



**CLASSE**



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**Space is the breath of art.**

Frank Lloyd Wright







# 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, measured against years of immeasurable enjoyment and entertainment.

## Classé Design

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.

## amplifiers

Our newest 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.

### 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 simply blow audiences away.

The Classe 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



CA-M300  
300W Monaural 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 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 the world of analog sources. The CP-800 is something new. The CP-800 combines key building blocks of a contemporary high-end audio system in a unique way to improve and simplify the signal path.

## stereo preamp/processor

In the CP-800 stereo preamp/processor, new technology is applied to realize the benefits of modern computer-based audio. For the first time, a CD ripped to a computer has the potential to sound better than it could if played in a CD player. For the first time, a Classé-designed Switch Mode Power Supply (SMPS) with Power Factor Correction (PFC) delivers higher performance at a lower price. For the first time, convenient and feature-rich access to your music library is possible with simultaneous state-of-the-art playback. For the first time, there is no compromise at a reasonable price. And there is much more...

### USB

Computer audio does not have to mean mp3 compression or downloading high resolution recordings from the limited library online. It means putting your CDs on a computer or other storage device and preserving them at full resolution, then organizing and accessing them from an iPad, iPhone or iPod Touch. While this used to mean choosing between convenience and performance, the CP-800 lets you have it all with no compromise.

### Bass management

When positioning left and right speakers, accepted practice is to give priority to symmetry and sound-staging—not low frequency performance. 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 solution is mono or stereo subwoofers, which until the CP-800, has always involved compromise. Although a stereo preamp, the CP-800 uses advanced Sigma DSPs to provide subwoofer outputs with selectable crossover frequencies and slopes in the digital domain prior to conversion to analog. The result is deep, smooth bass response and no compromise whatsoever.

### PEQ

Whether or not your speakers and subwoofer(s) are in the optimum location in the room, chances are there will 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 reinforces the response 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 any compromise whatsoever.

### 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 very modern implementation. In the past, tone controls required additional analog circuitry. The CP-800 introduces a flexible tone control feature that is entirely digital. If you've ever wanted to soften the top end a little or add a little warmth in the bottom, you will appreciate the convenience and subtlety of the CP-800's tone control feature. After more than forty years, the tone control is back, and now it works as intended: without compromise.





### Analog quality

Make no mistake, the CP-800 is also our best analog preamplifier ever. With pure Analog Bypass available for legacy sources (so pure, in fact, that when selected the digital clocks are turned off), 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, there is no digital noise nor is there any compromise.

### 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 preamp, giving the CP-800 an obvious 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



CJ CGV is the largest operator of multiplex movie theatres in South Korea. When an opportunity arose for CGV to create a 'state of the art' movie theatre on the 11th floor of CGV Cheongdam Cinecity, a new flagship multiplex building in downtown Seoul they didn't just take the opportunity, they ran with it just about as far as it is possible to go. The system includes Bowers & Wilkins CT800 series speakers along with 12 Classé CT-M600 and three CT-2300 power amplifiers.



# 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™ 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™ 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



Delta series wraps being  
produced at the Neal Feay  
Company in Goleta, CA.

17 498

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



## great sound

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### 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



<b>amplifiers</b>	CA-2300	CA-5300
<b>Frequency response</b>	1 Hz - 100 kHz, -3dB	1 Hz - 100 kHz, -3dB
<b>Output power</b>	300W rms into 8Ω (24.8 dBW) 600W rms into 4Ω (24.8 dBW) Both channels driven	300W rms into 8Ω (24.8 dBW)
<b>Harmonic Distortion</b>	<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
<b>Peak Output Voltage</b>	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
<b>Input Impedance</b>	50kΩ balanced / single ended	50kΩ balanced / single ended
<b>Voltage gain</b>	29dB balanced / single ended	29dB balanced / single ended
<b>Input level at clipping</b>	1.88V rms balanced / single ended	2.1V rms balanced / single ended
<b>Intermodulation Distortion</b>	>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
<b>Signal to Noise Ratio</b>	-116dB at peak output into 8Ω Measurement Bandwidth: 22 kHz	-116dB at peak output into 8Ω Measurement Bandwidth: 22 kHz
<b>Output impedance</b>	0.015Ω @ 1 kHz	0.03Ω @ 1 kHz
<b>Standby power consumption</b>	< 1W	< 1W
<b>Rated power consumption</b>	763W @ 1/8th power into 8Ω	984W @ 1/8th power into 8Ω
<b>Width</b>	17.5" (444mm)	17.5" (444mm)
<b>Depth (excluding connectors)</b>	17.52" (445mm)	22.52" (572mm)
<b>Height</b>	8.78" (223mm)	8.78" (223mm)
<b>Gross weight</b>	100 lb (45.4 kg)	115 lb (52.3 kg)
<b>Net weight</b>	88 lb (39.9 kg)	105 lb (47.7 kg)
<b>Mains voltage</b>	Specified on rear panel	Specified on rear panel
<b>All tests un-weighted and 500kHz measurement bandwidth (except SNR).</b>		

