



# KCX

## Wireless System

Online user guide for KCX wireless system.  
Version: 3.1 (2020-H)





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# KCX Wireless System

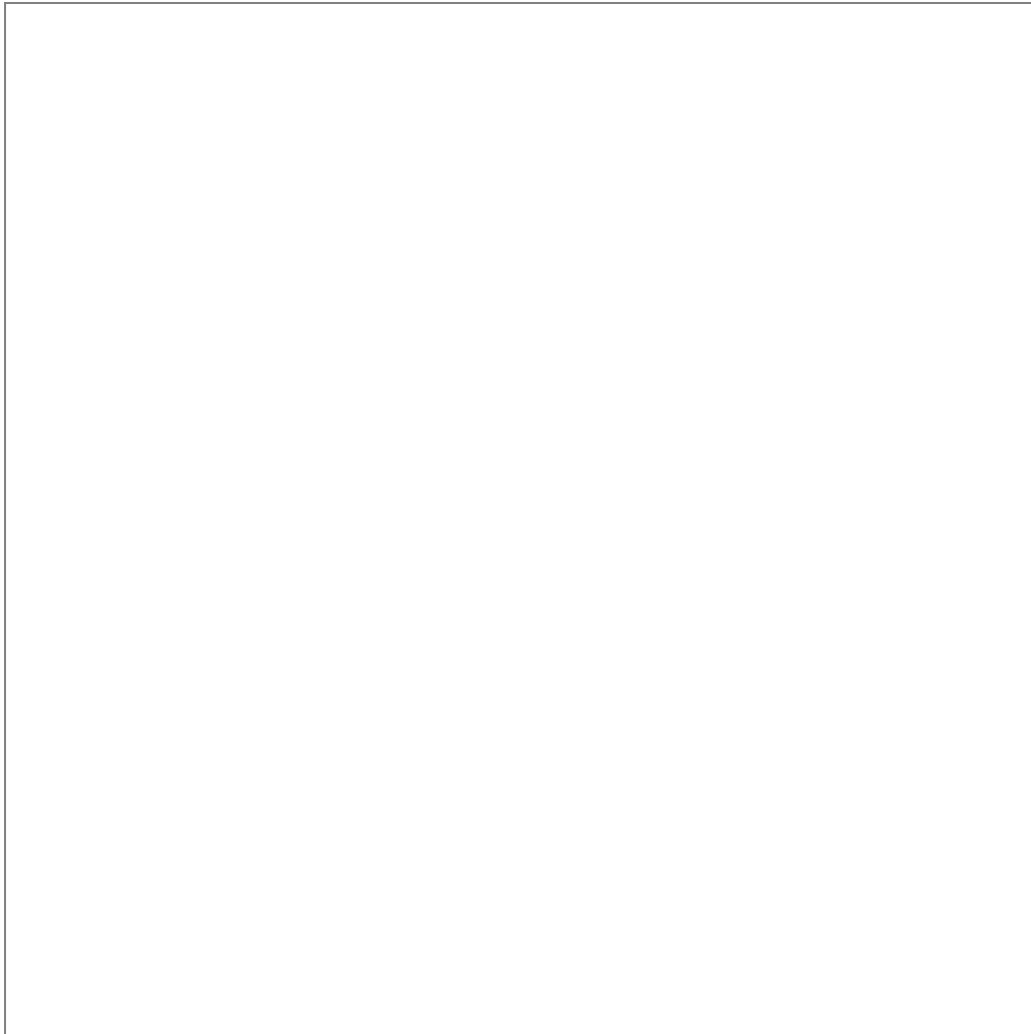
## SAFETY PRECAUTIONS

The possible results of incorrect use are marked by one of the two symbols—"WARNING" and "CAUTION"—depending on the imminence of the danger and the severity of the damage.

