





HERITAGE & PRESTIGE

Welcome to Datasat Digital Entertainment. One of the pioneers of Surround Sound technology. The company that introduced millions of moviegoers to 5.1 Digital Surround Sound with the 1993 release of Jurassic Park. The company whose sound technology's many awards include an Academy Award for technical achievement.

Today, filmmakers and cinemas worldwide rely on Datasat technology to provide their customers with an unrivalled listening experience, with over 30,000 audio processors and playback units installed over the last 20 years. We provide the sound systems of choice for cinema sound engineers that demand advanced features and precise reproduction of both digital and analog sound.

Datasat Digital Entertainment was formerly the cinema division of DTS. For over 20 years, our Digital Surround Sound format has appeared on every major movie release from around the globe. Since 1993, we've continually innovated to provide a better, richer and more realistic audio experience for movie audience worldwide.

This heritage places Datasat Digital Entertainment in a unique position. No other company has the depth of experience of developing surround sound technologies for cinema. No other company has the same knowledge or capability to bring these technologies to the home cinema.

ENJOYMENT & EXPERIENCE



Home cinema should not be a compromise. It's an opportunity to bring new levels of enjoyment and experience into the home. Datasat Digital Entertainment creates systems that deliver a new dimension in Surround Sound excellence as well as the ultimate two channel experience. Sound reproduction that is so transparent, natural and true-to-source that it equals the best cinema theatre.

The home cinema experience is changing. Today, video and audio technologies are moving towards a fully immersive environment where the user is at the very centre of the action. The enjoyment of movies, music, live events and game playing is being transformed.

Our Surround Sound systems are at the forefront of making immersive sound a reality. From our original 5.1 Surround Sound to today's 7.1 or 11.1 formats, our systems seamlessly support all the latest sound formats up to 13.1 and beyond. The Auro 11.1 by Barco utilises Datasat audio processors, and with the introduction of Auro-3D® processing for home theatre, Datasat leads the way in delivering innovative cinema sound formats to the home.

A truly outstanding listening experience requires quality, precision and control. Datasat systems deliver an unparalleled audio quality and a feature set that also puts every aspect of sound control at your fingertips. We offer the most advanced room calibration to ensure that every space is optimised – whether a dedicated home theatre, media room or an entire estate.

REFERENCE SERIES



The Ultimate Listening Experience

There is no higher standard for sound technology than for it to gain 'Reference' status. It is seen as the benchmark against which all others are judged. The Reference Series from Datasat Digital Entertainment is just that. It is a range of advanced home cinema sound products of outstanding quality and excellence.

Designed for the high end home cinema, the Reference Series of audio processors and power amplifiers set the standard for sound reproduction.

DETAIL & CLARITY



Datasat RS20i Home Cinema Processor

The **Datasat RS20i** is the most versatile, customisable and feature-rich audio processor available today for high end home cinema and two channel music. It introduces a new level of crystal clear, highly realistic digital surround sound to create an amazing, immersive listening experience as well as stunning stereo performance.

The circuitry design and audio quality of the Datasat RS20i sets it apart. It comes with many features not previously seen in high end home audio processors including 20 memory profile settings, stackable multiple EQs, advanced Dirac Live® room optimisation and correction as well as extensive automation controls.

With 16 channels of processing power, the Datasat RS20i supports all Digital Surround Sound formats available today – including options for Auro-3D® native decoding and upmixing - and features such as HDMI v1.4a mean it can also seamlessly handle 3D video content. The inclusion of Dirac Live® means rooms can be optimised so that sound is delivered with pinpoint accuracy.

This power and flexibility is matched by stunning good looks. Noted for its stylish lines, the Datasat RS20i makes an attractive component of any luxury home entertainment system.

Key features

🎵 16 Processing Channels

With 16 processing channels available, the RS20i supports a wide range of speaker configurations and sound formats.

📊 Extensive Equalisation Functionality

Every channel includes 31 bands of third octave and 3 bands of parametric equalisation in addition to low, high and bandpass filters. All user adjustable.

🔊 Superior Bass Management

Full and user-adjustable bass management controls on each individual screen and surround channel to support configurations up to 12.4.

