MP-532

MULTI-PROCESSOR · FM/FMHD · AM/AMHD · HD

Wheatstone

BROADCAST AUDIO PERFECTIONISTS℠

A PROCESSOR FOR ALL REASONS

Covers all the bases in any broadcast application

Wheatstone's new MP-532 audio processor is an affordable single-space rack unit that can handle any and all your broadcast processing applications – FM, AM, FM HD, AM HD, HD-only, or Streaming. It's priced so you can use multiple boxes where and how you need them without having to commit to a large expensive box with bells and whistles you may not need. It's the best way to install exactly what you need without spending a penny more than your budget.

The MP-532 offers tools that can provide the most clarity and articulation of any processor on the market. Breathtakingly airy and silky highs with detail that you get from the finest hi-fi audio gear, mids that never overstep their thresholds insuring mud-free warmth and presence, and deep powerful lows that are sculpted to be richly detailed and free from the muck that bogs them down in nearly every other processor.

All that comes without having to give up volume - indeed, just the opposite. MP-532 gives you "loudness-ability" courtesy new distortion canceling algorithms and precision look-ahead limiters to provide pristine clean audio AND dial-dominating loudness.

There's full FM RDS capability so that $500 RBDS/RDS encoder you were going to have to buy to generate song, title and album data won't be needed. MP-532 has a built-in RBDS/RDS encoder.

A multiplex power controller is included, saving yet another costly unit to meet the ITU-R BS.412-7 modulation requirements for reducing adjacent channel interference.

Unique to Wheatstone processors, the MP-532 includes our intelligent five-band AGC technology — or iAGC — coupled to a five-band limiter and stereo generator. The combination provides automatic and superior real-time program density control for a consistent, spectrally-balanced sound regardless of density variations in incoming source material.

MP-532 is part of the WheatNet-IP audio network, with a full-blown interface, so you can set up and trigger presets remotely now and add on to your WheatNet-IP ecosystem later. It also includes 192kHz digital MPX connectivity to the transmitter for end-to-end native IP audio quality. It is equipped with two analog composite outputs, two SCA inputs, balanced analog Left/Right outputs and an AES digital output which may be switched to deliver either discrete Left/Right or baseband192 digital multiplex signal. Input audio may be delivered via analog, AES or WheatNet-IP.

For local and/or remote control, there's a full graphic user interface that allows you to tailor every function of the MP-532, so tweaking and making changes is both intuitive and accessible.

Features common to all signal paths:

- Input accepts analog, AES3 and WheatNet-IP audio
- AES3 digital input accepts 32kHz to 96kHz sample rates
- AES3 digital output sample rate automatically synchronizes to AES3 digital input
- Processing may be in stereo or mono fed from left or right channel
- Front panel headphone jack for monitoring input source audio and processed output
- Variable high pass filter and voice phase rotator
- Dynamic L/R correlation meter for assuring proper stereo channel phase
- Front panel setup and configuration reduces the need for a PC during installation
- PC-based Graphical User Interface, for easy setup, navigation, and remote control
- Four GPI triggers for remote control triggered preset changes
- Ethernet-based remote control via rear panel 100BaseT Ethernet port
- Four-band equalizer: low/high shelf plus two band parametric
- User-adjustable multiband crossover frequencies
- Multiband windowing spectral manager assures spectral consistency across program types
- Full metering for all Input and Output levels and Dynamics processing
- Independent multiband compressor and leveler may be operated separately or in combination
- Newly developed Bass Management System
- High-performance low distortion multiband limiters

Features common to AM signal path:

- Specialized asymmetrical AM clipper minimizes distortion
- Transmitter tilt and high frequency pre-equalizers for both transmitter outputs
- Dual transmitter outputs and audio bandwidth filters, including NRSC
- AM outputs may be operated independently or in M/S mode for AM stereo
- Convenient polarity inversion for easy transmitter +/- polarity matching
- Up to ten seconds of AM/HD diversity delay
- Test oscillator with adjustable frequencies including LF Tilt EQ test

Features common to FM signal path:

