# OMNIA.9/XE
## ULTIMATE AUDIO MANAGEMENT FOR SERIOUS STREAMING



## OVERVIEW:

With the proliferation of mobile devices and tablets, more and more people will be accessing streams on the internet. It is more important than even that an internet stream is competitive and desirable in both audio integrity, stability, and compatibility.

Omnia 9/XE is the solution.

Based on the technology found in the popular Omnia.9 audio processor, 9/XE is not simply a streaming processor-encoder, but a complete audio management system which will actually improve the flaws found in most recorded source material – both music and voice – as well as address the specific technical challenges of internet distribution.

## ADVANTAGES:



Undo with De-clipper prevents listener fatigue by removing distortion and selectively undoing the over-compression so common in mastering today.
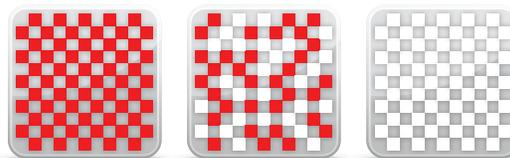


Optimizes sound quality of low bit rates by literally removing distortion components so that they do not waste bits during encode



6-band Parametric EQ for your signature sound



Downward Expansion (source noise reduction)

Multiband stereo enhancer

## PLUS:

➤ Software only, no special cards required

➤ Includes Virtual Audio Cable to receive audio from other programs on the same machine

➤ Includes AXIA LiveWire driver

➤ Runs as a Windows service in the background, no need to log in

➤ Manage from anywhere with NfRemote, locally or across the internet

➤ Up to 16 fully independent stereo processors in one instance, and up to 8 instances on one machine. Pay only for what you need. Upgrades available.

➤ Local monitor output with patch-point selection and full speaker controller

➤ Flexible remote control application with touch screen support, comprehensive instrumentation, and remote audio streaming of any patch-point, also includes full speaker controller

➤ Separately adjustable sample rate (high quality conversion) and gain control per encoded stream.

➤ Extremely high audio quality, efficient CPU usage and low memory footprint.

## TECHNICAL SPECIFICATIONS:

➤ System requirements: 9/XE will run on Windows XP or newer. Minimum requirements are Core 2 Duo, 512 MB RAM.
A Core i7 2600 and 4 GB RAM comfortably runs 16 stereo processors with several encoders each.

➤ Supports multiple ASIO and WDM (Wave/Direct-Sound/Kernel Streaming) audio interfaces simultaneously.
Input selection can be done on the fly.

➤ Simultaneous MP3/AAC/aacPlus/MP2/WMA encoding, compatible with Shoutcast, Icecast, Wowza and Windows Media servers.

## FAQS

### How do I configure Omnia.9/XE?

Omnia.9/xe comes with both a GUI application and a service which contain the exact same processing. During initial set-up (sound card configuration etc), use the GUI application. Once initial configuration is done and tested, switch over to using the Service, which you can then control with NfRemote from any computer. Everything can be controlled with NfRemote except for which sound cards to use. Omnia.9/xe and NfRemote are standard Windows 32-bit native applications and do not use Microsoft.NET or similar.

### Can I use Omnia.9/XE for audio processing without encoding the audio?

Omnia.9/xe is primarily designed for streaming and only has one local sound card output. However NfRemote has built in dedicated PCM audio streaming for monitoring, so that you can monitor with low delay from any computer, for example while adjusting the processing.

### What formats can 9/XE use for encoding?

9/xe can encode audio to MP3, AAC, HE-AAC v1/v2 h (aacPlus), MP2 and WMA. Low complexity AAC (AAC-LC) and high efficiency AAC (HE-AAC) are both supported. AAC has been standardized under both MPEG-2 and MPEG-4. The format most commonly used is MPEG-4 AAC-LC. Often this is called just 'AAC'. HE-AAC adds Spectral Band Replication to AAC and it is sometimes called AAC+ (sometimes seen as 'aacPlus' or 'AACplus'). There is also an HE-AAC v2 format which adds parametric stereo optimizations to HE-AAC. Sometimes this is called AAC+ v2 or Enhanced AAC+. 9/xe can also use Windows Media codecs installed on the system, 48kbps or higher.

### What servers can 9/XE feed?

9/xe can directly feed SHOUTcast-style servers (SHOUTcast, h Icecast, Steamcast, etc.). The Wowza server is also supported for streaming to Flash clients. Windows Media streams can be sent to Windows Media server. Adobe Media Server is NOT supported at this time but is being considered for a future version.

### Can I use 9/XE with a third-party encoder?

There is only one output, primarily for monitoring, so 9/XE is designed to be used with its built in encoders only.

### What is the Virtual Audio Cable driver?

The Virtual Audio Cable driver, included with 9/XE, simulates a sound card and allows the audio to be sent from the output side of the driver to the input side. This forms a "patch cable" that applications can use to pass audio from one to another. Multiple cables can be used at the same time.

### How do I pass Metadata to 9/XE?

All parameters can be set through HTTP, including Metadata.

Example:

http://127.0.0.1:7380/parameter/pgm_0/enc/stream_metadata=Doobie%20Brothers%20-%20Long%20Train%20Running

This same HTTP interface can also be used to recall presets, change the input source, change encoder destinations. Everything is available.

### How does Undo repair the damage caused by today's poor mastering practices?

Undo is two stages:

First, the de-clipper removes distortion by detecting clipped edges of the waveform and resynthesizing the missing part. Unlike simpler algorithms, no distortion is ever created as the resynthesizing is performed entirely in frequency domain.

Second, the amount of short-term dynamics is detected for each of 5 frequency bands, and automatically controls the threshold and expansion ratio of 5 upwards expanders, to undo excessive compression and peak limiting.

Both techniques together result in an incredible "is that really the same recording" level of improvement. Audio quality of low bit rate codecs is also vastly improved, as a less distorted waveform is less complicated for the codec to encode (thus using fewer bits) and more dynamic, punchy sound gives the codec a place to hide the bit rate reduction artifacts.

### What happens if I play something that is already well mastered through Undo?

Almost nothing! The algorithm is designed to be self-adjusting, and already clean content receives very little processing, to avoid sounding over-enhanced. It is safe to use on everything, and results in an unprecedented level of pleasant consistency for your listeners.