



reviewed. The Classé components are used day-in and day-out in our principal reference system, to review Blu-ray Discs™ and to access Blu-ray Disc players.

The Delta Series has had a long development period, with the primary focus on sound quality. I applaud such attention as I have stated numerous times in *WSR* that the perceived performance in experiencing a motion picture is 80

percent attributable to the quality of the soundtrack. While a picture may be worth a thousand words, the sound is what really cements the experience, and the better the quality the better the motion picture experience, no matter how exquisite the picture quality is. Sound quality is an even more important attribute to elicit emotional responses.

SSP-800 Description

Starting over two years ago, the Classé Design Team began an extensive evaluation of the new breed of high-definition audio and video technologies, with the aim of creating the definitive SSP—a surround sound processor that would become the Classé statement pre-amp/processor. I have found that the SSP-800 is fully capable of the faithful reproduction of the audio and video, as delivered in the form of an original master, reproducing music and motion pictures exactly as their creators intended.

When the SSP-800 was first introduced, it lacked decoding for the Dolby and DTS® lossless HD audio formats, relying on the source Blu-ray Disc player to decode the bitstreams to linear PCM. While it still does not provide automated room-EQ or self-set-up and video upscaling, these are features that are not a requirement of an SSP. I have always preferred manual room-EQ and setup, and video upscaling is regularly a feature in DVD and Blu-ray Disc players. The Classé SSP-800 is a high-end component that is expensive (MSRP \$8,000) and intended for all-out performance systems equipped with equally high-end quality source and reproduction components, both audio and video, and loudspeakers.

The Classé SSP-800 is an audio processor only. There are no video facilities onboard, except for a functional complement of video inputs and outputs, which serve as simple pass-throughs, with no conversion or other processing.

Classé Delta Series

SSP-800 Surround Sound Preamp/Processor And CA-M400 And CA-3200 Power Amplifiers

Gary Reber

Introduction

The Classé Delta Series products are stunning performers, with especially attractive physical designs featuring thick, machine-curved aluminum fascias and contrasting matte satin silver and black panels. The build quality is exceptional as well, which is what enthusiasts should appreciate because build quality is the foundation of high performance. And the new Classé Delta Series range of products are expertly engineered, resulting in a significant improvement over past Classé designs, which will delight Classé's audiophile customers and those new to the brand as well.

The subject of this review is Classé's SSP-800 Surround Sound Preamp/Processor and CA-M400 and CA-3200 Power Amplifiers. These particular units have been essential components of the *Widescreen Review* principal reference system for more than 18 months now. The SSP-800 was recently upgraded to fully process both 7.1-channel lossless Dolby® TrueHD and DTS-HD Master Audio™ codecs. (A free upgrade is available to SSP-800 owners who purchased prior to the on-board inclusion on SSP-800 built after June 2009.) The result has been flawless performance with no sonic problems encountered during HDMI switching and processing, which has been problematic for other manufacturers' pre-amp/processors we have used and



CA-3200 Three-Channel Power Amplifier

The Classé power amplifiers in the CA Series match the appearance of the SSP-800, with a physical design featuring thick, machine-curved aluminum fascias and contrasting matte satin silver and black panels. The build quality is exceptional as well, as is to be expected of a Classé component.

Two 200-watt-per-channel CA-3200 three-channel power amplifiers (MSRP \$6,000 each) are used, along with one 400-watt CA-M400 monobloc power amplifier (MSRP \$5,000) in the principal *Widescreen Review* reference system.

The CA-3200 power amplifiers drive six Dunlavy Signature Series SC-IIIA loudspeakers. The CA-M400 drives a Dunlavy Signature Series SC-I center channel loudspeaker. These are scrupulously articulate and revealing time-correct loudspeakers, and the Classés deliver the full measure of the source signals.

Design features of the CA-3200 include balanced circuitry, over-built power supplies, and oversized output stages to ensure demanding performance at reference motion picture output level. The CA-M400 uses two 200-watt power modules, one to amplify an inverted signal, while the other handles a non-inverted signal. Classé's balanced output stage cancels noise and distortion and yields higher power without reducing low-impedance drive capability. High-current bipolars are used as output devices for amplifier output stages.

