

Wireless audio module wiring example

By John Bell

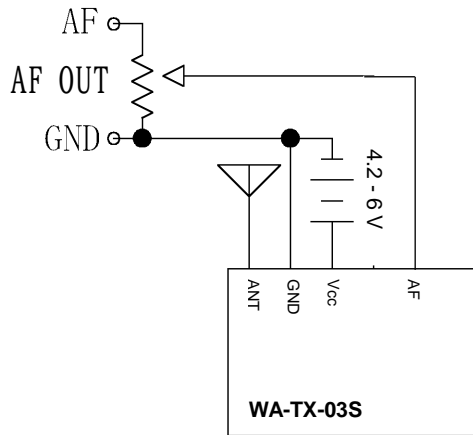
1 WA-TX-03S Wiring example

- 1-1 Basic connection
- 1-2 Transmission of signal from a microphone or mixer equipment with XLR
- 1-3 Transmission of signal from a dynamic microphone
- 1-4 Transmission of stereo signal in 1 ch by composing the L and R ch
- 1-5 Transmission of signal from a commercial microphone for a recordable portable player (MD etc)
- 1-6 Transmission of signal from a 2-wire condenser microphone
- 1-7 Transmission of signal from a 3-wire condenser microphone
- 1-8 Transmission of stereo signal from the equipment (2ch)

2 WA-RX-03S Wiring example

1 WA-TX-03S Wiring example

1-1 Basic connection

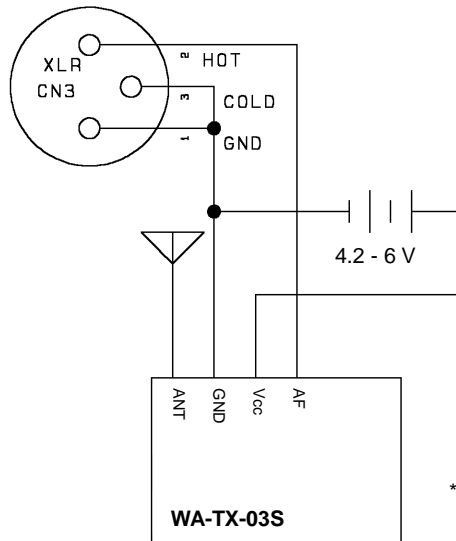


* SW0-3, STB, UNA, SW5 terminals not shown

Note:

- * Feed audio signal into AF.
- * Adjust the signal level to be fed to the module using the VR lest the level should exceed -15 dBv. (If the level is adjusted too low, the gain level of the amplifier used for the receiver must be increased. This can deteriorate the S/N performance.)

1-2 Transmission of signal from a microphone or mixer equipment with XLR

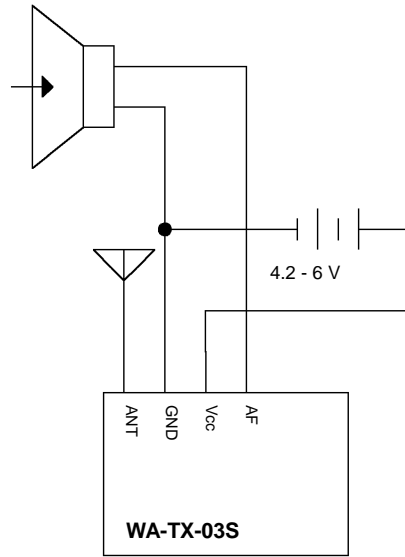


* SW0-3, STB, UNA, SW5 terminals not shown

Note:

- * If audio source contains DC component (on DC level), insert a capacitor suitable for the voltage and polarity into AF terminal in series.
- * If the output level of the microphone is low, use a low-noise amplifier (Mic AMP) between the microphone and the WA-TX-03S.
- * If the output level of the microphone is more than -15 dBv, the level must be attenuated.

1-3 Transmission of signal from a dynamic microphone

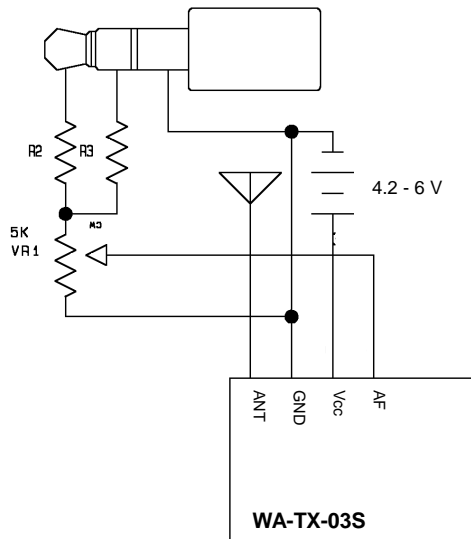


* SW0-3, STB, UNA, SW5 terminals not shown

Note:

- * If the output level of the microphone is low, use a low-noise amplifier (Mic AMP) between the microphone and the WA-TX-03S.
- * If the output level of the microphone is more than -15 dBv, the level must be attenuated.

