

Antex DMX8 USB Recording Device

Revision 1.2

Released 20 July, 2006

Overview

The DMX8 is a digital recording device that connects to a host PC via USB 2.0. The DMX8 has 8 balanced inputs that can be either microphone or line level, and are mixed down to 2 or 4 channels and digitized. The mixing is completely flexible, allowing any selection of inputs to be routed to any record channel. The digitized audio is sent to the host PC via a USB connection for recording on the host PC's hard drive. A software driver is provided that makes the DMX8 appear as a standard Microsoft Wav device. The DMX8 is designed for voice applications and incorporates a dynamic range compressor/noise gate on each input. The dynamic range compressor/noise gate makes the recording process more forgiving of varying loudness levels of different people's voices.

There are 4 monitor outputs intended for interfacing to telephone or video teleconferencing systems. This allows for person(s) at remote locations to participate in the proceeding being recorded and hear the voices of the other participants. Any selection of inputs may be routed to any of the 4 monitor outputs. This allows remote participants to listen to a mix which has their voice removed to avoid echoes or feedback. There is a fifth "monitor all" output which is a fixed mix of all 8 inputs.

Unit Specifications

Analog Inputs

Quantity	8
Connector	XLR-F
Levels	-60 to +10dBu (0.775mv to 2.5VRMS) (note 1)
Input Impedance	1K ohms
Phantom Power	Each channel individually enabled by software, +12V
THD+N	0.025% condition: -30dBu input (25mVRMS), trim controls set so that compressor is not active
CMRR	80dB
Frequency Response	20 to 20kHz \pm 3dB
DR Compression	Uses THAT4301 analog audio processor (note 2)
Noise Gating	Uses THAT4301 analog audio processor (note 3)
Trim Control	Software controllable, -90dB to +15dB range, 0.5dB steps

Notes: (1) The input preamplifier has 3 software configurable gain settings: +62dB, +46dB, and 0dB. The preamplifier is followed by a software adjustable trim control. (2) Compression takes effect about 10dB above nominal record level. Compression slope 10:1. (i.e. a 10dB increase in input level will cause a 1dB increase in output level.) (3) Noise gating is in effect about 10dB below nominal recording level. Slope 1:10. (i.e. a 1 dB decrease in input level will cause a 10dB decrease in output level.)

Mixer (see block diagram)

Record Device Source Selection Any N of 8 inputs for each of 4 records
Monitor Source Selection Any N of 8 inputs for each of 4 monitor out

A/D Conversion

Conversion 16 bits
Sample rates 8,11.025,12,16,22.05,24,32,44.1,48 KHz
Physical Record Devices 4 (mono)

Audio Monitor Outputs

Monitor All Balanced or unbalanced +20dBu nominal full scale output level, ¼" TRS (note 5)
Monitor 1 - 4 Unbalanced RCA, 2VRMS nominal full scale output level (note 6)
Output Trim Control, each >90dB range, 0.5dB steps

Notes: (5) The +20dBu level is for balanced configuration. If one output is grounded, the output will function as unbalanced, but +20dBu will not be possible without high distortion. (6) Because of the trim controls, levels greater than the nominal levels are possible. If connecting to telephone equipment, care must be taken not to over drive the public telephone network.

Indicator LEDs

Power, green
One bi-color LED per input channel. Green indicates audio activity. Red indicates compression threshold is reached.

