SONY®

Digital Wireless Package

Operating Instructions

Before operating the unit, please read this manual thoroughly
and retain it for future reference.
Please read this manual together with the manual supplied with the BC-DWZ1.

DWZ-M70/B70HL

For the ZTX-M02RC/B02RC Transmitters

Owner's Record

The model and serial numbers are located at the rear or on the bottom of the unit. Record the model and serial numbers in the space provided below.
Refer to these numbers whenever you call upon your Sony dealer regarding this product.
Model No. _____
Serial No. _____

WARNING

Batteries shall not be exposed to excessive heat such as sunshine, fire or the like.

If the transmitter develops an abnormally high temperature, a burning odor or smoke during use, remove the battery holder and stop using the transmitter immediately.
Take care not to burn your fingers when removing the battery holder as the batteries may be very hot at this time.

For the customers in the U.S.A.

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 or more 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.

You are cautioned that any changes or modifications not expressly approved in this manual could void your authority to operate this equipment.

All interface cables used to connect peripherals must be shielded in order to comply with the limits for a digital device pursuant to Subpart B of Part 15 of FCC Rules.

If you have any questions about this product, you may call ; Sony Customer Information Service Center 1-800-222-7669 or http://www.sony.com/

Declaration of Conformity
Trade Name : SONY
Model : ZTX-M02RC/B02RC
Responsible party : Sony Electronics Inc.
Address : 16530 Via Esprillo, San Diego, CA 92127 U.S.A.
Telephone Number : 858-942-2230

This device complies with part 15 and part 18 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.

IMPORTANT NOTE: To comply with the FCC RF exposure compliance requirements, no change to the antenna or the device is permitted.

Any change to the antenna or the device could result in the device exceeding the RF exposure requirements and void user's authority to operate this device.

This device complies with FCC radiation exposure limits set forth for uncontrolled equipment and meets the FCC radio frequency (RF) Exposure Guidelines in Supplement C to OET65. This device has very low levels of RF energy that it is deemed to comply without testing of specific absorption ratio (SAR).

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

For the customers in Canada

This Class B digital apparatus complies with Canadian ICES-003.

This ISM device complies with Canadian ICES-001.

This device complies with Industry Canada licence-exempt RSS standard(s).
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.

The term "IC:" before the radio certification number only signifies that Industry Canada technical specifications were met.

This equipment complies with IC radiation exposure limits set forth for an uncontrolled environment and meets RSS-102 of the IC radio frequency (RF) Exposure rules. This equipment has very low levels of RF energy that are deemed to comply without testing of specific absorption ratio (SAR).

$C\epsilon$

For the customers in Europe

Hereby, Sony Corporation, declares that this ZTX-M02RC/B02RC is in compliance with the essential requirements and other relevant provisions of the Directive 1999/5/EC.
For details, please access the following URL: http://www.compliance.sony.de/

Voor de klanten in Europa

Hierbij verklaart Sony Corporation dat het toestel ZTX-M02RC/B02RC in overeenstemming is met de essentiële eisen en de andere relevante bepalingen van richtlijn 1999/5/EG.
Nadere informatie kunt u vinden op:
http://www.compliance.sony.de/

För kunder i Europa

Härmed intygar Sony Corporation att denna ZTX-M02RC/B02RC står I överensstämmelse med de väsentliga egenskapskrav och övriga relevanta bestämmelser som framgår av direktiv 1999/5/EG.
För ytterligare information gå in på följande hemsida: http://www.compliance.sony.de/

Para clientes na Europa

Sony Corporation declara que este ZTX-M02RC/B02RC está conforme com os requisitos essenciais e outras disposições da Directiva 1999/5/CE.
Para mais informacoes, por favor consulte a seguinte URL:
http://www.compliance.sony.de/

Til europæiske kunder

Undertegnede Sony Corporation erklærer herved, at følgende udstyr ZTX-M02RC/B02RC overholder de væsentlige krav og øvrige relevante krav i direktiv 1999/5/EF.
For yderligere information gå ind på følgende hjemmeside:
http://www.compliance.sony.de/

Asiakkaille Euroopassa

Sony Corporation vakuuttaa täten että ZTX-M02RC/B02RC tyyppinen laite on direktiivin 1999/5/EY oleellisten vaatimusten ja sitä koskevien direktiivin muiden ehtojen mukainen.
Halutessasi lisätietoja, käy osoitteessa:
http://www.compliance.sony.de/

For kunder i Europa

Sony Corporation erklærer herved at utstyret ZTX-M02RC/B02RC er i samsvar med de grunnleggende krav og øvrige relevante krav i direktiv 1999/5/EF.
For flere detaljer, vennligst se:
http://www.compliance.sony.de/

Για τους πελάτες που διαμένουν σε χώρες της Ευρώπης

Με την παρούσα η Sony Corporation δηλώνει ότι ZTX-M02RC/B02RC συμμορφώνεται προς της ουσιώδεις απαιτήσεις και τις λοιπές σχετικές διατάξεις της οδηγίας 1999/5/ΕΚ.
Για λεπτομέρειες παρακαλούμε όπως ελένξετε την ακόλουθη σελίδα του διαδικτύου:
http://www.compliance.sony.de/

За клиентите в Европа

С настоящето Сони Корпорация декларира, че този ZTX-M02RC/B02RC отговаря на основните изисквания и другите съответстващи клаузи на Директива 1999/5/ЕС.
Подробности може да намерите на Интернет страницата :
http://www.compliance.sony.de/.

Pro zákazníky v Evropě

Sony Corporation tímto prohlašuje, že tento ZTX-M02RC/B02RC je ve shodě se základními požadavky a dalšími příslušnými ustanoveními směrnice 1999/5/ES.
Podrobnosti lze získat na následující URL:
http://www.compliance.sony.de/

Klientidele Euroopas

Sony Corporation kinnitab käesolevaga seadme ZTX-M02RC/B02RC vastavust 1999/5/EÜ direktiivi põhinõuetele ja nimetatud direktiivist tulenevatele teistele asjakohastele sätetele.
Üksikasjalikum info: http://www.compliance.sony.de/.

Európai ügyfeleinknek

Alulírott, Sony Corporation nyilatkozom, hogy a(z) ZTX-M02RC/B02RC megfelel a vonatkozó alapvető követelményeknek és az 1999/5/EC irányelv egyéb előírásainak.
További információkat a következő weboldalon találhat:
http://www.compliance.sony.de/

Klientiem Eiropā

Ar šo Sony Corporation deklarē, ka ZTX-M02RC/B02RC atbilst Direktīvas 1999/5/EK būtiskajām prasībām un citiem ar to saistītajiem noteikumiem.
Plašāka informācija ir pieejama: http://www.compliance.sony.de/

Europos klientams

Šiuo Sony Corporation deklaruoja, kad šis ZTX-M02RC/B02RC atitinka esminius reikalavimus ir kitas 1999/5/EB Direktyvos nuostatas.
Susipažinti su visu atitikties deklaracijos turiniu Jūs galite interneto tinklalapyje: http://www.compliance.sony.de/

Dla klientów w Europie

Niniejszym Sony Corporation oświadcza, że ZTX-M02RC/B02RC jest zgodne z zasadniczymi wymaganiami oraz innymi stosownymi postanowieniami Dyrektywy 1999/5/WE.
Szczegółowe informacje znaleźć można pod następującym adresem URL:
http://www.compliance.sony.de/

Pentru clienții din Europa

Prin prezenta, Sony Corporation declară că acest ZTX-M02RC/B02RC respectă cerințele esențiale și este în conformitate cu prevederile Directivei 1995/5/EC.
Pentru detalii, vă rugăm accesați următoarea adresă:
http://www.compliance.sony.de/

Pre zákazníkov v Európe

Sony Corporation týmto vyhlasuje, že ZTX-M02RC/B02RC spĺňa základné požiadavky a všetky príslušné ustanovenia Smernice 1999/5/ES.
Podrobnosti získate na nasledovnej webovej adrese:
http://www.compliance.sony.de/

Za stranke v Evropi

Sony Corporation izjavlja, da je ta ZTX-M02RC/B02RC v skladu z bistvenimi zahtevami in ostalimi relevantnimi določili direktive 1999/5/ES.
Za podrobnosti vas naprošamo, če pogledate na URL:
http://www.compliance.sony.de/

For the ZRX-HR70 Receivers

Owner's Record

The model and serial numbers are located at the rear or on the bottom of the unit. Record the model and serial numbers in the space provided below.
Refer to these numbers whenever you call upon your Sony dealer regarding this product.
Model No. _____
Serial No. _____

IMPORTANT

The nameplate is located on the bottom.

WARNING

Excessive sound pressure from earphones and headphones can cause hearing loss.
In order to use this product safely, avoid prolonged listening at excessive sound pressure levels.

Batteries shall not be exposed to excessive heat such as sunshine, fire or the like.

If the receiver develops an abnormally high temperature, a burning odor or smoke during use, remove the battery holder and stop using the receiver immediately.
Take care not to burn your fingers when removing the battery holder as the batteries may be very hot at this time.

For the customers in the U.S.A.

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 or more 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.

