

CLASSE

CLASSE

High end is passion, discovery, experience and technical exploration.





INTRODUCTION

Classé was founded in 1980 as a partnership between an engineer and an audiophile who shared a passion for music and high fidelity sound. In the more than thirty years since, an explosion of technology and creativity has spawned a digital revolution in consumer electronics that has reshaped how we live. What we can do and how we do it seems to change by the day, but what hasn't changed in the last thirty, or even three thousand years, is the way music and theater can touch our souls. It is this innate human reaction that transcends technology and fuels the passion that still drives Classé.

The ancient art forms of music and theater have themselves been transformed by technology. First, the miracle of recording allowed us to capture performances and replay them. The pursuit of high fidelity began with these earliest recordings as enthusiasts sought to render the sound of playback as true to the original as possible. Today, technology brings its own influence in the form of electronic instruments, mixing, sampling and effects which create sounds electronically. The challenge for modern music and theater systems is to harness technology to faithfully reproduce the full range of sounds that are contained in a recording, regardless of how they originated.

To meet the challenge, Classé maintains a design team of talented and experienced engineers at our headquarters in Lachine, QC, Canada, just outside Montréal. Their expertise guides the development process and coordinates the efforts of key technology partners. Their efforts have produced some of the finest audio components ever made, praised for their performance and valued for their quality; none more so than the current range of Classé amplifiers and preamp/ processors. Each of these components gives back to its owner a priceless return on investment, valued against years of immeasurable enjoyment and entertainment.



Antonio Stradivari is famously known for the fine violins he made in the early eighteenth century. As accomplished as he was at making violins, Stradivari's skills did not extend to clarinets, trumpets or timpani. He specialized. Stradivari had no better option than to make his instruments the way he did. It was a time consuming task that depended on skills honed over a lifetime of instrument making. The value of Stradivarius instruments in the present day is a celebration of his craft as much as it is an acknowledgement of their rarity and exquisite performance.

Stradivari had no inkling of the coming industrial revolution or how Thomas Edison's subsequent inventions of the phonograph and motion picture camera would transform how we create and enjoy music and theater. The march of technology is inexorable, accelerating, changing more in our lifetimes than in the nearly 200 years that separated Stradivari from Edison. Today, much of what we listen to owes its sound more to Digital Signal Processing than to wood, varnish and glue. In consumer electronics, the very concept of craftsmanship is migrating from the assembly line to the engineering lab. The true craft is in ensuring performance, reliability and repeatability by thinking through the design details and properly utilizing modern manufacturing techniques.



Stradivari produced instruments that were each unique in their own way. Our goal is to design and build components that can reproduce every detail and subtle nuance in the sound of those individual instruments. To do that faithfully, each model we build must itself be reproducible, identical to the ones built before and after it.

Achieving both high performance and consistency requires control of numerous variables at the design level. The Classé Design team employs experts across the spectra of electronic hardware and software disciplines, periodically engaging specialists in other fields. They know their business and their craft is evident in the quality of components that bear the Classé name.

Our first product, the DR-2 launched in 1980, was an analog amplifier, akin to a hand-made acoustic instrument. In that era, people could and did build amplifiers like it on their kitchen tables. Since then, the evolution of digital technology and modern manufacturing techniques has rendered the possibility of building a Classé component anywhere other than a modern electronics manufacturing facility quite impossible. There are high-end audio designers that cling to the old ways out of ignorance or necessity, but the Classé Design team is moving ahead, developing the technology and accepting the challenge of creating the world's most valued and highest performance audio components.

We have indeed come a long way since the days of Antonio Stradivari, but his instruments remain an inspiration. We are also specialists, striving for perfection, rendering sound that can touch the soul.



Sigma Series



Sigma AMP2 Stereo Amplifier

The Greek letter Σ (Sigma), used in mathematics, science and engineering to indicate summation, provides a fitting moniker for Classé's newest series of high-end preamp/processor and amplifiers. High-end is about passion, discovery, experience and technical exploration – it is the sum of all of these things, reflected in the products themselves and shared by those fortunate enough to own them.

amplifiers

All Classé components are designed to meet demanding technical, quality and objective standards and by their nature, they are costly. In some cases they are also large—perhaps even too large for a given application. For some time now there has been an unmet need for audio components that meet the high standards of Classé Delta and CT series designs but are more affordable, smaller and more efficient. The Classé Design team has brought its wealth of knowledge and experience to bear on the problem with the result being the Sigma series.

The Sigma series amplifiers, called Sigma MONO, AMP2 and AMP5, feature the latest switching technologies, first used in the Delta series CA-D200. Just as the Classé Delta and CT series class A/B amplifiers share the same internal circuitry but use different chassis to accommodate specific applications, so too does the AMP2 share the same circuitry as the CA-D200. The Sigma MONO is similar but utilizes an upgraded analog input circuit and tweaks to DSP timing to optimize its performance for its higher output power. The AMP5 shares the same overall topology as the other models, but with the necessary changes to implement its five-channel design.

Switching technologies are utilized in both the power supply and amplifier stages of the Sigma amplifiers to achieve greater overall performance, efficiency and smaller size than alternative solutions. For more details see the discussion on the CA-D200 amplifier or refer to the separate CA-D200 brochure.

Sigma - for those with high expectations

Classé Sigma series components are designed to exceed expectationsto surprise and delight even the most seasoned audiophiles. They are ideal for those with space and/or budget constraints that make Delta and CT series components impractical or impossible to employ. Their outstanding performance challenges critical listeners to identify any compromises that separate them from models costing two or three times their price. Classé Sigma series components also demonstrate economy, from the careful choice of connections and features to their efficient use of electricity. They represent an informed design choice for music and theater systems when expectations for both value and performance are high.



Sigma AMP5 Five-Channel Amplifier



Sigma MONO Monaural Amplifier

The Sigma series consists of a 7.1 channel SSP, optimized as a stereo preamp/processor with a full suite of video switching and multichannel processing, a new amplifier design implemented in stereo, called AMP2, as a five-channel model called AMP5 and a monaural version called Sigma MONO, and a stereo integrated amplifier called the 2200i.

surround sound preamp/processor

The Classé Sigma SSP Surround Sound Processor is the result of a singular focus on sound quality. While it is comparatively feature-rich, the design approach in no way compromises performance. In fact, no other SSP boasts such a high performance/ price ratio with as many useful features dedicated to optimizing performance. By eschewing the typical list of marginal extras, Classé has created the Sigma SSP, a multichannel preamp/processor that simply has no peer.

The Sigma SSP is descended from a long and distinguished line of Classé SSPs. Every effort has been made to retain the performance expected of an SSP at double its price, while introducing new features and enhancing its flexibility as a combination music and theater system component.

New features include Ethernet connectivity with proprietary signal clocking for streaming DLNA sources and AirPlay. as well as IP control from Android and Apple iOS devices using a Classé App: a proprietary 24-bit/192 kHz Asynchronous USB path with both Host and Device connections; front panel HDMI and Headphone connectors and an optional internal MM/MC phono preamp module. A highly refined nine-band parametric EQ is provided for each channel to help tame unwanted speaker/room interactions. Classé's customizable digital domain Tone Control can be used in Tilt mode to quickly and easily make subtle tweaks to the tonal balance of recordings without making sonic tradeoffs. A new and powerful Texas Instruments DSP decodes the full suite of HD Audio signals and handles a wide range of processing tasks including Dolby Volume. The Sigma SSP is indeed comparatively feature-rich, but performance-oriented features dominate its otherwise minimalist design.

At only two rack spaces high the Sigma SSP packs a lot of performance and flexibility into a relatively small chassis.1 There are eight output channels which. to optimize stereo performance to the fullest, include true balanced connections for the front Left and Right channels. These channels also benefit from a differential D/A converter configuration, using the same D-to-A converters as the venerable CP-800 and providing high resolution with common mode rejection of noise and distortion. Two Auxiliary channels may be configured as Rear channels, Height channels, mirrors of the front L&R for power-bi-amping, downmixed fixed- or variable-output for routing the source to another system, or one may be used for a back channel.

