



PA411

Antenna Combiner

Version: 1 (2019-J)

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Important Product Information

IMPORTANT SAFETY INSTRUCTIONS

1. READ these instructions.
2. KEEP these instructions.
3. HEED all warnings.
4. FOLLOW all instructions.
5. DO NOT use this apparatus near water.
6. CLEAN ONLY with dry cloth.
7. DO NOT block any ventilation openings. Allow sufficient distances for adequate ventilation and install in accordance with the manufacturer's instructions.
8. DO NOT install near any heat sources such as open flames, radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat. Do not place any open flame sources on the product.
9. DO NOT defeat the safety purpose of the polarized or grounding type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wider blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. PROTECT the power cord from being walked on or pinched, particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. ONLY USE attachments/accessories specified by the manufacturer.
12. USE only with a cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.



13. UNPLUG this apparatus during lightning storms or when unused for long periods of time.
14. REFER all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
15. DO NOT expose the apparatus to dripping and splashing. DO NOT put objects filled with liquids, such as vases, on the apparatus.
16. The MAINS plug or an appliance coupler shall remain readily operable.
17. The airborne noise of the Apparatus does not exceed 70dB (A).
18. Apparatus with CLASS I construction shall be connected to a MAINS socket outlet with a protective earthing connection.
19. To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture.
20. Do not attempt to modify this product. Doing so could result in personal injury and/or product failure.
21. Operate this product within its specified operating temperature range.

WARNING: This product contains a chemical known to the State of California to cause cancer and birth defects or other reproductive harm.

低功率電波輻射性電機管理辦法



第十二條

經型式認證合格之低功率射頻電機，非經許可，公司、商號或使用者均不得擅自變更頻率、加大功率或變更原設計之特性及功能。第十四條

低功率射頻電機之使用不得影響飛航安全及干擾合法通信；經發現有干擾現象時，應立即停用，並改善至無干擾時方得繼續使用。前項合法通信，指依電信法規定作業之無線電通信。低功率射頻電機須忍受合法通信或工業、科學及醫療用電波輻射性電機設備之干擾。

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.

CAUTION

- 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 product dry and avoid exposure to extreme temperatures and humidity.

WARNING

- 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.

This device is able to produce sound volume higher than 85 dB SPL. Please check your maximum allowed continuous noise exposure level based on your national employment protection requirements.

WARNING

LISTENING TO AUDIO AT EXCESSIVE VOLUMES CAN CAUSE PERMANENT HEARING DAMAGE. USE AS LOW A VOLUME AS POSSIBLE. Over exposure to excessive sound levels can damage your ears resulting in permanent noise-induced hearing loss (NIHL). Please use the following guidelines established by the Occupational Safety Health Administration (OSHA) on maximum time exposure to sound pressure levels before hearing damage occurs.

90 dB SPL at 8 hours	95 dB SPL at 4 hours	100 dB SPL at 2 hours	105 dB SPL at 1 hour
110 dB SPL at ½ hour	115 dB SPL at 15 minutes	120 dB SPL Avoid or damage may occur	

General Description

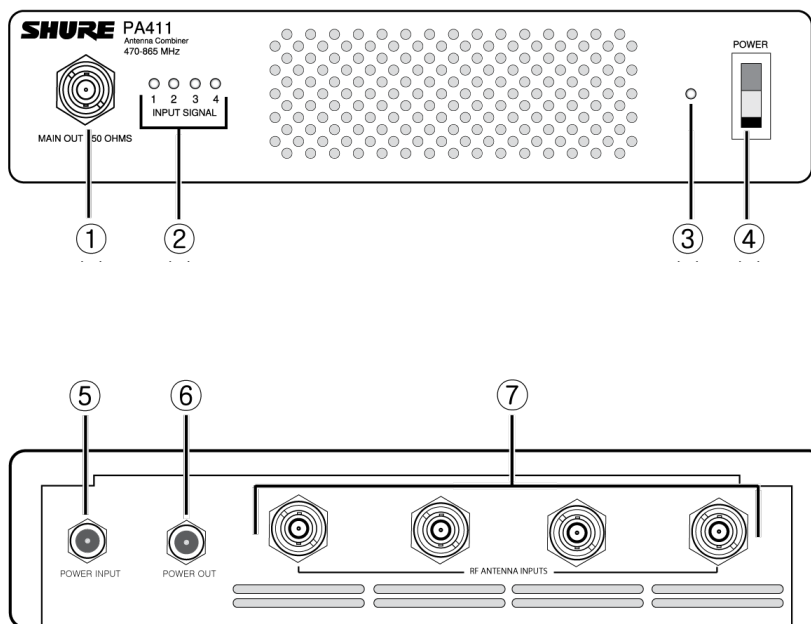
The Shure PA411 Antenna Combiner distributes DC power and RF signal for up to four Shure PSM[®] 300 transmitters. The compact half-rack system significantly reduces the amount of antennas and power supplies needed when using multiple systems.

