



WMS 40 SINGLE WMS 40 DUAL

BEDIENUNGSANLEITUNG S. 5
Bitte vor Inbetriebnahme des Gerätes lesen!

USER INSTRUCTIONS p. 14
Please read the manual before using the equipment!

MODE D'EMPLOI p. 23
Veuillez lire cette notice avant d'utiliser le système!

ISTRUZIONI PER L'USO p. 32
Prima di utilizzare l'apparecchio, leggere il manuale!

MODO DE EMPLEO p. 41
¡Sirvase leer el manual antes de utilizar el equipo!

INSTRUÇÕES DE USO p. 50
Favor leia este manual antes de usar o equipamento!





Table of Contents

	Page
Figs. 3, 4, 8, 9	2
Figs. 5, 6, 7, 10	3
Figs. 11 through 16	4
FCC Statement	14
1 Safety and Environment	15
1.1 Safety	15
1.2 Environment	15
2 Description	15
2.1 Introduction	15
2.2 Packing Lists	15
2.3 Optional Accessories	16
2.4 SR 40 SINGLE/DUAL Receivers	16
2.4.1 Front Panel	16
2.4.2 Rear Panel	17
2.4.3 Automatic Squelch	17
2.5 HT 40 PRO Handheld Transmitter	17
2.5.1 Controls	17
2.6 PT 40 PRO Bodypack Transmitter	17
2.6.1 Controls	17
2.6.2 Microphones, Guitar Cable	18
3 Setting Up	18
3.1 Positioning the Receiver	18
3.2 Connecting the Receiver to a Balanced Input	18
3.3 Connecting the Receiver to an Unbalanced Input	18
3.4 Connecting the Receiver to Power	18
3.5 Inserting and Testing Batteries in the Handheld/Bodypack Transmitters	18
3.6 Setting Up the Handheld Transmitter	19
3.6.1 Replacing the Color Code Clip	19
3.7 Setting Up the Bodypack Transmitter	19
3.7.1 Connecting a Microphone	19
3.7.2 Connecting an Instrument	19
3.7.3 Inserting a Label	19
3.8 Before the Soundcheck	19
4 Microphone Technique	20
4.1 HT 40 PRO Handheld Transmitter	20
4.1.1 Working Distance and Proximity Effect	20
4.1.2 Angle of Incidence	20
4.1.3 Feedback	20
4.1.4 Backing Vocals	20
4.2 CK 55 L Lavalier Microphone	20
4.3 C 555 L Head-worn Microphone	20
4.3.1 Putting On the Microphone	20
4.3.2 Windscreen	20
4.3.3 Moisture Shield	20
5 Cleaning	21
5.1 Surfaces	21
5.2 Handheld Transmitter Internal Windscreen	21
6 Troubleshooting	21
7 Specifications	22
7.1 WMS 40 SINGLE/DUAL	22
7.2 CK 55 L, C 555 L	22
7.3 SO 40	22

FCC Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Parts 74 and 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 the 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.

Shielded cables and I/O cords must be used for this equipment to comply with the relevant FCC regulations.
Changes or modifications not expressly approved in writing by AKG Acoustics may void the user's authority to operate this equipment.

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.

1 Safety and Environment



1. Do not spill any liquids on the equipment and do not drop any objects through the ventilation slots in the equipment.
2. The equipment may be used in dry rooms only.
3. The equipment may be opened, serviced, and repaired by authorized personnel only. The equipment contains no user-serviceable parts.
4. Before connecting the equipment to power, check that the AC mains voltage stated on the supplied AC adapter is identical to the AC mains voltage available where you will use the equipment.
5. Operate the equipment with the supplied AC adapter with a 12-VDC output. Using adapters with a different output voltage or current type may cause serious damage to the unit.
6. If any solid object or liquid penetrates into the equipment, shut down the sound system immediately. Disconnect the AC adapter from the power outlet immediately and have the equipment checked by AKG service personnel.
7. If you will not use the equipment for a long period of time, disconnect the AC adapter from the power outlet. Please note that the equipment will not be fully isolated from power when you set the power switch to OFF.
8. Do not place the equipment near heat sources such as radiators, heating ducts, or amplifiers, etc. and do not expose it to direct sunlight, excessive dust, moisture, rain, mechanical vibrations, or shock.
9. To avoid hum or interference, route all audio lines, particularly those connected to the microphone inputs, away from power lines of any type. If you use cable ducts, be sure to use separate ducts for the audio lines.
10. Clean the equipment with a moistened (not wet) cloth only. Be sure to disconnect the AC adapter from the power outlet before cleaning the equipment! Never use caustic or scouring cleaners or cleaning agents containing alcohol or solvents since these may damage the enamel and plastic parts.
11. Use the equipment for the applications described in this manual only. AKG cannot accept any liability for damages resulting from improper handling or misuse.