📁 20 Memory Presets

Elements such as room equalisation, sound levels, and input and output set-ups are captured and stored for every type of content or personal preference.

🎬 Wide-Ranging Support For Content Types

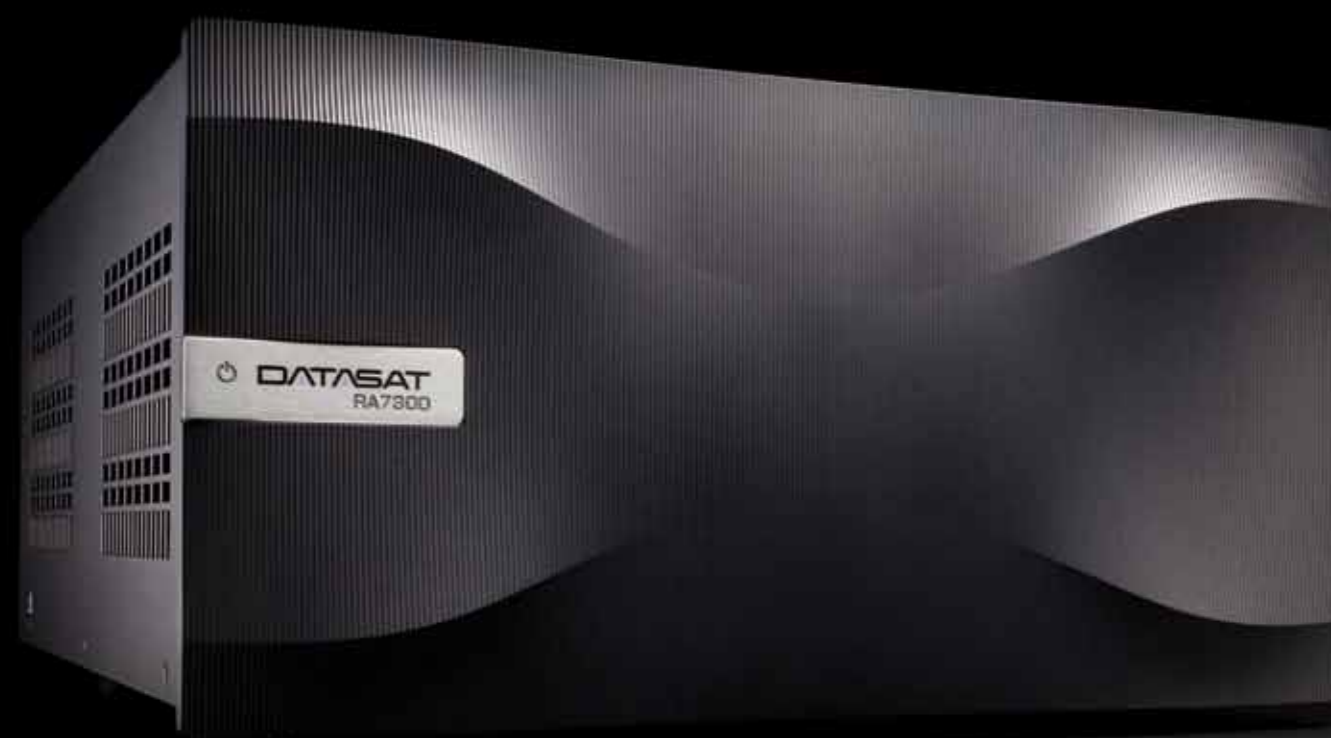
In addition to the latest Dolby and DTS codecs, the RS20i supports innovative and immersive formats such as DTS Neo:X and Auro-3D®.

✔ Ease Of Management

In addition to a range of remote control options, the system includes Ethernet and RS232 connections.



STYLE & PERFORMANCE



Datasat RA7300 7 Channel Power Amplifier

The **Datasat RA7300** Power Amplifier brings a new level of quality and flexibility to high quality home theatre and multi-channel music systems. Perfect for anything from small media systems to outfitting an entire home or estate, it is amongst the quietest and most powerful 7 channel amplifiers ever designed.

