

SHURE®

LEGENDARY
PERFORMANCE™

WIRED MICROPHONE

PGA STUDIO MICROPHONE KIT USER GUIDE



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PG Alta™ Studio Starter Kit

PG Alta Microphones

Congratulations on the purchase of a new Shure PG Alta series microphone. The PG Alta series delivers professional quality audio at an affordable price, with solutions for capturing nearly any source, including voice, acoustic instruments, drums, and amplified electric instruments. Suitable for live and studio applications, PG Alta microphones are built to last, and meet the same rigorous quality testing standards that make all Shure products trustworthy and reliable.

General Rules for Use

- Do not cover any part of the microphone grille with your hand, as this will adversely affect microphone performance.
- Aim the microphone toward the desired sound source (such as the talker, singer, or instrument) and away from unwanted sources.
- Place the microphone as close as practical to the desired sound source.
- Work close to the microphone for extra bass response.
- Use only one microphone to pick up a single sound source.
- For better gain before feedback, use fewer microphones.
- Keep the distance between microphones at least three times the distance from each microphone to its source ("three to one rule").
- Place microphones as far as possible from reflective surfaces.
- Add a windscreen when using the microphone outdoors.
- Avoid excessive handling to minimize pickup of mechanical noise and vibration.

Studio Microphone Kit

The microphones included in this kit provide solutions for recording almost any source.

Included Components

- PGA52 Dynamic Microphone
- PGA57 Dynamic Microphone
- (2) PGA181 Condenser Microphones

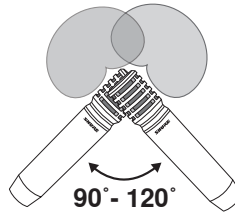
Applications

- Drums
- Vocals
- Acoustic Guitar
- Full Bands
- Guitar/Bass Amplifiers
- Strings
- Brass and Woodwinds
- Piano

Microphone Techniques for Stereo Recording

Stereo recording using two microphones adds realism by capturing sound similar to the way that humans hear. Panning (directing the signals left and right) adds width and directionality when listening on stereo systems or headphones.

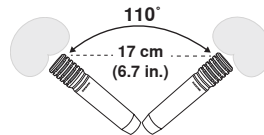
Tip: Panning the signals farther apart increases stereo separation and width. Be careful of panning too far, as it may result in a hollow sound in the middle of the stereo field.



① X-Y Coincident Pair

The X-Y technique provides excellent phase coherency because sound arrives simultaneously at both microphones.

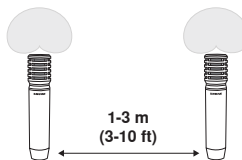
Placement: Set up the microphones with the capsules close together, but not touching. Experiment with angles between 90 and 120 degrees to capture the full width of the source.



② ORTF

Developed as a French broadcasting standard, ORTF technique replicates the spacing and angle of human ears. It provides a natural, wide sound.

Placement: Angle the microphones at 110°, with the capsules 17 cm apart.



③ A/B Spaced Pair

Spaced pair recording can deliver a dramatic stereo effect because sound arrives at each microphone at a slightly different time, providing the listener with timing cues that localize sounds.

Note:

For drum overheads, the snare drum should be equidistant from each microphone to achieve a tight, focused sound. Use a measuring tape or piece of string to verify this distance.

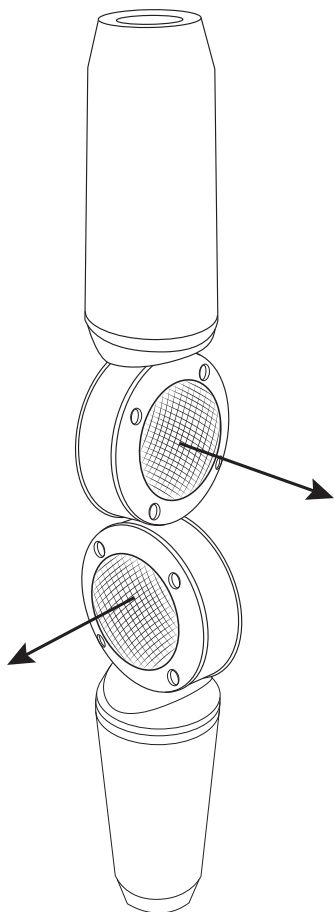
Applications

The following table provides basic recording techniques for several sources. Experiment with various configurations and microphone placement to achieve the preferred sound.