Included Components

- (1) PA411 Antenna Combiner
- (1) 1-to-4 Power Distribution Cable
- (1) PS60 Power Supply
- (1) Rack Mounting Kit
- (1) BNC Bulkhead Adapter
- (4) 22-inch BNC-BNC Coaxial Cables

Note: Antenna is not included. Please use the antenna that shipped with the PSM transmitters or other antenna from the appropriate frequency range.

Front and Rear Panels

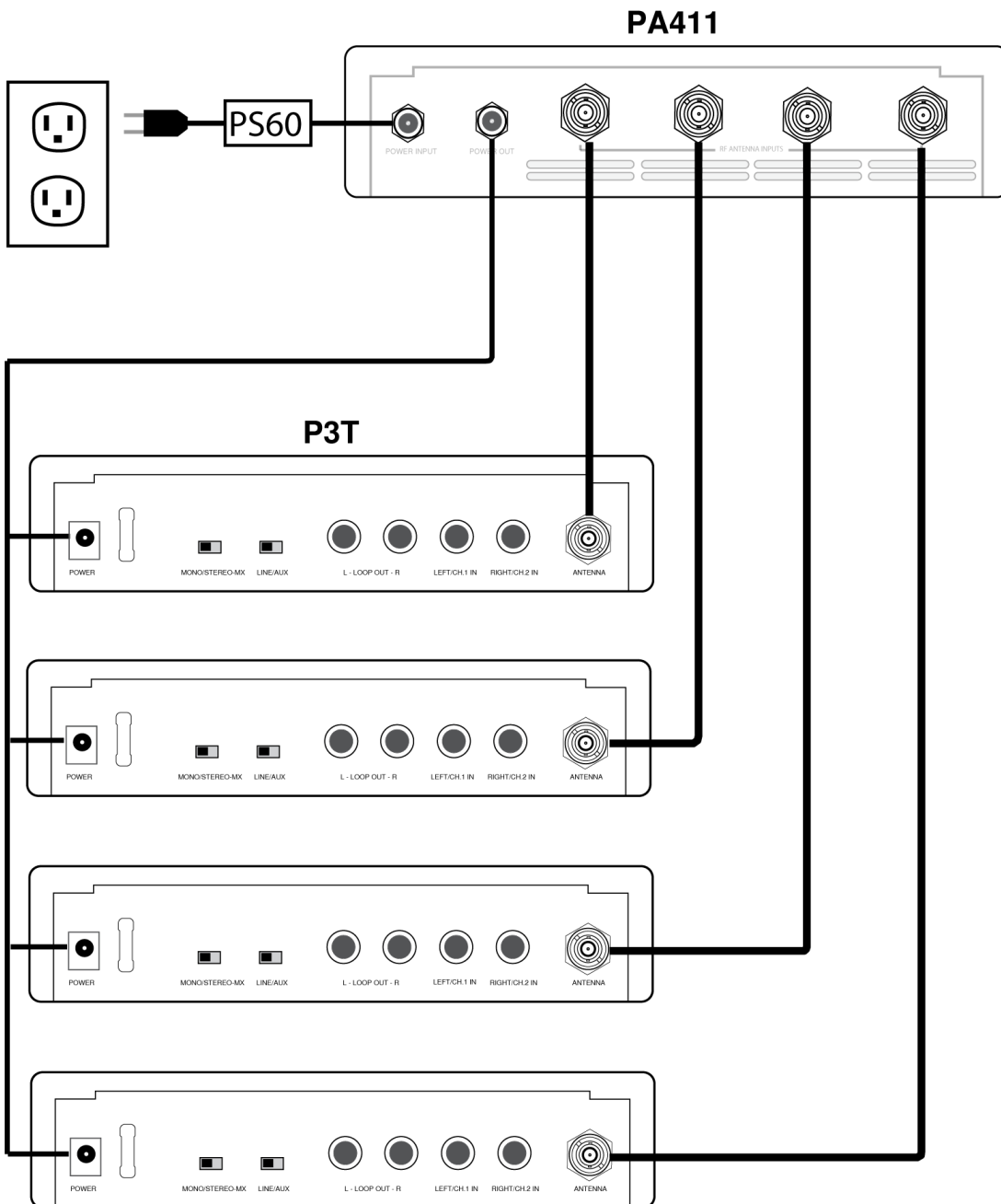
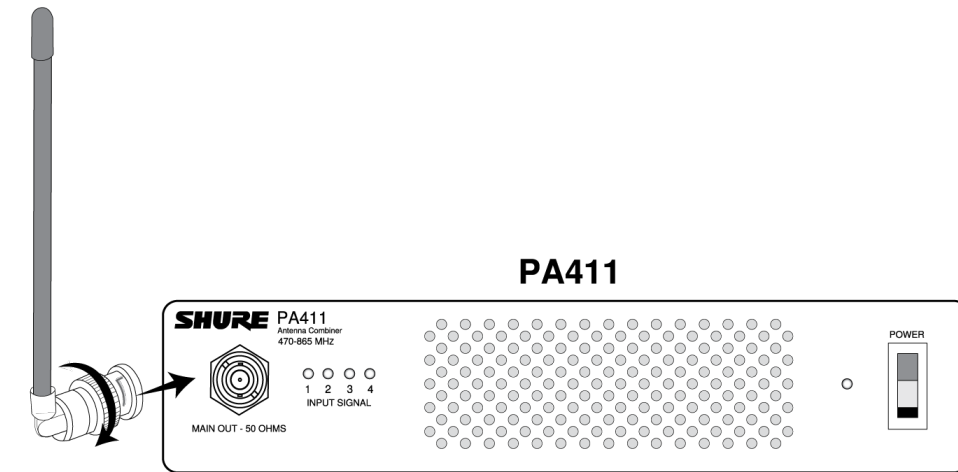


