

TG 100 Handheld Set

— DRAHTLOSSYSTEM MIT HANDSENDER

WIRELESS SYSTEM WITH HANDHELD TRANSMITTER

SISTEMA WIRELESS CON TRASMETTITORE PALMARE

Bedienungsanleitung

Operating Instructions

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Thank you for selecting the TG 100 wireless system from beyerdynamic.

Please take some time to read carefully through this manual before setting up the equipment.

The TG 100 system operates with 8 selectable frequencies in the VHF frequency range and is available in two sets and different frequency ranges:

1. Diversity receiver and handheld transmitter
2. Diversity receiver and backpack transmitter including headset

1. Safety Instructions

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with a dry cloth.
7. Do not install near any heat sources such as radiators, heat registers, stoves or other apparatus (including amplifiers) that produce heat.
8. Do not modify the power plug of this apparatus.
9. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
10. Only use attachments/accessories specified by the manufacturer.
11. Unplug this apparatus during lightning storms or when unused for long periods of time.
12. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

Exemption from liability

- beyerdynamic GmbH & Co. KG will not be liable if any damage, injury or accident occurs due to negligent, incorrect or inappropriate operation of the products.

Location

- The equipment must be set up so that the power connection, power supply and all connections on the rear of the device are easily accessible.
- If you transport the equipment to another location, take care to ensure that it is adequately secured and can never be damaged by being dropped or by impacts on the equipment.

Fire hazard

- Never place naked flames (e.g. candles) near the equipment.

Humidity / heat sources

- Never expose the equipment to rain or a high level of humidity. For this reason do not install it in the immediate vicinity of swimming pools, showers, damp basement rooms or other areas with unusually high atmospheric humidity.
- Never place objects containing liquid (e.g. vases or drinking glasses) on the equipment. Liquids in the equipment could cause a short circuit.
- Do not install near any heat sources such as radiators, heat registers, stoves or other apparatus (including amplifiers) that produce heat.

Connection

- Protect all cables from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
- Lay all connection cables so that they do not present a trip hazard.
- Whenever working on the inputs and outputs of the equipment switch off power.
- Check whether the connection figures comply with the existing mains supply. Serious damage could occur due to connecting the system to the wrong power supply. An incorrect mains voltage could damage the equipment or cause an electric shock.
- Please note that different operating voltages require the use of different types of power supplies. Please refer to the following table:

Voltage	Power plug according to standard
110 - 125 V	UL817 and CSA C 22.2 no 42.
220 - 230 V	CEE 7 page VII, SR section 107-2-D1/IEC 83 page C4.
240 V	BS 1363 (1984): "Specification for 13A fused plugs and switched and un-switched socket outlets."

- If the equipment causes a blown fuse or a short circuit, disconnect it from the mains and have it checked and repaired.
- Do not hold the power supply with wet hands. There must be no water or dust on the contact pins. In both cases you could receive an electric shock.
- The power cable must be firmly connected. If it is loose there is a fire hazard.
- Always pull out the power supply from the mains and/or from the equipment by the plug – never by the cable. The cable could be damaged and cause an electric shock or fire.
- Do not use the equipment if the power adapter is damaged.
- If you connect defective or unsuitable accessories, the equipment could be damaged. Only use power adapters available from or recommended by beyerdynamic.
- In order to disconnect the receiver from AC power, disconnect the power plug from the power socket.

Maintenance

- Only clean the equipment with a slightly damp or dry cloth. Never use solvents as these damage the surface.

Trouble shooting and servicing

- Do not open the equipment without authorisation. You could receive an electric shock. There are no user-serviceable parts inside.
- Leave all service work to authorised expert personnel.

1.1 TG 100H Handheld Transmitter

- Protect the transmitter from moisture and sudden impacts. You could either injure yourself or others or damage the transmitter.
- Always switch off the transmitter before changing the battery.