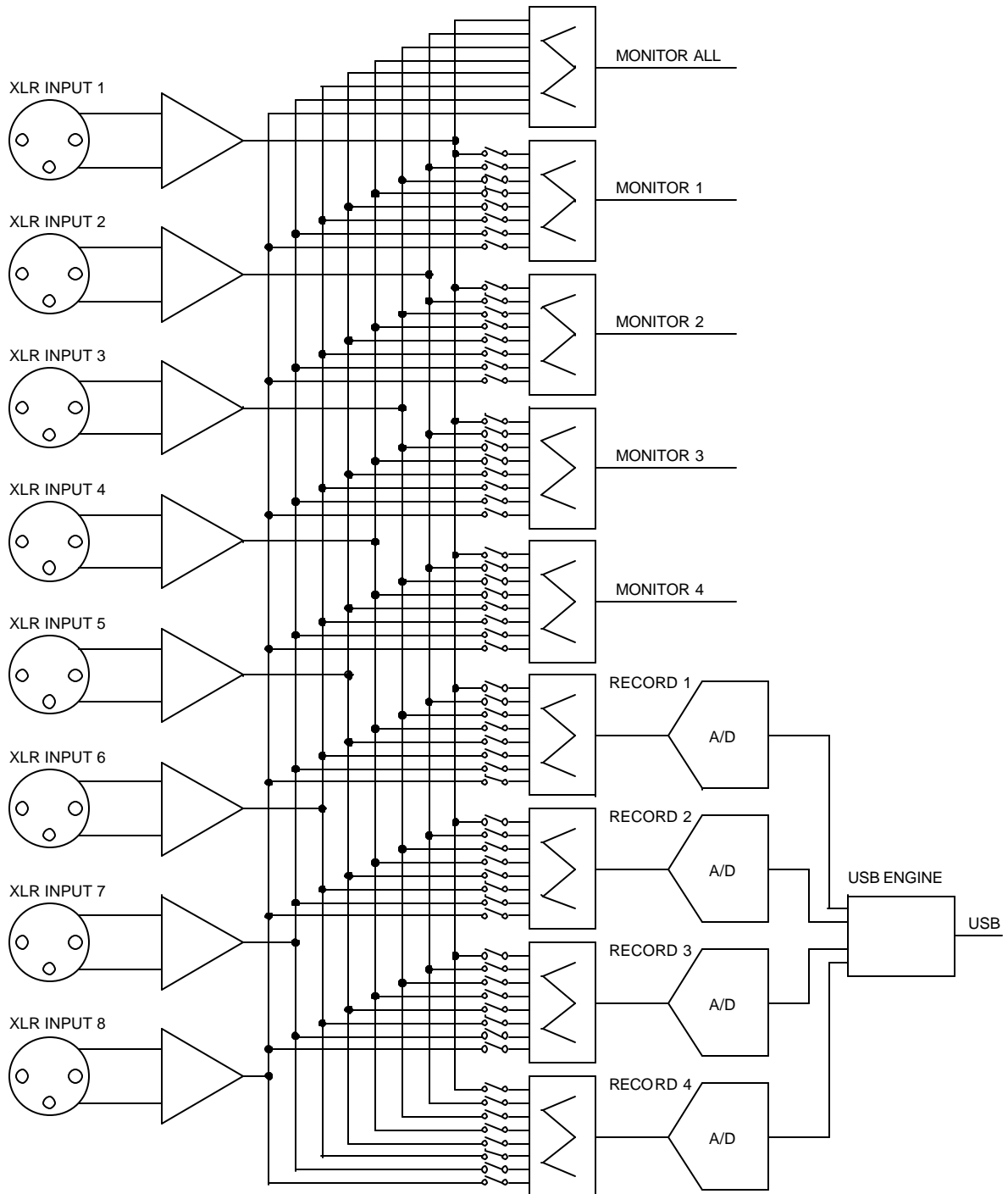
Computer Interface

OS support Windows 2000 workstation, XP Home, XP Pro
USB USB 2.0 required
Audio Wav Devices 2 or 4 mono record devices (1 or 2 stereo)
Mixer Antex Mixer Windows application with storable mixer "scenes"

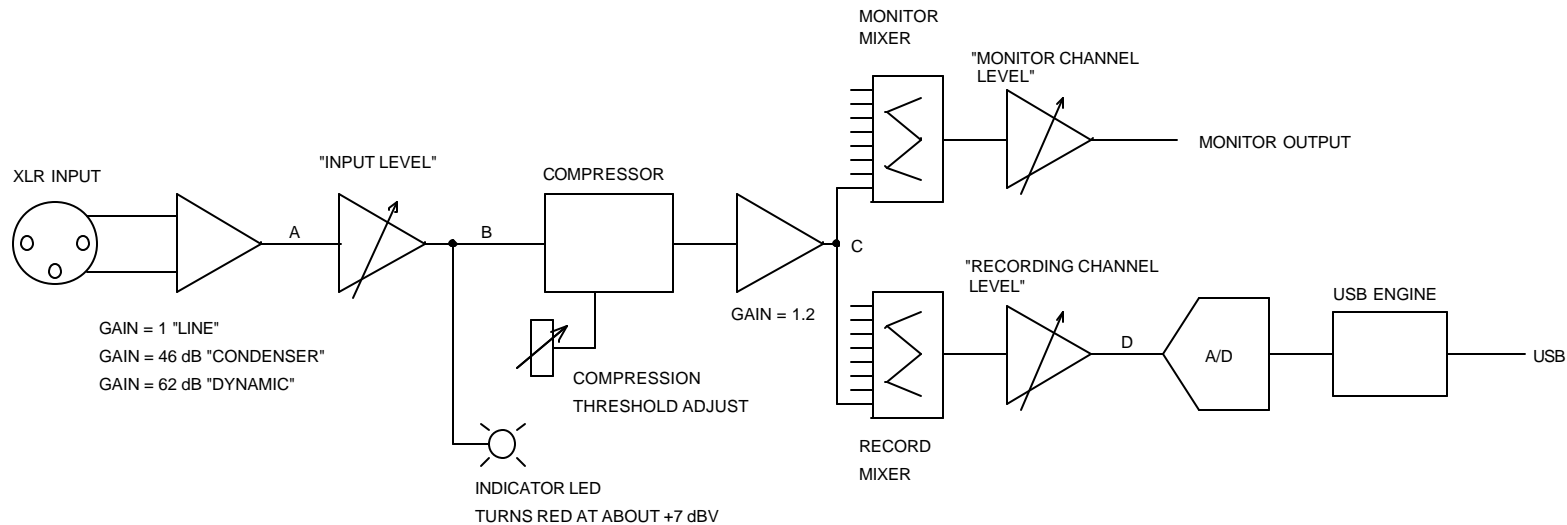
General

Power 120/240VAC,switchable; 50-60Hz
AC Input Removable IEC plug
Certifications cUL 60065-1, CE/FCC Part 15 Class A
Size 15.25" W x 10.75" D x 2.4" H
Weight 9 lbs.
Connector Orientation All audio, USB, and AC power connectors on one 15" side
Indicator LED Orientation On opposite side from connectors
Operating Environment 0-40C, 0-95% RH non-condensing

Mixer Matrix Block Diagram



Signal Flow Diagram



1. Internal nodes A, B, and C have a clipping level of about +17dBV.
2. Full scale input to the A/D at node D is +6dBV.
3. The Compression Threshold Adjust is factory set to begin compression at about -5 dBV. The knee is rounded. One adjustment controls all 8 input channels. The compressor slope is about 10:1. Signal level at node C plateaus at about 0dBV.
4. Level controls are adjustable through the Mixer program and have a maximum gain of +15dB.
5. There are 8 identical Input circuits, 4 identical Monitor circuits, 1 Monitor All circuit, and 4 identical Record circuits. Only one of the Input circuits, Monitor circuits, and Record circuits are shown on this diagram for clarity. Node C of each Input circuit connects to each of the Record Mixers and Monitor Mixers.
6. Names in quotation marks correspond to the names on the graphics of the Antex Mixer program.