beyerdynamic CLASSIS RM 30 Condenser Microphone Array Instructions

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Thank you for selecting the Classis RM 30 or RM 31 Revoluto microphone. Please take some time to read carefully through this information before using the product.

Contents

Safety Information

- Protect the microphone from moisture and sudden impacts. You could either injure yourself or others or damage the microphone.
- Do not blow into the microphone, you could damage the transformer. It is preferable to carry out a speech trial.

Applications

The Classis RM 30 | RM 31 is a modern desktop microphone which is ideal for discussions, podiums, tele/video conferencing, announcements and lecterns.
The Revoluto technology with integrated microphone capsules provides a corridor characteristic which ensures a wide range of good voice quality. Within this range up to two speakers can move freely, i.e. they can stand up or sit down, move their head and move towards or away from the microphone.

Connection

For example an XLR flange socket is installed into the tabletop and connected to the amplifier input (pin 1: ground, pin 2: NF+, pin 3: NF-). As an alternative there are installation and shockmounted holders available (refer to "Optional Accessories").
The microphone is connected and ready for operation.
The Classis RM 30, RM 31 SP and RM 31 RC microphones need a phantom supply of 8 – 52 V for operation.

Q Version

In order to avoid interference, we recommend that the audio and the supply to the illuminated ring are individually shielded. The Classis RM 31 Q microphone requires a voltage of 5 V for operation.

Classis RM 31 SP version with illuminated ring and programmable button

With the SP variant you can select via the programmable button between the operating modes ON/OFF, Push-To-Talk and Push-ToMute. The microphone button can also be disabled (Button Mode – Disabled (ON)). The frequency response can be set with a separate switch in two stages: Linear or with bass roll-off to suppress low-frequency interference. The illuminated ring indicating the microphone status can be deactivated.

In order to select the requested button function with the rotary selector switch and for setting the frequency response, use a small Phillips screwdriver.
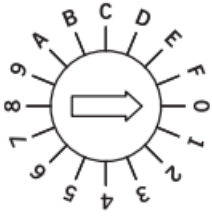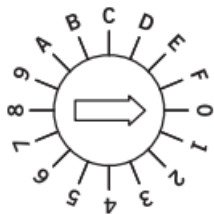

For assignments of the rotary selector switch, please refer to the following table.

Position	Button Mode	HP Filter	LED Ring
0	PTT	ON	ON
1	PTM	ON	ON
2	Disabled (ON)	ON	ON
3	ON/OFF	ON	ON
4	PTT	**OFF**	ON
5	PTM	**OFF**	ON
6	Disabled (ON)	**OFF**	ON
7	ON/OFF	**OFF**	ON
8	PTT	ON	**OFF**
9	PTM	ON	**OFF**
A	Disabled (ON)	ON	**OFF**
B	ON/OFF	ON	**OFF**
C	PTT	**OFF**	**OFF**
D	PTM	**OFF**	**OFF**
E	Disabled (ON)	**OFF**	**OFF**
F	ON/OFF	**OFF**	**OFF**

Classis RM 31 RC version with illuminated ring, programmable button and remote control

In addition to the features of the SP variants, the RC variant provides the option of external control. Furthermore, when operating the microphone button, an external device can be controlled via the control output.

In order to select the requested button function with the rotary selector switch and for setting the frequency response, use a small Phillips screwdriver.

For assignments of the rotary selector switch, please refer to the following table.

Position	Button Mode	HP Filter	LED Ring	Control ext. Dev.	Controlled by ext. Dev.
0	PTT	ON	ON	ON	ON
1	PTM	ON	ON	ON	ON
2	Remote only	ON	ON	**OFF**	ON
3	ON/OFF	ON	ON	ON	ON
4	PTT	**OFF**	ON	ON	ON
5	PTM	**OFF**	ON	ON	ON
6	Remote only	**OFF**	ON	**OFF**	ON
7	ON/OFF	**OFF**	ON	ON	ON
8	PTT	ON	**OFF**	ON	ON
9	PTM	ON	**OFF**	ON	ON
A	Remote only	ON	**OFF**	**OFF**	ON

