BOOTHROYD STUART MERIDIAN

Product Information | **Meridian 800 Series** | **January 1999**

Meridian 800 Series

From the leaders in digital audio – a product pairing for the highest possible performance: flexible, updateable, sophisticated, forward-looking with amazing sound and pictures.

Background

Meridian's design philosophy has always combined great looks and a total approach to ergonomics, with a relentless pursuit of the best sound – in particular regarding the tonal and spatial qualities of natural sounds.

This philosophy has also established a Meridian tradition which encourages a readiness for new ideas and an unfettered view of audio system architecture. This approach has led to ground-breaking innovations like Active and DSP loudspeakers – as well as earlier, now widely accepted, innovations like the CD Transport.

800 Series

The new 800 Series dramatically illustrates the result of this design approach. Here the goal is the highest quality sound, in a future-proof, flexible, upgradeable, open-ended format.

The 800 Series provides no-cost-compromise audiophile performance in a handsome large-format presentation. In the 800 Series, important audiophile features are addressed – including the provision of more connections and highly transparent analogue and digital audio and video processing.

The Digital Signal Processing used in the 800 Series has a superb pedigree – Meridian is famous for its conversion, *resolution enhancement* and DSP for audio mastering and production as well as for surround and loudspeakers.

The 800 Series construction shows its function: it is built as a card-based Audiophile Digital Computer.

All functions are plug-in cards: including control microprocessor, analogue and digital inputs and outputs, DSP processors, video routing and processing, DVD decoders, laser demodulators, tape modules, custom interfaces. The list is always growing.

In this way a user can put together just the right functions, and any aspect of the machine's performance can be altered later – either by downloading new software into its flash memory, or by adding new plug-in cards.

In common with other Meridian products, the 800 Series has full remote control and complete inter-operability with 500 Series components, using RS232 and the Meridian Comms connections.

The 800 Series will extend external connectivity by providing fast computer interfaces like Firewire, D1 – as well as

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Product Information | **Meridian 800 Series** | **January 1999**

custom connections that evolve Meridian's unrivalled Digital Theatre.

The 800 Series 19" (450mm) cabinet is of double-skinned construction for complete immunity from sound-damaging RF radiation. The heavy cast front panel houses a highly visible display and provides the most commonly required controls on the front face. A hinged switch panel provides keys to access more of the unit's functions.

In common with other Meridian components, the top and display window uses 4mm plate glass for a lasting finish and mechanical damping.

The 800 Series will appeal to a very wide audience – it offers unique performance for the audiophile or videophile, it brings PC connectivity for multimedia and a degree of flexibility that will be welcomed by professional and semi-pro recording engineers.

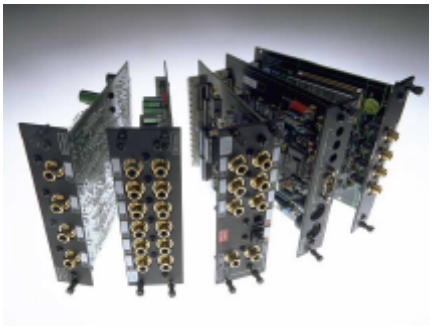
Sound quality

The 800 Series also embodies the very latest developments in digital audio.

Meridian, who are famous for their smooth-sounding digital-audio components, have made a major breakthrough with a radical de-jittering system. Both 800 and 861 carry a new proprietary DSP and RAM-based de-jittering sub-system that allows these products to be not only the most immune to input-signal quality – but also to be, by far, the sweetest and most open sounding that Meridian have built to date (and that is no mean claim).

Meridian's latest digital-audio system operates with many adjustable parameters and for inputs with between 32kHz and 96kHz sampling rates.

Card Details



Each 800 Series product is factory fitted with a motherboard, a highly sophisticated power supply and some cards.
Typical cards are listed below; many can be fitted in multiples.

General cards

May be fitted to 800 and 861

C000
Control computer card: complete with Flash memory, RS232, 3 trigger outputs and Meridian Comms.

IA00
Analogue input card: 6 pairs analogue input on phono. Very high quality 24-bit A/D conversion.

IA10
Analogue input extension: adds 2 pairs of fully balanced input on XLR.

IA20
Analogue input extension: adds 3 pairs of unbalanced input on phono.

