CGN 99 C/S
CGN 99 C/L
CGN 99 H/S
CGN 99 H/L
CHM 99

Always use the supplied windscreen (unless it would be too visually obtrusive). It protects the microphone from dust and moisture, and reduces pop and wind noise to a minimum.

2.3 Windscreen (2965Z2001)

B 18 battery power supply for all Discreet Acoustics Compact microphones.

2.4 Optional Accessories

PS3 F-Lock panel mount socket for all Discreet Acoustics Compact gooseneck microphones (not for CHM 99).

Refer to fig. 9.

H 500 shock mount for all Discreet Acoustics Compact gooseneck microphones (not for CHM 99).

Refer to fig.10.

H 600 shock mount for all Discreet Acoustics Compact gooseneck microphones (not for CHM 99).

Refer to fig.11.

SA 60 stand adapter for all Discreet Acoustics Compact gooseneck microphones (not for CHM 99).

Refer to fig.12.

ST 1, ST 45 table stands for all Discreet Acoustics Compact gooseneck microphones (not for CHM 99).

Refer to fig.13.

3 Microphone Applications

Note that both the maximum working distance and the area covered by the microphone depend on the pickup angle. The smaller the pickup angle (hypercardioid), the longer the maximum distance between the talker and the microphone and the smaller the area covered by the microphone.
Whether a cardioid or hypercardioid capsule will give the best results therefore depends on the specific application situation).

Refer to Table 1.

3 Microphone Applications

Microphone	Polar Pattern	Speaker position	Working distance	Application
CGN 99 C/S	Cardioid	Beinde the microphone only	30 to 60 cm* (1 to 2 feet)	Sound system
CGN 99 H/S	Hypercardioid	90° to 135° off microphone axis	30 to 90 cm* (1 to 3 feet)	Sound system
CGN 99 C/L	Cardioid	Behind the microphone only	30 to 60 cm* (1 to 2 feet)	Sound system
CGN 99 H/L	Hypercardioid	90° to 135° off microphone axis	30 to 90 cm* (1 to 3 feet)	Sound system
CHM 99	Cardioid	Behind the microphone only	1 to 3 m* (3.5 to 10 feet)	Sound system

Table 1: Microphone applications.

* Depending upon Acoustic environment

4 Installation and Connection

4.1 Introduction

All Discreet Acoustics Compact microphones are condenser microphones and therefore require a power supply (phantom power). The microphones have been designed for connection to microphone inputs with 9 to 52 V phantom power. To connect Discreet Acoustics Compact microphones to inputs without phantom power, refer to Section 4.4.

4.2 CGN 99 ... Gooseneck Microphones

Refer to figs. 9 and 12.

1. Use the optional PS 3 F-Lock panel mount socket to install the microphone in a tabletop or an optional SA 60 stand adapter to mount the microphone on a floor or table stand.

Note:

Refer to figs. 10 and 11.

For even better vibrational noise rejection, you can fix the microphone to the tabletop with an optional H 500 or H 600 shock mount.

2. Use a shielded cable to connect the microphone to a microphone input with phantom power.

3. If the phantom power on your mixing console is switchable, switch the phantom power on. (Refer to the instruction manual for your mixing console.)
   The microphone is powered directly from the phantom power source on the console.

4.3 CHM 99 Flown Microphone

1. **Prior to installing the microphone,** straighten the cable by carefully pulling it through your fingers. Make sure not to buckle or twist the cable. Let hang for 1 day to untwist.
2. Fasten a hook to the ceiling, use an existing hook, or stretch a fishing line across the hall.
3. Pass the cable through the hook or over the line so that it will hang at the desired height.

Important!

Do not tie a knot into the cable to hang it on the hook. This may cause the cable to twist and misalign the microphone after a while.

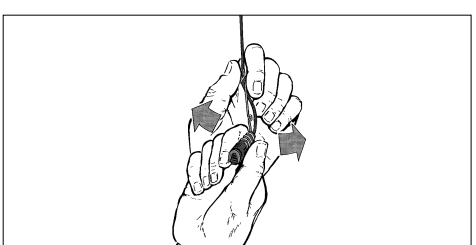


Fig. 1: Aligning the microphone.

