. 70 mA
Receiving Mode	Dual antenna true diversity	Dimensions (W x H x D)	83 x 145 x 35 mm (3.3 x 5.7 x 1.4 ")
Receiving Sensitivity	S/N > 76 dB at 6 μ V input	Weight	Approx. 220 g (7.7 oz)
Frequency Response	80 Hz~18 kHz (low frequency filter characteristics)	Matching Transmitters	ACT-7H, ACT-30H, ACT-50H, ACT-7T, ACT-50T
Spurious Rejection	> 80 dB	Operating Temperature	-10~+60°C
T.H.D.	< 0.15% (at 1 kHz, deviation at 15 kHz)	Note	Refer to actual product in the event of product description discrepancy.
Squelch Level	Adjustable range: 6 dBuV to 45 dBuV at 5 dB steps		

Key Accessories and Functions

1. MR-90S Standard Package (Included with MR-90a)

Includes Velcro fasteners, external I/O module, signal output cable and power cable. Ideal for other camcorders, active speakers and interfacing with other audio equipment.



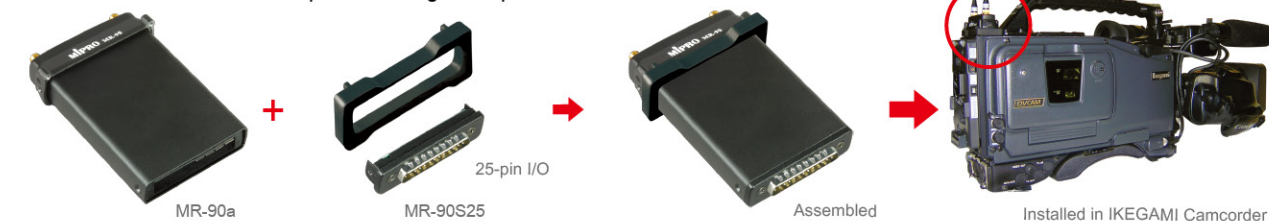
2. MR-90S15 Exclusive Socket Interface

For SONY Betacam camcorders with 15-pin I/O sockets. Installs directly into the reserved slot on the camcorder. No need for external power and signal output cable.



3. MR-90S25 Exclusive Socket Interface

For IKEGAMI camcorders with 25-pin I/O sockets. Installs directly into the reserved slot on the camcorder. No need for external power and signal output cable.



4. MR-90SB Built-in Battery Pack

Ideal for other camcorders, active speakers and interfacing with other audio equipment. MR-90SB requires two AA-sized batteries, eliminating the need for an external power source.



5. MR-90SC Mounting Fasteners

No need for Velcro fasteners. Connects directly to the accessory shoe of many miniature camcorders.



MT-90A Wireless Interlinking Transmitter



Features

1. Modular design for easy installation and maintenance.
2. 16 selectable channels available by push of a button.
3. Numeric LED clearly indicates working channel.
4. High/Low power output selectable.
5. LED indicators for RF and audio signal strength.
6. Supplies +48V phantom power for true condenser microphone.
7. Compatible with ACT-717, ACT-727, ACT-747 & MR-90a receivers.

Specifications

Frequency Range	620~934 MHz	Audio Input	XLR / 6.3mm Ø Combo Jack
Bandwidth	24 MHz	Input Sensitivity	Mic or Line level
Oscillation Mode	PLL Synthesized	Input Sensitivity Control	Adjustable control for Input Gain
Channel Grid	25 kHz	Phantom Power Switch	ON / OFF
Frequency Stability	± 0.005% (-10~+60°C)	Panel Display	AF Meter, AF Limit, RF Hi/Low Power indicators, numeric channel.
Modulation	FM	Antenna Connector	TNC × 1 (50 Ω impedance)
Output Power	< 100 mW (low), < 500 mW (high)	Dimensions (W × H × D)	210 × 44 × 206 mm (8.3 × 1.7 × 8.1 ")
Spurious	< 4 nW	Weight	Approx. 1.1 kg (2.4 lbs)
Frequency Response	80 Hz~15,000 kHz	Note	Refer to actual product in the event of product description discrepancy.
T.H.D.	< 0.5% (at 1 kHz, max. deviation)		

PC-11 Controller



How to modify frequency:

1. After power is on, use ▲▼ function keys and switch to OLD mode.
2. Use keypad to dial 6 digits (omit decimal point). For example, for frequency of 801.000 MHz, dial 801000 and push ENT button when numbers are entered.

5. Antenna Systems

- 90 Antennas
- 98 Antenna Divider
- 100 Antenna Combiner
- 101 Antenna Booster
- 102 Applications



Antenna Systems - Antenna

Profile

MIPRO complete antenna systems include antennas, antenna dividers, antenna combiners, antenna boosters, booster relay power supply and front mount antenna bracket.

Antennas: Fits MIPRO wireless receivers.

Antenna Divider: Allows up to 4 UHF receivers to operate from a single pair of antennas or allows a single transmitter to operate via multiple antennas which greatly reduce intermodulation distortion and increase antenna efficiency and reception range.

Antenna Combiner: Allows up to 4 wireless transmitters to operate via 1 single antenna to eliminate spurious interference and simplify antenna installation. Ideal for professional stage applications.

Antenna Booster: Amplifies the antenna signal to increase signal strength and transmission range and improved S/N ratio signal and stability.

Others: MP-10 booster relay power supply, FB-70 front mount antenna bracket.

AT-10 Whip Antenna

AT-10 is a 1/4 wave single rod antenna featuring wider band, omni-directional, and 50 Ω impedance. Directly mounted on the antenna connectors of a receiver to become monopole antenna for adequate sensitivity and operating range.



AT-20 Coaxial Antenna

AT-20 is a 1/2 wave coaxial antenna that functions like a dipole antenna, featuring 2.4 dBi gain, 50 Ω impedance, and omni-directional. Directly mounted on the antenna connectors of a receiver for adequate sensitivity and operating range.