With rated output of 300 watts into seven channels at 8 ohms, the Datasat RA7300 is powerful enough to deliver outstanding performance in any system.

The Datasat 7300 guarantees quiet operation in high performance environments. The fully balanced differential design of the Datasat RA7300 doubles amplifier speed (slew rate), while reducing noise by up to 50%. Every individual amplifier channel is designed with a separate power supply on a printed circuit board to minimise crosstalk, noise and distortion. In addition, any number of RA7300 amplifiers can be operated together without thermal issues.

The Datasat RA7300 Power Amplifier is designed to complement the Datasat RS20i Home Cinema Processor, providing the ultimate listening experience for high end home cinema.



Key features

◆ The Quietest Amplifiers Available

The Datasat RA7300 has a signal-to-noise ratio of 127dB. To control external noise, it features dual thermal sensors, one for each channel bank, controlling a very low speed fan with substantial heat sinks.

★ Innovative, Modular Design

Each amplifier channel is designed complete with its own power supply on a single printed circuit board, minimising crosstalk, noise and distortion.

⚙️ Enhanced Versatility

The Datasat RA7300 is rated for 4 and 8 ohm loads. It delivers 7 channels of 300 watts RMS power at 8 ohms. It delivers 450 watts RMS at 4 ohms.

✂️ Extended Connectivity

The RA7300 features DB25 connectors with pass-through and channel select to facilitate multi-channel connections to the RS20i, as well as balanced XLR inputs.

🔥 Consistent, Thermal-Independent Operations

Thermal-track transistors maintain optimum bias point independent of amplifier temperature. The amplifier operates without current limiting.

🔧 Advanced Circuitry

The RA7300 amplifier features a fully balanced differential topology that doubles amplifier slew rate and reduced noise by 50%.

🔌 Efficient Standby

The RA7300 amplifier meets or exceeds all international standards for standby power consumption including the new 1/2 watt standard.

POWER & ELEGANCE



Datasat RA2400 Stereo Power Amplifier

The **Datasat RA2400** Stereo Power Amplifier contains a host of features that take its operation to the next level. It ensures optimum performance from both the content and speaker systems.

The RA2400 features a dual mono design in which each channel is completely independent. The unique amplifier design uses multiple small storage capacitors (40 1,000 microfarad units per channel) situated as closely as possible to the output transistors. With up to 20 output devices per channel, each channel of the RA2400 has its own specifically designed bridge rectifier for smooth AC to DC conversion.

Low noise, high performance operation is assured as no parts within the amplifier have any thermal limitations. Its isolated floating point output stage is immune to disruptions due to ground currents. Each channel has its own specifically designed bridge rectifier for smooth AC to DC conversion.

With a rated output of 400 watts at 8ohms, the RA2400 provides the ultimate in sound quality and versatility for the high end home entertainment user.

As with the Datasat 7300, The Datasat RA2400 Power Amplifier is designed to complement the Datasat RS20i Home Cinema Processor.



Key features

🔊 The Quietest Amplifiers Available

The Datasat RA2400 reduces amplifier noise by 50% through features such as cascode operation at the input stage.

★ Innovative, Modular Design

Dual mono design means each channel is independent with fully regulated power supply for the input stage controlled by seven independent regulators.

📶 Enhanced power

The RA2400 Stereo Power Amplifier is rated for 4 and 8 ohm loads. It delivers 2 channels of 400 watts RMS power at 8 ohms. It delivers 600 watts RMS at 4 ohms.

✂️ Extended Connectivity

The RA2400 features DB25 connectors with pass-through and channel select that mate perfectly with the Datasat RS20i. The RA series also features balanced XLR.

🔥 Consistent, Thermal-Independent Operations

The parts within the RA2400 have no thermal limitations – even the line fuse has been replaced by a magnetic circuit breaker. It operates without current limiting.

🔌 Advanced Circuitry

A unique amplifier design supports 20 output devices per channel. Each channel has its own bridge rectifier for smooth AC to DC conversion.

⚡ Efficient Standby

The RA2400 amplifier meets or exceeds all international standards for standby power consumption including the new 1/2 watt standard.

