AKG C414 XLS

AKG C414 XLS Studio Grade Condenser Microphone User Manual

Professional Large Diaphragm Vocal and Instrument Microphone

1. Introduction

The AKG C414 XLS is a professional large-diaphragm condenser microphone renowned for its exceptional linearity and neutral sound. Designed for studio recording of vocals and a wide range of acoustic instruments, it offers nine selectable polar patterns, advanced attenuation pads, and bass-cut filters for versatile application. This manual provides essential information for setting up, operating, and maintaining your C414 XLS microphone.

Figure 1: AKG C414 XLS Studio Grade Condenser Microphone.

2. Key Features

- **Linearity and Neutral Sound:** Engineered for highly detailed and accurate recording of vocals and acoustic instruments.
- **Nine Selectable Polar Patterns:** Includes Cardioid, Figure-of-eight, Hypercardioid, Omnidirectional, and Wide Cardioid for optimal sound capture in various scenarios.
- **Preattenuation Pads:** Selectable -6 dB, -12 dB, and -18 dB pads to handle high sound pressure levels without distortion.
- **Bass-Cut Filters:** Three switchable bass-cut filter settings (40 Hz, 80 Hz, 160 Hz) to reduce unwanted low-frequency noise and proximity effect.
- **Peak Hold LED:** Alerts users to overload peaks, ensuring optimal signal integrity.
- **Robust Aluminum Construction:** Durable design suitable for studio and live performance environments.

3. What's in the Box

The AKG C414 XLS microphone typically includes the following components:

- AKG C414 XLS Microphone
- Rugged Aluminum Carrying Case
- Shock Mount
- Pop Filter
- Windscreen

Figure 2: AKG C414 XLS and its standard accessories, including the aluminum carrying case, shock mount, pop

filter, and windscreen.

4. Setup

4.1 Unpacking and Inspection

Carefully unpack the microphone and all accessories. Inspect all components for any signs of damage. Retain the original packaging for future storage or transport.

4.2 Mounting the Microphone

1. Attach the included shock mount to a sturdy microphone stand.
2. Gently insert the AKG C414 XLS microphone into the shock mount, ensuring it is securely held. The shock mount helps to isolate the microphone from vibrations and handling noise.
3. For vocal applications, attach the pop filter to the microphone stand and position it approximately 2-3 inches (5-7 cm) in front of the microphone grille. This reduces plosive sounds (P, B) and protects the capsule from moisture.

4.3 Connecting the Microphone

The C414 XLS requires phantom power (+48V) to operate. Connect the microphone to an audio interface, mixer, or preamplifier using a balanced XLR cable. Ensure that phantom power is enabled on your connected device before use.

5. Operating Instructions

The AKG C414 XLS features controls on both the front and rear of its body for adjusting polar patterns, pre-attenuation, and bass-cut filters.

Figure 3: Front and back views of the AKG C414 XLS, highlighting the control switches.

5.1 Polar Pattern Selection

The front of the microphone features a switch to select one of nine polar patterns. Each pattern offers a different directional response, allowing you to optimize the microphone's pickup for various recording situations:

- **Omnidirectional:** Picks up sound equally from all directions. Ideal for capturing ambient room sound or multiple sources.
- **Wide Cardioid:** Broader pickup than cardioid, useful for groups or instruments with wider sound fields.
- **Cardioid:** Most sensitive to sound from the front, rejecting sound from the sides and rear. Standard for vocals and many instruments.
- **Hypercardioid:** Tighter pickup than cardioid, with more rejection from the sides and a small lobe of sensitivity at the rear. Good for isolating a single source.
- **Figure-of-Eight:** Picks up sound equally from the front and rear, rejecting sound from the sides. Excellent for duets or M/S stereo recording.

Intermediate patterns are also available for fine-tuning.

