

MIPRO[®]

User Guide

ACT-80TC Rechargeable Digital Bodypack Transmitter



MIPRO[®]
MICROPHONE PROFESSIONALS

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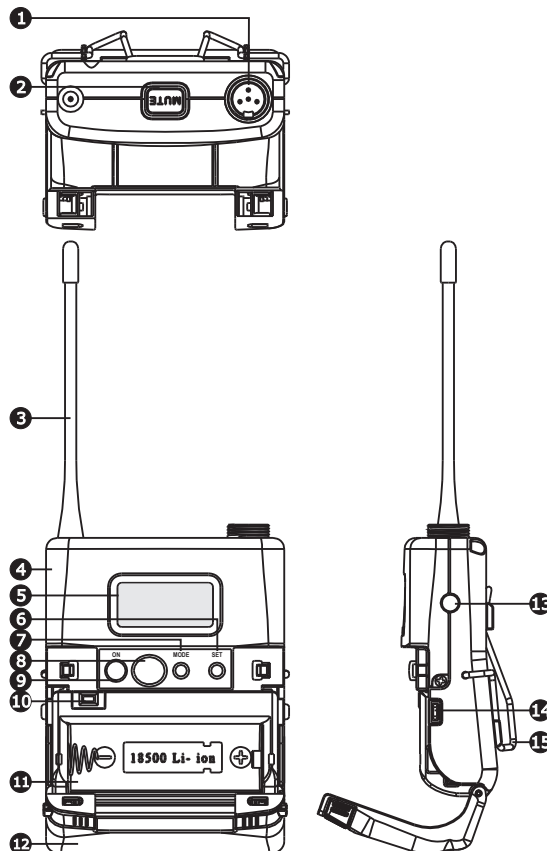


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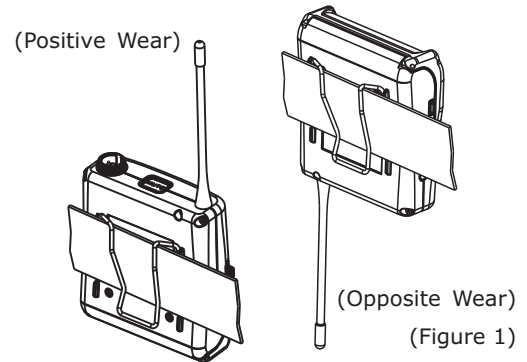
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Bodypack Controls and Indicators



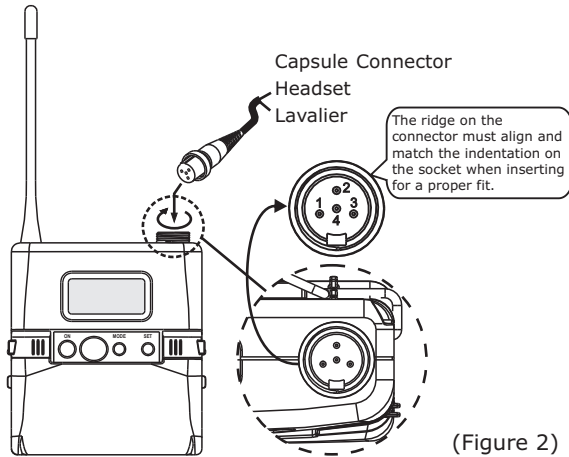
- ❶ **Audio Input Connector:** TA4F mini 4-pin connector accepts any MIPRO lavalier, instrument and headset microphones and cables. (See 5 ways of connection on AF Input Connections)

- ➊ **MUTE Button:** To mute and un-mute the audio signal temporary.
- ➋ **Antenna:** Flexible 1/ 4 wave transmitting antenna.
- ➌ **Transmitter Housing:** Holds PCB board and wires.
- ➍ **LCD Panel:** Display transmitter parameters.
- ➎ **SET Button:** Parameter selection button.
- ➏ **MODE Button:** Allows access to available functions displaying in LCD panel.
- ➐ **ACT IR Port:** Align and syncs the transmitter and receiver frequency automatically.
- ➑ **Power Button:** Press and hold 2 seconds to power ON or OFF.
- ➒ **Battery Circuitry Protection Reset Button**
- ➓ **Battery Compartment:** Accommodates one 18500 rechargeable battery.
- ➔ **Battery Cover:** Hinged cover opens to provide access to one 18500 rechargeable battery.
- ➕ **External Mute Connector:** When an external mute switch cable, MJ-70 (optional) is connected , user can manually mute and un-mute the audio temporary.
- ➖ **Battery Charging Contact:** Align contacts during charging.
- ➗ **Belt Clip:** Detachable and reversible design allows the transmitter to be worn on a belt, waistband, or guitar strap (Figure 1).



