

MIPRO[®]
MICROPHONE PROFESSIONALS

ACT-7a Series

Wideband Wireless Microphone Systems

Innovation • Reliability • Performance



MIPRO Int'l Artist Endorser Si-En

ACT-7a Series

New Wideband ACT-7a Series Receivers



Profile

The analogue ACT-7 systems have been in existence for 10 years in a variety of incarnations. The latest 3rd generation system, the ACT-7a Series, is the most advanced with features, functions and design utilising the very latest technologies.

The ACT 7a Series offers excellent anti-interference characteristics, system compatibility and RF stability, very much in demand from professional audio experts. Innovations such as the new MU-89 true condenser microphone capsule have achieved such accuracy and quality in reproduction, they really are the pinnacle of contemporary audio engineering.

In response to changes in UK radio regulations, we are proud to launch the new wideband ACT 7a Series wireless system, extending the receiver bandwidth from 24MHz to 72MHz and transmitters from 24MHz to 36MHz. This allows the most diverse use to be made from all available UK channel space, including the new UK-wide Channel 38. Both dual-channel and quad-channel systems are available with matched hand held and body pack transmitters.

New UK Frequency Coverage

UK72 Band: Receivers (72MHz bandwidth)

Ch 38 606-614	Ch 39 614-622	Ch 40 622-630	Ch 41 630-638	Ch 42 638-646	Ch 43 646-654	Ch 44 654-662	Ch 45 662-670	Ch 46 670-678
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UK72 Band: Transmitters - Lower Band (36MHz bandwidth)

Ch 38 606-614	Ch 39 614-622	Ch 40 622-630	Ch 41 630-638	Ch 42 638-642
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UK72 Band: Transmitters - Upper Band (36MHz bandwidth)

Ch 42 642-646	Ch 43 646-654	Ch 44 654-662	Ch 45 662-670	Ch 46 670-678
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Features

- 1 19" 1U sturdy metal enclosure allows good heat dissipation and helps screen out spurious interference.
- 2 PLL synthesised RF technology offers high stability and low spurious emissions.
- 3 Uses advanced RF circuitry to improve anti-interference characteristics and increase the number of interference-free channels.
- 4 72MHz wide bandwidth: each receiver has 320 selectable frequencies in 15 preset groups. In the 16th user-defined group, the user can create a custom group of up to 16 channels (using optional PC software).
- 5 World's first ACT (Automatic Channel Targeting) technology for precise and rapid frequency sync to the transmitters.
- 6 True diversity for best reception quality. "PiloTone & NoiseLock" circuits help prevent interference.
- 7 Enhanced "RF saturated" dynamic range decreases spurious interference and THD.
- 8 Bright, easy-to-read (even in direct sunlight) VFD (Vacuum Fluorescent Display) with adjustable brightness levels. Display darkens when idle to save power.
- 9 All controls are intuitive and easily accessible, allowing quick and easy system setup via a single front-panel rotary controller.
- 10 Reception sensitivity can be adjusted accordingly thanks to the interference warning indicator. Squelch controls allow the system to be fine-tuned according to reception distances and interference characteristics of a particular site.
- 11 Single channel or mixed output with switchable output gain. Output level is accurately pre-adjusted to match the microphone capsule sensitivity, ensuring optimum performance.
- 12 Extremely low transmitter handling noise and excellent transmission characteristics
- 13 Optional antenna divider systems and signal boosters are available to increase reception distance and RF quality.
- 14 Optional PC software allows real-time control, monitoring and custom frequency selection with a user-friendly menu interface.
- 15 Universal switching power supply 100-240V AC keeps systems stable and allows worldwide usage.

ACT-7a Series

New Wideband *ACT-727a* Dual-Channel True Diversity Receiver



Typical System Configuration



ACT-727a + ACT-7Ha + ACT-7Ta

Note that due to the wide bandwidth *two* transmitters are required per receiver channel to utilise the full 72MHz range.
Only one transmitter can be operated at a time on each receiver channel.