<b>custom theater</b>	CT-2300	CT-5300
<b>Frequency response</b>	1 Hz – 100 kHz, -3dB	1 Hz – 100 kHz, -3dB
<b>Output power</b>	300W rms into 8Ω (24.8 dBW) 600W rms into 4Ω (24.8 dBW) Both channels driven	300W rms into 8Ω (24.8 dBW)
<b>Harmonic Distortion</b>	<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
<b>Peak Output Voltage</b>	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
<b>Input Impedance</b>	50kΩ balanced / single ended	50kΩ balanced / single ended
<b>Voltage gain</b>	29dB balanced / single ended	29dB balanced / single ended
<b>Input level at clipping</b>	1.88V rms balanced / single ended	2.1V rms balanced / single ended
<b>Intermodulation Distortion</b>	>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
<b>Signal to Noise Ratio</b>	-116dB at peak output into 8Ω Measurement Bandwidth: 22 kHz	-116dB at peak output into 8Ω Measurement Bandwidth: 22 kHz
<b>Output impedance</b>	0.015Ω @ 1 kHz	0.03Ω @ 1 kHz
<b>Standby power consumption</b>	< 1W	< 1W
<b>Rated power consumption</b>	763W @ 1/8th power into 8Ω	984W @ 1/8th power into 8Ω
<b>Width (including faceplate)</b>	19" (483mm)	19" (483mm)
<b>Width (excluding faceplate)</b>	17" (432mm)	17" (432mm)
<b>Depth (excluding connectors)</b>	18.625" (473mm)	23.625" (569mm)
<b>Height</b>	6.97" (177mm)	8.75" (221mm)
<b>Gross weight</b>	109 lb (49.5 kg)	140 lb (59.5 kg)
<b>Net weight</b>	89 lb (40.5 kg)	113 lb (51.25 kg)
<b>Mains voltage</b>	Specified on rear panel	Specified on rear panel
<b>All tests un-weighted and 500kHz measurement bandwidth (except SNR).</b>		

## CA-M1600

1 Hz – 100 kHz, -3dB  
 600W rms into 8Ω (27.8 dBW)  
 1200W rms into 4Ω (27.8 dBW)

<0.002% at 1 kHz balanced  
 <0.004% at 1 kHz single ended

226V peak to peak, 80V rms no load  
 206V peak to peak, 73V rms into 8Ω

50kΩ 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 8Ω  
 Measurement Bandwidth: 22 kHz

0.03Ω @ 1 kHz  
 < 1W  
 823W @ 1/8<sup>th</sup> power into 8Ω  
 17.5" (444mm)  
 17.52" (445mm)  
 8.78" (223mm)  
 100 lb (45.4 kg)  
 88 lb (39.9 kg)  
 Specified on rear panel

## CA-M300

1 Hz – 100 kHz, -3dB  
 300W rms into 8Ω (24.8 dBW)  
 600W rms into 4Ω (24.8 dBW)

<0.002% at 1 kHz balanced  
 <0.004% at 1 kHz single ended

150V peak to peak, 53V rms no load  
 136V peak to peak, 48V rms into 8Ω

50kΩ 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  
 < 1W  
 420W @ 1/8<sup>th</sup> power into 8Ω  
 17.5" (444mm)  
 17.52" (445mm)  
 8.78" (223mm)  
 87 lb (39.5 kg)  
 75 lb (34.0 kg)  
 Specified on rear panel

