



G68

Surround Controller



Meridian's G Series line of high performance digital and analogue consumer audio components feature a stylish cabinet design in traditional black or a sleek silver finish. Designed to be either free-standing or rack-mounted, G Series components build on their predecessors, the multi-award-winning 500 and our flagship 800 Series, and include entirely new circuitry developed specifically for the G Series.

Multi-layer boards reduce system noise and improve performance. In products which include video capabilities, broadcast-quality, wide-bandwidth video components are employed for maximum image integrity. G Series units are easy to use. Where appropriate, a knob is included to control volume. The positive-action front-panel keys are software-defined: their legends are presented in the vacuum fluorescent display and change intelligently according to context.

Full installation configuration of many G Series components is achieved by running a special setup program on a Windows computer, connected to the G Series unit via a serial link, or direct from the front panel.

G Series products also include serial ports for remote operation and configuration, along with infra-red sensor input and trigger capabilities, plus Meridian communications ports. A comprehensive back-lit learning/programmable remote is included with products other than amplifiers.

Virtually every piece of audio equipment has its own, characteristic sound. But at Meridian, our intention is to represent the original acoustic or studio event as accurately as possible. The ideal characteristic sound of Meridian, therefore, is clear: it's the real thing.

We achieve this sound in many ways, including careful choice of the right components, the right signal processing, the shortest possible analogue chain, precision digital design and the lowest jitter. In a multichannel surround processor these factors are particularly important.

The G68 builds on the technology that went into Meridian's flagship, AAA-rated 861 surround processor. It is a powerful, flexible surround controller with an AM/FM tuner built-in, and represents the centrepiece of the G Series range, with several variants available to suit a wide range of applications.

At the heart of the G68 is a powerful DSP engine consisting of five Motorola 56367s running at 150MHz – delivering an incredible 750MIPS (million instructions per second). Processing is performed at high sample rates and with 48-bit precision throughout, ensuring that all filtering, processing and other operations are carried out far above the limits of human hearing. The G68 is thus an excellent processor for high-quality digital audio and video sources

