Technische Daten, Seite 1

Inputs

channel one, channel four

High impedance, unbalanced instrument or line inputs
Mono jack socket, ¼" (6.35 mm)
Min. input voltage: 21 mV (–34 dBV)
Max. input voltage: 4 V (+12 dBV)
Input impedance: 2.2 MΩ || 150 pF
Equivalent input noise voltage (A-weighted): 1.7 µV (–115 dBV)
Attenuator switch: –10 dB
Phantom power: Optional, see notes.

clip indicator
Headroom: min. 6 dB

channel two, channel three

Switchable line / microphone inputs
Combo socket, XLR + jack ¼" (6.35 mm)

line mode (via jack input only)
High impedance, unbalanced instrument or line input
Min. input voltage: 25 mV (–32 dBV)
Max. input voltage: 2.8 V (+8 dBV)
Input impedance: 1 MΩ || 200 pF
Equivalent input noise voltage (A-weighted): 2.6 µV (–112 dBV)

mic mode
Microphone input, XLR (balanced), stereo jack (balanced), or mono jack (unbalanced)
1 / sleeve = ground,
2 / tip = positive (+),
3 / ring = negative (–)
Min. input voltage: 2 mV (–55 dBV)
Max. input voltage: 250 mV (–12 dBV)
Input impedance (balanced): 1.1 kΩ
Input impedance (unbalanced): 4 kΩ
Voice filter:
–10 dB at 270 Hz referred to 10 kHz
Equivalent input noise voltage (A-weighted): 2.4 µV (–112 dBV)
Phantom power: 48 V, XLR only, switchable, R = 6.8 kΩ per terminal, max. 10 mA per input, short-circuit protected.

clip indicator
Headroom: min. 6 dB

aux in

Auxiliary stereo input, e.g. for CD player
Cinch (RCA) sockets, L / R
Level adjustable by **aux return**
Min. input voltage: 125 mV (–18 dBV)
Max. input voltage: 10 V (+20 dBV)
Input impedance: min. 3.7 kΩ (varies with level setting)

ext. effect return

Input from external parallel effect loop, or supplementary input
Mono jack, ¼" (6.35 mm)
Level adjustable by **effect 2 return**
Min. input voltage: 410 mV (–9 dBV)
Max. input voltage: 10 V (+20 dBV)
Input impedance: min. 8 kΩ (varies with level and footswitch setting)

Outputs

rec out

Stereo line output
Cinch (RCA) sockets, L / R
For more specs see **L-out, R-out**

headphones

Stereo headphones output
Stereo jack socket, ¼" (6.35 mm)
When plugged in, internal speakers are muted.
Output power at rated conditions: 2 x 24 mW / 32 Ω
Max. output power: 2 x 160 mW / 16 Ω
Min. load impedance: 8 Ω
Caution: *Suitable for stereo headphones only. Connecting a mono jack or connecting to other devices may cause malfunction or damage.*

tuner

Tuner output, before tone controls and effects, not affected by **mute**
Mono jack, ¼" (6.35 mm)
Output voltage: 330 mV (–10 dBV)
Output impedance: 47 Ω
Min. load impedance: 2 kΩ

L-out, R-out

Stereo line output after tone controls, adjustable by **pre master,** with switchable stereo simulation, **aux in,** and effects
2 mono jack sockets, ¼" (6.35 mm), L / R
Output voltage: 0…1 V (0 dBV), adjustable by **pre master**
Output impedance: max. 15 kΩ (varies with level setting)
Min. load impedance: 2 kΩ
Residual noise (A-weighted): < 1 µV (–120 dBV)

line out

Mono line output after **master**, with **aux in** and effects, and after **insert**
Mono jack, ¼" (6.35 mm)
Output voltage: 460 mV (–7 dBV)
Output impedance: 100 Ω (but depends on external device if **insert** is also used)
Min. load impedance: 2 kΩ
Residual noise (A-weighted): 4.5 µV (–107 dBV)

DI-out

Balanced, non-isolated XLR output, before tone controls, with **aux in,** without effects
1 = ground,
2 = positive (+),
3 = negative (–)
Output voltage (differential): 68 mV (–23 dBV)
Output impedance: 100 Ω, each terminal to ground
Min. load impedance (differential): 1 kΩ

ext. effect send

Output for external parallel effect loop, before **master**, after tone controls
Independent on **send** controls (see notes)
Mono jack, ¼" (6.35 mm)
Output voltage: 1 V (0 dBV)
Min. load impedance: 2 kΩ