1.2 NiMH Rechargeable Batteries, Alkaline Batteries

- The handheld and beltpack transmitters of the TG 100 system can only be powered with AA (LR6) Mignon alkaline batteries or equivalent NiMH rechargeable batteries.
- The normal commercial alkaline batteries can have a length tolerance of 2 - 3 mm. When changing the battery always ensure good contact.
- If the transmitter is not being used for weeks or months, please remove the batteries. Batteries can leak when not being used for a long time and corrode the conductor strips and components. Repair is not then possible. In this case all warranty claims are null and void. The description “leak proof” on batteries is no guarantee that they will not run out.
- Never take batteries apart yourself. The battery acid contained will damage skin and clothing.
- If abused or misused, rechargeable batteries may leak. In extreme cases, they may even present an explosion, heat, fire, smoke or gas hazard.
- Never expose batteries to excessive heat such as sunshine, fire or the like.

1.3 Disposal

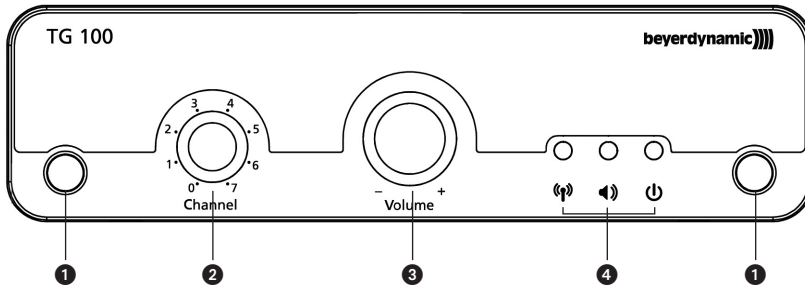
- If you throw away the transmitter, please remove the batteries.
- Old batteries may contain substances that are harmful to your health and environment.
- Dispose used batteries always according to the applicable disposal regulations. Please do not throw used battery packs into the fire (danger of explosion) or your household rubbish, take them to your local collection points. The return is free and required by law. Please dispose discharged batteries only.
- For removing the batteries, please refer to chapter “How to insert/replace the batteries“.
- All batteries are recycled to reclaim valuable material such as iron, zinc or nickel.
- This symbol on the product, in the instructions or on the packaging means that your electrical and electronic equipment should be disposed at the end of its life separately from your household waste. There are separate collection systems for recycling in the EU. For more information, please contact the local authority or your retailer where you purchased the product.



2. TG 100R Diversity Receiver

2.1 Controls and Indicators

Front view



- ❶ Telescopic antennae A and B for diversity operation, permanently attached.
- ❷ Channel selector switch. In total there are 8 channels (0 - 7) available.
- ❸ Volume control for audio output.
- ❹ LEDs.

Left LED:

Illuminated permanently green: RF connection available. Battery of the transmitter is alright.

Illuminated permanently red: RF connection available. Battery voltage of the transmitter is too low (low batt).

Flashing green: Channel/frequency is occupied by another transmitter or radio service on this frequency.

Off: Channel is vacant, but the transmitter is not turned on.

Middle LED:

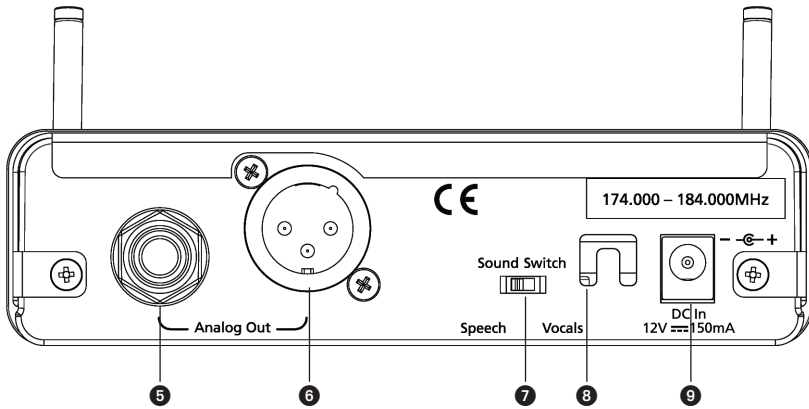
Green: Audio signal is available.

Red: Audio peak, only with loud passages.

Right LED:

Green = Receiver is turned on (Power on).

Rear view



- 5 Audio output, 1/4" jack (6.35 mm).
- 6 Audio output, 3-pin XLR.
- 7 Sound switch
Position Vocals: neutral position for vocals
Position Speech: for improved intelligibility of speech, e.g. speeches, announcements
- 8 Recess in the housing as strain relief for cable of the power supply.
- 9 12 V DC connection for the power supply.
Important: Do not use any other power supply, only the one supplied or recommended by beyerdynamic.

