

7000 SERIES

HIGH PERFORMANCE WIRELESS AUDIO



Wireless systems for television and production studios, outside broadcast, film, rental companies and theatres

- CLASS LEADING WIRELESS AUDIO SOLUTIONS
- HUGE CHOICE OF PRODUCTS, SYSTEMS AND CONFIGURATIONS
- AVAILABLE IN ALTERNATIVE RF BANDWIDTHS
- SWITCHABLE UP TO 100 FREQUENCIES
- RENOWNED AUDIO QUALITY, RF STABILITY & LONG-TERM RELIABILITY
- FLEXIBLE SINGLE AND MULTI-CHANNEL OPTIONS



TX700

- Electronic modulation indicator
- Switchable bass-cut and phase-reverse
- Transmitter battery level indication and transmitted warning system
- +ve and -ve bias for electret microphones
- External powering (+12 to +16V) with TP series leads
- Powering for a wide range of 'Phantom' and 'T' condenser mics

700 SERIES

Micron wireless microphone and communication systems have been setting industry standards for over 30 years. Their design focus is on offering the optimum balance of performance, cost and long-term reliability, with the 700 Series combining the legendary Micron sound quality with sophisticated electronic engineering and rock-solid construction.

The 700 Series includes single and multi-channel options, with our MDR762 receivers - in conjunction with the BandMaster concept - capable of fast configuration for multi-purpose applications in studios and production environments. The emphasis is on ease of operation, with facilities such as the frequency-selection method kept consistent throughout our product range.

Our systems enable performance to be matched to budget as precisely as possible, with products offering alternative switching bandwidths up to 48MHz wide, and operation across up to 100 channels - maximising the flexibility for studio crews, production teams and rental companies.

TX700

The Micron TX700's sophisticated design is based around a low-noise VCO, with digitally controlled PLL circuit, producing the highest possible quality of transmitted signal. The lightweight, yet rugged aluminium extrusion case provides strength and durability, and is designed to withstand the heavy demands of location use, while being comfortable to wear - ideal for situations where concealment is important. The unique battery compartment design enables fast and easy battery replacement.



Adjustment of the audio level is straightforward, with the modulation level control easily accessible through the TX700's top panel, where peak-reading LEDs (-10 and 0dB) indicate the audio level, allowing repeatable levels to be set. The TX700 includes a soft audio limiting circuit, with the threshold user-adjustable to give a wide range of operation from fully automatic to no limiting action. The advanced design enables the limiter to be used as an automatic level control, without the pumping effect usually associated with audio AGC, and it can also be used as a 'distortionless' emergency limiter to prevent over-modulation.

Additional front-end protection is provided by a bass-cut switch, which can reduce wind noise and counteract close-microphone effects. The use of dedicated audio input cables enables the transmitter to accept mic and line level signals, and to power a variety of microphone types. The unit can be switched on by means of the top-panel On/ Off switch, or when the LEMO plug is inserted, while a phase-reversal switch is also provided, flush-mounted on the transmitter's side panel. The TX700 has a battery status indicator, and transmits an inaudible 'low battery voltage' warning to a matching Micron receiver.

Pocket Transmitter



Micron KAT66 Lavalier Microphone

- Miniature omni-directional lavalier microphone
- Film, television and theatre applications
- Wide frequency response from electret condenser capsule
- Minimal transmission of handling noise and clothing rustles
- Soft housing and cable strain relief utilise single injection moulding



TX703

- Dynamic or condenser capsules
- Interchangeable condenser capsules
- Wide dynamic range
- Switchable 3-position gain sensitivity
- Switchable 3-position low-cut switch
- Built-in anti-popping filters
- User-accessible ON-MUTE-OFF switch
- Dual low-battery warning

TX703 Hand-Held Transmitter

With a choice of alternative capsules - the condenser options include Omni, Cardioid or Hyper-Cardioid - the TX703 is designed to cater for the full range of applications, from ENG and studio presentation, to live performance. The design is housed in a tough, machined aluminium body and features the unique Micron noise reduction system, as well as the same digitally-controlled low-noise VCO circuitry as the TX700, for the highest possible transmission quality.

