Evolution Wireless Digital
EW-DX EM 2 | Rack Receiver

Half-rack (9.5") receiver for use with Evolution Wireless Digital handheld, bodypack and tablestand transmitters.

FEATURES

- 2 channel half rack (9.5")
- Up to 88 MHz switching bandwidth
- PoE IEEE 802.3af Class 0
- Equidistant Channel Spacing: 146 channels in standard mode; 293 channels in Link Density Mode
- Network enabled for control with Sennheiser Control Cockpit/ media control system through a number of 3rd party modules
- Clear and easy focused user interface with OLED display
- Ethernet connectivity (IPv4 and IPv6)
- Secure AES 256 encryption
- External PSU 12 V/1 A
- All-metal housing

DELIVERY INCLUDES

- EW-DX EM 2 rack receiver
- 2 rod antennas
- power supply with country adapters
- GA 3 rackmount set
- 4 rubber feet
- quick guide
- safety guide
- manufacturer declaration sheet

SPECIFICATIONS

System	
Audio link frequency ranges	Q1-9 470.2 - 550 MHz R1-9 520 - 607.8 MHz S1-10 606.2 - 693.8 MHz S2-10 614.2 - 693.8 MHz S4-10 630 - 693.8 MHz U1/5 823.2 - 831.8 MHz & 863.2 - 864.8 MHz V3-4 925.2 - 937.3 MHz V5-7 941.7 - 951.8 MHz & 953.05 - 956.05 MHz & 956.65 - 959.65 MHz W5-6 1240.1 - 1251.875 MHz & 1253.125 - 1259.9 MHz Y1-3 1785.2 - 1799.8 MHz
Bluetooth® Low Energy (BLE) frequency range	2402 - 2480 MHz
Audio frequency response	20 Hz - 20 kHz (-3 dB)
Audio THD	≤ -60 dB for 1 kHz @ -3 dBfs input level
Dynamic range	134 dB
System latency	1.9 ms
Operating temperature	-10 °C - +50 °C (14 °F - 122 °F)
Relative humidity	5 - 95 % (non-condensing)

EW-DX EM 2 (Rack Receiver)	
Input voltage	11 - 13 V DC or PoE IEEE 802.3af Class 0 (CAT5e or higher)
Input current	≤ 1 A
Power consumption	max. 12 W
Transmit power (radiated)	BLE: max. 10 mW EIRP
Audio output power	18 dBu max.
Headphone output	2x 70 mW @ 32 Ω
Ethernet	RJ-45 socket, IEEE802.3 100Base-TX (half+full duplex) 10Base-T (half+full duplex) (CAT5e or higher)
Dimensions	212 x 44 x 189 mm (8.35" x 1.73" x 7.44")
Weight	approx. 1000 g (2.2 lbs) (without antennas and power supply)

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PRODUCT VARIANTS

EW-DX EM 2 (Q1-9)	470.2 - 550 MHz	Art. no. 509342
EW-DX EM 2 (R1-9)	520 - 607.8 MHz	Art. no. 509343
EW-DX EM 2 (S1-10)	606.2 - 693.8 MHz	Art. no. 509344
EW-DX EM 2 (S2-10)	614.2 - 693.8 MHz	Art. no. 509347
EW-DX EM 2 (S4-10)	630 - 693.8 MHz	Art. no. 509348
EW-DX EM 2 (U1/5)	823.2 - 831.8 MHz & 863.2 - 864.8 MHz	Art. no. 509349
EW-DX EM 2 (V3-4)	925.2 - 937.3 MHz	Art. no. 509351
EW-DX EM 2 (V5-7)	941.7 - 951.8 MHz & 953.05 - 956.05 MHz & 956.65 - 959.65 MHz	Art. no. 509352
EW-DX EM 2 (W5-6)	1240.1 - 1251.875 MHz & 1253.125 - 1259.9 MHz	Art. no. 700706
EW-DX EM 2 (Y1-3)	1785.2 - 1799.8 MHz	Art. no. 509355

