

G91A DVD Audio/Video Player Controller Tuner



BOOTHROYD STUART
MERIDIAN

Ideal heart of a stereo or multichannel audio/video system

Includes both multichannel analogue & digital outputs

Drives digital speakers or analogue amps directly

Plays almost all CD and DVD format discs

Multiple analogue and digital inputs

Powerful video processor; HDMI out at up to 1080p

Digital upsampling and buffering delivers a spectacular improvement in quality

ROM drive improves error-correction over ten times

AM/FM RDS tuner or DAB Digital Radio with FM

Meridian's G Series line of high performance digital & 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.

The G91A is a development of the original G91, already one of the most versatile members of the G Series family, adding multichannel analogue output capability to the prodigious capabilities of the G91.

The G91A is a DVD-Audio/Video player with stereo or multichannel capability and built-in tuner, and offers an even more versatile alternative to the G91. Like the G91, it plays audio CDs, MP3 CDs, Video CDs, DVD-Video, and DVD-Audio discs including the DVD side of DualDisc hybrids. It can decode Dolby Digital, DTS, MPEG, MP3, and MLP data streams to PCM for stereo, and in some cases multichannel, playback, and it can optionally output Dolby Digital, DTS, and MPEG bitstreams for connection to a surround controller such as the G68.

The G91A incorporates a two-channel preamplifier with two coax digital inputs, two optical inputs, and three analogue inputs. It provides analogue and digital multichannel and fixed auxiliary digital stereo outputs. Digital signal processing is included to upsample (stereo only) decoded streams, or decode surround bitstreams from external sources. It also includes a high-quality FM/AM tuner with RDS/RDBS (G91A model), or a DAB/FM tuner (G91A-DAB).

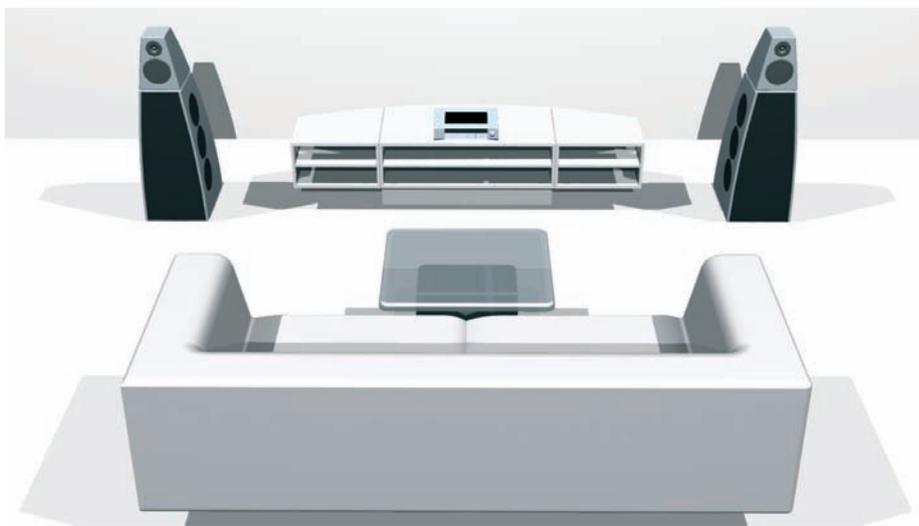
In stereo mode, the G91A is designed to connect directly to a pair of analogue active speakers, or power amplifiers and passive speakers. Alternatively, it can be connected to a pair of Meridian DSP Loudspeakers to create a complete two-channel AV system.

G91A DVD Audio/Video Player Controller Tuner

The illustration right shows the G91A at the heart of a compact, all-digital, Meridian-based stereo DVD system. The Meridian DSP loudspeakers take their feed from the G91A's digital preamp outputs, with the speaker volume controlled by the G91A's front-panel knob via the communications link, or via the remote. The G91A will also drive a stereo analogue system, for example with a G56 or G57 power amplifier and your choice of passive speakers, or active loudspeakers like the M420 in-wall designs.