Both designs result in largely Class A operation, eliminating the switching distortion normally associated with a Class A/B design.

The rear panel of the CA-3200 is organized into three outlined areas, one for each channel. Each area contains the requisite RCA jack, XLR receptacle, and a pair of multi-way binding posts. Across the bottom are, from left to right, CANBus, IR, and DC control ports, an RS-232 connector, a central EIA AC power receptacle, and an AC mains fuse post. Extensive custom heatsink fins cover each side of the solid steel chassis substantially.

As with other Classé power amplifiers, both single-ended RCA and balanced XLR connections can be made simultaneously. For example, the output of a high-end preamp could be connected to the balanced inputs for stereo listening, while the RCA single-ended connection inputs of the amplifier are connected to a surround preamp/processor. The different inputs can then be selected from the front panel, or by RS-232, or an external control system.

To set up the inputs, put the amplifier in Standby mode, and using the Select button, select the channel and choose RCA or XLR input with the Mode button. That's it.

Blue LEDs on the front panel indicate the input mode of each channel and power on. When power is in standby, a single Blue LED is lit on the power-on button. Should any channel appear with a blinking Red light, this is an indication that a fault is related to that channel; three blinking Red lights indicate a systematic problem. I have

As such, audio sound quality is paramount. The SSP-800 combines powerful 64-bit, floating-point, double-precision Texas Instruments-based DSP with balanced topologies, precision component parts, and meticulous circuit layout. Floating point arithmetic calculations ensure the most accurate performance. All bass management filters, level adjustments, and parametric EQ filters benefit from this added precision. The analog audio circuits are powered by a low-noise toroidal transformer, while digital and control circuits are powered by their own dual-output, high-current switching supply. Exceptional dynamic range and resolution is achieved using high-quality digital-to-analog converters and output stage components in a fully balanced differential mode. Optocouplers and low-voltage differential signal (LVDS) pathways isolate audio circuits from video and control circuits, and digital and analog circuits and grounds are further isolated from each other throughout the circuit board layout.

had only one instance of a single channel blinking Red during a particularly energized SPL sequence in a movie soundtrack. To recover, I unconnected the power cord, waited a couple of seconds, reinserted the cord, and powered up. Problem fixed.

When you press the Standby button to on, the three channels turn on sequentially one by one. When pressing the Standby button at the conclusion of a listening session, the three blue LEDs go dark.

The sound is magnificent, if not better characterized as stunning. The frequency response is perfectly balanced, and depending on the recording, bass extension is deep and powerful, extending to below 25 Hz on certain motion picture soundtracks. Thus, powerfully potent SPL sound effects, such as thunder and synthesized low-frequency generated bass, are authoritative and startlingly impactful.

Individual instrument timbre is perfectly reproduced, which enhances the dimensional realism of orchestral recordings and expansive music scores. Voices sound natural when recorded as such and imperfections in spatial integration are readily discernable.

Well-recorded vocal recordings exhibit perfect harmonic structure and dimensionality, with impressive image depth.

High frequencies never sound edgy or stridently bright but smooth and warm—reminiscent of the best-sounding tube amplifiers. Strings and symbols sound natural and distinctively dimensional, while reproducing impressive detail.

As with other highly regarded power amplifiers, the Classé CA-3200 exemplifies such qualities as dynamic range impact, openness, transparent and fast transient response, dimensional spatial reproduction, detail, harmonic richness, high-frequency smoothness and extension, solid bass extension, low-level and high-level dynamic resolution, and spatial separation of sounds in complex mixes.

The Classé CA-M400 monobloc power amplifier is a powerhouse, at twice the rated power of a single CA-3200 channel. It is delegated to reproducing the center channel signal in multichannel music recordings and movie soundtracks. The sound is absolutely clean, open and balanced, perfectly reproducing what the source delivers. It shares the same wonderful attributes as the CA-3200, but with further refinement. As a center channel power source, it is perfect at reproducing complex midrange signals and resolving detail nuances in dialogue reproduction.