1.1 Safety

1. The AC adapter will draw a small amount of current even when the equipment is switched off. To save energy, disconnect the AC adapter from the power outlet if you will leave the equipment unused for a long period of time.
2. When scrapping the equipment, separate the case, circuit boards, and cables, and dispose of all components in accordance with local waste disposal rules.
3. The packaging of the equipment is recyclable. Dispose of the packaging in an appropriate container provided by the local waste collection/recycling entity and observe all local legislation relating to waste disposal and recycling.

1.2 Environment



2 Description



Thank you for purchasing an AKG product. This Manual contains important instructions for setting up and operating your equipment. Please take a few minutes to **read the instructions below carefully before operating the equipment**. Please keep the Manual for future reference. Have fun and impress your audience!

2.1 Introduction

The WMS 40 SINGEL/DUAL is available in four kits with an SR 40 SINGLE single-channel receiver and four kits with an SR 40 DUAL dual-channel receiver:

2.2 Packing Lists

INSTRUMENTAL SET SINGLE 1 PT 40 PRO bodypack transmitter 1 AA size battery 1 set of lettering labels 1 MKG L guitar cable 1 SR 40 SINGLE receiver 1 AC adapter (see sticker on packaging) 1 Manual Supplement sheet	2 moisture shields 1 W 444 windscreen 1 SR 40 SINGLE receiver 1 AC adapter (see sticker on packaging) 1 Manual Supplement sheet
PRESENTER SET SINGLE 1 PT 40 PRO bodypack transmitter 1 AA size battery 1 set of lettering labels 1 CK 55 L lavalier microphone with attachment clip 1 W 55 windscreen 1 SR 40 SINGLE receiver 1 AC adapter (see sticker on packaging) 1 Manual Supplement sheet	VOCAL SET SINGLE 1 HT 40 PRO handheld transmitter 1 stand adapter 1 AA size battery 1 semitransparent replacement clip 1 SR 40 SINGLE receiver 1 AC adapter (see sticker on packaging) 1 Manual Supplement sheet
SPORTS SET SINGLE 1 PT 40 PRO bodypack transmitter 1 AA size battery 1 set of lettering labels 1 C 555 L head-worn microphone	TRANSFORMER SET SINGLE 1 SO 40 plug-on transmitter with user manual 1 black battery cover 1 AAA size battery 1 set of lettering labels 1 SR 40 SINGLE receiver 1 AC adapter (see sticker on packaging) 1 Manual Supplement sheet

Kits with SR 40 SINGLE receiver



2 Description

Kits with SR 40 DUAL receiver

GUITAR/VOCAL SET DUAL

- 1 PT 40 PRO bodypack transmitter
- 1 AA size battery
- 1 set of lettering labels
- 1 C 555 L head-worn microphone
- 2 moisture shields
- 1 W 444 windscreen
- 1 GB 40 Guitarbug with user manual
- 1 AAA size battery
- 1 adapter plug
- 1 SR 40 DUAL receiver
- 1 AC adapter (see sticker on packaging)
- 1 Manual Supplement sheet

INSTRUMENTAL SET DUAL

- 2 PT 40 bodypack transmitters
- 2 AA size batteries
- 1 set of lettering labels
- 2 MKG L guitar cables
- 1 SR 40 DUAL receiver
- 1 AC adapter (see sticker on packaging)
- 1 Manual Supplement sheet

PRESENTER SET DUAL

- 1 HT 40 handheld transmitter
- 1 stand adapter
- 1 semitransparent replacement clip
- 1 PT 40 PRO bodypack transmitter
- 2 AA size batteries
- 1 set of lettering labels
- 1 C 555 L head-worn microphone
- 2 moisture shields
- 1 W 444 windscreen
- 1 SR 40 DUAL receiver
- 1 AC adapter (see sticker on packaging)
- 1 Manual Supplement sheet

VOCAL SET DUAL

- 2 HT 40 handheld transmitters
- 2 stand adapters
- 2 AA size batteries
- 2 semitransparent replacement clips
- 1 SR 40 DUAL receiver
- 1 AC adapter (see sticker on packaging)
- 1 Manual Supplement sheet

- Check that the packaging contains all of the items listed for your system. Should any item be missing, please contact your AKG dealer.

2.3 Optional Accessories

- For optional accessories, refer to the current AKG catalog or folder, or visit www.ake.com. Your dealer will be glad to help.

