

ES 3160-II

CD-USB-BLUETOOTH/MP3 DIGITAL RECEIVER AMPLIFIER



DESCRIPTION

ES 3160-II is a mixer-amplifier with 4 mic-line audio inputs on removable connectors (the first input also has an XLR socket), CD/USB/Bluetooth – MP3 player and tuner and an aux input for an additional external music source. The amplifier nominal power is 160 W, available on either a low impedance output (min. 4 Ω) or 100 – 70 V constant voltage output (for loudspeakers having 100 – 70 V transformers). Input 1 has a signal detection circuit ('VOX') providing automatic priority operation. All inputs 1, 2, 3 and 4 can access the priority through an external command (connected to the removable connector). Inputs 2 and 3 also have an RJ 45 socket for quick connection of an RCF BM 3001 paging microphone (through CAT5 cable). A USB port (on the front panel) allows connection of a USB flash drive containing MP3 files. Aux outputs are available to send the internal / external music source signals to additional amplifiers, mixers, phone systems ('music on hold' function), etc. The 4 mic.-line inputs have a common 'presence' control and separate highpass filters that are useful for improving speech intelligibility. Both the internal music source (CD/USB – MP3 player and tuner) and the AUX INPUT have separate tone controls. Front panel LEDs indicate the device state (ON, PROT), the priority activation (PRIOR) and the signal level (SIG/PK).

CERTIFICATIONS AND APPROVALS

- CE: it complies with European Community 2006/95/CE LVD and 2004/108/CE EMC
- Electromagnetic immunity according to IEC EN 55013+A1+A2, IEC EN 55020+A2+EC, EN 61000-3-2, EN 61000-3-3+A1
- Electronic apparatus safety requirements according to IEC EN 60065:2002

INSTALLATION NOTES

ES 3160-II has 4 footpads for desk-top positioning. It can be mounted into a 19" rack cabinet (3 units) through the optional AR 3000 accessory. In this case, it is necessary to add 2 P/AER-1V (1 unit) panels (one above and one below the amplifier) to ensure proper air circulation and heat dissipation.

MAIN FEATURES

- Mixer amplifier, CD-USB/MP3 player – FM tuner
- Bluetooth connection with external devices
- IR remote control for CD - USB/MP3 player and tuner functions
- Full digital technology 160 W RMS amplifier, 70 – 100 V / 4 Ω outputs
- 4 universal inputs for removable screw-terminals and with phantom power supply, high-pass filters facility and a common presence control
- RJ45 ports on inputs 2 and 3 for connections of BM 3001 paging microphones
- Configurable priority settings, VOX facility on input 1
- Aux input with volume and tone controls for an external music source
- USB port on front panel allows reproduction of MP3 files from a flash-drive
- Music On Hold and PRE outputs
- Chime and siren internal generator, activation through dry contacts
- Status / Priority / Audio Level LED indications

MAIN APPLICATIONS

- Restaurants
- Boutique
- Pub
- Beauty Centre
- Market
- Hotels
- Office building
- Medical centres

ACCESSORIES (included)

- 4 Male Audio Input connector 4 pole
- 1 Male Command Input connector 2 pole
- 1 Male Relay Input connector 3 pole
- 1 Male output connector 4 pole
- Safety protection cover for 100 V output connector
- Remote control unit
- 1 FM indoor antenna
- CR 2025 (3 V) lithium battery
- AC Power cord
- User's Guide
- Quick Start Instruction
- Warranty Card