AT-70 Ground Plane Antenna

AT-70 is a UHF antenna that stabilizes signal receiving and prevents impedance interference from nearby objects because of its vertical 1/4 wave antenna is surround by horizontal antennas at a 45 $^{\circ}$ degree, causing a 1/2 wave dipole antenna effect. Thus AT-70 has higher positive gain than a 1/4 wave single rod antenna and smoother impedance within 620~960 MHz band. Therefore, the length of the antenna does not need to be adjusted while receiving. The antenna is able to reduce interference by filtering signals outside the range. 50 Ω impedance for matching with regular 50 Ω impedance antenna cables. It is suggested to be installed at the central location of a hall, on the wall, inverted on a ceiling, or mounted on a tripod (MS-30).



Specifications

Frequency Range	620~960 MHz
Impedence	50 Ω
Connector	TNC Male
Dimensions (L \times \varnothing)	165 \times 150 mm (6.5 \times 5.9 ")
Weight	Approx. 142 g (5 oz)
Note	Refer to actual product in the event of product description discrepancy.

AT-70W

Wideband Transmitting and Receiving Omni-directional Antenna



Profile

AT-70W is a bi-functional omni-directional antenna for professional receiving and transmitting applications. Optimized for 470~1000 MHz, which is fully compatible with US and EU new telecom regulations. It has a 2~4 dBi gain which is ideal for any specific installation required with full directions. It can be easily distinguished by its new "W-Shape" appearance.

AT-70W has two input connectors, "TX/RX" which can be connected to transmitter or receiver directly. The "RX Only" connector has a built-in 12 dB high gain booster provides increased reception range for ACT receiver.

AT-70W offers users the options of transmitting or receiving based on actual application. Built-in booster power can be provided from a MIPRO AD-707a or ACT Series receivers through the coaxial cables. AT-70W is waterproof and ideal for both indoor and outdoor applications.

Specifications

Frequency Range	470~1000 MHz
Antenna Gain	2~4 dBi
Booster Gain	RX Connector : 12 ± 1 dB ; TX/RX Connector: 0 dB
VSWR	≤ 2:1
Power Consumption	RX Connector : 1120 mW (8V DC ; New Version : 8~15V DC) TX/RX Connector: 0 mW
Impedance	50 Ω
Connector	TNC Female × 2
Dimensions (W × H × D)	120 × 261 × 32 mm (4.7 × 10.3 × 1.3 ")
Weight	Approx. 200 g (7 oz)
Note	Refer to actual product in the event of product description discrepancy.

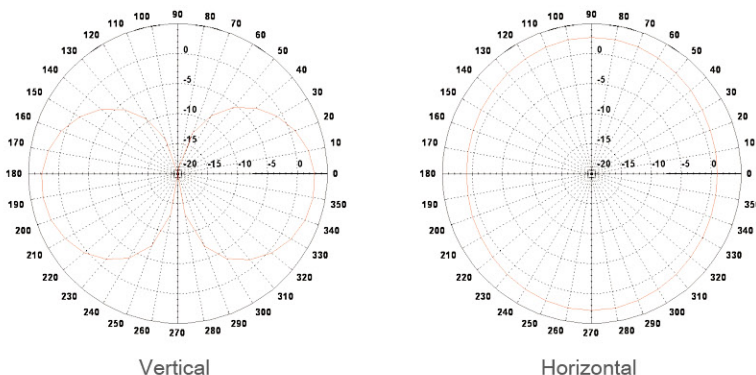
MS-90

Wall-mounting Rack

Wall-mounting rack for AT-70W, AT-90W, AT-100.



Antenna Pattern



AT-90W

Wideband Transmitting and Receiving Log Antenna



Profile

AT-90W is a bi-functional log antenna for professional receiving and transmitting applications. Optimized for 470~1000 MHz, which is compatible with US and EU new telecom regulations. It has a 4~6 dBi gain which is ideal for any installation required specific directions. The wideband ACT-90W can be easily distinguished from its predecessor, AT-90, by its new "W-Shaped" design.

AT-90W has two input connectors, "TX/RX" which can be connected to transmitter or receiver directly. The "RX only" connector has a built-in 12 dB high gain booster provides increased reception range for ACT receiver.

AT-90W offers users the options of transmitting or receiving based on actual application. Built-in booster power can be provided from a MIPRO AD-707a or ACT Series receivers through the coaxial cables. AT-90W is waterproof and ideal for both indoor and outdoor applications.

Specifications

Frequency Range	470~1000 MHz
Antenna Gain	4~6 dBi
Booster Gain	RX Connector: 12 ± 1 dB ; TX/RX Connector: 0 dB
VSWR	≤ 2:1
3-dB Beam-width	75° Vertical; 130° Horizontal
Power Consumption	RX Connector : 1120 mW (8V DC ; New Version: 8~15V DC) ; TX/RX Connector: 0 mW
Impedance	50 Ω
Connector	TNC Female × 2
Dimensions (W × H × D)	319 × 270 × 25 mm (12.5 × 10.6 × 1 ")
Weight	Approx. 430 g (15.2 oz)
Note	Refer to actual product in the event of product description discrepancy.

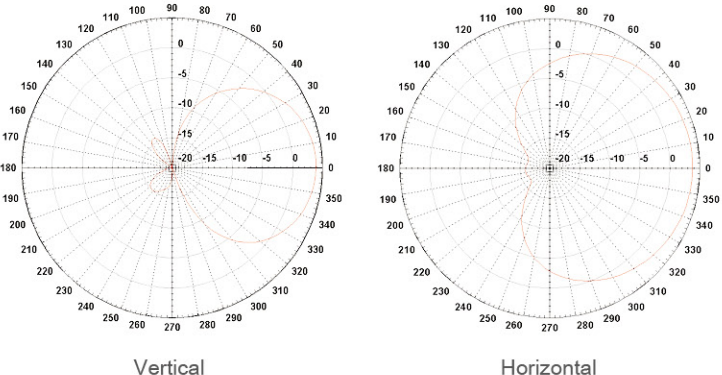
MS-90

Wall-mounting Rack

Wall-mounting rack for AT-70W, AT-90W, AT-100.



Antenna Pattern



AT-100
Wideband Circularly Polarized Antenna New



Profile

1. Patented in multiple countries. Distinguished Appearance

Optimized solution for both transmitting and receiving RF signals throughout the UHF bandwidth. AT-100 has a distinguished appearance is patented in multiple countries.