2.4 SR 40 SINGLE/DUAL Receivers

The SR 40 SINGLE/DUAL series includes two stationary receivers for use with all WMS 40 and Microtools Series transmitters. They feature a half-rack case for mounting in a 19" rack.

The SR 40 SINGLE provides a single reception channel and operates on one fixed, quartz stabilized frequency in the 660 MHz to 865 MHz UHF carrier frequency range.

The SR 40 DUAL combines two SR 40 SINGLE receiver channels in one half-rack case. Each channel operates on a separate frequency.

2.4.1 Front Panel

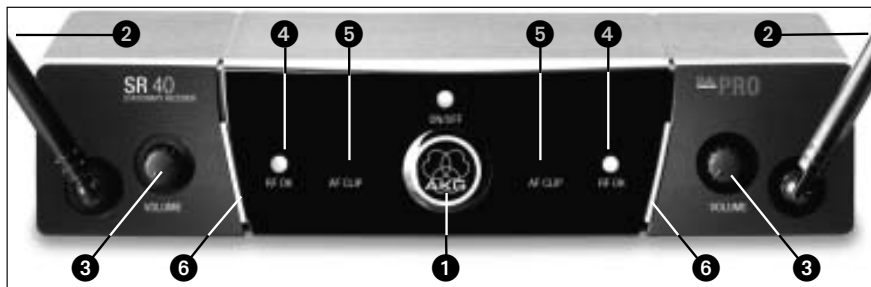
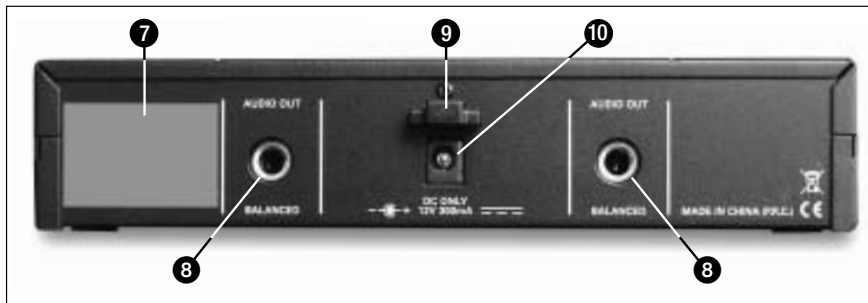


Fig. 1: Front panel controls on SR 40 DUAL receiver.

- ON/OFF:** On/off pushbutton switch with status LED.
- Antenna (1 per channel):** Fixed-length UHF antenna permanently mounted on the front panel.
- VOLUME (1 per channel):** This rotary control adjusts the receiver's output level from microphone to line level for matching to the input sensitivity of your mixer or amplifier.
- RF OK (1 per channel):** This LED illuminates to indicate that signal is being received. If no signal is received or the automatic squelch is on, the RF OK LED goes out and the audio output is muted.
- AF CLIP (1 per channel):** This LED illuminates to indicate the audio level of the received signal is overloading the receiver's audio section.
- Color code lines:** The color indicates the carrier frequency of the respective receiver channel. Both the SR 40 SINGLE and the SR 40 DUAL have two color code lines. On the SR 40 SINGLE, both color code lines are of the same color. Transmitters tuned to the same frequency are marked with the same color. Refer to the Manual Supplement sheet for a color code table.

2 Description



2.4.2 Rear Panel

Fig. 2: Rear panel controls on SR 40 DUAL receiver.

- 7 Carrier frequency label:** A label indicating the carrier frequency (frequencies) and approval marks of your receiver is affixed to the rear panel of the receiver.
- 8 AUDIO OUT (1 per channel):** Balanced TRS 1/4" jack, adjustable from mic to line level. You can connect the output either to an XLR microphone input or to an unbalanced line input on a mixer or amplifier.
- 9 Strain relief** for the feeder cable of the supplied AC adapter.
- 10 DC ONLY:** Input connector for the supplied AC adapter.

The automatic squelch circuit switches the receiver off if the received signal is too weak, in order to suppress the related noise or the residual noise of the receiver while the transmitter is off.

The HT 40 PRO handheld transmitter operates on a single fixed, quartz stabilized frequency in the 660 MHz to 865 MHz UHF carrier frequency range and uses an antenna integrated in the body. The microphone element permanently mounted on the transmitter uses a high quality cardioid transducer from AKG. It provides low handling noise sensitivity, high gain before feedback, and brilliant sound quality, as well as a built-in wind and pop filter to reduce wind and breath noise.