You are cautioned that any changes or modifications not expressly approved in this manual could void your authority to operate this equipment.

All interface cables used to connect peripherals must be shielded in order to comply with the limits for a digital device pursuant to Subpart B of Part 15 of FCC Rules.

If you have any questions about this product, you may call ; Sony Customer Information Service Center 1-800-222-7669 or http://www.sony.com/

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Declaration of Conformity
Trade Name : SONY
Model : ZRX-HR70
Responsible party : Sony Electronics Inc.
Address : 16530 Via Esprillo, San Diego, CA 92127 U.S.A.
Telephone Number : 858-942-2230

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.
```

For the customers in Canada
This Class B digital apparatus complies with Canadian ICES-003.

CE

For the customers in Europe
Hereby, Sony Corporation, declares that this ZRX-HR70 is in compliance with the essential requirements and other relevant provisions of the Directive 1999/5/EC.
For details, please access the following URL: http://www.compliance.sony.de/

Voor de klanten in Europa
Hierbij verklaart Sony Corporation dat het toestel ZRX-HR70 in overeenstemming is met de essentiële eisen en de andere relevante bepalingen van richtlijn 1999/5/EG.
Nadere informatie kunt u vinden op:
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För kunder i Europa
Härmed intygar Sony Corporation att denna ZRX-HR70 står I överensstämmelse med de väsentliga egenskapskrav och övriga relevanta bestämmelser som framgår av direktiv 1999/5/EG.
För ytterligare information gå in på följande hemsida: http://www.compliance.sony.de/

Para clientes na Europa
Sony Corporation declara que este ZRX-HR70 está conforme com os requisitos essenciais e outras disposições da Directiva 1999/5/CE.
Para mais informacoes, por favor consulte a seguinte URL:
http://www.compliance.sony.de/

Til europæiske kunder
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For yderligere information gå ind på følgende hjemmeside:
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Asiakkaille Euroopassa
Sony Corporation vakuuttaa täten että ZRX-HR70 tyyppinen laite on direktiivin 1999/5/EY oleellisten vaatimusten ja sitä koskevien direktiivin muiden ehtojen mukainen.
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Για τους πελάτες που διαμένουν σε χώρες της Ευρώπης
Με την παρούσα η Sony Corporation δηλώνει ότι ZRX-HR70 συμμορφώνεται προς της ουσιώδεις απαιτήσεις και τις λοιπές σχετικές διατάξεις της οδηγίας 1999/5/ΕΚ. Για λεπτομέρειες παρακαλούμε όπως ελένξετε την ακόλουθη σελίδα του διαδικτύου:
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Podrobnosti lze získat na následující URL:
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Klientidele Euroopas
Sony Corporation kinnitab käesolevaga seadme ZRX-HR70 vastavust 1999/5/EÜ direktiivi põhinõuetele ja nimetatud direktiivist tulenevatele teistele asjakohastele sätetele.
Üksikasjalikum info: http://www.compliance.sony.de/.

Európai ügyfeleinknek
Alulírott, Sony Corporation nyilatkozom, hogy a(z) ZRX-HR70 megfelel a vonatkozó alapvető követelményeknek és az 1999/5/EC irányelv egyéb előírásainak.
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Klientiem Eiropā
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Plašāka informācija ir pieejama: http://www.compliance.sony.de/

Europos klientams
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Susipažinti su visu atitikties deklaracijos turiniu Jūs galite interneto tinklalapyje: http://www.compliance.sony.de/

Dla klientów w Europie
Niniejszym Sony Corporation oświadcza, że ZRX-HR70 jest zgodne z zasadniczymi wymaganiami oraz innymi stosownymi postanowieniami Dyrektywy 1999/5/WE.
Szczegółowe informacje znaleźć można pod następującym adresem URL:
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Pentru clienții din Europa
Prin prezenta, Sony Corporation declară că acest ZRX-HR70 respectă cerințele esențiale și este în conformitate cu prevederile Directivei 1995/5/EC.
Pentru detalii, vă rugăm accesați următoarea adresă:
http://www.compliance.sony.de/

About the supplied AC adapter

Important Safety Instructions

- Read these instructions.
- Keep these instructions.
- Heed all warnings.
- Follow all instructions.
- Do not use this apparatus near water.
- Clean only with dry cloth.
- Do not block any ventilation openings.
  Install in accordance with the manufacturer's instructions.
- Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
- Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding-type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
- Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
- Only use attachments/accessories specified by the manufacturer.
- Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.

- Unplug this apparatus during lightning storms or when unused for long periods of time.
- Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

WARNING

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

To avoid electrical shock, do not open the cabinet. Refer servicing to qualified personnel only.

When installing the unit, incorporate a readily accessible disconnect device in the fixed wiring, or connect the power plug to an easily accessible socket-outlet near the unit. If a fault should occur during operation of the unit, operate the disconnect device to switch the power supply off, or disconnect the power plug.

CAUTION

The apparatus shall not be exposed to dripping or splashing. No objects filled with liquids, such as vases, shall be placed on the apparatus.

The unit is not disconnected from the AC power source (mains) as long as it is connected to the wall outlet, even if the unit itself has been turned off.

For the ECM-LZ1UBMP/HZ1UBMP Microphones

For the customers in Europe

This product with the CE marking complies with the EMC Directive issued by the Commission of the European Community. Compliance with this directive implies conformity to the following European standards:
- EN55103-1 : Electromagnetic Interference(Emission)
- EN55103-2 : Electromagnetic Susceptibility(Immunity)

This product is intended for use in the following Electromagnetic Environments: E1 (residential), E2 (commercial and light industrial), E3 (urban outdoors), E4 (controlled EMC environment, ex. TV studio).

This product has been manufactured by or on behalf of Sony Corporation, 1-7-1 Konan Minato-ku Tokyo, 108-0075 Japan. Inquiries related to product compliance based on European Union legislation shall be addressed to the authorized representative, Sony Deutschland GmbH, Hedelfinger Strasse 61, 70327 Stuttgart, Germany. For any service or guarantee matters, please refer to the addresses provided in the separate service or guarantee documents.
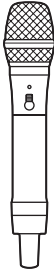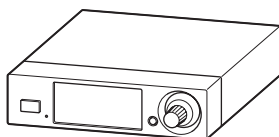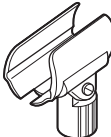
Table of Contents

Package Contents

This manual contains information on the Sony DWZ-M70/B70HL Digital Wireless Packages. The contents of each package are as follows.
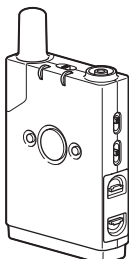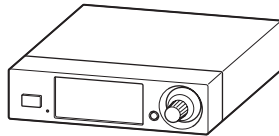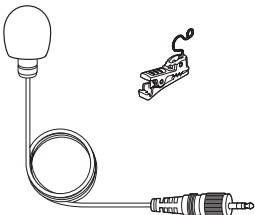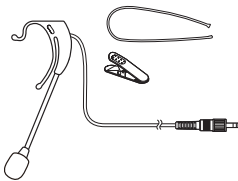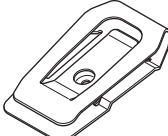
DWZ-M70

This set includes a handheld microphone (transmitter: ZTX-M02RC) and a half-rack receiver (receiver: ZRX-HR70).

ZTX-M02RC handheld microphone (1)

ZRX-HR70 half-rack receiver (1)

Supplied accessories

Mic holder (1)

Antenna (2)

AC adapter (1)
Power cord (1)
(for KR4 model only)
Power cord (2)
(for E model only)
Conversion adapter (1)
(for E model only)
Before Use (1)
Operating Instructions
(CD-ROM) (1)
Warranty card (1)
(for UC model only)
Warranty booklet (1)
(for SYV model only)

DWZ-B70HL

This set includes a body-pack (transmitter: ZTX-B02RC) and a half-rack receiver (receiver: ZRX-HR70).

ZTX-B02RC body-pack transmitter (1)

ZRX-HR70 half-rack receiver (1)

Supplied accessories

ECM-LZ1UBMP uni-directional lavalier microphone (1)
• Wind screen (1)
• Mic holder clip (1)

ECM-HZ1UBMP headset microphone (1)
• Wind screen (1)
• Cord clip (1)
• Headband (1)

Belt clip (1)
• Belt clip screw (1)

Antenna (2)

AC adapter (1)
Power cord (1) (for KR4 model only)
Power cord (2) (for E model only)
Conversion adapter (1) (for E model only)
Before Use (1)
Operating Instructions (CD-ROM) (1)
Warranty card (1) (for UC model only)
Warranty booklet (1) (for SYV model only)

Features

The DWZ series is a digital wireless system that combines Sony's consistently developed superior audio technology, highly reliable wireless technology, and state-of-the-art digital signal processing technology. Using an unlicensed 2.4 GHz band, the system provides wide-range functionality with simple, user-friendly operability.
By providing a package that is optimized for specific usage environments, the system offers a wireless solution to users ranging from those inexperienced with wireless systems to seasoned professionals.

Superb audio quality