Product highlights

Developed from the acclaimed 861 surround processor

Meridian Room Correction system counteracts room resonances

AM/FM Tuner with RDS and powerful DSP features

Digital, analogue balanced/unbalanced and video options

Powerful DSP engine with five processors delivering 750MIPS

6-channel analogue & digital inputs plus USB in

Revised design, with new features

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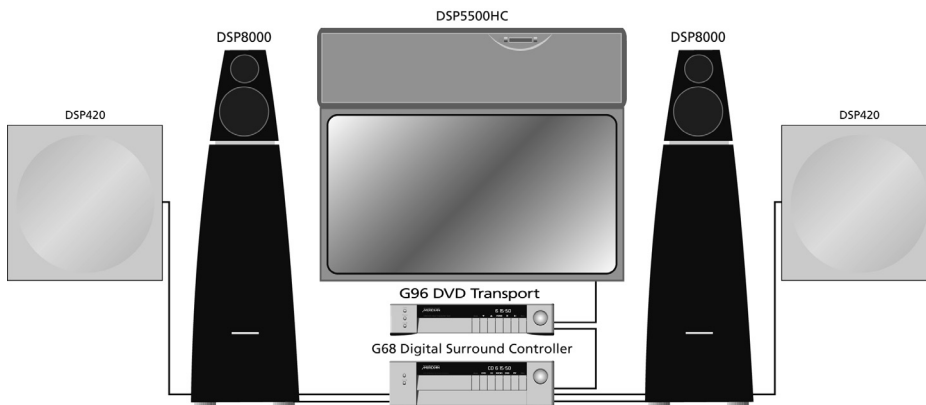
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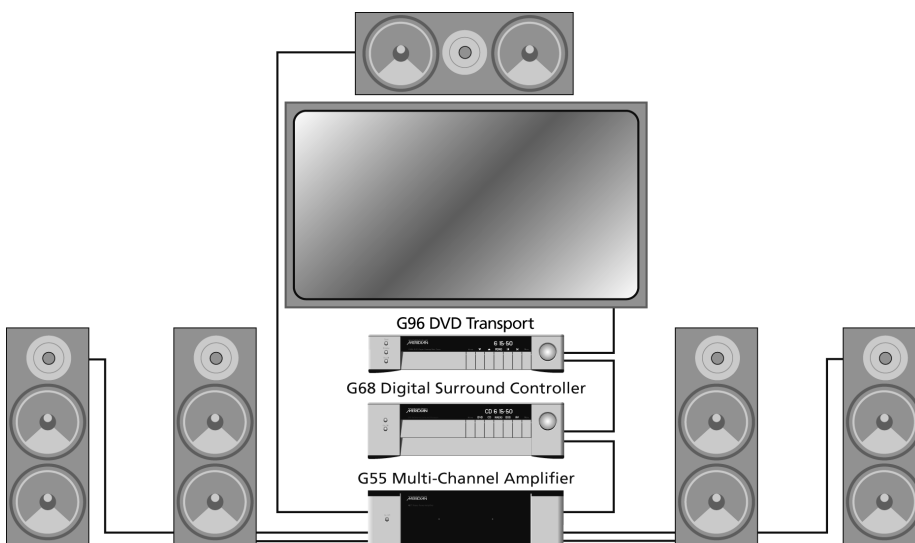
such as DVD. For superior audio quality, incoming analogue signals are converted to 24-bit, high-sample-rate digital data via multibit Delta-Sigma converters as soon as they enter the processor, and all digital signals are reclocked to minimize jitter and maintain total data integrity.

And that's just *one* reason it sounds so good.

All versions of the G68 include two 6-channel S/PDIF digital inputs (coax), four stereo Toslink optical inputs, and six more stereo coax digital inputs, plus a USB digital input for computer-based sources. In addition, there's a 6-channel analogue input, and five stereo analogue ins. All the inputs are reconfigurable for an incredible degree of flexibility, and analogue inputs are converted to digital at high resolution – 24-bit, 96kHz.



The G68 Digital Surround Controller is an ideal complement to the G96 DVD Transport, and provides the basis of a stunning Meridian Digital Theatre system. The units are shown here connected to a pair of Meridian's top-of-the-line DSP8000 speakers for front left and right, coupled with a pair of DSP420 in-walls for the surrounds and a DSP5500HC for the centre front channel. Thanks to the video processor in the G96, any kind of video display device can be supported, whether composite, S-Video, Component (progressive or interlaced) or even the latest interfaces such as HDMI: different video inputs are converted to all formats, so there is only need for one display connection.



In this analogue alternative to the system shown above, the G96 and G68 are augmented with the G55 5 x 100W multichannel power amplifier. The amplifier will drive any conventional passive analogue loudspeakers. Alternatives would include installation loudspeakers from the 300 Series range, driven by C Series rack-mounting power amplifiers. The available analogue versions of the G68 include both balanced and unbalanced variants and combinations of the two. A digital output version of the G68 without video is also available.

The G68 is not only an audio processor – the video versions make it a superb video switcher too, with broadcast-quality switching and signal handling for the highest quality picture you've ever seen.

Video versions offer four S-video inputs and two outputs; four composite inputs and two outputs; and three component inputs with one output.

The G68 combines controller and surround processor functions, meeting THX Ultra 2 specifications and including MPEG, DTS, Dolby, Trifield (Meridian's popular and impressive 3-speaker stereo decode) and Ambisonic (2-channel UHJ and B-Format, to 4, 5, 6 or 7 speakers) decoding, to name just a few. The decoders consist exclusively of our own code, giving them superior integration with the Meridian design philosophy, as well as superior performance.

The G68's 'Smart Source' feature continually monitors the digital inputs and automatically loads the correct decoding software for the format, speaker layout and encoding of the incoming signal.