1-4 Transmission of stereo signal in 1 ch by composing the L and R ch

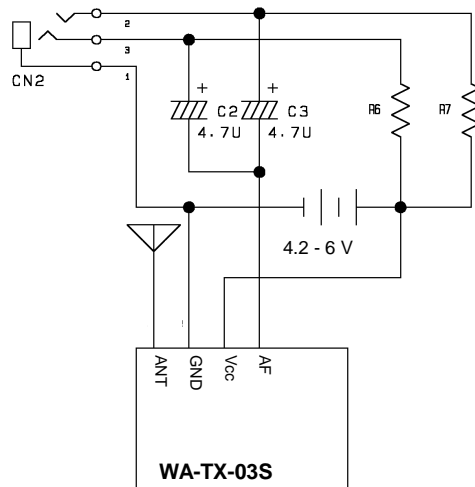


* SW0-3, STB, UNA, SW5 terminals not shown

Note:

- * The value of the R2 and the R3 (about 1k ohm) that work as voltage divider with VR1, should be selected to supply -15 dBv to VR1 depending on the input level.
- * If audio source contains DC component (on DC level), insert a capacitor suitable for the voltage and polarity into AF terminal in series.

1-5 Transmission of signal from a commercial microphone for a recordable portable player (MD etc)

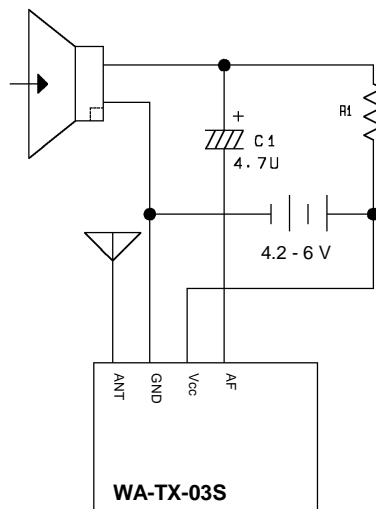


* SW0-3, STB, UNA, SW5 terminals not shown

Note:

- * 3 V power supply is used for the electret condenser microphone. The recommended value for the R6 and R7 is 2k ohm at 3 V supply.
- * If the input level is too high, insert VR as shown in example 4. Or simply insert resistor at AF terminal in series. (The level will be lowered by -6 dB with 5k ohm, and -10 dB with 10k ohm ignoring impedance of the microphone.) In case the level is not sufficient, microphone amplifier is required between the microphone and the WA-TX-03S.

1-6 Transmission of signal from a 2-wire condenser microphone

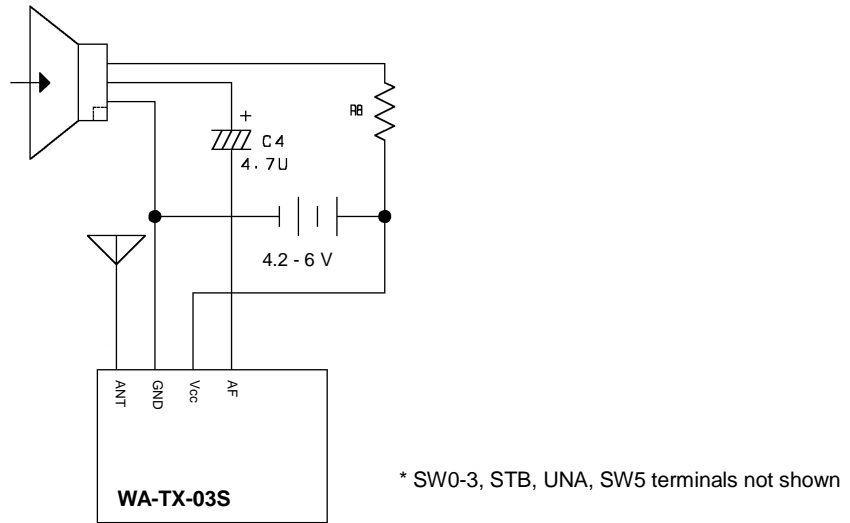


* SW0-3, STB, UNA, SW5 terminals not shown

Note:

- * 3 V power supply is used for the electret condenser microphone. The recommended value for the R1 is 2k ohm at 3 V supply.
- * If the input level is too high, insert VR as shown in example 4. Or simply insert resistor at AF terminal in series. (The level will be lowered by -6 dB with 5k ohm, and -10 dB with 10k ohm ignoring impedance of the microphone.) In case the level is not sufficient, microphone amplifier is required between the microphone and the WA-TX-03S.