By transmitting audio signals via 24-bit high-quality linear PCM digital transmission, without signal compression, decompression, or similar processing, the system provides superb audio quality and high-bandwidth transmissions that approach that of wired microphones.

High reliability
By allowing you to select from two RF modes based on your intended use and incorporating Sony's unique data processing technology, the system provides highly-reliable wireless transmission in wireless LAN environments. In addition, the two RF modes each consist of six channels, allowing you to select the appropriate RF mode and channel according to your intended purpose. The receiver is equipped with two antennas with the antenna with the best reception status selected automatically via space diversity, providing stable reception with minimized audio breakup and noise occurrences.
Highly confidential transmissions are also possible using the 128-bit AES (Advanced Encryption Standard).

DWZ-M70

This package includes a rechargeable handheld microphone (transmitter: ZTX-M02RC) and a half-rack receiver (receiver: ZRX-HR70) and is ideal for use during speeches and vocal performances.

DWZ-B70HL

This package can connect to headset microphones and lavalier microphones, and includes a rechargeable body-pack microphone (transmitter: ZTX-B02RC) and a half-rack receiver (receiver: ZRX-HR70).

ZTX-M02RC

A microphone designed with a sturdy metal body. Using an optional battery charger (BC-DWZ1) and nickel-metal-hydride rechargeable batteries makes contactless recharging possible. The unit is equipped with a sliding power switch for easy ON/OFF switching and an attenuator adjustment function for a wide range of audio input level support. In addition, the interchangeable microphone unit allows you to use the microphone in a variety of applications.

* The microphone unit's mounting area has a diameter of 31.3 mm and a pitch of 1.0 mm.

ZTX-B02RC

A transmitter designed with a sturdy metal body. Using an optional battery charger (BC-DWZ1) and nickel-metal-hydride rechargeable batteries makes contactless recharging possible. Equipped with a muting function, an instrument or line input / mic input switching function, and an attenuator adjustment function, the unit supports a wide range of audio input levels. The supplied belt clip can be rotated in 90-degree increments, allowing you to adjust the direction in which the cables extend based on your environment.

ZRX-HR70

A half-rack receiver equipped with large-screen high-resolution color LCD that combines high-functionality with simple operability.
The unit's high-performance DSP and real-time intelligent feedback reduction function suppresses distracting howling noise.
The Best Channel Selection and Clear Channel Scan functions allow quick and easy configuration of safe channels. In addition, the 5-band graphic equalizer allows wide-range audio-quality adjustment. You can also select whether the muting function applies to the UNBALANCED/BALANCED OUTPUT connector*. Using the optional RMM-HRD1 Rack Mount Kit allows you to mount the unit on a rack.

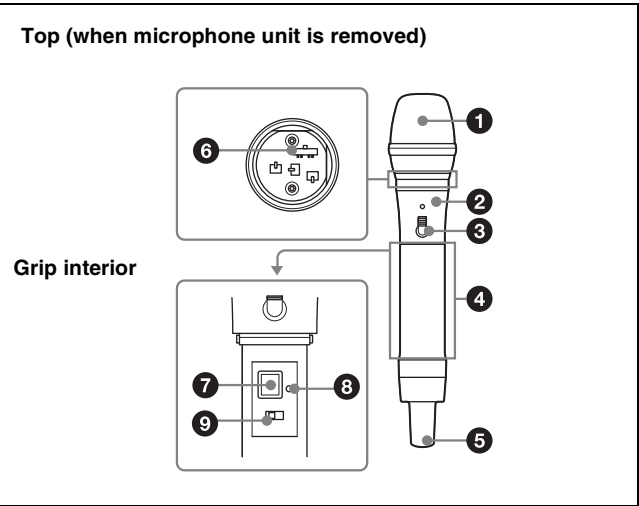* The muting function is not available on the ZTX-M02RC.

Note

Some functions may not be available depending on the combination of devices used.

Parts Identification

DWZ-M70

Handheld microphone (transmitter: ZTX-M02RC)

Top (when microphone unit is removed)

Grip interior

❶ Microphone unit

The standard-equipped microphone unit can be interchanged with another interchangeable microphone unit with a diameter of 31.3 mm and a pitch of 1.0 mm.

For details on attaching and removing the microphone unit, see "Replacing the microphone unit" (page 13).

❷ BATT/CHARGE (remaining battery / charge) indicator

Lights when the unit is turned on. This indicates the remaining battery charge or the charge status.

Indicator	Status
Lit (green)	Good
Lit (red)	Almost dead
Lit (orange)	Charging

The remaining battery indication only appears when alkaline dry cell batteries are being used.

❸ POWER switch

Turns the unit on or off.

❹ Grip

Contains the control buttons, channel display, and battery compartment.
Open the grip to configure channel settings and replace the batteries.

For details on opening the grip, see "Inserting Batteries" (page 12).

❺ Antenna cover

Contains the antenna.

Caution

Do not squeeze the antenna cover. Doing so will weaken the signal that is transmitted, decreasing the transmission range.

❻ ATT (attenuator) switch

Set the attenuation level based on the sound volume.

Attenuation level (dB)	When to use
0	Standard switch position
6	Set to this position if a red bar occasionally appears in the audio level meter of the receiver.
12	Set to this position if a red bar always appears in the audio level meter of the receiver.

The attenuator switch is located at the top of the unit when the microphone unit is removed.

For details on attaching and removing the microphone unit, see "Replacing the microphone unit" (page 13).

❼ Channel display

Displays the transmission channel.
The display disappears after about 10 seconds. You can display it again by pressing the channel selection button.

For details on the channel display, see "Channel Display" (page 18).

❽ Channel selection button

Allows you to select the RF mode and the transmitting channel.

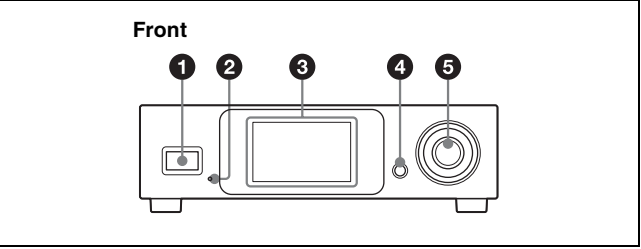*For details on selecting the RF mode and transmitting channel, see "Configuring the Transmitting Channel Settings" (page 17).*

❾ ENCRYPTION switch

Allows you to use the encrypted transmission function.

For details on the encrypted transmission function, see "Enabling Encrypted Transmission" (page 18).

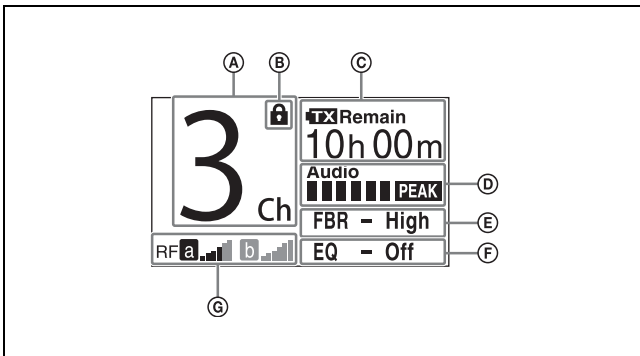### Half-rack receiver (receiver: ZRX-HR70)

Front

❶ POWER button

Turns the unit on or off.

❷ **POWER indicator**
Lights when the unit is turned on.

❸ **Display**

Displays setting configurations and other information.

Ⓐ **Receiving channel indicator**

Displays the receiving channel.

Ⓑ **Encryption status display**
Displays whether encrypted transmission is enabled.

Ⓒ **Remaining transmitter battery indicator**
Displays the remaining battery charge of the transmitter.
An approximate duration is displayed for the remaining
usage time. This duration appears only when signals are
being received.

Ⓓ **Audio level meter**
Displays the audio level.
Set the audio level so that the red bar is not displayed
continuously.

Ⓔ **FBR (feedback reducer) status indicator**
Displays the status of the feedback reducer in one of four
levels (Off, Low, Mid, High).

Ⓕ **EQ (equalizer) status indicator**
Displays the on/off status of the equalizer.

Ⓖ **Receiving level indicator**
Displays the reception status of the radio signal.
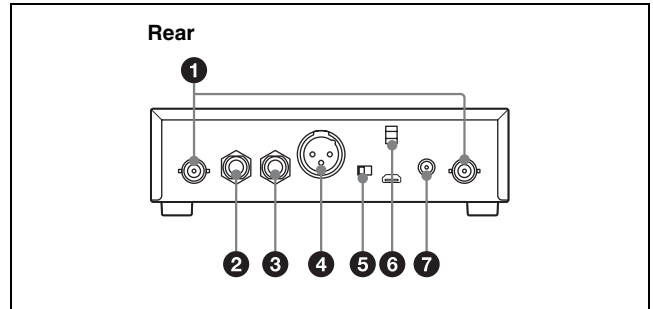More bars indicate more stable reception.

❹ **ESC (escape) button**
Cancels operations, or returns to the main screen from the
settings screen.

❺ **Rotary encoder**
Allows you to change settings.

*For details on changing settings, see "Receiver Settings"
(page 15).*

❶ **ANTENNA a/b connector (BNC type)**

Connect the supplied antenna here.

❷ **UNBALANCED OUTPUT AUX/TUNER
(external audio output) connector (headphone
jack)**
Connect monitoring equipment and similar peripheral
devices here.
You can configure muting based on your intended use.

*For details on settings, see "Configuring the transmitter
muting function for the output connectors" (page 17).*

*For details on connections, see "System Configuration
Examples" (page 22).*

❸ **UNBALANCED OUTPUT MAIN (main audio
output) connector (headphone jack)**
Connect a mixer or an amp here.
You can configure muting based on your intended use.

*For details on settings, see "Configuring the transmitter
muting function for the output connectors" (page 17).*

*For details on connections, see "System Configuration
Examples" (page 22).*

❹ **BALANCED OUTPUT connector (XLR type)**
Connect a mixer or similar device here.
You can configure muting based on your intended use.

*For details on settings, see "Configuring the transmitter
muting function for the output connectors" (page 17).*

*For details on connections, see "System Configuration
Examples" (page 22).*

❺ **MIC/LINE (audio output level) selector**
Selects the audio output level of the BALANCED
OUTPUT connector.
MIC: Sets the audio output level to the mic level.
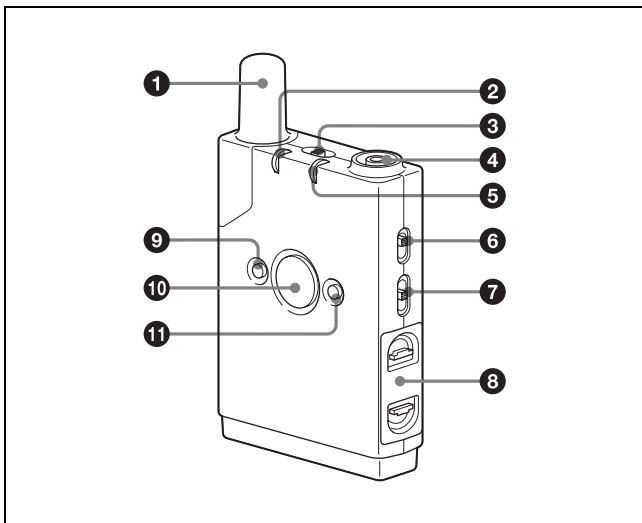**LINE:** Sets the audio output level to the line level.

Caution

Do not set the selector to the LINE position while
outputting audio to an audio mixer or similar device.
Inputting audio at excessive levels may distort audio or
damage the playback/recording device.

❻ Cable clamp

Secures the cable of the supplied AC adapter.

❼ DC IN 12V (power input) connector

Connect the supplied AC adapter here.

DWZ-B70HL

Body-pack transmitter (transmitter: ZTX-B02RC)

❶ Antenna cover

Contains the antenna.

Caution

Do not squeeze the antenna cover. Doing so will weaken the signal that is transmitted, decreasing the transmission range.

❷ BATT/CHARGE (remaining battery / charge) indicator

Lights when the unit is turned on. This indicates the remaining battery charge or the charge status.

