



MERIDIAN

# 40th Anniversary System

Special Limited Edition 808 & DSP8000



**Forty years ago, Bob Stuart and Allen Boothroyd worked together for the very first time and began to design their first products: the distinctive Lecson AC1 control unit and AP1 power amplifier (pictured below), which went on sale the following year, in 1972.**

These ground-breaking products won Bob and Allen their first British Design Council Award in 1974, and remain part of the permanent collection in the New York Museum of Modern Art.

To celebrate the Ruby Anniversary of Allen and Bob's creative partnership, Meridian is releasing a special limited 40th Anniversary

Edition of Meridian's most advanced audio replay system, consisting of a special version of the 808 CD and Meridian Sooloos Player with a pair of DSP8000 loudspeakers.



## System highlights

Celebrating 40 years since Bob Stuart and Allen Boothroyd first worked together.

Forty special Limited Edition systems consisting of Meridian's ultimate 808 CD and Meridian Sooloos Player, with a pair of flagship DSP8000 loudspeakers.

Ruby Red – a special colour mix – cabinetry and dark ruby glass panels.

Hand selected components throughout and special grade power supplies.

Special audio enhancements available only in this edition.

Special SpeakerLink cabling included.

Etched serial number plaque on all units includes Limited Edition number out of 40 with Allen & Bob's signatures.

Each system is individually auditioned and approved.

The system is provided with a three-year warranty, extended to five years on registration of the system with Meridian.

Senior Meridian engineer available on request to tune the system after installation.

Hardbound system user guide including unique introduction detailing Meridian's history and loudspeaker design and philosophy, each personally signed by Bob & Allen.

# 40th Anniversary System

Special Limited Edition 808 & DSP8000

For this edition, each component is given a unique, distinctive and never-to-be-repeated Ruby Red finish and contrasting driver bezels. All the units are built from hand-picked components and include numerous special individually-adjusted performance enhancements that make this stunning system sound even better.

The system is unique in other ways too. Only 40 systems in total will be available. Each includes a hardbound system user guide with a unique introduction detailing Meridian's history, and discussing loudspeaker design and philosophy, personally signed by Bob & Allen. Following installation, a senior Meridian engineer will be available to fine-tune the system *in situ*.

## Meridian 808 CD and Meridian Sooloos Player

As part of the Reference 800 Series, the 808 is the highest performance CD Player manufactured by Meridian. It also offers the finest network playback too, with built-in access to a Meridian Sooloos digital media system.

At the heart of Meridian's 40th Anniversary system, this version of the 808 includes a number of unique features. In addition to the Ruby Red painted front moulding, door and buttons, dark ruby glass top and a special signature inlay panel, the unit features a specially-modified Comm card and an enhanced power supply. All the components are hand-selected and the unit includes a complete kit of special Speakerlink cables with ferrite filters for maximum performance.

808 offers CD playback from an internal ROM-based drive which allows for data recovery and error correction many times better than that employed in standard CD systems. The 808 makes Compact Disc – still the most popular music medium – sound the very best it can. 808 inherits Meridian's tradition of over a quarter-century of award-winning players, yet sets a whole new benchmark.

## Meridian: CD Innovator

Of all manufacturers, Meridian has the longest history of high-performance CD players. Meridian's first CD player, MCD, was introduced almost a quarter of a century ago. MCD sounded radically better than anything else available, and still stands

comparison with many so-called audiophile designs of today.

Since then, Meridian has relentlessly pursued the path of making better and better CD players, introducing over two dozen models. Every model has received critical acclaim, and we have gathered more than 50 awards for our CD players.

Over the years we have researched, pioneered and ultimately mastered the art of refinement of every aspect of CD playback. We showed how jitter was a major challenge to audio quality – indeed, Meridian was the first company to isolate jitter, as far back as 1984.

Our technologies include advanced servo implementations, unique power supply designs, significant innovations in the digital arena and, of course, peerless analogue sections. Meridian included digital outputs early on, and pioneered the idea that special disc navigation could improve the playback quality on difficult discs (such as those with fingerprints, scratches or manufacturing defects).