- New distortion-masked FM peak clipper
- Specialized live voice algorithm minimizes voice distortion
- Exclusive stereo multipath controller can enhance stereo reception in weak signal areas
- Full-feature RDS generator supports static and dynamic RDS/RBDS
- Precision FM stereo MPX generator with multiplex mask filter
- Full support for ITU.BS-412 MPX Power regulations
- Wheatstone® baseband192 built in for 192kHz digital MPX link to transmitter
- Up to ten seconds of FM/HD diversity delay
- Test oscillator with adjustable frequencies including Bessel null test

Features common to HD/stream processing signal path:

- Separate low /high shelf and two-band parametric equalizer for contouring HD/stream spectral balance
- HD/Stream final processing accepts audio from unprocessed input, output of AGC, or output from multiband limiters
- HD/Stream processing includes BS.1770 loudness measurement and target loudness controller.
- Oversampled precision look-ahead limiters for exceptional final peak control
- Specialized dynamic high frequency protection for low bitrate codecs which can also operate in wideband (>12kHz) and <12kHz modes
- Precision ITU-BS.1770 loudness metering and controller with adjustable target loudness goals
- Full ITU-BS.1770 metering including 400mS, 3 second, 10 second, 30 second and long term average loudness

MP-532 IS LOADED WITH COOL STUFF

We continually re-think the way processing works and how to make it the better

Intelligent iAGC

Our adaptive iAGC – or intelligent AGC – allows unobtrusive transitions between hyper-compressed recordings and those with more dynamic range. Our iAGC effectively manages the behavior of the multiband AGC as program content density changes, something a typical broadband AGC simply cannot do. By coupling the iAGC and mulitband AGC, we are able to produce a consistent, spectrally-balanced sound regardless of density variations in incoming source material.

Smart Stereo Enhancement

The MP-532's Smart Stereo Enhancement provides a wide but extremely stable 'on-air' stereo image. "Wide", "alive", "exciting to listen to", and "very natural sounding" are terms customers have used to describe how our stereo enhancement method sounds. Users have reported hearing artistically important nuances in music that were simply inaudible when the same material was processed by competing products. Four band parametric EQ lets you tune in your signature sound.

Bodacious Bass Management System

The MP-532's Bass Management System circumvents bass-related distortion plaguing other broadcast audio processors. The result is increased depth, feel, and clarity of bass impact without affecting mid and high frequency program – in fact bass detail and the clarity of higher frequency audio are actually enhanced by the new algorithm.

Stunning audio with little or no distortion

Fits perfectly into any/every broadcast workflow

Can do double redundant duty easily replacing a processor on another feed

Multipath mitigation that can increase your listening area

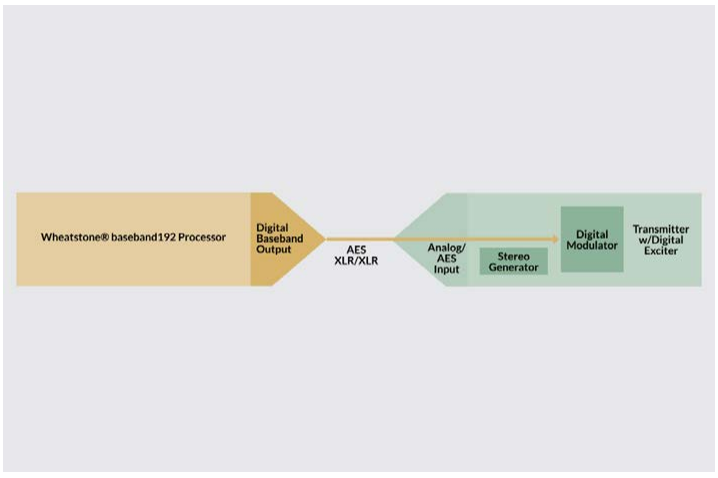
Is a part of the WheatNet-IP Intelligent Network

Exclusive Multipath Control

Exclusive to the Wheatstone line of audio processors is the Stereo Multipath Limiter. A single user control assigned to this algorithm sets it to mitigate market and terrain-specific multipath behavior, reducing the annoyances of multipath-triggered receiver-induced stereo blending.