B	ON/OFF	ON	**OFF**	ON	ON
C	PTT	**OFF**	**OFF**	ON	ON
D	PTM	**OFF**	**OFF**	ON	ON
E	Remote only	**OFF**	**OFF**	**OFF**	ON
F	ON/OFF	**OFF**	**OFF**	ON	ON

Microphone Positioning

When notebooks are being used, it is also necessary to consider the microphones. Notebooks should always be positioned to the side of the microphones. Otherwise, when opened, the LCD screen would obstruct the sound. This also applies to freestanding monitors. Sufficient distance is the key to the directional effect and good feedback suppression. Moreover, notebooks often have fans at the back. The noise of the fan would then be picked up by the microphone.


Two Classis RM 31 Q should not be directly placed back to back, because
the loudspeaker of the second builtin or desktop microphone unit will be
picked up by the microphone and cause feedback. The minimum distance should be 15 cm.

The minimum distance to walls should be 15 cm. An acoustic shadow due to obstructions, such as books, newspapers or conference papers, deteriorates performance greatly.

In order to avoid feedback, the minimum distance between external loudspeakers and the Classis RM 30 or Classis RM 31 should be 5 m.
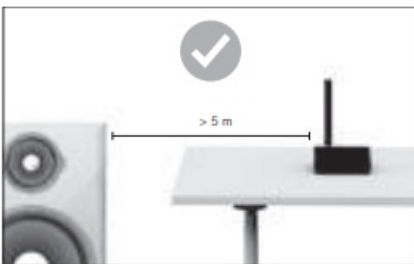
For more information about application examples, please refer to the beyerdynamic "Revoluto Design Guide".

Maintenance

Use a soft, damp cloth for cleaning the microphone. If necessary, you can use a gentle cleansing agent (such as washing-up liquid). Make sure not to allow any water to enter the transducer element and never use any solvent cleansers.

Service

Servicing must be carried out by qualified service personnel only.
Dismantling the microphone yourself will invalidate the guarantee.

Versions

Classis RM 30
3-pin male XLR connector,
phantom power adapter,
filter . . . . Order # 729.388

Classis RM 31 SP
3-pin male XLR connector,
phantom power adapter,
programmable button
(PTT, PTM, ON/OFF) with
braille, switchable
low-cut filter, switchable
LED ring . . . . Order # 729.396

Classis RM 31 RC
5-pin male XLR connector,
phantom power adapter,
programmable button
(PTT, PTM, ON/OFF) with
braille, switchable
low-cut filter, switchable
LED ring, remote control
function. . . . . Order # 729.825

Classis RM 31 Q
5-pin male XLR connector,
LED ring . . . . Order # 729.302

Optional Accessories

GMB 33 S
Microphone base with button,
3-pin female XLR connector for
Classis RM 30 . . . . Order # 725.242

GMS 32
Shock-mounted holder for
table installations, for Classis RM 30
and RM 31 SP, 3-pin female
XLR connector, black . . . . . . Order # 729.582

GMS 52
Shock-mounted holder for
table installations, for
Classis RM 31 Q, 5-pin female
XLR connector, black . . . . . . Ord