	WARNING: Ignoring these warnings may cause severe injury or death as a result of incorrect operation.
	CAUTION: Ignoring these cautions may cause moderate injury or property damage as a result of incorrect operation.
	<p><b>WARNING</b></p> <p>If water or other foreign objects enter the inside of the device, fire or electric shock may result. Do not attempt to modify this product. Doing so could result in personal injury and/or product failure.</p>
	<p><b>CAUTION</b></p> <p>Never disassemble or modify the device, as failures may result. Do not subject to extreme force and do not pull on the cable or failures may result. Keep the microphone dry and avoid exposure to extreme temperatures and humidity.</p>

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# Quick Setup



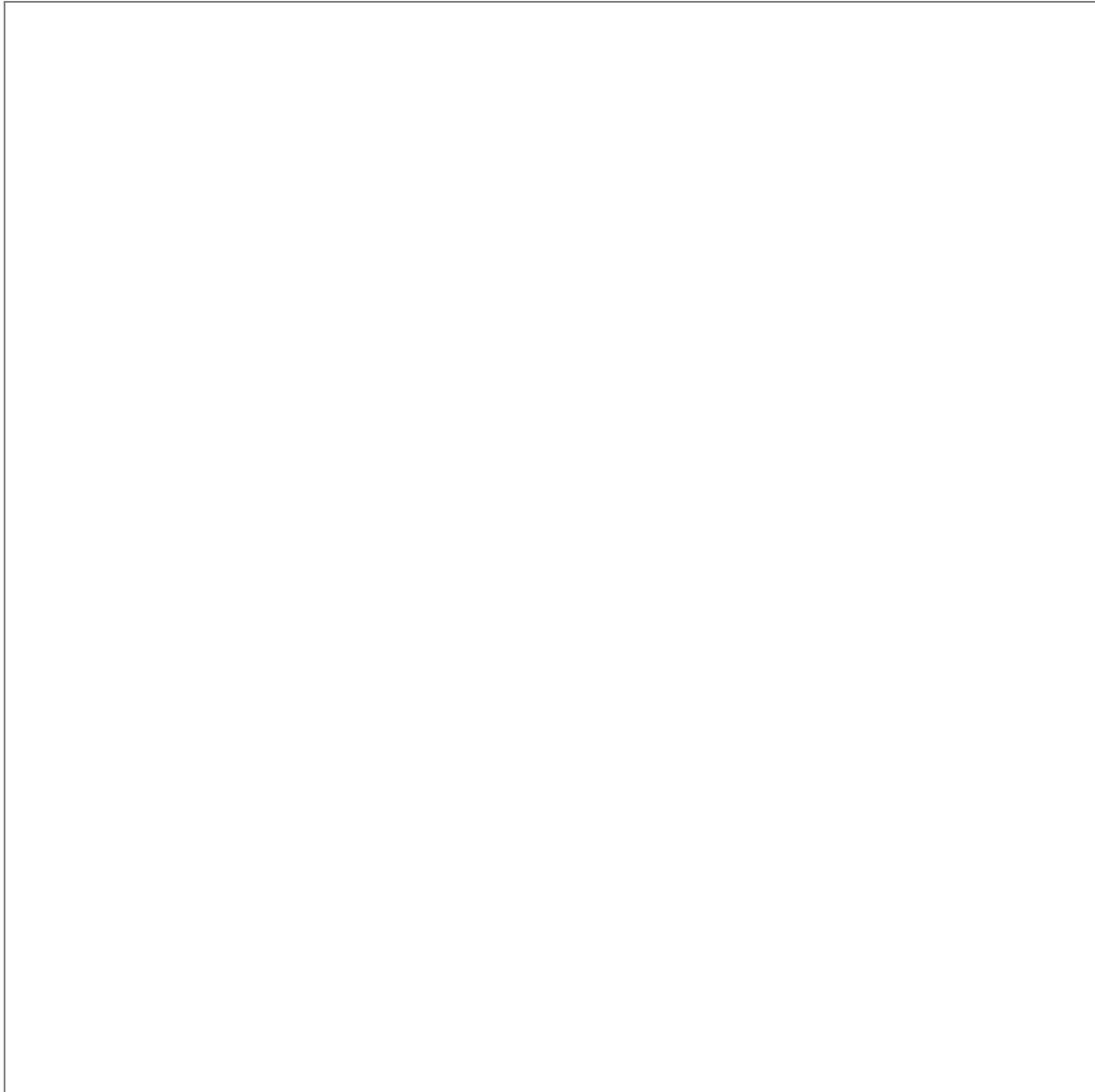
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## Shure KCX Wireless