5. Hold the cable with one hand and turn the microphone carefully into the desired position.

Refer to fig. 1.

Note:

- The cable on the CHM 99 will twist as the ambient temperature changes, e.g., in the heat generated by spotlights.
- The angle of twist depends both on the ambient temperature and the cable length. The shorter the cable, the smaller the amount of twist.

- **If you use spotlights, be sure to turn them on before aligning the microphone.**
- When you turn the spotlights off, the microphone will rotate out of alignment. Upon turning the spotlights back on, the microphone should rotate back into its original position.

4.3.1 Stabilizing the Microphone

To stabilize the microphone,

1. Leave an appropriate length of fishing line through the eyelet on the spring clamp of the CHM 99.
2. Fix the fishing line to two opposite walls so as to create just enough downward pull to steady the microphone laterally.

4.3.2 Applications

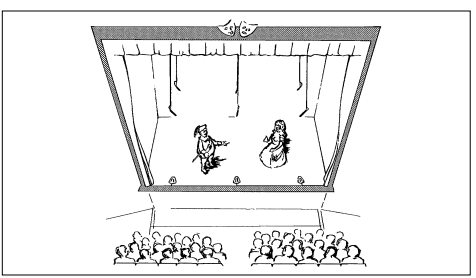


Fig. 2: Theater stage miking

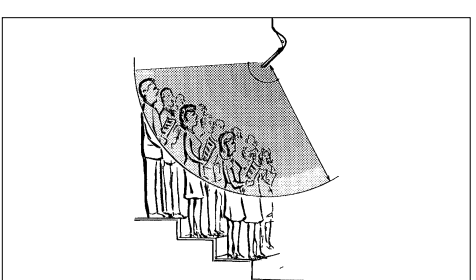


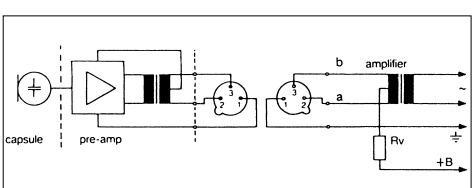
Fig. 3: Miking up a choir

1. Use a shielded balanced cable to connect the microphone to a microphone input with phantom power.
2. If the phantom power on your mixing console is switchable, switch the phantom power on. (Refer to the instruction manual for your mixing console.)
   The microphone is powered directly from the phantom power source.

4.3.3 Audio Connection

If your mixer has no phantom power, insert an external phantom power supply between the DPA phantom power adapter and mixer input. We recommend the optional B 18 power supplies from AKG. **Using any power supplies not recommended by AKG may damage your microphone and voids the warranty.**
You may also consider having a **qualified technician** retrofit a phantom power supply as per IEC 61938 to balanced or unbalanced mixer inputs. The IEC 61938 standard specifies a positive voltage of 12, 24, or 48 V on the audio lines versus the cable shield.

4.4 Connecting to Inputs without Phantom Power



4.4.1 Balanced Inputs

Fig. 4: Input transformer **with center tap** (ungrounded)

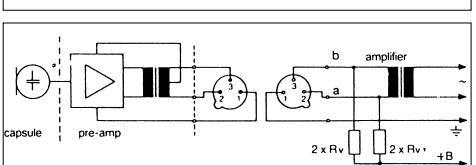


Fig. 5: Input transformer with **no center tap** (ungrounded)

If your equipment inputs are grounded or transformerless, wire either capacitors or extra transformers into the audio lines as shown in fig. 9 above in order to prevent any current leakage into the input stage.

