

## UHF Wireless Audio Transmitter/Receiver

# WA-TX-01 / WA-RX-01

Transmitter WA-TX-01 and receiver WA-RX-01 are RF modules that transfer audio (analog) signal in 863-865MHz European audio bands. All necessary circuits from RF part to noise reduction system are in a compact case for easy integration to user applications. WA-TX-01 and WA-RX-01 has wide dynamic range (100dB) to realize high quality sound transmission. The system adopts a compander/expander noise reduction system. In addition, outstanding feature of WA-TX-01 is low voltage, low current and compact size. It is achieved by a high stability SAW resonator technology. WA-TX-01 is optimal transmitter for integration into a user system requiring a small space and battery powered portable operation. 4 channels are available for simultaneous system operation in one site. Unit complies with EN 300 422 and will be accessed under R&TTE Directive by the first quarter of 2002.

### Feature

- 100dB wide dynamic range with noise reduction system
- Frequency response from 50Hz to 15kHz
- Fixed frequency in 863-865MHz European audio band
- Low current for longer battery life (TX-01: 25mA Max.)
- Single UM4 (1.5V) battery operation with DC/DC converter
- Built in mute circuit
- All functions in a compact case (TX: 27X19X5.5mm)
- Easy installation for user system
- Conforms to EN 300 422 and EN 301 489

### Application

- Wireless microphone system
- Wireless portable sound system
- Audio guidance system (Museum tour guide etc.)
- Wireless conference system
- Hall sound reinforcement system
- Sound/voice monitor



### Common

Item	Specification
Frequency	863.125, 863.625, 864.500, 864.875MHz
Number of RF channels	Single (Fixed)
Frequency Type	F3E
Distance	50m (line of sight)
S/N ratio	90dB (W/IHF-A Filter)
Audio Frequency response	50Hz to 15kHz +/-3.5dB (Output level -50dBv +/-3dB)
T.H.D	2% (@AF1kHz, Dev.=15kHz or 7.5kHz)
Emphasis	50u/sec
Operating temperature	0 to 50 degree C

### WA-TX-01

Item	Specification
Oscillation type	SAW Oscillator crystal based
RF power	5mW -4/+3dB
Modulation	Variable reactance modulation
Frequency stability	+/-10kHz
Pre-emphasis	50u sec
Noise reduction type	Compander
Spurious emission	1uW Max.
Deviation	15kHz (1kHz@-25dBv)
Audio input level	-115 to -15 dBv (1kHz)
Audio input impedance	5 kohm
I/O connector	4P connector
Max.DC input voltage to audio input	0V DC Max.
Supply voltage	3 to 9V
Current consumption	25mA Max.
Dimensions	W27 x D19 x H5.5mm
Weight	5 g

### WA-RX-01

Item	Specification
Receiving method	Single super heterodyne
Local oscillation type	Crystal controlled
Oscillation frequency	(f0-10.7MHz)/10
IF frequency	10.7MHz
Noise reduction type	Expander
Sensitivity	21dBuV (@THD2%)
Squelch sensitivity	17dBuV +/- 4dB
Audio output level	-20 dBv (Dev. 15kHz), Max-10dBv (Dev.30kHz)
Audio output impedance	10 kohm (Unbalanced output)
I/O connector	6P connector
Supply voltage	3 to 12V
Current consumption	30mA
Dimensions	W36 x D26 x H8 mm
Weight	15g

\*0dBv =0.775V

\*Data of specification is measured at 25C unless otherwise specified.

Specifications are subject to change without prior notice

## CIRCUIT DESIGN, INC.

WA-TX/RX-01DS ver1.1

wireless world ag Im Gree 79, CH-8566 Ellighausen, Fon +41(71)698 6480, Fax +41(71)698 6481, e-mail: info@wirelessworldag.ch, www.wirelessworldag.com

## Diversity Wireless Audio Receiver **WA-RX-02**

Receiver WA-RX-02 is a true diversity receiver that receives audio (analog) signal in 863-865MHz European audio bands. To eliminate sound interruption caused by multiple transmission paths, the WA-RX-02 uses two discrete receivers in the module with two antennas simultaneously. It is recommended to use with the Circuit Design's transmitter WA-TX-01. All necessary circuits from RF part to the noise reduction system are in a compact case for easy integration to user applications. In combination with the transmitter WA-TX-01, WA-RX-02 achieves wide dynamic range (100dB) to realize high quality sound reproduction. WA-RX-02 adopts an expander noise reduction system. 4 channels are available for simultaneous system operation in one site. Unit complies with EN 300 422 and will be accessed under R&TTE Directive by the first quarter of 2002.

### Feature

- True diversity
- 100dB wide dynamic range with noise reduction system
- Frequency response from 50Hz to 15kHz
- Fixed frequency in 863-865MHz European audio band
- Single UM4 (1.5V) battery operation with DC/DC converter
- Built in mute circuit
- Easy installation for user system
- Conforms to EN 300 422 and EN 301 489

### Application

- Wireless microphone system
- Wireless portable sound system
- Audio guidance system (Museum tour guide etc.)
- Wireless conference system
- Hall sound reinforcement system
- Sound/voice monitor



### WA-RX-02

Item	Specification
Frequency	863.125, 863.625, 864.500, 864.875MHz
Number of RF channels	Single (Fixed)
Frequency Type	F3E
Distance	50m (line of sight) with WA-TX-01
S/N ratio	90dB (W/IHF-A Filter)
Audio Frequency response	50Hz to 15kHz +/- 3.5dB (Output level -50dBv+/-3dB)
T.H.D	2% (@AF1kHz, Dev.15kHz)
Emphasis	50u/sec
Operating temperature	0 to 50 degree C
Receiving method	Single super Heterodyne, True diversity
Local Oscillator type	Crystal controlled
Oscillation frequency	(f0-10.7MHz)/10
IF frequency	10.7MHz
Noise reduction type	Expander
Sensitivity	21dBu (@THD2%)
Squelch sensitivity	17dBuV+/-4dB
Audio output level	-20dBv (Dev.15kHz), Max-10dBv(Dev.30kHz)
Peak detect level	-12dBv (Dev.25kHz +/-2kHz)
Audio output impedance	10k ohm (unbalanced output)
I/O connector	8p connector
Supply voltage	3V to 12V
Current consumption	65mA
Dimensions	W50 x D30 x H9 mm
Weight	18g

\*odBv =0.775V

\*Data of specification is measured at 25C unless otherwise specified.

Specifications are subject to change without prior notice

**CIRCUIT DESIGN, INC.**

WA-TX/RX-01DS ver1.0