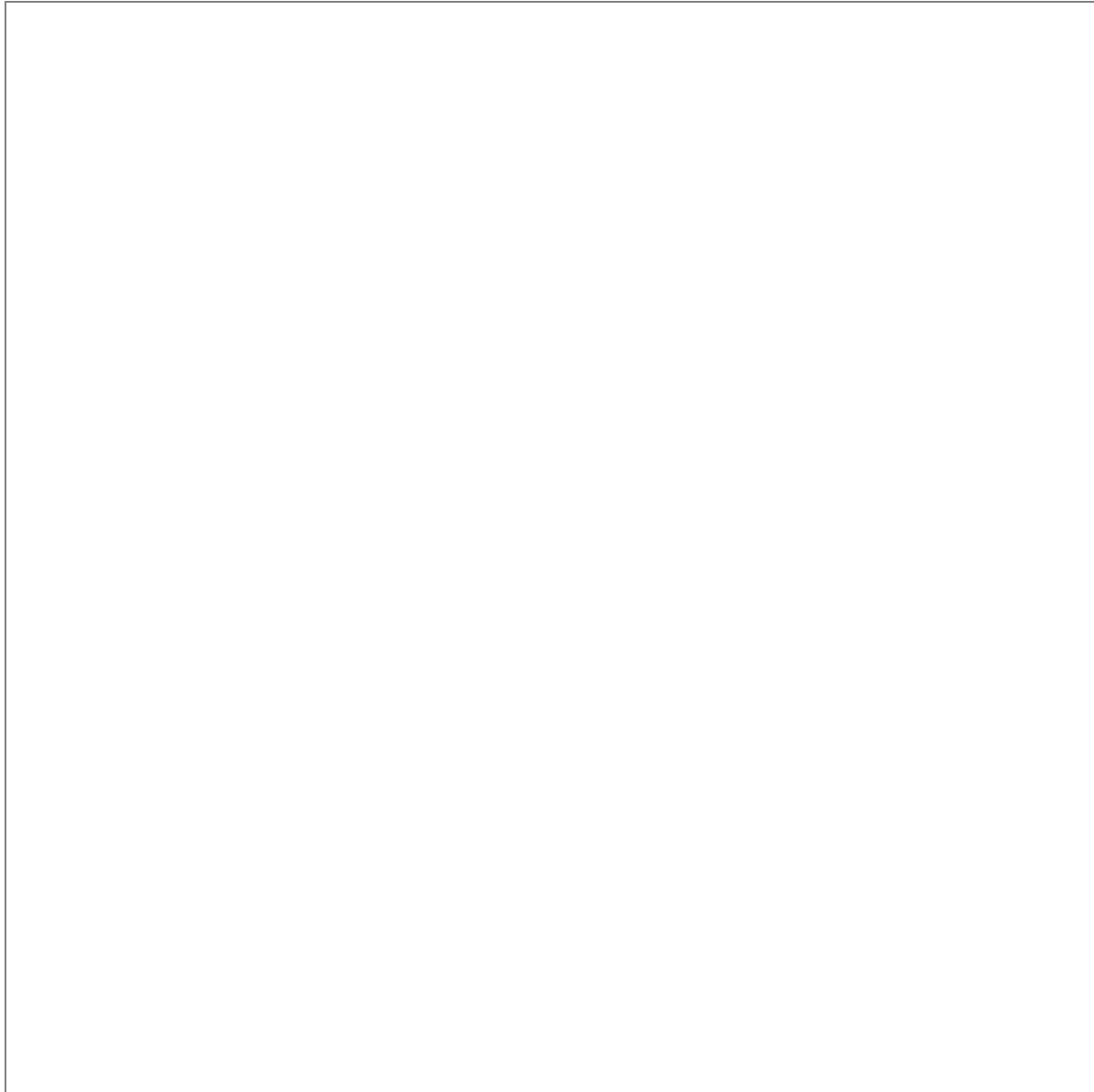
Congratulations on purchasing your KCX Wireless system from Shure. Shure professional audio products deliver legendary sound quality, stage-proven durability and hassle-free setup. The KCX Wireless System comes with your choice of microphone complete with all the accessories you need. For performers that manage their own sound and desire the freedom of wireless, nothing could be more versatile or easy to operate. Affordable replacement parts and a rugged housing make this an ideal investment for years of confident performance.

