



The way talent monitored audio yesterday

An earpiece is handed to the talent. She puts it in her ear and hears a noisy hiss. The Sound Technician assures her that it means it's working. Once in her ear, she has no way to change the volume herself. All of a sudden, she starts hearing interference, but the frequency cannot be changed on the fly. Then, the battery that was purchased at a convenience store dies much earlier than expected. The Technician rushes to bring in a new spare battery, and the entire production waits for the changeover...

And the way talent monitors audio today

A Microsone is handed to the talent. She puts in her ear and hears her Director speaking to her in crystal clear quality, with no hiss. She uses the Control Pack to adjust the volume to her liking. There is no interference since the Sound Technician programmed clean frequencies. The internal lithium battery of the Microsone is full and reliable. Should anything unexpected happen, she has a second freshly charged Microsone ready to go...



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Welcome

Congratulations on choosing the Microsone Discreet Audio Monitoring System from Halter Technical!

Microsone D.A.M.S. is a revolution in incognito listening for on-screen and on-stage talent.

Your system features the smallest rechargeable bluetooth earpiece in the world, coupled with the most versatile and powerful beltpack transceiver ever built. Microsone Discreet Audio Monitoring System was built from on-set experience by Halter Technical, the leaders in headphones designed for tv, film, and video professionals.

#forinnovators

#neversettleforstandard



What's Included

- 2 Microsones
- 1 Control Pack
- 1 Charging Case
- 1 Wall Charger
- 1 USB Cable
- 1 Manual QR Code

NOTE: The first time you are using your Microsone system, be sure to remove the plastic covering the charging contacts on the Microsones. Place the Microsones back into the Charging Case to activate them.



Get to know your Microsone Discreet Audio Monitoring System

Microsone

At the heart of the Discreet Audio Monitoring System is the Microsone, the world's smallest rechargeable bluetooth earbud, designed to fit comfortably in ears of all sizes. When hidden in the wearer's ear canal, even those closest won't know it's there.

The Microsone is built durable and solid, with no buttons, dials, or spinning doors. Its built-in rechargeable lithium battery means no fussing around with disposable hearing aid batteries.

Control Pack

If the Microsone is the heart of the Discreet Audio Monitoring System, then the Control Pack must be the brains. By creating a brand new class of transceiver belt-pack, an entire world of flexibility and features opens up to users.

Thanks to the simple-to-use volume knob, the user doesn't need a Sound Technician to raise or lower their Microsone's volume. And as the sound around them changes, a little twist of the knob keeps the wearer in control.

The Control Pack is capable of receiving audio from any analog VHF or UHF transmitter, meaning you can use your existing equipment. And since the Control Pack is frequency agile, you won't need a computer or expensive equipment to reprogram it in the field.

The Control Pack can be worn directly on the talent, or just placed conveniently nearby them. With no external antennas or wires necessary, it's simple to hide. And since it drops right into your current system, it works for you rather than you working for it. That's what power is all about.

Charging Case

Using the Charging Case, you'll always know that you have a full battery, and a second Microsone charged up and ready for action. Its OLED display indicates the battery life of the case itself by a two-digit number, and charging indicators show the battery status of each Microsone. To recharge the Charging Case, plug it in via the USB cable to a power source. When the Charging Case is plugged in to power, the OLED display will remain lit. When the Charging Case is not plugged in, the display will time out to conserve battery.

Microsones & Charging Case

Charging Case Display

Your Microsone Charging Case is equipped with an OLED display. The number in the center represents the percentage of battery life of the Charging Case itself. The charging indicators on either side of this battery percentage number represent the charging status of each Microsone.



Powering On & Off

To power your Microsone on, remove it from the Charging Case. A chime will sound to inform you that the Microsone is powered on.

To power your Microsone off, simply place it back into the Charging Case.

Pairing Microsone with Control Pack

Upon powering on, Microsone will search for its most recent pairing. If it is within Bluetooth range of its most recent pairing, it will connect and begin receiving audio. If it does not immediately connect to its most recent pairing, Microsone will automatically enter pairing mode and be ready to pair with Control Pack.

Use the Control Pack menu to navigate to Bluetooth Pairing. Your Microsone and Control Pack will be paired.

Remember that Microsones are individual units and not a matched pair. They will each need to be paired individually with the Control Pack. Once each Microsone has been paired with Control Pack, they will remember their pairing until manually unpaired or paired with another device.

