



AMR-100 HARDWARE SPECIFICATIONS

PROCESSING RESOURCES:

CPU	Analog Devices BlackFin™ ADSP-BF537 DSP
RAM	32 megabytes SDRAM (<i>16 meg x 16 bits</i>)
ROM	1 megabyte FLASH EEPROM (512 K x 16)
Disk Drive	3.5" IDE drive, 80 gigabytes capacity standard, over 270 gigabytes capacity optional
LAN connection	One 10/100 base-T Ethernet port, RJ-45 connector
Serial channels	One RS-232 Asynchronous serial port female DB-9 connector

USER CONTROLS:

Rear panel switches	Single momentary push-button, system reset
Front panel display	One 128 by 64 pixel monochrome graphic LCD display
Front panel switches	4 Momentary push-buttons

AUDIO RESOURCES:

Analog audio outputs	4 balanced outputs via Neutrik NC3MBH XLR connectors
Output level	12 VRMS into 600 ohms each output (maximum)
Dynamic range	120 db (DAC specification)
THD+N	-107 db (DAC specification)
Volume control	0 to -127.5 db, in 0.5db steps, independent, each channel
Analog audio inputs	-none-
Digital audio outputs	2 AES/EBU serial digital outputs using one (but not both) of either a 110 ohm balanced and isolated output via an XLR type connector, or an unbalanced 75 ohm output via a BNC connector. 2 optical TORX style outputs are also provided and available simultaneously.
Optional Digital Audio inputs	- 1 AES/EBU serial digital input using one (and only one) of either a 110 ohm balanced and isolated input via an XLR type connector, or an unbalanced 75 ohm input via a BNC connector, and 3 optical TORX style inputs. Only one of the four available inputs may be selected for use at any time.

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Digital audio matrixing The AES/EBU and optical inputs are hardwired to a AKM 4122 SRC (Sample Rate Converter). This device provides 4 internal interconnection modes between the AES/EBU/ Optical I/O pins and its serial digital audio I/O pins. Further, the SRC serial digital audio I/O (clocks and data), 5 PLL derived internal clocks, and the 2 DAC serial digital audio inputs are all routed to a CPLD that can be re-configured “on the fly” providing a cross-point switch function for all serial digital audio signal sources and sinks.

DIGITAL CONTROL CIRCUITS:

“Contact closures” Two sets of 6 form 1A contact pair outputs (single pole, single throw, normally open) and 4 Optically isolated inputs are provided. These input/output contact pairs are made available via two 25 pin female D-SUB connectors. Contact function and control dictated by system software.

OUTPUTS:

Isolation voltage 1500 VRMS maximum
MOSFET on resistance Ron = 1 ohm typical
MOSFET breakdown Off-state breakdown 70VAC or 100VDC
Max load current 400 ma. continuous, 800 ma. pulsed (< 100 usec. 1% duty cycle)

INPUTS:

Isolation voltage 1500 VRMS maximum

Max input voltage 48 VDC, 48 VRMS AC

Min input voltage 6 VDC, 6 VRMS AC

RECEIVER SECTION CHARACTERISTICS:

Input Impedance 75 Ohms

Input levels -20 to -65 dbm per carrier

Frequency range Fully agile, 950 to 2150 MHz, 125 KHz tuning steps

Modulation scheme QPSK/BPSK

Symbol rate Fully agile, 1 to 45 megasymbols/sec.

FEC technique Multi-rate Viterbi decoding concatenated with 204/188 Reed-Solomon

Main channel data rate Up to 90 megabits per second

Threshold (typical) 5.5 db Eb/No for error rates of 1×10^{-11} or better (using rate $\frac{3}{4}$ Viterbi).

Data transfer protocol MPE (Multi-Protocol Encapsulation) per MPEG spec.

GENERAL:

Operating temperature 5 to 45 deg. C

Power consumption Less than 25 watts

Input voltage 115 VAC 50/60Hz

Dimensions 2RU rack mount enclosure, depth TBD

Weight	TBD, 10-15 lb
Approvals	FCC part 15 class A (Entire system) UL, CSA, TUV (Power supply)
Warranty	1-year parts and labor



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