In addition, the G91A will drive a complete 5.1 system comprising either digital speakers or analogue amps and conventional speakers – or any combination of the two (see panel opposite).

With three stereo analogue inputs and four stereo digital ins (two optical and two coax), the unit will support a wide selection of inputs, and when playing a multichannel disc as part of a stereo system, the surround information is expertly downmixed to stereo.



The G91A's multichannel digital output allows connection to a surround controller such as the G68. Alternatively, the digital and/or analogue multichannel outputs can be used to create a powerful 5.1 surround system based on Meridian DSP Loudspeakers or conventional analogue amps/speakers – or a combination of the two. Here the G91A really comes into its own: as the heart of a complete surround system.

The G91A includes a powerful video processor and scaler which can simultaneously provide composite and S-video outputs, plus progressive component video and up to 1080p on an HDMI v1.1 output. It provides two composite, three S-video, and one interlaced component video input, all of which can be routed to any of the video outputs with appropriate scaling.

G91 (above) with G68



At the centre of the G91A is a high-speed computer-style DVD-ROM drive – the best type of drive to use to ensure accurate data recovery from all types of disc. The drive normally operates at standard speed; however, it is capable of recovering data a great deal faster when required, enabling it to make more attempts to recover accurate data from a problem disc. Because of this, the drive can perfectly recover the data from almost any compatible disc.

Unlike other players that use a mechanical approach to attempt to lower jitter by minimising drive vibration, the G91A employs a triple buffering system to minimise jitter, maximizing HF transparency and sound stage precision and stability. The result of this sophisticated approach is that the players deliver ultra-low jitter, with sound and picture quality second only to Meridian's 800 Reference DVD/CD Player.

The digital electronics as a whole are driven by a new design of high-stability clocking system which further reduces jitter and ensures that the highest level of detail is recovered from a disc. All digital data is accurately re-clocked, and multiple power supplies ensure that digital and analogue circuitry are kept separate.

The G91A includes a comprehensive front-panel user interface which allows access to all the features of the unit. The player can be set to a standard 'Type' which configures all the required settings as required for a particular application. In addition, an on-screen display (OSD) allows you to configure specific settings individually.

The player employs Flash ROM memory for the operating system, so software updates can be downloaded from the Internet and installed via a PC connected to the serial port on the rear panel. The serial port also allows full remote control and configuration of the unit.

The G91A provides three principal S/PDIF coax outputs designated L/R, L/R Surround, and C/LFE. These typically connect to Meridian processors, or feed a stereo signal to a pair of DSP Loudspeakers.

G91A DVD Audio/Video Player Controller Tuner

The G91A forms the perfect heart of an analogue or digital surround system, and the latter is shown here. In fact, the G91A will drive any combination of analogue and digital speakers in a surround system (though it is advisable to use identical speakers for left and right of each pair).

The analogue outputs are driven by 24-bit DACs that are upsampled to 176.4 or 192 kHz for maximum fidelity, and the digital outputs offer up to 24-bit, 96 kHz sampling – the highest quality available today from multichannel digital source material. The output level is controlled by the front panel knob or via remote.

The G91A supports almost any kind of video display device, whether composite, S-Video, Component (progressive or interlaced) or even the latest interfaces such as HDMI or DVI. Different video inputs are converted to all formats, so there is only need for one display connection.



If configured for MHR SmartLink they, or the adjacent combined 15-way D-type connector, carry high-sample rate encrypted data from DVD discs for the highest fidelity of decoding and reproduction. The SmartLink also informs a connected Meridian processor of the signal source, so that it can switch processing modes automatically. An additional S/PDIF digital output delivers a stereo downmix or bitstream signal.

The G91A includes a preamplifier and integral radio tuner. The main stereo analogue pre-amp output is either fixed, or variable via the front-panel knob which controls the Meridian proprietary digital/analogue volume control – a design similar to that used in the 800 Series and DSP 8000.