LUXURY SERIES



Bringing audio power
into the home

Introducing the new Luxury Series of home cinema processors. For the first time, the Surround Sound functionality of high end home cinema is available for installations where price and performance are equally important. Products within the Luxury Series include features that ensure a home audience hear movies precisely as the filmmakers intend.

Designed for mid range home cinema installations, the Luxury Series brings a new level of sound quality and listening experience to a wider home audience.

FORM & FUNCTION



The Datasat LS10 Home Cinema Processor

The **Datasat LS10** represents a breakthrough in audio processor technology. It is the first home cinema processor to deliver high end audio quality and features at a price point for a wide range of home cinemas and media rooms.

To bring high end functionality within reach of more home cinemas, the Datasat LS10 focuses solely on those features that deliver the cutting edge of motion picture sound. In addition to native support for sound formats including Dolby TrueHD, DTS Master Audio and DTS Neo:X, the processor has as an option Auro-3D®, bringing fully immersive Surround Sound to a home audience with speaker configurations up to 13.1.

With precise control of each of its 15 channels and superior bass management, the Datasat LS10 ensures high quality sound that is rich, textured and realistic. Its range of remote control options – including VNC control via iOS and Android devices – places this audio power at the user's fingertips.

In addition to unbeatable reproduction of the latest movie and music releases, the Datasat LS10 intelligently enhances the enjoyment of music, game playing and live sport to become the cornerstone of the ideal home entertainment system.



Key features

✓ **15 channels of digital audio**

With 15 channels of digital audio available, the Datasat LS10 supports the latest 3D sound formats – such as Auro-3D® – with speaker configurations up to 13.1.

📊 **Extensive equalisation functionality**

The Datasat LS10 delivers precise control with 10 band parametric EQ for each individual channel.

🔊 **Advanced bass management**

User-adjustable bass control with low and high pass filters and support for up to two subwoofers.

🔄 **Wide-ranging sound format support**

As well as the latest Dolby and DTS codecs, the LS10 supports innovative and immersive formats such as Auro-3D® as well as HDMI audio and video inputs.

🔗 **Ease of management**

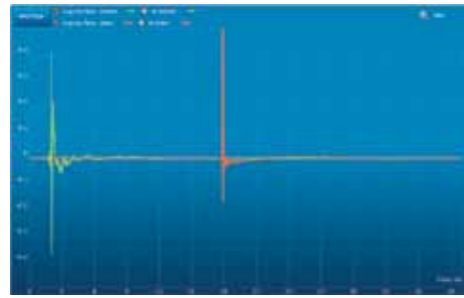
A range of Remote and Network Control options including VNC for iOS and Android devices.

PRODUCT ADDITIONS

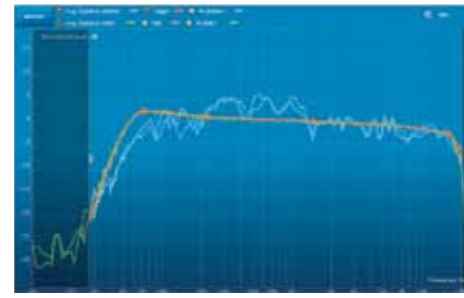


For over 20 years, Datasat Digital Entertainment has worked closely with major movie studios and filmmakers worldwide. It's a unique position that gives us privileged access to help shape future advances in cinema sound and anticipate when these advances will be ready for the home.

To ensure that we are always in tune with the latest, cutting edge developments that improve the listening experience, Datasat Digital Entertainment provide a range of product additions that enhance and complement our core sound technology.



Impulse response correction



Frequency response correction

Dirac Live® Room Correction System

Every room is different. Each one has its own acoustic behaviors. To achieve the best possible listening environment, the Datasat RS Series of audio processors feature **Dirac Live®**, the world leading room and loudspeaker optimisation software from Dirac Research.

Dirac Live® is a state-of-the-art digital room correction technology that optimises the sound both in terms of the impulse response as well as the stationary frequency response. The result is substantially improved musical staging, clarity, voice intelligibility, and a deeper and tighter bass.