Pairing Microsone with another device

To pair Microsone with another Bluetooth transmitter, such as a phone, remove the Microsone from the Charging Case and wait for it to enter pairing mode. Follow the pairing process for your device to select Microsone as the Bluetooth receiver. If using your phone, Microsone will appear in the available Bluetooth devices. Select to pair.

Paired devices

When the Control Pack is paired and transmitting to one Bluetooth devices, the display will read B1. When the Control Pack is paired and transmitting to two Bluetooth devices simultaneously, the display will read B2. If the Control Pack is not currently connected to any paired devices, or if it is not paired to any devices, the display will read B0.



How to insert Microsone into the ear

After choosing which ear you want to wear the Microsone, take it between thumb and forefinger so that indent in Microsone is facing out from your ear and downward.

Carefully guide the earpiece into your ear canal. Ensure that the earpiece sits as far as possible inside the ear canal, as well as in the best and most comfortable position. Twist the Microsone gently into place to ensure the best fit, with the indent of Microsone now pointing upwards.

To safely remove the Microsone, use your thumb to push from behind your ear outward to pop Microsone from the ear canal.

How to clean Microsone

Have the user clear their ear of wax and other build up before each use.

Always ensure that the Microsone Earpiece is clean before using it. The speaker section should be clear of any previous earwax or build-up for best results.

Use a sanitized alcohol wipe to thoroughly clean around Microsone's entire surface. Do not use any tools or strong detergents which may damage the finish of the Microsone.

Battery end of life

The user will be warned with a beep sequence that the battery is near empty. Be prepared to switch to your second, fully charged Microsone.

Out of Range

When Microsone is out of range or disconnected from Control Pack, the user will hear two low beeps indicated a loss of connection. The Microsone will reconnect automatically when it is back in range of the Control Pack.

Control Pack

Get to know Control Pack

Control Pack is equipped with a top-seated 3.5mm connector and volume knob. This connector may be used as a line-level input, or as a headphone output.

When using as an input, the volume knob is disabled and the Control Pack will transmit to the connected Microsones at full volume.

When connected to a headphone, the Control Pack may be used as a wired IFB receiver. It may also be used for general troubleshooting to ensure quality audio is being received at the Control Pack before being transmitted to the Microsone.

On the face of Control Pack, you'll find the OLED Display, with four buttons labeled MENU, UP, DOWN, and SELECT.

On the right side is the USB Type-C port, as well as the battery door.

On the bottom of Control Pack is the battery door open button.



Control Pack power options

Control Pack can be powered by either AA batteries, or by 5V power through the USB port.

Battery door

To open the battery door, press the recessed button on the bottom of Control Pack. The battery door opens to the right side. Be sure to load batteries into Control Pack with each polarity facing in the correct direction. There are + and - indicators on the back of Control Pack to identify how to correctly insert batteries.



USB port

The USB Type-C port on the right side of Control Pack has three functions.

1. Connecting to a PC to load firmware updates (may require dealer assistance)
2. Providing 5V power to Control Pack
3. Charging rechargeable Ni-MH AA batteries.

Though Control Pack does contain charging protections, DO NOT attempt to charge any other type of battery other than rechargeable Ni-MH AA batteries.

Powering on and off

To power on Control Pack, rotate the volume knob clockwise to the on position. To power off, rotate the volume knob counter-clockwise until Control Pack clicks into the off position

Transmitting audio to Control Pack

Control Pack is compatible with any analog FM audio transmitter in its frequency range, though many models of transmitters have different companders and compatibility settings to select for optimal audio transmission. There are no compatibility settings on Control Pack to configure, as all compatibility settings should be configured at the transmitter. Try selecting different compatibility modes on your transmitter to determine your ideal fidelity and transmission distance.

Receiving audio with Control Pack

To make full use of Control Pack's dynamic volume range, gain your source (whether using a wireless signal or the 3.5mm audio input) to peak at 0dBu. The AF meter will only indicate the strength of wireless audio being received, and the bar will indicate full strength when proper volume is being received.

Note that the AF meter does not indicate the level of audio into the 3.5 audio input.

Adjusting volume level

The volume knob will control the volume for each Microsone paired with the Control Pack, as well as any headphone connected to the 3.5mm jack.

Note that the volume knob will be disabled when the 3.5mm jack is used as an audio input. In this instance, the Control Pack will transmit audio to any connected Microsones at full volume.

Control Pack Menus

Pressing the MENU button opens the main menu. Pressing MENU again will exit out to the home screen. Use the UP and DOWN keys to scroll through the menu. Press SELECT to choose a menu option.



