



DEVINE

**WMD 168 (614 – 638 MHz)
Dual wireless microphone system**



User manual

Any information and illustrations shown in this user manual are subject to change without further notice.

User manual version: 3.0 Creation date + author initials: 27-03-2014 RV Revision date + author initials: 08-09-2015 RV

Safety instructions



WARNING!



Always keep this device away from moisture and rain! Hazardous electrical shocks may occur!



WARNING!



Only connect this device to a matching power outlet. This device is intended to work on a specified AC currency. Connecting this device to power outlets with other voltages may result in permanent damage and possible hazardous situations, such as fire or electrical shocks!



WARNING!



Be careful with every operation of this device. Touching live wires inside and outside the unit may cause hazardous electrical shocks!

This unit must be operated by, or under the supervision of an adult. This device is not suitable for children.

Every person involved with the installation, operation and maintenance of this device has to:

- Be qualified
- Follow the instructions of this manual
- Make sure there is no damage caused by transport. If the device seems damaged from the outside, do not use it and contact your dealer for more information.
- To make sure the device remains in perfect condition and for safe operation, the user must follow the instructions and warning notes of this user manual.
- Damage caused by improper use or modifications to the device are not covered by the warranty.
- This device does not have any user-serviceable parts inside. This device must be serviced by qualified technicians.
- The light source of this device is not replaceable. When the light source reaches its end of life, the whole luminaire must be replaced.

Important notes regarding safety and health:

- Never let the power cord come in contact with other cables. Handle the power cord and all mains connectors with caution.
- Never remove any warning or informative labels from the unit.
- The ground contact must be connected at all times. Do not cover or remove the ground contact.
- Never leave cables lying around.
- Do not open the device and do not modify any hardware or software.
- Do not insert objects into air vents of this device.
- Do not connect this device to a dimmer pack.
- Do not switch the system on and off frequently, as this will reduce the lifespan of the device.
- Do not drive the inputs of the fixture with a signal greater than required to work at full performance.

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- Only use this device indoors, avoid contact with water, moisture and other liquids. Do not place items filled with liquids on top of the unit.
- Avoid nearby flames or heat sources, do not place this device near flammable liquids, gas or flammable items.
- Always disconnect the device when it is not in use for a longer period or time, when servicing is needed, or when the device needs cleaning.
- Only handle the power cord by its connectors. Never pull the cable to remove a connector from its socket, as this could lead to damage and electric shocks.
- Always operate this device with a stable AC current.
- Always operate this device with the AC ground wire connected to the electrical system's ground.
- Never use other types of cables than specified in the manual, do not use defective or malfunctioning cables. Contact your dealer if the included or required cables do not work properly with this device.
- If the device has been exposed to considerable temperature changes (for example, transport from outdoors to indoors), do not connect the device immediately. Do not activate the unit until it has reached room temperature, as moisture might build up inside the unit, which may cause short-circuiting and/or electric shocks.

Guidelines and types of use:

- This device is intended to be used by professionals on stage, in theatres, clubs and similar venues.
- This device is not suitable for use by children and must always be operated by an adult.
- Only use the device when the environment is suitable and will not cause any damage. Do not use the product in moist or dusty environments, or where long-term damage may occur such as:
 - indoor swimming pools where chlorine is used.
 - Beaches, where sand and salt are present.
 - Outdoors.
 - Indoor areas where intense heat sources are present or where the temperature exceeds levels that are comfortable for humans.
- Use only the included power cable and only connect the device to a suitable power outlet with the correct output voltage. Connecting the device to a power outlet with the wrong type of voltage or using the product with a wrong type of power supply may cause permanent damage to the device.
- Avoid shocks and collision during use and transport. Do not transport the device while in use. Avoid brute force during the installation and operation of this device.
- Familiarise yourself with the functions of the device before use. Do not allow operation of the device by unskilled or unqualified people.
- Use of the device in other ways than described in this user manual may cause damage and injury. Ayra cannot be held responsible for any damage or injury caused by improper use.

Storage and transport:

- This device is intended for mobile use as well as fixed installations. During transport, use the original packaging of the product or install the device in a 19 inch flight case.
- This device is not intended for continuous use. Operation breaks will ensure that the lifespan of the device is not reduced.
- If the device is not used for a longer period of time, disconnect it from its power source and store it in its original packaging, or in a fitting flightcase.
- Store the device dry and indoors, and do not expose the device to extreme temperature changes.