Whereas traditional home entertainment systems have delivered high quality audio to a limited sweet spot at a central listening location, Dirac Live® allows the Datasat RS Series to deliver outstanding audio quality to the entire listening environment.

Audio is tuned to create the most natural and immersive listening experience for the individual listener. Individual channel and global delays mean that each speaker in the sound system can be positioned so that it is perfectly balanced with the acoustic behaviours of the room. This allows for a much more transparent and true-to-source sound even in the toughest room design.

Key features

Increased musical clarity and voice intelligibility

By digitally optimising the output from each speaker, a much more transparent and realistic sound can be delivered.

→ Impulse response optimisation

Dirac Live® delivers true working impulse response correction to each individual speaker to improve the precision and clarity of the entire stereo sound image.

✂ Mixed phase correction

Dirac Live® is one of the few technologies to deliver mixed phase correction. The result is the localisation and clarity of a sound event are enhanced.

✂ Early reflection reduction

Dirac Live® removes early reflections while the coloration of side reflections is reduced but the reflections are not removed to enable sound localisation.

✂ Bass enhancement

Dirac Live® improves the bass punch by preparing the speaker for the impending sound and reducing the settling time of the speaker.

🎵 Restored Sound Stage

By introducing enhanced impulse response, the sound stage is restored as the localisation of sound events becomes much more detailed.

👤 Reduced listening fatigue

By smoothing the impulse response, Dirac Live® ensures sound becomes more natural and listening fatigue is reduced.

Auro-3D® option for Datasat Processors

Auro-3D® is an exciting new immersive surround sound format, with native mixes with up to 13.1 discrete channels. Both the Datasat RS20i and Datasat LS10 home cinema processors offer an option to include Auro-3D®, either integrated into the product or as an addition to an existing installation.

Barco selected Datasat Digital Entertainment to provide the audio processor that sits at the heart of its Auro-3D® system for movie theatres. Today, this system is being installed in cinemas worldwide and more and more movies are being released in the Auro-3D® format. We have applied our knowledge gained in the cinema world to bring Auro-3D® into the home.

Auro-3D® adds a height and top layer to the standard Surround Sound layer. These new layers are important to provide a listening experience almost identical to real life where the sound occurs naturally around the listener. The Datasat Auro-3D® option makes this possible within the home for the first time.

With the Auro-3D® option installed, Datasat audio processors deliver precise reproduction of Auro-3D® content as it was intended. In addition, standard Surround Sound content can be played in Auro-3D® - utilising the Auro upmix feature - to produce a fully immersive listening experience.

Key features

★ Wide range of speaker support

The Auro-3D® option for Datasat processors supports speaker configurations up to 13.1.

↑ New height and top layers

The addition of height and top layers of speakers makes the sound reproduction sound much more realistic to the listener.

✂ Full 3D immersive sound

The Auro-3D® option delivers true 3D sound for the first time. The listener feels at the centre of the action with sounds coming naturally from the correct direction.

✂ Enhance existing content

The integrated upmix engine within the Auro-3D® option allows existing Surround Sound content to be played in the Auro-3D® format.

Product Specifications

RS20i

Digital Audio Decoders

Auro (Option)

- Auro-3D® Decoding Engine
- Auro-3D® Upmix Engine

Dolby

- Dolby Digital Plus
- Dolby TrueHD
- Dolby Pro-Logic IIz

DTS

- DTS-HD Master Audio
- DTS Neo:X

Signal Inputs

HDMI Inputs

- **Audio Channels:** Up to 8 (LPCM, DTS-HD Master Audio & Dolby TrueHD)
- **Connectors:** 5 HDMI connectors (4 switched inputs and 1 output)
- HDMI V1.4a compliant digital audio with video pass-thru

Digital Audio Inputs

- **Channels:** 16
- **Connectors:** Two DB25 Female (Ch1-8 and Ch9-16)
- **Digital Format:** AES/EBU
- **Sample Rates:** 44.1kHz, 48kHz, 96kHz and 192kHz

Other Digital Audio Inputs

- **Connectors:** Two TOSLINK (optical S/PDIF) and 1 coaxial (S/PDIF)