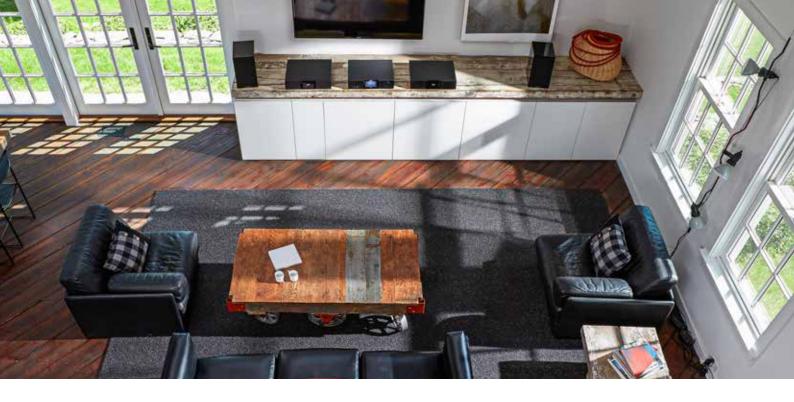
The Sigma SSP offers the essential connectivity and functionality of a surround sound processor with modular video and DSP boards, while attaining the highest performance possible at its price. By devoting the design budget to the signal paths you use the most, it tops the list of well engineered, high-value, high-end multichannel preamp/processors available today.



The PPM Phono Preamp Module can be used with both MM and MC cartridges and allows custom loading. It is an option available for the Sigma SSP and CP-800 preamp/processors.



Sigma series components can be placed on a shelf or converted for rack mounting by removing, inverting and rotating the side panels to position rack ears along either side of the faceplate.





Sigma SSP Surround Sound Preamp/Processor

Integrated amplifiers provide a space- and cost-saving alternative to separate amp/ preamp combinations. The Classé approach extends the benefits of integration into the performance realm by utilizing the digital architecture of our amplifier to full advantage, allowing a direct connection between the amp and preamp DSP functions.



Sigma 2200i Stereo Integrated Amplifier

stereo integrated amplifier

As an integrated amplifier, the 2200i combines preamp and power amp functions in a single chassis. It offers key features also found in the Sigma SSP like Ethernet for IP control and streaming, USB with both host and device connectors. HDMI switching. PEQ, Tone Control, Bass management and optional MM/MC phono. The power supply, DSP and gain stages come from the acclaimed CA-D200 and AMP2. What's special is its direct digital connection between the preamp section and the amplifier, which eliminates losses by removing digital-to-analog and analog-todigital conversions from the signal path. Techniques like asynchronous synchronization and master clock mode allow us to manage the digital clocks for low jitter and high signal integrity. Analog sources are converted at 24/96 to preserve their original bandwidth and dynamic range. Taken together, the feature set and technologies integrated into the 2200i give it a substantial performance advantage with virtually any source.

Digital Signal Processing is available to all sources; you can use it for bass management with a subwoofer to fill dips in the frequency response in your room while a nine-band parametric EQ can simultaneously eliminate the frequency response peaks; a customizable tone control can tame or add life to your less-than-perfect recordings. It all adds up to better sound from every recording in any room.

Unlike outboard DACs and preamp/processors that must output analog signals for volume control and amplification, the 2200i leverages the true digital architecture of our proprietary Classé switching amplifier design, connecting the output of the preamp DSP directly to the DSP input of the amplifier. There aren't any DACs or ADCs nor is there any unnecessary analog circuitry connecting them. So the signal path is as short and direct as possible; signals remain digital all the way to the amplifier output filters.

A front panel touchscreen and both Android and Apple apps provide sophisticated yet intuitive control. DLNA and AirPlay streaming are supported over the Network connection and AV switching with HDMI 2.0 and HDCP 2.2 allows convenient connection to set top boxes, games and disc players. Flexibility, performance and ease of use make the 2200i an ideal foundation for building a world-class hi fi system.



Delta Series



CA-M300 300W Monaural Amplifier

Our Delta series amplifiers embody all that Classé represents: innovation, technological achievement, consummate craftsmanship, and iconic design. But they are not just the latest in the distinguished line of Classé amplifiers to be launched since 1980. They are new, revolutionary and unique.

amplifiers

Performance first.

The original Delta series amplifiers won more than critical acclaim. Elite audio professionals use them to master music and movies that the whole world has enjoyed. Our newest amplifiers are even better. Objectively, pure technical measurements prove they deliver our highest performance ever. Subjectively, they will simply blow you away.

The Classé Design team has created the ultimate environment to amplify an audio signal. The entire amplification process occurs on a single board, creating the most direct and transparent signal path conceivable. Our uniquely miniaturized driver stage is virtually noise free, so every nuance of the original signal reaches the output stage. Here, vast quantities of clean power are controlled with absolute precision. Suddenly, the world's finest speakers sound even better.



CA-2300 Stereo Amplifier

amplifiers

Performance fast.

There is a relationship between temperature and performance but it is widely misunderstood. Audiophiles say that optimal performance is obtained when an amplifier is "warmed up," but what does this actually mean? When is it warm enough and when is it too warm?

The exposed heatsink fins found on conventional amplifiers are passive. They can't help circuits reach their ideal temperature or keep them there throughout a listening session. These amplifiers run at a temperature wholly defined by their environment and how loud they are playing. This can be far from ideal.

Heat management in Classé's new Delta series amplifiers is provided by the ICTunnel™ (pronounced Icy Tunnel), a sensor- and microprocessor-controlled technology inspired by the heatsinks found in high-power laser and medical equipment. Mounted inside the unit, the ICTunnel™ actively regulates the amplifier temperature to ensure both optimum performance and reliability.

From room temperature, the amplifiers warm up fast. They reach their ideal temperature in less than fifteen minutes and remain there regardless of how hard they are driven. No conventional heatsink can do this.

In a Class by itself.

Ground-breaking performance, prodigious power, sophisticated control and rock-steady reliability—Classé's new Delta series is a giant leap in amplifier design. Thanks to exclusive ICTunnel™ and audio technologies, only Classé amplifiers can consistently deliver top performance and reliability in every installation.



CA-5300 5-Channel Amplifier





CA-M600 600W Monaural Amplifier

The CA-D200 is a new and innovative amplifier design that uses what are called switching technologies. Switching amplifiers and power supplies offer many advantages but present different challenges and a higher degree of complexity than conventional linear designs. Their potential is too great to ignore, however, which is why the Classé Design team now includes engineers with over fifty years combined experience in switching amplifier and power supply design. The result is the CA-D200, the first of its type from Classé; the first of its type—period.



amplifiers

Switching Power Supply

A new Switch Mode Power Supply with Power Factor Correction, provides over 1,000W of clean, stable power to the CA-D200 amplifier circuitry. The SMPS and PFC each operate at over 90% efficiency, yielding impressive benefits for power delivery. The low frequency dynamics, extension and control of the CA-D200 and its ability to effortlessly drive difficult speaker loads can be credited in large part to the powerful and sophisticated power supply it employs. The SMPS with PFC is ideally suited to the demands of the CA-D200's revolutionary switching amplifier topology.

Switching Amplifier

Some technical limitations have been commonly accepted as inherent in switching amplifiers—until now. Perhaps the biggest limitation is called dead-band time, which translates directly to distortion and tempts designers to employ excessive amounts of negative feedback to compensate. With its proprietary drivers and DSP tools, the Classé Design team solves the dead-band time problem with precision and consistency for each and every CA-D200. On power up, controller circuitry analyzes and adjusts to minimize the dead-band time for each pair of outputs. In this way, part tolerances and drift for each individual amplifier are taken into account. Lastly, the feedback loop is closed using the least amount of negative feedback required. Our linear phase output

filters are then employed only to filter the 384 kHz switching frequency, not to roll off the top end of the audio band, as is often done to try to make amplifiers with high dead-band time more listenable. The result is a wide and deep soundstage with extended high frequencies that reveal a musically detailed and open midrange and top end.

