CLASSÉ

-41.5

input 2
multi-channel   -41.5 dB

MENU

MUTE

SSP-800

SSP-800

SURROUND SOUND PROCESSOR

High
Definition
Video
Meets
High
Performance
Audio

The surround sound processor is the core of a high-end home theater system. It directly connects to almost every other component in the system and can either limit or reveal their true potential. Starting over two years ago, the Classé Design Team began an extensive evaluation of the new breed of high definition audio and video technologies. Their research served as the inspiration for a new challenge: the creation of the definitive SSP—a surround sound processor to set the standard as the high definition era dawns. The result is the SSP-800, Classé's statement preamp/processor.

The SSP-800 was conceived with pure performance as its raison d'être. It can seamlessly weave audio and video into a faithful reproduction of the original master, reproducing music and movies exactly as the artists imagined. It was created by people who are uniquely qualified, having both the technical skill and aesthetic judgment to bring performances to life.

In recent years the development of high definition audio and video has accelerated, rendering many relatively new home theater components incompatible or obsolete. The early adopter's quest for the latest technology is never cheap or without risk. But those who sought out the highest quality components have been able to relax and enjoy them. They know that the latest technology is rarely a threat to genuine quality.

When a new component is released which wraps important new technologies in a package of superior quality, it is time to sit up and take notice. The introduction of the SSP-800 is just such an occasion, when enthusiasts should consider upgrading their systems.

The SSP-800 is a ten-channel preamp/processor, offering both balanced and single-ended connections for all channels. Audio Digital Signal Processing (DSP) is handled by a Texas Instruments-based platform which operates in 64-bit double precision. It uses floating point arithmetic for all audio signal calculations to ensure the most accurate results possible. All bass management filters, level adjustments and parametric filters also benefit from the added precision.

Superior audio performance is achieved by combining this powerful DSP with balanced topologies, advanced component parts and meticulous circuit layout. A dedicated linear power supply using a low-noise toroidal transformer powers the analog audio circuits. Digital and control circuits are powered by their own dual-output, low-noise, high-current switching supply.

High quality digital-to-analog converters and output stage components are configured to ensure exceptional dynamic range and resolution. Audio circuits are isolated from video and control circuits by optocouplers and low voltage differential signal (LVDS) pathways. Digital and analog circuits and grounds are isolated from each other among and within circuit boards.

Throughout the SSP-800 there are examples of HD technology executed at the highest quality level. It is the combination of advanced technology and genuine quality that sets the SSP-800 apart. And while technology and quality give the SSP-800 its intrinsic value, we measure its true worth first on the test bench and then in the sound room.

Bring Performances to Life...

MUSIC FIRST

Music listening remains the most reliable method of judging sound quality. In fact, no surround processor can accurately reproduce movie sound if it fails to reproduce music properly. At Classé, our first priority is developing components that perform exceptionally well with music. We then turn our attention to processor decoding capabilities and developing features that enhance flexibility and in-room performance.

With musical performance as its benchmark, the SSP-800 was conceived as a high-performance multichannel preamplifier. For two-channel listening both balanced and single-ended analog

