



# G68

## Surround Controller



*Meridian's G Series line of high performance digital and analogue consumer audio components features 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 the achievements of our flagship 800 Series, and include entirely new circuitry developed specifically for the G Series.*

*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.*

*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.*

*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 analogue and digital design and the lowest jitter. In a multichannel surround processor these factors are particularly important.

The G68 is the most comprehensive Surround Controller in the G Series range, and forms its centrepiece. It is a powerful, flexible unit with an AM/FM tuner built in.

At the heart of the G68 is a powerful DSP engine consisting of five Motorola 56367s and a 53671 running at 150MHz – delivering an incredible 900MIPS (million instructions per second). Processing is performed at high sample rates and with up to 48-bit precision, ensuring that all filtering, processing and other operations are carried out far beyond the limits of human hearing. The G68 is thus an excellent surround controller for high-quality digital sources such as DVD and Blu-ray Disc.

### Product highlights

Eight-channel Speakerlink output for ease of installation and enhanced performance.

Redesigned master oscillator and clocking system reduces jitter, improving sound localisation and performance.

Advanced DSP, including Meridian's unique 'apodising' upsampling filter, delivers exceptional sound quality from all sources.

Two Meridian SmartLink inputs offer the best possible connection to Meridian DVD players and HD621.

Meridian Room Correction system counteracts room resonances, delivering improved clarity, detail and imaging.

AM/FM Tuner with RDS and powerful DSP features.

USB audio input makes connecting a media PC to a Meridian system easier than ever, for enhanced replay quality from digital library systems.

3-into-1 broadcast quality component video switcher built in.

The most comprehensive surround processor in the G Series. Allows connection of a diverse range of audio and video sources with unified control over time alignment, bass management and surround handling.

Balanced analogue outputs allow full integration with traditional power amplifiers and passive loudspeakers.

### Inputs and Outputs

The G68 comes with a wide range of inputs and outputs, analogue and digital, to suit simple and effective interconnection with both Meridian and third-party components.

There are eight channels of SpeakerLink output connectivity, allowing connection to a Meridian DSP Digital Active loudspeaker with a single Ethernet-style RJ45 cable.

Equally, a full set of eight balanced analogue outputs (plus two additional unbalanced outputs) means that it's easy to connect traditional power amplifiers and passive loudspeakers – or a combination of the two. Multi-zone/recording features include digital and stereo analogue outputs providing independent sources to two additional zones.

On the input side, the G68 includes a dozen S/PDIF digital inputs, six of which can be configured as up to two 6-channel inputs with Meridian SmartLink. There are also four Toslink optical inputs and eight stereo analogue inputs, three of which can be configured as a 6-channel analogue input.

For superior audio quality, incoming analogue signals are converted to 24-bit, 96kHz digital data via multibit Delta-Sigma converters as soon as they enter the processor. Digital signals are reclocked to minimize jitter and maintain total data integrity. All inputs are reconfigurable for an incredible degree of flexibility.

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 or HD621 and the controller, carrying explicit information about the nature of the datastream as well as encrypted high-resolution digital signals. SmartLink is particularly useful when the G68 is connected to the HD621, which delivers the highest quality audio from high-definition HDMI-based sources such as Blu-ray Disc.

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 always played with your favourite DSP mode.

In addition to conventional analogue and digital inputs, the G68 includes a USB input port, ideal for the replay of computer-based sources such as iTunes via a home audio system.

### Processor Functionality

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-plus-surround 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 almost exclusively of our own code, giving them superior integration with the Meridian design philosophy, as well as superior performance.

The importance of low jitter in digital audio systems, and the carefully-designed oscillators and clocking systems required to realise it, have often been underrated in consumer audio designs. The G68 includes a new design of master oscillator and reclocking circuitry that virtually removes jitter, delivering higher levels of audio performance including better sound localisation and stereo/surround imaging.

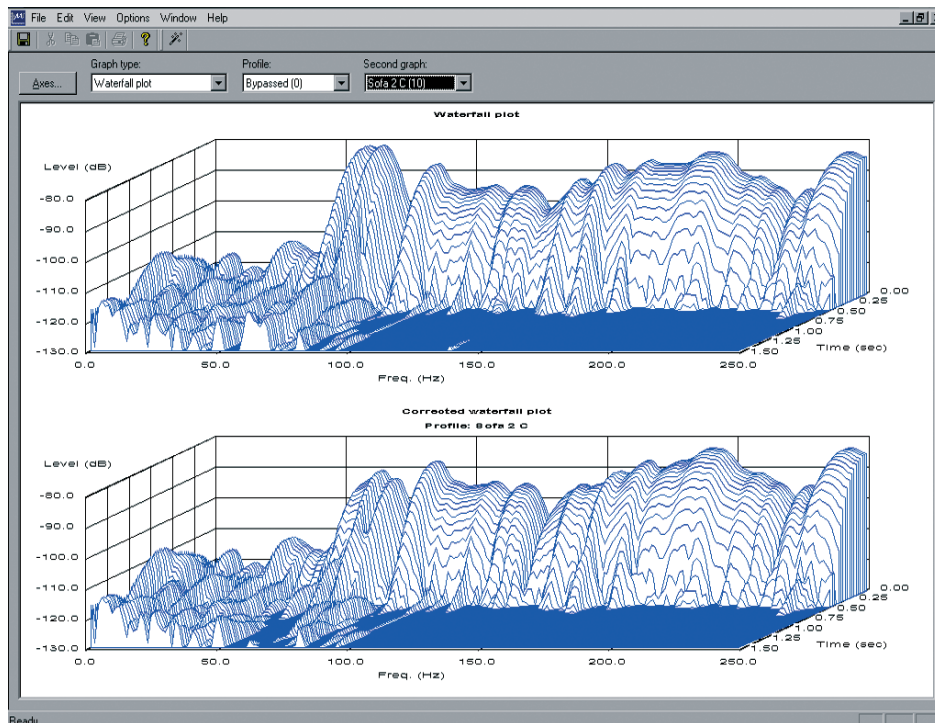
### Meridian Room Correction

The G68 includes Meridian's Room Correction software, accessed via the computer setup program used to configure the unit via the serial port.