- 11 On/off switch:** This slide switch provides three positions indicated in the display window:
ON: Power to the transmitter is on.
MUTE: The signal delivered by the microphone element is muted while power and the RF carrier frequency remain on.
OFF: Power to the transmitter is off.
- 12 Status LED:** Indicates the transmitter's operating status.
LED lit green: Battery is OK.
LED lit red: From the moment the LED changes to red, the battery capacity will provide a maximum of two operating hours. We recommend replacing the battery with a new one as soon as possible.

- If you use a rechargeable battery, the LED will change to red 15 minutes before the battery will be dead!

- 13 Color code clip:** The color of this plastic clip indicates the carrier frequency of your transmitter. Receiver channels tuned to the same frequency are marked with the same color. Refer to the Manual Supplement sheet for a color code table.
 You can remove the color code clip on the HT 40 PRO and replace it with the supplied semitransparent clip.
- 14 Battery compartment lid:** Refer to section 3.5.
- 15 Carrier frequency label:** The label above the battery compartment indicates the carrier frequency and approval marks of your transmitter.

You can use the PT 40 PRO bodypack transmitter with both dynamic microphones and condenser microphones operating on a supply voltage of approx. 4 V. You may also connect an electric guitar, electric bass, or remote keyboard. The PT 40 PRO operates on a single fixed, quartz stabilized frequency in the 660 MHz to 865 MHz UHF carrier frequency range.

- 16 On/off switch:** This slide switch provides three positions indicated in the display window:
ON: Power to the transmitter is on.
MUTE: The signal delivered by the microphone element is muted while power and the RF carrier frequency remain on.
OFF: Power to the transmitter is off.
- 17 Status LED:** Indicates the transmitter's operating status.
LED lit green: Battery is OK.
LED lit red: From the moment the LED changes to red, the battery capacity will provide a maximum of two operating hours. We recommend replacing the battery with a new one as soon as possible.

- If you use a rechargeable battery, the LED will change to red 15 minutes before the battery will be dead!

- 18 Audio input:** 3-pin mini XLR connector with both mic and line level pins that automatically match the connector pinout of the recommended AKG microphones or optional MKG L guitar cable.

- While the MKG L guitar cable is included in some WMS 40 SINGLE/DUAL kits (see section 2.2 Packing Lists), it is also available as an optional accessory.

2.4.3 Automatic Squelch

2.5 HT 40 PRO Handheld Transmitter

2.5.1 Controls

Refer to fig. 3 on page 2.

Note:

2.6 PT 40 PRO Bodypack Transmitter

2.6.1 Controls

Refer to fig. 4 on page 2.

Note:

Note:



2 Description

19 Antenna: Permanently connected, flexible antenna.

20 Belt clip for fixing the transmitter to your belt.

21 Battery compartment lid with integrated screwdriver (21a).

21b Viewing window: The viewing window lets you check if there is a dry or rechargeable battery inside the battery compartment. You can also insert a white lettering strip (supplied) or a color code strip (optional) into the viewing window.

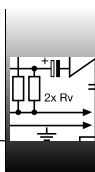
22 GAIN: This rotary control inside the battery compartment allows you to match the bodypack transmitter input gain to the microphone or instrument you connected to the transmitter.

23 Carrier frequency label: The label on the transmitter rear panel indicates the carrier frequency, color code (receiver channels with the same carrier frequency are marked with the same color), and approval marks of your transmitter. Refer to the Manual Supplement sheet for a color code table.

2.6.2 Microphones, Guitar Cable

The PT 40 PRO has been designed specifically for use with the following AKG microphones:

- **CK 55 L, C 417 L, C 520 L, C 555 L**
- **C 516 ML, C 518 ML, C 519 ML**
- The **MKG L** guitar cable from AKG lets you connect an electric guitar, electric bass, or remote keyboard to the bodypack transmitter. One or two MKG L guitar cables, respectively, are included in the Instrumental Set SINGLE and Instrumental Set DUAL. The MKG L guitar cable is also available separately as an accessory.



3 Setting Up



- **Prior to setting up your WMS 40 SINGLE/DUAL, check that the transmitter and receiver are tuned to the same frequency. The easiest way to do this is to compare the color codes on the transmitter and receiver.**

- You can either use the receiver freestanding or mount it in a 19" rack using the optional RMU 40 rack mounting kit. For instructions on how to rack mount the receiver, refer to the RMU 40 manual.

3.1 Positioning the Receiver

- Reflections off metal parts, walls, ceilings, etc. or the shadow effects of musicians and other people may weaken or cancel the direct transmitter signal. For best results, place the receiver as follows:
 1. Place the receiver near the performance area (stage). Make sure, though, that the transmitter will never get any closer to the receiver than 10 ft (3 m). Optimum separation is 16 ft. (5 m).
 2. Check that you can see the receiver from where you will be using the transmitter.
 3. Place the receiver at least 5 ft. (1.5 m) away from any big metal objects, walls, scaffolding, ceilings, etc.