2. Main Features

Front area is the main focus of antenna direction for either vertical or horizontal polarization.

Circularly polarized antenna can effectively reduce the polarization loss of the antenna to improve signals strength. Optimum solution for 470-1,000 MHz bandwidth with 6~8 dBi antenna gain and certified to latest CE/FCC newly telecom regulations.

3. Results

AT-100 is an ideal antenna system for utmost signal stability. Antenna features affect transmission range, stability and anti-interference performance. Therefore, antenna is a vital component in any system installations especially for complicated and demanding RF environment wireless microphones and wireless monitors systems. It greatly improves signal stability and reduces interferences, signal drop-outs caused by polarization problems.

Specifications

Frequency Range	470~1,000 MHz
Antenna Gain	6~8 dBi
Polarization	Circular polarization
3-dB Beam Width	72°
Booster Gain	RX Connector : 12 ± 1 dB ; TX/RX Connector : 0 dB
VSWR	≤ 2:1
Power Consumption	RX Connector : 1120 mW(8V DC; New Version : 8~15V DC) TX/RX Connector : 0 mW
Impedance	50 Ω
Connector	TNC Female x 2
Dimensions (W x H x D)	350 × 350 × 225 mm (13.8 x 13.8 x 8.8 ")
Weight	Approx. 1.5 kg (3.3 lbs)
Note	Refer to actual product in case of product description discrepancy

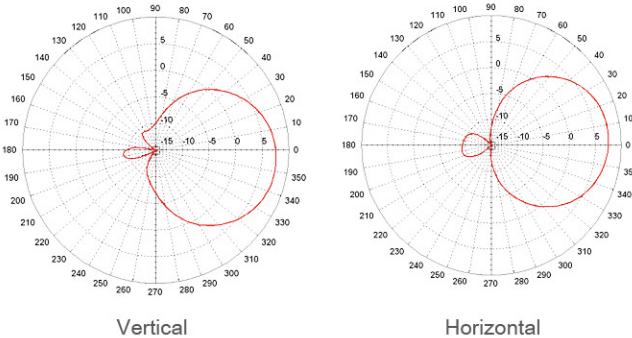
4. Built-in Connectors

AT-100 has two built-in connectors: One "TX/RX" signal connectors for either transmitter or receiver. Another "RX Only" receiver only connector (cannot connect to transmitter) has a built-in 12 dB antenna gain booster provides extended reception range and compensates for coaxial cable signal loss caused to improve reception range and signal quality. Booster power can be provided by a MIPRO AD-707a or any ACT series receivers.

5. Waterproof

Waterproof and weather resistant. Ideal for both outdoor and indoor applications.

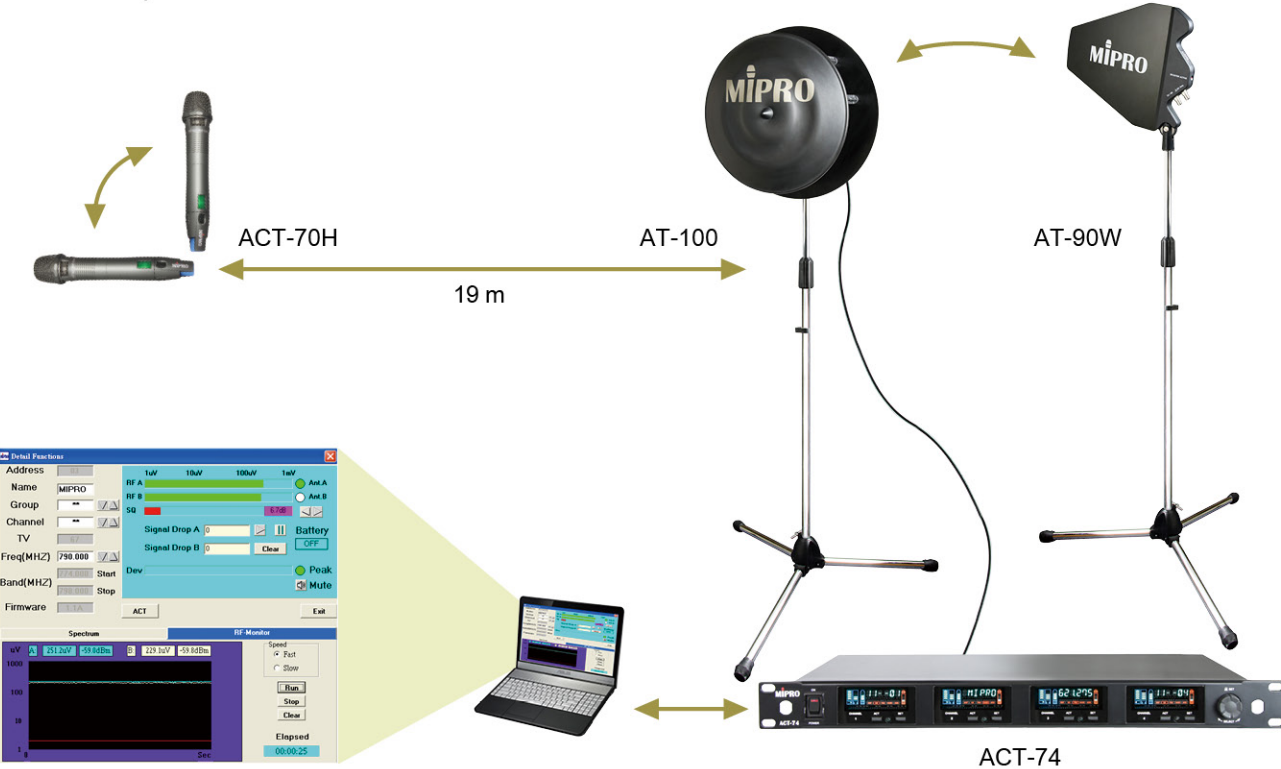
Antenna Pattern



AT-100 and AT-90W (or other directional antenna) Comparison Chart

1. Static Measurement of Antenna Polarization Loss:

Antenna observation statistics of MIPRO RCS2.Net 2.6 monitoring software connected to ACT-74 receiver and signal transmitted by ACT-70H handheld transmitter. AT-100 and AT-90W directional antenna is connected to the same antenna input port at the receiver and measuring differences to antenna polarization characteristics as show below:



AT-100 Measurement Result



Vertical Positio

Horizontal Position

AT-90W Measurement Result



Vertical Positio

Horizontal Position

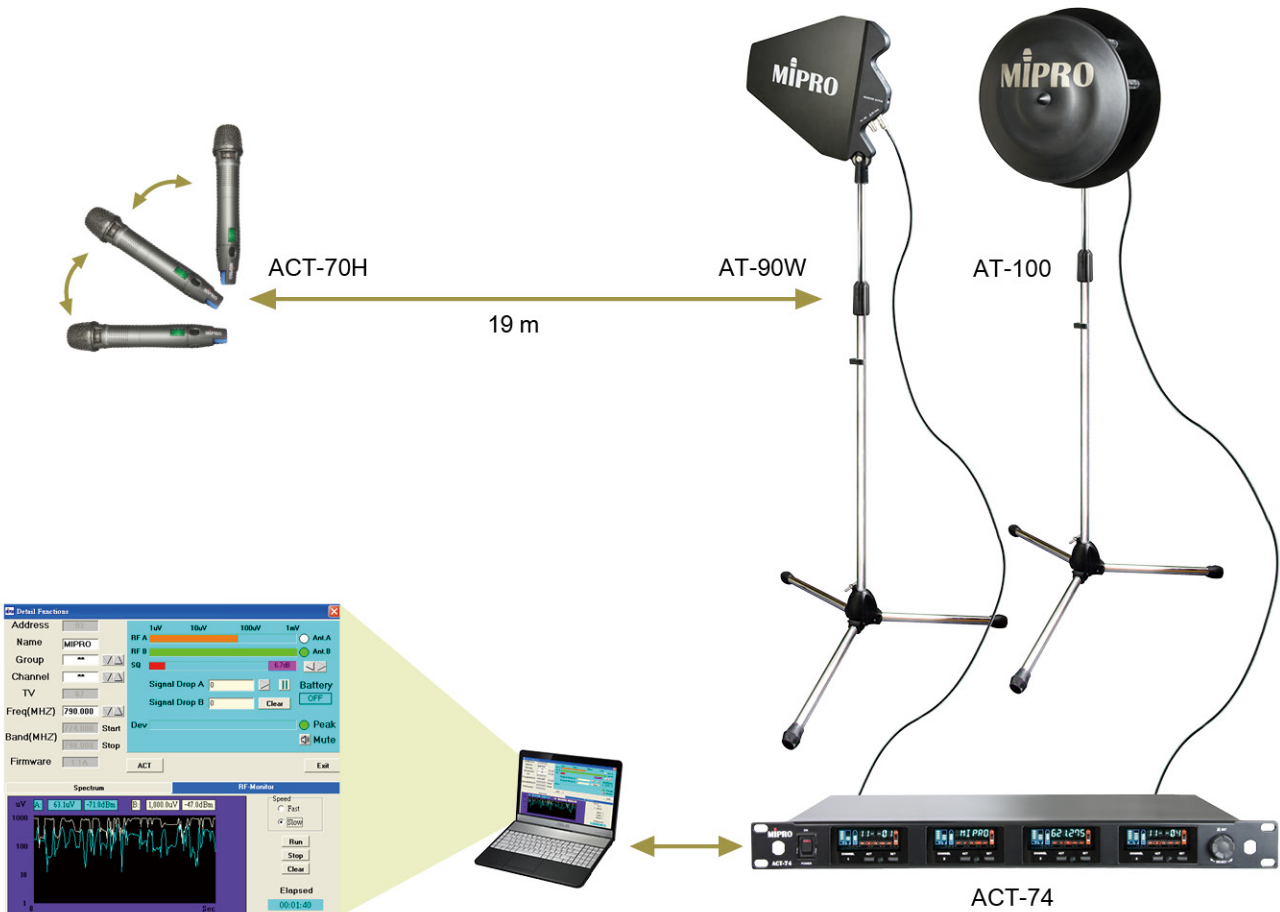
Measurement Result Clearly Indicated

Model	RF Received Signal Strength (dBm)	
	Vertical Position of Microphone	Horizontal Position of Microphone
AT-100	-51.8	-51.8
AT-90W	-53.0	-72.6

Due to the low polarization loss of circularly-polarized antenna AT-100, the received signal strengths are almost the same and stable when transmitting microphone is in both vertical and horizontal positions. On the contrary, due to the large polarization loss of linearly-polarized antenna AT-90W, the received signal strengths indicate a difference of 19.6 dB when transmitting microphone is in vertical and horizontal positions.

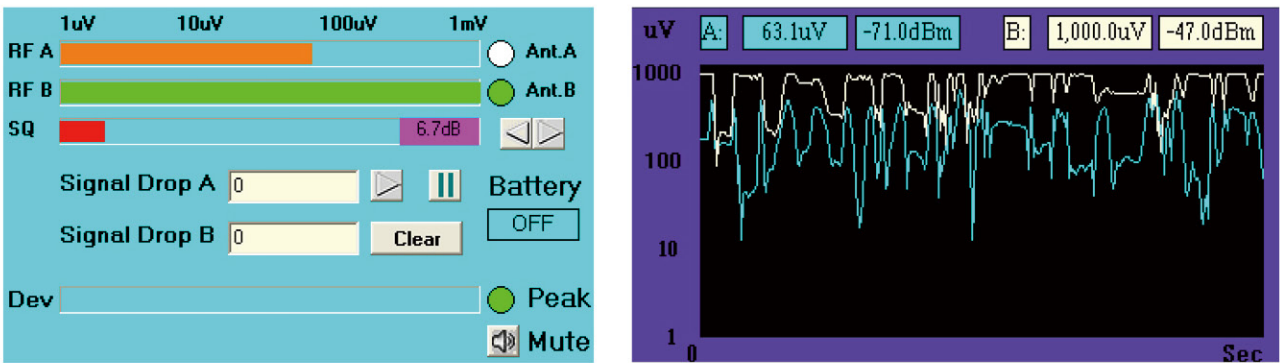
2. Antenna Dynamic Measurements with Polarization Loss Experiments

