

# Ultra Linear Series Condenser Microphones (ULS)

## C 460 B comb-ULS/61



These microphones consider new and future orientated technologies. The microphones meet the highest technical standards and will withstand rough handling in studio applications. Special attention has been paid with these microphones to the complete linear transfer characteristics of all transmission parameters. The low inherent self-noise and the high overload point guarantee a dynamic range of these microphones in the order of 120 dB, which is substantially more than figures found in conventional microphones and other associated equipment. The outstanding technical performance is also achieved with all practical loading conditions of different input circuits of associated equipment including the often necessary long cable runs.

### Product Features:

- Ultra low noise figure (14 dB-A ENL)
- Extremely low distortion (from 30 Hz to 20,000 Hz)
- Low power consumption (less than 1 mA)
- ~15 mm active diaphragm diameter for a good balance between low self noise and the acoustic properties
- Smooth roll-off at both ends of the audio range for good phase response
- Carefully designed output stage for driving any load right down to almost "zero impedance" or long cable runs without detectable deterioration of the output signal
- Constant output impedance over the entire audio range
- To be powered from any standard phantom powering source (acc. to DIN 45596)

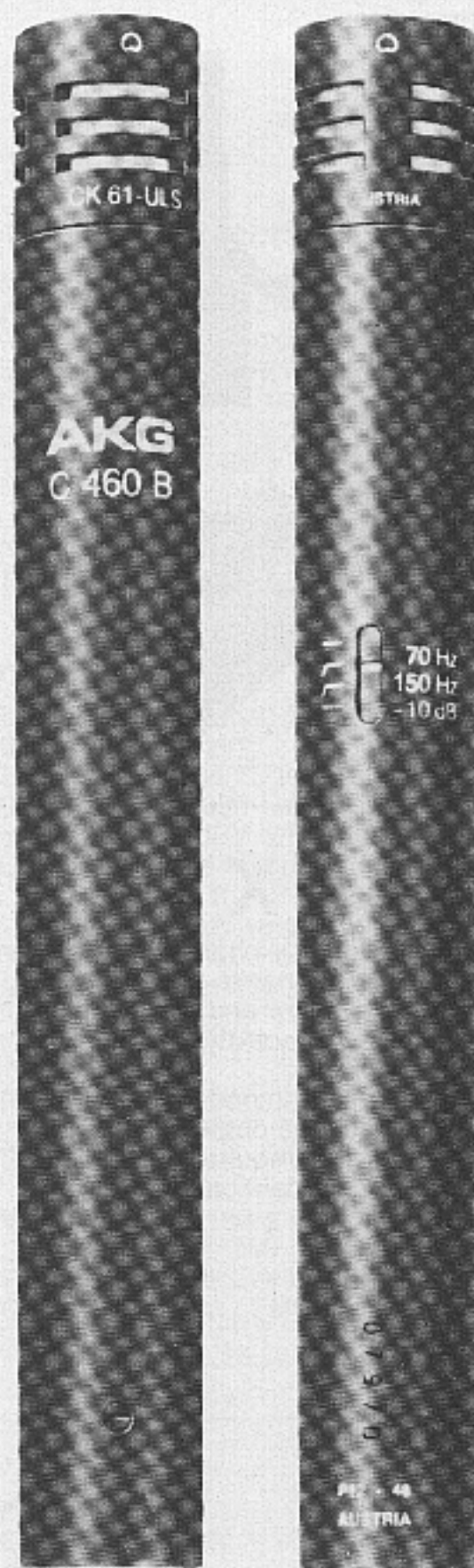
### Included Accessories:

- SA 40 "Quick release" stand adapter
- W 32 foam-type windscreen
- Original frequency response curve containing serial number and production date code.