Summary

The CA-D200 employs proprietary component parts and DSP technology along with sound engineering practice to optimize its sonic performance at an affordable price of admission for a Classé amplifier. Listen and hear for yourself how beautiful great value can sound.

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. The Classé Design team undertook 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.



SSP-800 10-Channel Preamp/Processor

surround sound 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. To ensure the SSP-800 retains its value and competitive edge, the Classé Design team has designed a dual DSP platform with processors capable of up to 2800 MIPS each. Unlike most other processors, this Dual DSP can be updated with new firmware to expand the SSP-800's processing capability.

Superior audio performance is achieved by combining this powerful DSP platform 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.

The vast majority of high end preamplifiers available today are direct descendents of products that have been made for decades, rooted in an all-analog world. The CP-800 is something new. It combines key building blocks of a contemporary high-end audio system in a unique way to improve and shorten the signal path.

stereo preamp/processor

New technologies are applied to realize the benefits of modern computer-based audio. Now, a CD ripped to a computer can sound better than if played in a CD player; convenient and feature-rich access to your music library is possible with state-of-the-art playback; a Classédesigned Switch Mode Power Supply (SMPS) with Power Factor Correction (PFC) delivers higher performance at a lower price; there is no compromise at an affordable price. And there is much more...

Streaming/AirPlay

A rear panel Ethernet connection offers streaming options including Apple's Air-Play and DLNA, where sources benefit from special signal handling to accommodate files up to 192 kHz with the CP-800's own oscillators controlling timing for D-to-A conversion. Convenience never sounded so good.

IP Control

When connected to your home Network, the Classé Control App for Android and iOS devices (available free of charge in the Google Play and Apple App stores respectively) offers a sophisticated alternative to the IR remote.

USB

Having a dedicated computer in your listening room doesn't have to mean noisy fans and bulky monitors. Simple solutions like Apple's Mac Mini or an inexpensive laptop can be installed out of site and operated remotely. Connect to the CP-800 by USB for audio, then control with a smartphone or tablet. Classé's unique implementation of asynchronous USB audio will render studio-quality sound from properly ripped CDs and high-resolution music downloads up to 192 kHz.

Bass management

No matter how well your speakers reproduce bass, they are almost certainly not located in the optimum place in your room to do so. The interaction of your speakers and the room will result in signal cancelations or dips at certain frequencies at the listening position; no amount of EQ can solve this problem. The solution is mono or stereo subwoofers, outputs for which are available from the CP-800 with selectable crossover frequency and slope in the digital domain. The result is deep, smooth bass response without adding analog circuitry to the L&R channel signal paths.

PEQ

Regardless where your speakers, subwoofer(s) and listening chair are in relation to each other, there will likely be room modes that can only be addressed with equalization. In most rooms, the three primary dimensions contribute to three low frequency modes where the room actually increases the level causing peaks at those frequencies. The CP-800 offers parametric equalization to help address these real world problems. Performed in the digital domain, these high quality filters allow optimization of low frequency response without adding analog circuitry to the L&R channel signal paths.



Tone Control

Banished from legitimate high-end preamps since the sixties, the tone control makes a come-back in the CP-800, but with a modern, purest implementation. Tone controls typically mean additional analog circuitry in the signal path. The CP-800 introduces a flexible tone control feature that is entirely digital. If you've ever wanted to soften a recording's top end a little or add a little warmth, you will appreciate the convenience and subtlety of the CP-800's Tilt tone control feature. After more than forty years, the tone control is back, and now it works properly and without compromise.

Analog quality

Make no mistake, the CP-800 is also our best analog preamplifier; with fully balanced circuitry and completely isolated symmetrical left and right channels, your analog sources will sound better than ever. The CP-800 makes digital processing available to all sources, but when you want pure analog, the Digital Bypass option switches off the digital clocks while the CP-800 handles the signal in the analog domain.

Have it all

The CP-800 puts world-class performance into one flexible and attractively priced chassis. Separate CD players and USB DACs require additional circuitry and interconnect cables plus a separate analog preamp, giving the CP-800 an obvious comparative advantage in both performance and value. The additional features like Bass management, PEQ and Tone Control make better real world performance a reality. If you are building a no-compromise high-end audio system, the CP-800 is unique. It is the first and only preamp/ processor that lets you have it all.



CP-800 Stereo Preamp/Processor





Custom Theater Series

Custom installation of a home theater often involves concealing the entire system of audio and video components in custom designed cabinets or equipment racks. These installations pose a unique set of challenges for system designers, pitting the requirement for multiple high-power amplifier channels, a surround sound processor and numerous source components against the limitations of available space. Among the problems encountered with components installed in a confined space is expelling the heat they generate. If not ventilated adequately, system reliability and performance will suffer.

Conventional high-end amplifiers are typically large and heavy, a seemingly inescapable result of producing high power using linear amplifier and power supply topologies. Their inefficiency manifests itself in waste energy dissipated as heat. The typical solution for drawing this heat away from the electronic circuits is to attach large metal fins to provide a cooling surface and promote convection where air rises through and above the heatsink as it warms and is replaced by cooler air from below.

If the amplifier sits out in the room as is typical in many high-end audio applications, this technique works well enough, if not ideally. Place this type of amplifier into an equipment rack or cabinet and you will quickly see the internal temperatures rise as the convection is not possible. At a minimum, rack or shelf spaces must be left open between amplifiers to give them any chance of operating without overheating. Even placing a fan in the rack is of limited value, since once the heatsinks get hot, they stay hot, adding to the heat problem for every component in the rack. This solution requires lots of space and doesn't deliver the best performance or reliability.

Many designers avoid this problem by specifying lower-performance amplifier designs that are much more efficient so they produce less heat. The Classé CT series was developed to give system designers and home theater enthusiasts a better choice. The Classé CT series consists of an SSP and four amplifier models that are electrically identical to their counterparts described in the Delta series range, which is to say they perform identically. The only difference is their chassis, which is designed for easy and optimal



installation in a professional equipment rack. The CT series chassis include adjustable rack rails for mounting the components in racks of differing depths. Once installed, the faceplates are fitted, concealing the mounting hardware along the sides and making for a Classé stack that is so beautiful you won't want to hide it.

By utilizing the ICTunnel $^{\text{TM}}$ described previously, the CT series amplifiers provide their own efficient solution to the cooling problem without compromising the amplifier design in any way. The ICTunnel $^{\text{TM}}$ works so well that CT series amplifiers may be mounted on top of one another with no spaces wasted between them. With the Classé Custom Theater series, you can put more legitimate high-end amplifier power in less space than is possible with any other approach. We think that's pretty cool.

The ultimate CT theater with 21 channels of amplification



"Creativity is thinking up new things." Innovation is doing new things."

Theodore Levitt





The Delta series chassis face and sides are formed by a single aluminum extrusion.







The continuous wrap has no seams or hardware, creating a clean, soft and strong enclosure.





Great entertainment systems entertain. Sometimes the performance is thrilling. Other times it is scary, depressing, suspenseful or joyful. These emotions and all the others are felt more dramatically when every sound is reproduced with the greatest care. At Classé, our primary goal is to produce the electronic components that make up a truly remarkable entertainment system.

To select, transfer, process, transform and amplify audio signals in various analog and digital media is complicated, but not expensive. Components available for remarkably low cost can perform these tasks. But there is no denying the hierarchy that exists. Some systems significantly outperform others. It is in the margin between making it work and making it entertain, where Classé focuses its resources. We go well beyond simply making sound. The Classé sound is valued because it makes good entertainment remarkable.

Classé Sound



Balanced from lowest bass to highest treble

As an overall goal, we try to avoid having our equipment draw attention to itself by over- or under-emphasizing any particular part of the audio or video spectrum. A system that's too bass heavy or too lean, one that's overly bright or dark sounding,or one with too much or too little midrange presence tends to favor some recordings over others.