Antenna observation statistics of MIPRO RCS2.Net 2.6 monitoring software connected to ACT-74 receiver with signal transmitted by ACT-70H handheld transmitter. The AT-100 and AT-90W are connected to ACT-74 receiver input "B" and "A" terminals, respectively. The measuring differences to antenna polarization characteristics as show below:



Test Result

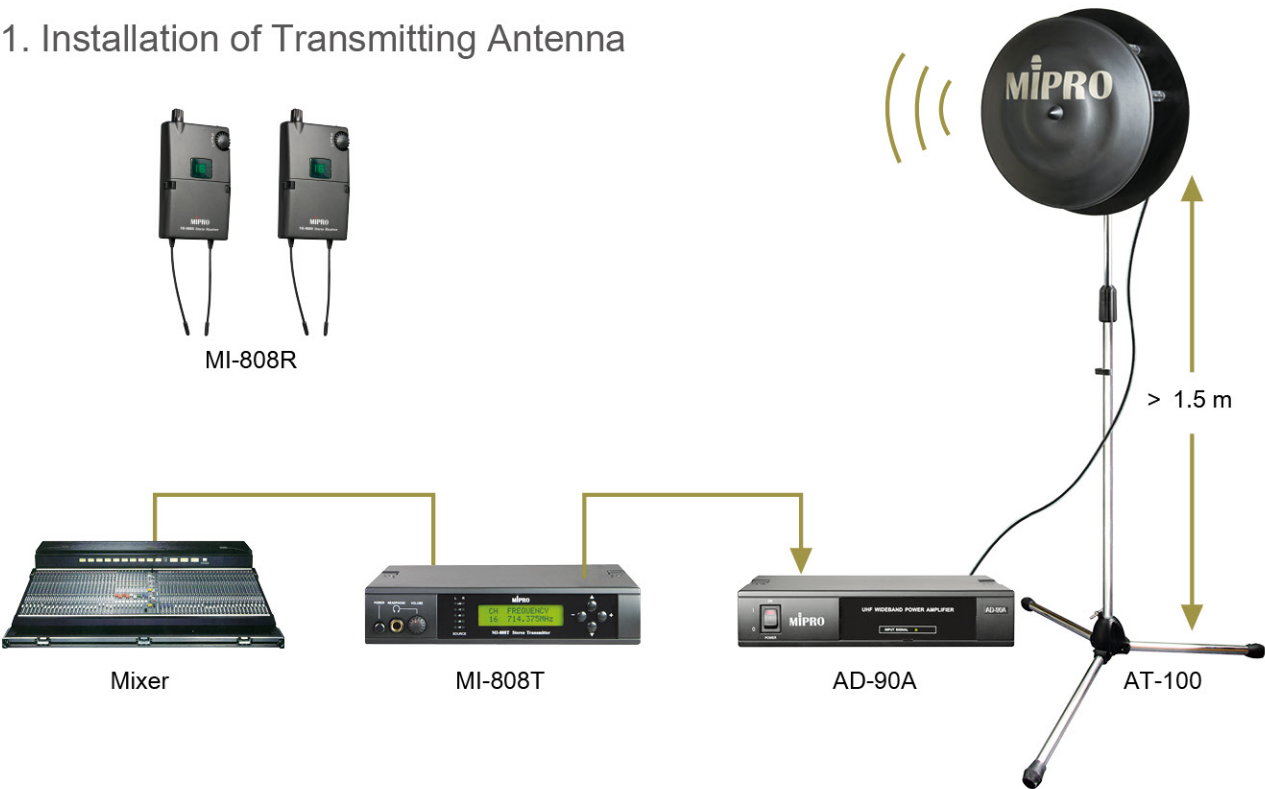
Below diagram clearly indicated that AT-100 circularly polarized antenna has improved performance than AT-90W in terms of received signal strengths and signal stability.