Analog Audio Inputs

- **Channels:** 16 balanced, can be connected unbalanced
- **Connector:** DB25 (Female)
- **Impedance:** 10k ohms
- **Reference level:** 300mV RMS

Other Analog Audio Inputs

- **Channels:** 2 stereo single-ended input pairs
 - **Connectors:** 4 RCA jacks
 - **Impedance:** 10k ohms
 - **Sensitivity Adjustable:** -16dBv to -4dBv
- #### Microphone Input
- **Single channel** -68dBv to -8dBv input with switchable +48V phantom power
 - **Connector:** XLR Female

Signal Outputs

Digital Audio Outputs

- **Channels:** 16 (fully routable as to input)
- **Connector:** 2 DB25 (Male) connector (1-8 and 9-16)
- **Digital Format:** AES/EBU
- **Sample Rates:** 48kHz, 96kHz and 192kHz

Analog Audio Outputs

- Balanced (can be connected unbalanced or single ended)
 - **Channels:** 16 (fully routable as to input), common mapping with Digital Outputs
 - **Connectors:** 2 DB25 (Male) (1-8 and 9-16)
 - **Level:** -10dBu with Fader at 7, +26dBu max (balanced)
- **Connector:** 1 single-ended RCA output, channel-selectable to drive an external monitor. Adjustable Levels, to 300mV rms
- **Connector:** 1 single-ended RCA output, summed output for assistive listening.
 - Fixed level out, 300mV rms

Power Requirements

100-240 VAC, 50-60Hz, auto-switching
60W power consumption

Hardward Dimensions

3U 19" rackmount standard
Imperial - 5.25"(H) x 19.0"(W) x 15.0"(D)
Shipping weight: 20lbs
Metric - 13.33cm(H) x 48.25cm(W) x 38.1cm(D) Shipping weight: 9kg

Audio EQ

Dirac Live® Room Optimisation

- 16 Channel Dirac Live® room optimisation
 - Installer kit required to install Dirac Live®
- #### 3rd Octave EQ
- 16 channels - 31 user-adjustable bandpass filters
 - Adjustable in 0.5dB steps; total gain or loss of 6dB
 - Frequencies range from 20Hz to 20kHz.

Parametric

- 16 channels with 3 user-adjustable parametric filters for shaping
- #### Subwoofer response.
- Adjustable from 20Hz to 200Hz, gain +/-6dB in 0.1dB steps
 - Q range from 0.7 to 5.
- #### Bass/Treble tone control
- Adjustable +/-6dB at 150Hz and 5.5kHz

Auto Delays

Individual Channel Delays

- 0-1000ms (i.e: 0 to 1 second delay)

Global Delay

- 0-250ms

Note: Total delay per channel not to exceed 1000ms (ie: 1 second)

Automation Inputs/Outputs

Connector: DB25 (GPIO)

Management

Remote Control

- 2 RS232 DB9s
- 10/100 Ethernet
- Updated, controlled, and monitored via TMS using Ethernet
- Smartphone remote control setup/operation profiles
- Named profiles identifying inputs, output, filter and channel gain settings
- Touchscreen or automation format switching
- Export/Load of user profile to additional audio processors with identical room setups (via USB)

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RA2400

Power Output

- 400 watts RMS x 2 channels @ 8ohms
 - 600 watts RMS x 2 channels @ 4ohms
- Frequency Response:** 20Hz-20kHz, +0, -0.1dB
THD, 20Hz-20kHz: <0.03%
THD, 1kHz, rated power: <0.003%
IMD: <0.03%
Power Bandwidth, 10Hz-80kHz: minus 0.6dB @ 80Hz
Voltage Gain: 27.1dB
Slew Rate: >40/us
Crosstalk @ 1kHz: >110dB
Input impedance: 50kΩ (Balanced, 25kΩ each leg)
Input Sensitivity: 2.5V

