

mtu301 Owner's Manual

Cover:

SpectraPulse® Ultra Wideband Wireless Microphone System
mtu301 Body-pack Transmitter
Set-up and Operation

Inside:

This device complies with Part 15 of the FCC rules. Operation is subject to the condition that device does not cause harmful interference.

This device complies with INDUSTRY CANADA R.S.S. 220 en conformite avec IC:RSS-220/CNR220

Operation is subject to the following conditions: 1) This device may not cause harmful interference and 2) this device must accept any interference received, including interference which may cause undesired operation. Changes or modifications not expressly approved by Audio-Technica could void your authority to operate this equipment.

Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is unlikely to cause harmful interference. However, if the equipment does cause harmful interference, the user will be required to correct the interference at own expense.

CAUTION! Electrical shock can result from removal of SpectraPulse® components' covers. Refer servicing to qualified service personnel. No user-serviceable parts inside. Do not expose to rain or moisture. The circuits inside the SpectraPulse® components have been precisely adjusted for optimum performance and compliance with federal regulations. Do not attempt to open the rcu104 Receiver Coordinator Unit, drm141 Digital Receiver Module (main assembly), aci707 Audio Control Interface, mtu101 Boundary Microphone Transmitter, mtu201 XLR Desk Stand Transmitter, mtu301 Body-pack Transmitter, or cei007 Charger Encryption Interface. To do so will void the warranty, and may cause improper operation.

Notice to individuals with implanted cardiac pacemakers or AICD devices:

Any source of RF (radio frequency) energy may interfere with normal functioning of the implanted device. All wireless microphones have low-power transmitters (less than 0.05 watts output) which are unlikely to cause difficulty, especially if they are at least a few inches away. **Note also that any medical-device disruption will cease when the RF transmitting source is turned off. Please contact your physician or medical-device provider if you have any questions, or experience any problems with the use of this or any other RF equipment.**

Please note that your SpectraPulse® system operates in a frequency band in a way which may make its use subject to certain FCC and other regulatory agency restrictions and licensing requirements. No changes or modifications may be made to this equipment except by the expressly approved responsible party for compliance. Changes or modifications could void the user's authority to operate the

equipment, and will also void Audio-Technica warranty coverage. For further information, Please contact your local office of the FCC as applicable.

Battery precautions

- Each mtu301 Body-pack Transmitter is powered by 2 AA batteries: AA 1.5V alkaline batteries (included) or rechargeable SANYO brand AA Nickel Metal Hydride.
- When using rechargeable batteries, always use rechargeable AA NiMH batteries.
- Rechargeable batteries must be charged before initial use or after prolonged non-use.
- When inserting batteries into the mtu301, observe correct polarity as marked.
- Do not use a leaking battery. If battery leakage occurs, avoid contact with skin. If skin contact occurs, immediately wash the affected skin area thoroughly with soap and water. If battery leakage comes into contact with your eyes, immediately flush with water and seek medical attention.
- Do not expose the batteries to fire. Do not heat, deform, solder, disassemble or modify.
- Do not peel off or damage the outer tube of a battery.
- If batteries become damaged, dispose of properly.
- Please recycle rechargeable batteries.
- Do not use these batteries together with dry cells, other types of batteries, new and old batteries together, or batteries with different charge levels.

Note: This SpectraPulse® system is approved for indoor use only.

Note: See *SpectraPulse® Owner's Manual* for full system specifications.

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What's in the box:

- SpectraPulse® mtu301 Body-pack Transmitter
- AA 1.5V alkaline batteries (2 batteries per transmitter)

Note: For SpectraPulse® system operation, see *SpectraPulse® Owners Manual*.

mtu301 Body-pack Transmitter

Installation & Operation

Thank you for purchasing the mtu301 Body-pack Transmitter, a component of Audio-Technica's award-winning SpectraPulse® Ultra Wideband Wireless Microphone System. Please follow the information contained in this manual closely, and refer to the *SpectraPulse® Owners Manual* for system operating instructions.