It is often impossible to completely iron out problems in room acoustics at the interior design level, as acoustic requirements can often conflict with other necessities. The most common problem is room resonances, particularly at low frequencies. Some frequencies are amplified unnaturally as a result, while others can be "pulled" from the correct pitch by the resonances. In addition, problem resonances increase the reverberation time of the room at those frequencies, muddying the sound and impairing the accuracy of stereo and surround imaging. This is where Meridian Room Correction can help.

This unique process measures room resonances using a simple microphone, employing powerful DSP technology to automatically build up to 60 high





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

## Outline Specifications

### Inputs

- 12x S/PDIF digital (coax), D1–D6 can be configured as x2 six-channel digital inputs with Meridian SmartLink
- 4x Toslink digital optical
- USB digital Input
- 8x analogue stereo inputs, (phono). A1–A3 can be configured as x1 six-channel analogue input. 0.5–2.5Vrms adjustable, input impedance 20kΩ

### Outputs

- 8x SpeakerLink digital (RJ45): L, R, C, Sub, Side L, Side R, Rear L, Rear R
- 8x analogue balanced (XLR): Main L, Main R, Side L, Side R, Rear L, Rear R, Centre, Sub
- 2x analogue unbalanced, (phono). Lz, Rz. Variable between 0 and 3.5Vrms, output impedance 47Ω. Distortion <0.01%. Noise & hum <-95dB CCIR

### 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

### Zone2/3

- 2x analogue audio out

- 2x digital out
- 1x BNC Meridian Comms

### Video

- Inputs: 3x Component (phono)
- Outputs: 1x Component (phono)

### Comms

- 2x Meridian Comms (DIN) + 1x BNC, 3x Trigger, IR in, USB, RS232 remote control/configuration

### Processing

- 5x Motorola 56367s and 1 x 56371 running at 150MHz to give a total of 900MIPS (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

### 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 or maintenance USB port used for firmware updates
- Config via serial or front panel
- 3 x 12V trigger(s)

### 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 and AAC

### 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, THX Ultra 2, THX Surround EX, Meridian Room Correction, and more

### Power

- Universal supply 100–240VAC, 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)

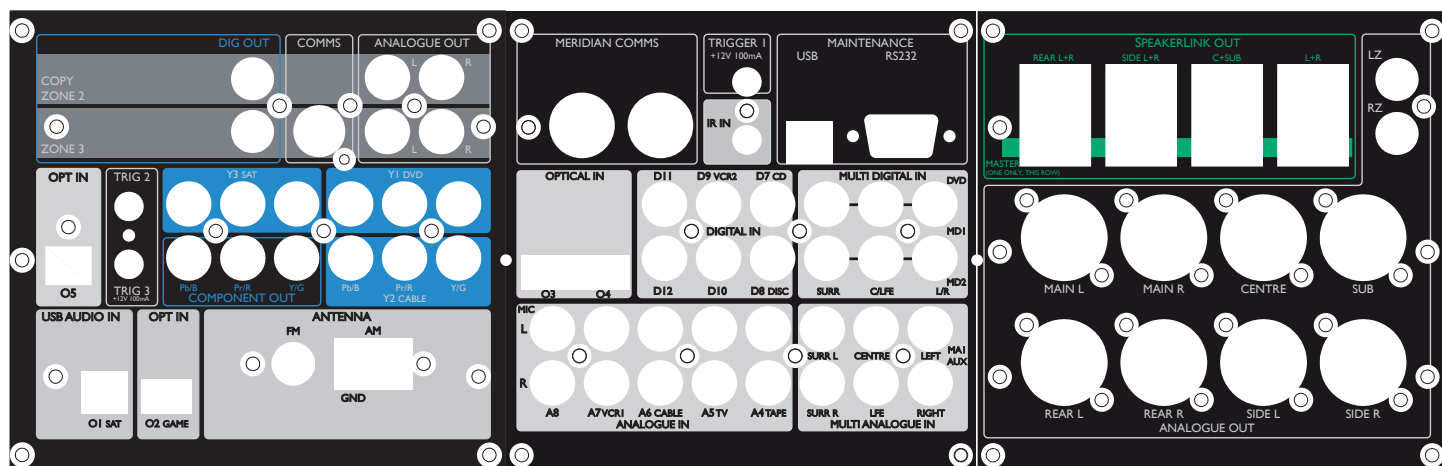
### Rack Mounting

- Kit available from Meridian authorized retailers

### Weight

- 10kg (22lbs)





G68 rear panel layout

quality digital filters that smooth out the reverberation time at resonant frequencies to a value similar to the overall reverberation time of the room. This is an extremely benign way to approach the problem, and it produces audible results, cleaning up muddiness and making the position of instruments in the soundstage easier to discern. The overall sound is tighter, clearer and easier to listen to.

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 installation loudspeakers.

The G68 includes a broadcast-quality component video switcher capable of directing one of three inputs to the output, with exceptionally low insertion loss, delivering extremely high picture quality.

### Built-in Tuner

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 converter. 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.

### User Interface and Configuration

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.

'Wizards' can be used to lead you through the configuration procedure, allowing a powerful degree of customisation 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 or USB maintenance ports, with updates downloaded from the Meridian web site, when available.

Contact your Meridian retailer for a demonstration of the G68 and other G Series components, along with Meridian DSP Loudspeakers, to which they form an ideal complement.