2.2 How to Operate the Receiver

Where to place the receiver

- Place the receiver in the same room where the transmission takes place.
- Place the receiver as close as possible to the transmitter. For optimal reception, a free line of sight is advisable between transmitter and receiver.
- Do not place the receiver near digitally controlled devices.

How to connect the receiver to the mains

- Verify that the voltage rating of the power supply matches that of the mains outlet that you are using.

Warning: If you connect the receiver to the wrong voltage, you may cause damage.

- Connect the supplied power supply to the DC connection ⑨ and to a mains socket. The receiver has no separate on-off switch and will immediately be ready for operation indicated by the right LED ④ illuminating green. Do not use any other power supply, only the one supplied or recommended by beyerdynamic.
- To disconnect the receiver from the mains, pull the power supply out of the mains socket.

How to extend the antennae

- The antennae are permanently attached on the front of the receiver. Extend the antennae completely and set them at an angle (approx. 60°) in the shape of a “V”. A weighting circuit ensures that an antenna is selected that supplies the better signal.

How to connect the receiver to a microphone input

- The receiver is provided with balanced audio outputs.
- Connect the balanced XLR ⑥ or jack output ⑤ to the balanced microphone input of a mixing console or amplifier.
- Adjust the level of the audio output to the input level of the amplifier or mixing console by using the volume control ③.

Important:

If the level is set too high, the audio signal will be distorted. If the level is set too low, it will result in an audio signal with high background noise.

We recommend the middle position for first tries.

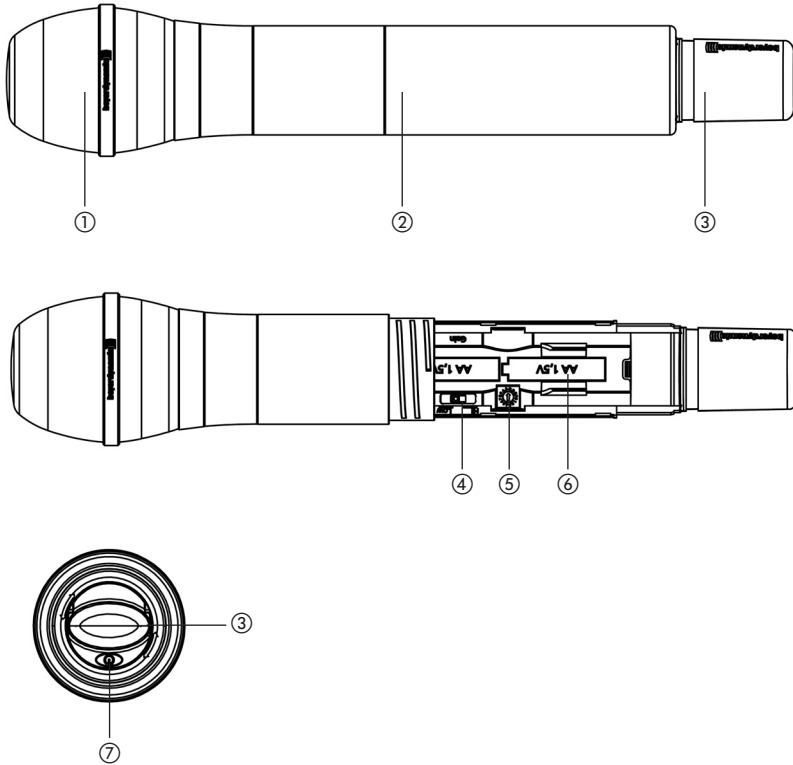
How to select or change a channel

- With the channel selector switch ② you can select one of 8 channels (0 - 7).
Check the receiver, if the selected channel is free from interference (left LED ④ must not flash green when the transmitter is turned off).

Important: The channel of the receiver must match the channel of the appropriate transmitter.