IA30/IA35
Analogue input extension: adds capability for MC/MM pickup on phono.

IA40
Multichannel analogue input. Feed in two 6-channel sources or 6 pairs of unbalanced input on phono.

ID12
Digital input card: 5 SPDIF/IEC1937 cable inputs (32k–96kHz), 2 TOSLINK optical inputs. Two digital outputs; bypass and Tape/2-room. This card contains a DSP de-jittering system.

ID20
Digital input extension: adds 2 SPDIF and 2 Toslink inputs.

ID30
Digital input extension: adds 3 AES /EBU and 1 AT&T fibre optic inputs.

RF00
High quality RF Demodulator for Laser Disc. Adds two additional digital inputs (SPDIF and Toslink input).

OD12
Digital output card: 4 SPDIF/IEC1937 outputs on phono (32k–96kHz). Contains ultra-low-jitter master oscillators.

OA02
Analogue output card: 4 ultra-high quality outputs on phono. Effective resolution: 24 bit and 96kHz.

OA12
Analogue output card: 4 ultra-high quality balanced outputs on XLR. Effective resolution: 24 bit and 96kHz. Contains ultra-low-jitter master oscillators.

TP00
Analogue tape-loop and 2-room card: 3 outputs on phono, each with variable output level. Uses 20-bit A/D and D/A conversion. Fit: up to one.

AB00
DSP card: contains two Motorola 56002 66MHz processors.

Z300
DSP card: contains one Motorola DSP56303 80MHz processor.

Z310
Room Correction and crossover DSP card: contains one Motorola DSP56303 80MHz processor.

VS00
Video card: 4 composite and 4 S-video inputs. Outputs: main and tape in both formats. On-screen display on main.

VS20
Video card: 1 component input; main output. On-screen display.

VS30
Video card: 8 S-video inputs. Outputs: main and tape. On-screen display on main.

BOOTHROYD STUART
MERIDIAN

Product Announcement	800 Reference CD Machine	January 1999

800 Reference CD Machine

Meridian – who 12 years ago introduced high-end CD – still makes the very finest players.
Meridian are now proud to announce a new reference and a new paradigm: The 800 Reference CD Machine

Description

Meridian was the first high-end company to make a CD player. Since 1983, they have maintained steady progress in CD technology – evolving advanced techniques in playback servos, control software, conversion, resolution enhancement, digital interfaces, multiple PLL systems – all in the pursuit of better sound.
Meridian's CD players have remained consistently at the forefront, winning countless industry awards and giving inestimable enjoyment to their owners.

The 800 Reference CD Machine is Meridian's ultimate statement on CD playback – and it is a key to a future-proof system. We needed a CD player architecture that allowed us to enjoy and invest in current sound systems without fear of disenfranchisement as new sources arrive.

Since CD was introduced, many new coding schemes have arrived. Lossy-compression like AC-3, MPEG Audio and DTS have become significant to our customers. Meridian is also justifiably proud that Meridian Lossless Packing (MLP) was selected from the world stage as the coding method to be used in the future on DVD.

The 800 Reference CD Machine completes 14 years of earnest work on de-jittering CD playback and answers (for the first time) the paradox that although data can be recovered exactly bit-for-bit, mechanical and connection factors still lead to audible differences in players.

In the 800 Reference CD Machine, the audio data is read asynchronously in blocks using high-speed, high-integrity CD ROM drives. This data is checked for integrity, corrected and triple buffered to ensure that the audio output timing is independent of the drives for the first time. Another Meridian 'first' is using the powerful DSP in 800 to enhance the playback of CDs so that the converters or Meridian DSP speakers can render the audio even more accurately by producing a high-resolution 88.2kHz 24bit signal.

The 800 Reference CD Machine can also be configured as a 'preamp'. Any of the 800 Series input cards can be fitted, to make an 800 the centre of an unequalled 2-channel playback system. The 800 can be used with a pair of Meridian DSP speakers, or the DSP can provide variable outputs to feed a power amplifier.

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800 Reference CD Machine **Specification highlights** **January 1999**

The following list illustrates the capability of the design. Refer to the Price List for standard combinations.