Wheatstone baseband192

Wheatstone® baseband192 digitizes the entire multiplex spectrum including RDS and SCAs up to 80kHz, providing a higher performance interface than using the classic analog composite method between processing and transmitter. A single AES/EBU cable between the processor and a current solid-state FM transmitter carries the digital baseband signal, bypassing the need for multiplexing in the exciter and eliminating the resulting signal overshoot with its associated loudness tradeoff.



MP-532 REMOTE APPLICATION

Control your MP-532 in a global or granular manner

Processing is as much art as science. If you're more artist than scientist and have trouble keeping track of the dozens and sometimes hundreds of controls that modern processors offer, you are going to love working with the MP-532 Remote App which enables you to concentrate on what you hear, not what you see. It's as if we send a processing expert with each box! The MP-532 Remote App, provided free with the MP-532, makes the tough, behind-the-scenes decisions based on the simple-to-use controls supplied for texture (Drive, Density, Loudness) and EQ (Low, Warmth, High).


Wheatstone MP-532
MPX & OUTPUT
Analog L/R
Digital L/R
Analog MPX
Security
Digital outputs assigned to HD+


Wheatstone MP-532
MPX & OUTPUT
FM Test Oscillator
Diversity Delay


Wheatstone MP-532
LIMITERS & CLIPPER
Multiband Limiter
VOX Ducking
Bass Clipper
Main Clipper

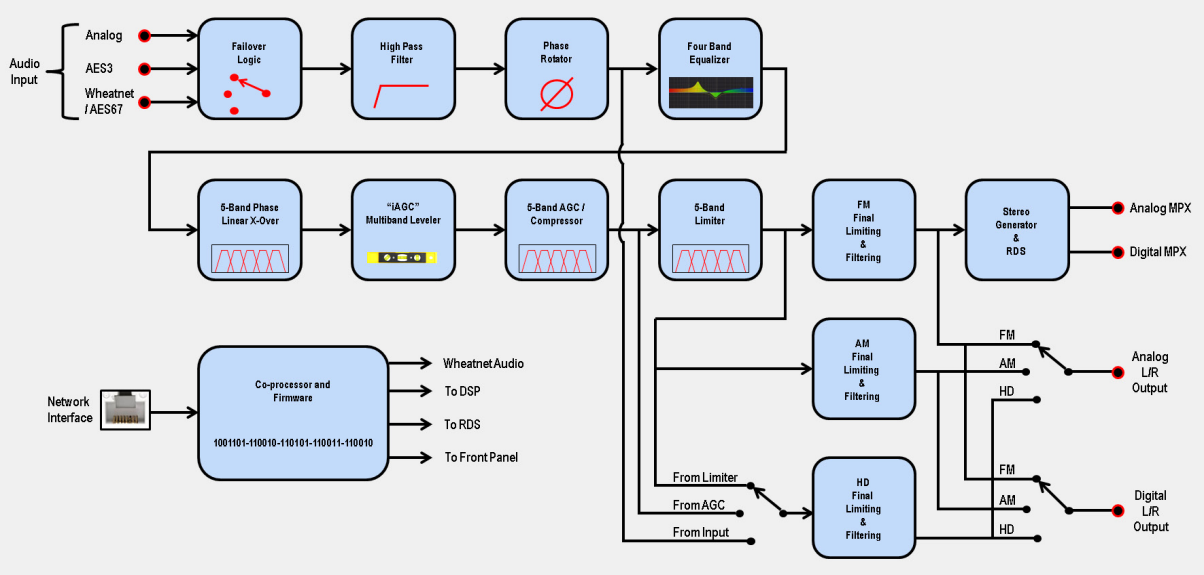

Wheatstone MP-532
HD+
Analog Output
Digital Output
Security
Analog outputs assigned to FM


Wheatstone MP-532
HD+
EQ Enabled


Wheatstone MP-532
HD+
Look Ahead Limiter
Mono
-12 dB
Target -12 dB LUFS


Wheatstone MP-532
EQUALIZER
EQ Enabled


Wheatstone MP-532
AGC & COMPRESSORS
AGC
MBS Compressor
MSS Leveler



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