This capability is enhanced by MHR SmartLink, which provides a digital link between a Meridian DVD transport and processor, carrying explicit information about the nature of the datastream as well as encrypted high-resolution digital signals from DVD-Audio – the first system of its kind to be approved.

You can also store separate user parameters for each source (such as DVD) depending on whether the incoming signal is stereo or surround, so that any source material is played with the decode of your choice.

The G68 includes Meridian's Room Correction software, accessed via the computer setup program used to configure the unit via the serial port. This unique feature automatically measures room resonances using a simple microphone, employing powerful DSP technology to build up to 60 high-quality digital filters that limit the reverberation time at resonant frequencies to a value similar to the overall reverberation time of the room.

The filters can be examined graphically and numerically, and edited if required.

The result is that 'muddiness' in the sound is removed, while stereo and surround imaging are dramatically improved.

Coupled with this is a powerful bass management system that can handle up to three subwoofers.

The G68 is also designed to deliver optimum results with Meridian's 300 Series in-wall and on-wall loudspeakers.

Multi-zone/recording features include stereo digital and analogue outputs providing independent sources to two additional zones (video versions add two sets of S-video and composite video, with auto-switching and conversion between S and composite).

The tuner provides AM (LF/MF) and FM (VHF stereo Band II) reception and RDS, and is fitted with its own 24-bit, 96kHz A/D stage. Digital signal processing provides a sophisticated FM stereo blend/width control which allows the user to minimise noise on a received signal. There is also a DSP-based lowpass filter and whistle filter for improved AM reception.

Several versions of the G68 are available. The G68ADV version includes 10 channels of digital out with MHR along with 8 channels of analogue output. Video versions (with the 'V' suffix) offer two S-Video outs, four S-Video ins, two composite outs and four in, plus component out and three component inputs. The included multizone/tape feature adds composite and S-Video capability.

The G68AXV features six unbalanced and four balanced analogue outputs, while the G68XXV instead provides eight balanced analogue outputs on XLR connectors.

Two versions have been developed specially for the US market, the G68AXD and G68XXD. These were the result of careful research in the US home theatre environment to ascertain exactly what features were required. The G68AXD and XXD include the same facilities as the AXV and XXV, *without* the video switching, but *with* additional digital I/O capabilities.

All G68 models include a USB digital audio input for direct connection to a computer-based server or similar system. This allows such units to be connected to the G68 without their audio passing through

Outline Specifications

Most units include

Inputs

- Digital (S/PDIF) Inputs: 3 x optical in, 6 coax stereo in, 2 x 6-ch MHR coax in
- Digital (USB) Input
- Analogue Input: 5 x stereo, 1 x 6-ch analogue in, unbalanced

Tuner

- AM (Long/Medium Wave, 150–285/525–1605 kHz); FM (VHF Band II, 87.5–108 MHz), sensitivity 2.0µV.
- Configurable channel spacing & emphasis for US/EUR/ Japan, etc.
- DSP-based FM stereo width/blend reduces noise on weak signals
- AM whistle filter, LPF

Zone2/Tape/Zone3 Audio

- 2 x analogue audio out, 2 x digital out. BNC Meridian Comms

Comms

- 2 x Meridian Comms (DIN) Trigger, IR in, USB, RS232 remote control/configuration

Primary Options

G68ADV adds:

- Analogue/Digital Output: 10-channel digital out w/MHR (5 x phono); 8 channels of analogue out
- Primary Video: 2 x S-Video out, 4 x S-Video in, 2 x composite out, 4 x composite in
- Component Video I/O: 1 x component video out, 3 x component video in (phono); Trigger 2, 3;
- 1 x additional optical digital in
- A/V multi-zone (replaces Audio zone output):

2 x S-Video out, 2 x composite video out, 2 x analogue audio out, 2 x digital out. BNC Meridian Comms.