The result is that only a small portion of one's recording collection sounds close to being right. A Classé system is balanced throughout the full range of the audio spectrum, so you can enjoy the full range of recordings available.

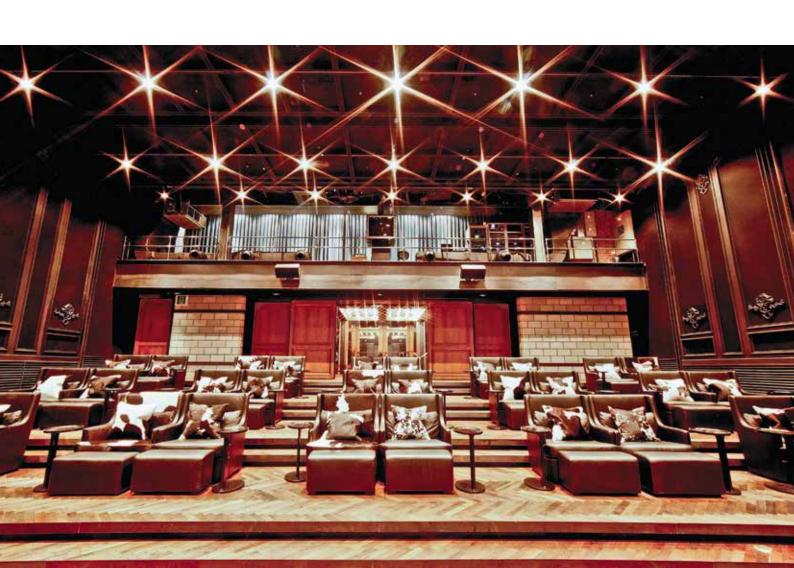
Freedom from grain and harshness

Maximum enjoyment from an audio system requires that sounds which are supposed to be sweet and delicate are reproduced that way. In fact, some sounds are intentionally harsh and should be reproduced that way, without the equipment editorializing. Systems that are free of added grain and harshness sound clearer and more lifelike. What's more, they can be enjoyed for hours without fatigue. If you find yourself bored or tired of listening after short periods, chances are that distortions including grain and harshness are getting between you and your music or soundtrack. A Classé system is free of grain and harshness, so it never gets between you and your musical or sonic experience.

Perception of pitch, pace and timing

Certain characteristics, perhaps above all others, set apart the most musical and engaging audio systems. Those characteristics are variously described in musical terms such as pitch, pace and timing, which are closely related to your audio system's dynamic capabilities. Reproducing sounds that are loud is easy. Making sounds soft? No problem. Creating systems that can do both at the same time and effortlessly transition from one to the other are rare indeed. Even more scarce are the systems that can handle these challenging transitions effortlessly at all frequencies.

Can you distinguish the difference in pitch between two drum beats where the head of the drum is struck in slightly different places? Revealing these and other subtle details is how remarkable audio systems distinguish themselves from ordinary ones. Listen to a Classé system and you'll find the sound to be engaging. It will draw you in because the details of music's fundamental building blocks —rhythm and tonality — are preserved.



Accurate imaging

Many recordings are created in a studio, sometimes with non-acoustic (electronic) instruments, and often with musicians recording their parts separately. In other words, they are recordings which are not preserving a single musical event. They are not preserving the sounds generated by humans playing together with acoustic instruments. They are simply modern expressions of the ancient music and theater art forms. They are intended to "happen" in your home or wherever you play them back. Whether the recording has preserved a musical event or been created with the intention that it be recreated in your home, remarkable systems play their part in a grand illusion.

Much of the fun of a great audio system lies in the degree to which we can create an illusion that players are on a stage in our room. With movie soundtracks, the sounds are often fantasy, creating the illusion that you're doing something you have never done before. You could be on board a space ship or walking through a jungle —something few of us will ever do. Either way, an audio system should recreate the placement of sounds and how they move in three-dimensional space to trick us into thinking we are immersed in something real, like a premium seat at the symphony or on our way to another galaxy. We call this characteristic "imaging" and a Classé system will preserve the complex spatial and phase relationships within the recording to be faithful to the illusion —and be more involving.

Any genre

Remarkable audio systems are a season pass to your favorite movie theaters and concert venues, anywhere in the world. Whether you favor a night at the opera, an outdoor jazz festival or action adventure movies, better systems are able to recreate the unique sounds involved.

Human voices, pianos, crickets and jet engines are distinctly different sound-makers and Classé systems are designed to convincingly recreate them all. Said another way, the performance qualities required to accurately portray subtle detail or shocking power are well-balanced in a Classé system.

Play poor as well as good recordings

Some of the most magical musical and theatrical performances were recorded decades ago, under difficult conditions or with flawed recording equipment. Yet somehow, great systems find a way to make the technical limitations of the recording less obtrusive. Think of an ancient artifact or a satellite photo. Only the most careful handling and advanced technology can extract the smallest details and reveal the truth. Classé systems are worth their price because they tell the truth and reveal the beauty in each of your favorite performances.

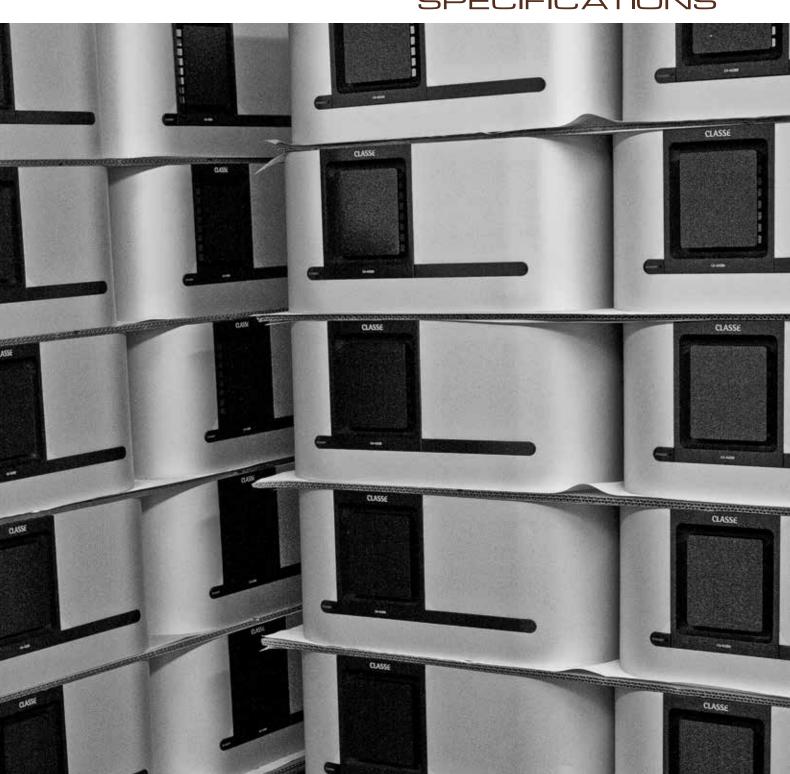




Perfection is our goal: perfect execution, perfect operation and perfect performance. Of course, no product has yet attained this ideal. However, at Classé we continuously challenge ourselves to peel back the ever-diminishing layers of imperfection to give you the performance as it was originally intended.

In technical terms, we come close to perfection. What tiny distortions that remain are far too small to be individually heard or seen. Their presence can only be confirmed by specialized test equipment. But our brains' ability to process complex waveforms keeps us from being easily fooled. We can often hear things that are complicated and difficult to measure directly.