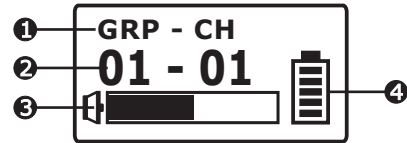
Operating Instructions

- Insert the lavalier, headset microphone or instrument cable into the audio input connector before power ON the transmitter.
- Tighten the connector screw clockwise direction as shown in (Figure 2) for a secured fit.
- Please make sure sensitivity level is set at proper level.



(Figure 2)

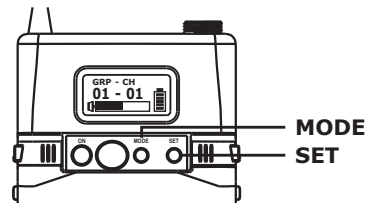
LCD Display Screen

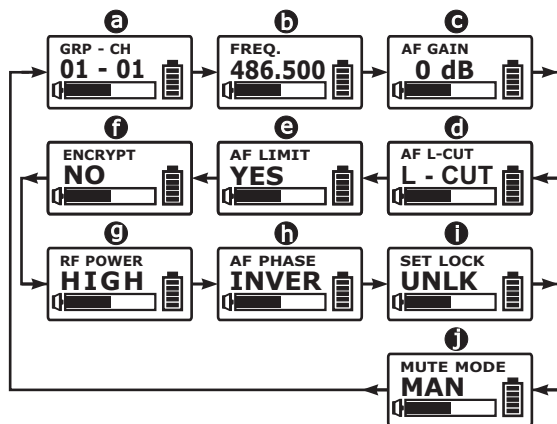


- ① LCD Screen
- ② Parameters Screen
- ③ AF (audio) MUTE
- ④ Transmitter Battery Meter

How to Setup Transmitter Parameters

- **MODE** Button:
Press "**MODE**" button to access one of the functions below.
- **SET** Button:
Press "**SET**" button and LCD will start flashing. During flashing, press SET button to change parameters.

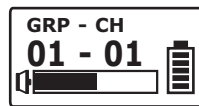




- a** Group and Channel
- b** Frequency
- c** Sensitivity Level
- d** AF Low Cut
- e** AF Limit
- f** Encryption
- g** RF Output Power
- h** AF Phase
- i** Parameters Lock & Unlock Status
- j** MUTE MODE

GRP-CH: Displays Group and Channel Information

- a. Press MODE and stop on the **GRP-CH** function; the display showing the current group and channel will be flashing. After 30 seconds, the display will stop flashing and the current group and channel selection will be set.
- b. The group and channel information is now shown on the display. Changing the current group and channel must be done on the receiver.



- c. When programming a special frequency via monitoring software, the LCD screen cannot display the number. This is because this special channel is not in the preset group and channel. RF, the LCD panel will look like the illustration below.



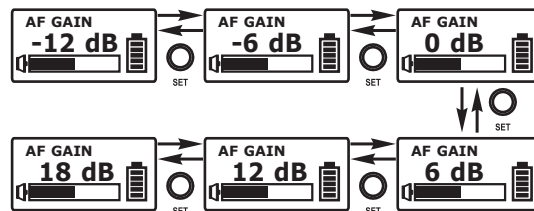
FREQ.: Displays Transmitter Frequency Information

- Press MODE and stop on the **FREQ.** function; the display showing the current frequency will be flashing. After 30 seconds, the display will stop flashing.
- The frequency information is now shown on the display. Changing the current frequency must be done on the receiver.
- To modify the transmitter's group, channel and frequency, all three must be set at the receiver and the new setting transmitted to the transmitter via the ACT function.



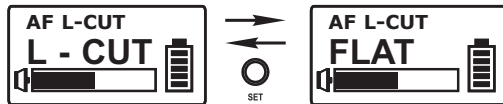
AF GAIN: Setup and Change of Input Sensitivity

- Press MODE and stop on the **AF GAIN** function; the display showing the current status will be flashing and is ready to be modified.
- Every push of the SET button increases the dB value by 6dB to a maximum of 18dB.
- The higher the gains are set, the lower the dynamic range for signal input and the greater the danger of unwanted noises and feedback getting into the system.
- When using electronic guitar, gain should be set at 0dB.
- Please make sure input signal strength does not exceed 2 Vrms (gain=6dB) as it is the maximum input strength allowed for transmitter without causing distortion.