1. BT PWR ON

Activates the Bluetooth transmitter. The Bluetooth transmitter is necessary to send audio to the Microsones.

2. BT PWR OFF

Deactivates the Bluetooth transmitter. If using a wired headphone or headset, deactivating the Bluetooth transmitter may save battery life.

3. BT PAIR

Selecting BT PAIR will place Control Pack into Pairing Mode. Once selected, Control Pack will search for nearby Bluetooth receivers that are also in Pairing Mode.

4. Load Def Freq

Resets all saved frequencies in User Banks and Channels to the default list.



5. Pilot

Activates or deactivates Pilot Tone for use with compatible transmitters.



6. Key Lock

When Key Lock is set to the Lock position, user buttons will be deactivated following the 60-second display timeout. Use Key Lock when talent should not be configuring or changing settings. With Key Lock enabled after the 60-second display timeout, simply press and hold MENU to deactivate Key Lock until the next display timeout.



Frequency Tuning

Control Pack has 4 banks of programmable frequencies. Banks 1 and 2 are for frequencies 174-217MHz, while banks 3 and 4 are for frequencies 470-608MHz.



Select Frequency Bank and Channel

To switch between frequency banks, press the SELECT button. The bank number will begin to flash. Scroll through the banks by pressing UP or DOWN. Press SELECT again to begin changing the channel number within that bank. Scroll through channels by pressing UP or DOWN. Press SELECT again to lock in that particular bank and channel.

Programming Frequency Channels

After selecting the bank and channel to be edited, press UP and DOWN simultaneously to enter frequency programming mode. A digit in the frequency will begin flashing to indicate editing status. Press UP or DOWN to scroll through the digits. Pressing SELECT will move the indicator to the next digit to edit. Use this method to choose your intended frequency. Press SELECT after the last digit to lock in the frequency. This frequency is now automatically stored as that particular channel number on your selected bank.

Troubleshooting

Microsone doesn't power on

The battery is empty

The battery has a charge

Solutions

Replace Microsone in the Charging Case to charge the battery

Replace the Microsone in the Charging Case. Leave it in until the Charging Case indicates that it is charging. Remove Microsone again.

I lose the audio signal

Microsone drops signal from Control Pack

Control Pack is dropping signal from RF transmitter

Solutions

Move Control Pack closer to Microsone

Ensure you are transmitting on a clear frequency and using best RF practices

The volume is too low

Microsone output is obstructed with wax

AF Audio levels are low

Solutions

Clean the Microsone with an alcohol wipe to remove build up from the speaker

Raise the gain on your transmitter or audio source

RF level is fine but no audio passes

You are using a transmitter that does not transmit pilot tone

Solutions

Turn off pilot tone on Control Pack

Microsone beeped and suddenly stopped working

The battery is empty

Solutions

Charge the battery in the Charging Case, and use your second Microsone in the meantime

Specifications

Microsone

Bluetooth Chipset	Bluetooth 5.2
Bluetooth Codec	AptX
Battery Power	Internal rechargeable Lithium-Ion
Battery Charging	Wireless contact charging
Frequency Response	100Hz - 9kHz
Size	0.70" (18mm)

Control Pack

Operating Frequencies	174.000MHz - 217.000MHz and 470.000MHz - 608.000MHz
Frequency Steps	0.025MHz
Compatible Transmitters	Analog FM
User Programming	4 User Banks of 8 Channels Each
USB Protocol	USB-C for battery charging, plug-in power, and firmware updates
Battery Power	2 AA batteries (rechargeable through USB port)
Audio Output	Bluetooth & 3.5mm headphone
Volume Knob	Controls Microsones and headphone output
Antennas	Internal
Display	Color OLED
Meters	Radio Frequency, Audio Frequency, Battery
Display Timeout	60 Seconds
Size	3.34" x 2.67" x 0.86" (85mm x 68mm x 22mm)

Charging Case

USB Protocol	USB-C for internal battery charging
Display	OLED indicates internal battery and charging
Size	1.22" x 2.79" x 1.45" (31mm x 71mm x 37mm)
Patent Pending	#17/581,750

Important information

Please read the information on the following pages before using your device.
It is important for the user to pay attention to all relevant warning notices in this user guide.