Drives

- Up to 2 internal ATAPI
- CDROM tray, caddy or multiple-loading changers

Audio in and out

- Up to 11 analogue inputs. User-adjustable sensitivity. Re-nameable legends.
- Up to 11 digital inputs. Re-nameable legends. 32 to 96kHz sampling and up to 24-bit precision.
- Digital and analogue tape loops
- Independent copy and 2-room+ capability
- 2 to 8 digital outputs
- 2 to 8 analogue outputs

Signal processing

800 uses Meridian's proprietary DSP software to provide the following powerful Modes.

- Error Correction
- Resolution Enhancement
- Optional up and downsampling
- High-resolution Digital Gain Control.

Controls, etc.

Front-panel facia controls for:

- Play, Stop, Pause, Previous, Next and Off.

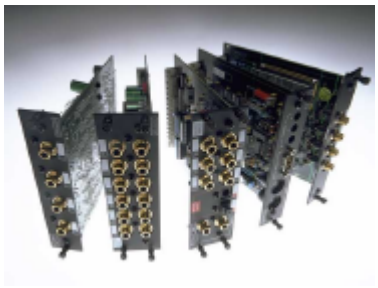
Hinged control panel provides additional switches for:

- Open, Source, Copy
- Menus, setup
- Display, Mute, Volume

Display

- 20-character dot-matrix display: adjustable brightness and contrast
- Lights for DVD and CD, Drive A/B, Repeat.

Above: An example DVD Drive and additional controls behind the flap.



The 800 card construction.

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BOOTHROYD STUART MERIDIAN

Product Information	800 Reference DVD Player	January 1999

800 Reference DVD Player

Meridian define a new high-end category and performance leadership: Reference DVD

Background

Meridian's 800 Reference DVD Player is an extension of the 800 Reference CD Machine – Meridian's *absolute* statement on CD playback.

The 800 DVD includes an 800 CD Machine, but extends the capability to provide the finest DVD playback possible. This combination – of the very best playback for CD *and* DVD make the 800 very special indeed.

The Meridian 800 is also one of the first DVD players to attain the THX requirements for DVD.

A selected DVD ROM drive extracts data from CD, CD-V or DVD. Specialised cards manipulate and decode the DVD data and prepare the video. This architecture ensures not only the highest absolute quality and flexibility, but also a high degree of future-proofness for both audio and video disc playback.

Like the 800 Reference CD Machine, the 800 DVD can also be used as a 'preamp'– allowing it to replace 2-channel front-ends with one flexible component.

DVD Video

DVD Video is an exciting new format. Although it looks like a CD, information can be stored on more than one layer, and the track pitch and pit-size are smaller. This increase in information density allows a DVD to hold between 7 and 24 times the data of a CD.

This amount of data allows many applications: DVD Video is the first. By using high-quality MPEG2 video compression with Dolby Digital, or MPEG audio sound formats, one DVD disc can hold a whole motion picture.

This is the first opportunity for *videophiles* to obtain picture quality close to the original formats – bypassing all the degradations of analogue storage; and in 800, bypassing the degradations of analogue video interchange.

DVD Video also brings exciting new audio formats, including: Dolby Digital AC-3, MPEG Surround, MPEG Extended for 7.1 channel movie sound, MPEG Audio and DTS for movies, music and performance videos, and last but not least – extended digital formats including MLP and 96kHz or 88.2kHz 24bit PCM.

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800 Reference DVD Machine **Specification Highlights** **January 1999**

800 DVD

The 800 is Meridian's definitive statement on the current and future quality of the new DVD medium.

The digital video circuits provide the highest quality picture in a variety of formats.

The digital audio processing provides the ultimate in resolution enhancement and low jitter. 800 DVD makes a perfect front-end to the Meridian 861 Reference Surround Processor – although it can also be configured as a player and even as a preamplifier in its own right.

The Meridian 800 is fully compatible with other components in the Meridian 800 and 500 Series; it comes with a DVD version of the Meridian System Remote, and inter-operates as part of a Meridian Digital Theatre.

High-End DVD?

Through the lifetime of CD, Meridian have been able to build the best players that provided better and better sound with each successive generation and with continually improving disc recording and mastering techniques.

Important milestones were the identification and near-eradication of player design problems including jitter, mechanical feedback, servo instability, playability, converter linearity and interface design.

Bob Stuart, Meridian's chief designer and Chairman of the *Acoustic Renaissance for Audio,* has been heavily involved in the evolution of the audio formats for DVD – in fact MLP (Meridian Lossless Packing) has been selected as the definitive coding system for the DVD-Audio format (due out late 1999).