Source	Suggested Microphones	Tips
Drums	PGA181: Stereo overheads PGA52: Kick drum PGA57: Snare Drum	- See stereo microphone techniques for overhead placement options - If the kick drum resonant head has a hole in it, place the microphone inside for improved isolation from other instruments - Aim the PGA57 towards the center of the snare drum head to capture more stick attack, or closer the edge to capture more overtones.
Vocals	PGA181	- Place the microphone 1-6 inches (2-15 cm) from the source - Use a pop filter (Shure PS-6) to prevent plosives
Acoustic Guitar	PGA181	- Use two PGA181 microphones to record in stereo using one of the stereo recording methods, or a single PGA181 for a mono signal - Place microphone(s) 6-12 inches (15-30 cm) from the guitar - Place near the 12th fret for a balanced sound, or closer to the sound hole for more bass
Full Band	PGA181: Stereo pair, aimed at entire group PGA52: Kick drum or bass amplifier PGA57: Vocals or guitar amplifier	- Use close-placement microphones on sources that are most likely to need extra volume in the mix, such as vocals or acoustic instruments. - If more close-placement microphones are necessary, use one PGA181 to capture the entire group, and use the second PGA181 on an instrument.
Guitar/Bass Amplifiers	PGA52: Bass amplifier PGA57: Guitar amplifier PGA181: Guitar or bass amplifiers	- Aim the microphone at the center of the speaker cone for a bright, punchy sound, or towards the edge of the speaker for a mellow sound. - The PGA181 delivers a clear, detailed sound - The PGA57 and PGA52 deliver a warmer sound that helps to smooth out harsh sounding amplifiers Advanced tip: For a more spacious sound, use a PGA57 or PGA52 close to the amp, with a PGA181 placed 10-20 feet away. Pan them slightly in opposite channels to create a full, roomy sound.
Strings	PGA181: Stereo pair (ensemble), any individual instrument	- To record a string ensemble, use one of the stereo microphone techniques to capture the width of the source - For an individual instrument, try using one PGA181 approximately 1 foot from the source, with the other PGA181 in the room (6-12 feet from the source) to capture ambience.
Brass and Woodwinds	PGA181: Stereo pair (ensemble), any individual instrument PGA52: Tuba PGA57: Saxophone, trumpet, trombone	- To capture brass and woodwind ensembles, use one of the stereo microphone techniques to capture the width of the source - For an individual instrument, such as a saxophone, aim the PGA57 toward the bell of the instrument and use a PGA181 in the room (6-12 feet from the source) to capture ambience - For a simplified approach, simply use one PGA181 placed 1-2 feet from the instrument
Piano	PGA181 (Stereo pair)	- Use a stereo recording technique, with the microphones placed inside the piano lid - For upright pianos, keep the top open and/or remove the front panel when possible

PGA181 X-Y Stereo Position

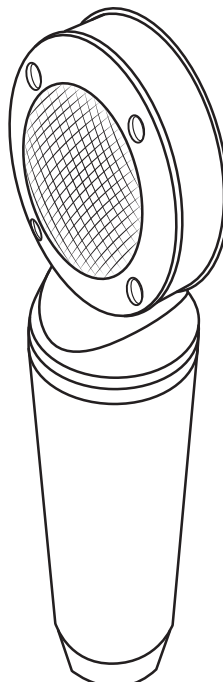
The PGA181 is a side-address microphone, and must be set up vertically for the capsules to be coincident.



The capsules are angled 90° apart, just like the alignment with a front-address microphone

Positioning the Microphone

The front of the microphone is marked by several indicators: four screws around the grille, the cardioid logo, and the PGA181 model number. Position this side toward the sound source.



Proximity Effect

Directional microphones progressively boost bass frequencies as the microphone is placed in closer proximity to the source. This phenomenon, known as proximity effect, can be used to create a warmer, more powerful sound.