Housing:

- Inspect the housing of the device frequently. Severe dents, cracks and missing screws should be prevented at all costs. Do not use the device when the housing is not in optimal condition. Contact your dealer or a skilled technician when in doubt about the state of the device.
- Check the fixture and screws for corrosion. Corrosion should not be present on the fixture. Contact your dealer or a skilled technician when corrosion is found on the fixture.
- Every power or signal chassis/connector should be mounted tightly. Do not use the device when connectors are loose.
- Do not use the power cord if the cores are visible. Contact your dealer for a replacement if needed.
- Prevent the build-up of dust and dirt. Clean the exterior of the fixture every month with a dry or damp cloth. If the device is intensively used, the cleaning frequency must be increased. Disconnect the fixture when it is going to be serviced.

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Fuses:

- The main fuse of this device can be found on the rear of the device, next to the power inlet.
- Only replace the fuse for a new one of the same type and rating! Do not use a fuse with a higher or lower rating.
- Do not bridge the fuse in any way, as the fuse is used for protection against electric shocks and short-circuiting. The fuse is a safety measure to protect your audience from hazardous electric shocks.
- Always replace the fuse cover over the fuse compartment. Do not use tape or other fastening materials to close the cover. If the fuse holder is broken, contact your local dealer and do not use the fixture.




Batteries:**CAUTION:**

- Danger of explosion if batteries are incorrectly replaced.
- Replace only with the same or equivalent type of batteries.
- Keep new and used batteries away from children.
- If the battery compartment does not close securely, stop using the product and keep it away from children.
- Do not expose batteries to excessive heat such as sunshine, fire and the like.
- Do not leave batteries in an extremely high-temperature environment, as this may cause explosions or leakage of flammable liquids or gas.
- Do not burn batteries, do not place batteries in a hot oven, and do not crush or cut batteries, as this may cause explosions.
- Do not expose batteries to extremely low air pressure (high altitudes), as this may cause explosions or leakage of flammable liquids or gas.
- If the equipment is not used for an extended period of time (e.g. a few months), batteries should be removed.
- Instantly remove empty batteries from the equipment.
- Replace all batteries at the same time. Mixing old and new batteries or mixing different types (such as alkaline and zinc carbon) will reduce overall performance and may cause leakage or rupture.
- Do not store loose batteries or carry them in your pocket or purse. Contact with metal objects like coins and keys, etc. may cause them to leak, rupture or short-circuit.

Recycling:

Do not dispose of batteries in general household waste. Batteries can contain substances that may harm the environment. If they are properly recycled, used batteries are a valuable source of reusable materials. Contact your local government for information on battery disposal.

Symbol clarification:

	<p>WEEE: Dispose of this product properly. This product is part of the WEEE directive – the Waste Electrical and Electronic Equipment directive. The requirements stated in this directive apply to all manufacturers and producers of electronic equipment in the EU.</p> <p>Do not dispose of this product together with regular household rubbish. Contact your local government for more information about proper disposal and recycling of electronic products in your region. By recycling this product properly after use, we can work together to enjoy these products and also protect our environment from being polluted.</p>
	<p>CE: The CE mark indicates that the product complies with applicable European directives and regulations.</p>
	<p>Indoor use only: This device is designed to only be used indoors. The maximum ambient temperature should not exceed 40 degrees Celsius (104 degrees Fahrenheit)</p>

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Contact:

Devine pro audio and studio products
Verrijn Stuartweg 18
4462 GE Goes
The Netherlands

Please do not send any products directly to this address. If you wish to return a product for a refund or repair, please contact your local dealer for an RMA (Return Material Authorisation)



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Box contents

Box contents:

2x wireless microphone
1x 19 inch rack mountable receiver
2x BNC type antenna for receiver
1x power cable to Schuko
1x power cable to UK plug
1x user manual
1x mono 6.35mm TS jack audio cable (mixed out)
2x set of 2 AA batteries (two batteries for each microphone)

Unit and accessory inspection

- Always use the supplied power cable to connect the unit to a power supply. If the cable appears broken or has visible damage, do not use it.
- When the unit is not going to be used for a longer period of time, disconnect it from the power supply and store it in a dust-free environment.
- Always check the unit for possible damage before use. If you suspect that something is wrong with the unit, do not connect it to a power source! When you suspect that your unit is broken or damaged, contact your local dealer or a certified technician to inspect the unit.