<p>① RF Output Antenna Connector</p>	<p>Use the ¼ wave antenna supplied with the P3T transmitter, or any other Shure antennas that cover 470-865 MHz</p>
<p>② RF LED Indicators</p>	<p>Green : RF signal present Red: RF signal overload</p>

③ Power LED	Green : Power on Green/red flashing : Power output overload
④ Power Switch	
⑤ Power Input	Requires a Shure PS60 power supply
⑥ Power Output	Requires a Shure PS411-PC power distribution cable to deliver power to transmitters
⑦ RF Inputs	Connect to transmitter RF outputs

Power and RF Connections

1. Connect the Shure PS60 power supply to a power outlet and to the power input on the PA411.
2. Connect the 1-to-4 power cable to the DC power output on the PA411.
3. Connect a power terminal from the 1-to-4 power cable to each P3T transmitter power input.
4. Connect an antenna to the P3T antenna output on the front panel. Acceptable antennas include the ¼-wave antenna supplied with the P3T transmitter or any Shure antennas that cover 470-865 MHz.
5. Connect each P3T antenna output to an antenna input on the PA411, using BNC coaxial cable.



Optional Accessories and Replacement Parts

1-to-4 Power Distribution Cable	PS411-PC
22 in. BNC-BNC Coaxial Cable	95K2035
2 ft. BNC-BNC Coaxial Cable	UA802
6 foot (1.8m) BNC to BNC Coaxial Cable for Remote Antenna Mounting for ULX Wireless System	UA806
25 ft. BNC-BNC Coaxial Cable	UA825
50 ft. BNC-BNC Coaxial Cable	UA850
100 ft. BNC-BNC Coaxial Cable	UA8100
Power supply	PS45
Bulkhead Adapter	95A8994
1/4 Wave Antenna (748–865 MHz) for SLX Wireless System	UA400
1/4 wave antenna (470-752 MHz)	UA400B
1/2 wave antenna (470-530 MHz)	UA8-470-530
1/2 wave antenna (500-560 MHz)	UA8-500-560
1/2 wave antenna (518-578 MHz)	UA8-518-578
1/2 wave antenna (518-582 MHz)	UA8-518-582
1/2 wave antenna (518-598 MHz)	UA8-518-598
1/2 wave antenna (554-590 MHz)	UA8-554-590
1/2 wave antenna (554-626 MHz)	UA8-554-626
1/2 wave antenna (554-638 MHz)	UA8-554-638
1/2 wave antenna (578-638 MHz)	UA8-578-638
1/2 wave antenna (596-668 MHz)	UA8-596-668
1/2 wave antenna (596-698 MHz)	UA8-596-698
1/2 wave antenna (596-714 MHz)	UA8-596-714
1/2 wave antenna (600-666 MHz)	UA8-600-666
1/2 wave antenna (626-698 MHz)	UA8-626-698
1/2 wave antenna (638-698 MHz)	UA8-638-698
1/2 wave antenna (670-742 MHz)	UA8-670-742