ACCESSORIES

EW-D ASA (Q-R-S)	Active Antenna Splitter	470 - 694 MHz	Art. no. 508879
EW-D ASA (T-U-V)	Active Antenna Splitter	694 - 1075 MHz	Art. no. 508880
EW-D ASA (W)	Active Antenna Splitter	1240 - 1260 MHz	Art. no. 700714
EW-D ASA (X-Y)	Active Antenna Splitter	1350 - 1805 MHz	Art. no. 508881
EW-D ASA CN/ANZ (Q-R-S)	Active Antenna Splitter	470 - 694 MHz	Art. no. 508998
EW-D AB (Q)	Antenna Booster	470 - 550 MHz	Art. no. 508873
EW-D AB (R)	Antenna Booster	520 - 608 MHz	Art. no. 508874
EW-D AB (S)	Antenna Booster	606 - 694 MHz	Art. no. 508875
EW-D AB (U)	Antenna Booster	823 - 865 MHz	Art. no. 508876
EW-D AB (V)	Antenna Booster	902 - 960 MHz	Art. no. 508877
EW-D AB (W)	Antenna Booster	1240 - 1260 MHz	Art. no. 700715
EW-D AB (Y)	Antenna Booster	1785 - 1805 MHz	Art. no. 508878
ADP UHF (470 - 1075 MHz)	Passive directional antenna	470 - 1075 MHz	Art. no. 508863

BA 70	Rechargeable battery pack for SK and SKM	Art. no. 508860
L 70 USB	Charger for BA 70 rechargeable battery pack	Art. no. 508861
EW-D CHARGING SET	Set of L 70 USB charger and 2 BA 70 rechargeable battery packs	Art. no. 508862
CHG 70N-C	Network-enabled charger for SK, SKM and BA 70	Art. no. 700332
CHG 70N-C + PSU KIT	CHG 70N-C charger with NT 12-35 CS power supply unit	Art. no. 700333

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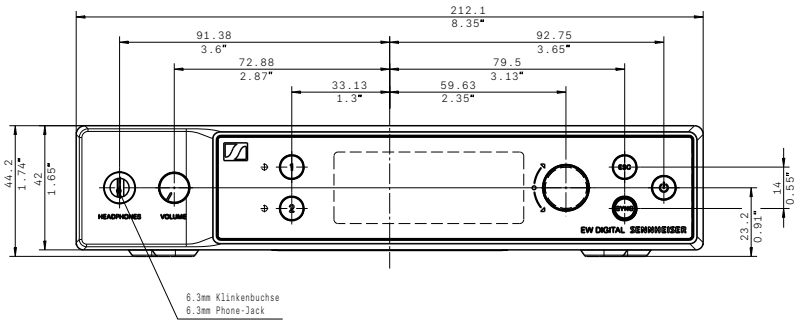
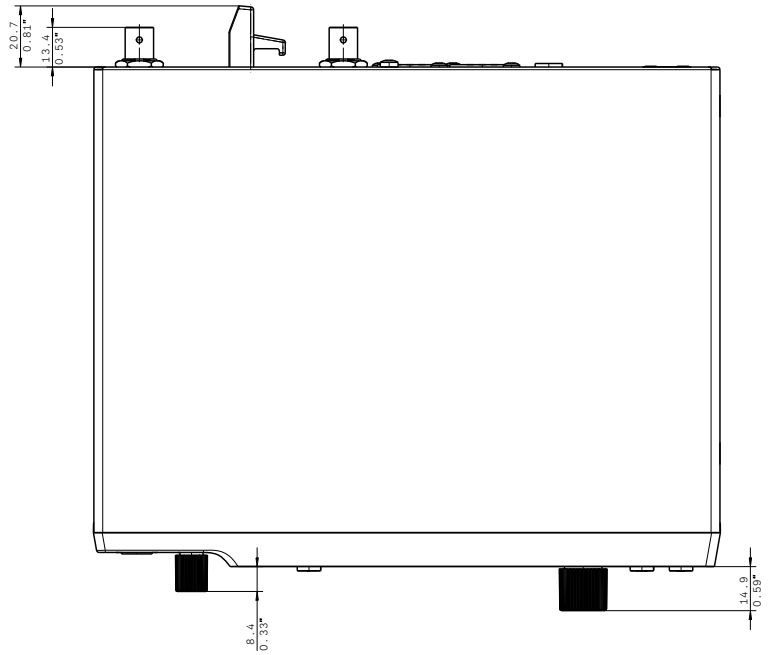
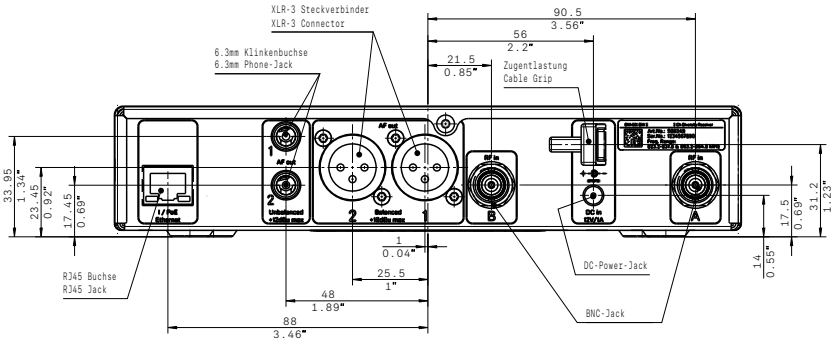
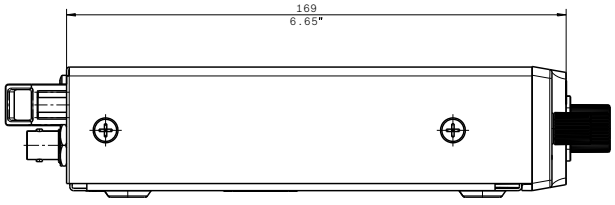
DIMENSIONS