Two tuner options are available: AM/FM and DAB/FM. The former provides AM (LF/MF) and FM (VHF stereo Band II) reception with RDS/RDBS, and is fitted with its own 96kHz, 24-bit A/D stage. Digital signal processing provides a sophisticated FM stereo blend/width control which allows you to minimise noise on a received signal. There is also a DSP-based low-pass filter and a whistle filter for improved AM reception. Alternatively, a version is available with DAB Digital Radio (VHF Band III and UHF L-Band) and FM. This option is described in a separate sheet.

The G91A includes upsampling in stereo, which allows digital filters to be placed far beyond the range of human hearing, as well as offering other audible benefits right across the audio band, including improved transient response. All processing is at 48-bit precision. This results in a more open, transparent sound, tighter bass, and a generally more 'musical' sound overall.

To drive the multichannel analogue outputs, signals are upsampled to 176.4/192kHz for digital to analogue conversion – DACs can offer better performance at higher sampling rates – and 88.2/96kHz is used for the digital outputs, all at 24-bit word lengths.

Here again, sending 24 bits at high sample rates via an S/PDIF link reduces jitter as compared

with the original 44.1kHz, 16-bit signal from a CD, for example. In addition, high-resolution digital outputs are encrypted, removing cyclic components from the data stream and further reducing jitter.

All these advanced digital processing features are handled by a powerful DSP engine delivering an impressive 150MIPS (million instructions per second).

In addition, the G91A incorporates digital surround decoding to allow the multichannel analogue and digital outputs to be used to drive a 5.1 surround system directly, based on Meridian DSP Loudspeakers and/or conventional analogue amps and speakers.

The built-in surround processing system decodes 5.1 MLP, Dolby Digital or DTS soundtracks from DVD-A or DVD-V discs, and Dolby Digital or DTS data streams fed into the external digital inputs. It will also synthesise a full surround image from 2-channel soundtracks on audio CDs, DVD-A or DVD-V discs, or from the external two-channel digital or analogue inputs, by extracting latent surround information in the recording.

Several DSP presets are provided to allow you to choose the type of surround processing used for different sources. For 5.1 audio formats a Discrete or Cinema DSP preset is selected automatically, depending on whether the source is music or a movie. For two-channel audio formats the DSP preset can usually be switched between Tri-field (recommended for music), Stereo (uses just the main left and right speakers and subwoofer), or PLII (recommended for movies), using the DSP key on the front panel or MSR+.

On the video side, advanced video circuit designs, matched phase video filters, and a broadcast-quality video encoder are employed to deliver low-noise images of outstanding colour depth and resolution. Separate ultra-low jitter master video and audio oscillators allow picture and sound to be independently optimized, ensuring that the G91A DVD player delivers breathtakingly clear pictures.

G91A DVD Audio/Video Player Controller Tuner



G91A rear panel (G91A-DAB version)

G91A Outline Specifications

Formats:	DVD-Audio, DVD-Video, DVD-R; Video CD (VCD), CVCD, MP3; CD Audio (CD-DA), CD-R and hybrids such as SACD (CD layer only) and DualDisc (DVD layer only)
Audio inputs:	Analogue: three stereo inputs, unbalanced 0.5–2.5Vrms on phono. Digital S/PDIF: two stereo coax inputs and two stereo Toslink optical inputs
Tuner:	AM/FM tuner includes its own 24/96 A/D converter. AM (Long/Medium Wave, 150–285/525–1605 kHz); FM (VHF Band II, 87.5–108 MHz), sensitivity 2µv. DSP processing for FM stereo/mono blend and width; AM lowpass filter and whistle filter. DAB/FM tuner option (see G-DAB data sheet).
Audio outputs:	Analogue: 6-ch surround output, variable up to 3V rms. Digital: MHR Smart Link digital output (15 Pin 'D' type connector) and 3 x coax, 1 x aux digital transport out (digital coax). HDMI v1.1 6-ch/bitstream output (with video)
System capabilities:	Operates as player or controller, with upsampling in stereo. As a stereo system, can drive stereo analogue power amplifier and passive speakers or two Meridian DSP Loudspeakers. As a multichannel system with on-board surround decoding, can directly drive 6 channels of analogue or digital loudspeakers or a combination
On-Screen Display:	Switchable custom On-Screen Display allows instant review of disc status. Screen saver with user timeout options. Logo screen with PLUGE bars enables set-up of display device