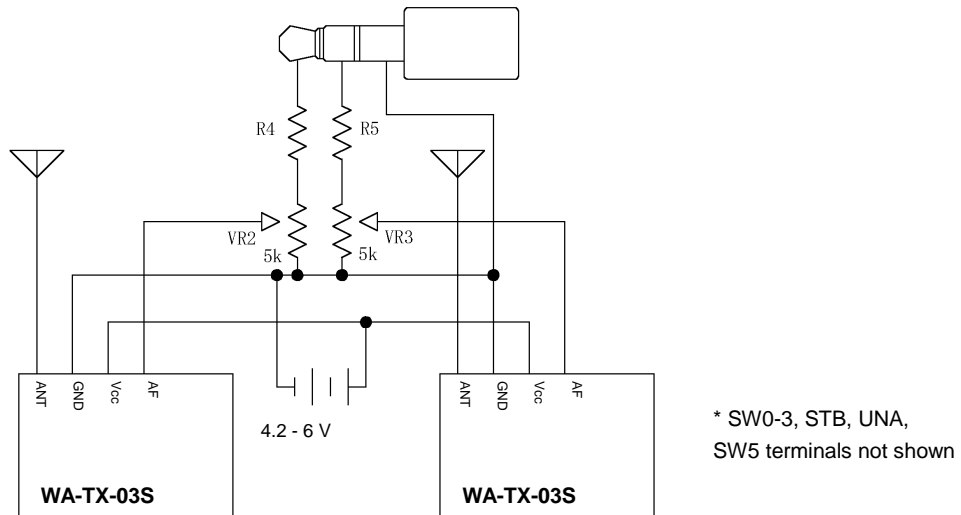
1-7 Transmission of signal from a 3-wire condenser microphone



Note:

- * Some system may require resistor of 5k ohm - 10k ohm between C4+ and GND.
- * R8 is not indispensable. The need for R8 depends on the rating of the microphone.
- * If the input level is too high, insert VR as shown in example 4. Or simply insert resistor at AF terminal in series. (The level will be lowered by -6 dB with 5k ohm, and -10 dB with 10k ohm ignoring impedance of the microphone.) In case the level is not sufficient, microphone amplifier is required between the microphone and the WA-TX-03S.

1-8 Transmission of stereo signal from the equipment (2ch)