ACT-7a Series

New Wideband *ACT-747a* Quad-Channel True Diversity Receiver



Typical System Configuration



ACT-747a + ACT-7Ha + ACT-7Ta

Note that due to the wide bandwidth *two* transmitters are required per receiver channel to utilise the full 72MHz range.
Only one transmitter can be operated at a time on each receiver channel.

ACT-7a Series

ACT-727a / ACT-747a Specifications

Model	ACT-727a	ACT-747a
Channels	Two	Four
Case	EIA-Standard 19" 1-Rack Unit	
Display Screen	Colour VFD (Vacuum Fluorescent Display). Displays Frequency Band Code, RF & Audio Meters, Transmitter Battery Meter, Diversity Signals, Interference Warning Indicator. User Programmable Name, Group, Channel, Squelch Meter, PC Address and Lock Status.	
Frequency Range	Frequency Code: UK72. UHF 606-678MHz (TV Channels 38-46)	
Bandwidth	72MHz	
Preset Channels	16 interference-free channels in Groups 1-10. 32 interference-free channels in Groups 11-15. A total of 320 preset channels. 16 user-defined channels in Group 16.	
Receiving Technology	True Diversity	
Oscillation Mode	PLL Synthesised	
RF Stability	±0.005% (-10~50°C)	
Sensitivity	S/N>80dB @ 6dBµV (40KHz deviation)	
Peak Deviation	±68KHz, with compander system	
S/N Ratio	>105dB (A)	
T.H.D.	<0.5% @ 1KHz	
Frequency Response	50Hz~18KHz, with high-pass filter	
Squelch Control	Innovative "PiloTone & NoiseLock" dual-squelch circuit	
Audio Output Adjustment	Output level accurately pre-adjusted to equal to the microphone capsule sensitivity.	
Max. Output Level	Unbalanced: +10dBV / 0dBV / -6dBV ; Balanced: +16dBV / 0dBV / -6dBV	
Output Connectors	XLR Balanced	
Output Switch	Single channel output or mixed output with adjustable gain levels.	
Operation	Manual or PC remote controllable	
Squelch Adjustment	Via rotary controller on front panel	
Squelch Level Adjustment	Display in VFD screen	
Power Supply	Integrated 100-240V Universal AC switching power supply	
Dimensions (W x H x D)	482 x 44 x 260 mm	
Weight	3.0 kg	3.4 kg
Transmitters	ACT-7Ha Handheld, ACT-7Ta Bodypack. UK72A (lower band) / UK72B (upper band) models, each cover 36MHz	
Note	Products carry various patents and comply with UK telecommunication and safety regulations.	

ACT-7a Series

Tips

How to Set Up Interference-Free Systems for ACT-727a/747a Receivers

1. To set up multi-channel operation, it is advisable to select preset channels within the same group if many channels are required to work simultaneously without intermodulation.
2. A combination of preset channels under different groups *can* result in possible interference.
3. If one of the preset channels within the same group experiences interference, try changing to another preset channel. If enough interference-free channels cannot be found it is recommended you change to another group. There may be a site-specific interference issue with that particular group. For example, when using Group 1 / Channels 1/2/3/4, if Channel 3 experiences interference, you should change to another channel in Group 1, such as Channel 5. If all other preset channels in Group 1 produce interference you should change to Group 2 or to another group.
4. In Groups 1-10 each group has 16 preset interference-free channels. There are no restrictions regarding the minimum safe distance between the transmitters and the receivers. If 17-32 interference-free channels are needed in the same setup, users should add another band.
5. In Group 11-15, each group has 32 preset interference-free channels. 3 metres distance (minimum) is needed between the transmitters and receiver for unhampered operation. If 33-64 interference-free channels are needed in the same setup, users should add another band.
6. For less than 16 interference-free channels, MIPRO recommends using channels from Groups 1-10 to ensure optimum performance.
7. If more than 32 interference-free channels need to be used in the same band but are not required for long-distance reception, using channels from Groups 11-15 is recommended.
8. Users also can set up and save up to 16 preferred frequencies in Group 16 using MIPRO's optional PC software.