Phantom Power

All condenser microphones require phantom power to operate. This microphone performs best with a 48 V DC supply (IEC-61938), but it can operate with lower voltages.

Phantom power is provided by the mixer or audio interface that the microphone is connected to, and requires the use of a balanced microphone cable: XLR-to-XLR or XLR-to-TRS. In most cases, there is a switch or button to activate the phantom power. See the user guide for the mixer or interface for additional information.

NOTE: Applies to PGA181 condenser microphones only. Supplying phantom power to the other included microphones will not cause damage.

Optional Accessories and Replacement Parts

7.6 m (25 ft.) Cable (XLR-XLR)	C25J
5/8" to 3/8" Thread Adapter	31A1856
Vinyl zippered storage bag	95B2324
Drum Microphone Mount	AP56DM
Grille	RPM154
PGA57 Replacement Grille	RPM152
4.6 m (15 ft.) Cable (XLR-XLR)	95D2153
Wireless Microphone Clip	WA371
Popper Stopper® Pop Filter with Metal Gooseneck and Microphone Stand Clamp	PS-6
Foam Windscreen for all larger Shure "ball-type" Microphones available in black, blue, gray, green, red and yellow	A58WS
Microphone Clip for SM58, SM57, SM87A, Beta 87A, Beta 87C, PGA57, PGA58, PGA48, PGA81	A25D

Certifications

This product meets the Essential Requirements of all relevant European directives and is eligible for CE marking.

The CE Declaration of Conformity can be obtained from: www.shure.com/europe/compliance

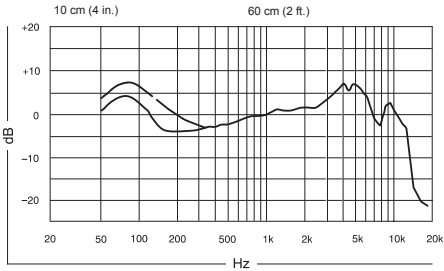
Authorized European representative:
 Shure Europe GmbH
 Headquarters Europe, Middle East & Africa
 Department: EMEA Approval
 Jakob-Dieffenbacher-Str. 12
 75031 Eppingen, Germany
 Phone: 49-7262-92 49 0
 Fax: 49-7262-92 49 11 4
 Email: info@shure.de

Specifications

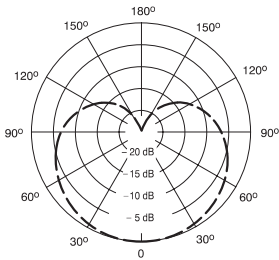
PGA52

Type	Dynamic (moving coil)
Frequency Response	50 to 12,000 Hz
Polar Pattern	Cardioid
Output Impedance	150 Ω
Sensitivity	at 1 kHz, open circuit voltage
	-55 dBV/Pa¹ (1.75 mV)
Polarity	Positive pressure on diaphragm produces positive voltage on pin 2 with respect to pin 3
Weight	454 g (16.01oz.)
Connector	Three-pin professional audio (XLR), male
Environmental Conditions	
Operating Temperature	-20° to 165°F (-29° to 74°C)
Relative Humidity	0 to 95%

1 Pa=94 dB SPL



Typical Frequency Response



1000 Hz
 Typical Polar Pattern

PGA57

Type
Dynamic (moving coil)

Frequency Response
50 to 15,000 Hz

Polar Pattern
Cardioid

Output Impedance
150 Ω

Sensitivity
at 1 kHz, open circuit voltage
-56.5 dBV/Pa¹ (1.5 mV)

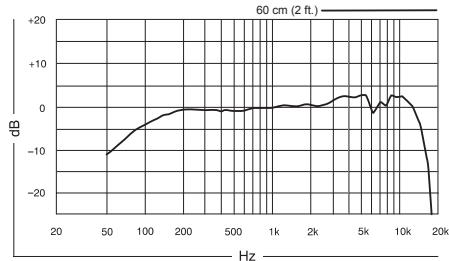
Polarity
Positive pressure on diaphragm produces positive voltage on pin 2 with respect to pin 3

Weight
280 g (9.88oz.)