In conclusion, both the Classé CA-3200 power amplifiers and the CA-M400 power amplifier are impressive performers in their complementary support of the preamplification provided by the SSP-800. I cannot fault these amplifiers. As a system providing seven channels of high-end amplification, they provide stunning transparency, balance, smoothness, spatial imaging, and dynamics. There is no coloration to the sound beyond that inherent in the content of the recording. The build quality is impressive as well, which is an indicator of performance expectations. The CA Series is also available in two- and five-channel versions, which should provide an equally impressive listening experience when mated with accurate loudspeakers.

Inputs And Outputs

There are four HDMI v.1.3b inputs labeled 1 to 4. These support 1080p @ 24/50/60 frames per second (fps) video, x.v.Color(xvYCC), and 36-bit Deep Color. HDMI (High-Definition Multimedia Interface) is the industry standard single-cable digital pathway for both video and audio signals, and is backwards compatible with the earlier video-only DVI (Digital Video Interface) standard. The HDMI standard incorporates HDCP (High-Definition Content Protection), a separate content-protection technology, to prevent unauthorized distribution or duplication of copyrighted material. There are two HDMI v.1.3b outputs, labeled 1 and 2. Thus, two display systems can be supported. These outputs additionally provide a two-channel SPDIF downmix of the source material. Non-HDMI source material is encoded for an HDMI display at the source's native video rate (or transcoded to

Specifications – SSP-800 Surround Sound Preamp/Processor

Dimensions: 17.5" W x 6.75" H x 16.5" D
 Weight: 29 pounds
 Power requirement: 120/220 VAC, 50 or 60 Hz
 Power consumption: 75 watts maximum
 Channel separation: >100 dB
 Gain range: -100 dB to +14 dB
 Signal-to-Noise Ratio (reference 10Vrms input): 102 dB bypassed analog source, 100 dB processed analog source, 105 dB digital source
 THD: .001% digital source/bypassed analog source, .002% processed analog source
 Frequency response: 20Hz-200kHz < 0.1 dB stereo analog bypass, 20Hz-20kHz < 0.2 dB all other sources
 Channel separation: better than 100 dB
 Crosstalk (any input to any output): better than -120 dB @ 1 kHz
 HDMI: v1.3b supporting Deep Color, 1080p @ 24/50/60 fps, and x.v.Color(xvYCC)
 Manufactured in Canada
 5-year warranty, parts and labor
 MSRP \$8,000

Specifications – CA-3200 Three-Channel Power Amplifier

Dimensions: 17.5" W x 8.75" H x 18.5" D
 Weight: 90 pounds (net)
 Power requirement: 120VAC, 60Hz
 Power consumption: Idle 220 w. – Rated power 672 w.
 200 w continuous (23dBW) @ 8 ohms 20Hz-20kHz, 390 w (23dBW) @ 4 ohms 20Hz-20kHz
 Frequency response: 10Hz-22kHz + 0 / - 0.1 dB, 10Hz-155kHz + 0 / - 3 dB
 THD+Noise: less than 0.003% at rated power into 8 ohms, less than 0.005% at rated power into 4 ohms (unweighted, 1V RMS/1kHz input, 10Hz-500kHz)
 Signal-to-Noise ratio: better than 120 dB reference full output, 10Hz-80kHz
 Noise floor FFT: all peaks under -95dB, 10Hz-80kHz
 Phase error: <10° (22kHz)
 Voltage gain: 29.1 dB
 Sensitivity: 1.4Vrms
 5-year warranty, parts and labor
 MSRP \$6,000

Specifications – CA-M400 Monobloc Power Amplifier

Dimensions: 17.5" W x 8.75" H x 18.5" D
 Weight: 82 pounds (net)
 Power requirement: 120VAC, 60Hz
 Power consumption: Idle 166 w. – Rated power 480 w.
 400 w continuous (23dBW) @ 8 ohms 20Hz-20kHz, 800 w continuous (23dBW) @ 4 ohms 20Hz-20kHz
 Frequency response: 10Hz-22kHz + 0 / - 0.1 dB, 10Hz-155kHz + 0 / - 3 dB
 THD+Noise: less than 0.003% at rated power into 8 ohms, less than 0.005% at rated power into 4 ohms (unweighted, 1V RMS/1kHz input, 10Hz-500kHz)
 Signal-to-Noise ratio: better than 112 dB reference full output, 10Hz-80kHz
 Noise floor FFT: all peaks under -95dB, 10Hz-80kHz
 Phase error: <10° (22kHz)
 Voltage gain: 29.1 dB
 Sensitivity: 2.0Vrms
 5-year warranty, parts and labor
 MSRP \$5,000