Video features:	Automatic PAL or NTSC encoding on Composite and S-Video. NTSC black-level setup adjustable as 0 or 7.5IRE. 16:9 and 4:3 displays supported
Video Processor:	Two composite video inputs, one component input, three S-Video inputs; composite, S-Video, component and HDMI outputs (DVI-compatible, HDMI also carries 2-ch audio), outputs all simultaneously active; selected video input is converted to all formats at valid resolutions (except non-interlaced component input which bypasses processor). Faroudja DCDi® scaling and de-interlacing technology. HDMI port supports 480p, 576p, 720p, 1080i and 1080p. Analogue component out at 480p and 576p
Controls:	Front-panel soft key functions include Play, Stop, Pause, Previous, Next, plus Home and More keys. Off, Display and Open/Close buttons. Off gently illuminated when off; keys back-illuminated when on
Comms:	Full RS232 control and status enables custom integration or automation. Meridian Comms (2 x DIN plus BNC)
Trigger:	12v trigger output allows control of power amps, etc
Panel Display:	Multi-character dot-matrix graphic Vacuum Fluorescent Display (VFD)
Dimensions:	Width: 440mm (17.32in); Depth: 350mm (13.78in) plus connectors; Height: 90mm (3.54in)
Rack Mounting:	Kit available from Meridian authorized dealers
Weight:	9kg (19.8lbs)
Power:	Universal supply 100–240V, 50–60Hz, 25W

Information contained in this data sheet is correct as far as possible, but Meridian Audio accepts no liability for errors or omissions. Trademarks are the property of their respective owners. Meridian Audio reserves the right to amend product specifications at any time. Further technical details, images, product reviews and company history are available from Meridian Audio or from our web site, www.meridian-audio.com. ©2005 Meridian Audio Ltd.

The G91A includes a unique broadcast-quality, high-resolution video processor/scaler which combines both Meridian and Faroudja DCDi® technology. This processor can receive composite, S-video, and interlaced component video, and convert between the formats, or to the HDMI (high-density multimedia interface) standard, to provide a single video output for all the video sources in your system. A bypass function allows progressive or high definition component video to be routed directly to the component output only.

The HDMI port also delivers high-resolution digital audio to the HDMI v1.1 specification, either up to six channels of PCM at up to 24-bit, 96kHz or a 5.1 bitstream, while broadcast-quality video circuitry delivers the most advanced, high-quality video available today.

The HDMI port supports a wide range of high

quality digital video options including 480p, 576p, 720p, 1080i and now 1080p, the highest video resolution available in the industry – the same resolution as the best HD sources. A unique feature of HDMI is that it is able to 'handshake' between the source and the display to find the highest quality format. Analogue component out is available at 480p and 576p.

The video processor includes picture controls, available via the MSR+ and front-panel display.

For the internal DVD and external video inputs you can adjust the the horizontal/vertical picture position. In addition, the brightness, contrast, colour, and hue (NTSC) are adjustable on the video inputs.

The HDMI output can be connected to a DVI input if the device supports HDCP copy protection, using a suitable adaptor cable.

BOOTHROYD STUART
MERIDIAN

Meridian Audio Limited

Latham Road,
Huntingdon, Cambridgeshire PE29 6YE
United Kingdom
Tel +44 (0) 1480 445678
Fax +44 (0) 1480 445686

Meridian America Inc

8055 Troon Circle, Suite C
Austell, Atlanta GA 30168-7849
USA
Tel +1 (404) 344 7111
Fax +1 (404) 346 7111

Email: info@meridian-audio.com

Web: www.meridian-audio.com