Insert connector

insert

Connector for serial insert loop, after **master** but before **line out.**
Interrupts the direct signal path when used.
Stereo jack, ¼" (6.35 mm),
tip = send, ring = return
Output and input voltage: 460 mV (–7 dBV)
Output impedance (send): 47 Ω
Min. load impedance (send): 2 kΩ
Input impedance (return): 22 kΩ (but depends on external device if **line out** is also used)

Footswitch connectors

footswitch effect int/ext

Connector for a dual footwitch
Stereo jack, ¼" (6.35 mm)
Tip = internal effect on/off
Ring = external effect on/off
Sleeve = common (ground)
Function: Switch ON = effect muted

footswitch mute ch 1/2, footswitch mute ch 3/4

Connectors for dual footwitches
Stereo jack, ¼" (6.35 mm)
Tip = muting ch. 1 (3)
Ring = muting ch. 2 (4)
Sleeve = common (ground)
Function: Switch ON = channel muted
When plugged in, the respective **mute** buttons of the amp are disabled.

Technische Daten, Seite 2

Tone controls		
Note: Channels 3 and 4 share the same tone controls.		
All channels	**colour**	–3 dB at 700 Hz +10 dB at 8 kHz
	bass	±8 dB at 100 Hz (shelf type)
	middle	±6 dB at 800 Hz
	treble	±8 dB at 10 kHz (shelf type)
Effects		
Built-in effect	Digital effect processor with 16 presets. Contribution from channels 1, 2, and 3+4 is adjustable by **send** controls.	
External effects	See **ext. effect send, ext. effect return**, and **insert**	
Stereo simulator	Switchable, effective on **L-/R-out** and **rec out** but not **headphones**	
Power		
Power amp	2 x 60 W / 4 Ω (1% THD) DMOS, monolithic I.C. Dynamic range (A-weighted): 93 dB	
Limiter threshold	2 x 50 W / 4 Ω	
Mains power	Mains voltage (depending on model): 100, 120, 230, or 240 V AC, 50–60 Hz Power consumption: max. 250 W	
Mains fuse	Size: 5 x 20 mm For 230 and 240 V models: T 1.6 A L / 250 V For 100 and 120 V models: T 3.15 A L / 250 V	
General		
Distortion	THD+N < 0.1% at 2 x 6 W / 4 Ω	
Analog signal processing	Subsonic filter, adaptive peak limiter	
Speaker system	Two 8" (200 mm) dual cone full-range speakers, 1" (25 mm) neodymium dome tweeter, bass reflex enclosure	
Cabinet	12 mm (0.47") birch plywood	
Finish	Waterbased acrylic, black spatter finish	
Dimensions	360 mm (14.2") high 415 mm (16.3") wide 290 mm (11.4") deep	
Weight	12.8 kg (28.2 lbs)	

NOTES

Rated conditions:
Input 50 mV rms / 1 kHz at **channel one.**
Gain of channel one fully clockwise.
All tone controls in center position, **colour** off.
Master adjusted such that the rated output power (limiter disabled) or, alternatively, the rated output voltage at **line out** is obtained.

Output voltages refer to rated conditions as stated above.

Min. input voltage: Input voltage required for rated output power (limiter disabled) with **gain** and **master** fully clockwise

Max. input voltage: Input voltage that does not cause more than 1% THD+N, suitable control settings provided

THD+N: Total harmonic distortion + noise at input and output levels 10 dB below rated conditions.

Equivalent input noise voltage: Noise voltage at speaker output divided by gain of amplifier. **gain** of input under test fully clockwise, **master** fully clockwise, gain of unused inputs minimal. Input shorted, B = 22 Hz … 22 kHz

Residual noise: Noise of an output when its level control is set to minimum.

Dynamic range (power amp): Ratio of rated output voltage to residual noise voltage with **master** fully anticlockwise.

Options: The following options are available by internal jumper settings.
1) Channels 1 and 4 can have 15 V phantom power enabled at "ring" of jack socket. *Caution: This option is not overload-protected. Improper use may cause malfunction or damage.*
2) Gain of channels 2 and 3 can be reduced by 3 dB to allow for more headroom.
3) **Ext. effect send** level can be made dependent on the **send** controls of each channel.
4) Internal effect can be disabled for each channel.
5) Aux input signal can be disconnected from DI out.
6) Internal effect can be added to DI out.

Specifications and appearance subject to change without notice.

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