3.2 Connecting the Receiver to a Balanced Input

Refer to fig. 5 on page 3.

1. For each channel, use a balanced cable with an XLR connector and 1/4" TRS jack plug (available from electronics or hi-fi stores).
2. Connect the (each) AUDIO OUT jack (8) on the receiver rear panel to the desired balanced (XLR) microphone input on the mixer or amplifier.
3. Turn the (two) VOLUME control(s) (3) on the receiver all the way CCW to set the receiver output to mic level.

3.3 Connecting the Receiver to an Unbalanced Input

Refer to fig. 6 on page 3.

1. Use a standard 1/4" jack cable to connect the (each) AUDIO OUT jack (8) on the receiver rear panel to an unbalanced 1/4" line input jack on the mixer or amplifier.
2. Turn the (two) VOLUME control(s) (3) on the receiver all the way CW to set the receiver output to line level.



- **To avoid hum interference, do not use any audio cables that are longer than 10 feet (3 m)!**

3.4 Connecting the Receiver to Power

Refer to fig. 7 on page 3.

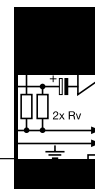
1. **Check that the AC mains voltage stated on the included power supply is identical to the AC mains voltage available where you will use your system. Using the power supply with a different AC voltage may cause damage to the unit.**
2. Point the antenna(s) (2) upward.
3. Plug the feeder cable on the included power supply into the DC ONLY socket (10) on the receiver.
4. Bend part of the feeder cable into a small bight, pass the bight through the strain relief (9) from above, and slip the bight over the hook on the strain relief (9). Tighten the cable.
5. Plug the AC adapter into a convenient power outlet.
6. Press the ON/OFF switch (1) to switch power to the receiver ON.

3.5 Inserting and Testing Batteries in the Handheld/Bodypack Transmitters

Refer to fig. 8 on page 2.

1. Depress the snap hook on the battery compartment lid (14)/(21).
2. Pull the battery compartment lid (14)/(21) off the transmitter in the direction of the arrow.
3. Insert the supplied battery into the battery compartment conforming to the polarity marks. The transmitter will not function if you insert the battery the other way round.
4. Set the on/off switch (11)/(16) to "ON" to switch power to the transmitter on. If the battery is in good condition, the status LED (12)/(17) will be lit green. If the status LED (12)/(17) is lit red, the battery will be dead within about two hours. Replace the battery with a new one as soon as possible. If the status LED (12)/(17) fails to illuminate the battery is dead. Insert a new battery.

3 Setting Up



- If you use a rechargeable battery, the LED will switch to red 15 minutes before the battery will be dead!

5. To close the battery compartment, slide the battery compartment lid (14)/(21) onto the battery compartment from below to the point that the snap hook will engage.

1. Switch power to the receiver on.
2. To switch power to the transmitter on, set the on/off switch (11) to "ON".
Since the HT 40 PRO handheld transmitter has been designed specifically for the integrated microphone element, there is no need to set gain on the handheld transmitter. Therefore, the handheld transmitter has no level or gain control.
3. Switch power to your sound system or amplifier on.
4. Talk or sing into the microphone and set the levels on your mixer or amplifier referring to the appropriate instruction manual, or by ear.

1. Pull the color code clip (13) off the transmitter case in the direction of the arrow.
2. Slide the supplied semitransparent replacement clip onto the transmitter to the point that it snaps into place with an audible click.

The PT 40 PRO bodypack transmitter has been designed for use with the CK 55 L, C 417 L, C 520 L, C 555 L, C 516 ML, C 518 ML, and C 519 ML microphones from AKG. If you wish to connect other microphones from AKG or other manufacturers to the PT 40 PRO, please note that you may have to rewire the existing connector of your microphone or replace it with a 3-pin mini XLR connector.

Audio input (18) pinout: Pin 1: shield
Pin 2: audio inphase (+)
Pin 3: supply voltage

A 4-V positive supply voltage for condenser microphones is available on pin 3.

Please note that AKG cannot guarantee that the PT 40 PRO bodypack transmitter will work perfectly with products from other manufacturers and any damage that may result from such use is not covered by the AKG warranty scheme.