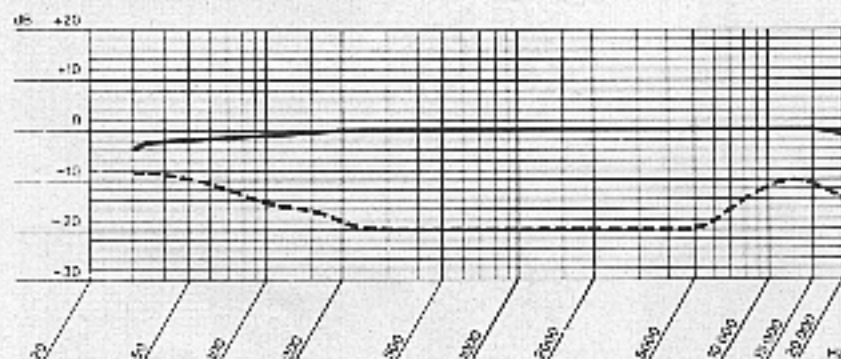
### C 460 B comb-ULS/61

#### Technical Data:

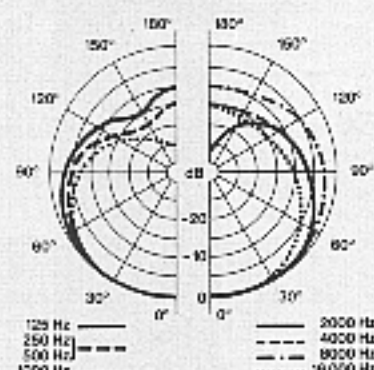
- Transducer type: pressure gradient receiver
- Frequency range: 20 to 20,000 Hz  $\pm 1$  dB from published curve
- Sensitivity at 1,000 Hz: 8 mV/Pa  $\hat{=}$  0.8 mV/ $\mu$ b  $\hat{=}$  -62 dB ref. 1  $\mu$ b.
- Polar pattern: cardioid
- Response of bass-cut filter: 12 dB/octave at all settings
- Pre-attenuation: Switchable to 10 dB
- Nominal output impedance:  $\leq 120$  ohms, transformer balanced
- Recommended load impedance:  $\geq 500$  ohms
- Equivalent noise level: acc. to DIN 45405 (CCIR 468-2): 25 dB acc. to DIN 45412 (A-weighted): 14 dB-A
- S/N ratio ref. 1 Pa (A-weighted): 80 dB
- Hum sensitivity: 9  $\mu$ V/5  $\mu$ T at 50 Hz
- Max. sound pressure for 0.5% THD: 100 Pa  $\hat{=}$  134 dB SPL on 1,000 ohms (from 30 Hz to 20,000 Hz)
- Total dynamic range: 120 dB (A-weighted)
- Operating temperature range: -20° C to +60° C
- Permissible humidity level: 99% at +20° C, 95% at +60° C
- Power requirement: 9 to 52 volts phantom powering (acc. to DIN 45596)
- Current consumption:  $\leq 1$  mA
- Dimensions: 21  $\varnothing$  x 173 mm length (0.8  $\varnothing$  x 6.8 inch)
- Finish: non-reflective black chromium plated
- Connector: 3 pin XLR-type mating
- Net weight: 140 g (4.9 oz)
- Shipping weight: 500 g (1.1 lb)
- Capsule contact: selfcleaning, gold plated
- Thread dimension on capsule: M 19 x 0.75 mm



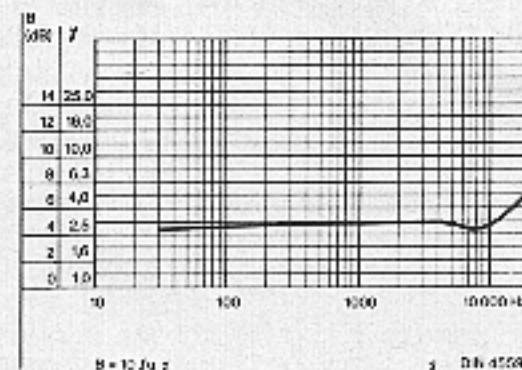
### Frequency curve:



### Polar response:

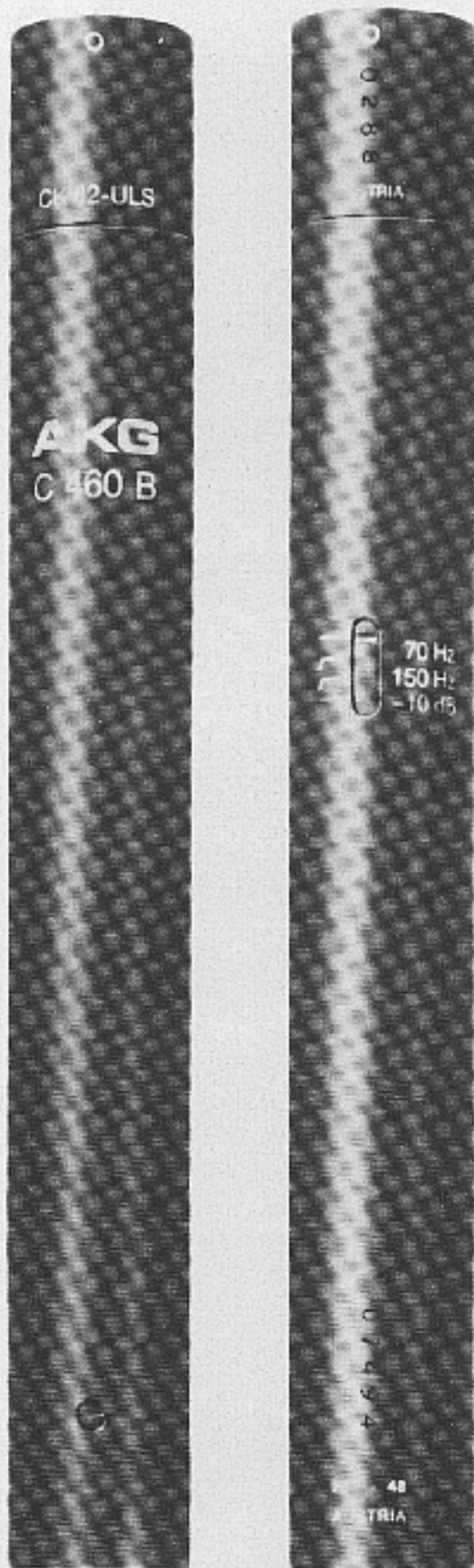
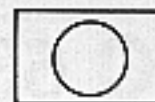


### Directivity factor:





# C 460 B comb-ULS/62



Same as C 460 B comb-ULS/61, but with omni-directional polar response. The ultimate choice when recording in halls with suitable acoustics. This microphone provides the identical sonic results regardless of the microphones' distance from the sound source and at the same time embeds the recorded sound in the natural "atmosphere" of the room.

## C 460 B comb-ULS/62

### Technical Data:

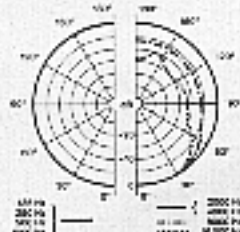
- Transducer type: pressure receiver
- Frequency range: 20 to 20,000 Hz  $\pm 1$  dB from published curve
- Sensitivity at 1,000 Hz: 8 mV/Pa  $\triangleq$  0.8 mV/ $\mu$ b  $\triangleq$  -62 dBV ref. 1  $\mu$ b.
- Polar pattern: omni-directional
- Response of bass-cut filter: 12 dB/octave at all settings
- Pre-attenuation: Switchable to 10 dB
- Nominal output impedance:  $\leq 120$  ohms, transformer balanced
- Recommended load impedance:  $\geq 500$  ohms

### Frequency curve:

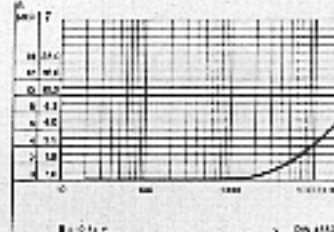


- Equivalent noise level: acc. to DIN 45405 (CCIR 468-2): 25 dB acc. to DIN 45412 (A-weighted): 14 dB-A
- S/N ratio ref. 1 Pa (A-weighted): 80 dB
- Hum sensitivity: 9  $\mu$ V/5  $\mu$ T at 50 Hz
- Max. sound pressure for 0.5% THD: 100 Pa  $\triangleq$  134 dB SPL on 1,000 ohms (from 30 Hz to 20,000 Hz)
- Total dynamic range: 120 dB (A-weighted)
- Operating temperature range: -20° C to +60° C
- Permissible humidity level: 99% at +20° C, 95% at +60° C
- Power requirement: 9 to 52 volts phantom powering (acc. to DIN 45596)
- Current consumption:  $\leq 1$  mA
- Dimensions: 21  $\varnothing$  x 173 mm length (0.8  $\varnothing$  x 6.8 inch)
- Finish: non-reflective black chromium plated
- Connector: 3 pin XLR-type mating
- Net weight: 140 g (4.9 oz)
- Shipping weight: 500 g (1.1 lb)
- Capsule contact: selfcleaning, gold plated
- Thread dimension on capsule: M 19 x 0.75 mm

### Polar response:



### Directivity factor:



# C 460 B comb-ULS/63



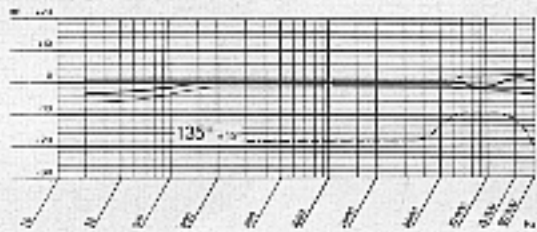
Same as C 460 B comb-ULS/61, but with hyper-cardioid polar response for better separation when used for multi-track recordings.