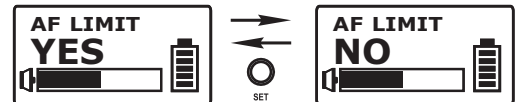
AF L-CUT: Setup and Change of Low Frequency Cut Off

- Press MODE and stop on the **AF L-CUT** function; the display showing the current status will be flashing and is ready to be modified.
- Press the SET button while the display is flashing to change to L-CUT or FLAT as desired.
- When the AF L-CUT function is L-CUT, the frequency response below 100Hz will decrease about 3dB with a slope of -6dB/Octave.



AF LIMIT: Setup and Change of Input Limit

- Press MODE and stop on the **AF LIMIT** function; the display showing the current status will be flashing and is ready to be modified.
- Press SET while the display is flashing to change the setting to YES or NO.
- When the LIMIT is YES, the maximum output of the receiver is limited to 1V.



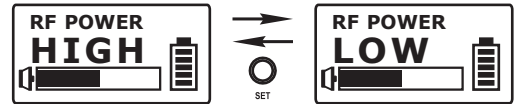
ENCRYPTION: Displays Information of Encryption

- Press MODE and stop on the **ENCRYPTION** function; the display showing the current status will be flashing.
- The ENCRYPTION function displays status information only. Changing of the current status must be done from the receiver via the ACT function.
- The ENCRYPTION function must be set at receiver first then using ACT to program the transmitter.



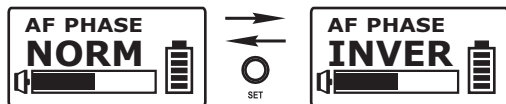
RF POWER: RF Power Selection

- Press MODE button for selection of **RF POWER**. Selection of HIGH or LOW can be selected once the RF POWER LCD starts blinking.
- Press SET button to select and set HIGH or LOW.
- HIGH has 50mW transmitting power. LOW has 10mW transmitting power. Set appropriate power to meet region/country regulations.

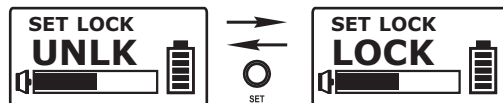


AF PHASE: Phase Selection of AF inputs

- Press MODE button for selection of **AF PHASE**.
Selection of NORM or INVER can be selected once the AF PHASE LCD starts blinking.
- Press SET button to select and set NORM or INVER.
- NORM: AF input is positive (positive polarity)
INVER: AF input is negative (reverse polarity)
- AF PHASE function provides users a phase selection for different condenser microphones. The normal setting is NORM, and INVER might be selected if two-wire condenser microphone is used.

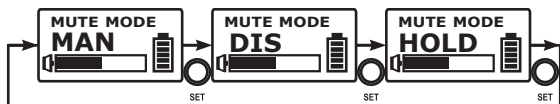
**SET LOCK:** Setup and Change of Parameter Lock

- Press MODE button once for **SET LOCK** display. Once SET LOCK display starts blinking it is ready for selection.
- Press SET button for UNLK or LOCK selection.
- When locked (LOCK), receiver settings cannot be changed including the powering on & powering off. To power off it needs to be in unlock mode (UNLK).
- A sudden lose of power will deactivate the LOCK Function.
- MUTE function can be operated normally during LOCK mode.

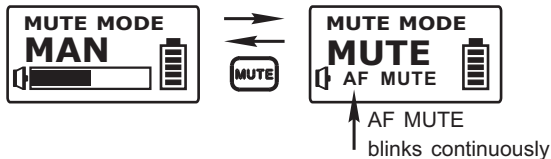


MUTE MODE

- Press MODE button until **MUTE MODE** icon appears and flashes.
- Press SET button to select MAN, DIS or HOLD setting.
- Setting needs to be completed within 30 seconds to be saved. Set again if flash stops before completion.



- MAN:** Standard setting where mute function can be controlled by mute button.
 - Audio is muted when MUTE button is pressed and AF MUTE indicator starts flashing. Press MUTE button again to cancel.
 - AF MUTE cancels automatically when power off.



