

G Series Digital Audio Broadcasting (DAB) Versions



G01, G51 and G91 optionally available with DAB capability

DAB/FM tuner seamlessly integrated into G Series interface

Easy access to stations by name

Virtually no background noise or interference

Listen to familiar and new, additional stations

On-screen transmission information including station name, genre and other data

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.

Three G Series products are now available with optional DAB Digital Radio and FM Stereo capability.

Users of Meridian's DAB products enjoy all the benefits of DAB such as noise- and interference-free reception (see over) while, in addition, DAB is completely and seamlessly integrated into the G Series user interface, with Meridian's DAB-equipped components offering the best sound quality available from DAB.

In the G Series, the digital radio facility is combined with conventional FM Band II (87.5 – 108.0 MHz) reception, and the DAB/FM tuner replaces the AM/FM tuner included in the standard models. Three G Series units with DAB/FM tuner capability are now being introduced: The G01-DAB, G51-DAB and G91-DAB. In each case, the specifications of the DAB unit are identical with the exception of the change in tuner section and the inclusion of user interface functionality to access DAB transmissions and display station information on the built-in GUI.

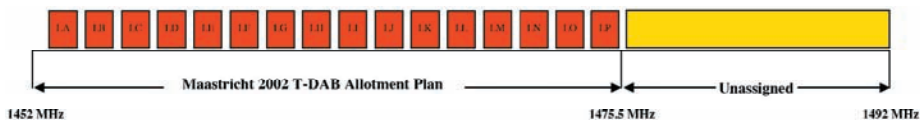
DAB-equipped G Series products are fitted with a single 50Ω F-series screw-on coaxial connector for both DAB and FM, as found on satellite receivers.

A simple telescopic antenna is provided with the component, which should be sufficient for basic DAB listening. However, an external antenna is preferable, and is likely to be required for highest-quality FM reception or if the user wishes to receive distant DAB multiplexes.

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DAB
Digital Audio Broadcasting

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About DAB Digital Radio

DAB Digital Radio based on the European Eureka 147 specification is now a world standard, and is extremely popular everywhere outside the USA. It is currently available to over 300 million people in almost 40 countries, with over 600 different services, and these numbers are increasing daily. Transmissions are in the 217.5 to 230 MHz sub-band of VHF Band III (170–230 MHz); and 1452 to 1492 MHz, at the upper end of the UHF L-Band (500–1500 MHz) .

DAB radio uses COFDM (Coded Orthogonal Frequency Division Multiplex) technology to convert music or speech from an analogue signal into digital (binary) code. This dramatically reduces the likelihood of transmissions being corrupted by weather conditions and other problems that can degrade reception quality. In addition, MPEG I layer 2 ('MP2') compression technology is used to reduce the data rate required for each stream.

Broadcasts are originated from transmitters providing groups of stations on a single frequency, known as multiplexes or 'ensembles', and in a given area, several different ensembles may be able to be received. In the UK, for example, you can generally receive a BBC National multiplex, a national commercial multiplex and a local ensemble.

Scheduled DAB broadcasting began in 1995, with the BBC in Britain on Band III, and

Canadian services in the upper part of L-Band. Today, DAB is extremely popular in Canada and throughout Western Europe, with Britain and Germany leading the way. In Canada, 35% of the overall population is already covered by DAB – rising to 50% around freeway corridors – while British coverage is estimated at 90% and Germany, 80%.

Coverage in other countries is also at increasingly high levels, with broadcasters conducting trials and tests in many places prior to the full-scale introduction of DAB programs and services. In most places, DAB carries not only existing stations but also many brand-new broadcasters transmitting only on digital radio.

DAB is an extremely robust transmission medium, almost completely eliminating problems with multipath, hiss and fading that can disrupt the enjoyment of analogue broadcasts. It also allows broadcasters to transmit more stations in the same bandwidth as one FM station. As well as music and speech, DAB stations can additionally carry data that can be displayed by the receiver while listening to the station.

Listeners like DAB because it is very easy to use: instead of remembering the frequency, the listener can simply scroll through the names of the available stations and choose one to listen to. They also like the freedom from background noise and the fact that the display will tell them more about the station, programme or music being played.

Ideally, either a composite Band II/III external antenna should be employed, or separate Band II and Band III antennas with a suitable diplexer (combiner). 50Ω downlead cable should be used and the antenna(s) or diplexer should also ideally offer 50Ω impedance. DAB transmissions in the UK are vertically polarized only.

The first stage in setting up a unit for DAB is to attach the antenna and perform a scan for the available signals. International DAB coverage can be broken down into the following frequency bands: Band III 174.928 – 239.200 MHz (channels 5A-13F); Canada 1452.816 – 1491.184 MHz (L1-L23); and L-Band 1452.960 – 1490.624 MHz (LA-LW). The scan is therefore factory- or dealer-configured for Band III, Band III plus L-Band, L-Band only, Canadian L-Band channels, or Band III plus Canadian channels.

During the scan, the unit displays the current channel and the number of stations located so far. This scan can be interrupted by the user. If no stations are found, the unit will display 'No Services' and in the event of a weak or no-signal condition, this will also be indicated.

The primary display of a unit in DAB mode is shown below. In the default display mode, the central 12-character area of the display is occupied by the short (8 character) version of the station name; corner indicators show that the tuner is in DAB mode and the data rate of



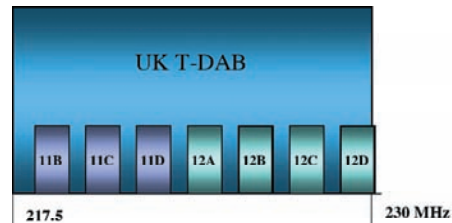
the stream, plus whether it is stereo or mono and the preset number, if any. The up and down soft-keys allow the user to display the names of available stations in alphabetical order: releasing the button will begin tuning to the station after a 2-second delay. The right and left arrow keys step through presets.

Additional levels of information can be obtained by successively pressing the 'Display' button to show: the ensemble name (scrolls); RadioText (up to 128 scrolling characters); programme type (genre); and via a series of Meridian-specific screens, back to the main display. When scrolling text is displayed, the corner indications are partially removed for clarity.

Similar information (including the long, 16-character station name) is available via the RS232 port on the unit for remote controllers and displays in response to the command 'TUxx' where 'xx' is a code from 0 to 99. The soft key functions are replicated on the MSR Plus remote control or can be actuated via the serial port.

Pressing the 'More' key allows access to additional functions such as the storing and clearing of presets (up to 30 are available including both FM and DAB stations) and scan mode.

Below: UK T-DAB (Terrestrial Digital Audio Broadcasting) channel allocations in the 217.5–230 MHz sub-band of Band III. DAB in the United Kingdom is currently limited to Band III, but will extend into L-Band in the future, from 2007. The Maastricht 2002 planning meeting determined the L-Band channel allocations shown left, but OfCom in the UK may not follow this allocation and instead opt for a number of different technologies in at least part of the band. Canada uses L-Band, but with a different channel allocation to that used elsewhere. Illustrations courtesy of OfCom.



For technical reasons there are minor differences in precise functionality between the G01-DAB/ G51-DAB, and the G91-DAB. However the same range of functions and capabilities is available on all models

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Further technical details, images, product reviews and company history are available from Meridian Audio or from our web site, www.meridian-audio.com

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