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ARCHITECT‘S SPECIFICATION

EW-DX EM 2 rack receiver

The stationary two-channel receiver with switching diversity technology shall be for use with up to two companion transmitters as part of a digital wireless RF transmission system.

The receiver shall operate within the following UHF frequency ranges, with a switching bandwidth of up to 88 MHz: 470.2 – 550 MHz, 520 – 607.8, 606.2 – 693.8 MHz, MHz, 614.2 – 693.8 MHz, 630 – 693.8 MHz, 823.2 – 831.8 MHz, 863.2 – 846.8 MHz, 925.2 – 937.3 MHz, 941.7 – 951.8 MHz, 953.05 – 956.05 MHz, 956.65 – 959.65 MHz, 1240.1 – 1251.875 MHz, 1253.125 – 1259.9 MHz, 1785.2 – 1799.8 MHz. Different frequency variants shall be available depending on country-specific regulations.

The receiver shall feature Bluetooth® Low Energy (BLE) at a frequency range between 2402 and 2480 MHz for remote controlling the devices via a control App for iOS and Android.

The receiver shall feature an automatic frequency setup function with spectrum scan functionality in order to establish an equidistant frequency grid with 146 channels in standard mode and 293 channels in Link Density Mode.

The audio frequency response shall be between 20 Hz and 20 kHz (-3 dB). Audio total harmonic distortion (THD) shall be ≤ -60 dB for 1 kHz @ -3 dBfs input level. Dynamic range shall be 134 dB. System latency shall be 1.9 ms.

The receiver shall be menu-driven with an OLED display showing the current frequency, channel number, metering of RF level, metering of AF level, lock status, muting function, antenna switching diversity, app connection, gain, audio output level, menu and battery status for each of the two associated transmitters. An auto-lock feature shall be provided to prevent settings from being accidentally altered.

The following settings shall be configurable by function buttons and an encoder for each channel in the menu: frequency, channel name, gain, trim, AF output, low cut, AES 256 encryption, test tone, network settings, integrated antenna booster settings, display brightness, device name, auto setup settings for automatic frequency setup.

For each of the two channels the receiver shall feature a balanced XLR-3M audio output with a maximum output of +18 dBu along with an unbalanced 6.3 mm (¼") audio output with a maximum output of +12 dBu.

For secure transmission the receiver shall feature AES 256 encryption.

The receiver shall provide a walktest mode for monitoring the RF and AF signal status in the location over time.

Two BNC-type input sockets shall be provided for connecting the antennas. The receiver shall be usable with active and passive wide range UHF antennas for the entire supported RF spectrum.

A headphone output with headphone volume control shall be provided and shall utilize a 6.3 mm stereo jack socket.

The receiver shall have an Ethernet port (RJ-45) for remote network-based monitoring and control using the Sennheiser Control Cockpit software or the Sennheiser Wireless Systems Manager software.

The receiver shall operate on 12 V DC power supplied from the power supply unit or on Power over Ethernet (PoE IEEE 802.af Class 0). Power consumption shall be ≤ 1 A.

The receiver shall have a rugged metal housing; dimensions shall be approximately 212 x 44 x 206 mm (8.35" x 1.73" x 8.11"). Weight shall be approximately 1000 grams (2.2 lbs) without antennas and power supply. Operating temperature shall range from –10 °C to +50 °C (+14 °F to +122 °F).

The receiver shall be the Sennheiser EW-DX EM 2.