4.4.2 Unbalanced Inputs

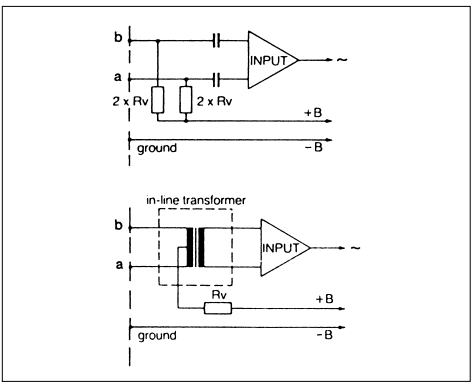


Fig. 6: Unbalanced input stage

VDC	Rv	2 x Rv*
12 V ±2 V	330 Ω	680 Ω
24 V ±4 V	680 Ω	1,200 Ω
48 V ±4 V	3,300 Ω	6,800 Ω

Table 2: Standard values for Rv and 2 x Rv

* In order to satisfy the IEC 61938 symmetry requirement, make sure the actual values of the two resistors 2 x Rv do not differ by more than 0.5%!

4.5 Bass Cut

The DPA phantom power adapter is equipped with a bass cut filter to minimize low-frequency noise.

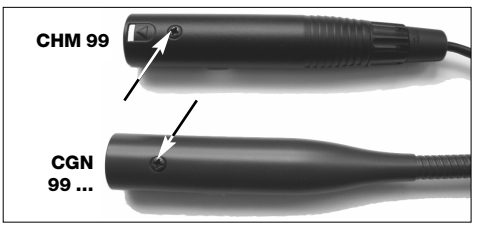


Fig. 7: Fixing screw.

1. Unscrew the fixing screw on the microphone or DPA phantom power adapter.
2. Pull the circuit board out of the case WITH CAUTION – so as not to break the internal leads.

Refer to fig. 7.

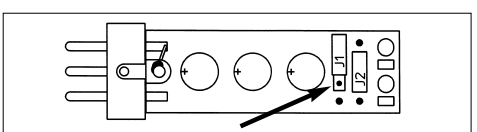


Fig. 8: DPA circuit board.

3. To acitvate the bass cut filter, plug the jumper J1 into the central contact pair on the circuit board.

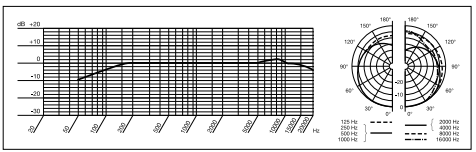
Refer to fig. 8.

5 Specifications

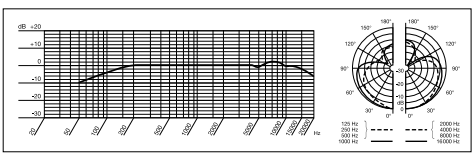
Microphone	**CGN 99 C/S** **CGN 99 C/L**	**CGN 99 H/S** **CGN 99 H/L**	**CHM 99**
Type	Pre-polarized condenser microphone		
Polar pattern	Cardioid	Hypercardioid	Cardioid
Frequency range	70 to 18,000 Hz	50 to 19,000 Hz	70 to 18,000 Hz
Sensitivity	18 mV/Pa ≙ -35 dBV*	12 mV/Pa ≙ -38 dBV*	18 mV/Pa ≙ -35 dBV*
Max. SPL for 1% THD	125 dB	125 dB	125 dB
Equivalent noise level	<21 dB-A	<21 dB-A	<21 dB-A
Signal/noise ratio (A-weighted.)	>73 dB	>73 dB	>73 dB
Electrical impedance	<600 Ω	<600 Ω	<600 Ω
Receommended load impedance	>2000 Ω	>2000 Ω	>2000 Ω
Power requirement	9 to 52 V phantom power to IEC 61938 (DPA adapter integrated)		
Current consumption	<3 mA	<3 mA	<3 mA
Connector	XLR-3	XLR-3	XLR-3
Finish	matte black	matte black	matte black
Size (capsule dia. x length)	13.5 x 380 mm (0.5 x 15 in.) 13.5 x 580 mm (0.5 x 23 in.)	13.5 x 380 mm (0.5 x 15 in.) 13.5 x 580 mm (0.5 x 23 in.)	13.5 x 55 mm (0.5 x 2.1 in.)
Net/shipping weight	160/480 g (5.7/17 oz.) 170/500 g (6/17.7 oz.)	160/480 g (5.7/17 oz.) 170/500 g (6/17.7 oz.)	20/480 g (0.7 x 17 oz.)
Order no.	2965H00110 2965H00130	2965H00120 2965H00140	2965H00150