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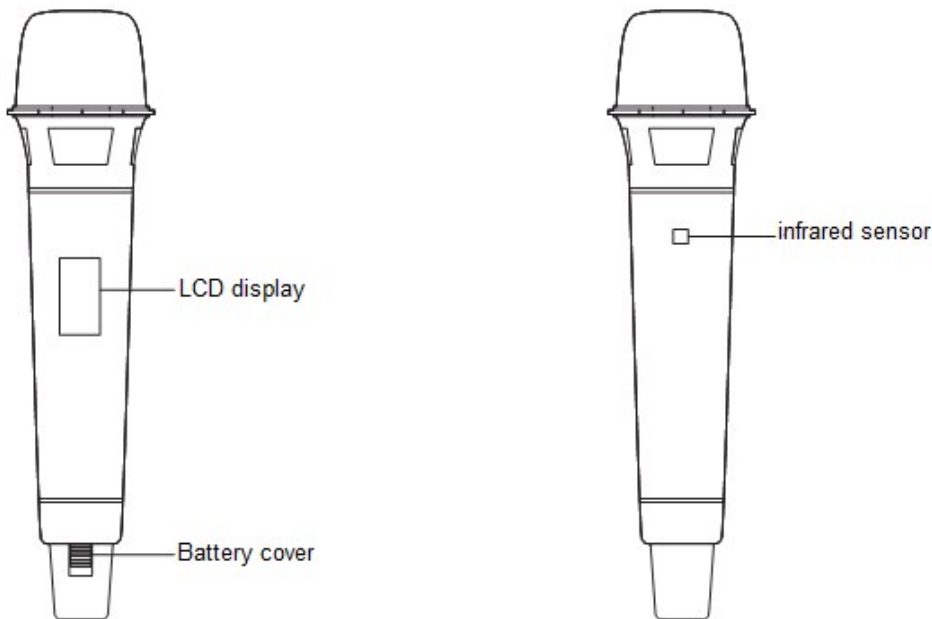
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Preparing the system

Inserting batteries

This system uses AA 1.5V batteries for the handheld microphones. Each handheld microphone uses 2 AA batteries. Always use quality batteries, as the lifespan may vary. This may result in an operation lifespan, varying from 8 to 20 hours. The included batteries are solely supplied for testing purposes. Devine recommends to replace these with batteries from brands as Duracell when using the microphones for performance. Please dispose of the testing batteries properly if you are not going to use them or if you are not using them anymore.

To access the battery compartment, grab the microphone with two hands – one hand on the black grill, one hand on the grey base. Twist the grill section counter clockwise and the base clockwise. You will notice that the body cover will come loose. When loosened, pull the grill section so the inner body will detach from the grey base. After you have removed the body cover, you have access to the LCD display and the battery compartment.



Insert the batteries with the right sides up. The indicators inside the battery compartment show how the batteries should be inserted (+ and – should match). Pay attention to the placement of the batteries, as the microphone will fail to operate when the batteries are inserted incorrectly.

There is an on/off switch at the bottom of the microphone. When you turn the switch to the 'ON' position, the LCD screen of the microphone will turn on, as illustrated below.



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Setting up the receiver

Install the receiver on a solid surface, or in a 19 inch flightcase or rack. When rack mounting is preferred, the receiver unit needs to be installed using proper rackware, on all 4 front panel installing points.

Use the two included antennas and screw them onto the device at the provided BNC connector points. These will only attach to the BNC connectors in one way. When installed, the antenna connector needs to be turned to lock into place and establish a decent connection.

Aim the antennas in a V-shape, to create the best signal receiving environment for the antennas. The best set-up of the antennas would be in a 60 to 90 degree angle, compared to each other.

Plug the power supply cable into the provided connector-chassis at the rear of the unit. Check the power supply you wish to plug the unit into, to make sure the outlet has a proper voltage. Do not turn the power on or connect any cable if you suspect that the voltage is incorrect, or if the cable shows defects.

Please note that the switch on the front panel needs to be pressed to turn on the unit. When switched off, the unit will be in stand-by mode (and power could still flow through the unit). Please beware that the device needs to be disconnected from the mains when not used for a longer period of time. If the unit is installed into a 19 inch rack, ensure that the mains connection of the entire rack can be shut down instantly if necessary. If you wish to shut down just the WMD 168 system, install a proper power management device with bipolar contacts which can shut down the power supply to your WMD 168 system.

Connecting the receiver to your PA or sound system

The receiver unit is equipped with several outputs, for several purposes. To connect the WMD 168 microphone system to a professional PA system, use the balanced XLR outputs. There are two outputs, each for one microphone channel. This way, you are able to control the sound and volume of each microphone separately. The volume for both microphones can be set to a fixed level if you are going to control the volume on your PA mixer.