ZSH 20
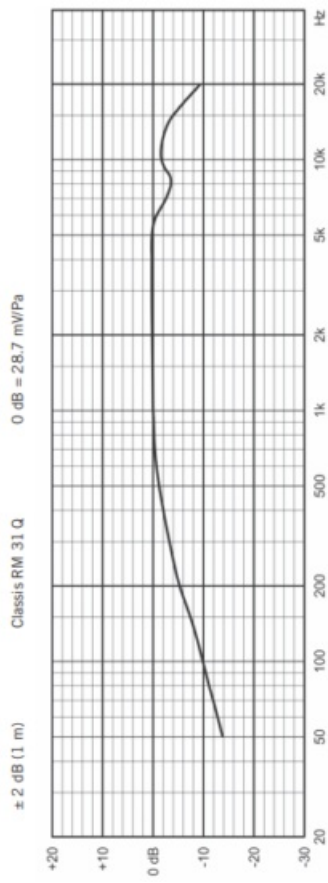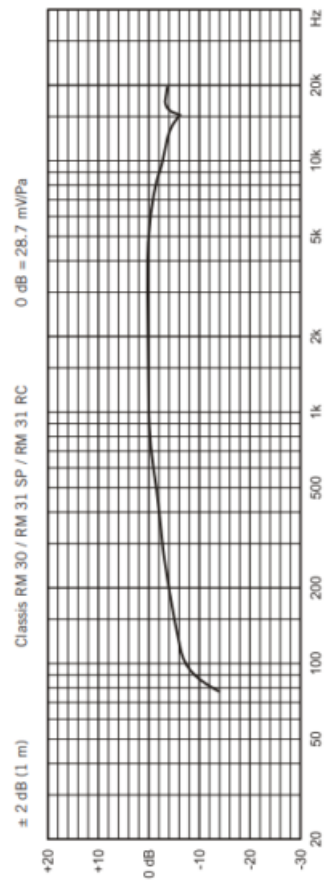Shock-mounted holder for
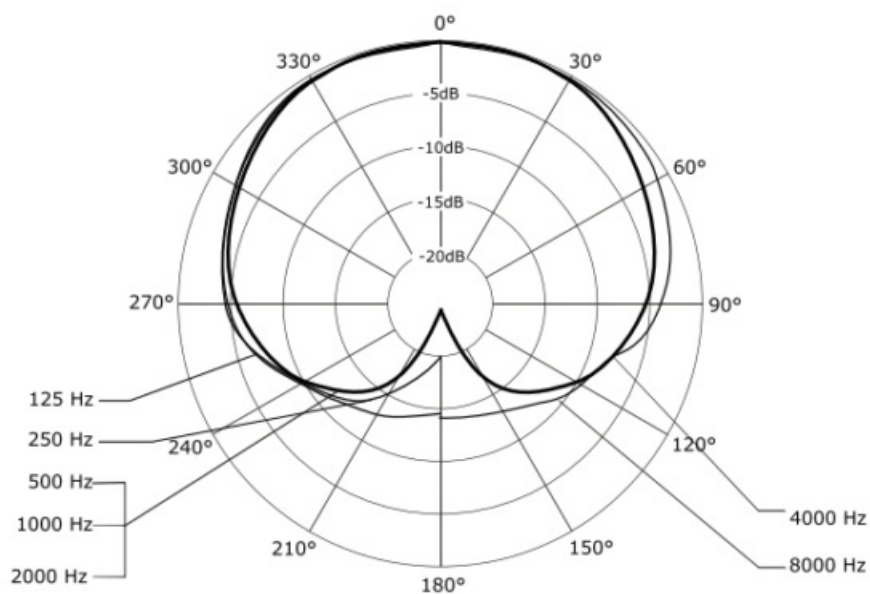table installations, black. . . . Order # 454.559