RA7300

Power Output

- 300 watts RMS x 7 channels @ 8ohms
 - 450 watts RMS x 7 channels @ 4ohms
- Frequency Response:** 20Hz-20kHz, +0, -0.25dB
THD, 20Hz-20kHz: <0.05%
THD, 1kHz, rated power: <0.005%
IMD: <0.05%
- #### Dual AC Cords
- ### Channels
- User selectable for any of 8 channels from DB25 input connector via rear panel gold-plated sealed DIP switches.
- ### Power Requirements
- Power Bandwidth, 10Hz-80kHz:** minus 0.6dB @ 80Hz
Voltage Gain: 27.1dB
Slew Rate: >40/us

LS10

Digital Audio Decoders

Auro (Option)

- Auro-3D® Decoding Engine
- Auro-3D® Upmix Engine

Dolby

- Dolby® Digital Plus
- Dolby® Pro Logic® IIz
- Dolby® TrueHD

DTS

- DTS-HD Master Audio™
- DTS Neo:X™

Signal Inputs

HDMI Audio & Video Inputs:

- HDMI V1.4a with video pass-through (8 in/2 out)

Digital Audio Inputs:

- TOSLINK – 2
- S/PDIF – 2
- USB 2.0 – 1

Analog Audio Inputs:

- Channels: 2 stereo single-ended input pairs
- Connectors: 4 RCA jacks
- Impedance: 10k ohms
- Sensitivity Adjustable: -16dBv to -4dBv

Circuit topology

Fully balanced design utilising thermal track, current feedback and DC Servo.

Connectivity

- Input:** RCA unbalanced, XLR balanced, DB25 balanced
Output: 5-way binding posts, DB25 pass through
Remote Trigger Voltage: 3-24V
Signal-to-Noise ratio (20Hz-20kHz)
Reference rated output, 'A' weighted: >126dB
Reference rated output, unweighted: >124dB
Residual noise, 'A' weighed: <25 microVolts
Damping Factor: >300Hz to 3kHz

Crosstalk @ 1kHz: >80dB

Input impedance: 50kΩ (Balanced, 25kΩ each leg)
Input Sensitivity: 2.16V

Circuit topology

Fully balanced design utilizing thermal track, current feedback and DC Servo.

Connectivity

- Input:** RCA unbalanced, XLR balanced, DB25 balanced
Output: 5-way binding posts, DB25 pass through
Remote Trigger Voltage: 3-24V
Signal-to-Noise ratio (20Hz-20kHz)
Reference rated output, 'A' weighted: >125dB
Reference rated output, unweighted: >123dB

Signal Outputs

Analog Audio Outputs:

- Channels: 15
- Balanced (can be connected unbalanced or single-ended)
- Connectors: 15 XLR
- Level: 300mV with Fader at 7, +26dBu max (balanced)

Audio EQ

Parametric

- 10-band parametric EQ
- Adjustable from 20Hz to 20kHz, gain +/-6dB i+0.1dB steps
- Q range from 0.7 to 5

Bass Management

- Full or adjustable high pass settings for screen and surround speakers
- Adjustable low pass filter for sub woofers
- Support for 0 to 2 subwoofers

Dimensions

Fan cooled, 4 Rack Chassis
H/W/D: 17.78cm x 43.18cm (48.26cm with rack ears) x 53.34cm
Uses 4RU (Feet removed)
Weight: 96lbs
Weight shipping: 136lb
Power requirements: 120V, 60Hz & 230V,50Hz

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Residual noise, 'A' weighed:

<30 microVolts

Damping Factor: >200Hz to 2kHz

Dimensions

Fan cooled, 5 Rack Chassis
H/W/D: 22.23cm x 43.18cm (48.26cm with rack ears) x 53.34cm
Uses 5RU (Feet removed)
Weight: 123lbs
Weight shipping: 163lb
Power requirements: 120V, 60Hz & 230V,50Hz

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Audio Delays

Individual Channel Delays:

- 0-100ms

Global Delay:

- 0-100ms

Note: Total delay per channel not to exceed 100ms

Control

- RS232 DB9
- 10/100Mbps Ethernet
- VNC control including by iOS and Android devices
- Crestron Integrated Device
- IR Remote

Power Requirements

- 100-240 VAC, 50-60Hz, auto-switching
- Power consumption TBA

Regulatory Compliance

- UL CB Scheme
- FCC Part 15, subpart B Class A
- CE
- RoHS compliant

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