Hazard warnings

- Keep this device out of reach of children aged under 3 years.
- Opening the device might damage it. If problems occur that cannot be resolved by following the guidelines in the Troubleshooting section of the User Guide, consult your local Halter Technical representative.
- Your device should only be repaired by an authorized service center. Changes or modifications to this device that are not explicitly approved by Halter Technical are not permitted.
- Please dispose of electrical components in accordance with your local regulations.
- Do not use your device in areas where electronic equipment is prohibited. If in doubt, please ask the person in charge.
- Device should not be used on aircrafts unless specifically permitted by flight personnel.
- Only use accessories that are approved by Halter Technical. Using your device's cables in any way contradictory to their intended purpose (e.g., wearing the USB cable around the neck) can cause injury.
- Caution: electric shock. Do not insert plug alone into electrical outlets.
- CA Prop 65: This product may expose you to chemicals which are known to the State of California to cause cancer/birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov

Product safety information

- Protect the device from excessive shock and vibration. Protect the device from excessive moisture (bathing, swimming).
- Do not expose your device to temperatures and humidity outside of the recommended conditions stated in this User Guide.
- Never use a microwave or other heating devices to dry the device.
- Clean the device using a damp cloth. Never use household cleaning products (washing powder, soap, etc.) or alcohol to clean the device.
- Only supply your device using adapters supplied by Halter Technical.
- When the device is not in use, turn it OFF and store it safely.
- X-ray radiation, CT or MRI scans may destroy or adversely affect the correct functioning of the device. Do not use excessive force when connecting your device to its different cables. Protect all openings (audio input and charge) from dirt and debris
- If the device has been dropped or damaged, if it overheats, has a damaged cord or plug, or has been dropped into liquid, stop using your device and contact your authorized service centre.

Other important information

- Device collects and stores internal technical data. This data may be read by an authorized service center in order to check the device, as well as to help you use your device correctly.
- The digital signal sent from the device to a connected receiver cannot be overheard by other devices which are not in the transmitter's network.

Declaration of Conformity

In body worn operation, the devices have been found in compliance with the requirements of EN 62209-2, FCC rule paragraph 2.1093, the ANSI/IEEE C95.1:1999, the NCRP Report Number 86 for uncontrolled environment, according to the Health Canada's Safety Code 6 and the Industry Canada Radio Standards Specification RSS-102 for General Population/Uncontrolled exposure. Hereby, Halter Technical, declares that these products are in compliance with the essential requirements and other relevant provisions of Directive (2014/53/EU).

To obtain a copy of the Declaration of Conformity, please contact the manufacturer or the local Halter Technical representative.

This device complies with Part 15 of the FCC Rules and with (RSS-247 and RSS-210) of Industry Canada. 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. The device 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. The device 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 the device does cause harmful interference to radio or television reception, which can be determined by turning the device 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 device and receiver.
- Connect the device into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the device. To comply with FCC RF exposure limits for general population/uncontrolled exposure, the antenna(s) used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be collocated or operating in conjunction with any other antenna or transmitter. This Class B digital apparatus complies with Canadian ICES-003. To comply with Industry Canada RF exposure limits for general population / uncontrolled exposure, the antenna(s) used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be collocated or operating in conjunction with any other antenna or transmitter.

Service and Warranty

If your Microsone Discreet Audio Monitoring System malfunctions, you should attempt to correct or isolate the trouble before concluding that the equipment needs repair. Make sure you have followed all troubleshooting procedures and operating instructions. Check your connecting RF equipment as well.

We strongly recommend that you do not try to repair the equipment yourself and do not have the local repair shop attempt anything other than the simplest repair. If the repair is more complicated than a broken wire or loose connection, send the unit to the factory for repair and service. Don't attempt to adjust any controls inside the units. Once set at the factory, the various controls and trimmers do not drift with age or vibration and never require readjustment.

There are no adjustments inside that will make a malfunctioning unit start working.

The Halter Technical Service Department is equipped and staffed to quickly repair your equipment. In warranty repairs are made at no charge in accordance with the terms of the warranty. Out-of-warranty repairs are charged at a modest flat rate plus parts and shipping. Since it takes almost as much time and effort to determine what is wrong as it does to make the repair, there is a charge for an exact quotation. We will be happy to quote approximate charges by phone for out-of-warranty repairs.

Returning Units for Repair

For timely service, please follow the steps below:

- DO NOT return equipment to the factory for repair without first contacting us by e-mail at info@haltertechnical.com or by phone. Please provide the nature of the problem, the model number, serial number of the equipment, and contact information.
- After receiving your request, we will issue you a return authorization number (R.A.). This number will help speed your repair through our receiving and repair departments. The return authorization number must be clearly shown on the outside of the shipping container.
- Pack the equipment carefully and ship to us, shipping costs prepaid. If necessary, we can provide you with the proper packing materials. UPS or FEDEX is usually the best way to ship the units. Heavy units should be "double-boxed" for safe transport.
- We also strongly recommend that you insure the equipment, since we cannot be responsible for loss of or damage to equipment that you ship. Of course, we insure the equipment when we ship it back to you.

