DWR-2468/DB-2420

2.4GHz Digital True Diversity Wireless System

Operation manual

ISO 9001

ISO 14001

OHSAS 18001

GREEN PRODUCT

Thank you for choosing the Fitness Audio D-Series digital wireless microphone system!
Our products are built to last and designed for user friendly operation with quality performance.

Each system consists of:

1. Receiver
2. Belt-Pack Transmitter
3. Antennas (pair)

4. Switching Power Adapter
5. Line Cable
6. Operation Manual

For more details, please take a few moments to read this operating manual for a better understanding of the functions and the operation of both transmitter and receiver.
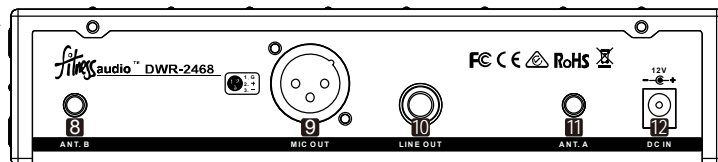
DWR-2468 True Diversity Single-Channel Receiver

Front Panel

1. Power button
2. LCD display
3. Synchronization button
4. MENU/DOWN button
5. MENU/UP button
6. SET button
7. Volume control
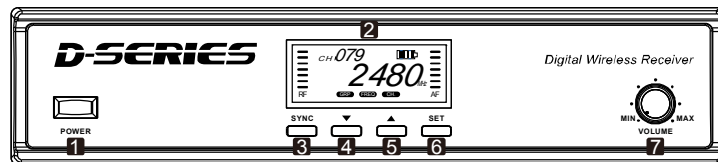
Rear Panel

8. Antenna B socket (SMA type)
9. Balanced audio output
10. Unbalanced audio output
11. Antenna A socket (SMA type)
12. DC in

Receiver Installation

1. For best operation, the receiver should be at least 1m above the ground and 1m away from a wall or metal surface to minimize reflections.
2. The transmitter should also be at least 1m away from a wall or metal surface to minimize reflections. The transmitter should also be at least 1m away from the receiver.
3. Keep antennas away from noise source such as motors, automobiles, neon light fittings as well as large metal objects.
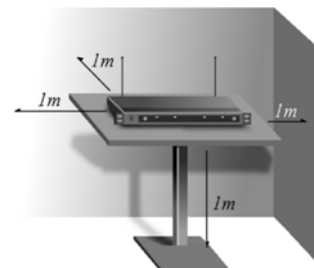
Audio Output Connection

There are two audio outputs on the back of the receiver, Mic-level balanced and Line-level unbalanced. Use audio cable for the connection between the receiver and the amplifier/mixer.

- **Unbalanced Audio Connection**: If the amplifier/mixer has a 6.3mm φ phone jack, connect a cable from the 6.3mm unbalanced audio output from the receiver to the amplifier/mixer.
- **Balanced Audio Connection**: If the amplifier/mixer has an XLR input, connect a cable from the balanced XLR audio output from the receiver to the amplifier/mixer input.

Unbalanced audio connection (6.3φ phone plug)

Aeromix AMX-32.2
Stereo Voice-over-Music Mixer
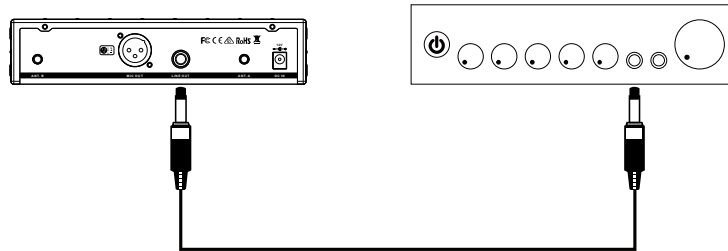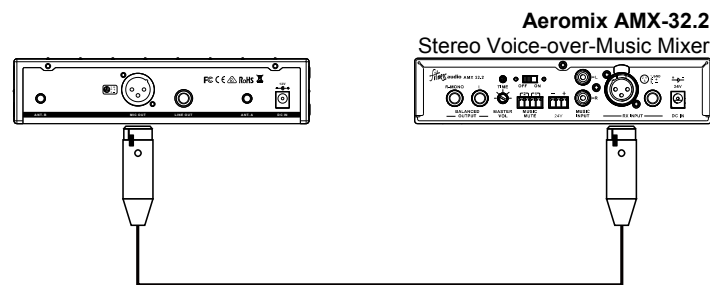
Balanced audio connection (XLR plug)

Rack Mounting (Optional Kit)