1. Remove the battery compartment lid (21).
2. Plug the mini XLR connector on the cable of your microphone into the audio input socket (18) on the bodypack transmitter.
3. Set the on/off switch (16) to "ON" to switch power to the bodypack transmitter on.
4. Switch power to the receiver on.
5. Talk or sing into the microphone.
6. Use the screwdriver (21a) integrated in the battery compartment lid (21) to set the GAIN control (22) to a position where the AF CLIP LED (5) on the receiver will flash occasionally.
7. Replace the battery compartment lid (21) on the transmitter.

1. Remove the battery compartment lid (21).
2. Plug the jack plug on the MKG L guitar cable into the output jack on your instrument and the mini XLR connector on the guitar cable into the audio input socket (18) on the bodypack transmitter.
3. Set the on/off switch (16) to "ON" to switch power to the bodypack transmitter on.
4. Switch power to the receiver on.
5. Play your instrument.
6. Use the screwdriver (21a) integrated in the battery compartment lid (21) to set the GAIN control (22) to a position where the AF CLIP LED (5) on the receiver will flash occasionally.
7. Replace the battery compartment lid (21) on the transmitter.

1. Remove the battery compartment lid (21).
2. Remove a label from the supplied sheet.
3. Letter the label as desired.
4. Remove the battery and place the label on the viewing window (21b).
5. Replace the battery and slide the compartment lid (21) back in place on the transmitter.

1. Move the transmitter around the area where you will use the system to check the area for "dead spots", i.e., places where the field strength seems to drop and reception deteriorates.
 - If you find any dead spots, try to eliminate them by repositioning the receiver. If this does not help, avoid the dead spots.
2. The RF OK LED (4) on the receiver going out means no signal is being received or the automatic squelch is active.
 - Switch power to the transmitter ON or move closer to the receiver, to the point that the RF OK LED (4) will come back on.

Note:

3.6 Setting Up the Handheld Transmitter

Also refer to section 4 Microphone Technique.

3.6.1 Replacing the Color Code Clip

Refer to fig. 9 on page 2.

3.7 Setting Up the Bodypack Transmitter



3.7.1 Connecting a Microphone

Refer to fig. 10 on page 3.

Also refer to section 4 Microphone Technique.

3.7.2 Connecting an Instrument

Refer to fig. 10 on page 3.

3.7.3 Inserting a Label

Refer to fig. 4 on page 2.

3.8 Before the Soundcheck



4 Microphone Technique

4.1 HT 40 PRO Handheld Transmitter

A handheld vocal microphone provides many ways of shaping the sound of your voice as it is heard over the sound system.

The following sections contain useful hints on how to use your HT 40 PRO handheld transmitter for best results.

4.1.1 Working Distance and Proximity Effect

Basically, your voice will sound the bigger and mellower, the closer you hold the microphone to your lips. Moving away from the microphone will produce a more reverberant, more distant sound as the microphone will pick more of the room's reverberation.

You can use this effect to make your voice sound aggressive, neutral, insinuating, etc. simply by changing your working distance.

Proximity effect is a more or less dramatic boost of low frequencies that occurs when you sing into the microphone from less than 2 inches. It gives more "body" to your voice and an intimate, bass-heavy sound.

4.1.2 Angle of Incidence

Refer to fig. 11 on page 4.

Sing to one side of the microphone or above and across the microphone's top. This provides a well-balanced, natural sound.

If you sing directly into the microphone, it will not only pick up excessive breath noise but also overemphasize "sss", "sh", "tch", "p", and "t" sounds.

4.1.3 Feedback

Refer to fig. 12a on page 4.

Feedback is the result of part of the sound projected by a speaker being picked up by a microphone, fed to the amplifier, and projected again by the speaker. Above a specific volume or "system gain" setting called the feedback threshold, the signal starts being regenerated indefinitely, making the sound system howl and the sound engineer desperately dive for the master fader to reduce the volume and stop the howling.

To increase usable gain before feedback, the microphone element of the HT 40 PRO handheld transmitter has a cardioid polar pattern. This means that the microphone is most sensitive to sounds arriving from in front of it (your voice) while picking up much less of sounds arriving from the sides or rear (from monitor speakers for instance).

To maximize gain before feedback, place the main (aka "FOH" - front of house) speakers in front of the microphones (along the front edge of the stage).

If you use monitor speakers, be sure never to point any microphone directly at the monitors, or at the FOH speakers.

Refer to fig. 12b on page 4.

Feedback may also be triggered by resonances depending on the acoustics of the room or hall. With resonances at low frequencies, proximity effect may cause feedback. In this case, it is often enough to move away from the microphone a little to stop the feedback.

4.1.4 Backing Vocals

Refer to fig. 13 on page 4.

1. Never let more than two persons share a microphone.
2. Ask your backing vocalists never to sing more than 35 degrees off the microphone axis.