Local warranty

Please ask the local Halter Technical representative where you purchased your device about the terms of the local warranty.

International warranty

Halter Technical offers a 1(one) year limited international warranty, valid as of the date of purchase. This limited warranty covers manufacturing and material defects. The warranty is valid only if proof of purchase is shown.

Warranty limitation

This warranty does not cover damage from improper handling or care, exposure to chemicals, immersion in water or undue stress. Damage caused by third parties or non-authorized service centers renders the warranty null and void.

Safety Instructions

- Read these safety instructions and the instruction manual of the product.
- Keep these safety instructions and the instruction manual of the product. Always include all instructions when passing the product on to third parties.
- Heed all warnings.
- Follow all instructions.
- Do not use this apparatus in or near water.
- Only clean the product when it is not connected to the power supply system.
- 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.
- Only operate the product from specified power sources.
- Protect USB cables from being walked on or pinched, particularly at plugs, convenience receptacles, and the point where it exits from the apparatus.
- Only use attachments/accessories specified by the manufacturer.
- Unplug the power supply unit from the wall socket,
 - to completely disconnect the product from the power supply system,
 - during lightning storms,
 - when not using the product 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 or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, when 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 and objects filled with liquids, such as vases, should not be placed on this apparatus.
- When using the supplied device feet, do not place the product on delicate surfaces. Delicate surfaces can become discolored or stained when they come into contact with the plastic of the device feet.
- Always ensure that the power supply unit is
 - in a safe operating condition and easily accessible,
 - properly powered,
 - only operated within the permissible temperature range,
 - not covered or exposed to direct sunlight for longer periods of time in order to prevent heat accumulation.
- Do not eat.

Danger due to high volume levels

This product is used for commercial purposes. Commercial use is subject to the rules and regulations of the trade association responsible. Halter Technical, as the manufacturer, is therefore obliged to expressly point out possible health risks arising from use.

This product is capable of producing sound pressure levels exceeding 85 dB (A). 85 dB (A) is the sound pressure corresponding to the maximum permissible volume which is by law (in some countries) allowed to affect your hearing for the duration of a working day. It is used as a basis according to the specifications of industrial medicine. Higher volumes or longer durations can damage your hearing. At higher volumes, the duration must be shortened in order to prevent hearing damage.

The following are sure signs that you have been subjected to excessive noise for too long a time:

- You can hear ringing or whistling sounds in your ears.
- You have the impression (even for a short time only) that you can no longer hear high notes.

Inform all users of these risks and ask them to set the volume to a moderate level if necessary.

Risk of fire due to overloading

Do not overload wall outlets and extension cables as this may result in fire and electric shock.

Intended use

The product may be used for commercial purposes.

It is considered improper use when the product is used for any application not named in the corresponding instruction manual.

Halter Technical does not accept liability for damage arising from improper use or misuse of this product and its attachments/accessories.

Before putting the products into operation, please observe your respective country-specific regulations.

Serial number:
Purchase date:
Local Halter Technical representative:

Information and explanation of symbols

The FCC logo or the FCC mark is a voluntary mark employed on electronic products manufactured or sold in the United States which indicates that the electromagnetic radiation from the device is below the limits specified by the Federal Communications Commission and the manufacturer has followed the requirements of the Supplier's Declaration of Conformity authorization procedures.

The CE symbol is confirmation by Halter Technical that this product is in compliance with the essential requirements and other relevant provisions of Directive (2014/53/EU).

The Restriction of Hazardous Substances Directive 2002/95/EC (RoHS 1), short for Directive on the restriction of the use of certain hazardous substances in electrical and electronic equipment, was adopted in February 2003 by the European Union. The initiative was to prevent an overabundance of chemicals in electronics

UK Conformity Assessed (UKCA) marking is a conformity mark that indicates conformity with the applicable requirements for products sold within Great Britain.

The "No Trash" symbol on the product or its packaging means that it should not be disposed of with other household waste. It is the responsibility of the user to dispose of waste equipment separately from the municipal waste stream. The correct disposal of old appliances will help prevent potential negative consequences for the environment and human health.

FCC IDs

Microsone:	2A8RK-HTMS1
Control Pack:	2A8RK-HTMS1-CP

Manufacturer:
Halter Technical
A Los Angeles Company



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