3. TG 100H Handheld Transmitter

3.1 Controls and Indicators

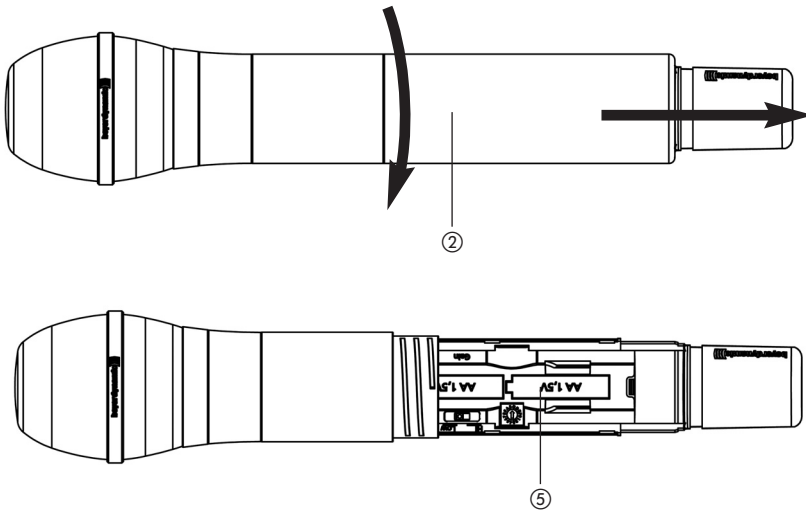


- ① Microphone head, permanently attached
- ② Cover for battery compartment
- ③ Antenna
- ④ Gain switch
- ⑤ Channel selector switch
- ⑥ Battery compartment
- ⑦ On-off button (backlit)

3.2 How to Operate the Handheld Transmitter

How to insert or change the batteries

- Unscrew the cover of the battery compartment ② anti-clockwise.
- Slide the cover of the battery compartment ② downwards.
- Insert two alkaline batteries, AA 1.5 V or rechargeable NiMH batteries according to the symbols in the battery compartment ⑤.
- Slide the cover of the battery compartment ② upwards again and tighten it clockwise.




How to turn the transmitter on or off

- Turn on the handheld transmitter by holding the on-off button ⑦ pressed. The transmitter is ready for operation when the on-off button ⑦ will illuminate green. The left LED ④ on the receiver will permanently illuminate green.
- If the on-off button ⑦ of the transmitter will permanently illuminate red, the batteries are empty. The left LED ④ on the receiver will permanently illuminate red. In this case, you should replace the batteries as soon as possible by new ones or recharge the rechargeable batteries.

How to select or change a channel

- Make sure that transmitter and receiver operate on the same frequency. Switch off the transmitter. Unscrew the cover of the battery compartment ② anti-clockwise and slide it downwards.
- Select the channel of the transmitter with the channel selector switch ⑤ in the battery compartment according to the channel of the receiver (0 - 7) by using a small screwdriver.
- In order to turn off the handheld transmitter hold the on-off button ⑦ pressed for a few seconds, until the green LED in the on-off button ⑦ will go out.

How to adjust the sensitivity


- With the gain switch ④ you can adjust the sensitivity for close or distant miking:
 - Position “Low” for close miking.
 - Position “Hi” for distant miking.
- Adjust the sensitivity so that the middle LED  ④ of the receiver does not, or only briefly, light up red during loud tones.

3.3 Tips for an Interference-free Operation

Battery / rechargeable battery

- Check the transmitter battery and replace or recharge it if necessary. Use fresh alkaline batteries only or recharge the rechargeable batteries.
- Switch off the transmitter before changing the batteries.
- If the transmitter is not being used for weeks or months, please remove the batteries. Batteries can leak when not being used for a long time and corrode the conductor strips and components. Repair is not possible. In this case all warranty claims are null and void. The description “leak proof” on batteries is no guarantee that they will not run out.
- From time to time the battery contacts should be cleaned with a soft cloth moistened with spirits or alcohol.
- Do not throw used batteries into the domestic rubbish, but hand them in to local collection points.
- For charging rechargeable batteries use standard battery chargers.

Reception

- Make sure that the transmitter and receiver are on the same frequency
- The range of the system depends on local conditions and can be up to 100 metres. The distance between transmitter and receiver should be at least 1 metre.
- Check the performance area for dropouts (i.e. areas where poor reception is encountered). If you find any dropouts (left LED  ④ of the receiver goes out) try to eliminate them by repositioning the antennae or the receiver. Make sure that there is free line of sight between transmitting and receiving antennae.