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BTD350 (introduced at the 2010 International Consumer Electronics Show), or forgo high-resolution audio (Dolby True HD or DTS Master Audio) that requires an HDMI connection to the receiver. The dual-HDMI output feature provides for a v1.4 output and a v1.3 output. The other option is to use a Blu-ray Disc player with internal Dolby TrueHD and DTS Master Audio decoding, and eight analog outputs connected to the analog inputs of the Classé SSP-800 and a separate HDMI v1.4 cable connection direct to your 3D-compatible display. But unfortunately, there is no provision for bass management in this path, and only volume control processing is enabled.

There are two component video inputs, each with three RCA connectors, labeled 1 and 2. This is the next best format for passing video to your display and provides a much sharper image than S-video or composite formats. Complementary to the inputs are two component video outputs via three RCA connectors, labeled Pr, Pb, and Y. These are intended to connect source components to non-HDMI displays. The component output does not support output of 1080p signals. Due to HDCP licensing restrictions, the component video output will not work with all source material inputs via HDMI. Depending on the material, component output may be restricted to 480p.

The SSP-800 provides backward compatibility with S-video analog sources (e.g., LaserDisc, S-VHS). The two S-video inputs are labeled S-VID1 and SVID2 and should be used when your source component is S-video. Also supported are two composite video inputs, with RCA connectors, labeled 1 and 2.

Four digital audio inputs are supported, with SPDIF connectors, labeled COAX1 to COAX4. These inputs support PCM data streams carried on 75-Ohm impedance cables, up to 24 bits long and up to 192 kHz sampling frequency. Also supported are four optical TosLink inputs, labeled OPT1 to OPT4, which accept PCM data streams up to 24-bits long and up to 192 kHz sampling frequency. One digital audio coaxial output is supported, with SPDIF connector, labeled COAX. This output can pass PCM data streams up to 24 bits and up to 96 kHz sampling frequency. Three digital optical outputs are supported as well.

The SSP-800 provides one 7.1-channel analog audio input array designed for any multichannel source with analog outputs, such as SA-CD, DVD-Audio, or Blu-ray Disc players. The multichannel signals are passed through the SSP-800 and to onboard power amplifiers to the loudspeakers with no processing, to preserve the quality of the original signal. Thus, there is no provision for bass management, and only volume control processing is enabled.

For superior audiophile two-channel listening, the SSP-800 is equipped with a two-channel XLR balanced analog audio input, labeled R1 and L1. Also provided are a pair of two-channel single-ended RCA analog audio inputs, labeled L2/R2 and L3/R3.

For custom installation applications, the SSP-800 supports an IR input and output, and two 12V DC trigger outputs (OUT1 and OUT2) to control other system components, such as amplifiers, screens, and window blinds. Also provided are an USB port for downloading future system software updates (see Classé's Web site at www.classeaudio.com) and an RS-232 port for use of external commands, to allow remote control of the SSP-800 by such systems as AMX® and Crestron™. Another convenient feature is the CAN-Bus (Controller Area Network) input and output, which allows several Classé components to be daisy-chained and connected together, such as amplifiers, for simultaneous operation, such as switching from On to Standby.

Finally, the SSP-800 supports ten analog outputs, with both balanced (XLR) and single-ended (RCA) connections. Connect the appropriate Front L/R, Sub, Surr L/R, and Rear L/R connectors to the appropriate amplifiers. I would prefer that the Rear L/R be labeled Extra L/R, to indicate the extra two channels provided for in a 7.1-channel source. These two outputs are only active when the SSP-800 output is set up for a 7.1-channel surround system (see my article in

component for displays without HDMI). HDMI input signals are NOT converted to analog format, and are only output via HDMI at the incoming resolution. When an analog video input signal (e.g., LaserDisc) is output via HDMI to the display, the video input is converted to digital format and output at its native rate. The two HDMI outputs are NOT independent.