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# Receiver



**KCX4**



**KCX88**

- ① **Power LED light**
- ② **Audio Frequency LED light**
- ③ **Radio Frequency Diversity lights**
- ④ **Balanced output (XLR connector)**
- ⑤ **Unbalanced output (6.35mm connector)**
- ⑥ **Audio output level (line/mic) switch**
- ⑦ **Channel selection dial**

- ⑧ Squelch dial
- ⑨ Power adapter input
- ⑩ Antennas

## Transmitter

- ① Power button
- ② Channel selection dial
- ③ Audio input level (line/mic) switch
- ④ Battery compartment
- ⑤ Transmitter gain dial
- ⑥ Belt clip
- ⑦ Mic input (CVL lavalier or PGA31 Headworn)
- ⑧ Radio Frequency (RF) level switch
- ⑨ Antenna
- ⑩ Color ID rings
- ⑪ Anti-roll ring (PG28 only)
- ⑫ Power LED light

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## System Components

### All Systems

- KCX4 Receiver
- Channel Selector Tool

### Handheld Transmitter

- KCX2 Handheld Microphone Transmitter

### Bodypack Transmitter

- KCX1 Bodypack Transmitter

- Microphone
- PG185 Lavalier microphone **OR**
- PG30 Headworn microphone

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## Power

Plug in the power adapter to turn on the receiver. There is no power switch.

Insert 2 AA batteries into the transmitter. Hold the power button for two seconds to turn on.

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## Connecting to a Sound System

Connect the balanced XLR output on the receiver to a MIC or LINE input. Set the LINE MIC switch accordingly.

If there is no XLR input, connect the unbalanced 6.35 mm (1/4 inch) receiver output to a LINE input. Set the LINE MIC switch to LINE.

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## Channel

Set the transmitter and the receiver to the same frequency using the channel dial.

**Note:** If using a dual system (or more than one single system), assign each input to a different channel within the same group (channels 1-4 or channels A-D). For the JB1 band, there are three groups: channels 1-3, 4-6, and 7-8. This ensures the best signal quality.

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## Bodypack Gain

The gain dial controls the audio volume sent to the receiver.

- Turn down the gain if the audio signal sounds distorted.
- Turn up the gain if the AF LED light is faint or the audio is too low.

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## RF Level

This switch sets the RF level of the handheld transmitter. It does not affect the audio volume.

- Set to LO to avoid interfering with other receivers when in a building with multiple systems.
- Set to HI for transmitting over a greater distance when using a single system.



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# Squelch

Squelch controls the amount of RF signal that the receiver picks up.

- Turn up the squelch dial (clockwise) to remove ambient noise from unwanted RF sources.
- Turn down the squelch dial (counterclockwise) if the microphone is not transmitting clearly to the receiver.

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# Color ID Rings

Slide these color rings over the handle of the microphone to identify them. (Sold in a package of six as an optional accessory.)