Indicator	Status
Lit (green)	Good
Lit (red)	Almost dead
Lit (orange)	Charging

The remaining battery indication only appears when alkaline dry cell batteries are being used.

❸ ENCRYPTION switch

Allows you to use the encrypted transmission function.

For details on the encrypted transmission function, see "Enabling Encrypted Transmission" (page 18).

❹ Audio input connector

Connect the supplied microphone or use a guitar cable (GC-0.7BMP; not supplied) to connect a guitar or similar instrument here.

❺ AUDIO/MUTING indicator

Indicates the input level of the audio signal and the status of the muting function.

Indicator	Status
Lit (green)	Audio input present
Lit (red)	Excessive audio input
Off	Audio input weak or nonexistent
Blinking (orange)	Muting function enabled (i.e., audio disabled)

❻ INPUT switch

Set this based on the connected equipment.
MIC: Set to this position when a microphone is connected.
INST/LINE: Set to this position when a guitar or audio equipment is connected.

Caution

Do not set the switch to the MIC position while inputting audio from an audio mixer or similar device. Outputting audio at excessive levels may distort audio or damage the playback/recording device.

For details on the setting, see "System Configuration Examples" (page 22).

❼ ATT (attenuator) switch

Set the attenuation level based on the connected equipment.

Attenuation level (dB)	When to use
0	Standard switch position
10	Set to this position if the AUDIO/MUTING indicator on the receiver occasionally lights red.
20	Set to this position if the AUDIO/MUTING indicator on the receiver is always lit red.

❽ Battery compartment

Insert two LR6 (size AA) batteries here.

For details on how to insert batteries, see "Inserting Batteries" (page 12).

❾ POWER/MUTING button

Turns the unit on or off. This button can also be used to enable or disable the muting function.

Function	Button operation
Turn power on	Press the button for at least 1 second
Turn power off	Press the button until indicator turns off
Enable muting function	Press the button
Disable muting function	

❿ Channel display

Displays the transmission channel.

The display disappears after about 10 seconds. You can display it again by pressing the channel selection button.

For details on the channel display, see "Channel Display" (page 18).

❶ **CHANNEL SELECT button**
Allows you to select the RF mode and the transmitting channel.

For details on selecting the RF mode and transmitting channel, see "Configuring the Transmitting Channel Settings" (page 17).

Half-rack receiver (receiver: ZRX-HR70)

For details on the half-rack receiver, see "ZRX-HR70 half-rack receiver" (page 27) for the DWZ-M70.

Power Supply

This section describes the power supply for each device.

For details on how to insert batteries, see "Inserting Batteries" (page 12).

Handheld microphone (ZTX-M02RC), body-pack transmitter (ZTX-B02RC)

Power supplied by two LR6 (size AA) batteries.
The following types of battery can be used.
• Alkaline dry cell batteries
• Rechargeable nickel-metal hydride batteries
• Lithium batteries

Half-rack receiver (ZRX-HR70)

Power supplied by the supplied AC adapter.

Inserting Batteries

CAUTION
Danger of explosion if battery is incorrectly replaced.
Replace only with the same or equivalent type recommended by the manufacturer.
When you dispose of the battery, you must obey the law in the relative area or country.

Notes

• Always use sets of the same type of battery. Do not use batteries of different types or remaining charges together as a set.
• Replacing the batteries during operation will result in high noise. Be sure to turn off the unit before replacing the batteries.

Handheld microphone (ZTX-M02RC)

1 Slide the POWER switch to turn off the unit.

2 Turn the grip in the direction of the arrow, and pull down the grip until the battery compartment is shown.
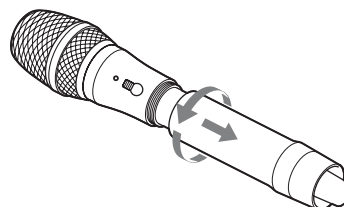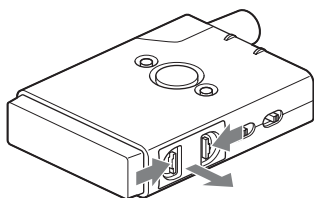
3 Insert two new LR6 (size AA) batteries while making sure the polarities are correct.
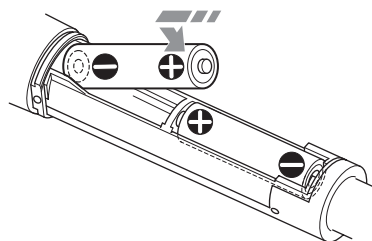

4 Close the grip and turn it in the reverse direction in the step **2** above.

Body-pack transmitter (ZTX-B02RC)

1 Press and hold the POWER/MUTING button to turn off the unit.

2 Slide the battery-compartment catches inward (in the direction of the arrows ➡ ◀) to take out the compartment.

3 Insert two new LR6 (size AA) batteries into the battery compartment while making sure the polarities are correct, and then reinsert the compartment into the unit.
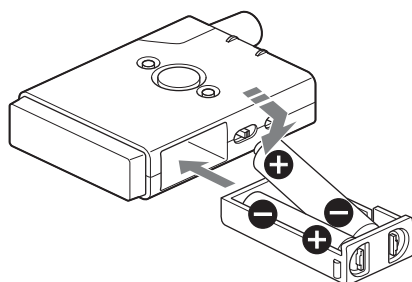
Attaching the Supplied Accessories

This section describes how to attach the supplied accessories to each unit.

Attaching the Supplied Accessories to the Handheld Microphone (ZTX-M02RC)

Attaching the microphone holder

Insert the bottom part of the microphone into the holder.
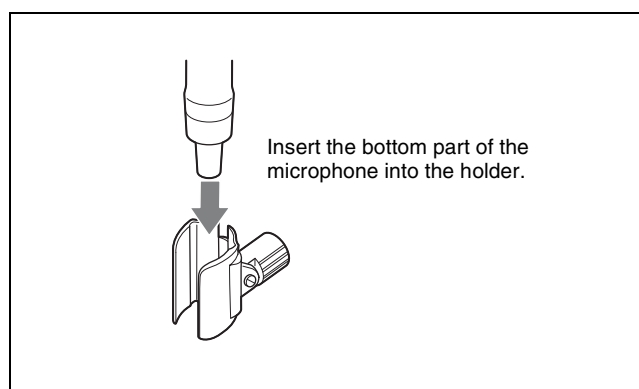
Replacing the microphone unit

To remove the microphone unit

Turn the microphone unit in the direction of the arrow.
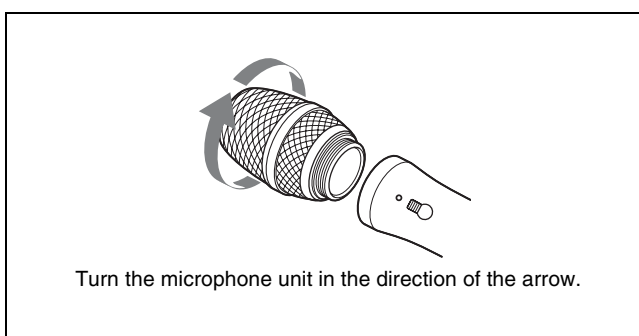
To attach the microphone unit
Turn the microphone unit in the opposite direction from when you removed it, and make sure that the unit is securely attached to the microphone.

Attaching the Supplied Accessories to the Half-Rack Receiver (ZRX-HR70)

Attaching the antenna

Insert the supplied antenna into the ANTENNA a/b connector at the rear of the receiver and turn it.

To remove the feet

Use a flat-bladed screwdriver or similar tool to remove the pins that secure the feet, and then remove the feet from the half-rack receiver.
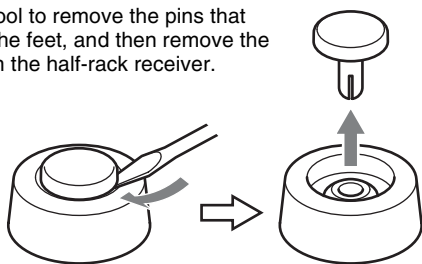
Attaching the Supplied Accessories to the Body-Pack Transmitter (ZTX-B02RC)

Attaching the belt clip
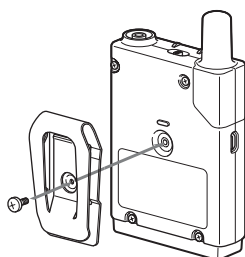
Align the mounting hole at the rear of the transmitter with the hole in the middle of the supplied belt clip, and secure the belt clip using the supplied belt clip screw.
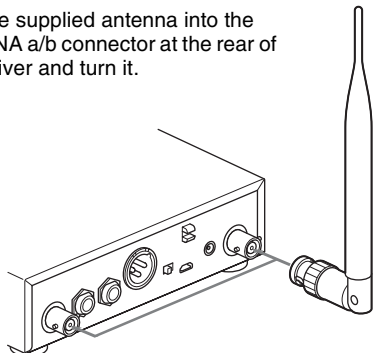You can also rotate the belt clip 180 degrees or 90 degrees to the left or right before securing it.

To attach to a belt
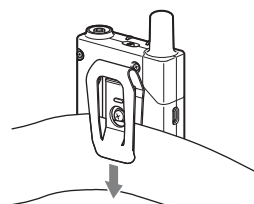
Slide the belt into the belt clip on the unit completely, and make sure it is secure.

Caution

Depending on the thickness and width of the strap, the belt clip may not attach securely.

Using the Headset Microphone (ECM-HZ1UBMP)

Wearing the microphone
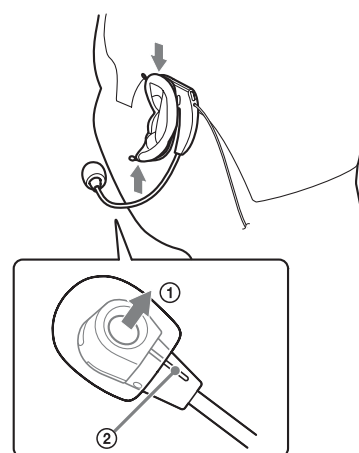
The ECM-HZ1UBMP is designed to be worn on either ear. Press the ear clip in the direction of the arrows to fit the shape of the ear.
To improve sound collection, adjust the sound collector (①) of the microphone unit so that is faces the mouth by using the guideline (protrusion (②)) as a guide.

Attaching the headband and the cord clip
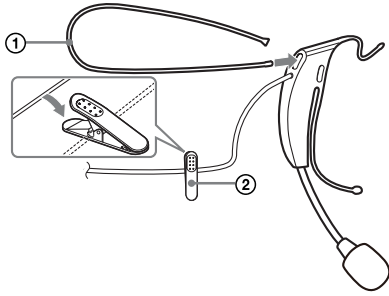
To wear the microphone more securely, attach the supplied headband (①) before wearing the microphone.
The headband can be attached on either side.
To prevent the microphone from falling off, attach the supplied cord clip (②) to the microphone cable, then clip the microphone cable to the clothing.

Receiver Settings

Use the rotary encoder and the ESC button to configure settings on the ZRX-HR70 half-rack receiver. Perform setting operations as follows.
Confirm: Press the rotary encoder.
Move cursor: Turn the rotary encoder.
Cancel: Press the ESC button.

Displaying the settings menu

Press the rotary encoder to display the [Setup] screen in the display.
To return to the main screen from the [Setup] screen, press the ESC button.

Configuring the receiving channel settings

Two RF modes (channel modes), wide band and narrow band, are available on the DWZ.
Each RF mode consists of six channels. Select the appropriate channel according to your intended use.

| RF mode	Transmitting channel number	Description
Wide band (WIDE)	1/2/3/4/5/6	This mode reduces any interference to other wireless equipment.
Narrow band (NARROW)	a/b/c/d/e/f	This mode uses the Clear Channel Scan function, making it useful for avoiding any interference from other wireless equipment.

Caution

When using multiple channels (up to six), the two RF modes, wide band and narrow band, cannot be used simultaneously. Select only one RF mode during use.

To select the RF mode

1 In the [Setup] screen, select [Advanced Settings].

2 Select [RF Mode Settings].

The [RF Mode Settings] screen appears.

3 Select [Wide Band] or [Narrow Band].

When the configuration is complete, the main screen appears again.

To select the channel

1 In the [Setup] screen, select [Channel Setup].

The [Channel Setup] screen appears.

2 Specify the channel using one of the following methods.

When configuring settings using method Ⓐ or Ⓑ, turn off all transmitters beforehand.

Ⓐ Select [Best Channel Selection]
The channel with the least interference will be configured automatically.

Ⓑ Select [Clear Channel Scan]
The status of all the channels in the selected RF mode will be displayed, allowing you to select the channel you want to use.
If there are no open channels, "No Clear Channel" appears.