An audio mute position is incorporated into the on-off switch, allowing the transmitter to remain powered but with no audio being transmitted. A 3-position audio sensitivity switch enables optimisation of the signal to noise ratio, and an electronic anti-popping filter affords protection against overload, even at high sound pressure levels. Further front-end protection is provided by a 3-position basscut switch, which may be used to reduce wind noise and counteract close-microphone effects. With its high signal to noise ratio, the TX703 can faithfully accommodate a wide dynamic range, while the absence of a soft limiter reduces the possibility of howl round and eliminates image shifting.

Equipped with a battery condition indicator, the TX703 also transmits an inaudible 'low battery voltage' warning, which activates a visual indicator on the appropriate Micron receiver. Used with a Micron 700 Series receiver, the TX703 can achieve a quality of sound virtually indistinguishable from a wired system.

P48 Phantom Boom

Powered from a Micron TX700 transmitter, the P48 Phantom Boom gives wireless freedom to sound recordists and television crews when operating boom-mounted microphones. Providing a transformer-balanced connection, the Phantom Boom supplies a 48V feed to any phantom-powered microphone and is compatible with most belt-pack style transmitters. The device is also suitable for any recording situation where a remote phantom power feed is required.



- Highly efficient DC-to-DC converter for long battery life
- Integral 1:1 transformer provides DC isolation for microphone and transmitter
- Ultra-quiet noise floor
- 300kHz oscillator to ensure frequency is beyond audible spectrum

MDR762

- Mains-powered dual diversity receiver
- Future-proof, DTV-compatible solution
- Transformer-balanced outputs
- Displays audio and RF levels, and frequencies
- Remote TX low-battery warning
- Easy front-panel frequency selection
- Data ports enable re-programming in the field
- Combines with BandMaster for economical multi-channel systems



MDR762

Dual-Diversity Receiver

The Micron MDR762 is a sophisticated but simple-to-operate dual-diversity receiver, designed for television studio, OB and conference venue applications, and combines two independent audio channels into a single 1U rack, with each channel's diversity receiver switchable across 100 frequencies. Two antennas feed the dual channels via the system's integral antenna distribution system, while a separate, dedicated distribution amplifier - the Micron BandMaster - can be used as the hub of a multi-channel system.

Available with a FF switching bandwidth of up to 32MHz, the frequency-synthesised MDR762 features high-quality transformer-balanced outputs, selectable for microphone or line level, and is also fitted with convenient front-panel headphone monitoring per channel. Extensive LED displays for each channel allow audio and RF levels to be individually monitored, and also warn of low-battery conditions in remote 700 Series transmitters. Separate LED indicators continuously display each channel's frequency, which is simply selected via front-panel pre-sets, utilising the same method as other 700 Series products to maintain operator familiarity.



OPTIONS

The MDR762 can be supplied in alternative configurations, depending on the switching bandwidth and number of frequencies required. Typical options:

- **MDR762-32**
Supplied with 32 channels and a 14MHz switching bandwidth
- **MDR762-64**
Supplied with 64 channels and a 24MHz switching bandwidth
- **MDR762-132**
Supplied with 100 channels and a 32MHz switching bandwidth



Further operational flexibility is provided by rear-panel data ports, which enable external programming of any 100-frequency sets within the system's tuning bandwidth.

The range of available FF bandwidths, combined with the system's 100-frequency capability, ensures that the MDR762 represents a future-proof, DTV-compatible solution.





BandMaster

- Comprehensive antenna distribution and combining options
- Microprocessor controlled selectable frequency bands
- Enables four MDR762 receivers to operate as an 8-channel system
- Switchable Mast Head Amplifier powering facilities
- Includes dc power distribution to all receivers in a system

BandMaster Antenna Distributor & Combiner

A sophisticated and extremely flexible multi-purpose system, the Micron BandMaster represents an invaluable technical resource for assembling economical multi-channel diversity receiving systems. Suitable for television studios and outside broadcast facilities, the BandMaster also enables rental companies to supply ready-configured systems from 2 to 16 channels, maximising inventory usage. The BandMaster design allows RF and dc power to be distributed to all the receivers in the system, ensuring installation requirements are kept as simple as possible.

The BandMaster's tightly selective filtering enables operation in hostile RF environments, by rejecting any crowded UHF bands nearby and only allowing the selected band to be used. The system also offers a very high signal-handling capability, which enables up to 16 channels to be used across two UHF bands, by cascading two units. Mast Head Amplifier powering is available via the RF inputs, user-controlled from the front panel switches.