It is important to understand that the Classé SSP-800 is not HDMI v1.4 compatible. HDMI v1.4 connectivity is required for full 1080p HD 3D, though the SSP-800 may support 3D at some resolution. Classé has not announced plans for a required HDMI v1.4-compatible hardware upgrade to pass full 1080p HD 3D (nor has any other AVR/processor manufacturer). For now, you can opt for a Blu-ray Disc player with dual-HDMI outputs, such as the Panasonic DMP-

Issue 142, September 2009 entitled “The Art & Science Of 7.1 Surround Sound: Time To Get It Right”). Two additional programmable XLR/RCA outputs are provided for the following assignment purposes:

- Assigned as a two-channel down-mix of the selected multichannel signal for either an analog recorder or a separate listening area.
- Assigned to follow the main Front L/R loudspeakers for use in a bi-amplification arrangement.
- One or both may be assigned as additional subwoofers, with the ability to select between monaural and stereo modes.

The AC power cord is detachable so that an audiophile may experiment with other power cords.

The Remote Control

The remote control is a beautiful, full-sized, weighty hand sculpture hewn from an aluminum ingot. The unit is versatile, with control functions for both the SSP-800 processor itself and several aspects of the rest of a Classé-based system.

presents the normal operation options—Source, Mode, Video Preview, and Controls. The return home works no matter how deep you have navigated.

- Navigation Arrows are the Up (▲), Down (▼), Left (◀), and Right (▶) arrow buttons, which allow you to select the different menu options.
- Enter selects the menu option that is highlighted.
- Profile accesses customized versions of the system's Home screen that you have pre-programmed to provide direct access to frequently used controls.
- Trim accesses the System Trim menu screen, which allows you to make temporary adjustments to loudspeaker levels and the lip-sync feature. These temporary trims do not override the settings you made through the Setup menu and are discarded when you select a new source.

At the bottom are four Function buttons (F1 to F4) or FKeys, which provide additional flexibility to the SSP-800 remote control. Likened to “favorites,” they provide instant access to a specific system function

The Classé SSP-800 is a purist performance product with respected audiophile credentials.

Four buttons along the top groups the following basic control functions:

- Backlighting Light button, which automatically switches off after a few moments of inactivity.
- Info button opens the Status LCD display on the SSP-800 front panel touchscreen.
- Display button cycles through the three brightness levels of the front panel touchscreen display.
- Standby button switches the SSP-800 between the Standby and Operate stages.

Reading downward, the next three buttons offer the following processing controls for the audio signal:

- Lipsync button delays the arrival time of the audio portion of the audio/video source. Video processing often delays video signals relative to the audio, with the result being that the audio track is played too early. This is the singular gripe I have with the SSP-800. The video pass-through always significantly delays the video up to five seconds. The Lipsync function is not designed to correct this problem. This problem is there at the start of every movie or supplemental special feature and following pauses in the program.
- Night button engages or disengages the Night mode for Dolby Digital soundtracks, but not for Dolby TrueHD soundtracks. This is a dynamic range compressor circuit that reduces peaks and increases low-level passages.
- Mode button displays the available surround modes on the front panel touchscreen. Pressing the navigation arrow keys moves up and down the list. Pressing Enter activates your selection.

The Input Sel (selection) button steps through the available inputs. You can selectively activate or deactivate unused inputs to make the SSP-800 easier to navigate.

The Preset Config (configuration) button steps through the configurations set to “in use.”

Volume Control and Mute buttons are self-explanatory.

Navigation and Menu buttons are found at the central section of the remote control. Each of the buttons perform the following navigating function(s):

- Menu accesses the main screen for the menu system just as on the front panel.
- Home returns the touchscreen display to the Home page, which

that might be otherwise buried in the menu system, such as a command not covered by the other buttons. For example, the manual suggests that if you use the balance control frequently, you may want to consider programming one of the FKeys to directly access the balance control. By saving the balance control as an FKey, you do not need to access the menus to change the parameter.