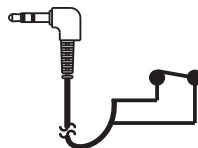
- DIS:** MUTE button is disabled and mute function is cancelled.

f. **HOLD:**

- Press and hold MUTE button to mute continuously. Release MUTE button to un-mute.
- Under this mode, an optional MJ-70, Remote Mute Switch (not included), can be used to MUTE and un-mute externally.

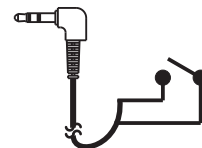
MUTE ON audio is muted.

MUTE ON



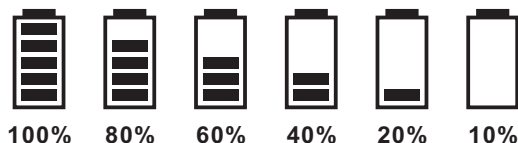
MUTE OFF audio is on.

MUTE OFF



Battery Status

- Indicates the power remaining in the transmitter battery. When the battery has less than 10% power remaining it must be replaced or recharged. If an under voltage condition continues, the LCD will show "OFF..." and the system will shut down to prevent being overly discharged.



Power Button

- Press and hold for 2 seconds to power on & off. "OFF..." - Power Off
- When the power switch is turned off, the LCD will show "OFF..." (for Power Off) first and then the system will shut down and no further messages will be displayed.

OFF...

ERR: Error Code

If the LCD displays "ERR" after turning on the power, it indicates the operation is not correct. The error codes are as follows:

- ROM-ER** → Transmitter does not have the initial data so the microphone is completely dead and cannot be programmed.
- ERROR1** → Failure on RF circuitry, frequency cannot be programmed.
- NO----OR3** → Frequency to be programmed into the transmitter exceeds the highest frequency of the designated frequency band of the transmitter.
- NO----OR4** → Frequency to be programmed into the transmitter exceeds the lowest frequency of the designated frequency band of the transmitter.

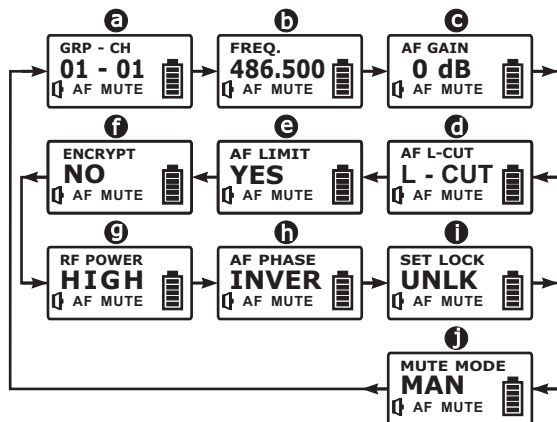
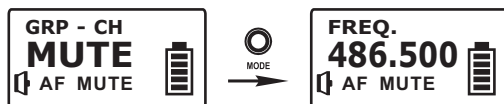
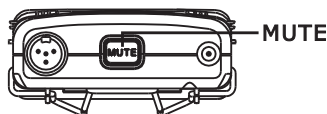
****Note:**

NO----OR3 and NO----OR4 will not change the transmitter's original frequency and the transmitter will still operate normally with the error message on display. To remove the error message from the display panel, please switch off the transmitter and switch it on again.

MUTE Control Set-Up

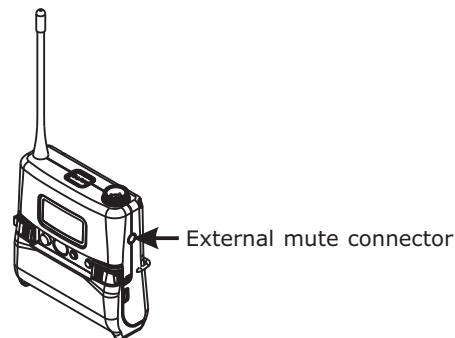
MUTE control enables audio to be muted or un-muted temporarily.

- Press MUTE button to mute audio temporarily. Parameter values can be changed and ACT sync activate during this MUTE mode.
- Press MUTE button to un-mute.



External Mute Connector

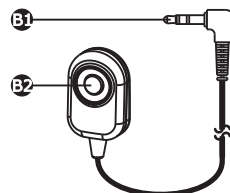
- External mute connector is a 3.5mm jack. When an external mute switch cable, MJ-70 (optional) is connected, user can manually mute and un-mute the audio temporary.