SPECIFICATIONS



amplifiers	CA-2300	CA-5300	CA-D200	CA-M600
Frequency response	1 Hz - 100 kHz, -3dB	1 Hz - 100 kHz, -3dB	10 Hz - 20 kHz, -1dB @ 4Ω	1 Hz – 100 kHz, -3dB
Output power	300W rms into 8Ω (24.8 dBW) 600W rms into 4Ω (24.8 dBW) Both channels driven	300W rms into 8Ω (24.8 dBW) All channels driven*	200W/Ch rms into 8Ω (14.5 dBW) 400W/Ch rms into 4Ω (14.5 dBW)	600W rms into 8Ω (27.8 dBW) 1200W rms into 4Ω (27.8 dBW)
Harmonic Distortion	<0.002% at 1 kHz balanced <0.004% at 1 kHz single ended	<0.002% at 1 kHz balanced <0.004% at 1 kHz single ended	<0.018% @ 1kHz balanced input	<0.002% at 1 kHz balanced <0.004% at 1 kHz single ended
Peak Output Voltage	150V peak to peak, 53V rms no load 136V peak to peak, 48V rms into 8Ω	167V peak to peak, 53V rms no load 156V peak to peak, 48V rms into 8Ω	116V peak to peak, 58V rms no load 116V peak to peak, 58V rms into 8Ω	226V peak to peak, 80V rms no load 206V peak to peak, 73V rms into 8Ω
Input Impedance	$50k\Omega$ balanced / single ended	$50k\Omega$ balanced / single ended	$100k\Omega$ balanced / $50k\Omega$ single ended	50k $Ω$ balanced / single ended
Voltage gain	29dB balanced / single ended	29dB balanced / single ended	29dB	29dB balanced / single ended
Input level at clipping	1.88V rms balanced / single ended	2.1V rms balanced / single ended	1.4V rms balanced / single ended	2.86V rms balanced / single ended
Intermodulation Distortion	>90dB below fundamental into 8Ω balanced / single ended >90dB below fundamental into 4Ω balanced / single ended	>90dB below fundamental into 8Ω balanced / single ended >85dB below fundamental into 4Ω balanced / single ended	>80dB below fundamental into 8Ω balanced	>100dB below fundamental into 8Ω balanced / single ended >90dB below fundamental into 4Ω balanced / single ended
Signal to Noise Ratio	-116dB at peak output into 8Ω Measurement Bandwidth: 22 kHz	-116dB at peak output into 8Ω Measurement Bandwidth: 22 kHz	-100dB at peak output into 8Ω Measured Bandwidth 20 kHz	-120dB at peak output into 8Ω Measurement Bandwidth: 22 kHz
Output impedance	0.015Ω @ 1 kHz	0.03Ω @ 1 kHz		0.03Ω @ 1 kHz
Rated power consumption	763W @ $1/8^{th}$ power into 8Ω	1300W @ 1/8 th power into 8Ω	177W @ 1/8 power into 8Ω	823W @ 1/8th power into 8 Ω
Width	17.5" (444mm)	17.5" (444mm)	17.5" (445mm)	17.5" (444mm)
Depth (excluding connectors)	17.52" (445mm)	22.52" (572mm)	16.5" (419mm)	17.52" (445mm)
Height	8.78" (223mm)	8.78" (223mm)	4.78" (121mm)	8.78" (223mm)
Gross weight	100 lb (45.4 kg)	115 lb (52.3 kg)	37 lb (16.3 kg)	100 lb (45.4 kg)
Net weight	88 lb (39.9 kg)	105 lb (47.7 kg)	28 lb (12.7 kg)	88 lb (39.9 kg)
Mains voltage	Specified on rear panel	Specified on rear panel	90-264V, 50/60 Hz	Specified on rear panel

All tests for class A/B models are un-weighted with 500kHz measurement bandwidth (except SNR). Tests for class D models are un-weighted with 20 Hz - 20 kHz measurement bandwidth used.

integrated amplifier	Sigma 2200i	custom theater	CT-2300
USB audio	up to 24-bit/192 kHz	Frequency response	1 Hz – 100 kHz, -3dB
USB (Host)	charging capability 2.0 Amps	Output power	300W rms into 8Ω (24.8 dBW)
AirPlay supported formats	AAC (8 to 320 Kbps), Protected AAC (from iTunes	Output power	600W rms into 4Ω (24.8 dBW) Both channels driven
	Store), HE-AAC, MP3 (8 to 320 Kbps), MP3 VBR, Audible (formats 2, 3, 4, Audible Enhanced Audio, AAX, and AAX+), Apple Lossless, AIFF, and WAV	Harmonic Distortion	<0.002% at 1 kHz balanced <0.004% at 1 kHz single ended
DLNA supported formats	Apple lossless (ALAC), mp3, flac, wav, Ogg Vorbis, WMA, AAC	Peak Output Voltage	150V peak to peak, 53V rms no load 136V peak to peak, 48V rms into 8Ω
Frequency response	$10Hz - 20kHz$, -1dB into 4Ω	Input Impedance	50kΩ balanced / single ended
Output Power	2 x 200W rms into 8Ω 2 x 400W rms into 4Ω	Voltage gain	29dB balanced / single ended
Harmonic distortion (THD+noise)	0.018% @ 1kHz Both channels	Input level at clipping	1.88V rms balanced / single ended
Maximum input level (single-ended)	driven to 1/8th power into 4Ω 2 Vrms	Intermodulation Distortion	>90dB below fundamental
Maximum input level (balanced)	4 Vrms		into 8Ω balanced / single ended >90dB below fundamental
Maximum output level	113V peak to peak, 40Vrms		into 4Ω balanced / single ended
Gain Range	-93 dB to +14 dB	Signal to Noise Ratio	-116dB at peak output into 8Ω Measurement Bandwidth: 22 kHz
Input impedance (single-ended)	50 kΩ		Measurement Bandwidth. 22 kHz
Input impedance (balanced)	100 kΩ	Output impedance	0.015Ω @ 1 kHz
Signal-to-noise ratio	97 dB	Rated power consumption	763W @ $1/8^{th}$ power into 8Ω
(re. full-scale input, unweighted) Standby power consumption	(Wake-on-Network enabled) < 3 W	Width (including faceplate)	19" (483mm)
Standby power consumption	(Wake-on-Network disabled) < 0.5 W	Width (excluding faceplate)	17" (432mm)
Rated power consumption	185W	Depth (excluding connectors)	18.625" (473mm)
Mains voltage	90-264 V, 50/60 Hz	Height	6.97" (177mm)
Width	17" (432mm)	Gross weight	109 lb (49.5 kg)
Depth (excluding connectors):	14.57" (370mm)	Net weight	89 lb (40.5 kg)
Height	5.50"(140mm)	Mains voltage	Specified on rear panel
Gross weight	34.3 lbs (15.57 kg)		
Net weight	26.7 lb (12.11 kg)	All tests for class A/B models are ur 500kHz measurement bandwidth (e)	