Meridian was also the first company to offer a 2-box solution (utilising an outboard DAC), and has developed special phase-locked loops and FIFO buffers to produce the very best result in such systems – including of course our preferred system, a CD player directly connected to a pair of Meridian DSP loudspeakers.

Meridian has offered its technologies for the mastering of Compact Discs. Several top mastering facilities to use a Meridian player for checking, and over the years a Meridian CD player has become synonymous with the best sound, and 'a reference'. This is a reputation we cherish, and one which we aim to defend by making each player better than the one before.

## Why the 808?

Interest in our CD players continues to increase. This tells us that there is a strong demand for premium CD playback systems amongst music lovers, audiophiles, and others who wish to take advantage of the extensive selection that is still available on no medium, to date, other than Compact Disc.

At the same time, this 808 provides a bridge to a server-based future, with the inclusion of the ID40 Sooloos Card. This dedicated card allows the 808 to replay music stored losslessly on a Meridian Sooloos digital media system – for example, your existing CD library – at the highest possible quality, with control of the Play Queue from the MSR+ remote. And 808 also offers additional inputs to make it truly the hub of the ultimate music system. Thus 808 is an exquisite CD and network player/pre-amplifier, embodying the very best of our art and technology.

Meridian's 808 is the latest in a series of optical disc players that use a new CD-ROM drive for reading. This drive allows



multiple passes to be made, ensuring that the correct data are recovered from the disc and improving Compact Disc's error-correction a hundredfold. It also allows complete buffering of the recovered data. To ensure the lowest possible jitter, 808 incorporates an entirely new clocking regime and employs three buffers, two of which are used as FIFOs in a completely redesigned buffering environment.

By the time the data is passed to the DACs or the digital outputs, the jitter is incredibly low – in fact this special version 808 has the lowest jitter we have ever measured on a CD player.

### Above and beyond

The signal path includes proprietary error correction and concealment, and Meridian's acclaimed 'Resolution Enhancement' DSP, in which the original 44.1kHz, 16-bit audio is upsampled to 176.4kHz, 24-bit in a 150MIPS processor operating with 48-bit internal precision. This upsampling allows conversion-related filtering to take place far above the limits of human hearing, so there are no artefacts added to the sound – you hear simply the pure music.

However, 808 goes further still. Upsampling alone cannot improve on one aspect of CD: the original sampling rate of the recording. A digital system can only capture sounds up to half the sample rate: anything above that must be filtered out. In the case of CD, half the sample rate is only just above the limit of human hearing, so the filters must be very steep. In the past, these filters have audibly degraded the sound. The earliest analogue filters caused enormous phase shifts at high frequencies, and with digital linear-phase filters a big issue was the introduction of pre-echoes.

Meridian's solution was to invent a technology that stripped away this fundamental limitation in the making of the CD, taking the listener right back to the original higher-resolution sound – no mean ambition, nor a trivial task. But Meridian's founder, Bob Stuart, was sure that high-definition sound could be achieved without excessive sample rates – if the filters were right.

Bob authored an Audio Engineering Society paper on high definition audio in which he recommended the development of 'apodising' filters – filters that were

minimum phase, with no ripple, causing no pre-echo: and thus offering perfect timing. He predicted they would even be able to fix problems in the origination process itself. Meridian's research team designed an exquisite, proprietary new upsampling filter based on this research – a filter with 'apodising-style' qualities. It needs significant DSP to deliver, using much of the power of the 808's 150MIPS main processor. This filter system is so effective that it can even correct errors made in the recording or mastering stage – CDs played back on the 808 can sound even better than they did in the studio!

Finally, at the end of the audio chain, the 808 employs the latest multi-bit oversampled delta-sigma D/A converters, combined with a matching proprietary analogue output stage of the highest quality.

### Innovation is the keynote

The system includes many other features, including twin RJ45-based SpeakerLink interfacing, allowing a direct "home run" single-cable link from the 808 to each DSP8000 loudspeaker via the special, ferrite-filtered SpeakerLink cables supplied with the system.