MJ-70 External Mute Switch (optional)

- ① 3.5mm jack.
- ② External mute switch on/off button.

NOTE: Plug in the device before power on the bodypack transmitter.

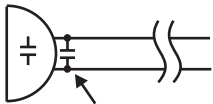


High Frequency Bypass

- a. When other microphones are in use, some changes may be needed to another microphone before adding it to the system in order to avoid high frequency interference, as illustrated in diagram (1).
- b. When a high frequency radio wave causes interference, it normally affects the system by generating a persistent noise or by deteriorating the frequency response. In an effort to ameliorate these problems, a 330PF bypass capacitor can be added on the cartridge as shown in diagrams (1) and (2). If this method is not possible, another option is to add a bypass condenser on the 4-pin XLR connector as shown in diagrams (3) and (4).

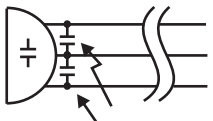
**The Best Method

(1) Connect to two-wire condenser capsule



Add 330pF bypass capacitor

(2) Connect to three-wire condenser capsule

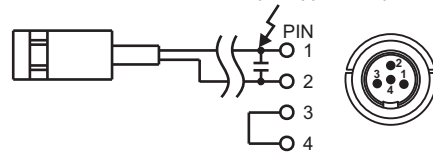


Add 330pF bypass capacitor

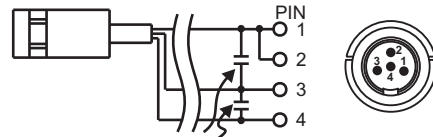
**Alternate Method

(3) Connect to two-wire condenser capsule

Add 330pF bypass capacitor



(4) Connect to three-wire condenser capsule



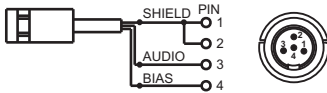
Add 330pF bypass capacitor

AF Input Connections

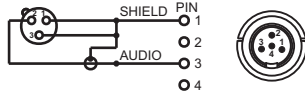
- (1) 2-Wire Electret condenser microphone Capsule



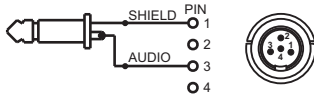
- (2) 3-Wire Electret condenser microphone Capsule



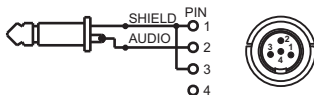
- (3) Dynamic Microphone



- (4) Electric Guitar

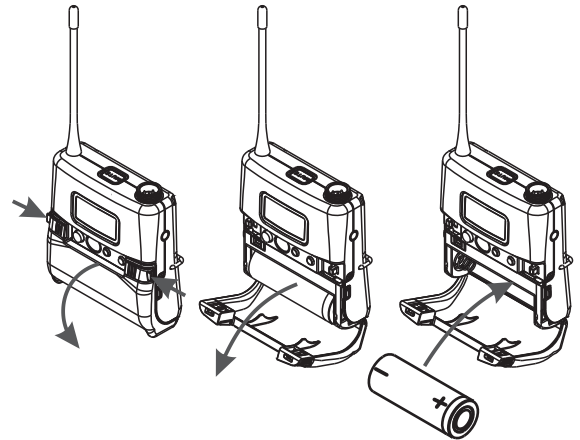


- (5) Line-in (Impedance $8K\Omega$ ATT. 10dB)



Battery Removal and Installation

- Pushing down both snap locks on the sides to open battery compartment cover. Take out the two batteries. (Figure 3)
- Insert one charged 18500 rechargeable battery into the battery compartment according to the correct polarity (- and +) as shown in (Figure 4). Then close the battery compartment cover tightly.



(Figure 3)

(Figure 4)

Caution

Remove the batteries if unused for a long period of time to prevent battery leakage, corrosion and causes possible damage to electronics.

Caution

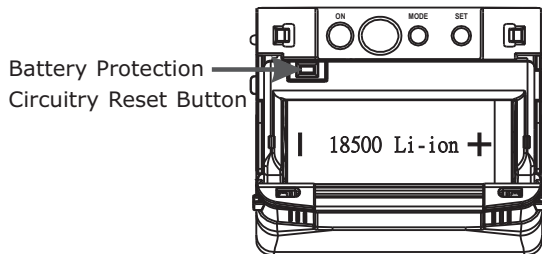
Note: Transmitter cannot be powered on with charged battery.