## CT-M1600

1 Hz – 100 kHz, -3dB  
 600W rms into 8Ω (27.8 dBW)  
 1200W rms into 4Ω (27.8 dBW)

<0.002% at 1 kHz balanced  
 <0.004% at 1 kHz single ended

226V peak to peak, 80V rms no load  
 206V peak to peak, 73V rms into 8Ω

50kΩ 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 8Ω  
 Measurement Bandwidth: 22 kHz

0.03Ω @ 1 kHz  
 < 1W  
 823W @ 1/8<sup>th</sup> 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

## CT-M300

1 Hz – 100 kHz, -3dB  
 300W rms into 8Ω (24.8 dBW)  
 600W rms into 4Ω (24.8 dBW)

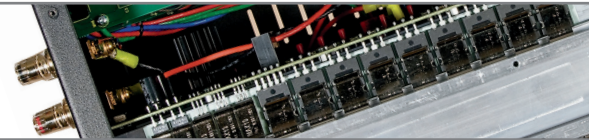
<0.002% at 1 kHz balanced  
 <0.004% at 1 kHz single ended

150V peak to peak, 53V rms no load  
 136V peak to peak, 48V rms into 8Ω

50kΩ 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  
 < 1W  
 420W @ 1/8<sup>th</sup> 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



**Inputs and outputs**

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

**Video measurements**

Input impedance	75 Ω Composite / component
Output impedance	75 Ω Component
HDMI	Fully 1.4 compliant supporting ARC, HEC, 3D video up to 1080p @ 60 fps, 36-bit deep color and xvYCC

**Audio measurements**

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

**Frequency response**

20 Hz – 200 kHz <0.1 dB
Stereo analog bypass
20 Hz – 20 kHz <0.2 dB
All other sources

**Signal to noise ratio**

102 dB
Bypassed analog source
100 dB
Processed analog source
105 dB
Digital source

**Audio formats**

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

**Post processing modes**

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

**Video conversion**

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

**Dimensions**

Width (including faceplate)	19" (483mm)
Width (excluding faceplate)	17" (432mm)
Depth (excluding connectors)	16.375" (416mm)
Height	6.97" (177mm)
Gross weight	49 lb (22.3 kg)
Net weight	33 lb (15 kg)