On the input side, the 808 includes a comprehensive set of analogue and digital inputs – including SpeakerLink for convenient interfacing with other Meridian components. The analogue input stage features enhanced high-performance analogue to digital conversion.

The 40th Anniversary Edition 808 also features an enhanced power supply, built around a true toroidal transformer design for minimum noise and maximum signal integrity. The result is, quite simply, the most impeccable-sounding CD and network player available today.

### Meridian DSP8000 DSP Digital Active Loudspeaker

The Meridian DSP8000 is the ultimate expression of the art and science of loudspeaker design, and the 40th Anniversary Limited Edition version doubly so. Meridian's flagship digital active loudspeaker sets new standards for clarity, dynamics, imaging and realism. It is one of few loudspeakers in the world that can accurately reproduce both the power and

subtlety of a concert grand piano. All DSP8000 loudspeakers are designed to reproduce sounds at up to full natural level while providing all the resolution required by high-definition audio sources up to 24-bit. Such demanding dynamics require a novel approach to cabinet construction and selection of advanced drive units.

### DSP loudspeaker drivers

Each DSP8000 loudspeaker uses six high-efficiency long-throw custom bass drive units. The bass units are mounted symmetrically in pairs on the sides of the bass cabinet, cancelling vibration in order to minimise interference with the mid-range and treble units. The treble and mid-range drivers are mounted in a separate sealed head assembly.

The treble unit is a dual-magnet design specially chosen for this Limited Edition and is a semi-horn-loaded composite dome type with a silver voice coil. The mid-range unit incorporates a cone made from a uniquely light and stiff combination of polymers to give unparalleled transparency.

### Power amplifiers

The drivers are fed by five independent high-power low-feedback power amplifiers mounted on a multi-finned extruded heatsink. 150W amplifiers are used to drive each of the three pairs of horizontally-opposed bass units, while separate 150W amplifiers drive midrange and tweeter. The combination of idealised magnetic design, careful star earthing, and very fast output devices gives the amplifiers extremely low noise, high detail, and fast bass.

The whole electronic assembly is supplied from two substantial toroidal transformers feeding high-quality audiophile-grade capacitors.

### Advanced digital processing

DSP8000 also features Meridian's proprietary 'apodising' digital upsampling filter system. In addition, the sophisticated buffering system further works to minimise jitter in the system as a whole. Overall the result is superb imaging and transparency.

### The cabinet

Each DSP8000 loudspeaker is built around a precision manufactured cabinet, which uses innovative design techniques

to give exceptionally low coloration and amazing mid-range transparency. The head assembly is a sealed enclosure fabricated from curved pressure-laminated panels, each using multiple layers of selected woods and metal to provide high stiffness and damping. Its narrow tapered shape offers optimum dispersion across a wide listening area. It is supported on the bass enclosure by three machined feet that fit into cups designed especially for this edition.

Like the head unit, the bass cabinet is constructed from interlaminated panels with extensive bracing. The front panel is 6mm dark ruby glass and incorporates a window for the matrix display and infrared remote control sensor.

The cabinet stands on triangulated adjustable machined foot assemblies with provision for floor spikes or skids.

The 40th Anniversary DSP8000 is constructed from the finest materials and all electronic parts are hand-selected for sound quality, while the loudspeaker system as a whole is individually fine-tuned by Bob Stuart. It includes a new, more sensitive tweeter with a new moulded surround, while special calibration allows the loudspeaker system to operate at even higher sound pressure levels than the standard model.

Driver surrounds feature exclusive machined detail, while the front glass is a special 'dark ruby' colour. Special spike-cups are used to mount the head unit and a special plaque signed by Allen Boothroyd and Bob Stuart on the rear of the head units carries the Limited Edition number.

### About the colour

The colour Allen has chosen for the 40th Anniversary System is a special mix, to a tone subtly darker than the Wine Red RAL standard. It is colour-matched and keyed to a custom-dyed grille cloth. This colour will only be available for this edition.