SSP-800 Setup

Menu settings are straightforward, and the owner's manual has useful explanations for each function, should there be any question about what setting is best. The SSP-800's LCD touchscreen is useful for day-to-day operations and provides access to all setup functions, which are extensive. The Home page, which can also be accessed from the remote control, displays four options—Source, Video Preview, Mode, and Controls—on the top of the touchscreen. The bottom half of the screen displays the active input, surround processing mode, plus the current volume level (in both a graphical bar across the bottom of the screen and as a large numeric decibel value).

The Source option provides for a total of 20 selectable inputs, which are all interchangeable. The Mode button is used to activate the available inputs with components connected to them. You can deactivate any unused inputs, and the input button is removed from the Source selection menu. This reduces the number of input options that are not used.

You can specify default surround processing modes for each active input. But you can also modify the default on the fly, for say, a particular recording. For example, you can choose to listen in monaural, using only the center-channel loudspeaker. To do this, you touch the up or down arrows to scroll through the list of modes:

- Mono—outputs sound to the center channel only
- Stereo—outputs sound to the Front Left and Front Right channels only
- Music Mode Party—produces mono output at the same level from all available loudspeakers
- Movie Plus—produces stereo output in all available loudspeakers with a 60 percent center width and a 50/50 front-to-surround distribution and 15 percent to the rear channels
- Music Plus—produces stereo output in all available loudspeakers

with 25 percent center width, a 70/30 front-to-surround distribution, and 15 percent to the rear channels

- Dolby ProLogic II—provides audio signals for a 5-channel surround sound field from matrix-encoded stereo sources
 - Dolby ProLogic IIx Music—Expands existing stereo or 5.1-channel matrix-encoded audio signals for 6.1- or 7.1-channel discrete playback and features three additional user controls: Center Width (for adjusting balance to favor the Center or Left and Right front channels), Panorama (for wrap-around surround effects), and Dimension (to adjust the depth of the surround sound field)
 - Dolby ProLogic IIx Movie—routes the special effects signals to the surround channels
 - Dolby ProLogic IIx Matrix—provides soundfield similar to the Music mode, without the additional adjustment options
 - Dolby ProLogic IIx Game—routes the special effects signals to the surround channels
 - DTS Neo6—expands existing stereo or 5.1-channel matrix-encoded audio signals for playback with 6.1- or 7.1-channel systems
 - DTS Neo6 Cinema—emphasizes front information and processes surround effects, to reproduce a very diffuse rear soundfield
 - DTS Neo6 Music—expands non-encoded stereo audio tracks with a Center Width adjustment
 - Discrete—provides a “native” pass-through format mode, where no processing is performed for Dolby Digital, DTS Digital Surround, Dolby TrueHD, and DTS-HD Master Audio signals up to 7.1 discrete channels
 - DTS Neo6 Cinema ES—provides the DTS Neo6 mode with the addition of discrete- or matrix-encoding to the surround back channels
 - DTS Neo6 Music ES—provides the DTS Neo6 mode with the addition of discrete- or matrix-encoding to the surround back channels
 - Dolby Surround EX—derives matrix-encoded rear-channel audio signals from channel audio signal sources
 - Dolby Digital EX—derives the seventh channel of discrete information encoded into the soundtrack used to create a single rear channel, or two monaural rear centers, depending on the loudspeaker setup
- There are no gimmicky jazz club, arena, or other surround modes of questionable or negative value.

Unfortunately, however, is the lack of Home THX® processing modes, in particular Re-EQ. A Re-EQ circuit is still necessary for those occasional motion picture soundtracks that have not been re-equalized during mastering, to tame the otherwise excessive brightness of the sound. Classé could have opted to provide such a circuit without THX licensing but did not. Recognizing the need, a firmware upgrade is in the works to add a Re-EQ circuit (see the company’s Web site for updates).

Video Preview allows you to select and view the video source on the front panel touchscreen. But do not expect the aspect ratio of any given program to be accurate. Still, this is a nice feature, particularly during setup.

There are Systems Trims, which provide for adjustments for level trims, audio delay (called Lipsync), and Dolby late night dynamic range.