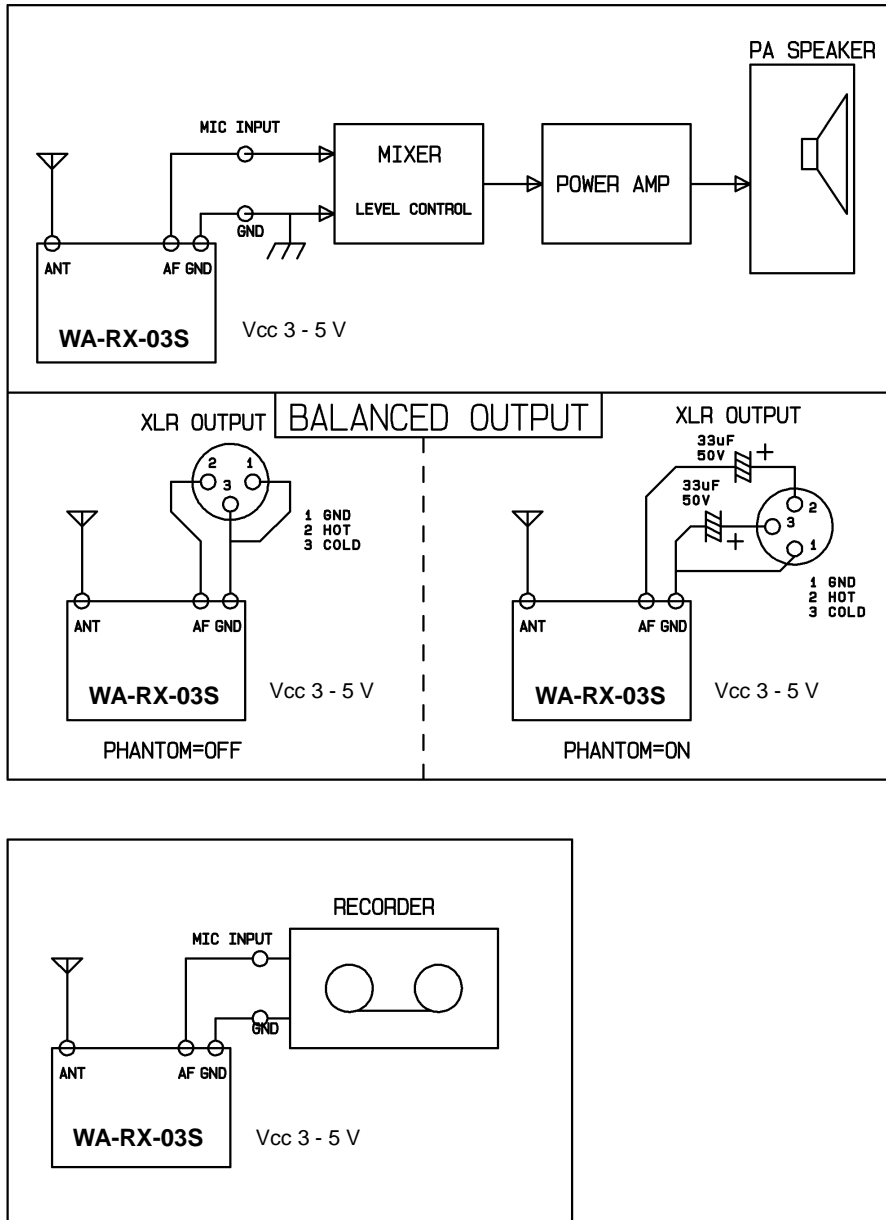


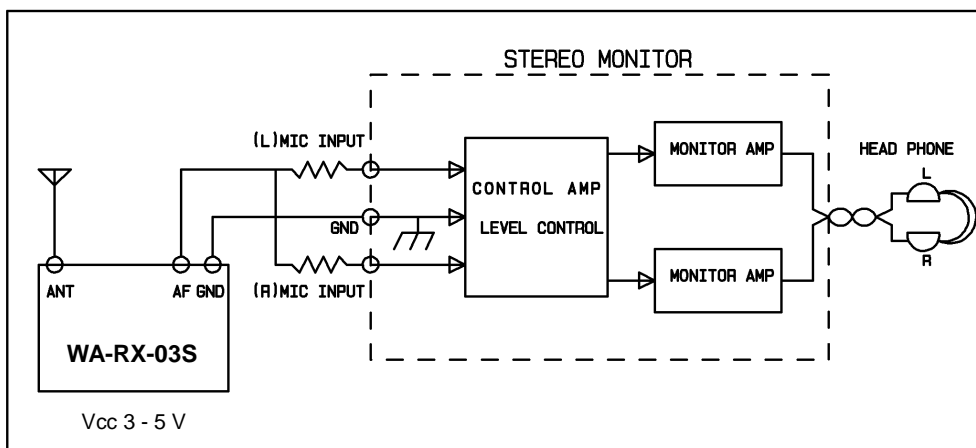
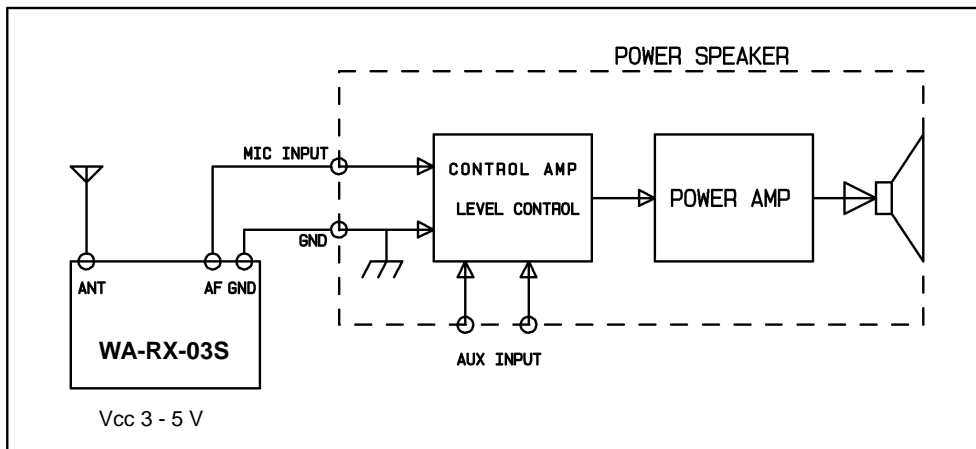
Note:

- * Make sure to use the two WA-TX-03S modules with different frequency channel.
- * The value of the R4 and the R5, that work as voltage divider with VR2 and VR3, should be selected to supply -15 dBv to VR2 and VR3 depending on the input level.
- * If audio source contains DC component (on DC level), insert a capacitor suitable for the voltage and polarity into R4 and R5 in series.

2 WA-RX-03S Wiring example

* SW0-3, CON, LED, UNA terminals not shown





Issue	Date	Comment
1.1	2022/02/25	Updated for WA-TX-03S and WA-RX-03S

© Copyright 2022 Circuit Design, Inc. All rights reserved

No part of this document may be copied or distributed in part or in whole without the prior written consent of Circuit Design, Inc.