DSP2210 & DSP2212

Multi-Zone Digital Controlled Processor

1. USB Control Port

2. Front Panel Control for Manual Adjustment & Preset Selection

3. Amplifier Outputs (25 Watts x2 @ 70.7V)

4. BGM/Line Input (Mono Summing)

5. Paging Mic Input with 12VDC Switchable Phantom Power

6. TCP/IP Network Input (Parallel Input Also on Front Panel) (DSP2212 Only)

Features

- AVB (Audio Video Bridge) Audio Networking Allows Distribution of Paging, BGM and Line Level Inputs Between Multiple DSP2212 and/or DSP8807 Units Across TCP/IP Data Networks. (DSP2212 Only)
- User Friendly GUI and Easy Network Setup (USB or Ethernet)
- Built-In Amplification for Each Output (25W @ 70.7V x 2)
- Expandable - Up to 64 Units (512 zones)
- Non Repeating Pink Noise Sources
- Front Panel Visual Status LED's for All I/O
- Front Panel Control for Manual Adjustment and System Preset Selection
- Parametric EQ for All Paging / Line Sources
- ⅓ Octave EQ for Masking Zones
- Paging Mic Input for Evacuation or General Announcements
- UL / CUL and FCC Listed

General Description

The Atlas Sound DSP2212 and DSP2210 are self-amplified, sound masking controllers with extensive digital signal processing (DSP) capabilities.

All aspects of signal routing, processing and prioritization are administered through an intuitive Graphic User Interface (GUI) managed via a local Windows® based laptop or desktop computer. AVB (Audio Video Bridge) audio networking allows distribution of paging, BGM and line level inputs between multiple DSP8807 and/or DSP2212 units across TCP/IP data networks.

Both units include 2 channels of independent on-board digital class-D amplifiers capable of delivering 25W RMS per 70.7V output and two independent, uncorrelated pink noise generators, which are random and non-repeating up to 215 hours with ⅓-octave EQ adjustments programmable on a per zone basis.

Specifications

System Performance / DSP Processors

Dynamic Range	>102dB A-Weighted
Frequency Response	80Hz – 20kHz ± 3dB at Rated Output
Distortion THD+N	.001% Typical at +4dBu, 1kHz, 0dB Gain
Input Sensitivity	2Vrms Max 20KΩ
Interchannel Crosstalk	> 80dB Typical
Crosstalk Input to Output	> 80dB
Channel Separation	> 100dB at 1kHz (In Thru Out)
Common Mode Rejection Ration (CMRR)	> 50dB, 20Hz – 20kHz Typical > 55dB at 1kHz
Processor Capacity	Fixed Point, Audio Specific
Sample Rate Audio Conversion	48kHz
D/A Converter Type (Audio)	24-Bit Sigma Delta
D/A Performance Dynamic Range (Converter)	> 100dB A-Weighted
A/D Performance Dynamic Range	> 110dB A-Weighted
Non-Volatile Memory	Memory Storage for All Programs and Set Up Protected for (24) Hours In Power Brown Out, Interruption Or Computer Shut Down. Data Settings Good for (10) Years W/O Refresh
CODEC – DSP Protection	All I/O Protected With Buffers From Spikes and Transients or Sneak Currents

System Inputs (Unless Noted Located On Rear Panel)

Power AC Mains	IEC 3-pin With Ground, 80-240VAC, 50-60HZ
Network (DSP2212 Only)	RJ45 Module Jack (EIA 568B)
Microphone	3-pin Dockable Keyed Connector
Background Music	RCA Connector 10KΩ (Sum To Mono)

System Outputs (Unless Noted Located On Rear Panel)

Zone Speakers	2-pin Dockable Keyed Connector (70V @ 25W RMS)
Network System Link	RJ45 Modular Jack (EIA 568B) [Unit #2 - #32]

System Amplifiers (X2)

Frequency Response	80Hz – 20kHz, ±3dB
Total Distortion	.001% Typical at +4dB, 1kHz, 0dB Gain
Transformer Output	70.7V
Efficiency	85% or Better
Gain Control	Adjustable to 34dB
Power Supply	UL / CUL Recognized
Input Impedance	50kΩ
Carrier Frequency	400kHz
Peak current	1.2A
MTBF (Mean Time Between Failure)	100,000 hours
EMC / EMI radiation	FCC Part 15 Class B, EN6100, CISPR 22

System Mechanical Data

Dimensions (L x W x H)	10.0" (254mm) x 19.0" (482.6mm) x 1.75" (44.45mm)
Material (Outer Housing)	CRS (Cold Roll Steel) 18AWG (.047" Nominal)
Finish	Flat Black Powder Coat With Zinc Undercoat Corrosion Resistant
Printed Circuit Boards	UL Recognized UL94VO
Electronic Components	RoHS
Operating Temperature	0˚ to +50˚C
Storage Temperature	-40˚ to +85˚C
Humidity	95% Non-Condensing (Max.)