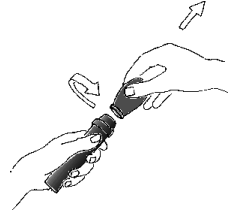
General

- Adjust the level of the receiver and transmitter properly to avoid distortions.
- Mind feedback during the sound check.
- To avoid popping, try holding the handheld transmitter at a slight angle below your mouth.

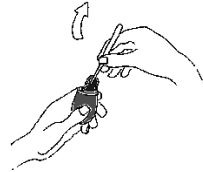
3.4 Maintenance

- Protect the handheld transmitter from humidity, knocks and shock. Avoid dropping the transmitter at all times.
- As soon as your microphone sounds dull, you should clean the integrated pop shield.

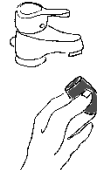
1. Unscrew the microphone grille anti-clockwise.



2. Pull out the foam pop shield, if necessary use tweezers.



3. Clean it under clear running water. If necessary, use a mild washing-up liquid. Dry it afterwards with a hair-dryer or allow it to dry overnight.







4. Place the dry pop shield inside the microphone grille and replace the microphone grille by screwing it on clockwise.

- Clean the microphone grille both inside and out with a slightly moistened cloth or a soft brush under clear running water and allow it to dry overnight

Warning: The microphone grille cannot be cleaned in a dishwasher!

4. Trouble Shooting

TG 100R diversity receiver

Problem	Possible cause	Solution
No function	<ul style="list-style-type: none"> Power supply is interrupted. Power supply unit is not connected to the mains and/or to the receiver. 	<ul style="list-style-type: none"> Connect the power supply unit to the mains and/or to the receiver.
No reception (left LED  4 does not illuminate)	<ul style="list-style-type: none"> Transmitter is not switched on. Transmitter works on a different frequency. Receiving antennae are not positioned correctly. Out of range; distance between transmitter and receiver is too far. 	<ul style="list-style-type: none"> Switch on the transmitter. Make sure that the transmitter and receiver are on the same frequency. Extend the antennae completely and set them at an angle (approx. 60°) in the shape of a “V”. Reduce the distance between transmitter and receiver
Distorted sound	<ul style="list-style-type: none"> Input amplifier of the connected mixer is overloaded. Input sensitivity is too high. 	<ul style="list-style-type: none"> Use the reduction of the mixer or adjust the volume . Reduce the sensitivity, i.e. set the gain switch of the transmitter to “Low”.
Left LED  4 illuminates permanently red	<ul style="list-style-type: none"> Battery of the transmitter is too weak. 	<ul style="list-style-type: none"> Replace the battery or recharge the rechargeable battery.
Left LED  4 is flashing green	<ul style="list-style-type: none"> Disturbed channel. 	<ul style="list-style-type: none"> Select another frequency (channel) for the receiver and transmitter.

TG 100H handheld transmitter

Problem	Possible cause	Solution
No function or on-off button does not illuminate	<ul style="list-style-type: none"> • Insufficient battery voltage. • Insufficient battery contact, battery inserted incorrectly. 	<ul style="list-style-type: none"> • Replace the battery or recharge the rechargeable battery. • Check the battery and insert it again.
Noise / chirping	<ul style="list-style-type: none"> • Interference from other transmitters. • Two transmitters using the same frequency. 	<ul style="list-style-type: none"> • Switch off the other transmitters. • Avoid using two transmitters with the same frequency.

5. Versions

TG 100 Handheld Set consisting of: diversity receiver and handheld transmitter,
 band 1, 174 - 184 MHz. Order # 706.264
 same as above, but band 2, 194 - 204 MHz. Order # 706.272
 same as above, but band 3, 213 - 223 MHz. Order # 706.280

TG 100 Beltpack Set consisting of: diversity receiver and beltpack transmitter,
 band 1, 174 - 184 MHz. Order # 706.329
 same as above, but band 2, 194 - 204 MHz. Order # 706.337
 same as above, but band 3, 213 - 223 MHz. Order # 706.345