It should therefore be no surprise that Meridian's design team has brought the full benefit of their experience to DVD.

But there is more: Meridian also brought important psychoacoustic and psycho-visual insights to this design. As a result the 800 DVD is able to offer sound and picture quality that is second to none. It offers the kind of features needed to exploit DVD in a high-end home theatre and to interface with state-of-the-art digital surround processors (like the Meridian 861) and with projection systems.

Picture Quality

The pictures on DVD Video are stored using a high quality compression system called MPEG2. MPEG2 has a flexible data rate; this allows more data to be used for some scenes than others. Complex motions and textures can be conveyed accurately without using an unnecessarily high data rate on simpler material.

Consequently, the encoders (that make MPEG2 streams from the original film) will be able to improve continually over the years – a situation somewhat analogous to CD, where recording equipment has steadily improved.

Because the picture is stored as digital video, it has some remarkable qualities – including high bandwidth, low noise, very low frame and line jitter and the potential for deeply saturated colours.

To recover this quality requires a superb MPEG decoder and immaculate care in de-jittering and processing the resulting video.

The 800 DVD offers a number of video output options. The standard output card contains a video encoder of the highest studio-grade quality. This card provides NTSC and PAL. Video conversion and amplification of the highest quality provides options for RGB, Component, S and Composite formats.

Meridian successfully pioneered audio systems in which the signal is kept in the digital domain from the source, through Digital Surround Decoders to DSP Loudspeakers. The Meridian 800 Reference DVD Player follows that example by keeping the *video* information in the digital domain until the last minute.

Sound Quality

DVD provides a huge number of options for audio. The 800 allows unrivalled playback of all the mandatory DVD sound formats: MPEG, Dolby Digital (AC-3) and PCM at 48 or 96kHz with up to 24bit precision.

DVD has the potential to provide the highest sound quality, but we would be mistaken to ignore the very real importance of CD in the coming years.

So, like the 800 CD Machine, the 800 Reference DVD Machine takes a radical new approach to playing both CD and DVD discs. The 800 reads the audio and video data asynchronously in blocks using high-speed, high-integrity DVD ROM drives. This data is checked for integrity, corrected and triple buffered to ensure that the audio output timing is independent of the drives, and that the picture has incredible stability.

Another Meridian 'first' is using the powerful DSP in 800 to enhance the playback of CDs so that the converters or Meridian DSP speakers can render the audio even more accurately by producing a high-resolution 88.2kHz 24bit signal.

Normally we would expect the 800 to be connected to a Meridian 861 Reference Surround Controller so that the full benefit of surround sound on movies and music can be enjoyed.

The 800 Reference DVD Machine can also be configured as a stand-alone 'preamp'. Any of the 800 Series input cards can be fitted, to make an 800 the centre of an unequalled 2-channel A-V playback system. The 800 can be used with a pair of Meridian DSP speakers, or the on-board DSP can provide variable outputs to feed a power amplifier.

The future …

The architecture of the 800 ensures that all functional parts of the machine can be upgraded, improved, added to or swapped out. In this way we set up not only the best opportunity to stay ahead of changes to the DVD specification, or new formats that may come along, but we retain the maximum flexibility to improve performance through future changes to software or hardware.

This architecture allows our customers to enjoy and invest in the best audio/video systems now.

Setup and adjustment are made using a supplied computer program. Since all the decoding algorithms are in video and audio DSP, the 800 can be re-programmed in the future to improve or extend its capabilities. Software updates are available on Meridian's website.

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BOOTHROYD STUART
MERIDIAN

800 Reference DVD Machine Specification Highlights January 1999

The following list illustrates the capability of the design. Refer to the Price List for standard combinations.

Formats
- DVD Video
- CD Audio (Red Book)
- CD Video (White Book)

Drives
- One internal (supplied) ATAPI 2 DVD ROM drive.
- Second drive bay for future expansion.

Audio inputs
- Up to 11 analogue inputs. User-adjustable sensitivity.
- Up to 11 digital inputs. Re-nameable legends. 32 to 96kHz sampling and up to 24-bit precision.
- Re-nameable legends.
- Digital and analogue tape loops
- Up to two internal drives connected for source and control.