NOTE: Factory preset interference-free channels are designed for MIPRO ACT receivers only. Do not mix with, or use simultaneously with, wireless microphone systems from other manufacturers.

ACT-7a Series

Wideband ACT-7Ha Handheld Microphone Transmitter

The new MIPRO ACT-7Ha handheld wireless microphone is based upon more than a decade of distinctive design and rugged, durable mechanical construction. The internal RF circuit has been updated to include advanced wideband transmitting technology, making this one of the most advanced handheld transmitters on the market.

Features

1. Bandwidth expanded to 36MHz for compatibility with wideband ACT receivers. Two models are available (UK72A and UK72B) to cover the upper and lower sections of the full 72MHz range.
2. Single-piece metal body offers ergonomic and aesthetic design without compromise to durable construction.
3. MIPRO's proprietary multi-layer metal grille protects the capsule against impact and rolling and minimises wind noises.
4. Increased interior multi-layer fine copper mesh replaces conventional low-price sponge filter, provides an extra protection for microphone capsule and minimizes "pop" noise and effectively preserves sound clarity.
5. Three microphone capsule options are available: MU-89b premium true condenser vocal capsule (optional), MU-79b vocal electret condenser capsule (supplied as standard) and MU-39b supercardioid vocal dynamic capsule (optional). The new MU-89b premium true condenser capsule provides extremely low handling noise, high fidelity, wide frequency response, high dynamic range, fast transient response, low feedback howling, superb clarity and accurate sound image characteristics. Capsules are easily detachable for fast changeovers.
6. LCD on the body displays working group, channel, battery level and error codes.
7. Proprietary lockable on/off switch to avoid accidental switching during performance.
8. Modular PCB and microphone capsule are firmly secured inside the housing to help guard against accidental damage if dropped.



Exterior



Interior



MU-89b



MU-79b



MU-39b

(capsules available in all three colours.
Supplied as standard in black)



Unlocked
Power Switch



Locked
Power Switch

ACT-7a Series

9. Proprietary battery compartment holds either two AA batteries or MIPRO's rechargeable RCR-V3 lithium battery module, which features battery polarity and fool-proof charge function.
10. No power failure or poor contact occurs when impacted or shaken as the battery is well secured inside the battery compartment and reinforced with the microphone grille assembly.



11. Patented detachment design prevents the grille from accidental drop when detached from the housing.

12. MIPRO's MP-7 intelligent battery charger charges the microphone and a spare RCR-V3 rechargeable battery simultaneously using highly efficient charging circuitry. Power and charging indicators show charging status.



MP-7 battery charger

13. The new MP-78 aluminium charger flightcase (available Q3 2011) holds and charges up to 16 handheld transmitters or 16 lithium battery packs simultaneously. Ideal for charging large numbers of spares packs and batteries prior to live performances. The charging station is powered by two detachable 100-240V switching power supplies for worldwide use.



14. Exclusive rear housing design protects and prevents antenna breakage, with optional colour-coded rings available for channel identification.

15. ACT-7Ha uses high-efficiency low spurious emission PLL synthesised RF technology. An interference-free working channel can be synchronised quickly and easily with MIPRO's proprietary ACT function.