The receiver can be cabinet-mounted by either one or two units as optional extras. If only one receiver is to be mounted, an RMK-33 kit is available. It's installed as shown in Fig 1. If two receivers are to be mounted, they can be assembled by an RMK-22 kit and installed as shown in Fig 2.
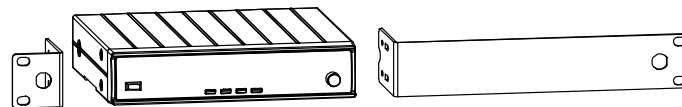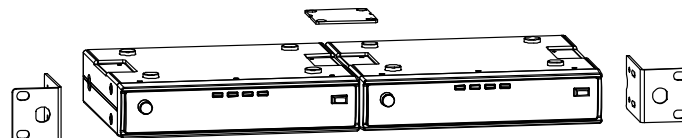
Fig 1. Rack mount of one receiver

Fig 2. Rack mount of two receivers

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Receiver Operation
CHANNEL SCANNING
For an interference-free operation, selecting a cleaner channel by scanning might be necessary.
Before scanning, the transmitter must be switched 'OFF'.

1. Press-release ▲(UP) or ▼(DOWN) button until the LCD displays *SER000* and below frequency icon (FREQ) appears.

2. Press and hold **SET** button until *SER000* flashes to denote readiness for setting.

3. Press-release ▲(UP) or ▼(DOWN) button to find and locate a clear, interference- free channel.

4. After a channel is chosen, press **SET** button to save the setting.
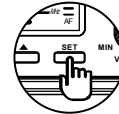
CHANNEL / FREQUENCY Changing Receiver

1. Press-release ▲(UP) or ▼(DOWN) button until the below channel icon (CH) appears.

2. Press and hold **SET** button until the channel number flashes to denote readiness for setting.
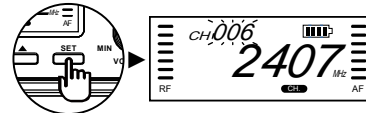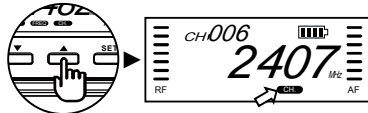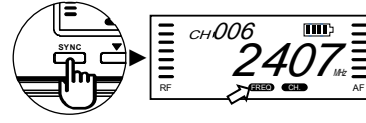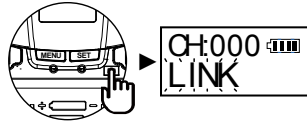

3. Press-release ▲(UP) or ▼(DOWN) button to select a new channel.

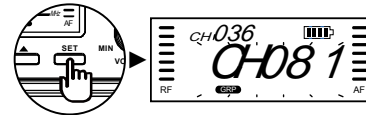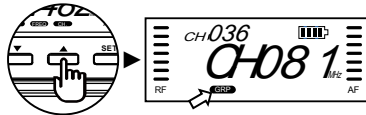4. After a channel is chosen, press **SET** button to save the setting.
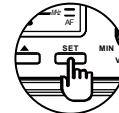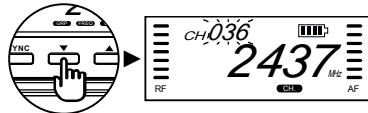
CHANNEL SYNCHRONIZING of the Receiver and Transmitter

1. Press and hold the transmitter's synchronizing button until **LINK** flashes on the LCD.

2. Press and hold the receiver's **SYNC** button until the frequency icon FREQ appears. After successful channel synchronizing, this icon will disappear automatically.

CHANNEL GROUP Setting (for Multiple Systems in Close Proximity)

1. Press-release ▲(UP) or ▼(DOWN) button until the below group icon GRP appears.

2. Press and hold **SET** button until the group number and the icon GRP flash to denote readiness for setting.

3. Press-release ▲(UP) or ▼(DOWN) button to choose a channel group.
   - Group **CH081** includes 81 selectable frequencies from CH1 to CH81.
   - Group **CH189** includes 189 selectable frequencies from CH1 to CH189.