Customers who purchase this special system will be able to purchase additional loudspeakers in the same colour, for example to complete a theatre system.

The colour will remain exclusive to original owners of the 40th Anniversary Systems.

## Outline Specifications

### 808 40th Anniversary Edition

#### THD & Noise

- Better than -96dBFS

#### Mechanism

- Triple-beam laser, multi-speed CD-ROM transport

#### Conversion

- 192kHz-capable, 24-bit, Delta Sigma converters operating at 4 x CD sample rate (176.4kHz)
- Apodising-style upsampling filter system

#### Stereo Outputs

- Analogue: 1 unbalanced on phono, 1 balanced on XLR-3M: 2.3V rms fixed/variable, Class A, 47Ω impedance
- Digital: twin SpeakerLink RJ45 digital interface for single-cable connection of other Meridian equipment; coax unbalanced (S/PDIF). Operating at up to 2 x CD sample rate (88.2kHz), 24-bit with MHR option

#### Stereo Inputs & Sources

- Analogue: 6 unbalanced on phono.
- Digital: S/PDIF (3 coax & 2 Toslink optical); SpeakerLink RJ45
- Meridian Sooloos digital media system connectivity via RJ45 Ethernet connection

#### Formats

- CD Audio (CD-DA), CD-R, CD-R/W

#### Comms

- Two 5-pin 240° DIN sockets for Meridian Comms, and RS232 full remote/configuration interface. Three programmable 12V trigger outputs. RJ45 SpeakerLink

#### Construction

- Special Ruby Red gloss finish in metal & glass

#### Controls

- Front-panel keys for Open/Close, Play, Stop, Pause, Previous, Next, On/Off. Additional controls behind hinged front access cover include Repeat, Fast Forward/Reverse, Display, Mute, Volume Up/Down, Store/Clear, Source. Full remote control via MSR+, RS232

#### Display

- 20-character dot matrix display with adjustable brightness and contrast. Indicators for Phase, Repeat and EQ. (emphasis)

#### Dimensions

- 480mm (18.9in) x 175mm (6.9in) x 411mm (16.2in) (WHD)

#### Power

- 115 and 220–240VAC versions, 50/60Hz, 25W

### DSP8000 40th Anniversary Edition

#### Performance

- Frequency response in-room 20Hz – >20kHz ±3dB (for inputs at 44.1kHz or 48kHz)
- '3½-way crossover system
- Linear-phase mid-top crossover; 6th-order Linkwitz-Riley bass-mid crossover
- Output >118dB spl @ 1m on music material
- Noise less than 15dB spl
- Overall distortion typically <0.02% at any frequency or level

#### Inputs

- SpeakerLink balanced digital (2ch, RJ45)
- S/PDIF unbalanced digital (2ch, phono)
- 32kHz–96kHz sampling rates

#### Audio Processing

- FIFO memory buffer input for the lowest possible jitter from almost any source
- Four 24-bit D/A converters
- All up-sampling and processing is performed by a 150MHz digital signal processor (DSP)

#### Amplification

- 3x150W amps on bass (1 amp per driver pair)
- 2x150W amps on midrange and tweeter

#### Construction

- Two separate enclosures: mid/top and bass.
- Horizontally opposed and profiled bass system introduces minimal vibration to the mid/top enclosure
- 6 x 200mm long-throw bass drivers
- 1 x 160mm polypropylene (TPX) mid driver in separate enclosure
- 1 x 25mm dual-magnet dome tweeter, silver wire, short horn-loaded with protective grille
- Special Ruby Red gloss finish with glass front bass cabinet

#### Dimensions

- 400mm (15.7in) x 1350mm (53.2in) x 528mm (20.8mm) (WHD)

#### Weight

- 105kg (231lb) each

#### Control

- Rear-panel controls for Power On/Off. Full control via MSR+ and RS232
- SpeakerLink carries Comms, serial and balanced digital audio via RJ45/CAT 5

#### Front display

- Multi-character display with system lights

#### Power

- 20W standby, 920W max.