```
Clear Channel Scan
Please Select a Channel
1  2  3  4  5  6
```
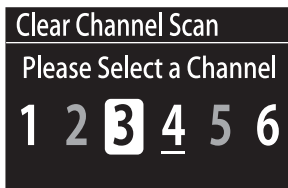
Display	Status
White font (underlined)	Channel with low interference.
White font	Channel with relatively low interference.
Gray font	Channel with high interference, or channel that is being used by another device.
"No Clear Channel"	No usable channels available.

Ⓒ Select [Manual Setup]
Configure the channel manually. Select the channel you want to use.

This completes the configuration, and the main screen appears again.

If you change the channel setting, be sure to change the channel setting on the transmitter to the same channel. If the receiver channel and transmitter channel are not identical, audio will not be output.

Configuring the effect level

1 In the [Setup] screen, select [Audio Setup].

The [Audio Setup] screen appears.

2 Select [Feedback Reducer].

The [Feedback Reducer] screen appears.

3 Select [Effect Level].

The [Effect Level] screen appears.

4 Select the effect level you want to use.

5 Select [Set].

This completes the configuration, and the main screen appears again.

Configuring the feedback reducer function for connectors

1 In the [Setup] screen, select [Audio Setup].

The [Audio Setup] screen appears.

2 Select [Feedback Reducer].

The [Feedback Reducer] screen appears.

3 Select [Apply Feedback Reducer].

The [Apply Feedback Reducer] screen appears.

4 Select the connectors for which you want the feedback reducer function enabled.

Screen display / Connector	To All Outputs	To Balanced & Main Only	To AUX/ Tuner Only
BALANCED OUTPUT	Enabled	Enabled	–
UNBALANCED OUTPUT MAIN	Enabled	Enabled	–
UNBALANCED OUTPUT AUX/ TUNER	Enabled	–	Enabled

This completes the configuration, and the main screen appears again.

Configuring the equalizer

1 In the [Setup] screen, select [Audio Setup].

The [Audio Setup] screen appears.

2 Select [Equalizer].

The [Equalizer] screen appears.

3 Select [On] to enable the equalizer function, or [Off] to disable it.

If you select [On], the equalizer settings screen appears.