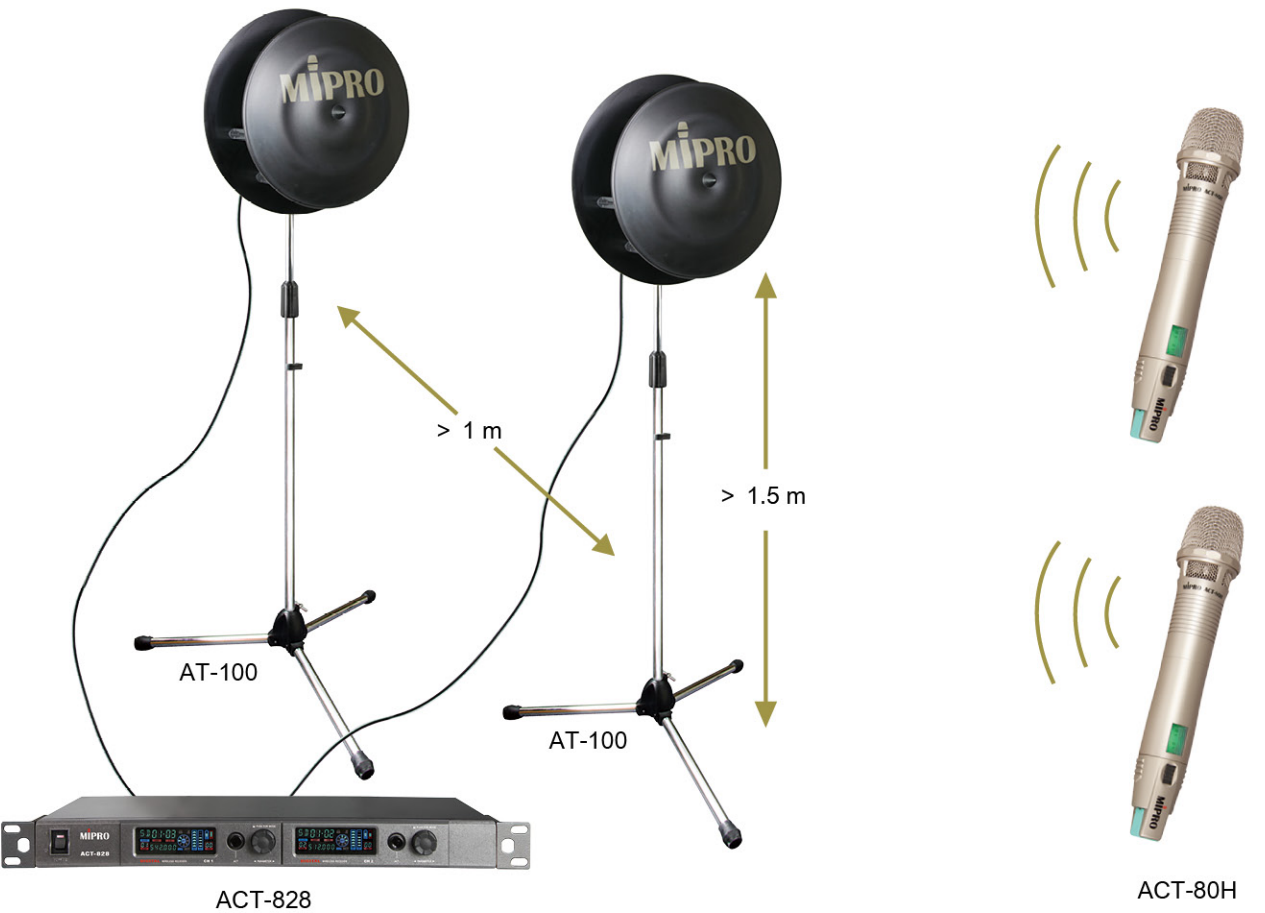
Computer Monitoring Graphs

Correct Antenna Installations

1. Installation of Transmitting Antenna



2. Installation of Receiving Antenna for Directional Stage Performances



Installed Venues and Mounting Methods

Stages



Convenient MS-30 mic stand.

Ceiling Mounting-vertical position



Convenient MS-90 ceiling rack-mount.

Wall Mounting-horizontal position



Convenient MS-90 wall rack-mount.

Outdoor Installation



Convenient MS-90 rack-mount.

Built-in booster Usage

1. Optimal signal quality through proper booster usage

Coaxial cable loss reduces signal received distance and stability. It must be connected to booster to improve antenna gain to compensate for signal loss. However, too much antenna gain in the booster causes unnecessary interference from intermodulation distortion resulting in received signal quality deterioration.

ACT-100 has two connectors, one is for RX (receiver only) with built-in 12 dB antenna gain, and can be used effectively to compensate the signal lose from extended cable transmission.

2. Calculation in selection of appropriate cable size and length to match the booster

Please refer to the catalog Technical Knowledge "How to design receiver antenna system."

AD-90S UHF 4-channel Wideband Power Splitter



Features

- AD-90S is a UHF 4-channel power antenna splitter with a maximum output level of +26 dBm (0.4 W), assisting with one transmitter connecting to 4 transmitting antennas.
- Primarily operates with 4 MI-808T in-ear monitoring transmitters or 4 MT-90A wireless interlinking transmitters to send signals through 4 channels with reliable signal transmission and larger signal coverage in multiple directions. Note that AD-90S is not designed for receivers.
- Each channel of AD-90S can be connected to an AD-90A UHF wideband power amplifier to increase signal output power and transmission range when the antenna is installed in complex terrain or a large building with many partitions.

Specifications

Bandwidth	UHF 470~960 MHz
Full System Gain	0~2 dB
VSWR Input / Output	≤ 1.5:1
Max. Output Connectors	4
Input Signal Indicator Threshold	+3 dBm
Max. RF Input Power	+26 dBm
Power Supply	12~15V DC
Current Consumption	Approx. 760 mA
Input / Output Connectors	TNC Female (1 input, 4 output)
Dimension (W × H × D)	210 × 44 × 206 mm (8.3 × 1.7 × 8.1 ")
Weight	Approx. 1.1 kg (2.4 lbs)
Operating Temperature	-10~+60°C
Note	Refer to actual product in the event of product description discrepancy.

AD-90A UHF Wideband High Power Amplifier



Features

- AD-90A is a professional UHF 470~960 MHz wideband power amplifier with maximum output power of +30 dBm (1 W).
- AD-90A is designed to operate with a MIPRO MI-808T stereo transmitter, a MT-90A wireless linking transmitter, and an AD-90S UHF wideband power splitter as an end-amplifier to boost signal strength for longer signal transmission distance and reducing signal dropout in extremely complicated environments.
- Ideally suited for large outdoor installation sites requiring wireless transmission to remote powered active speakers.
- AD-90A's output can be connected to AT-90W UHF wideband antenna to complete a high efficient and long distance transmission.

Specifications

Bandwidth	UHF 470~960 MHz
Full System Gain	8 ± 1 dB
VSWR Input/Output	≤ 2:1
Input Signal Indicator Threshold	+6 dBm
Max. RF Output Power	1 W
Power Supply	12~15V DC
Current Consumption	Approx. 370 mA
Connectors	TNC Female (1 input, 1 output)
Dimension (W × H × D)	210 × 44 × 206 mm (8.3 × 1.7 × 8.1 ")
Weight	Approx. 1.1 kg (2.4 lbs)
Operating Temperature	-10~+60°C
Note	Refer to actual product in the event of product description discrepancy.

AD-12 Passive Antenna Divider & Combiner



Features

- 1. The AD-12 can either divide a RF signal into 2 signal outputs or combine 2 signals into 1 signal output. Simultaneously, it transmits bias voltage to afterward boosters. This is an ideal accessory to set up antenna systems.
- 2. The AD-12 adopts an isolated grounding design to avoid power noise from multi-receiver operation.

Specifications

Frequency Range	470~1000 MHz
Attenuation	3.5 dB (typ.)
Isolation	20 dB (typ.)
Impedance	50 Ω
Max. Volt / Current	50V DC / 1.5A
Connector	TNC × 3
Dimension (W × H × D)	90.3 × 25 × 55.4 mm (3.5 × 1 × 2.2 ")
Weight	Approx. 105 g (3.7 oz)
Note	Refer to actual product in the event of product description discrepancy.

