

D1 – Technical Specifications

ANALOG AUDIO SECTION

Input Impedance	20 k Ω
Output Impedance	
Main–RCA	300 Ω
Main–XLR	600 Ω
Zones 2/3 and Record	51 Ω
Rated Input	2.0 Vrms
Maximum Input	5.3 Vrms
Rated Output (100 k Ω load)	2.0 Vrms
Minimum Load	5 k Ω
Maximum Output	
RCA	6.3 Vrms
XLR	12.6 Vrms
Headphone Output	100 mW into 32 Ω at 0.2% THD+N
Volume Control Range	
Main	-95.5 dB to +31.5 dB (in 0.5 dB increments)
Zone 2/3 and Headphone	-70 dB to +10.0 dB (in 1.25 dB increments)
Channel Separation (at 1 kHz)	82 dB
Crosstalk Between Inputs (at 1 kHz)	86 dB
XLR Pin Configuration	Pin 1: Ground, Pin 2: Positive, Pin 3: Negative

DIGITAL AUDIO SECTION

All digital audio inputs and outputs are to S/PDIF electrical (75 Ω , 0.5 Vp-p), S/PDIF optical (Toslink), or AES/EBU (110 Ω , 5 Vp-p) standards. SRC output is 24-bit/192 kHz regardless of input.

Analog to Digital Converters	AKM® AK5394A
Input Receiver	AKM® AK4112A
Processor	Dual Motorola® 56367 at 150 MHz
Sample Rate Converters	Analog Devices AD1896
Digital to Analog Converters	AKM® AK4395

SIGNAL PROCESSING

Crossover	
High-Pass Slope (Small Speaker Setting)	12 dB/octave (2nd order)
Low-Pass Slope (Subwoofer)	24 dB/octave (4th order)
Frequency (Adjustable in 5-Hz increments)	25 Hz to 160 Hz
Tone Control	
Filter Response Type	Shelf
Bass Turnover Frequency	200 Hz
Treble Turnover Frequency	2 kHz
Range	\pm 12 dB

MAIN PATH

(RCA and XLR Output, 48 kHz Sampling Rate for all Digital Signal Paths)

Frequency Response and Bandwidth

Analog-Direct Inputs	10 Hz to 20 kHz (+0 -0.2 dB), 1 Hz to 130 kHz (-3 dB)
Analog-DSP Inputs at 24/96	10 Hz to 20 kHz (+0 -0.3 dB), 2 Hz to 44 kHz (-3 dB)
Digital Inputs at 24/96	10 Hz to 20 kHz (+0 -0.2 dB), 1 Hz to 45 kHz (-3 dB)

THD+N (at Rated Input and Output)

Analog-Direct Inputs	0.006% (80 kHz BW)
Analog-DSP Inputs at 24/48 or 24/96	0.004% (AES17 filter)
Digital Inputs at 24/48 or 24/96	0.004% (AES17 filter)

IMD (CCIF at 15 kHz and 16 kHz)

Analog-Direct Inputs	0.001%
Analog-DSP Inputs at 24/48	0.001%
Digital Inputs at 24/48 or 24/96	0.001%

S/N Ratio (ref. 2.0 Vrms; IEC-A Filter)

Analog-Direct Inputs	107 dB
Analog-DSP Inputs at 24/48 or 24/96	101 dB
Digital Inputs at 24/48 or 24/96	104 dB

ZONE 2 and ZONE 3 PATHS

Frequency Response

and Bandwidth

20 Hz to 20 kHz (+0, -0.1 dB), 3 Hz to 140 kHz (+0, -3 dB)

THD+N (at Rated Input and Output)

0.06% (80 kHz BW)

IMD (CCIF at 15 kHz and 16 kHz)

0.06%

S/N Ratio (ref. 2.0 Vrms, IEC-A Filter)

97 dB

RECORD PATH

Analog to Digital Conversion S/N Ratio (A-weighted)

103 dB

FM TUNER

Sensitivity	50 dB S/N	13 dB μ typical, 25 dB μ max.
	IHF	10 dB μ typical, 20 dB μ max.
S/N Ratio	Mono	75 dB typical, 65 dB min.
	Stereo	69 dB typical, 60 dB min.
Distortion	Mono	0.2% typical, 1.0% max.
	Stereo	0.3% typical, 1.5% max.
Stereo Separation		40 dB typical, 25 dB min.
Adjacent Channel Selectivity (\pm 400 kHz)		70 dB typical, 60 dB min.
Frequency Response		25 Hz to 15 kHz (\pm 1 dB)

AM TUNER

Sensitivity (20 dB S/N)	49 dB μ typical, 56 dB μ max.
S/N Ratio	50 dB typical, 43 dB min.
Distortion	0.7% typical, 2.0% max.
One-Signal Selectivity (\pm 10 kHz)	24 dB typical, 18 dB min.

VIDEO

Bandwidth of complete path from input to output

Composite and S-Video	70 MHz
Component: Y	110 MHz
Pr/Cr	90 MHz
Pb/Cb	80 MHz

All video inputs and outputs are 75 Ω , 1.5 Vp-p. Component video switching is suitable for any format up to 1080p (line-doubled 1080i).

CONTROL

Infrared

Carrier Frequency	38 kHz
Maximum Emitter Current	100 mA per output

RS-232 Interface

Connection	DB-9F, straight-wired
Pinout (Statement D1 side)	Pin 2: Tx, Pin 3: Rx, Pin 5: Ground
Baud Rate	1200 to 115200
Configuration	8 data bits, 1 stop bit, no parity bits, flow control (RTS, CTS, NONE)

Trigger Outputs

Polarity	3.5 mm mono (tip positive), sleeve negative
Maximum Current at 12 VDC	50 mA (Triggers 1,2), 200 mA (Trigger 3)
Sequential Delay	250 ms

POWER REQUIREMENTS

Supply Voltage	105 to 130 V, 60 Hz
Power Consumption	Maximum 140 W
Fuse Ratings (Fuses are internal)	
Main Power Supply	1.5 A slow-blow 5 x 20 mm
Standby Power Supply	0.5 A slow-blow 5 x 20 mm

DIMENSIONS

Height	5-7/8 inches (14.9 cm) including feet
Width	Faceplate 19-1/4 inches (49 cm), chassis 17-1/4 inches (43.8 cm)
Depth	15-1/4 inches (38.7 cm)
Weight (unpacked)	24.3 lb (11 kg)