16. Proprietary high dynamic range modulation circuitry sustains a maximum SPL of 142dB to prevent distortion.



MP-78 charger case



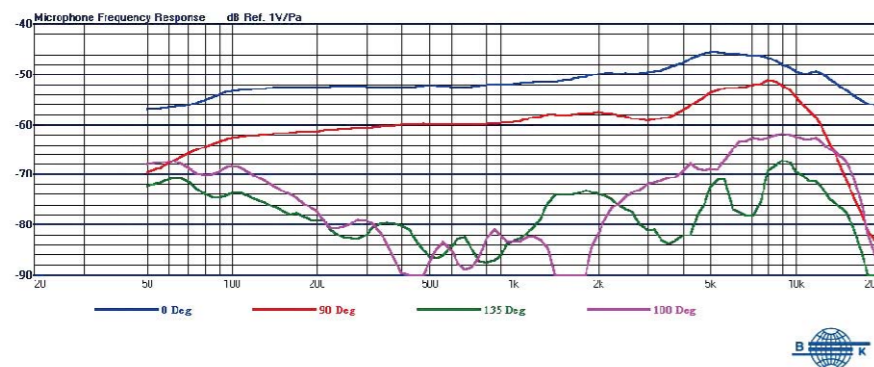
Rear housing & colour ID ring

ACT-7a Series

ACT-7Ha Specifications

Oscillation Mode	PLL Synthesised
Carrier Frequency Range	UHF 606-642MHz (Lower Band A) UHF 643-678MHz (Upper Band B)
Bandwidth	36MHz
Models	ACT-7Ha-UK72A Lower Band (606-642MHz : TV Channels 38 - 42) ACT-7Ha-UK72B Upper Band (643-678MHz : TV Channels 42 - 46)
Channel Set-Up	ACT (Automatic Channel Targeting) Sync
RF Output Power	30mW
Spurious Emissions	<-55dBc
Peak Deviation	±68KHz
Max. Input Level	142dB SPL
Microphone Capsules	Standard : MU-79b ECM Optional : MU-89b TCM Optional : MU-39b Dynamic
Battery	AA x 2 or RCR-V3 rechargeable lithium battery pack
Dimensions (Φ x L)	50 x 250 mm
Weight	0.35 kg
Patent & Approvals	Products carry various patents and comply UK with telecommunication and safety regulations.
Note	Only ONE transmitter can be used at a time on each receiver channel.

Frequency Response Chart



Frequency Response Chart for ACT-7Ha (with MU-89b capsule) and ACT-7 Series Receivers

ACT-7a Series

Wideband ACT-7Ta Bodypack Transmitter



Features

1. Bandwidth expanded to 36MHz for compatibility with wideband receivers.
2. Sturdy, lightweight magnesium alloy construction.
3. PLL-synthesised RF technology with high stability and low spurious emissions.
4. World's first ACT (Automatic Channel Targeting) provides precise and rapid frequency setup.
5. High SPL input is achieved by proprietary "Photo-cell Coupling" high dynamic range modulation circuitry.
6. Selectable impedance switch for microphone or guitar input with gain level adjustment.
7. MIPRO 4-pin mini-XLR input connector with screw lock connection for lavalier/headworn microphones.
8. Uses standard AA batteries for high efficiency and long performance life (no rechargeable option available).
9. Circuitry designed for low power consumption and high performance.
10. Adjustable belt clip allows 360 degree rotation to suit user preference.

ACT-7Ta Specifications

Oscillation Mode	PLL Synthesised
Carrier Frequency Range	UHF 606-642MHz (Lower Band A) UHF 643-678MHz (Upper Band B)
Bandwidth	36MHz
Models	ACT-7Ha-UK72A Lower Band (606-642MHz : TV Channels 38 - 42) ACT-7Ha-UK72B Upper Band (643-678MHz : TV Channels 42 - 46)
Channel Set-Up	ACT (Automatic Channel Targeting) Sync
RF Output Power	30mW
Spurious Emissions	<-55dBc
Peak Deviation	±68KHz
Max. Input Level	0dBV
Compatible Microphones	Headworn: MU-13 / MU-23 / MU-210 / MU-53HN / MU-55HN Lavalier: MU-53L / MU-55L
Battery	AA x 2
Dimensions (Φ x L)	66 x 107 x 25 mm (2.6 x 4.2 x 1.0 ")
Weight	Approx. 120 g (4.2 oz.)
Patent & Approvals	Products carry various patents and comply with UK telecommunication and safety regulations
Note	Only ONE transmitter can be used at a time on each receiver channel



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