AD-707a UHF Wideband 4-channel Antenna Divider



Features

- 1. Optimized for 470~850 MHz carrier frequency range. Fully compatible with US and EU telecom regulations.
- 2. Provides 2~4 sets UHF diversity receivers to operate from a pair of antennas. Greatly simplifies antenna installation and increases reception range and efficiency.
- 3. Adopts the latest high dynamic range components and wideband microstrip circuit design, featuring ultra low intermodulation distortion, and eliminates spurious interference in multiple systems usage. System output gain approximately equals to 1.
- 4. Output connectors provide bias for a ground plane antenna with antenna booster and a wideband receiving log antenna with built-in booster.
- 5. 2 sets of 4-channel antenna output connectors for direct connect to 4 sets of diversity receivers.
- 6. 2 sets of antenna input and output connectors.
- 7. Output connector can be linked to input connector of another antenna divider.
- 8. Booster power indicators assist with identifying the booster linkage.

Specifications

Antenna Splitter	2 sets of 1-to-4 active divider output, 2 sets of 1-to-1 active divider output.
Frequency Range	470~850 MHz
IIP3	+32 dBm
RF Output Gain	+1.0 dB ± 1 dB
Input/Output Gain	+1.0 dB ± 1 dB
Output Port Isolation	> 18 dB at 400~1000 MHz
Filter Selection	Low sideband ≥ 35 dB, high sideband ≥ 30 dB
Impedance	50 Ω
Connector	TNC Female
Antenna Input Power Supply	Antenna A/B input port supplies bias 8.3V DC, 230 mA max. to booster.
Power Supply	12~15V DC
Current Consumption	Approx. 190 mA at 12V DC
Dimensions (W × H × D)	482 × 44 × 190 mm (19 × 1.7 × 7.5 ")
Weight	Approx. 1.5 kg
Note	Refer to actual product in the event of product description discrepancy.

AD-808 UHF 4-channel Active Antenna Combiner



Features

- 1. Wideband frequency ranges from 470~960 MHz.
- 2. Operates with up to 4 transmitters.
- 3. Input signal indicator (threshold above +6 dBm).
- 4. Maximum RF input power +20 dBm (100 mW).
- 5. Ideal intermodulation characteristics (3rd order IM<-57 dBc under full band performance +15 dBm two-tone test).

Specifications

Frequency Range	470~960 MHz
Full System Gain	0 ± 2 dB
VSWR Input / Output	≤ 1.5:1
Max. RF Input Power	+20 dBm
Input Signal Indicator Threshold	+6 dBm
Power Consumption	9.12 W (12V, 760 mA)
Input / Output Connectors	TNC Female (4 input, 1 output)
Dimension (W × H × D)	210 × 44 × 206 mm (8.3 × 1.7 × 8.1 ")
Weight	Approx. 1.1 kg (2.4 lbs)
Note	Refer to actual product in the event of product description discrepancy.

MPB-20 Antenna Booster with Built-in Power Supply



New

Features

- 1. Optimized in 470~960 MHz frequency range and offers 13 dB gain to compensate for signal loss due to long antenna cable, so as to enhance signal stability and increased reception range.
- 2. With external power supply, MPB-20 provides power independently to internal antenna booster. This allows complicated external antenna dividing systems to work efficiently and independently so that longer antenna cable can be connected with more boosters.
- 3. Without external power supply, MPB-20 can work properly by the 8V DC power provided from MIPRO ACT receivers to offer stable 13 dB gain.
- 4. Aluminum casing provides superb heat dissipation characteristics and constant output voltage at 8V DC.

Specifications

Frequency Range	470~960 MHz
Gain	13 ± 1 dB
Noise Figure	< 2.5 dB (center band)
IIP3	+18 dBm (center band)
Impedance	50 Ω
Input Power	12~24V DC (min. 350 mA)
Regulated Output Power	8V DC (max. 250 mA)
Current Consumption	Approx. 32 mA at 12V DC
Connectors	TNC × 2, 2.0 mm DC Jack × 1
Dimensions (W × H × D)	90.3 × 25 × 55.4 mm (3.5 × 1 × 2.2 ")
Weight	Approx. 100 g (3.5 oz)
Note	Refer to actual product in the event of product description discrepancy.

FB-70 Front Mount Antenna Bracket



AT-70B UHF Antenna Signal Booster



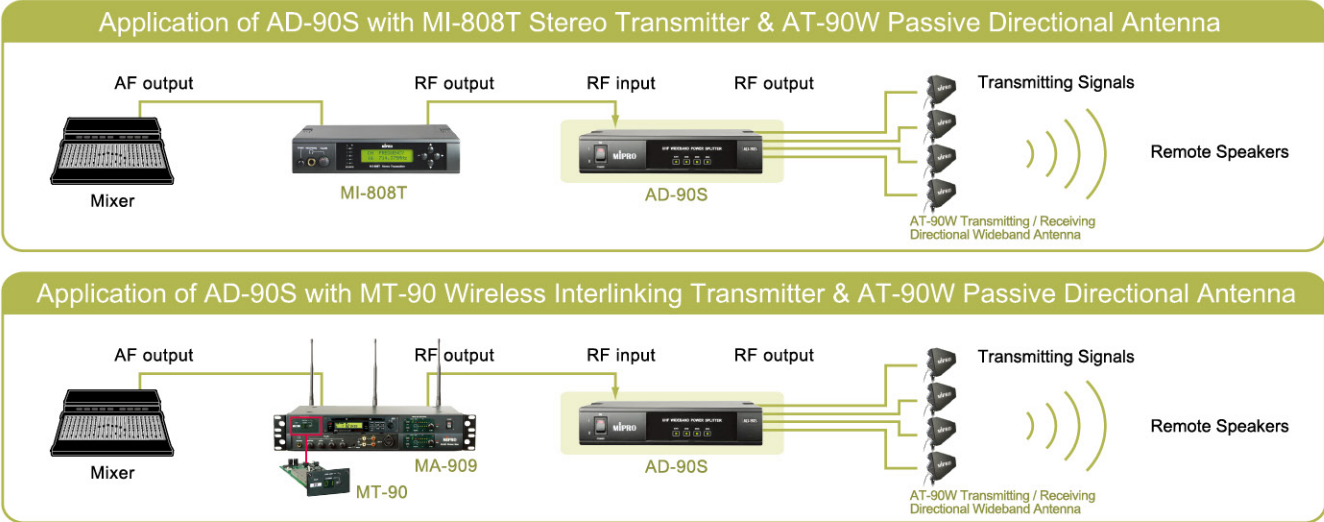
Features

Optimized in 620~960 MHz and offers 13 dB gain to compensate for antenna cable loss and allows better S/N ratio on receiving signals to increase operating range and signal stability.