Technical Specifications

Microphone . . . . Revoluto microphone array, patented
Transducer type . . . . Electret condenser
Operating principle . . . . Pressure gradient
Polar pattern . . . . Corridor
Horizontal . . . . Cardioid
Vertical . . . . Lobe Optimal distance to the speaker . . . . 40 – 80 cm [15.75″ – 31.5″]
Frequency response
Classis RM 31 Q / SP / RC . 110 – 20,000 Hz
Classis RM 30. . . . . 90 – 20.000 Hz
Sensitivity
Classis RM 31 Q . . . . 28.7 mV/Pa = -30.9 dBV ±2 dB
Classis RM 30/31SP/31RC. . 28.5 mV/Pa = -30.9 dBV ±2 dB
Nominal impedance
Classis RM 31 Q . . . . < 20 Ω
Classis RM 30/31SP/31RC . . < 200 Ω
Load impedance
Classis RM 31 Q . . . . ≥ 100 Ω
Classis RM 30/31SP/31RC . . ≥ 1 kΩ
Signal-to-noise ratio /noise voltage
Classis RM 31 Q . . . . 68 dB [A] / 11.5 µV [A]
Classis RM 30/31SP/31RC . . 67.2 dB [A] / 12.5 µV [A]
Max. SPL . . . . 107 dB [SPL @ 1% THD]
Equivalent SPL . . . . 26.8 dB [A]
Connector
Classis RM 31 Q . . . . unbalanced, 5-pin XLR male
Classis RM 30/31SP/31RC . . balanced, 3-pin XLR male
Classis RM 31RC. . . . . balanced, 5-pin XLR male
Supply voltage / supply current
Classis RM 31 Q . . . . 5 V / 8.5 mA (with LED)
Classis RM 30. . . . . Phantom power
P48 (+48 VDC ±4 VDC, 6.8 kΩ ±20%, < 4.5 mA)
P24 (+24 VDC ±4 VDC, 1.2 kΩ ±20%, < 4.5 mA)
P12 (+12 VDC ±1 VDC, 680 Ω ±20%, < 4.5 mA)
Classis RM 31SP/31RC . . . . Phantom power
P48 (+48 VDC ±4 VDC, 6.8 kΩ ±20%, < 9.5 mA)
P24 (+24 VDC ±4 VDC, 1.2 kΩ ±20%, < 9.5 mA)
P12 (+12 VDC ±1 VDC, 680 Ω ±20%, < 9.5 mA)
Temperature range . . . . -10 °C bis +40 °C [14 °F to 104 °F]
Dimensions: . . . . RM 30 RM 31SP RM 31RC RM 31Q
Length
mm 260 300 300 219
inch . . . . 10.24″ 11.81″ 11.81″ 8.62″
Capsule ø
mm 25 25 25 25
inch . . . . 0.98″ 0.98″ 0.98″ 0.98″
Weight
g. 153 186 186 107
lbs 0.23 0.41 0.41 0.37

Frequency Response Curve

Classis RM 30 / RM 31 SP / RM 31 RC

0 dB = 28.7 mV/Pa

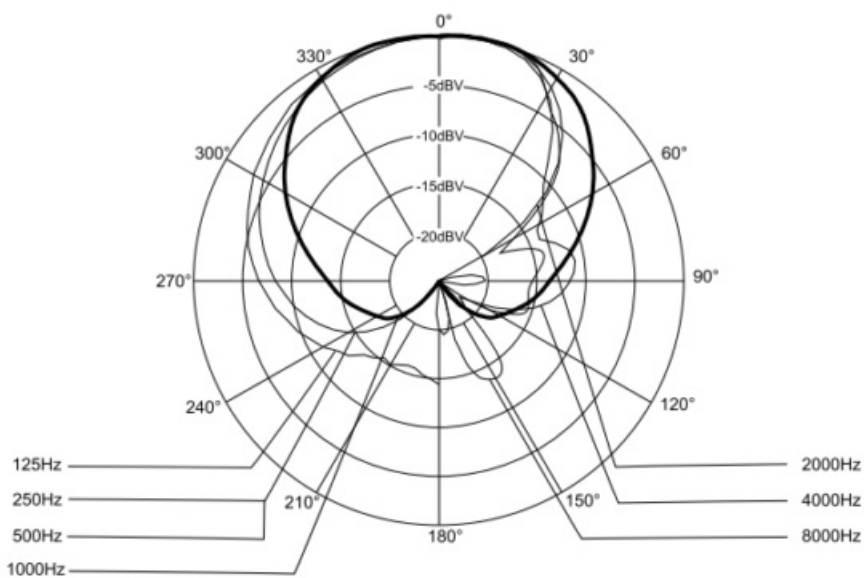± 2 dB (1 m)

Classis RM 31 Q

0 dB = 28.7 mV/Pa

± 2 dB (1 m)