Applications

The Atlas Sound DSP2210 / DSP2212 digital processor "Privacy" system is a self contained, compact digital amplifier capable of simultaneous distribution of masking, paging, and background music signals for use in:

• Hospitality
• Government Facilities
• Education Transportation
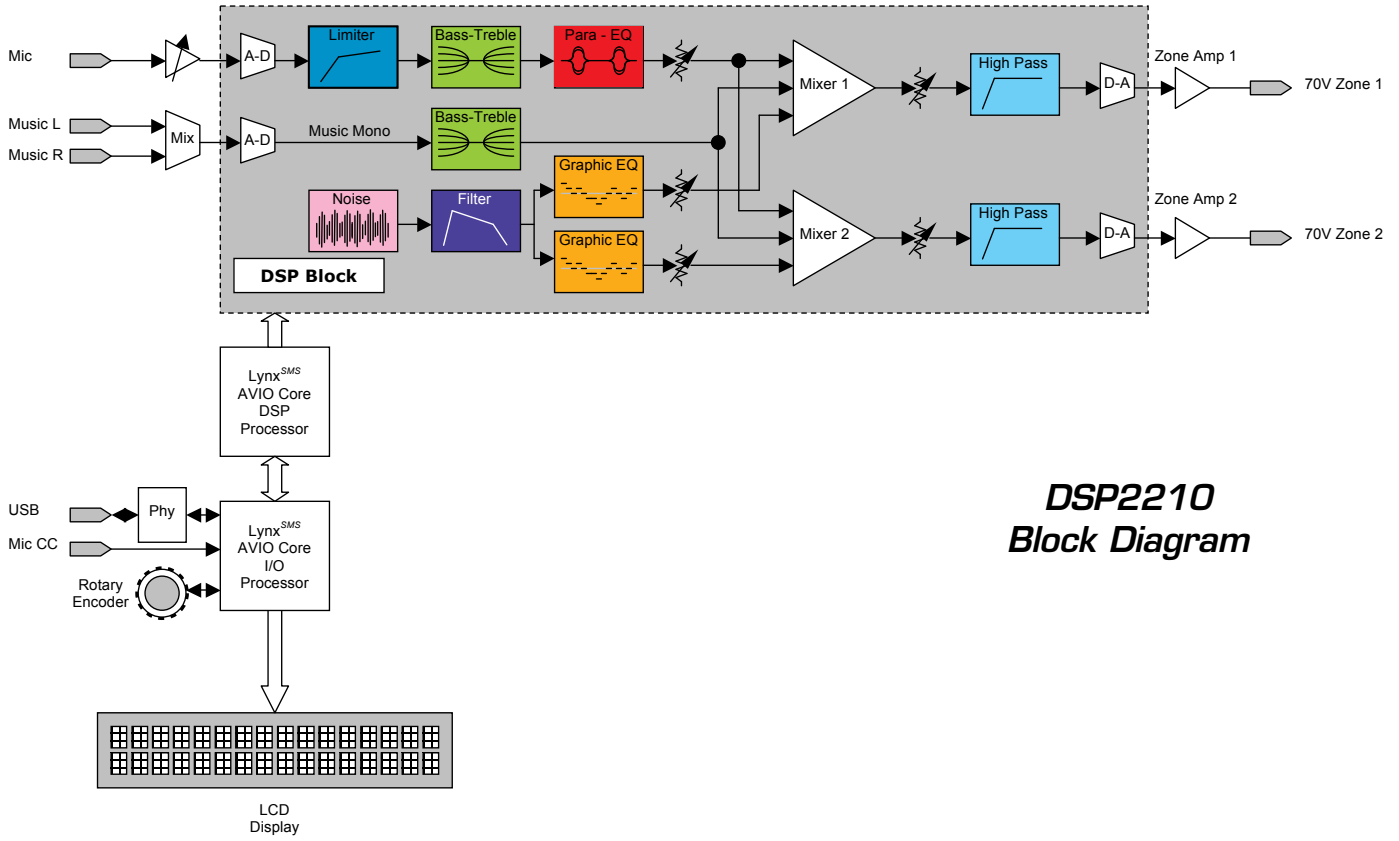• Corporate
• Industrial
• Restaurants