4. After a group is chosen, press **SET** button to save the setting.
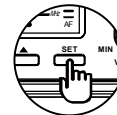
DB-2420 Digital Belt-pack Transmitter

1. LCD
2. Cover release button
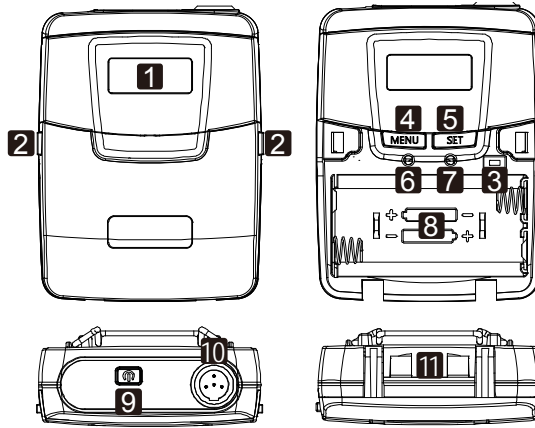3. Channel synchronizing button
4. Menu button
5. Setting button
6. High-impedance gain control (GT)
7. Low-impedance gain control (MT)
8. Battery compartment
9. Power button
10. Audio input connector
11. Charging contacts

Power On

Turn it on by pressing on the POWER button (9) for 2 seconds until the LCD Screen (1) comes on. Turn it off by pressing the POWER button for 2 seconds until the LCD Screen goes off.

Battery installation

This belt-pack requires 2 x AA batteries to operate. To install, open the battery cover using the cover release buttons and insert the batteries into the battery compartment.

> **Note**: Batteries contain a corrosive acid that may leak and damage the belt-pack when stored for a long period. Batteries should be removed from the belt-pack before storing without use for more than 4 weeks.

CHANNEL / FREQUENCY Changing Transmitter

1. Press-release **MENU** button until the CHANNEL-FREQUENCY page appears.

2. Press and hold **SET** button until the channel number flashes to denote readiness for setting.
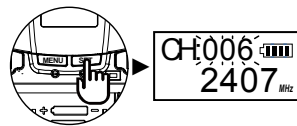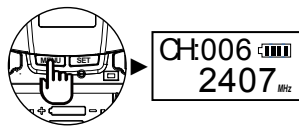
3. Press-release **SET** (UP) or **MENU** (DOWN) button to select a new channel.

4. After a channel is chosen, wait about 3 seconds to store the setting.

Battery Type Setting

Alkaline or Rechargeable can be used with our transmitter. Our optional Battery Charger HC-24 can be used for both types of transmitters.

1. Press-release **MENU** button until the CHANNEL-BATTERY TYPE page appears.
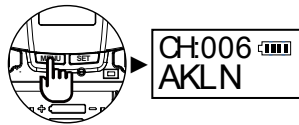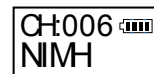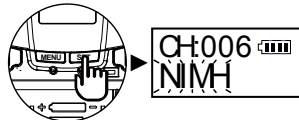

2. Press and hold **SET** button until **NIMH** or **AKLN** flashes to denote readiness for setting.

3. Press-release **SET** or **MENU** button to select either NiMH (rechargeable battery) or AKLN (alkaline battery).

4. After a battery type is chosen, wait about 3 seconds to store the setting.

Important: NiMH battery must be selected when rechargeable battery is being used. Never select AKLN (alkaline) when a transmitter is intended for re charging as alkaline batteries are not rechargeable. Wrong battery selection will result in battery sensing electronics to display wrong and misleading status information. Recharging Alkaline Batteries is dangerous will lead to damage of the transmitter & charger and will void all warranties. Alkaline and Rechargeable batteries cannot be mixed.

GAIN setting (GT│MT) for Controlling Device Sensitivity

Gain control enables the user to set different sensitivity levels (+/-) for the device plugged into the transmitter – This allows more/less adjustment at the mixer level.

GT is for the use of instrument with high impedance, such as guitar.

**MT** is for the use of low impedance such as lapel or headset microphones.
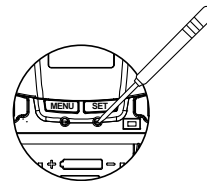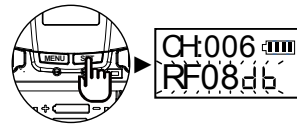

RF Power Setting

Important: Lower output power will reduce the RF transmission distance and higher output power will extend the possible RF transmission distance. However, higher output power places slightly more load on the battery and will reduce operating duration faster than lower output power. Factory Setting is 10db.