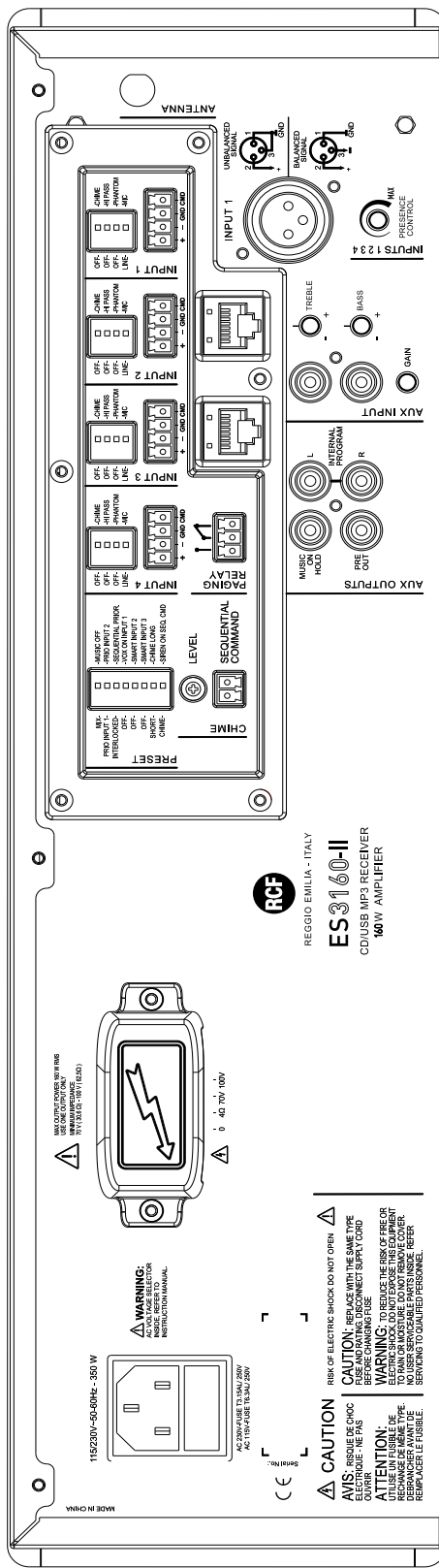
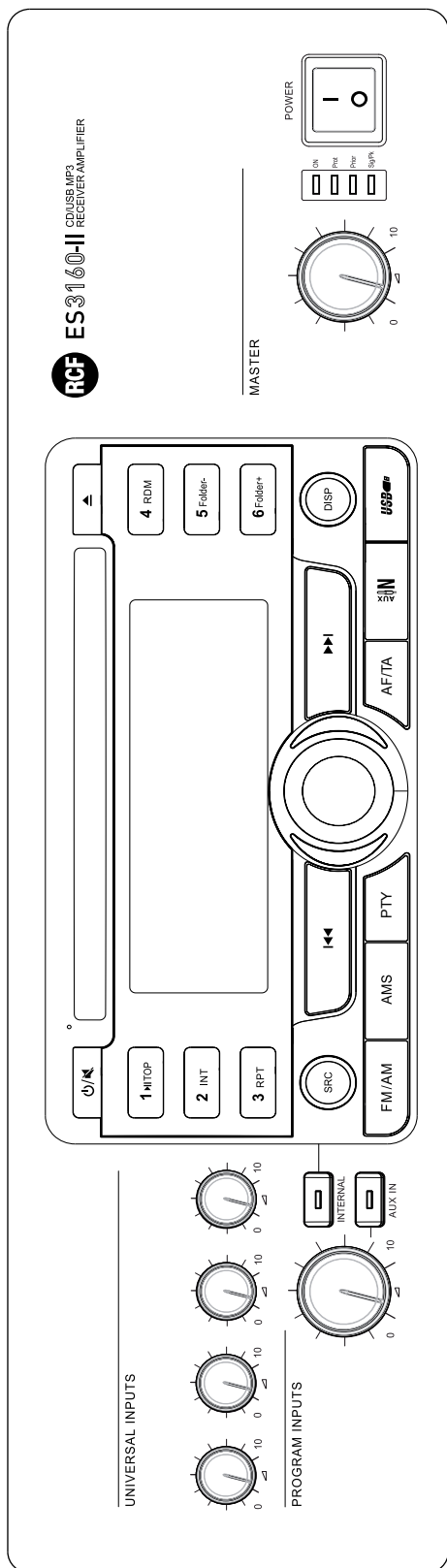
ACCESSORIES (not included)

- AR 3000 rack mounting support 3 units (code 133 60 101 Optional)
- BM 3001 microphone console with CAT5 cable and RJ 45 connector (code 143 22 008 Optional)