Method 1:

- Ensure battery is inserted correctly with + top side.
- If battery is inserted correctly it could be due to self battery protection mechanism. Insert the transmitter into the charger to re-charge for 10-20 seconds to wake-up the battery. It should work.
- If charger cannot be used, reverse the battery insertion for 10-20 seconds, wake up the battery with correct polarity. It should work.

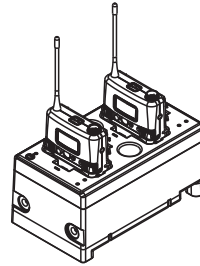
Method 2:

- Power off the transmitter before open the hinged cover. Press battery protection circuitry reset button once to wake-up battery. Power on the transmitter.

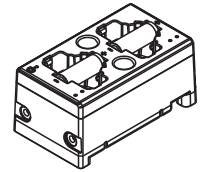


MP-80 Battery Charger (Optional)

MP-80 Charger charges both transmitters and 18500 rechargeable batteries.



Transmitters Charging



18500 Charging

MP-20 Dual-Slot Battery Charger (Optional)

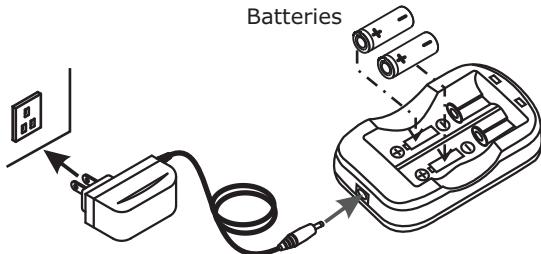
Use the Battery Charger to charge up to two rechargeable 18500 Li-ion batteries for rechargeable MIPRO handheld or bodypack transmitter.

Charging Batteries: Insert the batteries with the correct positive (+) & negative (-) polarity and plug the charger into a power outlet, as shown here.

Charge Status: The indicator light displays the charging status of the batteries.

- Still Red: The batteries are charging.
- Still Green: The batteries are charged and ready to use.
- Flashing Light: May indicate any of the following conditions:
 - a. The batteries haven't been properly installed in the charger.
 - b. An unsupported type of battery is in the charger.
 - c. The batteries may be faulty or damaged and should be replaced.

Rechargeable 18500 Li-ion Batteries



(Transformer is shown here for reference only)

Federal Communication Commission Interference Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC Caution: To assure continued compliance, any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment. (Example - use only shielded interface cables when connecting to computer or peripheral devices).

FCC Radiation Exposure Statement

This equipment complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 0.5 cm between the radiator and your body.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

The antennas used for this transmitter must be installed to provide a separation distance of at least 0.5 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference, and
- (2) This device must accept any interference received, including interference that may cause undesired operation.

IC

This device complies with Industry Canada RSS-210 ISSUE 2 standards. Operation is subject to the following two conditions:

- (1) this device may not cause interference, and
- (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence.

L'exploitation est autorisée aux deux conditions suivantes:

- (1) l'appareil ne doit pas produire de brouillage, et
- (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Notes

1. Refer to actual product in the event of product description discrepancy.
2. Frequency range and maximum deviation comply with the regulations of different countries.

WARNING

1. **FOR OUTDOOR USE:**

To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture.

2. **UNDER WET LOCATION:**

Apparatus should not be exposed to dripping or splashing and no objects filled with liquids, such as vases should be placed on the apparatus.

3. **SERVICE INSTRUCTIONS:**

CAUTION - These servicing instructions are for use by qualified service personnel only. To reduce the risk of electric shock, do not perform any servicing other than that contained in the operating instructions unless you are qualified to do so.

CAUTION

RISK OF ELECTRIC SHOCK
DO NOT OPEN

This symbol indicates that dangerous voltage constituting a risk of electric shock is present within this unit.

This symbol indicates that there are important operating and maintenance instructions in the literature accompanying this unit.

Disposal



2006-08-13

Dispose of any unusable devices or batteries responsibly and in accordance with any applicable regulations.

Disposing of used batteries with domestic waste is to be avoided!

Batteries / NiCad cells often contain heavy metals such as cadmium(Cd), mercury(Hg) and lead(Pb) that makes them unsuitable for disposal with domestic waste. You may return spent batteries/accumulators free of charge to recycling centres or anywhere else batteries/accumulators are sold.

By doing so, you contribute to the conservation of our environment!