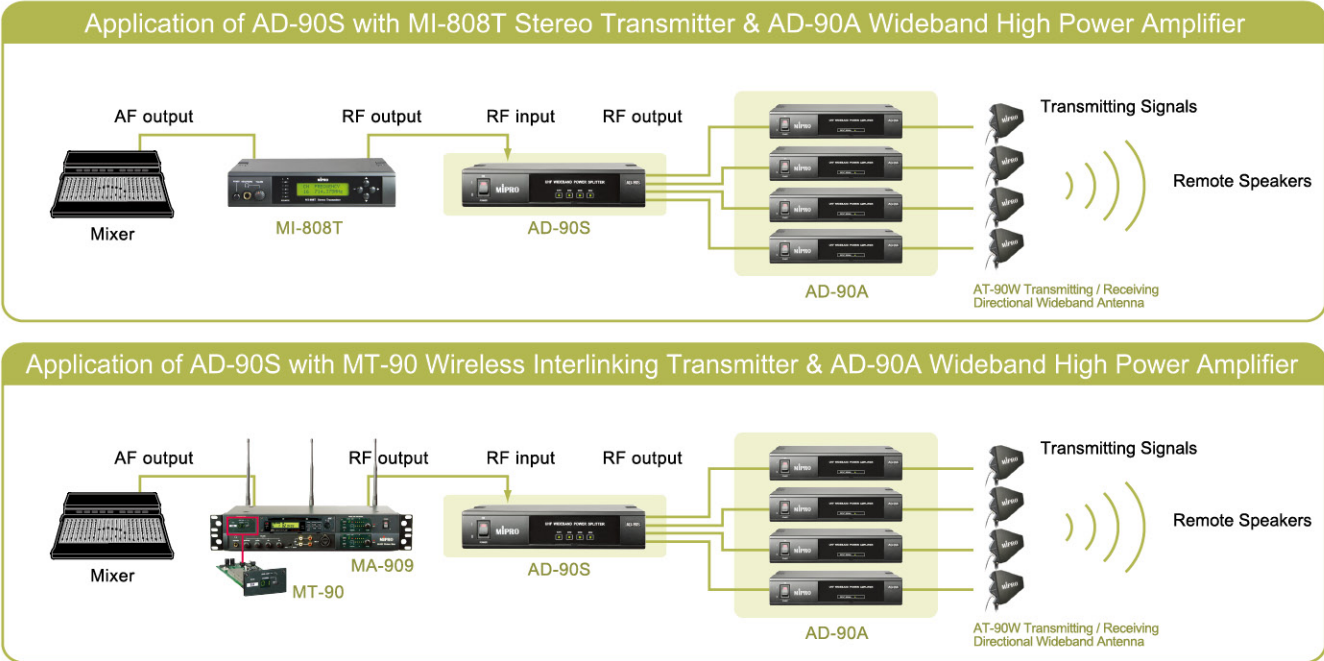
Specifications

Frequency Range	UHF 620~960 MHz
Max. Input Level	< +20 dBm
Noise Figure	< 2.5 dB (center band)
Gain	+13 dB (center band)
Input SWVR	≤ 2.5
Impedance	50 Ω
Power Supply	8V DC, regulated
Current Consumption	Approx. 80 mA
Dimensions (L × Ø)	100 × 28 mm (3.9 × 1.1 ")
Weight	Approx. 102 g (3.6 oz)
Note	Refer to actual product in the event of product description discrepancy.

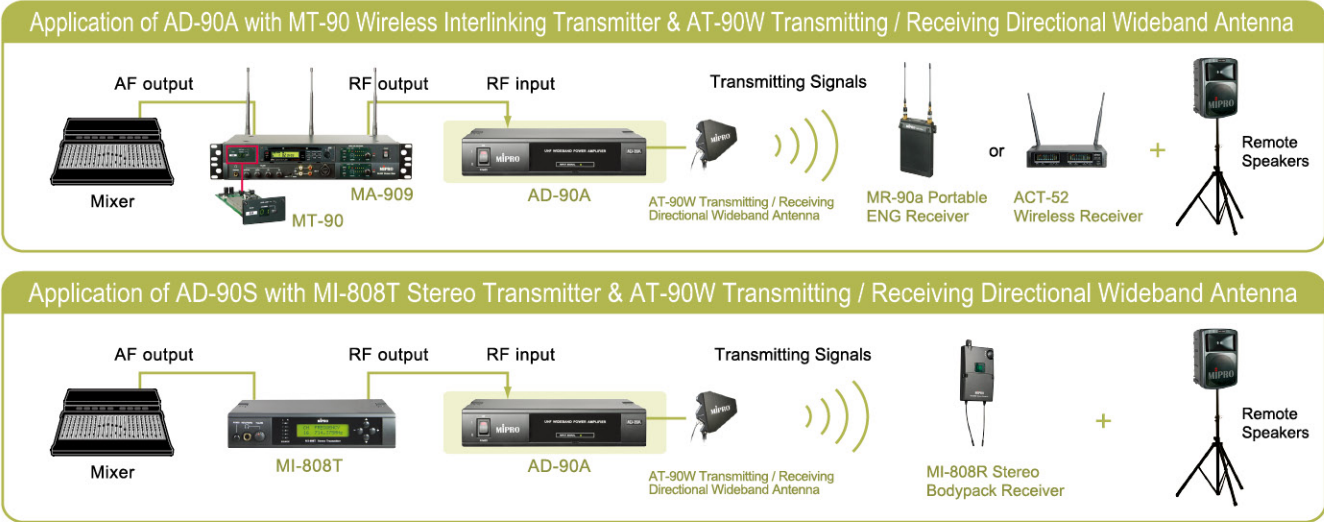
AD-90S Application



Transmission Enhancement Application



AD-90A Application



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