Omnia® Forza

Omina Forza is a brand-new, software-based approach to processing for HD, DAB, and streaming audio. Its intuitive UI makes delivering pristine audio to your listeners fool-proof even if you're not an audio expert, while still giving processing pros all the tools they need to craft their signature sound.

Omnia® Forza
Audio Processing Software

A Brand-New Approach to Processing

Overview

From the legendary Omnia team comes Forza, a brand-new approach to the multiband audio processor.

Forza's all-new AGCs and multiband limiters breathe new life into the traditional five-band processor design, yielding a sonic profile that delivers a consistent and polished audio signature without sounding overly-processed.

Forza marks a deployment turning point in how a "processor" is defined, at once lending itself to existing Telos Alliance hardware and software offerings (such as Z/IPStream X/2 and R/2) while leveraging the power and flexibility of delivery by Docker container.

From a usability standpoint, expertly crafted "launch point" presets and an intuitive yet powerful user interface empowers users of all skill levels and ensures instant sonic excellence for listeners. Central to Forza's smart UI is its interactive processing logic, seamlessly maintaining harmony between "under the hood" controls and settings. Anyone can confidently drive Forza without a PhD in processing, while professionals will love its powerful simplicity in crafting their unique signature sound. An integrated, target-driven ITU-R BS.1770 loudness controller makes conforming to emerging loudness requirements a set-and-forget process.
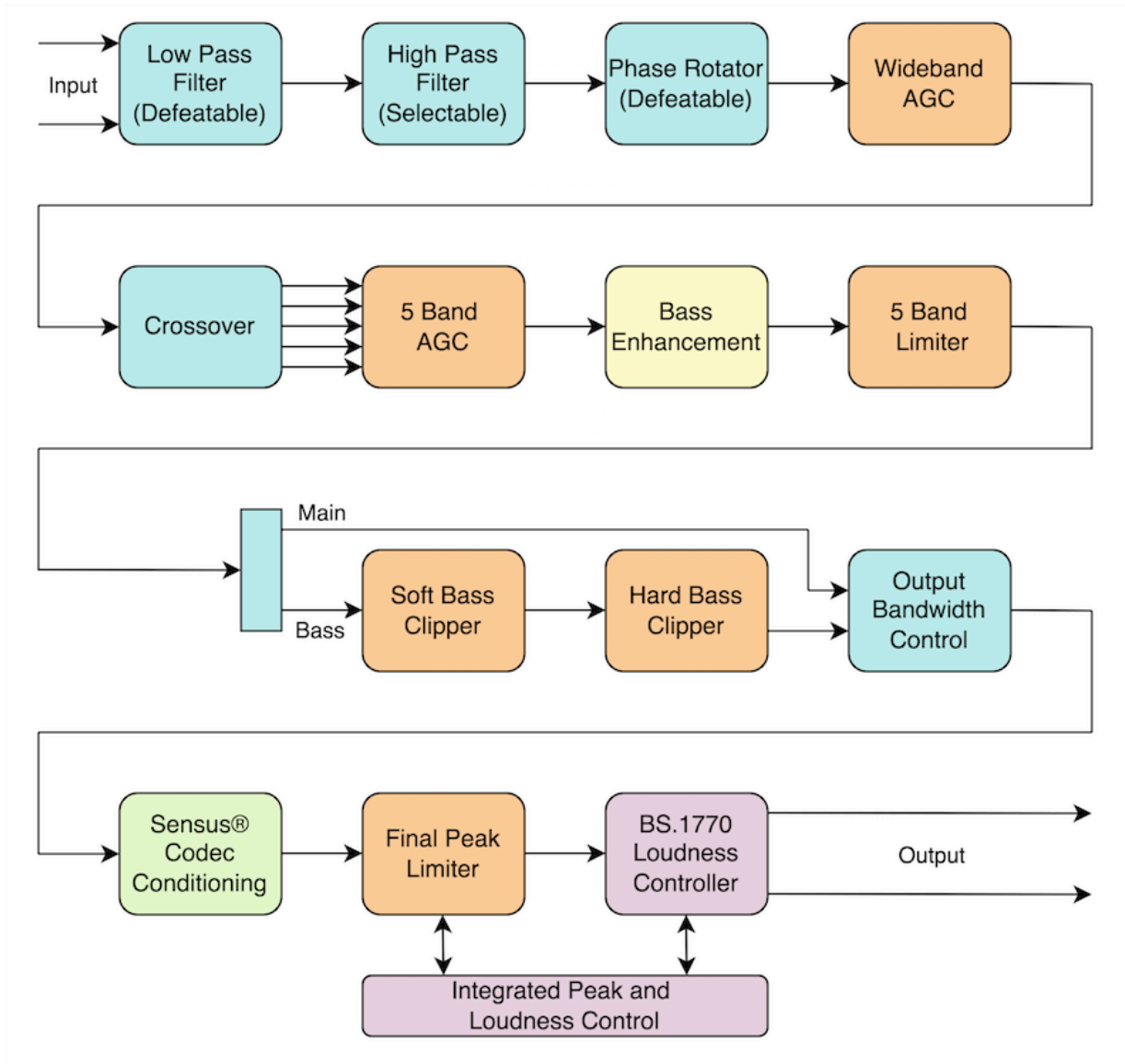
Features