Touching the Configuration option opens the Configuration Select menu, which allows you to select the current configuration you want to activate. There are six different system configurations, which reflect the loudspeaker setup of our system. You can use different configurations that you call stereo and movies for configuring your system for full-range, two-channel versus bass-managed multichannel with subwoofers. You may also use configurations to optimize levels and loudspeaker distances for different listening positions.

The Menu System is extensive and provides complete flexibility and control for multichannel and two-channel system listening. From



the System Setup menu, you can tailor your inputs to your particular components, configure and calibrate the system to optimize the performance of your loudspeakers, create shortcuts through the “profile function” to access your preferred or frequently used functions, and program the behavior of the DC triggers.

From the System Setup menu you can have access to various Volume options, including setting a maximum volume level and the level of the system when it is turned on.

The SSP-800’s Room EQ capability allows you to build precise digital audio filters to help correct for fixed sonic irregularities in your loudspeaker/room environment. Five-band manual parametric equalization is provided for each of the ten channels. There are adjustments for the center frequency, boost or cut, and Q (the filter’s steepness). These filters are intended to notch out problem frequencies using test equipment. Classé recommends that these manually-adjusted filters be constructed based upon audio measurements made by a well-qualified acoustical engineer. It is our experience that the automatic room EQ products available do not achieve optimum results, and a combination of room treatments and manually tuned electronic parametric EQ results in optimum performance.

Loudspeaker distances are set via the Distances setup page, which allows you to adjust distances to accurately reflect the actual placement of your loudspeakers. The Levels menu is used in conjunction with an SPL meter and the internal noise generator to adjust the output levels of the loudspeakers. Touch the Noise Seq button and from the “sweet spot” listening position adjust the level of each loudspeaker to the same sound pressure level referenced to “C” weighting and Slow response at 75 dB on the SPL meter.

The Size option allows you to pick either Full Range or Crossed Over for each loudspeaker in your setup. You can set the crossover frequency and adjust the slope for each selected loudspeaker using the increase and decrease buttons. When the loudspeaker is set to Large, and E-Bass is enabled, the crossover determines which low frequencies will simultaneously get routed to the subwoofer(s), thus further distributing low frequencies around the room. The Subwoofer configuration allows for Sub Enabled and E-Bass. When Sub Enabled is activated, the LFE (Low-Frequency Effects) signal is routed to an active subwoofer, as well as any low-pass energy from the crossed-over channels. If you do not enable a subwoofer for the system, then the LFE signal will be routed to any full-range loudspeakers in the configuration. When a subwoofer is enabled and the E-Bass option selected, the low-frequency signals from all loudspeakers (both crossed and full-range) are passed to the active subwoofer, along with the LFE. This duplicates the bass energy present in full-range loudspeakers.

The SSP-800 further provides two Auxiliary Channel configurations that can be utilized as additional subwoofers, assigned as a two-channel down-mix of a selected multichannel signal, or configured to biamped left and right audio, where a signal loudspeaker is driven by a stereo or two mono amplifiers. Alternatively, these two Auxiliary Channels can be used to deliver stereo audio to a separate room or system, with source selection shared with the main home theatre system.

Operation

The Classé SSP-800 is a joy to use, with its straightforward control features. The front panel contains a large volume knob and just three buttons: Standby, Menu, and Mute. Other functions, as previously described, are accessed by the touchscreen panel with its simple user interface control center.

Once setup was complete, the SSP-800 handled every surround format we have available on various discs without misfiring. Sound quality is absolutely superb and always perfectly musically coherent and balanced. Analog sources can bypass all analog-to-digital, DSP and digital-to-analog stages for perfect source-direct listening. But when desired, the SSP-800 provides a full complement of processing capabilities, such as bass management (which we experiment with but generally do not use, as our reference system is full range) and parametric equalization for analog and digital sources.