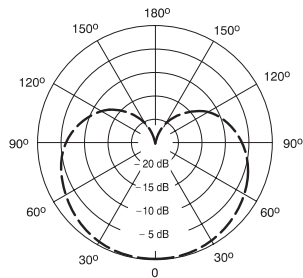
Connector
Three-pin professional audio (XLR), male

Operating Temperature	-20° to 165° F (-29° to 74° C)
Relative Humidity	0 to 95%

1 Pa=94 dB SPL



Typical Frequency Response



Typical Polar Pattern

PGA181

Type
Electret Condenser

Polar Pattern
Cardioid

Frequency Response
50 to 20,000 Hz

Output Impedance
at 1 kHz, open circuit voltage
120 Ω, actual

Sensitivity
at 1 kHz, open circuit voltage
-38 dBV/Pa [1] (12.7 mV)

Maximum SPL
1 kHz at 1% THD, 1 kΩ load
138 dB SPL

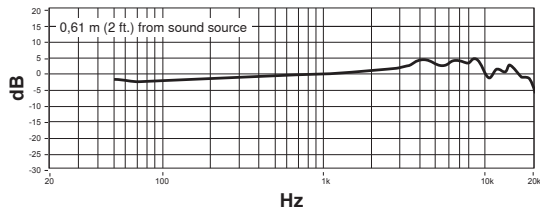
Polarity
Positive pressure on diaphragm produces positive voltage on pin 2 with respect to pin 3

Connector
Three-pin professional audio (XLR), male

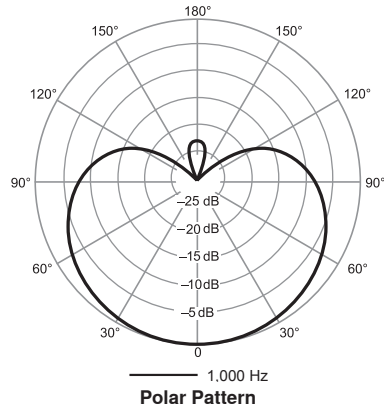
Weight
383 g (0.8 lbs)

Housing
Cast Zinc

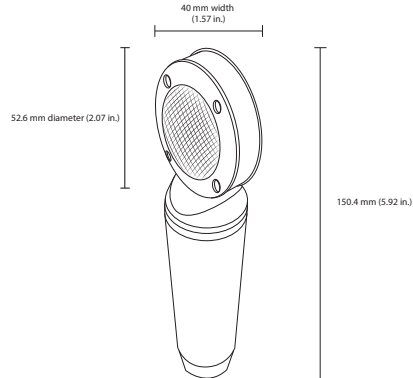
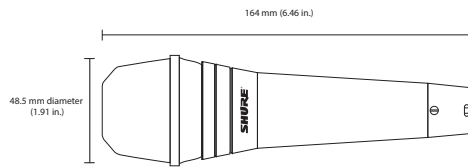
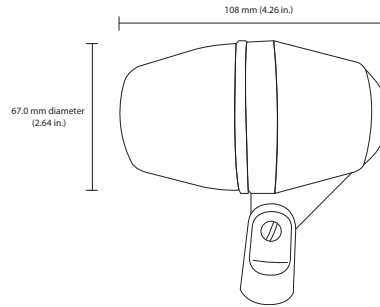
Power Requirements
48 V DC phantom power (4 mA)
[1] 1 Pa=94 dB SPL



Frequency Response



Polar Pattern





United States, Canada,
Latin America, Caribbean:
Shure Incorporated
5800 West Touhy Avenue
Niles, IL 60714-4608 USA

Phone: +1 847-600-2000
Fax: +1 847-600-1212 (USA)
Fax: +1 847-600-6446
Email: info@shure.com
www.shure.com

Europe, Middle East, Africa:
Shure Europe GmbH
Jakob-Dieffenbacher-Str. 12,
75031 Eppingen, Germany

Phone: +49-7262-92490
Fax: +49-7262-9249114
Email: info@shure.de
www.shure.eu

Asia, Pacific:
Shure Asia Limited
22/F, 625 King's Road
North Point, Island East
Hong Kong

Phone: +852-2893-4290
Fax: +852-2893-4055
Email: info@shure.com.hk
www.shureasia.com