The mtu301 Body-pack Transmitter is optimized to work with a number of Audio-Technica lavalier and headworn microphones pre-terminated with a compatible input connector; these wireless microphone product numbers end with the designation "cW". The cable connector latches automatically when inserted into the microphone input jack. To unlatch and remove the connector, pull up on the connector's knurled metal collar.

The unit provides bias voltage for electret condenser microphones and features 9-hour battery life. It also offers an on/off switch, a mute switch, and LEDs indicating power/mute and link status as well as low-battery warning. Each mtu301 operates using 2 AA batteries. Standard alkaline or NiMH rechargeable batteries can be used. With use of an Audio-Technica [need model number] Charger available separately, NiMH rechargeable batteries recharge within the unit. They will not overcharge.

To operate the unit:

1. Install batteries

- **If you are using alkaline batteries:**
 - a. Insert 2 fresh AA 1.5V alkaline batteries in the mtu301 XLR Body-pack Transmitter. (See Battery Selection & Battery Installation, page 6).
- **If you are using rechargeable batteries:**
 - a. Turn the mtu301 off; the unit must be off when batteries are being charged. (See *Power On/Off*, page __).
 - b. Insert two Nickel Metal Hydride (NiMH) AA rechargeable batteries in the mtu301 XLR Body-pack Transmitter. (See *Battery Selection & Battery Installation*, page __).
 - c. Plug the DC cable from the (not included-available separately) [need model number] Charger into the charging port on the side of the mtu301 unit; plug the Charger into a standard wall outlet
 - d. Confirm that the mtu301 yellow Charging LED (next to the charging port) is illuminated; this will extinguish when charging is complete. A complete charge can take up to six hours.
 - e. Disconnect the Charger when the charge is complete.

Note: If the red Charge Error LED (next to the charging port) is illuminated, this indicates a charging system error. Causes include: non-NiMH batteries; failed batteries; incorrectly installed batteries; brief interruption in power. Be certain you are using properly installed NiMH batteries and reconnect to begin the charging cycle again.

2. Select a unique channel address in the battery compartment of each mtu301 Body-pack Transmitter. (1-7 for the first aci707 audio control interface unit used; 8-14 for the second aci707 unit). (See *Channel Address Selection*, page 6.)
3. Connect your microphone to the audio input jack on the top of the mtu301 Body-pack Transmitter. (Use any Audio-Technica lavalier or headworn wireless microphone whose product number ends with a "cW".)
4. Turn on the power switch on the top of each mtu301. The Power LED on the top of the mtu301 will glow blue. (See *Power On/ Off*, page __.)
5. Confirm link status. If the mtu301 Body-pack Transmitter is properly linked, the UWB Link LED in the battery compartment will glow blue, and the top green light on the corresponding aci707 channel will light.

6. Confirm mute/live audio status. When the audio is on, the Live Audio LED on the top of the mtu301 glows green. To change mute status, depress the body-pack transmitter's push-button switch. When the audio is muted, the Mute LED glows red. (See *Audio/Mute LED*, page _.)
7. Confirm battery status. Low battery is indicated by blinking blue power light (at the top of the mtu301). (See *Low Battery Warning*, page _.)
8. With the aci707 on and connected as desired, the drm141 connected, and the mtu301 Body-pack Transmitter on, speak into the microphone and verify audio operation. Set the input levels on your connected equipment as needed. You are now set to use the system.
9. Turn the transmitter off when not in use. Remove the batteries if the transmitter is not to be used for a long period of time.

mtu301

Body-pack Transmitter Controls

1. Battery Selection and Installation

The mtu301 Body-pack Transmitter operates on two AA batteries (standard alkaline or NiMH rechargeable). Please make certain that your batteries are fresh or fully charged. Two AA 1.5V alkaline batteries are included with the mtu301.