sources may bypass all analog-to-digital, DSP and digital-to-analog stages. Alternatively, the full range of processing capabilities including bass management and parametric equalization is available for both analog and digital sources.
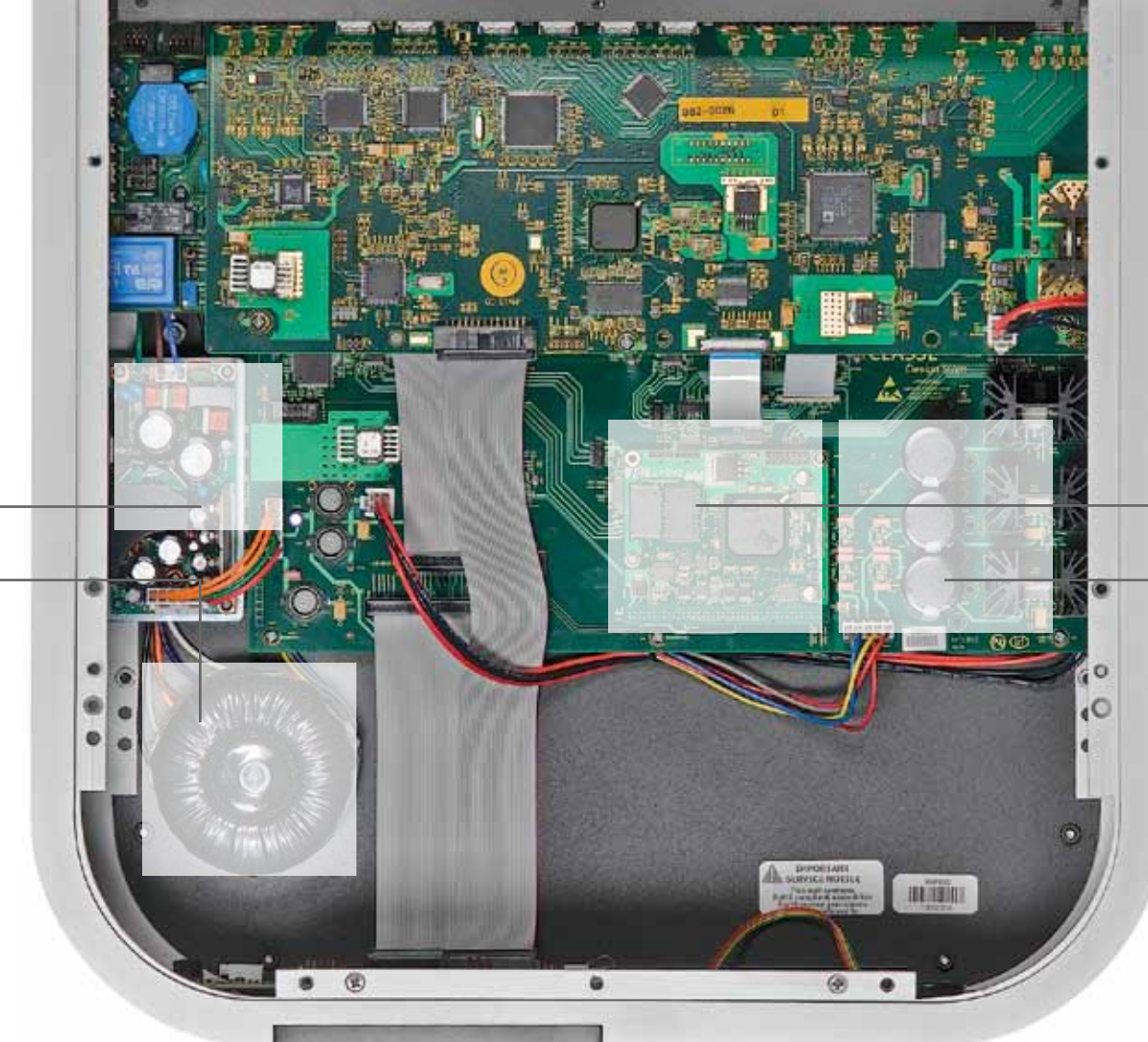
The SSP-800 changes the game by doing what no preamp/processor has done before: it performs as well with music as a dedicated stereo DAC and preamplifier. The secret of its breathtaking performance lies not in some new parts or special features, although it has many. What sets the SSP-800 apart is the depth of experience never before brought to bear on a multichannel design.

An independent low-voltage, high-current supply powers digital circuits.

A custom designed low-noise toroidal transformer is used for the analog circuitry's linear power supply.

Digital Signal Processing is built onto a replaceable module.

DC regulation for the analog supply is located near the front channel outputs on the right side of the chassis.

Touchscreen Control
AND MORE

Classé Delta series components were the first A/V products to offer touchscreen control. Since then, touchscreen control has become an integral benefit for other consumer electronics products. Touchscreen control is more reliable and infinitely more flexible than the older style controls using push-buttons with fixed-segment displays.

The SSP-800 is custom installation friendly. It is equipped with bi-directional RS-232 control and status, rear panel IR, front panel IR transmitter/receiver, CAN BUS and DC triggers.

Analog to Digital

Modern source components are increasingly optimized for use with digital interconnections and the SSP-800 capitalizes on this trend. Older surround processors are typically equipped with a vast array of analog inputs. These have been minimized in the SSP-800 and largely replaced by digital connectors. Four HDMI 1.4 (High Definition Multimedia Interface) inputs for audio/video sources are supplemented by standard SPDIF (coax) and EIAJ (optical) digital inputs for audio.