CA-M300	Sigma AMP2	Sigma AMP5	Sigma MONO
1 Hz – 100 kHz, -3dB	10Hz – 20kHz, -1dB into 4Ω	10Hz – 20kHz, -1dB into 4Ω	10Hz – 20kHz, -1dB into 4Ω
300W rms into 8Ω (24.8 dBW) 600W rms into 4Ω (24.8 dBW)	200W rms into 8Ω 400W rms into 4Ω	200W rms into 8Ω All channels driven 400W rms into 4Ω Any two channels driven*	350W rms into 8Ω 700W rms into 4Ω
<0.002% at 1 kHz balanced <0.004% at 1 kHz single ended	<0.018% @ 1kHz balanced Input	0.018% @ 1kHz All channels driven to 1/8th power into 8Ω	0.012% @ 1kHz driven to 1/8th power into 8Ω
150V peak to peak, 53V rms no load 136V peak to peak, 48V rms into 8Ω	116V peak to peak, 58V rms no load 116V peak to peak, 58V rms into 8Ω	116V peak to peak, 58V rms no load 116V peak to peak, 58V rms into 8Ω	151V peak to peak, 53.4V rms no load 151V peak to peak, 53.4V rms into 8Ω
$50k\Omega$ balanced / single ended	$100k\Omega$ balanced / $50k\Omega$ single ended	$100k\Omega$ balanced / $50k\Omega$ single ended	$100k\Omega$ balanced / $50k\Omega$ single ended
29dB balanced / single ended	29dB	29dB	29dB
1.88V rms balanced / single ended	1.4V rms balanced / single ended	1.4V rms balanced / single ended	1.88V rms balanced / single ended
>90dB below fundamental into 8Ω balanced / single ended >90dB below fundamental into 4Ω balanced / single ended	>80dB below fundamental into 8Ω balanced	>80dB below fundamental into 8Ω single ended	>80dB below fundamental into 8Ω balanced
-116dB at peak output into 8Ω Measurement Bandwidth: 22 kHz	-100dB at peak output into 8Ω (AES17)	-100dB at peak output into 8Ω (AES17)	-109 dB at peak output into 8Ω (AES17)
0.015Ω @ 1 kHz			
420W @ 1/8 th power into 8Ω	177W @ $1/8^{th}$ power into 4Ω	200W @ 1/8th power into 8Ω	130W @ 1/8th power into 4Ω
17.5" (444mm)	17" (433mm)	17" (433mm)	17" (433mm)
17.52" (445mm)	14.57" (370mm)	14.57" (370mm)	14.57" (370mm)
8.78" (223mm)	3.75" (95mm)	3.75"(95mm)	3.75"(95mm)
87 lb (39.5 kg)	28 lb (12.70 kg)	30 lb (13.61 kg)	29 lb (13.18 kg)
75 lb (34.0 kg)	22 lb (9.97 kg)	23.1 lb (10.48 kg)	22 lb (10.00 kg)
Specified on rear panel	100V - 240V, 50/60Hz	100V - 240V, 50/60Hz	90V - 264V, 50/60Hz
		*each channel supports 400W output into 4 ohms but the AC Mains/power supply cann support all channels driven simultaneously at this level, which would require over 2,50 and only occur under a special test condition Every channel easily drives lower impedant	OW on.
CT-5300	CT-M600	CT-M300	
1 Hz – 100 kHz, -3dB	1 Hz – 100 kHz, -3dB	1 Hz – 100 kHz, -3dB	
300W rms into 8Ω (24.8 dBW) All channels driven*	600W rms into 8Ω (27.8 dBW) 1200W rms into 4Ω (27.8 dBW)	300W rms into 8Ω (24.8 dBW) 600W rms into 4Ω (24.8 dBW)	

300W rms into 8 Ω (24.8 dBW) All channels driven*
<0.002% at 1 kHz balanced <0.004% at 1 kHz single ended
167V peak to peak, 53V rms no load 156V peak to peak, 48V rms into 8Ω
$50k\Omega$ balanced / single ended
29dB balanced / single ended
2.1V rms balanced / single ended
$>$ 90dB below fundamental into 8Ω balanced / single ended

-116dB at peak output into 8Ω Measurement Bandwidth: 22 kHz

into 4Ω balanced / single ended

>85dB below fundamental

0.03Ω @ 1 kHz 1300W @ 1/8th power into 8Ω 19" (483mm) 17" (432mm) 23.625" (569mm)

8.75" (221mm) 140 lb (59.5 kg) 113 lb (51.25 kg)

Specified on rear panel

<0.004% at 1 kHz single ended 226V peak to peak, 80V rms no load 206V peak to peak, 73V rms into 8Ω

<0.002% at 1 kHz balanced

 $50k\Omega$ balanced / single ended

29dB balanced / single ended 2.86V rms balanced / single ended

>100dB below fundamental into 8Ω balanced / single ended >90dB below fundamental into 4Ω balanced / single ended

-120dB at peak output into $8\Omega\,$ Measurement Bandwidth: 22 kHz

 0.03Ω @ 1 kHz

823W @ 1/8th power into 8Ω

19" (483mm) 17" (432mm) 18.625" (473mm) 6.97" (177mm) 109 lb (49.5 kg) 89 lb (40.5 kg) Specified on rear panel <0.004% at 1 kHz single ended 150V peak to peak, 53V rms no load

<0.002% at 1 kHz balanced

136V peak to peak, 48V rms into 8Ω $50k\Omega$ balanced / single ended

29dB balanced / single ended

1.88V rms balanced / single ended

>90dB below fundamental into 8Ω balanced / single ended >90dB below fundamental into 4Ω balanced / single ended

-116dB at peak output into 8Ω Measurement Bandwidth: 22 kHz

 0.015Ω @ 1 kHz

420W @ 1/8th power into 8Ω

19" (483mm) 17" (432mm) 18.625" (473mm) 6.97" (177mm) 96 lb (43.5 kg) 76 lb (34.5 kg)

Specified on rear panel



*CA-5300 and CT-5300

"CA-5300 and C1-5300 specifications for output into 4 ohms are omitted because the AC Mains/power supply cannot support all channels driven simultaneously at this level, which would require over 5,000W and only occur under a special test condition. The amplifier easily drives lower impedance loads.