```
Equalizer          Set
+12dB
0dB
-12dB
      60  250  1k  4k  12k Hz
```
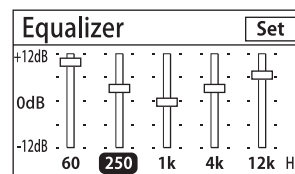
If you select [Off], configuration is complete and the main screen appears again.

4 Select the frequency for which you want to adjust the level, and adjust the setting.

5 Select [Set].

The setting value is saved.
To cancel the setting, press the ESC button.

Configuring the transmitter muting function for the output connectors

You can select whether to enable the muting function controlled by the transmitter for the audio output of each output connector.

1 In the [Setup] screen, select [Audio Setup].

The [Audio Setup] screen appears.

2 Select [TX Muting].

The [Apply TX Muting] screen appears.

3 Select the connectors for which you want the muting function enabled.

Screen display / Connector	To All Outputs	To Balanced & Main Only	To AUX/ Tuner Only
BALANCED OUTPUT	Enabled	Enabled	–
UNBALANCED OUTPUT MAIN		Enabled	–
UNBALANCED OUTPUT AUX/ TUNER		–	Enabled

This completes the configuration, and the main screen appears again.

Configuring the battery type

Specify the type of battery that is being used in the transmitter so that the transmitter's remaining battery charge can be displayed properly on this unit.

1 In the [Setup] screen, select [Advanced Settings].

2 Select [Battery Type].

3 Select the battery type.

Alkaline: Alkaline dry cell batteries are being used in the transmitter.
Ni-MH: Rechargeable nickel-metal hydride batteries are being used in the transmitter.
Lithium: Lithium batteries are being used in the transmitter.

This completes the configuration, and the main screen appears again.

Transmitter Settings

Configuring the Transmitting Channel Settings

Two RF modes (channel modes), wide band and narrow band, are available on the DWZ.
Each RF mode consists of six channels. Select the appropriate channel according to your intended use.

RF mode	Transmitting channel number	Description
Wide band (WIDE)	1/2/3/4/5/6	This mode reduces any interference to other wireless equipment.
Narrow band (NARROW)	a/b/c/d/e/f	This mode uses the Clear Channel Scan function, making it useful for avoiding any interference from other wireless equipment.

Caution

The two RF modes, wide band and narrow band, cannot be used simultaneously. Select only one RF mode during use.

Selecting the RF mode

1 Turn off the unit.

To turn off the ZTX-M02RC, slide the POWER switch to the OFF position.
To turn off the ZTX-B02RC, press and hold the POWER/MUTING button.

2 For the ZTX-M02RC, slide the POWER switch to the ON position while holding down the channel selection button.
For the ZTX-B02RC, press and hold the POWER/ MUTING button (about 1 second) while holding down the channel selection button.

"0" blinks in the channel display.

3 Press the channel selection button to select "1" or "a."

4 Press and hold the channel selection button.

Selecting the channel

1 Press and hold the channel selection button while the unit is turned on.

The channel display blinks.

2 Press the channel selection button to select the channel.

3 Press and hold the channel selection button to apply the channel selection.

Caution

If you change the channel setting on the transmitter, be sure to change the channel setting on the receiver to the same channel. If the receiver channel and transmitter channel are not identical, audio will not be output.

Channel Display

Each channel will appear as follows in the transmitter's channel display.

RF mode	Channel number		
Wide band (WIDE)	1	2	3
	4	5	6
Narrow band (NARROW)	a	b	c
	d	e	f

Enabling Encrypted Transmission

Encrypted transmission will only be enabled on transmitter and receiver pairs for which the following settings have been configured.

Notes

- After encrypted transmission is enabled, the enabled settings will remain until they are disabled.
- To disable encrypted transmission, disable the settings on both the transmitter and the receiver.
- If you want to change the transmitter and receiver pair for which encrypted transmission is used, you must configure the settings again.

Enabling encrypted transmission

1 Synchronize the transmitter and receiver channels.

For details on configuring the transmitter's channel and the receiver's channel, see "Configuring the Transmitting Channel Settings" (page 17) and "Configuring the receiving channel settings" (page 15) respectively.

2 Set the ENCRYPTION switch on the transmitter to the OFF position.

Leave the power on.

3 In the [Setup] screen of the receiver, select [Advanced Settings].

The [Advanced Settings] screen appears.

For details on displaying the [Setup] screen, see "Displaying the settings menu" (page 15).

4 Select [Encryption].

The [Encryption] screen appears.

5 Set the [Encryption] setting to [On].

6 Set the ENCRYPTION switch on the transmitter to the ON position.

When the setting is properly enabled, "Complete" appears on the receiver.

Note

If "Connection Failed" appears on the receiver, the setting has not been configured properly. Configure the settings again from step 1.

Disabling encrypted transmission

1 Set the ENCRYPTION switch on the transmitter to the OFF position.

2 In the [Setup] screen of the receiver, select [Advanced Settings].

The [Advanced Settings] screen appears.

For details on displaying the [Setup] screen, see "Displaying the settings menu" (page 15).

3 Select [Encryption].

The [Encryption] screen appears.

4 Set the [Encryption] setting to [Off].

Encrypted transmission status display on the receiver
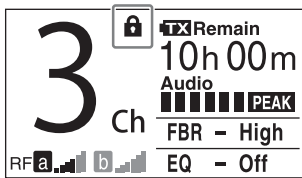
Icon display	Encrypted transmission status	Description
Lit	Encrypted transmission in progress.	Encrypted transmission is enabled.
Blinking	Encrypted transmission not configured properly.	The encrypted transmission settings on the transmitter and receiver do not match.
Off	Normal transmission in progress or there is no signal reception.	The encrypted transmission setting is set to OFF and normal transmission is enabled, or there is no RF signal.

Channel Frequency List

The frequencies used by the wide band (WIDE, channels 1 to 6) and the narrow band (NARROW, channels a to f) are as follows.
Each channel uses multiple compatible frequencies to increase reliability and redundancy. The appropriate frequencies are used according to the surrounding wireless environment.

Note

To ensure transmission quality, do not place transmitters and receivers near wireless routers or computers.

Wide band

Channel number	Frequency
1	2402
	2478.5
2	2421.5
	2472.5
3	2427.5
	2475.5
4	2424.5
	2446.5
5	2449.5
	2469.5
6	2405
	2452.5

(Unit: MHz)