G68AXV adds:

- Bal/Unbal Analogue Out instead of digital outputs: L, R, C, Sub balanced outs (XLR-3F); 6 x surround outs, unbalanced

G68XXV adds:

- Balanced Analogue Out instead of the digital outputs: 8 x balanced outputs, XLR-3F
- **G68AXD and G68XXD** are as the AXV and XXV but without the video switching; instead including a 10-channel S/PDIF digital surround output including MHR (5 x phono), and stereo analogue out (2 x phono)

Processing

- 5 x Motorola 56367s running at 150MHz to give a total of approx. 750MIPS (million instructions per second). 48-bit arithmetic throughout.

Conversion

- 24-bit Sigma-Delta converter chips operating at up to 96 kHz on analogue inputs and outputs

Analogue ins

- 0.5–2.5Vrms adjustable, input impedance 20kΩ

Analogue outs

- Variable between 0 and 3.5Vrms, output impedance 47Ω. Distortion <0.01%. Noise & hum <-95dB CCIR

Controls

- Front-panel soft keys include control of Source, Copy, Mute, etc. Power and Display buttons, rotary DSP volume control.

- Full remote control via MSR+, serial. Serial link also used for firmware updates.
- Config via serial or front panel.
- 12V trigger(s) as listed left

Display

- Multi-character dot-matrix Vacuum Fluorescent Display

Indicators

- Front-panel keys back-illuminated; Standby button lit when off

Formats

- Include Dolby Digital, DTS, MPEG Surround, THX Ultra 2, THX Surround EX and more

DSP Modes

- Include Direct, Music, Trifield, Ambisonics (2-ch UHJ & B-Format; 4, 5, 6, & 7 speaker decode), Super Stereo, Music Logic, THX, Mono, Discrete, TV Logic, Digital, Digital THX, DTS, DTS THX, DTS Music, MPEG, MPEG THX, MPEG Music, ProLogic IIx Music, ProLogic IIx Movie, ProLogic IIx THX, Cinema
- Meridian Room Correction, and more

Power

- Universal supply 100–240V, 50–60Hz, 25W

Construction

- Meridian black or silver finish in metal & glass

Dimensions

- Width: 440mm (17.32in); Depth: 350mm (13.78in) plus connectors; Height: 132mm (5.2in)

Rack Mounting

- Kit available from Meridian authorized retailers

Weight

- 10kg (22lbs)

G68AXD rear panel



a computer sound card, thus delivering maximum quality.

The G68 can be configured from the front panel, using the comprehensive 'soft-key' interface common to all G Series units.

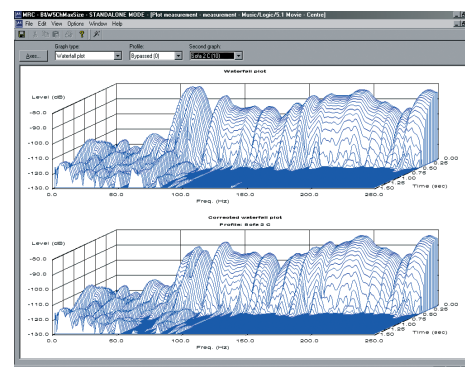
Five of the seven keys take on functionality intelligently according to context, with their legends displayed above the buttons in the front-panel display.

As a result, 'wizards' can be used to lead you through the configuration procedure, allowing a powerful degree of customization without having to hook up a computer. However, a powerful Windows graphical set-up application (supplied), allows access to all the unit's functions and configuration.

Further keys take you back to the top level of the interface ('Home'), and display different options available at a given level ('More').

The G68's firmware can be updated via the serial port, with updates downloaded from the Meridian web site, when made available from time to time.

This sophisticated, powerful product is difficult to fully describe on paper – contact your Meridian dealer for a demonstration of the G68 and other G Series components, along with Meridian DSP Loudspeakers, to which they form an ideal complement.



Meridian Room Correction software automatically detects room resonances and counteracts them, utilising awesome DSP power to generate up to 60 filters.

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