Audio outputs
- Independent copy and 2-room+ capability.
- Second room can receive raw or decoded audio streams.
- 2 digital outputs each on SPDIF and AES/EBU
- Option for simultaneous digital outputs at different sample rates (e.g. 96kHz and 48kHz simultaneously from DVD or 88.2 and 44.1kHz from CD.
- Option for simultaneous output of Dolby Digital compressed stream for a decoder like 861 and a decoded version for a second zone.
- 2 analogue outputs on both phono and XLR (balanced). Analogue conversion always at the maximum resolution of 24 bits.

Audio Signal processing
800 uses Meridian's proprietary DSP software to provide the following powerful Modes.
- On-board decoding for Dolby Digital and MPEG Audio.
- Error Correction.
- Resolution Enhancement.
- Up and downsampling
- High-resolution Digital Gain Control.

Video in and out
- Optional cards provide selectable inputs for composite or S input in NTSC or PAL format.
- Outputs in composite, S-video, component or RGB.

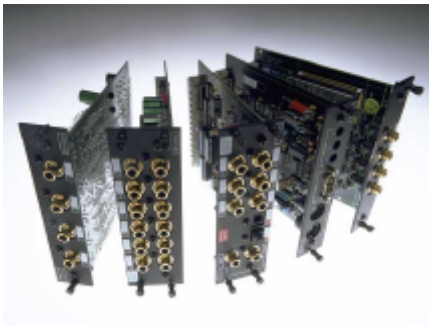
Video Signal processing
- Software-based video decoding for MPEG1 and MPEG2 video.
- Digital video backplane for future video processing enhancements.

Controls, etc.
Front-panel fascia controls for:
- Play, Stop, Pause, Previous, Next and Off.

Hinged control panel provides additional switches for:
- Drive switching, Source, Copy
- DVD menus
- Display, Mute, Volume

Display
- 20-character dot-matrix display: adjustable brightness and contrast.
- Lights for CD, DVD, Drive A/B and Repeat.

Card Details



Each 800 is factory fitted with a mother board that has sections for both digital audio and digital video, a highly sophisticated power supply and some cards (see picture above).
Many of the cards are common to the 800 Series -for details see the 800 Series literature.
The cards particular to 800 DVD include the following:

C000
Control computer card: complete with Flash memory, RS232, 3 trigger outputs and Meridian Comms.

DV00
DVD control computer card: complete with Flash memory, RS232.

DV01
Video DSP card for DVD stream decoding, MPEG video, MPEG audio and Dolby Digital decoding.

VE00
Video encoder option. Generates NTSC or PAL in composite, S-video or Component formats. Wide video bandwidth, low noise and extended black-level feature.

ID16
Digital input card: 5 SPDIF/IEC1937 cable inputs, 2 TOSLINK optical inputs (32–96kHz). Two digital outputs; bypass and Tape/2-room.

OE20
Digital output card: 2 SPDIF/IEC1937 outputs on phono, 2 on AES/EBU (32k–96kHz). Contains ultra-low-jitter master oscillators.

OA20
Analogue output card: 2 ultra-high quality outputs on both phono and XLR (balanced). Effective resolution: 24 bit and 96kHz.

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BOOTHROYD STUART MERIDIAN

Meridian Reference Surround Processor 861

861 inherits all Meridian's surround DSP technology and adds to it the highest degree of control sophistication, more options and higher performance analogue and conversion stages.

Background

Meridian have established an unequaled reputation for their technologies for advancing stereo in surround systems.

Since its introduction in July 1994, the Meridian 565 became widely recognized as *the* benchmark processor. The proprietary Meridian DSP redefined expectations for Movie sound and created a paradigm shift for Music listening by enabling immeasurably improved 'stereo' with 3 to 8-speaker systems.

Meridian's 565 is rated Class 'A' by *Stereophile* and has received the prestigious *EISA* award for 'Home Theatre Decoder of 1995'. Among a total of 12 awards, the 565 was voted 'Home Theatre Decoder of the Year' by *Home Entertainment* in both 1995, 1996 and 1997.

The 861, rated Class 'AAA' by *Stereophile Guide to Home Theater* inherited the Meridian Surround DSP heritage and added to it more processing, a higher degree of control sophistication and outstanding audio and conversion stages.

The 861 also brings the potential for handling more than 8 channels and for decoding future surround formats – in fact the 800 Series Digital Backplane allows processing on up to 64 channels!