1/2 wave antenna (710-790 MHz)	UA8-710-790
1/2 wave antenna (740-814 MHz)	UA8-740-814
1/2 wave antenna (750-822 MHz)	UA8-750-822
1/2 wave antenna (774-865 MHz)	UA8-774-865
Single Rack Mount Kit	RPW503
Dual Rack Mount Kit	RPW504

Specifications

Power Requirements

15V DC

DC Output

12V DC (x4)

Output Current

Combined total from all DC outputs

1.4 A, maximum

Operating Temperature Range

-18°C to 63°C

Dimensions

42 x 177 x 198 mm (H x W x D)

Net Weight

1.32 kg(2.9 lbs)

RF Input

Connector Type

BNC

RF Frequency Range

470 to 865 MHz

Maximum Input Level

20 dBm Per Channel

Input Port Isolation

50 dB, typical

RF Input Power

Operating Range, Per Channel

4.5 to 15 dBm

LED Indicator Minimum Detection Threshold

3 dBm \pm 1.5 dB

RF Overload LED Threshold

17.5 dBm \pm 1 dB

Impedance

50 Ω

RF Output

RF Frequency Range

470 to 865 MHz

Output Intercept Point (OIP3)

48 dBm, typical

Connector Type

BNC

Impedance

50 Ω

Reverse Isolation

Output to Input

40 dB, typical

Gain

Input to any output port

-5 to 0 dB

LICENSING INFORMATION

Licensing: A ministerial license to operate this equipment may be required in certain areas. Consult your national authority for possible requirements. Changes or modifications not expressly approved by Shure Incorporated could void your authority to operate the equipment. Licensing of Shure wireless microphone equipment is the user's responsibility, and licensability depends on the user's classification and application, and on the selected frequency. Shure strongly urges the user to contact the appropriate telecommunications authority concerning proper licensing, and before choosing and ordering frequencies.

This device complies with Industry Canada licence-exempt RSS standard(s). Operation of this device is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence.

L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de

l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Federal Communications Commission RF Exposure Notice:

Antennas used for the purpose of radiating signals are limited to a maximum gain of 14 dBi. Each antenna must be positioned to observe minimum separation requirements from all users and bystanders. The following guidelines should be used when considering separation distances.

Antennas must be placed such that, under normal conditions, personnel cannot come within 72 cm (~2.5 ft.) from any antenna. Adhering to this minimum separation will ensure that the employee or bystander cannot exceed RF exposures beyond the maximum permissible limit as defined by 47 CFR 1.1310, i.e., limits for General Population/Uncontrolled Exposure.

Certifications

Meets essential requirements of the following European Directives:

- Low Voltage Directive 2006/95/EC

Conforms to the relevant requirements of regulation (EC) No.278/2009, for low voltage external power supplies.

- R&TTE Directive 99/5/EC
- Conforms to European Regulation (EC) No. 1275/2008, as amended.
- WEEE Directive 2002/96/EC, as amended by 2008/34/EC
- RoHS Directive 2011/65/EU

Note: Please follow your regional recycling scheme for batteries and electronic waste

Meets requirements of the following standards:

EN 300 422 Parts 1 and 2

EN 301 489 Parts 1 and 9

Certified under FCC Part 74.

Certified by IC in Canada under RSS-123 and RSS-102.

FCC ID: DD4PA411A. **IC:** 616A-PA411A.

The CE Declaration of Conformity can be obtained from Shure Incorporated or any of its European representatives. For contact information please visit www.shure.com

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

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