* re 1 V/Pa

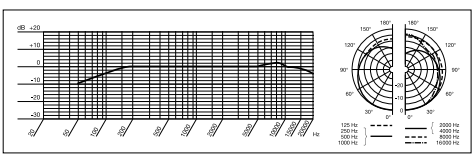
This product conforms to the standards listed in the Declaration of Conformity. To order a free copy of the Declaration of Conformity, visit http://www.akg.com or contact sales@akg.com.



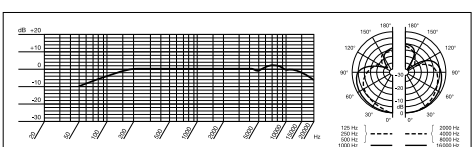
CGN 99 C/S Frequency Response & Polar Diagram



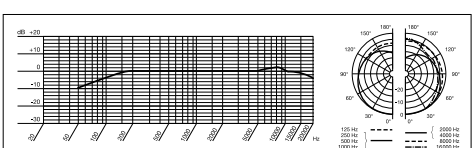
CGN 99 H/S Frequency Response & Polar Diagram



CGN 99 C/L Frequency Response & Polar Diagram



CGN 99 H/L Frequency Response & Polar Diagram



CHM 99 Frequency Response & Polar Diagram

Fig. 9: CGN 99 C/S + PS3 F-Lock

Fig. 10: CGN 99 C/S + H 500

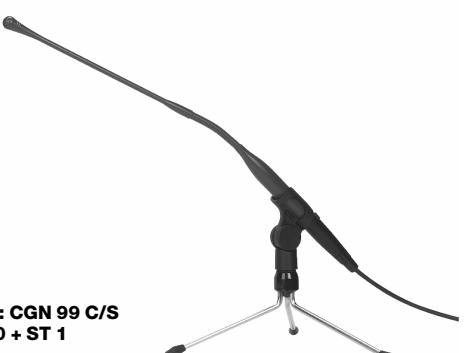


Fig. 12: CGN 99 C/S + SA 60 + ST 1

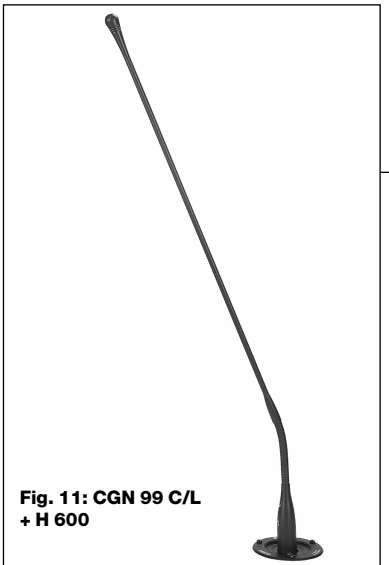


Fig. 11: CGN 99 C/L + H 600

Fig. 14: CHM 99

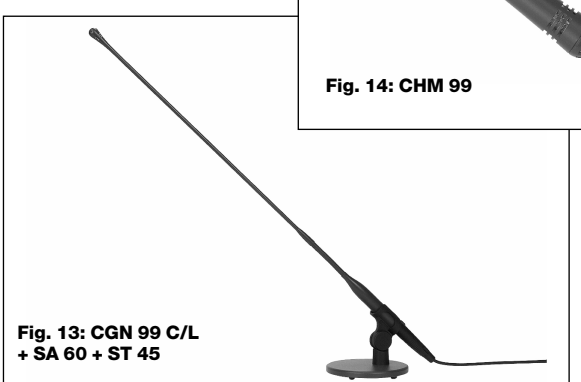


Fig. 13: CGN 99 C/L + SA 60 + ST 45

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