1. Press-release **MENU** button until the CHANNEL-RF POWER page appears.
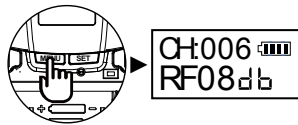
CH:006
RF08db

2. Press and hold **SET** button until the RF power figure flashes to denote readiness for setting.

CH:006
RF08db

3. Press-release **SET** (UP) or **MENU** (DOWN) button to choose an output level from 0db to 20db

CH:006
RF 12db

4. After an output level is chosen, wait about 3 seconds to store the setting.

CH:006
RF 12db
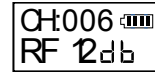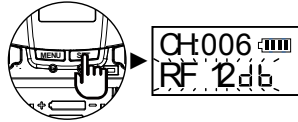
Optional HC-24 battery charger
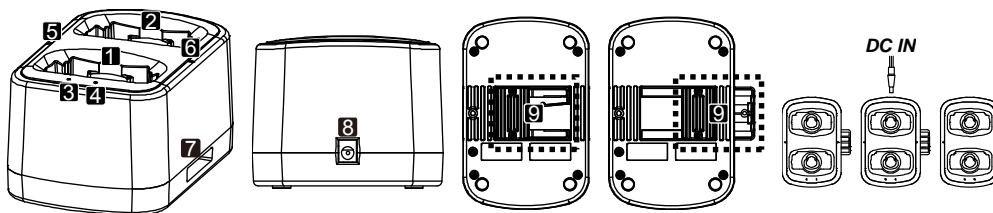
DC IN

1. Charging slot **A**
2. Charging slot **B**
3. Charging indicator **A**
4. Charging indicator **B**
5. Power sharing indicator (LEFT unit)
6. Power sharing indicator (RIGHT unit)
7. Power sharing mortise
8. DC input
9. Power sharing extension

Operation
1. Connect the adaptor to a wall outlet.
2. Insert the transmitter onto the charger.
3. Indicator LED: Solid red during charging. Solid Green when fully charged. Charging process takes about 5 hours. (Using battery 1.2V 2100mAH. Transmitter refers to indicator.)
4. The power sharing allows series connection for simultaneous charging of max 6 transmitters. Both chargers' power status can be read by individual indicator③ or ④ on the master unit, which turns on if connected. Connect up to 3 bases to one power supply.
5. This charger adopts intelligent compensation charging/control circuit for output-short prevention and user-friendly operation.

Note
If the red LED doesn't light up or keeps flashing during the charging process, it indicates the charging contacts error, the battery quality is poor, or has an output short. Please reposition the transmitter or replace the batteries with new ones and ensure the correct connection between the charger and transmitter and then restart the charging process.

Optional DH-2420 Digital Handmic
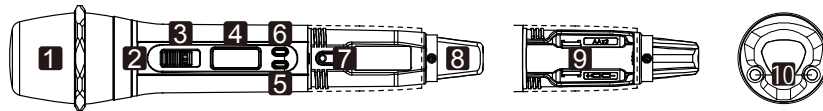
1. Cartridge	4. LCD	8. Color cap
2. Battery power LED	5. Menu button	9. Battery compartment
3. 3-step power switch (**ON-MUTE-OFF**)	6. Setting button	10. Charging contacts
	7. Channel synchronizing button	

3-STEP power switch

Power status	ON	ON	MUTE	MUTE	OFF
Lock status	unlocked	locked	unlocked	locked	can't be locked

To prevent other user from turning off the power, you may slide this switch to the right to lock the microphone on stand-by or mute status. Slide to the left to unlock.

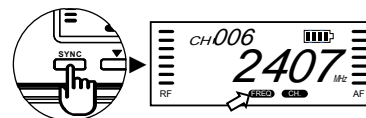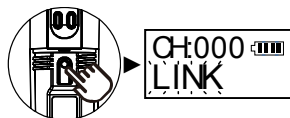### Battery installation & indicator
This microphone requires 2 x AA batteries to operate. To install, remove the battery cover and slide the batteries into the battery compartment & replace the battery cover.

When the microphone is switched ON, a blue LED will blink once to denote the batteries installed are in good condition. **If the LED remains illuminated, it means the batteries are weak and require replacement.**

Note: Batteries contain a corrosive acid that may leak and damage the microphone when stored for a long period. Batteries should be removed from the microphone before storing without use for more than 4 weeks.

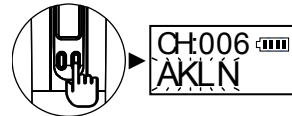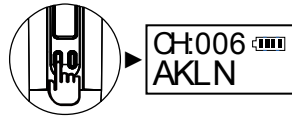### CHANNEL SYNCHRONIZING of the Receiver and Handmic Transmitter
1. Unscrew the microphone's lower housing and then press and hold the synchronizing button until **LINK** flashes on the LCD.