## C 460 B comb-ULS/63

### Technical Data:

- Transducer type: pressure gradient receiver
- Frequency range: 20 to 20,000 Hz  $\pm 1$  dB from published curve
- Sensitivity at 1,000 Hz: 8 mV/Pa  $\triangleq$  0.8 mV/ $\mu$ b  $\triangleq$  -62 dBV ref. 1  $\mu$ b.
- Polar pattern: hyper-cardioid
- All remaining data identical to C 460 B comb-ULS/61

### Frequency curve:



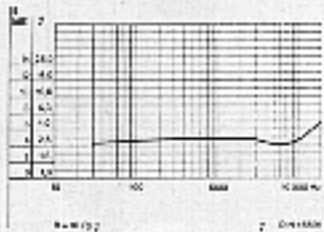
### Optional Accessories:

- H 30 Elastic shockmount/suspension
- B 18 Battery supply unit
- N 62 E Power supply unit for two microphones
- N 66 E Power supply unit for six microphones

### Polar response:



### Directivity factor:





# C 460 B

This new CMS pre-amplifier is a complement of the existing modular range prepared for applications of future technologies.

The electronics of the C 460 B are a completely new departure, and the key to the digital-level performance of the microphone. The resulting technical specifications are unique among today's microphones and will remain in the forefront of even tomorrow's microphones.

A new thread adapter will mount all CMS capsules, with the exception of the CK 9.

## Technical Data:

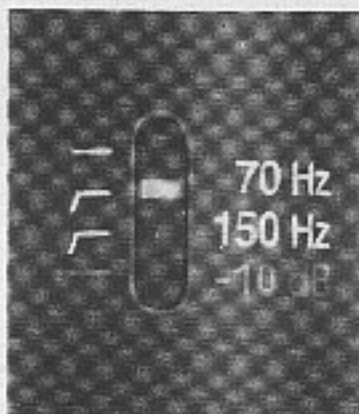
- Frequency range of amplifier: 5 to 30,000 Hz
- No-load amplification: 0,47 ±0,3 dB
- Polarization voltage: + 62 volts
- Response of bass-cut filter: 12 dB/octave at all settings
- Pre-attenuation: switchable to 10 dB
- Nominal output impedance:  $\leq 120$  ohms, transformer balanced
- Recommended load impedance:  $\geq 600$  ohms
- Equivalent noise level: (measured with CK 1 capsule) acc. to DIN 45405 (CCIR 468-2): 24 dB acc. to DIN 45412 (A-weighted): 14 dB-A
- S/N ratio ref. 1 Pa (A-weighted): 80 dB
- Hum sensitivity: 9  $\mu$ V/5  $\mu$ T at 50 Hz
- Max. sound pressure for 0.5% THD: 200 Pa  $\hat{=}$  140 dB SPL on 1000 ohms (from 30 Hz to 20,000 Hz).
- Total dynamic range: 126 dB (A-weighted)
- Operating temperature range: -20° C to +60° C
- Permissible humidity level: 99% at +20° C, 95% at +60° C
- Power requirement: 9 to 52 volts phantom powering acc. to DIN 45596
- Current consumption:  $\leq 1$  mA
- Dimensions: 21  $\varnothing$  x 150 mm length (0.8  $\varnothing$  x 5.9 inch)
- Finish: non-reflective black chromium plated
- Connector: 3 pin XLR-type mating
- Net weight: 135 g (4.8 oz)
- Shipping weight: 480 g (1.1 lb)
- Capsule contact: selfcleaning, gold plated
- Thread dimensions: M 19x0.75 mm

## Included Accessories:

- SA 40 Stand adapter
- A 60 Thread adapter

## Features:

- Solid state circuitry throughout
- Ultra low noise figures
- High operation reliability
- Low power consumption
- Extended long-life stability
- Built-in attenuation switch with 0 and 10 dB position (see illustration)
- Bass-cut switch with the following possible combinations:
  - linear response (no bass-cut)
  - bass-cut with onset at 70 Hz
  - bass-cut with onset at 150 Hz (see illustration)



- To be powered from any standard phantom powering source (acc. to DIN 45596).

## Optional Accessories:

- CMS accessories as described on page 41.
- H 30 Elastic suspension
- B 18 Battery supply unit
- N 62 E Power supply unit for two microphones
- N 66 E Power supply unit for six microphones