- a. Open the battery door by sliding the latch toward the top of the unit.
- b. Insert two fresh or fully charged AA batteries into the battery compartment, being careful to observe correct polarity as marked on the battery holder.
- c. Close the battery door after step 2 is complete.

2. Channel Address Selection

Channel address selection is via a rotary switch inside the battery compartment. The switch is numbered for channel addresses 1 through 14; these channel addresses correspond to the audio outputs on the aci707 unit. Use a small flat-blade screwdriver to select a different channel address for each transmitter (you cannot have two transmitters on the same channel address). The Audio Control Interface (aci707) comes from the factory set for channel addresses 1 through 7. If you wish to use it for channel addresses 8 through 14, change the DIP switch on the back panel of the aci707 as described in the *SpectraPulse® Owners Manual*.

3. Mic Gain Switch

Adjust audio gain with this 3-position gain switch inside the battery compartment, provided for situations that demand extra sensitive pickup. Begin with the switch in the 0 dB setting; adjust to +6 dB or +12 dB as needed.

4. Audio Input Jack

The mtu301 Body-pack Transmitter is equipped with an audio input jack for connection to any Audio-Technica lavalier and headworn microphone pre-terminated with a compatible input connector; these wireless microphone product numbers end with the designation "cW".

5. Power On/Off

A toggle switch on the top of each body-pack transmitter turns the unit on and off. The unit must be off when batteries are being charged.

6. Power LED and Low-battery Warning

The Power LED on the top of the body-pack transmitter glows blue to indicate the power is on. When battery performance is low, the Power LED will blink as a warning. When the system is linked, a bottom orange LED on the corresponding aci707 channel will illuminate to provide additional indication of low-battery status.

7. Audio/Mute LEDs

When a body-pack transmitter's audio is on, the Live Audio LED on the top of the mtu301 glows green. When the audio is muted, the Mute LED glows red. A red light on the corresponding aci707 channel also indicates when audio is muted.

8. UWB Link LED

The UWB Link LED inside the battery compartment glows blue to indicate the mtu301 is properly linked to the system. (The top green light on the corresponding aci707 channel also lights.)

9. Push-button Switch

A push-button switch on the top of the body-pack transmitter operates as a mute (press on/off) switch or a control switch; to change mute status, depress the button. Choose the function of the button (Push to Talk, Push to Mute, Toggle, and Off) at the SpectraPulse® aci707 Audio Control Interface. (See *SpectraPulse® Owner's Manual* for details.)

10. Charging Port

The DC cable from the **separately available Charger** plugs into the charging port.

11. Charging LED

This yellow LED illuminates while batteries are being charged; extinguishes when charging is complete.

12. Charge Error LED

This red LED illuminates to indicate a charging system error. Causes include: non-NiMH batteries; failed batteries; incorrectly installed batteries; brief interruption in power.

13. Battery Door

Open the battery door by sliding the latch up.

14. Transmitter Mounting Clip

Use the mounting clip to wear the transmitter on a waistband or belt.

mtu301 Body-pack Transmitter Specifications

Input connector	Hirose 4-pin locking, circular. Mates with all pre-terminated AT head-worn and lavalier series microphones for pin-locking connector.
Bias voltage to mic feed	The mtu201 delivers 11.5V DC to the pin-locking connector in order to power any of the AT series head-worn or lavalier microphones.
Battery type	Two 1.5 volt AA alkaline batteries are included. Rechargeable SANYO brand NiMH AA batteries are recommended; they are included with the available cei007 Charging/Encryption Interface
Battery life	Approximately 9 hours depending on battery type and use and pattern
Current Consumption	190mA at 3V DC
Average RF power	40 nanowatts
Weight and Dimensions	81.8mm (3.22 in.) wide, 27.5mm (1.08 in.) deep, 118mm (4.65 in.) height, 227 grams (0.5 lb.) - less batteries
Optional Encryption	AES level 3, 128 bit