- Legendary Omnia audio quality
- Wideband AGC, 5 bands of multiband AGC, 5 bands of multiband limiting, soft and hard bass clippers, and final peak limiter
- Comprehensive bass management controls
- LUFS target-driven ITU-R BS.1770 loudness controller for compliance with streaming platform requirements
- True Peak limiter
- Omnia's highly regarded Sensus® conditioning for low bitrate streams
- Carefully crafted Omnia presets ensure great-sounding audio on all types of formats and programs
- "Smart Controls" combine the adjustment of multiple, interrelated parameters into a single knob or slider
- Innovative single-page GUI welcomes less-experienced users while still providing the tools processing experts expect and need
- Browser-based HTML5 UI works on any device, including Windows and MacOS computers and Android and iOS smartphones and tablets

Optimized for streaming audio

Feature-Rich Processing Structure

Input → Low Pass Filter (Defeatable) → High Pass Filter (Selectable) → Phase Rotator (Defeatable) → Wideband AGC

Crossover → 5 Band AGC → Bass Enhancement → 5 Band Limiter

Main / Bass → Soft Bass Clipper → Hard Bass Clipper → Output Bandwidth Control

Sensus® Codec Conditioning → Final Peak Limiter → BS.1770 Loudness Controller → Output

Integrated Peak and Loudness Control

Intuitive, Single-Page UI

Interface

Omnia presets can be used as-is or as a starting point for creating your custom sound.

Smart Controls quickly adjust multiple interrelated parameters with a single knob or slider.

Forza's innovatine GUI welcomes less-experienced users while providing plenty of tools processing experts need for customizing their sound, all in a single platform-agnostic, browser-based HTML5 page.

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In Depth

Audio processing software isn't a new idea, nor is it a totally new concept for Telos Alliance. But for the most part, software processors have historically been based upon existing hardware products, and often limited to a single deployment style. Forza breaks that tradition as a processor that was purpose-built as software.

As such, it is not bound to a particular hardware platform or a specific core operating system. This flexibility is what allows us to offer Forza as a Docker container - ideal for virtualized or high-density installations - and as a new mid-tier processing choice in our well-established and highly-regarded Z/IPStream X/2 software and R/2 hardware. An API is also available for custom OEM integration.

Sonically, Forza is the culmination and synthesis of decades of audio processing experience by the Omnia team. The basic processing structure itself - wideband AGC, five band AGC, and five band limiter - follows tradition, but the underlying algorithms are brand-new and employ some of the most advanced and unique approaches to processing we've ever conceived. The result is a sound that is perceived as consistent and polished, but at the same time, natural and seemingly unprocessed.

Forza makes its debut as a stereo processor optimized for HD, DAB, and in particular, streaming audio applications. The days of streaming audio living in the shadow of terrestrial broadcasting are over, and as stations report an ever-increasing number of listeners moving to on-line listening, proper audio processing becomes just as essential for this platform as for the FM signal.

Another shift in the radio industry is the presence of fewer "traditional" broadcast engineers who have learned at least the basics of audio processing throughout their careers. In many operations today, streaming audio is deployed and managed by a completely separate department from terrestrial broadcast. These engineers are likely to have much less processing experience, and the multi-layer, multi-page user interface with hundreds of individual adjustments that are appreciated (and even expected) by processing gurus might be intimidating.

A key design goal in Forza was to distill a complex system with hundreds of underlying parameters into a lean, high level control set where the entire UI - including all meters and controls - is presented on a single HTML5 web page. To support this, we embraced the concept of goal-driven "smart controls" that make the kind of individual adjustments to multiple parameters that a processing expert would make, but with a single knob or slider.

Even the most inexperienced user can quickly and easily create a successful sound by choosing one of the carefully-crafted Omnia presets and adjusting one or two controls. Users with more advanced processing skills will find all the tools they need to create a unique sonic signature to meet their needs and expectations.

Specifications

While "specifications" tend to be a hardware category (unit dimensions, power requirements, etc.), the information below is intended to provide basic operational guidance for software container deployment on a Linux Server.

- Cores needed per instance: 1 core (x86-64 V3, Haswell or later architecture)
- CPU speed requirement: 2 GHz
- Memory requirements: 256 MB RAM per instance
- Latency: 40ms typical; CPU speed, AoIP setup, and other factors will affect system latency
- Required Linux distribution: Ubuntu v20.04 (64 bit)

Support Every Step of the Way

Compared to traditional hardware products, software solutions require a very different approach to ensure success, and Telos Alliance is prepared to help every step of the way. Prior to purchase, we'll assist with the design of your system to ensure it suits your workflow and meets both your current and anticipated future needs. Our Professional Services team stands ready to work with you throughout the deployment and configuration phase to provide a smooth on-boarding experience. Afterwards, the TelosCare PLUS Service Level Agreement (SLA) provides 24/7 priority access to our Customer Success Team for support whenever you need it, plus immediate access to the software and security updates that are an inevitable part of the virtualized world. Wherever you are on your software and virtualization path, we're here to help.