The wide band (WIDE) mode allows you to reduce effects to other wireless equipment without extensive knowledge of wireless frequencies. The audio delay time is approximately 6 milliseconds.

Narrow band

Channel number	Frequency
a	2469.5
	2474
	2478.5
b	2442.5
	2447
	2451.5
c	2415.5
	2420
	2424.5
d	2456
	2460.5
	2465
e	2429
	2433.5
	2438
f	2402
	2406.5
	2411

(Unit: MHz)

The narrow band (NARROW) mode avoids the effects of 2.4 GHz wireless remote controls that are used to operate lighting equipment and other wireless devices. You can use this mode and make adjustments to prevent frequency overlaps in environments with multiple wireless systems. The audio delay time is approximately 3 milliseconds.

Wi-Fi channels

The frequencies covered by each Wi-Fi channel are as follows. The ranges that cover the most commonly used channels, channels 1, 6, and 11, are shown in grey.
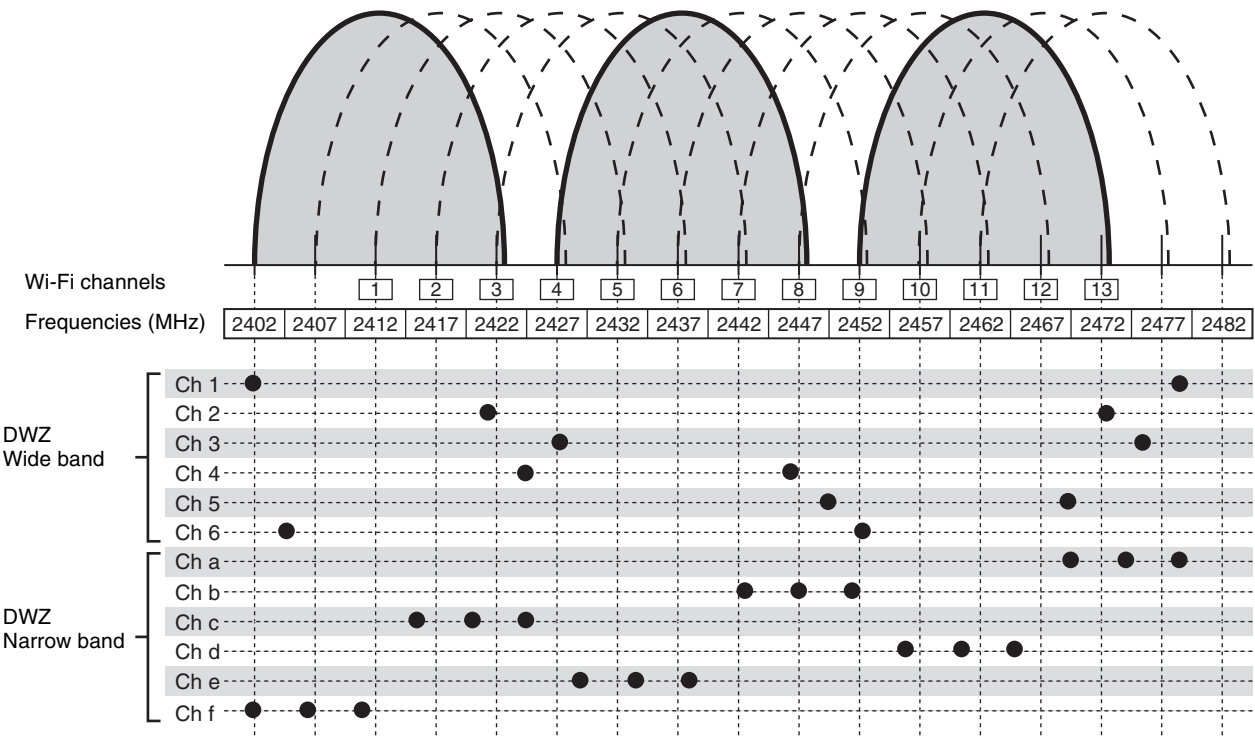
System Configuration Examples

The following system configuration examples are of the DWZ series.

Mixer, recorder, etc.

UNBALANCED OUTPUT
MAIN (main audio output)
connector

Antenna

Antenna

Half-rack receiver
(ZRX-HR70)

ANTENNA
a connector

AC adapter

ANTENNA b connector

DC IN 12V (power input) connector

BALANCED OUTPUT
connector

Mixer → Power amp → Speaker

Headset
microphone
(ECM-HZ1UBMP)

Lavalier
microphone
(ECM-LZ1UBMP)

Handheld microphone
(ZTX-M02RC)

Body-pack transmitter (ZTX-M02RC)

Battery charger (BC-DWZ1) (not supplied)

Troubleshooting

Check the following if problems occur.
Should any problem persist, consult your Sony dealer.

Symptom	Meanings	Remedy
The unit does not turn on.	The polarity orientation of the batteries in the battery compartment is incorrect.	Insert the batteries with the correct polarity orientation.
	The batteries are exhausted.	Replace the batteries with new ones.
The batteries drain quickly.	The batteries are exhausted.	Replace the batteries with new ones.
	Manganese batteries are being used.	Use alkaline batteries. The battery life of a manganese battery is less than half that of an alkaline battery.
	The unit is being used under cold conditions.	The batteries drain quickly under cold conditions.
There is no sound.	The RF mode or channel setting on the transmitter is different from that on the receiver.	Use the same RF mode and channel setting on both the transmitter and the receiver.
	The muting function is enabled.	Disable the muting function.
	The transmitter has been placed on the battery charger and is recharging.	Remove the transmitter from the battery charger.
	The encrypted transmission settings on the transmitter and receiver do not match.	Configure the encrypted transmission settings on the transmitter and receiver again.
The sound is weak.	The attenuation level on the transmitter is too high.	The input level is low. Set the attenuation level on the transmitter to the appropriate level.
	The output level of the receiver does not match the input level setting of the connected device.	Set the MIC/LINE selector according to the input level of the connected device. (ZRX-HR70)
The sound is distorted.	The attenuation level of the transmitter is too low.	The audio input level is too high. Set the attenuation level on the transmitter to a level where sound is not distorted.
	The transmitter's MIC/LINE selector is set to MIC.	The audio input level is too high. Specify INST/LINE input.
	The output level of the receiver does not match the input level setting of the connected device.	Set the MIC/LINE selector according to the input level of the connected device. (ZRX-HR70)
Noise occurs.	The transmitter and receiver are far away from each other.	Shorten the distance between the transmitter and receiver until audio breakup does not occur.
	Signal interference from other devices is occurring.	Change the selected channel, or move the devices that are causing interference away from the unit.
	Two or more transmitters are set to the same channel.	Do not use the same channel for more than one transmitter.
	Wide band and narrow band are being used simultaneously.	When using multiple channels simultaneously, use channels from a single RF mode, either wide mode or narrow mode.
The service area (i.e., operating range) is small.	The antenna is not attached to the receiver.	Attach the supplied antenna.
	The antenna is being squeezed.	Remove your hands from the antenna.
The audio quality is abnormal.	The equalizer setting is incorrect.	Set the equalizer setting to 0. (ZRX-HR70)
The unit does not turn off when the POWER switch is pressed.	The RF mode is being configured.	The unit cannot be turned off while RF mode configuration is in progress. Press and hold the channel selection button to end configuration before turning off the unit. (ZTX-B02RC)
Channels cannot be changed.	The settings menu is not open.	Follow the instructions in *"Displaying the settings menu"* and *"Configuring the receiving channel settings" (page 15)* to configure settings. (ZRX-HR70)
The RF indicator on the receiver lights even when the transmitter is off.	Interference is being received.	Set the receiver to a channel for which the RF indicator does not light, and then set the transmitter to the same channel.

Symptom	Meanings	Remedy
The BATT/CHARGE (remaining battery / charge) indicator does not light when the BC-DWZ1 is connected to the transmitter.	The batteries are not inserted.	Insert nickel-metal hydride batteries.
	The polarity orientation of the batteries in the battery compartment is incorrect.	Insert the batteries with the correct polarity orientation.
	The nickel-metal hydride batteries are fully charged.	Charging is not necessary. (Charging will not start to prevent overcharging.)
The BATT/CHARGE (remaining battery / charge) indicator on the transmitter is blinking.	The nickel-metal hydride batteries are close to fully charged.	Charging is not necessary. Use the batteries in their current condition. (The remaining charge is sufficient, and further charging is being interrupted to prevent overcharging.)
	Batteries that are not nickel-metal hydride batteries are inserted.	Insert nickel-metal hydride batteries.
	The conditions of the inserted batteries do not match.	Always charge sets of batteries of the same type, capacity, and usage condition. In addition, do not insert batteries that were used in other devices in the transmitter for charging.
	The nickel-metal hydride batteries have deteriorated.	Replace the batteries with new nickel-metal hydride batteries.

Important Notes on Use

The operating range of the 2.4 GHz band used by the units may be reduced and noise may occur due to interference from the operating environment or from other wireless stations. In such cases, moving the units away from other wireless stations or changing the channel may resolve the problem.