**Inputs and outputs**

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

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Composite to component and HDMI
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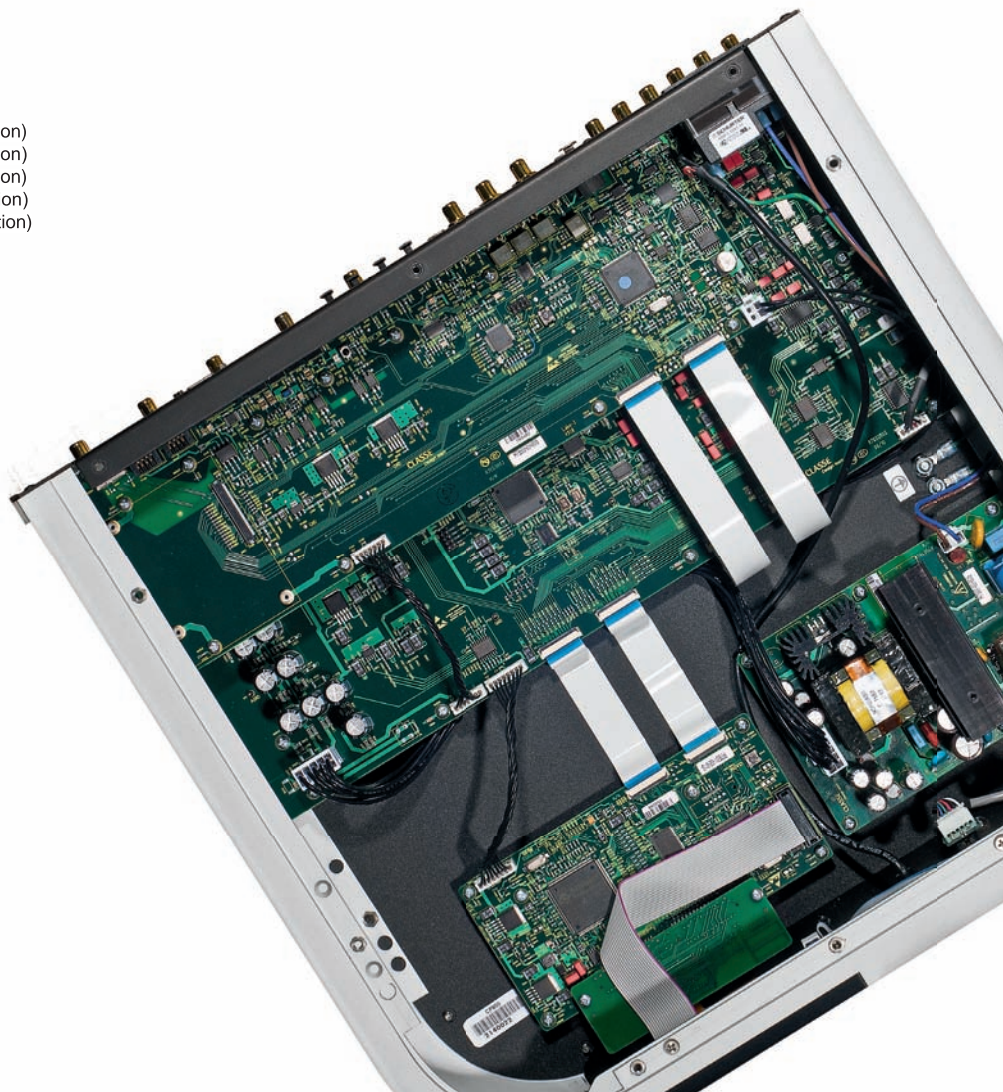
**Dimensions**

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



**pre-amplifier** CP-800

<b>Frequency response</b>	8 Hz - 200 kHz < 1 dB, stereo analog bypass 8 Hz - 20 kHz < 0.5 dB, all other sources
<b>Channel Matching</b> (left to right)	better than 0.05 dB
<b>Distortion (THD+noise)</b>	.0005%, digital source/bypassed analog source .004%, processed analog source
<b>Maximum input level</b> (single-ended)	2 Vrms (DSP), 4.5 Vrms (bypass)
<b>Maximum input level</b> (balanced)	4 Vrms (DSP), 9 Vrms (bypass)
<b>Maximum output level</b> (single-ended)	9 Vrms
<b>Maximum output level</b> (balanced)	18 Vrms
<b>Gain Range</b>	-100 dB to +14 dB
<b>Input impedance</b>	50 k $\Omega$ (balanced) 100 k $\Omega$ (single-ended)
<b>Output impedance</b> (main output)	300 $\Omega$ (balanced), 100 $\Omega$ (single-ended)
<b>Signal-to-noise ratio</b> (ref. Bal. 4 Vrms input, unweighted)	104 dB, bypassed analog source 101 dB, processed analog source 105 dB, digital source (ref. full-scale input, unweighted)
<b>Channel separation</b>	better than 100 dB
<b>Crosstalk</b> (any input to any output)	better than -130 dB @ 1 kHz
<b>Standby power consumption</b>	<1 W
<b>Rated power consumption</b>	31 W
<b>Mains Voltage</b>	90-264 V, 50/60 Hz
<b>Overall dimensions</b>	Width: 17.5" (445 mm) Depth: 17.5" (445 mm) (excluding connectors) Height: 4.78" (121 mm)
<b>Net weight</b>	23 lb (10.43 kg)
<b>Shipping weight</b>	33 lb (15 kg)
<b>Made for</b> iPod touch (4th generation) iPod touch (3rd generation) iPod touch (2nd generation) iPod touch (1st generation) iPod classic	iPod nano (6th generation) iPod nano (5th generation) iPod nano (4th generation) iPod nano (3rd generation) iPod nano (2nd generation)
<b>Made for</b> iPhone 4 iPhone 3GS	iPhone 3G iPhone
<b>Made for iPad</b>	







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