Another important upgrade soon to be available, is the addition of multichannel DSP equalisation for Home Theatre and Music systems.

Of course, 861 makes a perfect front end for the 'Class A' rated Meridian Digital Theatre™

Movie formats

Dolby Digital is the preferred sound format for DVD in NTSC territories. The Dolby Digital decoder built by Meridian is the most powerful on the market and passes the most extreme bitstream tests.

Dolby Digital is also available on NTSC LaserDiscs – to replay these an optional demodulator card is available.

MPEG Surround is another audio format for DVD. MPEG audio (2 channel) is also available – including US satellite broadcasts and in computer multimedia. The MPEG decoder provided in 861 is the best-sounding so far.

In addition to Dolby Digital (AC-3) and MPEG, the 861 decodes DTS. The processor fitted is fully capable of decoding all the DTS formats to be seen on DVD – as well as the DTS now available on LaserDiscs and CDs.

Music formats

Meridian has developed a lossless compression system. Meridian Lossless Packing (MLP) has been selected as the mandatory form of lossless coding for the very highest possible sound quality applications on future DVD-Audio. 861 already decodes MLP.

Meridian's 861 uses very carefully crafted processing to get the maximum benefit from high-precision PCM inputs The 861 will accept up to 96kHz and 24-bit PCM and gives the maximum resolution on these signals.

The processor also has the option to perform high-resolution sub-sampling on signals coming in at 88.2kHz or 96kHz.

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BOOTHROYD STUART
MERIDIAN

861 Reference Surround Processor **January 1999**

What is special 861?

The single most important feature in all our DSP products – including 861 – is the incredibly high standard we set for sonic performance.

An important differentiating feature is that instead of using chips that have 'burnt-in' algorithms, Meridian's signal processing is software based, and therefore can be improved or modified in future. For example, AC-3 itself has progressed a lot since the initial standard was set; the DVD application also brings new requirements. Meridian's solution will give the customer value in the long run.

By taking a software solution to AC-3, DTS and MPEG we are also able to take advantage of some of the more interesting user features like 'speech leveling', 'dynamic-range control', 'multi-language', speaker layouts etc. which other decoders may not offer.

Most important though is providing improved sound by fitting a highly accurate, 24-bit decoding algorithm right at the heart of the *world's best sounding surround decoder*. Crude solutions – like outboard decoders with six analogue outputs, or multiple plug-in third-party decoder cards – can never remotely approach the sound, function or facilities of the Meridian 861 architecture.

System integration

With all these different formats able to appear at the inputs of a decoder there is room for confusion.

However, 861 does not get confused even if MLP, AC-3 or DTS arrives when it was expecting a CD!

861 continually monitors the digital input and automatically loads the correct decoding software for the format, speaker layout and encoding of the incoming signal.

You can also store separate user parameters for each source (like LaserDisc) depending on whether the incoming signal is MLP, PCM (Pro Logic decode), AC-3, DTS or MPEG.

THX? Naturally!

THX Cinema has a huge amount to offer in the 7.1 era. The 861 has all the signal processing in place to comply with THX requirements for Dolby Digital, DTS and MPEG. The front channels carry re-equalisation; the surrounds use a new timbre-match curve and an updated de-correlation technique.

Bass management

Movie signals have the potential to require a 12dB increase in bass power handling in a system. Not only can the LFE (Low-Frequency Effects – i.e. 0.1) channel convey 10dB more bass, but the potential exists for that to happen as well as full bass level in the other five channels.

Although the Dolby Digital, DTS and MPEG encoders limit the total bass level to +15dB, the resulting bass energy can still be incredibly demanding for even the very best systems – and equally important – may be disastrous for other, less capable, speakers.

The Meridian 861 incorporates a very sophisticated series of bass protection schemes for Digital Surround formats.

The user can control the overall amount of LFE added in. In addition, the 861 has a bass limiting function (adjusted in Setup) which limits the *total* amount of bass passed to the system.

As well as the overall bass protection, the 861 can monitor *all* speaker outputs. A sophisticated DSP function determines how hard each individual speaker is working and compares that to a capacity rating given for each speaker when the system is installed. If the signal demands more bass than a speaker can supply a proprietary, psycho-acoustically optimised limiting-filter momentarily and elegantly reduces the load on that speaker. This unique protection method means you can get the most out of all the speakers in the room without any fear of damage or unpleasant overload noises.