A mixed output is also available, through a 6.35 mm TS mono jack plug connector. A cable to connect the device to a sound system is included. Most HiFi setups and speakers with microphone input work with this kind of connector. The jack plug output contains a mixed output signal of both channels. On the front panel of the receiver, the volume can be set for each microphone for your convenience.

Devine recommends to use the XLR outputs as much as possible, as this provides a better signal transportation with a minimum chance of errors and signal distortion. An unbalanced 6.35mm jack cable is included.



Synchronizing the microphones, selecting the right frequencies

The microphones are usually set to a specific frequency, as well as the receiver. To make both work, they need to be set to the same frequency.

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On the receiver, you are able to set a specific channel and matching frequency for each channel. Use the UP and DOWN buttons to select the frequency and channel of your choice.

When the desired channel and matching frequency are selected, you are able to send these settings to the wireless microphone through an IR signal. The microphone is equipped with an IR sensor. Please note that you use the right microphone to match the frequency with. The blue microphone will not match with the red channel on the receiver.

To sync the channel and frequency on the receiver display, press the 'SET' button. While doing this, the IR function will activate and the display will change. During this time, hold the microphone in front of the receiver unit with the IR sensor facing the IR sending unit on the receiver.



If the synchronisation is successful, the display of the microphone will light up and show the new set channel and frequency.

RF distance adjustment

Sometimes, other electronic devices might interrupt your performance as you are performing on stage. When these disturbing devices are relatively far away, you can decrease the distance setting to avoid interference at the receiver.

Use the H and L buttons on the microphone (when the cover is removed) to adjust the distance (by decreasing the signal power). H stands for far distance, L stands for short distance. You will see on the main display that the RF signal indicator changes.

Volume adjustment

On the front of the receiver, two volume rotary knobs are available. These are used to change the microphone output volume. If for any reason the sound is distorted, try to change the microphone technique of the vocalist.

Microphone display information



As shown in the illustration above, the information of both microphones is bundled on 1 display. Each microphone shows information on the display, regarding the Frequency and the Channel. Also, the RF status and the AF signals are mentioned, as well as the microphone connection status.

When the microphone has a stable connection (but no sound), it will look like the left side of the image above. The RF signal is very strong, the RF coupling says 'A' (and mentions the A channel).

If for any reason there is no stable signal or no signal at all, the display will probably look like shown on the right side of the image above. As you can see there is no RF signal and the RF coupling is inactive.

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On the microphone itself, you will find the set channel and frequency, as well as a battery indicator. So before every show, you are able to check if all microphones have sufficient battery power to last the entire event.



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Technical specifications

Technical specifications microphone:

- Frequency: 614 ~ 638 MHz
- channels: 120 (2 channels, choose from 60 frequencies per microphone)
- oscillation-mode: PLL
- frequency stability: +/- 10 ppm
- modulation mode: FM
- radio frequency power: 10 ~ 30 mW (variable)
- audio frequency response: 40 ~ 18.000 Hz
- distortion: < 0.5%
- batteries: 2x AA, 1.5V
- using time: 8 ~ 20 hours (depends on battery quality)

Technical specifications receiver:

- frequency: 614 ~ 638 MHz
- channels: 120 (2 channels, choose from 60 frequencies per microphone)
- oscillation-mode: PLL
- frequency stability: +/- 10 ppm
- superheterodyne double-supersystem receiving
- sensitivity: -95 ~ -71 dBm
- audio frequency response: 40 ~ 18.000 Hz
- distortion: < 0.5%
- signal to noise ratio (S/N ratio): >110dB
- audio output: 800mV (1x 6.35mm mixed output jack, 2x separate balanced XLR)
- working power: 230V, 50 Hz
- power consumption:
- power connection: IEC C14
- power supply: AC 230V, 50 Hz
- 19 inch rack mountable, 1U

Dimensions:

- Receiver: 483 (with rack ears) x 210 (without antennas connected) x 50 mm (with rubber feet)
- Microphone: 263 x 51 x 51 mm

Included in delivery:

- 2x wireless microphone
- 1x 19 inch rack mountable receiver
- 2x BNC type antenna for receiver
- 1x IEC C13 power cable to Schuko
- 1x IEC C13 power cable to UK
- 1x user manual
- 1x mono 6.35mm TS jack audio cable (mixed out)
- 2x set of 2 AA batteries (two batteries for each microphone)

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