- **BandMaster ADA2125**

Splits the input from one pair of antennas to five output pairs. Four outputs are band-pass filtered, and one is wide-band for connection to another BandMaster or diversity receiver.



- **BandMaster ADA2224**

Combines the input from two pairs of antennas to four output pairs, to provide greater coverage across a large receiver area, either in the studio or in the field.



Typical applications of the two BandMaster systems, in conjunction with MDR762 receivers.



MR700

- Wide bandwidth audio
- Output drives down to 8 Ohms
- Long battery life
- Fatigue-free long-term monitoring
- Supplied with 16 frequencies
- Switching bandwidths up to 24MHz
- Choice of base-station transmitters



MR700

Monitoring Receiver

The Monitoring Receiver brings the audio and RF performance benefits of Micron designs to production monitoring, providing stable, fatigue-free listening over long periods for programme presenters, television studio personnel or location crews.

Wide-bandwidth audio performance is matched by an ultra-low noise floor, and the design achieves excellent channel selectivity and blocking capacity. This prevents interference from other RF equipment operating in close physical proximity or on a nearby frequency - for example, a presenter wearing the receiver as well as a belt-pack transmitter. Built into a tough, extruded aluminium case, the MR700 features the unique Micron battery compartment with a captive slide-out cover, enabling easy, rapid battery changeovers. Tri-colour LEDs provide continuous information on battery status and received signal strength, and the unit can be switched on when the LEMO plug is inserted, and by means of the top panel On/ Off switch.



BS-TX700

- A flexible, frequency-synthesized studio quality transmitting system
- Compact, 1U-rack base station
- Two built-in independent transmitters, with single-channel option
- Peak-reading audio input metering at -10 and 0dB
- Transformer-balanced line inputs
- Very high input headroom
- Switchable mains powering from either 120 or 240V supplies

BS-TX700

Hi-Q Monitoring Transmitter



The Micron BS-TX700 Monitoring Transmitter is specifically designed to drive a broadcast-quality monitoring system in a studio, OB or production environment. Available with two fully-synthesized independent transmitters, the system is based on the design techniques used in the TX700 Pocket Transmitter and incorporates the same limiter technology.

Wideband FM modulation is utilised for the highest audio quality, with signal integrity assured by line level transformer-balanced inputs and the transmitters' generous overload margins. The BS-TX700 is available with an optional output combiner, to deliver the two transmitter outputs as one signal. The system can also be supplied with a single transmitter channel if required.