processor SSP-800

Inputs and outputs	5 in 10 and	Inputs and outputs	5 in 10 and
HDMI 1.4	5 in / 2 out	HDMI 1.4	5 in / 2 out
Component	2 in / 1 out	Component	2 in / 1 out
Composite COAX	2 in 4 in / 1 out	Composite COAX	2 in 4 in / 1 out
Optical	4 in / 1 out	Optical	4 in / 1 out
Analog XLR	1 pair in / 5 pair out	Analog XLR	1 pair in / 5 pair out
Analog RCA	1 set 7.1 in / 2 pair in / 5 pair out	Analog RCA	1 set 7.1 in / 2 pair in / 5 pair out
DC trigger out	2	DC trigger out	2
IR	1 in / 1 out	IR	1 in / 1 out
CAN Bus	1 in / 1 out	CAN Bus	1 in / 1 out
USB	1	USB	1
RS-232	1	RS-232	1
Video measurements		Video measurements	
Input impedance	75 Ω Composite / component	Input impedance	75 Ω Composite / component
Output impedance	75 Ω Component	Output impedance	75 Ω Component
HDMI	Fully 1.4 compliant supporting ARC,	HDMI	Fully 1.4 compliant supporting ARC,
	HEC, 3D video up to 1080p @ 60 fps,		HEC, 3D video up to 1080p @ 60 fps,
Audio measurements	36-bit deep color and xvYCC	Audio measurements	36-bit deep color and xvYCC
Maximum output level	8Vrms	Maximum output level	8Vrms
waximum output level	Single-ended	Maximum output level	Single-ended
	15Vrms		15Vrms
	Balanced		Balanced
Maximum input level	2Vrms	Maximum input level	2Vrms
Maximam input level	Single-ended via DSP	Maximum input lover	Single-ended via DSP
	6Vrms		6Vrms
	Single-ended via bypass		Single-ended via bypass
	4Vrms		4Vrms
	Balanced via DSP		Balanced via DSP
	12Vrms		12Vrms
	Balanced via bypass		Balanced via bypass
Output impedance	56 Ω	Output impedance	56 Ω
Input impedance	100 kΩ	Input impedance	100 kΩ
Total harmonic distortion	0.001%	Total harmonic distortion	0.001%
	Digital source / Bypassed analog source		Digital source / Bypassed analog source
	0.002%		0.002%
_	Processed analog source	_	Processed analog source
Frequency response	20 Hz – 200 kHz <0.1 dB	Frequency response	20 Hz – 200 kHz <0.1 dB
	Stereo analog bypass		Stereo analog bypass
	20 Hz – 20 kHz <0.2 dB		20 Hz – 20 kHz <0.2 dB
Signal to poigo ratio	All other sources 102 dB	Cignal to poigo ratio	All other sources 102 dB
Signal to noise ratio	Bypassed analog source	Signal to noise ratio	Bypassed analog source
	100 dB		100 dB
	Processed analog source		Processed analog source
	105 dB		105 dB
	Digital source		Digital source
	3		3
Audio formats	Dolby Digital Surround EX	Audio formats	Dolby Digital Surround EX
	Dolby Digital 5.1		Dolby Digital 5.1
	Dolby Digital Plus		Dolby Digital Plus
	Dolby TrueHD		Dolby TrueHD
	DTS-ES discrete		DTS-ES discrete
	DTS 3/2/1		DTS 3/2/1
	DTS 96/24		DTS 96/24
	DTS-HD High Resolution Audio		DTS-HD High Resolution Audio
	DTO LID MA II A II		
	DTS-HD Master Audio		DTS-HD Master Audio
	DTS-HD Master Audio 24bit/32-192kHz PCM		DTS-HD Master Audio 24bit/32-192kHz PCM
Post processing modes	24bit/32-192kHz PCM	Post processing modes	24bit/32-192kHz PCM
Post processing modes	24bit/32-192kHz PCM Dolby pro logic IIx	Post processing modes	24bit/32-192kHz PCM Dolby pro logic IIx
Post processing modes	24bit/32-192kHz PCM Dolby pro logic IIx Dolby Volume	Post processing modes	24bit/32-192kHz PCM Dolby pro logic IIx Dolby Volume
Post processing modes	24bit/32-192kHz PCM Dolby pro logic IIx Dolby Volume DTS-ES matrix	Post processing modes	24bit/32-192kHz PCM Dolby pro logic IIx Dolby Volume DTS-ES matrix
Post processing modes	24bit/32-192kHz PCM Dolby pro logic IIx Dolby Volume	Post processing modes	24bit/32-192kHz PCM Dolby pro logic IIx Dolby Volume
Post processing modes	24bit/32-192kHz PCM Dolby pro logic IIx Dolby Volume DTS-ES matrix DTS Neo:6	Post processing modes	24bit/32-192kHz PCM Dolby pro logic IIx Dolby Volume DTS-ES matrix DTS Neo:6
Post processing modes	24bit/32-192kHz PCM Dolby pro logic IIx Dolby Volume DTS-ES matrix DTS Neo:6 Mono	Post processing modes	24bit/32-192kHz PCM Dolby pro logic llx Dolby Volume DTS-ES matrix DTS Neo:6 Mono
Post processing modes	24bit/32-192kHz PCM Dolby pro logic IIx Dolby Volume DTS-ES matrix DTS Neo:6 Mono Mono plus	Post processing modes	24bit/32-192kHz PCM Dolby pro logic IIx Dolby Volume DTS-ES matrix DTS Neo:6 Mono Mono plus
Post processing modes	24bit/32-192kHz PCM Dolby pro logic IIx Dolby Volume DTS-ES matrix DTS Neo:6 Mono Mono plus Stereo (downmix) Music plus Movie plus	Post processing modes	24bit/32-192kHz PCM Dolby pro logic Ilx Dolby Volume DTS-ES matrix DTS Neo:6 Mono Mono plus Stereo (downmix) Music plus Movie plus
Post processing modes	24bit/32-192kHz PCM Dolby pro logic IIx Dolby Volume DTS-ES matrix DTS Neo:6 Mono Mono plus Stereo (downmix) Music plus	Post processing modes	24bit/32-192kHz PCM Dolby pro logic IIx Dolby Volume DTS-ES matrix DTS Neo:6 Mono Mono plus Stereo (downmix) Music plus
Post processing modes Video conversion	24bit/32-192kHz PCM Dolby pro logic IIx Dolby Volume DTS-ES matrix DTS Neo:6 Mono Mono plus Stereo (downmix) Music plus Movie plus	Post processing modes Video conversion	24bit/32-192kHz PCM Dolby pro logic Ilx Dolby Volume DTS-ES matrix DTS Neo:6 Mono Mono plus Stereo (downmix) Music plus Movie plus
	24bit/32-192kHz PCM Dolby pro logic IIx Dolby Volume DTS-ES matrix DTS Neo:6 Mono Mono plus Stereo (downmix) Music plus Movie plus Party Composite to component and HDMI		24bit/32-192kHz PCM Dolby Volume DTS-ES matrix DTS Neo:6 Mono Mono plus Stereo (downmix) Music plus Movie plus Party Composite to component and HDMI
	24bit/32-192kHz PCM Dolby pro logic IIx Dolby Volume DTS-ES matrix DTS Neo:6 Mono Mono plus Stereo (downmix) Music plus Movie plus Party Composite to component and HDMI Component (up to 720p-1080i)		24bit/32-192kHz PCM Dolby pro logic IIx Dolby Volume DTS-ES matrix DTS Neo:6 Mono Mono plus Stereo (downmix) Music plus Movie plus Party Composite to component and HDMI Component (up to 720p-1080i)
	24bit/32-192kHz PCM Dolby pro logic IIx Dolby Volume DTS-ES matrix DTS Neo:6 Mono Mono plus Stereo (downmix) Music plus Movie plus Party Composite to component and HDMI Component (up to 720p-1080i) to component & HDMI		24bit/32-192kHz PCM Dolby Pro logic IIx Dolby Volume DTS-ES matrix DTS Neo:6 Mono Mono plus Stereo (downmix) Music plus Movie plus Party Composite to component and HDMI Component (up to 720p-1080i) to component & HDMI
Video conversion	24bit/32-192kHz PCM Dolby pro logic IIx Dolby Volume DTS-ES matrix DTS Neo:6 Mono Mono plus Stereo (downmix) Music plus Movie plus Party Composite to component and HDMI Component (up to 720p-1080i)	Video conversion	24bit/32-192kHz PCM Dolby pro logic IIx Dolby Volume DTS-ES matrix DTS Neo:6 Mono Mono plus Stereo (downmix) Music plus Movie plus Party Composite to component and HDMI Component (up to 720p-1080i)
Video conversion Dimensions	24bit/32-192kHz PCM Dolby pro logic IIx Dolby Volume DTS-ES matrix DTS Neo:6 Mono Mono plus Stereo (downmix) Music plus Movie plus Party Composite to component and HDMI Component (up to 720p-1080i) to component & HDMI	Video conversion Dimensions	24bit/32-192kHz PCM Dolby pro logic IIx Dolby Volume DTS-ES matrix DTS Neo:6 Mono Mono plus Stereo (downmix) Music plus Movie plus Party Composite to component and HDMI Component (up to 720p-1080i) to component & HDMI
Video conversion Dimensions Width (including faceplate)	24bit/32-192kHz PCM Dolby pro logic IIx Dolby Volume DTS-ES matrix DTS Neo:6 Mono Mono plus Stereo (downmix) Music plus Movie plus Party Composite to component and HDMI Component (up to 720p-1080i) to component & HDMI HDMI to HDMI 19" (483mm)	Video conversion Dimensions Width	24bit/32-192kHz PCM Dolby pro logic IIx Dolby Volume DTS-ES matrix DTS Neo:6 Mono Mono plus Stereo (downmix) Music plus Movie plus Party Composite to component and HDMI Component (up to 720p-1080i) to component & HDMI HDMI to HDMI 17.5" (445mm)
Video conversion Dimensions Width (including faceplate) Width (excluding faceplate)	24bit/32-192kHz PCM Dolby pro logic IIx Dolby Volume DTS-ES matrix DTS Neo:6 Mono Mono plus Stereo (downmix) Music plus Movie plus Party Composite to component and HDMI Component (up to 720p-1080i) to component & HDMI HDMI to HDMI 19" (483mm) 17" (432mm)	Video conversion Dimensions Width Depth (excluding connectors)	24bit/32-192kHz PCM Dolby pro logic IIx Dolby Volume DTS-ES matrix DTS Neo:6 Mono Mono plus Stereo (downmix) Music plus Movie plus Party Composite to component and HDMI Component (up to 720p-1080i) to component & HDMI HDMI to HDMI 17.5" (445mm) 16.5" (419mm)
Video conversion Dimensions Width (including faceplate) Width (excluding faceplate) Depth (excluding connectors)	24bit/32-192kHz PCM Dolby pro logic IIx Dolby Volume DTS-ES matrix DTS Neo:6 Mono Mono plus Stereo (downmix) Music plus Movie plus Party Composite to component and HDMI Component (up to 720p-1080i) to component & HDMI HDMI to HDMI 19" (483mm) 17" (432mm) 16.375" (416mm)	Video conversion Dimensions Width Depth (excluding connectors) Height	24bit/32-192kHz PCM Dolby pro logic IIx Dolby Volume DTS-ES matrix DTS Neo:6 Mono Mono plus Stereo (downmix) Music plus Movie plus Party Composite to component and HDMI Component (up to 720p-1080i) to component & HDMI HDMI to HDMI 17.5" (445mm) 16.5" (419mm) 6.75" (172mm)
Video conversion Dimensions Width (including faceplate) Width (excluding faceplate) Depth (excluding connectors) Height	24bit/32-192kHz PCM Dolby pro logic IIx Dolby Volume DTS-ES matrix DTS Neo:6 Mono Mono plus Stereo (downmix) Music plus Movie plus Party Composite to component and HDMI Component (up to 720p-1080i) to component & HDMI HDMI to HDMI 19" (483mm) 17" (432mm) 16.375" (416mm) 6.97" (177mm)	Video conversion Dimensions Width Depth (excluding connectors) Height Net weight	24bit/32-192kHz PCM Dolby pro logic IIx Dolby Volume DTS-ES matrix DTS Neo:6 Mono Mono plus Stereo (downmix) Music plus Movie plus Party Composite to component and HDMI Component (up to 720p-1080i) to component & HDMI HDMI to HDMI 17.5" (445mm) 16.5" (419mm) 6.75" (172mm) 29 lb (13 kg)
Video conversion Dimensions Width (including faceplate) Width (excluding faceplate) Depth (excluding connectors)	24bit/32-192kHz PCM Dolby pro logic IIx Dolby Volume DTS-ES matrix DTS Neo:6 Mono Mono plus Stereo (downmix) Music plus Movie plus Party Composite to component and HDMI Component (up to 720p-1080i) to component & HDMI HDMI to HDMI 19" (483mm) 17" (432mm) 16.375" (416mm)	Video conversion Dimensions Width Depth (excluding connectors) Height	24bit/32-192kHz PCM Dolby yolume DTS-ES matrix DTS Neo:6 Mono Mono plus Stereo (downmix) Music plus Movie plus Party Composite to component and HDMI Component (up to 720p-1080i) to component & HDMI HDMI to HDMI 17.5" (445mm) 16.5" (419mm) 6.75" (172mm)