Polar Patterns

horizontal

vertical

Wiring Diagrams

Classis RM 30
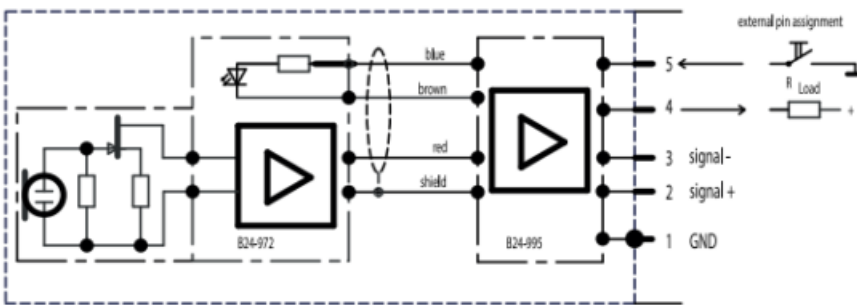

Classis RM 31 Q

blue 5 +5V
brown 4 -
red 2 signal+
shield 1 GND
B24-972
3 GND

Classis RM 31 SP

blue
brown 2 signal+
red 3 signal-
shield 1 GND
B24-972   B24-995

Classis RM 31 RC

external pin assignment
blue
brown 5 ←
red R Load
shield 4 →
3 signal-
2 signal+
B24-972   B24-995   1 GND
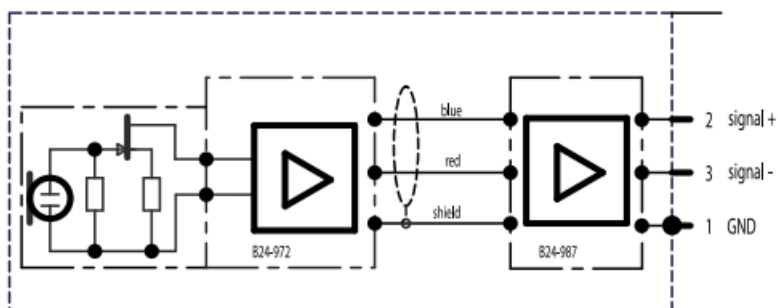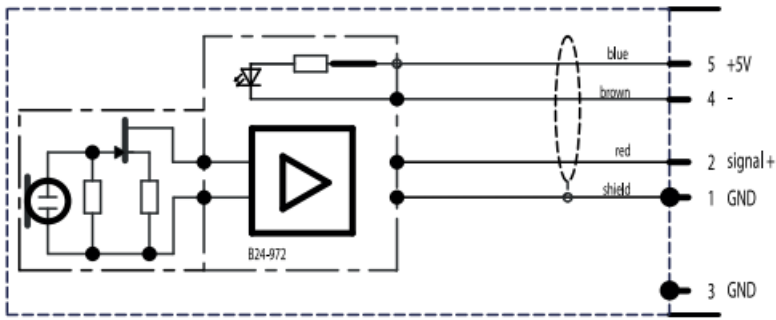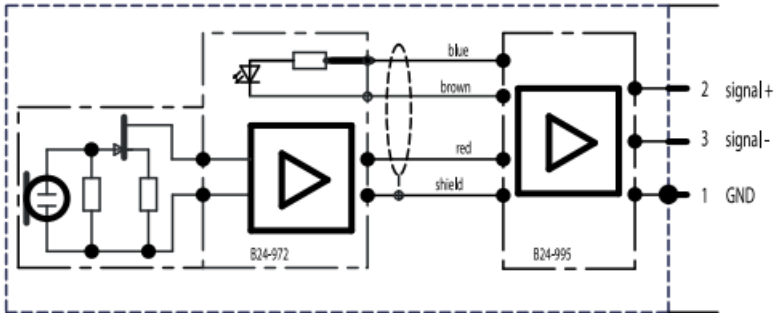
Disposal

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.

Documents / Resources

beyerdynamic ‖‖ **CLASSIS RM 30** **CLASSIS RM 31** — KONDENSATORMIKROFON CONDENSER MICROPHONE MICROPHONE À CONDENSATEUR Produktinformation — Product Information Informations de produit	[beyerdynamic CLASSIS RM 30 Condenser Microphone Array](#) [pdf] Instructions CLASSIS RM 30, CLASSIS RM 31, Condenser Microphone Array

References

- ✉ **[Headphones & Microphones |beyerdynamic](#)**