T E C H N I C A L S P E C I F I C A T I O N

| | TX700 | TX703 | BS-TX700 MONITORING TRANSMITTER |
|--|--|---|--|
| RF TRANSMISSION SYSTEM | | | |
| Carrier frequency range | 470 - 870MHz | 470 - 870MHz | 470 - 870MHz |
| Channels (depending upon model) | up to 100 | up to 100 | 16 |
| Switching range (depending upon model) | up to 48MHz | up to 48MHz | 24MHz |
| Modulation system | F3EGN | F3EGN | F3EGN |
| Minimum channel spacing | 200kHz | 200kHz | 200kHz |
| Maximum deviation | 75kHz | 75kHz | 75kHz |
| Reference deviation | 40kHz | 40kHz | 40kHz |
| RF output (erp) | 50mW | 10mW | 50mW (Standard), 1W att (optional) |
| AUDIO | | | |
| Audio input level | — | — | Line input (0.775 Vrms) |
| System S/ N ratio | >100dB | >100dB | >95 dB |
| Frequency response | 80Hz to 20kHz ±1 dB (nom.) | 100 to 20kHz ±2dB | 80Hz to 20KHz ±1dB |
| Distortion (@ ref. deviation level) | 1kHz tone <0.3% THD | 1kHz tone <0.3% THD | 1kHz tone <0.3% THD |
| | 1kHz tone @ -10dB: 0.1% THD Typical | | |
| FILTERS | — | Anti-Popping – corner frequency: 75Hz, slope: 24dB/ octave | — |
| BASS CUT | Fixed Bass Cut: -5dB at 50Hz (nom.) | 3-position switch | — |
| | Additional -3dB cut at 88Hz | Flat, -3dB at 88Hz, -3dB at 125Hz | |
| LEVEL CONTROL | Manual pre-set, 40dB in 8 steps | 3-position switch: Loud (-15dB), Normal (0dB), Quiet (+15dB) | — |
| PHASE REVERSE | Normal/ Reverse | Normal/ Reverse | — |
| VOLUME/ SIGNAL STRENGTH | | | |
| LED INDICATORS | '0' light – at ALC threshold | — | '0' light - at ALC threshold |
| | '-10' light – at 10dB below ALC threshold | — | '-10' light - at 10dB below ALC threshold |
| | (ALC system allows short transients to pass – up to +6dB) | — | (ALC system allows short transients to pass up to +6dB) |
| FREQUENCY DISPLAY | | | |
| FREQUENCY CONTROL | — | — | LCD Display |
| | Screwdriver pre-set | Screwdriver pre-set | Screwdriver pre-set |
| POWER | | | |
| BATTERY TYPE | IEC 6LF61 (MN1604) PP3 size | IEC 6LF61 (MN1604) PP3 size | 115/ 230Vac switchable |
| | 9V (alkaline or lithium) | 9V (alkaline or lithium) | — |
| Current consumption | 65mA ±10% | 60mA ±10% | — |
| Battery life | Approx. 6 hours | Approx. 7 hours | — |
| External power | 7.5 to 16V dc (with 'TP' cables) | — | — |
| BATTERY CONDITION INDICATOR | | | |
| | LED at <6.5V | LED at <6.5V | — |
| Tx LOW BATTERY WARNING | | | |
| | Signal transmitted at <6.5V | Signal transmitted at <6.5V | — |
| CONNECTORS | | | |
| | — | — | Audio Input: 3-pin XLR |
| | — | — | RF Output: 50 Ohms BNC |
| DIMENSIONS | | | |
| Width | 63mm | 38mm | 19" (482.6mm) |
| Depth | 22mm | 38mm | 9.5" (240.3mm) |
| Height | 82mm | 233mm | 1U (44.5mm) |
| Weight | 110 grams | 240 grams | 2.6kg |
| ACCESSORIES SUPPLIED | | | |
| | Antenna | Antenna | Mains power cord |
| | Instruction manual | Instruction manual | Instruction manual |
| | Belt Clip | | |

TECHNICAL SPECIFICATION

MDR762

| RF TRANSMISSION SYSTEM | |
|--|-----------------------|
| Carrier frequency range | 470 - 870 MHz |
| Carrier frequencies within switching range | Up to 100 |
| Switching range | Up to 48 MHz |
| Modulation system | F3 EGN |
| Minimum operating channel spacing | 200 kHz |
| Deviation @ limiting level | 40 kHz |
| Adjacent channel rejection | >80 dB |
| Muting level | 1 μ V nominal |
| Mute adjustment range | >20 dB (1-10 μ V) |

| SIGNAL STRENGTH INDICATOR | |
|---------------------------|------------------------|
| 1st LED ('0') | 1 μ V \pm 3 dB |
| 2nd LED ('20') | 10 μ V \pm 3 dB |
| 3rd LED ('40') | 100 μ V \pm 3 dB |
| 4th LED ('50') | 316 μ V \pm 3 dB |

| AUDIO LEVEL INDICATOR | |
|-----------------------|--------------------|
| ('0') LED | +8 dBm \pm 1 dB |
| ('9') LED | -1 dBm \pm 1 dB |
| ('18') LED | -10 dBm \pm 1 dB |
| ('24') LED | -16 dBm \pm 1 dB |

| AUDIO | |
|---|---------------------------|
| AF frequency response | 88 Hz - 20 kHz \pm 2 dB |
| Distortion @ limiting level | <0.3% THD |
| Peak S/ N ratio (RMS, CCIR weighted) | >110 dB |
| Received signal 630 μ V (strong signal) | >70 dB |
| Received signal 5 μ V (weak signal) | >70 dB |
| Receiver output at line-up level | |
| Mic. level output | -37 dBV \pm 1 dB |
| Output impedance | 50 Ohms balanced |
| Line level output | +8 dBm \pm 1 dB |
| Monitor output (volume control at max.) | +5 dBm \pm 1 dB |
| Output impedance | 300 Ohms balanced |