If there is one dissatisfaction I have with the SSP-800, it is the HDMI sync delay between the audio and video lockup. No matter what Blu-ray Disc player I select as the source (there are three in the Classé reference system), following pressing play, the audio portion of the content is nearly immediate, but the video trails anywhere from 5 to 7 seconds after the audio. Such a long delay is experienced even when pausing and resuming playback. There appears to be some aspect of the buffering circuit that is causing this long time delay. The only way to get around this is to scan backwards and resume playback. While we have experienced delays in other processors at one or two seconds, it's pretty frustrating when you are used to products that don't have such a long delay. In other processors, the reverse is the norm, with the audio delayed after the video appears.

What does merit celebration is that there are no spurious pops or splurts of intense high-frequency noise when a Blu-ray Disc is put into play, as with some processors whose outputs aren't muted quite long enough after pressing play.

Video

There's really not much to comment about the video performance of the SSP-800, since there are no video features other than the four HDMI v1.3b inputs and two HDMI v1.3b outputs, none of which degraded the HDMI video signal. If you need more video connections, you either have to connect directly to the video display, or use a standalone HDMI distribution interface certified as v1.3 compliant. Or in the case of further video processing, a Lumagen Radiance XD/XE, or other video processor, inserted between the SSP-800 and the display.

Subjective Audio Performance

Well-recorded music sounds sumptuous, with a smooth mid-band and top end and authoritative and solid bottom end, with the SSP-800 coupled to two Classé CA-3200 three-channel power amplifiers and a CA-M400 monobloc power amplifier driving the center channel. As mentioned, the loudspeakers used in the Classé system are six Dunlavy Signature Series SC-IIIs and one Dunlavy Signature Series SC-I (center channel), complemented with two Bag End InfraSub 18s. The sound is spectacular, whether the source is Blu-ray Disc Dolby TrueHD, DTS-HD Master Audio, or LPCM; DVD-Audio; SA-CD; CD; direct digital iPod; or vinyl record via a Linn-Sondek LP12 turntable

system. Differences in recording quality are always discernable and revealing of the sonic signature of the venue, the width and depth of the recording, and distinctive instrumental and vocal timbres. The sound is refined and smooth, with complex orchestral compositions dimensionally reproduced. Transient response clarity is reference quality but without undesirable grain or edginess, unless revealed in the recording itself. The SSP-800 reveals every nuance produced in a recording and is capable of exceptional dynamic range sonics.

I am not going to describe a series of music recordings or movie soundtracks in this review, but I do suggest that you refer to the numerous Blu-ray Disc reviews that I have written while using the Classé system over the past 18 months. These are found in the print edition and on our Web site at www.WidescreenReview.com, and include everything from monaural to 7.1-channel soundtracks, and music video concert specials.

The Classé has performed flawlessly since it was put into service at *Widescreen Review*. Nuances and significant differences in sound-track production are clearly revealed when listening through the SSP-800, including the sense and extent of space, detail, harmonic texture, and dynamic contrasts. Even with soundtracks layered with complex sound elements, the SSP-800 was able to present a discernable soundfield experience with clarity and realism, and deliver powerful dynamic energy and deep bass extension.

Conclusion

The Classé SSP-800 is a purist performance product with respected audiophile credentials. The price tag is steep for a pre-amp/processor without automatic room EQ correction circuitry and video upconversion, though, personally I would not use such features in a high-end home theatre setup. Classé will soon implement a Re-EQ circuit, which is necessary on occasion when the problem has not been addressed in DVD and Blu-ray Disc mastering.

To me, sound quality is absolutely paramount, and the Classé delivers admirably in this respect. With musical performance as its benchmark, the sound quality of the SSP-800's preamplifier section in pure analog mode is comparable to other high-end preamplifiers priced similarly. What you are paying for in the Classé is this pedigree sound quality performance. The preamp/processor has no discernable sonic signature and reveals every nuance of perfection or imperfection in recordings.

For the performance enthusiast, the Classé SSP-800 provides a single-unit solution for both state-of-the-art multichannel and two-channel reproduction.

When complemented with the Classé CA-3200 and the CA-M400 power amplifiers, the preamplification/amplification system delivers stellar high-fidelity performance. If you value sound performance as critical to an optimum multichannel or stereo listening experience, then the Classé SSP-800 and companion CA-3200 and CA-M400 power amplifiers will be worth the price of admission. **WSR**

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Review

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