2. Press and press and hold the receiver's **SYNC** button until the frequency icon FREQ appears. After successful channel synchronizing, this icon will disappear automatically.
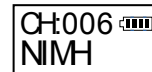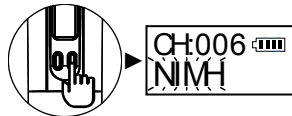

8

Battery Type Setting

Alkaline or Rechargeable can be used with our transmitter. Our optional Battery Charger HC-24 can be used for both types of transmitters.

1. Press-release **MENU** button until the CHANNEL-BATTERY TYPE page appears.

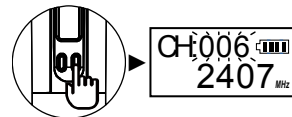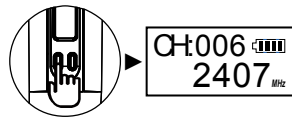2. Press and hold **SET** button until **NIMH** or **AKLN** flashes to denote readiness for setting.

3. Press-release **SET** or **MENU** button to select either NiMH (rechargeable battery) or AKLN (alkaline battery).

4. After a battery type is chosen, wait about 3 seconds to store the setting.

Important: NiMH battery must be selected when rechargeable battery is being used. Never select AKLN (alkaline) when a transmitter is intended for re charging as alkaline batteries are not rechargeable. Wrong battery selection will result in battery sensing electronics to display wrong and misleading status information. Recharging Alkaline Batteries is dangerous will lead to damage of the transmitter & charger and will void all warranties. Alkaline and Rechargeable batteries cannot be mixed.

CHANNEL / FREQUENCY Changing Handmic Transmitter

1. Press-release **MENU** button until the CHANNEL-FREQUENCY page appears.

2. Press and hold **SET** button until the channel number flashes to denote readiness for setting.

3. Press-release **SET** (UP) or **MENU** (DOWN) button to select a new channel.

4. After a channel is chosen, wait about 3 seconds to store the setting.

9
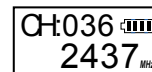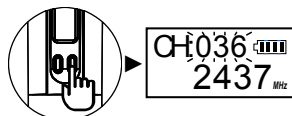
RF power setting

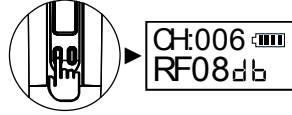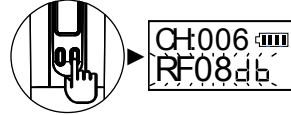**Important**: Lower output power will reduce the RF transmission distance and higher output power will extend the possible RF transmission distance. However, higher output power places slightly more load on the battery and will reduce operating duration faster than lower output power.

1. Press-release **MENU** button until the CHANNEL-RF POWER page appears.
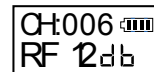
CH:006
RF08db

2. Press and hold **SET** button until the RF power figure flashes to denote readiness for setting.

CH:006
RF08db

3. Press-release **SET** (UP) or **MENU** (DOWN) button to choose an output level from 0db to 20db

CH:006
RF 12db

4. After an output level is chosen, wait about 3 seconds to store the setting.

CH:006
RF 12db
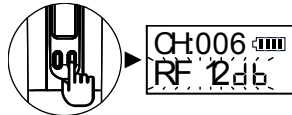
Model	Frequency range	Maximal power
DB-2420	2400~2483.5MHz	6.47dBm
DH-2420	2400~2483.5MHz	9.81dBm

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.

Radiation Exposure Statement

This equipment complies with FCC&IC RSS-102 RF radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 0.5 centimeters 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.
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).

 Déclaration d'exposition à la radiation:

Cet équipement respecte les limites d'exposition aux rayonnements IC RSS-102 définies pour un environnement non contrôlé. Cet équipement doit être installé et mis en marche à une distance minimale de 0.5 cm qui sépare l'élément rayonnant de votre corps.

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The Fitness Audio DWR-2468 Receiver, DB-2420 and DH-2420 Transmitters are covered by a minimum 12 month parts and labor warranty against manufacturer's defects from the date of purchase by the first owner.

FCC & IC:

This device complies with Part 15 of the FCC Rules and Canada licence-exempt RSS-247 standard. Operation is subject to the following conditions:

(1) This device may not cause interference.

(2) This device must accept any interference, including interference that may cause undesired operation of the device. This device complies with FCC RF radiation exposure limits set forth for an uncontrolled environment.

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'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Fitness Audio

in Europe - Fitness Audio Europe ApS - www.fitnessaudio.net

in the Americas - Fitness Audio, LLC of Santa Cruz, Ca. www.fitaud.com

and the rest of the world - Fitness Audio Distributors, Sydney, Australia

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CE declaration info: www.chiayo.com.tw/declaration.html

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