Sound quality

The 861 embodies the very latest developments in digital audio.

Meridian, who are famous for their smooth-sounding digital-audio components, have made a major breakthrough with a memory-based de-jittering system that allows it to be relatively immune to input-signal quality – and to be, by far, the sweetest and most open sounding controller that Meridian has built to date.

861 Overview

The architecture of 861 allows for wide flexibility – future sources and formats can be handled by upgrading either software or cards.

Inputs

The 861 is a full-system controller preamp that provides seamless control of up to 12 analogue or digital audio, and up to 12 video sources. The Tape cards provide additional internal 20-bit A/D and D/A converters to give full support for both tape recorders and extensive 2 and 3-zone multiroom capability (analogue or digital formats).

By providing digital as well as analogue inputs the 861 can give radically higher sound quality for sources that are originally digital – like CD, LaserDisc, Digital Radio and DVD.

As well as accepting 2-channel digital audio, the 861 will handle SPDIF-encoded Dolby Digital, DTS, MLP or MPEG from sources like DVD, Satellite and LaserDisc.

Processing

The Meridian 861 routes all signals – if necessary – via a 24-bit Delta-Sigma A/D converter into the digital domain for processing in the highly developed Meridian 24-bit DSP cards.

This processing engine can consist of between 2 and 10 modular processor cards, each housing 1 or 2 ultra-fast 24-bit processors with high-speed cache memory. In each DSP core, the incoming signals are processed using a variety of proprietary algorithms and up to 16 output signals are generated. These output signals can be used to feed a number of speaker layouts, ranging from 2-speaker to 9-speaker stereo with up to 8 subwoofers (with adjustable crossover parameters).

The on-board algorithms include Meridian's own highly transparent Dolby Pro Logic and Dolby Digital, MPEG Surround, DTS, THX extensions, TV Logic and a variety of award-winning music programs including Trifield and Ambisonics.

Room Correction

The powerful architecture of 861 allows more processing to be added at a later stage.

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861 Reference Surround Processor — January 1999

Meridian will soon release an upgrade to 861 that uses very high precision processing to correct for room acoustics.

In any playback system the room is an important – maybe the final component. The Room Correction feature of 861 adds yet another major step towards realism.

Outputs

The 8+ outputs can be provided as digital signals to feed Meridian DSP Loudspeakers, or as variable analogue outputs using a proprietary on-board 24-bit resolution conversion method – or as a mixture of both.

Video control and OSD

The Meridian 861 provides broadcast-grade video switching options for monitors, projectors and video tape routing. The comprehensive setup and customising facilities allow the user to link any video and audio combinations to the 12 Sources (accessed from Source switching on the front panel or the remote control).

In addition to providing high-quality video amplification, the 861 has the ability to give help and system control feedback information in an On-Screen Display.

Video formats supported include Composite, S, Component and RGB.

861 Basic Details

The following list illustrates the capability of the design. Refer to the Price List for standard combinations.

Audio in and out

- Up to 12 analogue inputs. User-adjustable sensitivity.
- Up to 12 digital inputs. Re-nameable legends. 32 to 96kHz sampling and up to 24-bit precision.
- Re-nameable legends.
- Digital and analogue tape loops
- Independent copy and 2-room+ capability
- 2 to 8 digital outputs
- 2 to 8 analogue outputs

Signal processing

800 uses Meridian's proprietary DSP software to provide the following powerful Modes.

- MLP (Meridian Lossless)
- Pro Logic
- THX
- TVLogic
- Dolby Digital (AC-3)
- DTS Coherent Surround
- MPEG Audio and MPEG Surround
- Music
- Trifield
- Ambisonics
- SuperStereo
- MusicLogic

Controls, etc.

Front-panel fascia controls for:

- Source, DSP, Mute, Volume and Off.

Hinged control panel provides additional switches for:

- Copy
- Parameter menus
- Display
- Setup

Display

- 20-character dot-matrix display: adjustable brightness and contrast
- Lights for Lock and Emphasis

Above: A back-panel view of 861

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Meridian Setup Program

The example screen shot below illustrates the custom program that Meridian have developed to allow easy setup and maintenance of 800 Series configurations.