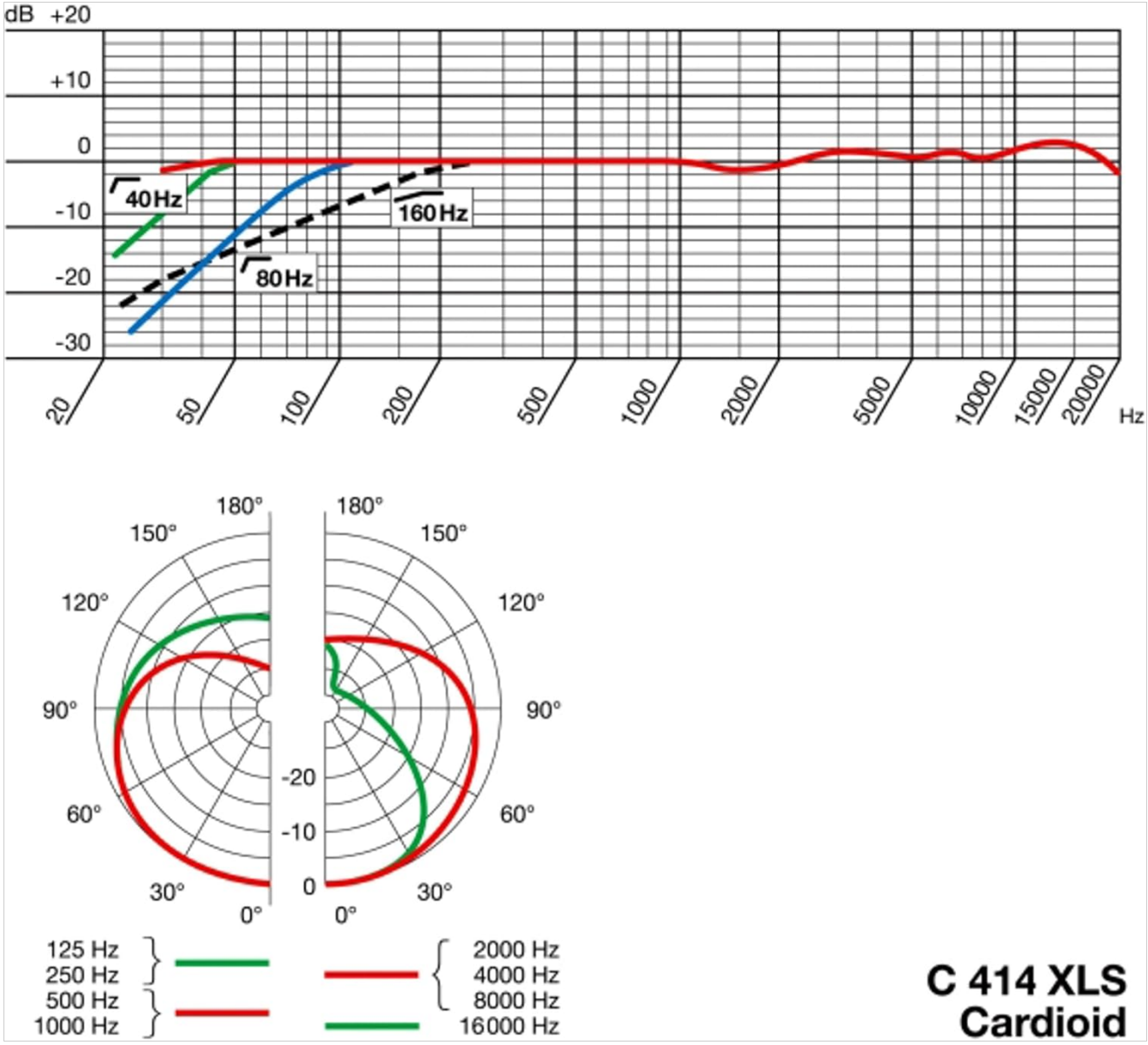

Figure 4: Polar pattern diagrams and frequency response graph for the C414 XLS in Cardioid mode.

5.2 Preattenuation Pad

On the rear of the microphone, a switch allows you to engage a pre-attenuation pad. This reduces the microphone's output level, preventing distortion when recording very loud sound sources. Options include:

- 0 dB (no attenuation)
- -6 dB
- -12 dB
- -18 dB

5.3 Bass-Cut Filter

Also on the rear, a switch activates a bass-cut filter to reduce low-frequency rumble, wind noise, or proximity effect (an increase in bass response when a sound source is very close to the microphone). Available settings are:

- Flat (no filter)
- 40 Hz
- 80 Hz
- 160 Hz

6. Maintenance

Proper care ensures the longevity and optimal performance of your AKG C414 XLS microphone.

- **Cleaning:** Use a soft, dry cloth to clean the microphone body. Avoid using liquid cleaners or solvents, as these can damage the finish or internal components.
- **Storage:** When not in use, store the microphone in its original aluminum carrying case with the included dust bag. This protects it from dust, moisture, and physical damage.
- **Handling:** Always handle the microphone with care. Avoid dropping it or exposing it to extreme temperatures or humidity.
- **Pop Filter/Windscreen:** Regularly clean the pop filter and windscreen to prevent the buildup of saliva or dust, which can affect sound quality.

7. Troubleshooting

If you encounter issues with your C414 XLS, consider the following common solutions:

- **No Sound:**
  - Ensure phantom power (+48V) is enabled on your audio interface or mixer.
  - Check all cable connections (XLR cable, power).
  - Verify that the input gain on your audio device is set appropriately.
- **Distorted Sound:**
  - Engage the pre-attenuation pad (-6 dB, -12 dB, or -18 dB) if recording very loud sources.
  - Reduce the input gain on your audio device.
  - Ensure the microphone is not overloaded (check the Peak Hold LED).
- **Excessive Bass/Rumble:**
  - Activate the bass-cut filter (40 Hz, 80 Hz, or 160 Hz) to reduce low-frequency noise or proximity effect.
  - Increase the distance between the sound source and the microphone.
- **Unwanted Noise/Hum:**
  - Ensure you are using high-quality, balanced XLR cables.
  - Check for nearby electronic devices that might be causing interference.
  - Ensure proper grounding of all audio equipment.

8. Specifications

Feature	Specification
Polar Patterns	Cardioid, Figure of eight, Hypercardioid, Omnidirectional, Wide Cardioid
Audio Frequency Bandwidth	20 - 20000 Hz
Equivalent Noise Level	6 dB-A
Sensitivity	23 mV/Pa
Signal to Noise	88 dB-A

Preattenuation Pad	-6; -12; -18 dB
Bass Cut Filter	160; 80; 40 Hz
Electrical Impedance	200 Ohms
Recommended Load Impedance	2200 Ohms
Item Weight	10.6 ounces (300 Grams)
Product Dimensions (L x W x H)	11.3 x 3.9 x 5.5 inches
Material	Aluminum
Connector Type	XLR

9. Product Videos

9.1 AKG C414 XLII vs XLS Comparison

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Video 1: A comparison of the AKG C414 XLII and C414 XLS microphones, highlighting their sound characteristics and differences across various applications like vocals, electric guitar, and acoustic guitar. This video helps users understand the sonic profile of the C414 XLS.

9.2 AKG C414 at Stadium Red Studios

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Video 2: Features Claude Zdanow and Ariel Borujow from Stadium Red Studios discussing their experience and preference for AKG microphones, including the C414 XLS, in professional recording environments. This video showcases the microphone's versatility and reliability in a high-end studio setting.

10. Warranty and Support

For warranty information, technical support, or service inquiries, please refer to the official AKG website or contact your authorized AKG dealer. Keep your proof of purchase for warranty claims.