- If other wireless stations are being used nearby, distance the units from the stations as much as possible, or change the channel or RF mode being used.
- If this does not resolve the problem, try turning off the other wireless stations (i.e., stopping their radio signals) one by one.
- If microphones other than those supplied or other than the ECM-HZ1UBMP/LZ1UBMP are connected, problems such as lack of sound and phase inversion may occur.

Caution

To prevent audio noise caused by interference from other transmitters or by excessive RF inputs, maintain a distance of at least 30 cm between the transmitter and the receiver.

Usage and Storage

- Operating the DWZ series components near electrical equipment (motors, transformers, or dimmers) may cause it to be affected by electromagnetic induction. Keep the DWZ series components as far from such equipment as possible.
- The presence of the lighting equipment may produce electrical interference over the entire frequency range. Position the DWZ series components so that interference is minimized.

Cleaning

Clean the surface and the connectors of the DWZ series components with a dry, soft cloth. Never use thinner, benzene, alcohol or any other chemicals, since these may mar the finish.

To prevent electromagnetic interference from portable communication devices
The use of portable telephones and other communication devices near the DWZ series components may result in malfunction and interference with audio signals. It is recommended that portable communication devices near the DWZ series components be turned off.

Notes on Charging Batteries

- Always use the BC-DWZ1 battery charger (not supplied) when recharging.
- Only nickel-metal-hydride batteries can be recharged.
- The unit will automatically turn off during recharging. Audio cannot be transmitted during this time.
- When charging batteries, follow the temperature specifications for the batteries you are using.
- Do not insert batteries that were used in other devices in the transmitter for charging.

Important
The antenna covers (ZTX-M02RC) and the body of the unit (ZTX-B02RC) are the areas that are charged and may become hot during or immediately after charging. This is not a malfunction.

Specifications

Design and specifications are subject to change without notice.

Note

Always verify that the unit is operating properly before use.
SONY WILL NOT BE LIABLE FOR DAMAGES OF ANY
KIND INCLUDING, BUT NOT LIMITED TO,
COMPENSATION OR REIMBURSEMENT ON ACCOUNT
OF THE LOSS OF PRESENT OR PROSPECTIVE PROFITS
DUE TO FAILURE OF THIS UNIT, EITHER DURING THE
WARRANTY PERIOD OR AFTER EXPIRATION OF THE
WARRANTY, OR FOR ANY OTHER REASON
WHATSOEVER.

DWZ-M70

Carrier frequencies
2402.0 MHz to 2478.5 MHz
Occupied RF bandwidth
2.5 MHz
Type of emission
F1D and F1E
Modulation method
GFSK
Operating temperature
0 °C to 50 °C (32 °F to 122 °F)
Storage temperature
–20 °C to +60 °C (–4 °F to +140 °F)
(during charging: 0 °C to 40 °C
(32 °F to 104 °F))
Delay time   Approx. 6 milliseconds (wide band)
Approx. 3 milliseconds (narrow band)

ZTX-M02RC handheld microphone

RF output level 10 mW (e.i.r.p.)
Antenna $\lambda/4$ monopole antenna
Microphone type
Uni-directional dynamic
Frequency response
Transmission: 10 Hz to 22 kHz
Microphone unit: 70 Hz to 16 kHz
Maximum input level
142 dBSPL (when attenuator level is
12 dB)
Dynamic range   102 dB (A-weighted)
Power requirements
3.0 V DC (two LR6 (size AA) alkaline
dry cell batteries)
Battery life   Approx. 10 hours of continuous use
(25 °C (77 °F) ambient temperature,
Sony LR6 (size AA) alkaline dry cell
batteries)

Dimensions
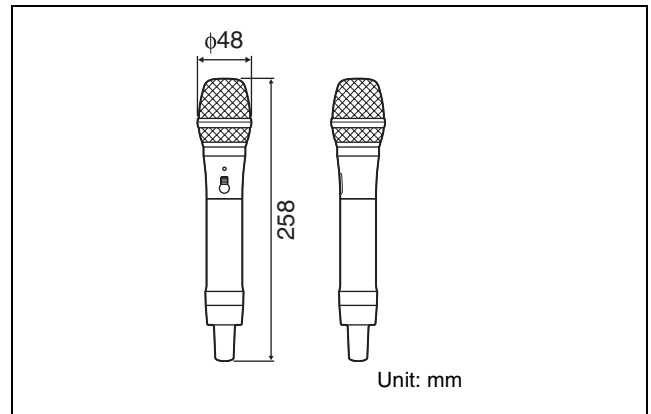
ϕ 48 × 258 mm (1 $^{15}/_{16}$ × 10 $^{1}/_{4}$ inches)
(diameter/length)
Mass   Approx. 308 g (11 oz.) (including
batteries)

ZRX-HR70 half-rack receiver

Reception type   Space diversity
ANTENNA a/b connector
BNC-R, 50 Ω
Frequency response
10 Hz to 22 kHz
Maximum output level
Balanced Output MIC: –22 dBu
LINE: +24 dBu
Unbalanced Output: +8 dBu
Reference output level
Balanced Output MIC: –58 dBu
LINE: –12 dBu
Unbalanced Output: –28 dBu
Power requirements
External DC input: 12 V DC
Consumption current (during 12 V DC input)
250 mA
Dimensions
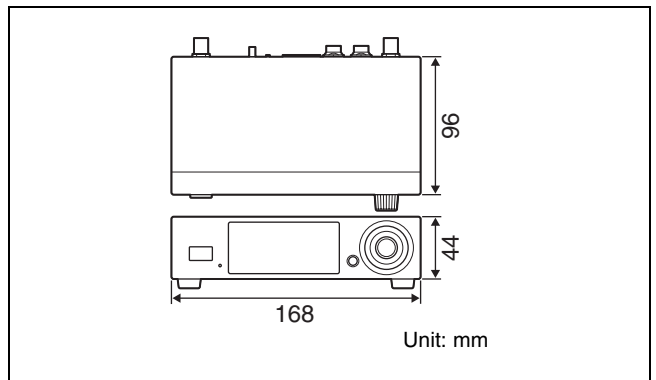
168 × 44 × 96 mm (6 $^{5}/_{8}$ × 1 $^{3}/_{4}$ ×
3 $^{7}/_{8}$ inches) (w/h/d) (excluding
protrusions)
Mass   Approx. 510 g (1 lb. 2.0 oz.)

DWZ-B70HL

Carrier frequencies
2402.0 MHz to 2478.5 MHz
Occupied RF bandwidth
2.5 MHz
Type of emission
F1D and F1E
Modulation method
GFSK
Operating temperature
0 °C to 50 °C (32 °F to 122 °F)
Storage temperature
−20 °C to +60 °C (−4 °F to +140 °F)
(during charging: 0 °C to 40 °C
(32 °F to 104 °F))
Delay time   Approx. 6 milliseconds (wide band)
Approx. 3 milliseconds (narrow band)

ZTX-B02RC body-pack transmitter

RF output level 10 mW (e.i.r.p.)
Antenna   λ/4 monopole antenna
Frequency response
10 Hz to 22 kHz
Maximum input level
MIC: −22 dBu
INST/LINE: +8 dBu
(when attenuator level is 0 dB)
Reference input level
MIC: −58 dBu
INST/LINE: −28 dBu
(when attenuator level is 0 dB)
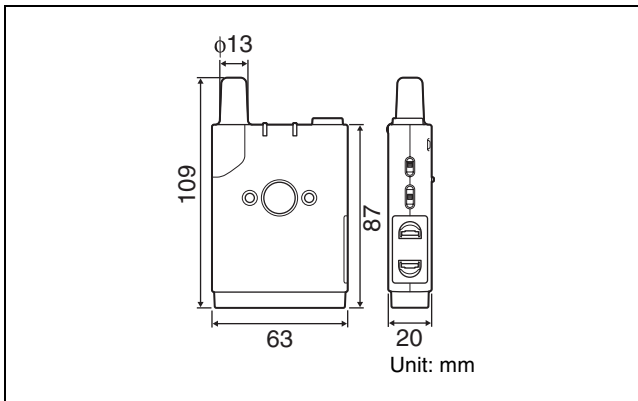Dynamic range MIC: 102 dB (A-weighted)
INST/LINE: 98 dB (A-weighted)
Power requirements
3.0 V DC (two LR6 (size AA) alkaline
dry cell batteries)
Battery life   Approx. 10 hours of continuous use
(25 °C (77 °F) ambient temperature,
Sony LR6 (size AA) alkaline dry cell
batteries)
Dimensions

63 × 87 × 20 mm (2 $^1/_2$ × 3 $^1/_2$ ×
$^{13}/_{16}$ inches) (w/h/d) (excluding the
antenna)

Mass   Approx. 162 g (5.7 oz.) (including
batteries)

ZRX-HR70 half-rack receiver

*For details on the half-rack receiver, see "ZRX-HR70
half-rack receiver" (page 26) for the DWZ-M70.*

ECM-LZ1UBMP lavalier microphone

Type   Electret condenser microphone
Frequency range
60 Hz to 18,000 Hz
Directivity   Uni-directional
Sensitivity   −36.0 dB ±3.0 dB (1 kHz/Pa)
Operating temperature
0 °C to 50 °C (32 °F to 122 °F)
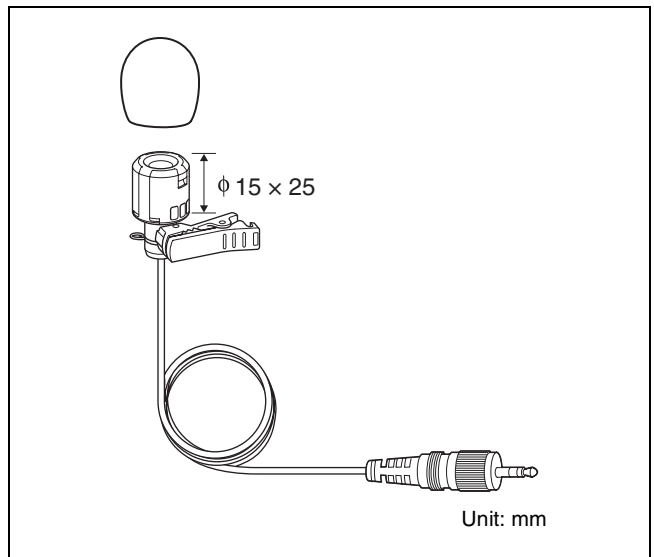Storage temperature
−20 °C to +50 °C (−4 °F to +122 °F)
Cable length   Approx. 1.2 m
Dimensions

Dimensions   φ 15 × 25 mm ($^{19}/_{32}$ dia. × 1 in.)
Mass   Approx. 5 g (0.18 oz.) (without
connector)

ECM-HZ1UBMP headset microphone

Type   Electret condenser microphone
Frequency range
60 Hz to 18,000 Hz
Directivity   Uni-directional
Sensitivity   −36.0 dB ±3.0 dB (1 kHz/Pa)
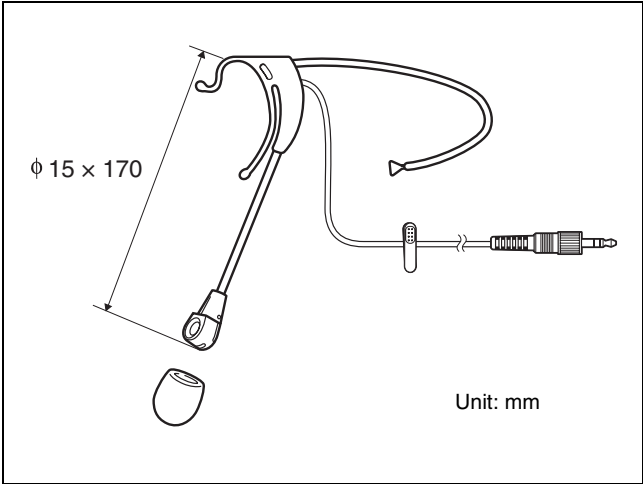Operating temperature
0 °C to 50 °C (32 °F to 122 °F)
Storage temperature
−20 °C to +50 °C (−4 °F to +122 °F)
Cable length   Approx. 1.2 m

Dimensions

ϕ 15 × 170

Unit: mm

Dimensions	ϕ 15 × 170 mm ($^{19}/_{32}$ dia. × 6 $^{3}/_{4}$ in.)
Mass	Approx. 10 g (0.35 oz.) (without connector)

http://www.sony.net/