The microphone is very insensitive to off-axis sounds. If the two vocalists were to sing into the microphone from a wider angle than 35 degrees, you may end up bringing up the fader of the microphone channel far enough to create a feedback problem.

4.2 CK 55 L Lavalier Microphone

Refer to fig. 14 on page 4.

1. Fix the microphone to the supplied lavalier clip or to the optional H 41/1 tiepin.
2. Clamp the microphone on your clothing as close as possible to the talker's mouth.

Note:

- Remember that gain-before-feedback will be the higher the closer the microphone sits to the user's mouth!

3. Make sure to aim the microphone at the user's mouth.

4.3 C 555 L Head-worn Microphone

4.3.1 Putting On the Microphone

Refer to fig. 15 on page 4.

Note:

- You can adjust the microphone to conform exactly to the shape of the user's head. For details, refer to the C 555 L instruction manual which you can download from www.akg.com.
- Should you hear excessive pop noise ("p" and "t" sounds are overemphasized unnaturally), move the microphone capsule further away from your mouth (up or back).
- If the microphone sounds "thin" or flat, move the microphone capsule closer to your mouth (refer to fig. 3).
- Find the optimum position during the soundcheck.

4.3.2 Windscreen

If (for instance, on an open-air stage) excessive wind or pop noise becomes audible, attach the supplied windscreen to the microphone.

1. Slide the windscreen onto the microphone capsule.
2. Pull the windscreen over the outer edge of the microphone capsule.

4.3.3 Moisture Shield

Refer to fig. 16 on page 4.

A special moisture shield on the microphone capsule makes it difficult for moisture and makeup to penetrate into the microphone. This barrier prevents the microphone sound entries from being clogged by perspiration or makeup, which would make the sound dull and reduce the sensitivity of the microphone. Therefore, never remove the moisture shield from the microphone!

In case the moisture shield is damaged or lost, the C 555 L head-worn microphone includes a replacement moisture shield.

5 Cleaning



- Use a soft cloth moistened with water to clean the receiver and transmitter surfaces.

5.1 Surfaces

1. Unscrew the wire-mesh cap of the handheld transmitter CCW and remove the wire-mesh cap from the transmitter.
2. Remove the windscreen (foam sheet) from the wire-mesh cap.
3. Wash the windscreen in mild soap suds.
4. As soon as the windscreen has dried, replace it in the wire-mesh cap and screw the wire-mesh cap onto the transmitter CW.

5.2 Handheld Transmitter Internal Windscreen

6 Troubleshooting



Problem	Possible Cause	Remedy
No sound.	<ol style="list-style-type: none"> 1. AC adapter is not connected to receiver and/or power outlet. 2. Receiver is OFF. 3. Receiver is not connected to mixer or amplifier. 4. VOLUME control on receiver is at zero. 5. Microphone or instrument is not connected to bodypack transmitter. 6. Transmitter and receiver color codes are not identical. 7. Transmitter on/off switch is at "OFF" or "MUTE". 8. Transmitter batteries are not inserted properly. 9. Transmitter batteries dead. 10. Transmitter is too far away from receiver. 11. Obstructions between transmitter and receiver. 12. Receiver is invisible from transmitter location. 13. Receiver sits too close to metal objects. 	<ol style="list-style-type: none"> 1. Connect AC adapter to receiver and/or power outlet. 2. Push ON/OFF switch to switch receiver ON. 3. Connect receiver output to mixer or amplifier input. 4. Turn up VOLUME control. 5. Connect microphone or instrument to audio input on bodypack. 6. Use receiver and transmitter with identical color codes. 7. Set transmitter on/off switch to "ON". 8. Insert batteries conforming to "+" and "-" marks. 9. Replace batteries. 10. Move closer to receiver. 11. Remove obstructions. 12. Avoid spots where you cannot see receiver. 13. Move receiver away from or remove interfering objects.
Noise, crackling, unwanted signals.	<ol style="list-style-type: none"> 1. Antenna location. 2. Interference from other wireless systems, TV, radio, CB radios, or defective electrical appliances or installation. 	<ol style="list-style-type: none"> 1. Relocate receiver. 2. Switch off interference sources or defective appliances or use a WMS 40 SINGLE/DUAL tuned to a different frequency; have electrical installation checked.
Distortion.	<ol style="list-style-type: none"> 1. (Bodypack transmitter only:) GAIN control is set too high or too low. 2. Interference from other wireless systems, TV, radio, CB radios, or defective electrical appliances or installation. 	<ol style="list-style-type: none"> 1. Turn GAIN control down or up just enough to stop the distortion. 2. Switch off interference sources or defective appliances or use a WMS 40 SINGLE/DUAL tuned to a different frequency; have electrical installation checked.
Momentary loss of sound ("dropouts") at some spots within performance area.	<ul style="list-style-type: none"> • Antenna location. 	<ul style="list-style-type: none"> • Relocate receiver. If dead spots persist, mark and avoid them.