6. Accessories

Supplied accessories

Receiver with power supply unit
 Handheld transmitter

Optional

Stands

GST 400 Microphone stand, 3/8", height 0.90 - 1.65 m,
 with G 400 boom Order # 421.294
 GST 500 Microphone stand, 3/8", height 0.80 - 1.60 m,
 with telescopic G 500 boom. Order # 406.252

7. Technical Specifications

TG 100R diversity receiver

Operating principle	Diversity Receiver
Frequency range	Band 1 = 174 - 184 MHz, Band 2 = 194 - 204 MHz Band 3 = 213 - 223 MHz
Frequency response	100 Hz - 16 kHz
Dynamic range	112 dB
Output level	max. 0 dBV (XLR and jack output)
Mains connection	100 V - 240 V AC; 12V DC power supply unit
Power consumption	150mA
Ambient temperature	0 to +55 °C
Weight	250 g
Dimensions	143 x 100 x 41 mm
Antenna connection	2 x telescopic, permanently attached antennae

TG 100H handheld transmitter

Frequency range	Band 1 = 174 - 184 MHz, Band 2 = 194 - 204 MHz Band 3 = 213 - 223 MHz
Frequency response	100 Hz - 16 kHz
Dynamic range	112 dB
RF power	< 10 dBm
Transmission range	up to 100 metres under optimal conditions
Operating time	approx. 8 hrs. (NiMH 2100 mAh)
Weight	200 g without batteries
Dimensions	Length 254 mm / Shaft ø 36 mm Microphone grille ø 50 mm

8. Service

In the unlikely event of equipment failure, the product should be returned to your beyerdynamic dealer. Unauthorised attempts at repair may invalidate the warranty.

9. Licensing

In most countries around the world, wireless systems must be approved for use by the authorities and it may be necessary to obtain a licence to use it legally. Your local beyerdynamic dealer will be able to give you details on wireless system regulations for your area.

The components of the TG 100 system are approved according to the EU directive R&TTE 99/5/EEC:

“TG 100B Beltpack Transmitter”

“TG 100H Handheld Transmitter”

under the CE 0681 ⚠ identification

10. FCC Regulation

FCC ID: OSDTG100H for TG 100 Handheld Transmitter
Canada IC: 3628A-TG100H for TG 100 Handheld Transmitter

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

NOTICE:

This device complies with Part 15 of the FCC Rules [and with 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.

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

NOTICE:

Changes or modifications made to this equipment not expressly approved by beyerdynamic GmbH & Co. KG may void the FCC authorization to operate this equipment.

NOTICE:

This Class B digital apparatus complies with Canadian ICES-003.
 Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.



CONSUMER ALERT

Most users do not need a license to operate this wireless microphone system. Nevertheless, operating this microphone system without a license is subject to certain restrictions: the system may not cause harmful interference; it must operate at a low power level (not in excess of 50 milliwatts); and it has no protection from interference received from any other device.

Purchasers should also be aware that FCC is currently evaluating use of wireless microphone systems, and these rules are subject to change.

For more information, call the FCC at 1-888-CALL-FCC (TTY: 1-888-TELL-FCC) or visit the FCC's wireless microphone website at www.fcc.gov/cgb/wirelessmicrophones.

EC-DECLARATION OF CONFORMITY

**Application of
Council Directive:**

99/5/EEC
R&TTE Directive

2004/108/EC
Electromagnetic Compatibility

2006/95/EC
Low Voltage Directive

**Standards to which
Conformity is declared:**

EN 301 489-1/-9:2000	EMC
EN 300 422-2: V1.3.1	Radio Spectrum
EN 60 065:2002+A1+A11+A2+A12	Safety

Manufacturer's Name:

beyerdynamic GmbH & Co. KG

Manufacturer's Address:

Theresienstrasse 8, 74072 Heilbronn, Germany

Type of Equipment:

Digital Wireless Microphone System
TG 100

Model Number/s:

TG 100R, Receiver
TG 100H, Handheld Transmitter
TG 100B, Beltpack Transmitter

I, the undersigned, as an employee of beyerdynamic, hereby declare that the equipment specified conforms to the above Directive and Standards.

Manufacturer's Signature



Full Name:

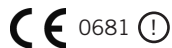
Ulrich Roth

Date:

1st July 2013

Position:

Director of R&D



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