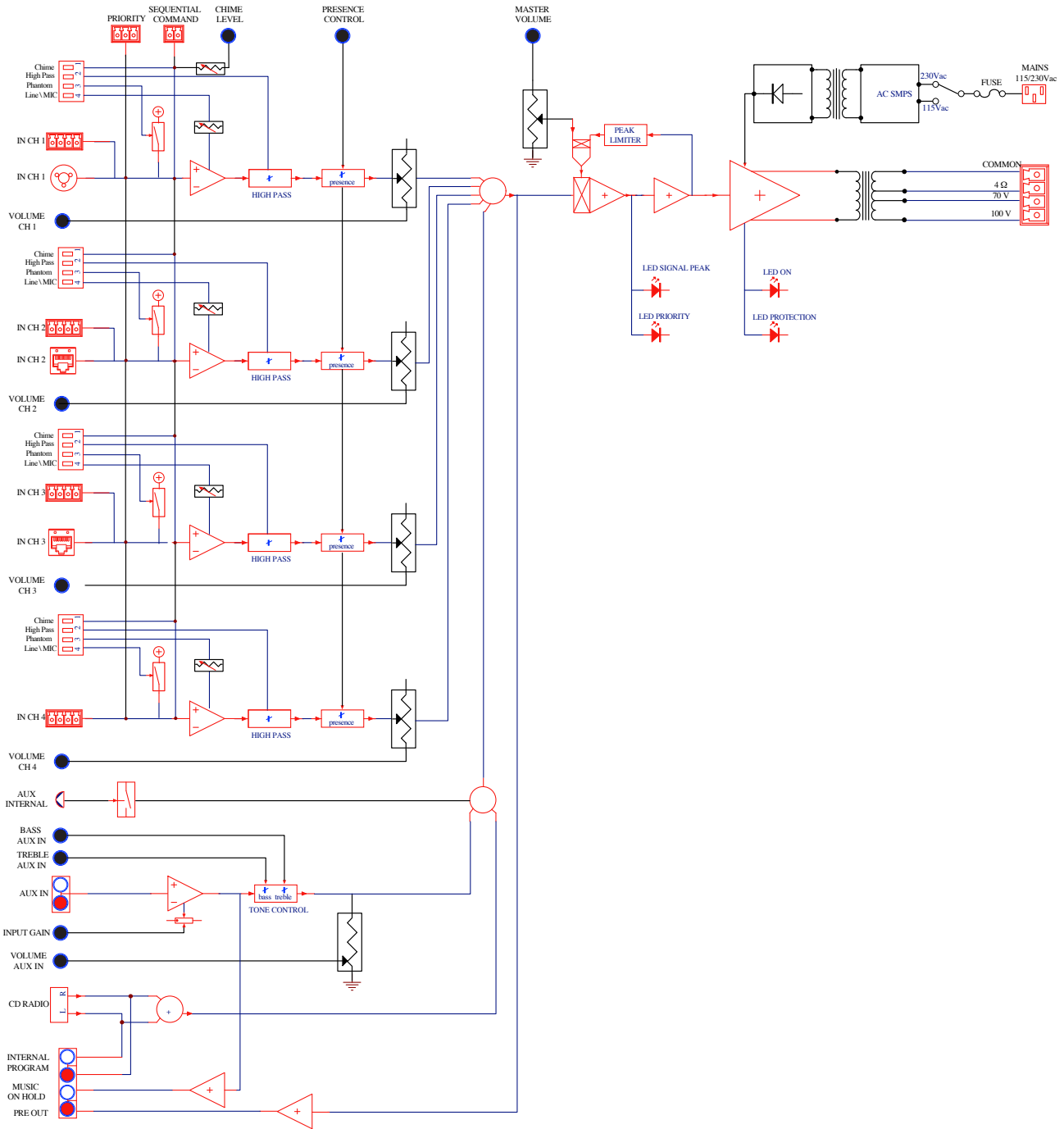
ES 3160-II

FRONT PANEL & REAR PANEL



ES 3160-II

SCHEMATICS

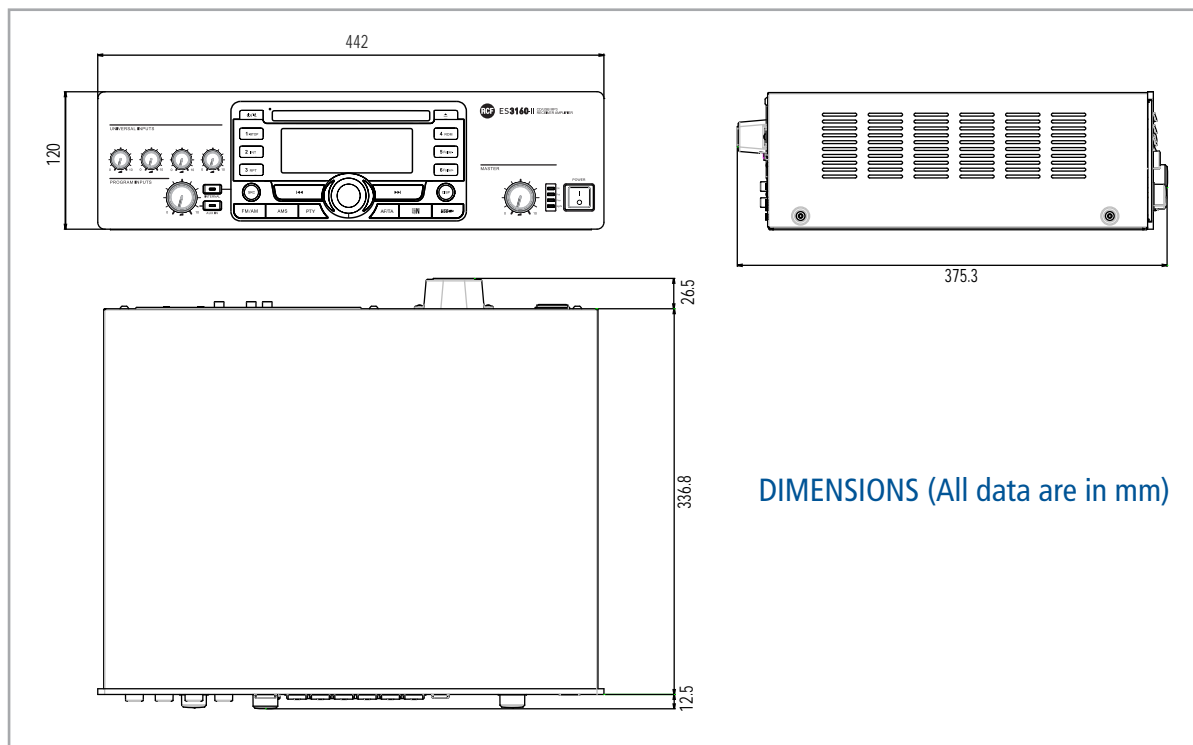


ES 3160-II

PART NUMBER

12135104

1.0+1-E



AMPLIFIER	
Output power	160 W (RMS)
Frequency response	50 Hz ÷ 13.5 kHz
Signal / noise ratio	
- Mic (1 ÷ 4)	60 dB
- Aux	80 dB
Distortion (at 1 kHz, nominal power)	< 0.3 %
AUX INPUT tone controls	
- Bass	± 8 dB @ 80 Hz
- Treble	± 8 dB @ 13 kHz
PRESENCE control (inputs 1 ÷ 4)	+ 10 dB @ 2.15 kHz
High-pass filter (inputs 1 ÷ 4)	150 Hz
Input sensitivity / impedance	
MIC (1 ÷ 4)	Balanced - 50 dBu / 10 kΩ
MIC PHANTOM (1 ÷ 4)	Balanced - 21 dBu / 5 kΩ
LINE (1 ÷ 4)	Balanced 0 dBu (max. + 16 dBu) / 10 kΩ
AUX INPUT	Adjustable - 6 ÷ + 13 dBu / 20 kΩ
AUX OUTPUT level / impedance (pre / music on hold)	- 1 dBu / 600 Ω
'Phantom power' voltage / current	32 V / 18 mA
Loudspeaker outputs (power: 160 W)	
Low impedance	4 Ω (25 V)
Constant voltage	70 V (31 Ω) / 100 V (62 Ω)
RADIO	
FM range	87.5 ÷ 108 MHz
FM frequency response	30 Hz ÷ 15 kHz
FM channel separation (1 kHz)	≥ 30 dB
FM Intermediate rejection	≥ 70 dB
FM Image rejection	≥ 50 dB
FM signal / noise ratio	≥ 55 dB
AM (MW) range	522 ÷ 1620 kHz
Antenna input	75 Ω - Coaxial

AUDIO CD	
Frequency response	20 Hz ÷ 20 kHz
Signal / noise ratio	≥ 80 dB
Total harmonic distortion (1 kHz)	< 0.2 %
Channel separation	≥ 55 dB
PROTECTIONS	
Amplifier	Short circuit, thermal
Load	DC Offset Delay, fuse
Power supply	fuses
GENERIC	
Operating voltage	115-230V / 50-60 Hz
Power (consumption)	350 W
Dimensions (w, h, d)	444 mm, 127 mm, 345 mm
Net weight	8 kg



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