| CONNECTORS | |
|--------------|---|
| Audio output | 3 pin male XLR type Fn 1 Screen Fn 2 +ve phase (hot) Fn 3 -ve phase |
| Monitor | Universal Stereo Wired TRS Jack Socket (takes both large and small tip types) Tip + Ring (hot) Sleeve (ground) |
| DC | 4 pin male XLR Fn 1 -ve (case earth) Fn 2 N/ C Fn 3 N/ C Fn 4 DC input supply (+ve) Nominal +12V |

| POWER | |
|-----------------------------|----------------------|
| Mains | 115/ 230V adjustable |
| DC supply | 10.5 - 18Vdc |
| Nominal current consumption | 700 mA |

| DIMENSIONS | |
|------------|--|
| Weight | 2.6 kg |
| Size | 19" (482.6mm) x 1U (44.5mm) x 9.5" (240.3mm) |

BandMaster

| | |
|--------------------------------|---|
| Frequency range (to order) | 470 - 870 MHz |
| Bandwidth per band | 10 - 16 MHz (maximum four switchable bands) |
| Distributed output gain | 0 dB (nom.) \pm 3 dB |
| Cascaded output gain | -3 dB (nom.) \pm 3 dB (ADA2125 only) |
| Combined input gain | -3 dB (nom.) \pm 3 dB (ADA2224 only) |
| Input 1 dB compression point | > +17 dBm |
| Third order intercept point | > +27 dBm |
| Port to port isolation | > 20 dB |
| Out of band rejection | > 20 dB/ 10 MHz (@ -1 dB bandwidth) |
| Mast head amplifier dc voltage | +12Vdc @ 150 mA max. |
| Input/ Output impedance | 50 Ohms |

| CONNECTORS & POWER | |
|---------------------------|--------------------------|
| Antenna and PF connectors | BNC |
| AC line voltage | 100 - 240 Vac, 50/ 60 Hz |

| DISPLAY & CONTROLS | |
|--------------------|--|
| LED Display | shows selected frequency band |
| UP/ DOWN | scroll through available frequency bands |
| SET | selects required frequency band |
| DISPLAY | changes mode to show frequency range or UHF CH numbers |

| DIMENSIONS | |
|------------|---------------------|
| | 1 U (44.5mm) high |
| | 19" (482.6mm) wide |
| | 9.5" (240.3mm) deep |

| ACCESSORIES | |
|-------------|---|
| | Operating Booklet |
| | Mains power cord |
| | BNC to BNC link cable (10-off with ADA2125) |
| | BNC to BNC link cable (8-off with ADA2224) |

MR700 Monitoring Receiver

| | |
|-----------------------------|---------------------|
| Frequency range | 470 - 870 MHz |
| Switching bandwidth | 24 MHz |
| Number of channels | 16 |
| Modulation | F3 EGN |
| Minimum channel spacing | 200 kHz |
| Deviation at limiting level | 40 kHz |
| Adjacent channel rejection | >80 dB |
| Muting level | 1.0 μ V nominal |

| AUDIO | |
|-----------------------|---|
| Output level | +6 dBm \pm 2 dB (level control at max.) |
| Output impedance | 10 Ohms |
| Signal to noise ratio | >95 dB (FF level >100 mV, 1 kHz tone @ nom. dev.) |
| Signal to noise ratio | >65 dB (FF level at 5 mV, 1 kHz tone @ nom. dev.) |
| Distortion | <0.3% (1 kHz tone @ nom. dev.) |

| | | |
|---------------------------|------------------|-------------------|
| BATTERY STATUS LED | Green | >7.0V |
| | Amber | 6.5 to 7.0V |
| | Red | <6.5V |
| | N ot illuminated | Flat battery |
| RECEPTION LED | Green | Good |
| | Amber | Usable |
| | Red | Poor signal |
| | N ot illuminated | No signal (muted) |

| CURRENT CONSUMPTION | |
|---------------------|----------------|
| | 55 \pm 10 mA |

| DIMENSIONS | |
|-----------------------|----------------------|
| Weight (inc. battery) | 160 grams |
| Size | 63.5mm x 82mm x 22mm |

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