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# Getting Good Sound

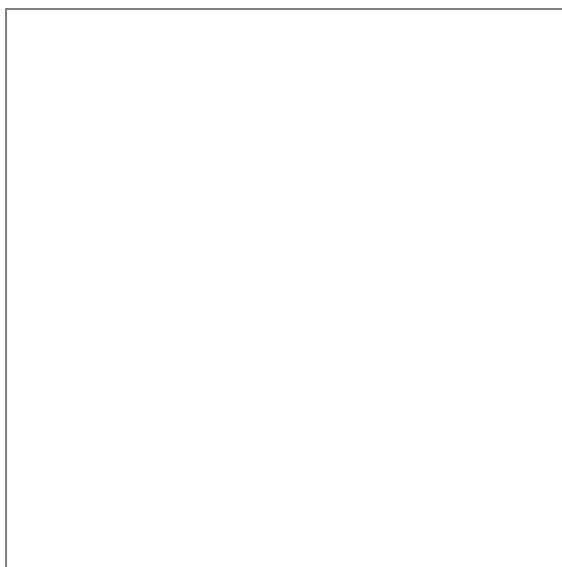
## Correct Microphone Placement



- Hold the microphone within 12 inches from the sound source. For a warmer sound with increased bass presence, move the microphone closer.
- Do not cover grille with hand.

## Wearing the Headworn Microphone

- Position the headworn microphone 13 mm (1/2 in.) from the corner of your mouth.
- Position lavalier and headworn microphones so that clothing, jewelry, or other items do not bump or rub against the microphone.



## Wearing the Bodypack Transmitter

- Clip the transmitter to a belt or pocket.
- For best results, the belt should be pressed against the base of the clip.



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## Wireless Tips to Improve System Performance

If you encounter wireless interference or dropouts, try the following suggestions:

- Replace the transmitter batteries
- Choose a different frequency channel
- Reposition the antennas so there is nothing obstructing a line of sight to the transmitter (including the audience)
- Avoid placing transmitter and receiver where metal or other dense materials may be present
- Move the receiver to the top of the equipment rack
- Remove nearby sources of wireless interference, such as cell phones, two-way radios, computers, media players, and digital signal processors
- Keep transmitters more than two meters (6 feet) apart
- Keep the transmitter and receiver more than 5 meters (16 feet) apart
- Keep them away from large metal objects
- During sound check, mark trouble spots and ask presenters or performers to avoid those areas

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## Troubleshooting

Problem	Solution

<b>No sound</b>	<p>Check the power supply of the microphone and receiver.</p> <p>Ensure that the batteries are inserted correctly.</p> <p>Set the transmitter and receiver to the same channel.</p> <p>Check that the receiver is connected to the input on the audio mixer or amplifier.</p> <p>Check that the transmitter is not too far away from the receiver.</p> <p>Decrease (counterclockwise) the squelch.</p> <p>Set the bodypack audio input switch to MIC.</p> <p>Make sure that the receiver has a clear, line-of-sight path to the transmitter.</p> <p>Keep the receiver away from metal objects.</p>
<b>Noise from RF interference</b>	<p>Replace the transmitter batteries.</p> <p>Check the receiver antenna location. Make sure there is a clear path between the receiver and the transmitter.</p> <p>When using two or more systems simultaneously, choose different channels within the same group (channels 1-4 or channels A-D). For the JB1 band, there are three groups: channels 1-3, 4-6, and 7-8.</p> <p>Turn off or relocate possible sources of interference such as cell phones, radios, or other electronic devices.</p> <p>Increase squelch (clockwise) to restrict the receiver from picking up ambient noise.</p> <p>Unplug any unused receivers</p>
<b>Audio distortion</b>	<p>Adjust levels on the mixer board or sound system.</p> <p>Make sure all cables are securely connected from the receiver to the sound system.</p> <p>If using a bodypack transmitter, lower the gain settings.</p>

## Specifications

### Working Range

<b>HI power mode</b>	75 m (250 ft) (Line of Sight)
<b>LO power mode</b>	18 m (60 ft) (Line of Sight)

### Audio Frequency Response

50–15000 Hz

### Total Harmonic Distortion

<0.5%

### Dynamic Range

90 dB, A-weighted, typical

### Operating Temperature Range

-10° C (0° F) to 50° C (122° F)

## Transmitter Audio Polarity

Positive pressure on microphone diaphragm produces positive voltage on pin 2 (with respect to pin 3 of XLR output) and the tip of the 6.35 mm (1/4-inch) output.