processor Sigma SSP stereo preamp/

processor

CP-800

USB audio up to 24-bit/192 kHz **USB (Host)** charging capability 2 Amps AirPlay supported formats AAC (8 to 320 kbps)

Protected AAC (from iTunes Store), HE-AAC, MP3 (8 to 320 kbps), MP3 VBR, Audible (formats 2, 3, 4) Audible Enhanced Audio (AAX, and AAX+), Apple Lossless, AIFF, and WAV

Apple Lossless (ALAC), mp3, FLAC, **DLNA** supported formats WAV, Ogg Vorbis, WMA, AAC

8 Hz - 200 kHz < 1 dB, stereo digital bypass Frequency response 8 Hz - 20 kHz < 0.5 dB, all other sources

Channel Matching better than 0.05 dB (Left to Right)

Distortion (THD+noise) 0.0005%, digital source/bypassed analog source .002%, processed analog source

Maximum input level 2 Vrms (DSP), 4.5Vrms (bypass) (single-ended)

Maximum input level 4 Vrms (DSP), 9 Vrms (bypass) (balanced)

Maximum output level 9 Vrms (single-ended) Maximum output level 18 Vrms

(balanced)

-93 dB to +14 dB Gain Range 100 kΩ Input impedance

(single-ended)

Input impedance 50 kΩ (balanced)

100 Ω **Output impedance** (single-ended)

Output impedance 300 Ω (balanced)

Signal-to-noise ratio 104 dB, bypassed analog source (ref. 4Vrms input, unweighted) 101 dB, processed analog source

(re. full-scale input, unweighted) 105 dB, digital source

better than -130 dB @ 1 kHz

Channel separation better than 100 dB Channel matching >0.05 dB

(left to right)

Crosstalk (any input to any output)

Rated power consumption 35 W

Mains voltage 100-240V, 50/60 Hz Overall dimensions Width: 17" (433mm)

Depth (excluding connectors): 14.57" (370mm)

Height: 3.75" (95mm) Net weight 18 lb (8.21 kg)

Shipping weight 25 lb (11.34 kg)

Made for

iPod nano (7th generation) iPod touch (5th generation) iPod touch (4th generation) iPod nano (6th generation) iPod touch (3rd generation) iPod nano (5th generation) iPod touch (2nd generation) iPod nano (4th generation) iPod touch (1st generation) iPod nano (3rd generation)

Made for iPhone 5S

iPhone 3GS iPhone 5 iPhone 3G iPhone 4S iPhone iPhone 4

Made for

iPad (3rd generation) iPad mini (with Retina display)

iPad Air iPad 2 iPad (4th generation) iPad

iPad mini

AirPlay works with iPhone, iPod, and iPod touch with iOS 4.3.3 or later, Mac with OS X Mountain Lion, and Mac and PC with iTunes 10.2.2 or later.





Frequency response

8 Hz - 200 kHz < 1 dB, stereo analog bypass 8 Hz - 20 kHz < 0.5 dB, all other sources

Channel Matching (left to right)

better than 0.05 dB

.0005%, digital source/bypassed analog source

9 Vrms

18 Vrms

.002%, processed analog source 2 Vrms (DSP), 4.5 Vrms (bypass)

Maximum input level (single-ended)

Distortion (THD+noise)

Maximum input level

4 Vrms (DSP), 9 Vrms (bypass) (balanced)

Maximum output level

(single-ended) Maximum output level

(balanced)

-100 dB to +14 dB Gain Range Input impedance 50 kΩ (balanced) 100 kΩ (single-ended)

300 Ω (balanced), 100 Ω (single-ended) **Output impedance** (main output)

Signal-to-noise ratio 104 dB, bypassed analog source (ref. Bal. 4 Vrms input, 101 dB, processed analog source unweighted) 105 dB, digital source

53 W

(ref. full-scale input, unweighted)

Channel separation

Crosstalk better than -130 dB @ 1 kHz (any input to any output)

Rated power consumption

Mains Voltage 100-240V, 50/60 Hz Overall dimensions Width: 17.5" (445 mm) Depth: 17.5" (445 mm)

(excluding connectors) Height: 4.78" (121 mm)

Net weight 23 lb (10.43 kg) Shipping weight 33 lb (15 kg)

Made for

iPod touch (5th generation) iPod nano (7th generation) iPod touch (4th generation) iPod nano (6th generation) iPod touch (3rd generation) iPod nano (5th generation) iPod touch (2nd generation) iPod nano (4th generation) iPod nano (3rd generation) iPod nano (2nd generation) iPod touch (1st generation) iPod classic

Made for

iPhone 5 iPhone 3GS iPhone 4S iPhone 3G iPhone iPhone 4

Made for

iPad (4th generation) iPad 2 iPad (3rd generation) iPad iPad mini

Airplay works with iPhone, iPod, and iPod touch with iOS 4.3.3 or later. Mac with OS X Mountain Lion, and Mac and PC with iTunes 10.2.2 or later.





Art Credits

Artwork on the cover is by Marian Bijlenga and Scott Rothstein; sculpture on page 5 is by Lawrence LaBianca; the wall piece on page 10 is by Gyöngy Laky; basket and wall work on page 13 and 37 are by Stéphanie Jacques. All available from browngrotta arts, Wilton, CT; www.browngrotta.com

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