Architect and Engineer Specifications

The Atlas Sound DSP2210/DSP2212 shall provide automatic mixing, set up and administration of all inputs/outputs per zone (channel) via an intuitive 'simple to use' Graphic User Interface (GUI) managed via a local laptop or desktop computer that is running Microsoft® Windows®. DSP Privacy Unit shall provide up to (2) two internal channels of digital Class-D amplifiers rated 25W RMS at 70V. DSP Privacy Unit shall include an internal pink noise generator which is random and non-repeating up to (215) hours with EQ adjustments programmable on a per zone basis. The DSP Privacy Unit shall provide dynamic control and management (*based on IEEE802.1 AVB standards (Audio-Video Bridging)) with independent ⅓ Octave(28) band EQ and Parametric EQ 8-band for calibration of all PA and masking signals on a per zone basis. Paging levels shall be adjustable in 0.5dB increments per zone on Line Level (Music) and Microphone paging inputs. The DSP Privacy Unit shall be capable of expanding up to (32) systems (64 zones) with primary and secondary assignment in a zone paging dialing plan. "All Zone" and "Group zone" pages shall be available through the GUI.
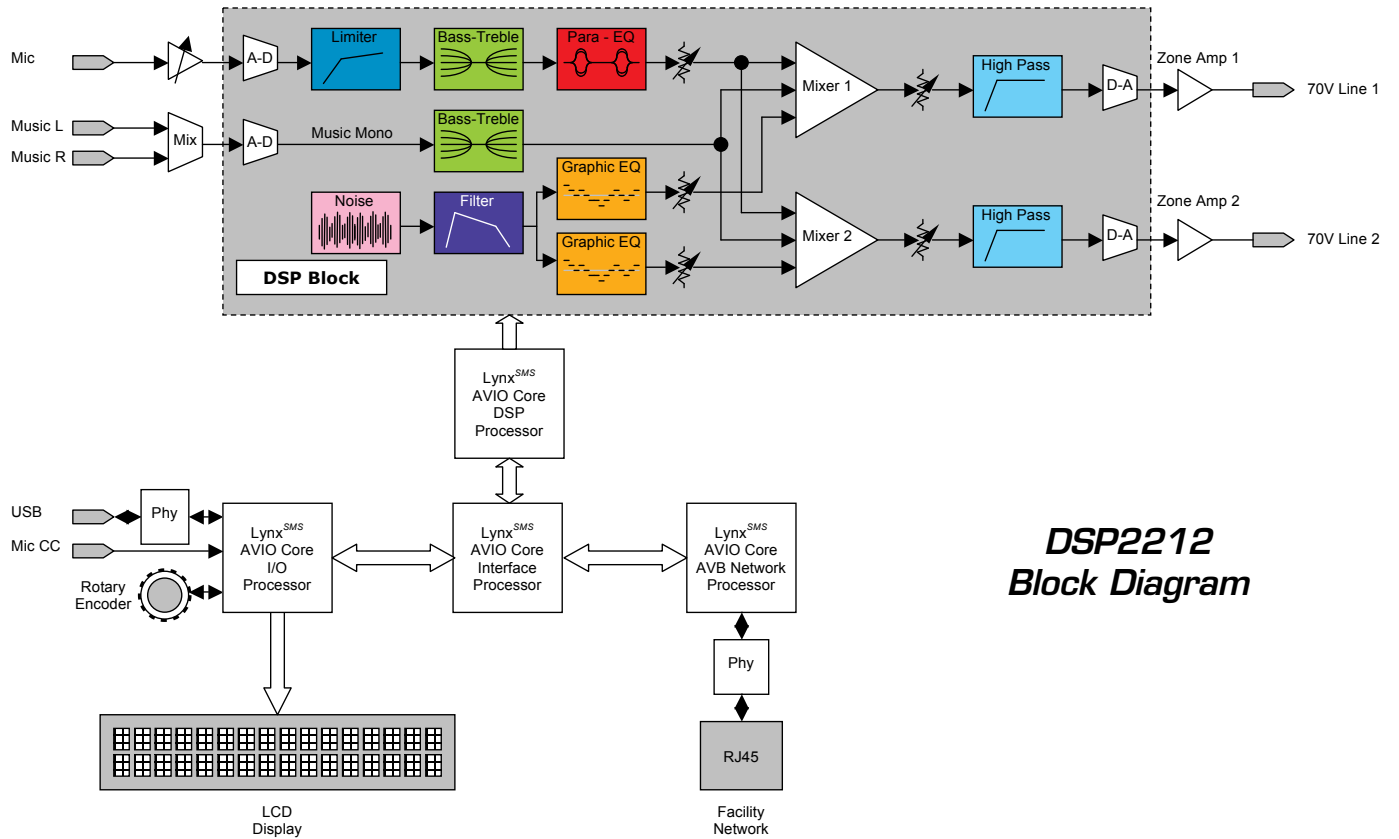
*DSP2212 Only

Specification Friendly Text

1. Digital Signal Processor (DSP) with Noise Masking and Amplification – DSP shall provide two zone digital DSP-GUI controlled processor and digital amplifiers capable of simultaneous distribution of masking, paging, and background music signals. DSP shall include status lights on front panel. DSP shall:

   a. Be 1RU High.

   b. Include 2x2 I/O with 2 channels of 25W class D amplifiers.

   c. Include two independent pink/white noise generators that are random and non-repeating over 215 hours.

   d. DSP shall be fixed point and include parametric EQ, Graphic EQ and Volume.

   e. Utilize Audio Video Bridge AVB protocols that are IEEEE802, 1 standards on DSP2212 Only.

   f. Include Front Panel Status screen for functions, power indicator, amplifier status and fault indicators.

   g. Manufacturer Atlas Sound DSP2210 (DSP2212) with or approved equal.

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DSP2210 Block Diagram

DSP2212 Block Diagram

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