HDMI is the connection standard adopted for high definition A/V sources. An HDMI cable may carry 1080p HD video signals (including 3D) and uncompressed multichannel LPCM digital audio as well as the latest HD audio codecs (Dolby TrueHD and DTS-HD Master Audio), Ethernet (HEC), the Audio Return Channel (ARC) and certain control signals. Several versions of HDMI

have been introduced, each surpassing the other in bandwidth and support for additional features. While the hardware used to transmit and receive on HDMI may be labeled by its version number (the SSP-800 uses version 1.4 for all HDMI inputs and outputs), there will be differences among products' actual capabilities.

The SSP-800 uses HDMI 1.4 primarily to support the component's long life in an evolving market. As new sources emerge, the SSP-800 offers the potential for transferring more information into and through its circuitry. For example, the video signal path supports 36-bit Deep Color video, even though Blu-ray Discs are only 24-bit video sources. In general, the bandwidth of components and circuitry in the SSP-800 is sufficient to accommodate all current and proposed next-generation AV sources.

REAL WORLD APPLICATIONS

In addition to quality and technology, the SSP-800 has flexibility built in. Its ten-channel design creates the possibility of configuring two channels for additional subwoofers or as mirrors of the front left and right channels for bi-amplifying the front left and right speakers. Alternatively, these two channels may be devoted to delivering audio to a separate room or system, with source selection shared with the main theater and either fixed or variable output.

Five-band parametric equalization is provided for each of the ten channels to help tune the system to its environment. Classé has elected to offer the system EQ as a manual feature. While several automated systems are available on the market, the complexity of room acoustics guarantees that no automatic system can achieve consistent,

optimum results. Our experience is that the best results are obtained by combining measurements with human judgment. The filters used in the EQ are rendered accurately by our processor, which uses floating point arithmetic operating in 64-bit double-precision.

The wealth of knowledge applied to the SSP-800 design and the inspiration for its execution do not come from a textbook—they come from the passion and dedication of those who have spent their lives in the pursuit of higher performance. Classé presents the SSP-800—the definitive preamp/processor—for those who share our singular passion for performance.

CLASSÉ

DELTA SERIES

SSP-800
SURROUND SOUND PROCESSOR

Inputs and outputs

HDMI 1.4	5 in / 2 out
Component	2 in / 1 out
Composite	2 in
COAX	4 in / 1 out
Optical	4 in / 1 out
Analog XLR	1 pair in / 5 pair out
Analog RCA	1 set 7.1 in / 2 pair in / 5 pair out
DC trigger out	2
IR	1 in / 1 out
CAN Bus	1 in / 1 out
USB	1
RS-232	1

Video measurements

Input impedance	75 ohms Composite / component
Output impedance	75 ohms Component
HDMI	Fully 1.4 compliant supporting ARC, HEC, 3D video up to 1080p @ 24 fps, 36-bit deep color and xvYCC

Audio measurements

Maximum output level	8vrms Single ended 15vrms Balanced
Maximum input level	2vrms Single ended via DSP 6vrms Single ended via bypass 4vrms Balanced via DSP 12vrms Balanced via bypass
Output impedance	56 ohms
Input impedance	100kohms
Total harmonic distortion	0.001% Digital source / Bypassed analog source 0.002% Processed analog source

Frequency response	20Hz – 200kHz <0.1dB Stereo analog bypass 20Hz – 20kHz <0.2dB All other sources
Signal to noise ratio	102dB Bypassed analog source 100dB Processed analog source 105dB Digital source

Audio formats

	Dolby Digital Surround EX Dolby Digital 5.1 Dolby Digital Plus Dolby TrueHD DTS-ES discrete DTS 3/2/1 DTS 96/24 DTS-HD High Resolution Audio DTS-HD Master Audio 24bit/32-192kHz PCM

Post processing modes

	Dolby pro logic IIx DTS-ES matrix DTS Neo:6 Mono Mono plus Stereo (downmix) Music plus Movie plus Party

Video conversion

	Composite to component and HDMI Component (upto 720p-1080i) to component and HDMI HDMI to HDMI

Dimensions

Width	17.5″ (445mm)
Depth	16.5″ (419mm) (excluding connectors)
Height	6.75″ (172mm)
Net weight	29 lb (13 kg)
Shipping weight	38 lb (17 kg)