<sup>[1]</sup>Actual range depends on RF signal absorption, reflection and interference<sup>[2]</sup>Dependent on microphone type<sup>[3]</sup>Ref.  $\pm 48$  kHz deviation with 1 kHz tone<sup>[4]</sup>Battery characteristics may limit this range

## KCX1

### Maximum Audio Input Level

<b>MIC setting</b>	-15 to -7 dBV
<b>LINE setting</b>	1 to 9 dBV

### Gain Adjustment Range

8 dB

### Input Impedance

<b>MIC setting</b>	16 k $\Omega$
<b>LINE setting</b>	120 k $\Omega$

### RF Output Power

10 mW (dependent on applicable country regulations)

### Dimensions

108 mm x 64 mm x 19 mm (H x W x D)

### Weight

90 g (without batteries)

### Housing

Molded ABS

### Power Requirements

2 "AA" size alkaline or rechargeable batteries

### Battery Life

up to 10 hours

## KCX2

### Maximum Audio Input Level

-20 dBV

### Input Impedance

22 k $\Omega$

## RF Output Power (dependent on applicable country regulations)

<b>HI power mode</b>	10 mW maximum
<b>LO power mode</b>	1 mW maximum

## Dimensions

254 mm x 51 mm dia. (10 x 2in.)

## Weight

270 g (10.2oz.) (without batteries)

## Housing

Molded ABS

## Power Requirements

2 "AA" size alkaline or rechargeable batteries

## Battery Life

up to 10 hours (alkaline)

## Dimensions

<b>KCX4</b>	32 mm x 168 mm x 104.5 mm (H x W x D)
<b>KCX88</b>	32 mm x 256 mm x 104.5 mm (H x W x D)

## Weight

<b>KCX4</b>	245 g (8.5oz.)
<b>KCX88</b>	381 g 13.5oz.)

## Housing

Molded ABS

## Audio Output Level

*into 100 k $\Omega$  load*

<b>XLR connector</b>	-16 dBV
<b>6.35 mm (1/4") connector</b>	-22 dBV

## Output Impedance

<b>XLR connector</b>	600 $\Omega$
<b>6.35 mm (1/4") connector</b>	600 $\Omega$

## Sensitivity

-105 dBm for 12 dB SINAD, typical

## Power Requirements

<b>KCX4</b>	12-18 V DC @ 130 mA
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<b>KCX88</b>	12-18 V DC @ 220 mA
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<sup>[5]</sup>supplied by external power supply

## Optional Accessories and Replacement Parts

### Optional Accessories

<b>Color Rings (6)</b>	WACR
<b>Single Channel Rack Mount Kit</b>	WASRM
<b>Dual Channel Rack Mount Kit</b>	WADRM

### Replacement Parts

<b>Channel Key</b>	53A14226
<b>Microphone Stand Adapter</b>	95A14227
<b>PS24 Power Supply</b>	95A14220
<b>See your local Shure distributor for assistance</b>	

## Frequency Range and Transmitter Output Level

<b>Band</b>	<b>Range ( MHz)</b>
<b>P12</b>	698–710
<b>P14</b>	710–726
<b>P16</b>	726–742
<b>Q16</b>	742–758
<b>Q18</b>	758–774
<b>R23</b>	774–787
<b>R25</b>	794–806
<b>JB1</b>	806–810
<b>X7</b>	925–937.5
<b>X9</b>	925–932
<b>J9</b>	558–570

**NOTE:** This Radio equipment is intended for use in musical professional entertainment and similar applications. This Radio apparatus may be capable of operating on some frequencies not authorized in your region. Please contact your national authority to obtain information on authorized frequencies and RF power levels for wireless microphone products.