7 Specifications

7.1 WMS 40 SINGLE/DUAL	HT 40 PRO	PT 40 PRO	SR 40 SINGLE/DUAL
Carrier frequency range	660 to 865 MHz	660 to 865 MHz	660 to 865 MHz
Modulation	FM	FM	FM
Audio bandwidth	65 Hz to 20 kHz	40 Hz to 20 kHz	40 Hz to 20 kHz
Frequency stability (-10°C to +50°C)	±15 kHz	±15 kHz	±15 kHz
Rated deviation	15 kHz	15 kHz	15 kHz
T.H.D. at 1 kHz	typ. 0.8%	typ. 0.8%	typ. 0.8%
Compander	Yes	Yes	Yes
Signal/noise ratio	typ. 110 dB(A)	typ. 110 dB(A)	typ. 110 dB(A)
RF output	10 mW	10 mW	-
Current consumption	typ. 70 mA	typ. 75 mA	SR 40 SINGLE: typ. 95 mA SR 40 DUAL: typ. 175 mA
Power requirement	1 x 1.5 V AA size battery (LR 6 to IEC 86-L)	1 x 1.5 V AA size battery (LR 6 to IEC 86-L)	120/230 VAC 50/60 Hz
Battery life	typ. 30 hours (for 2200 mAh)	typ. 30 hours (for 2200 mAh)	-
Audio input level for rated deviation	-	25 to 750 mV/1 kHz, adjustable	-
Input impedance	-	1 Mohm	-
Condenser mic power supply	-	4 V/4.7 kohms (pin 3)	-
Squelch threshold	-	-	-100 dBm
Audio outputs	-	-	bal. 1/4" jack: adjustable from mic to line level. Output level at rated deviation: 500 mV rms
Size	229 x 53 x 53 mm (9 x 2.1 x 2.1 in.)	60 x 74 x 30 mm (2.4 x 2.9 x 1.2 in.)	200 x 190 x 44 mm (7.8 x 7.4 x 1.7 in.)
Net weight	160 g (5.7 oz.)	60 g (2.1 oz.)	SR 40 SINGLE: 580 g (1.3 lbs.) SR 40 DUAL: 620 g (1.4 lbs.)

7.2 CK 55 L, C 555 L	CK 55 L	C 555 L
Type	pre-polarized condenser microphone	pre-polarized condenser microphone
Polar pattern	cardioid	cardioid
Frequency range	80 Hz to 14 kHz	80 Hz to 20 kHz
Sensitivity	19 mV/Pa (-34.4 dBV re 1 V/Pa)	35 mV/Pa (-29 dBV re 1 V/Pa)
Electrical impedance at 1 kHz	1000 ohms	200 ohms
Supply voltage	1.5 to 10 V from AKG WMS bodypack transmitter	B 29 L battery supply, MPA V L phnatom power adapter, AKG WMS bodypack transmitter
Cable length	1.6 m (5 ft. 4 in.)	1.5 m (5 ft.)
Connector	3-pin mini XLR	3-pin mini XLR
Finish	matte black	matte black
Size	8 dia. x 22 mm (0.3 x 0.9 in.)	length: 195 mm (7.7 in.), max. dia.: 134 mm (5.3 in.)
Net weight	3 g (0.1 oz.) (w/o cable)	26 g (0.9 oz.)

7.3 S0 40	
Carrier frequency range	660 to 865 MHz
Modulation	FM
Audio bandwidth	40 to 20,000 Hz
Frequency stability (-10°C to +50°C)	±15 kHz
Rated deviation	15 kHz (SP1, SP2: 13.5 kHz)
T.H.D. at 1 kHz	typ. 0.8%
Compander	integrated
Signal/noise ratio	typ. 103 dB(A)
RF output	typ. 5 mW
Current consumption	typ. 75 mA
Power requirement	single 1.5-V AAA size battery
Battery life	>11 hours (dry battery) >6 hours (rechargeable battery)
Audio input level for rated deviation	300 mV/1 kHz
Size (WxDxH)	22 x 30 x 98 mm (0.8 x 1.2 x 3.8 in.)
Net weight	36 g (1.3 oz.)

This product conforms to the standards listed in the Declaration of Conformity. To order a free copy of the Declaration of Conformity, visit <http://www.akg.com> or contact sales@akg.com.