

MERIDIAN 607 USER MANUAL

Boothroyd | Stuart Ltd
13 Clifton Road
Huntingdon
Cambs. PE18 7EJ
England

Tel (0) 480 52144
Telex 32577 (MERIDN)
Fax (0) 480 459934

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1 Introduction

The *Meridian* 607 Analogue/Digital Converter is part of the 600-Series of advanced high fidelity equipment. It offers the music lover a unique opportunity to feed precise digital audio to components like digital speakers, converters and recorders. 607 incorporates the latest *Delta-Sigma* Bitstream Conversion technology.

The 607 Converter takes analogue signals from one of two switched inputs and performs a precision 64 x oversampling conversion to the standard IEC 958 digital audio format. It has two cable and two optical outputs. Conversion can be chosen by the user to be at 44.1kHz or 48kHz and optionally to include preemphasis.

In purchasing a *Meridian* 607 Digital Converter, you have acquired an advanced piece of equipment which will continue to bring you listening pleasure for many years. This manual will enable you to get the most from it.

2 About this manual

In any manual of this nature, some technical terms must be used. We will explain these when we first introduce them.

2.1 Conventions used in this manual

A number such as 607 refers to a component in the *Meridian* 600-Series range of audio equipment.

There are lights on the front panel of the 607 for indicating which source has been selected, the conversion frequency, and whether equalisation (pre-emphasis) is being used. Whenever we refer to these lights, they will appear in *italic* type.

Whenever a key name is printed in **bold** typeface, it means that you should press this key. If the key name is not in bold type, it indicates that the course of action is not required at present, e.g. 'if you want to change the sampling frequency, press f_s ' means you can do this, but it is not essential as part of the operation currently being discussed.

3 About the 600-Series

The *Meridian* 600-Series of high fidelity equipment is probably the most sophisticated family of hi-fi products currently available. It has been developed to operate at a variety of levels, from a simple single room installation to a whole-house music-management system.

4 Unpacking the 607

On opening the carton, you should have found the following parts:

- *Meridian* 607 A/D Converter
- Power cord
- This manual

If any of these items are missing, please contact your dealer immediately. We suggest that you retain the packing as it is designed to offer the unit maximum protection whilst in transit.

Although all 600-Series components have been designed to be robust, they should obviously be well protected when they are being transported.

5 Accessories

The following accessories are available from your dealer:

- Optical interconnect 0.7m
- Power cord (Europe)
- 75 ohm interconnect 0.7m
- 75 ohm interconnect 8m
- Power cord (USA & Canada)

In case of difficulty, they can also be ordered directly from the factory, the address of which can be found on the front of this manual.

6 Installing the 607

6.1 General precautions

Before carrying out any installation, you should check that the 607 is marked with the correct voltage for your local AC supply. If this is not the case, do not proceed with these instructions, but contact your dealer instead.

As a general rule, you should not make any connections to the converter, or to any other component in your system, whilst the AC power supply is connected and switched on.

6.2 Connections

You will need to connect analogue audio inputs to the inputs of the 607 with twin-screened audio cable or a pair of single-screened audio cables. These can have a considerable effect on the quality of the sound, and we advise you to seek your dealer's advice on the best type for your system.

You will also need to connect one or more of the digital outputs of the 607 to the target product.

The connections you make will depend on other components in your system and the sources you wish to digitise. The next two sections summarise the differences between the inputs.

6.3 Input A

The A input is selected by switch **A** and indicated by light **A** on the front panel. This input is the default, that is the 607 selects this input at power-up.

Input A has two sets of sockets on the back panel, marked 'High' and 'Low'. The main difference between these is their sensitivity. When **A** is selected both pairs of sockets will work, you must connect to either 'High' or 'Low', not both. (No harm will result from connecting to both, the result will just be unpredictable).

The following criteria control the choice of A:

- The audio source has a high output impedance, >100 ohm, preventing the use of B.
- You want access to preemphasis
- You need higher sensitivity than the 2.5V rms level required for full digital level on B.

The sensitivity of the A inputs are:

- Low, 650mV rms into 4k ohm for full digital level
- High, 2V rms into 10k ohm for full digital level

These levels were chosen to match sources like tape-recorders and tuners (650mV exactly matches the *Meridian* 204) and CD output which is 2V standard.

6.4 Input B

The B input is selected by switch **B** and indicated by light **B** on the front panel.

Input B has one set of sockets on the back panel, its sensitivity is 2.5V for full-scale, and is intended for use with high-level and low impedance signal sources — e.g. mixers or preamplifiers. The input impedance of B is low at 10nF, do not use if the source has an output impedance more than 100 ohms.

Since this is a 'direct' input, preemphasis is not available.

The following criteria control the choice of B:

- The audio source has a low output impedance, <100 ohm.
- You do not need to access preemphasis

6.5 If you have 603 or 201 Preamplifier

Either:

- Connect the variable output of 201 or 603 to **A Low** input.
- Set the volume control of the preamp to 44 initially, adjust later to get maximum drive to 607 without the **Level** light flashing.

Or:

- Connect the tape output of 201 or 603 to **A Low** input.
- Set the 201 or 603 to 'Tape copy system' mode. For details of this see the manual for the preamplifier.

In either case connect COMMS as directed for the system.

6.6 If you have 207 or 208

Either:

- Connect the variable output of 208 to **A Low** input.
- Set the volume control to 44 initially, adjust later to get maximum drive to 607 without the **Level** light flashing.

Or:

- Connect the tape output of 208 to **A Low** input.

In either case connect COMMS as directed for the system.

6.7 If you are using 204 alone

- Connect the L/R output of 204 to **A Low** input.

6.8 D600 or D6000 Loudspeakers

- Connect one of the digital outputs of 607 to the D2 input on D600 or D6000. Set up the D600 or D6000 appropriately as described in the user manual. It will be necessary to tell the master speaker that the sources routed through the 607 are connected to D2 and which kind of preamp controls them. (Type 1, 2 etc).

6.9 No other Meridian equipment

- Connect the audio input to **A** or **B** as discussed in 6.3 and 6.4.
- Connect the appropriate digital outputs for your installation.

6.10 Digital connection

In all cases, suitable digital connections must be made between your 607 and the target product.

You can use two electrical and two optical interconnects to the four outputs available. All can be used simultaneously.

7 Siting

The 607 Digital Converter should not be placed on top of a power amplifier, but it can be stacked on a *Meridian* Compact Disc Player.

You should avoid sites where:

- it would be subjected to direct sunlight
- it is near a heat source, for example a central-heating radiator
- it could be subjected to strong magnetic radiation, for example very close to a television
- connecting cables may be subject to interference.

Try to keep all power and digital cables away from audio, antenna and loudspeaker cables. Some time spent laying out the cables carefully will repay you with the best possible performance later.

8 Setting up the 607

8.1 Checking

Before turning on the power, check once again that you have made all the connections correctly and that you have not disturbed any existing connections in the process.

8.2 If all is well

- Turn on the power switch at the rear of the unit. Lights on the front panel will illuminate.

8.3 If there is a problem

Check the integrity of your power connections, including any fuses in your supply. If the lights are still not illuminated and the rest of your system is functioning, contact your dealer for help.

8.4 Standby

The 607 Digital Converter is designed to be left connected to AC power at all times.

This ensures that the components operate at maximum efficiency from the moment you start listening. It is perfectly safe and consumes a negligible amount of power. However, when you are not going to use your system for an extended period, for example when you are going on holiday, we would advise you to disconnect it from the AC power supply.

9 Operation

9.1 To select A input

- press **A**

The *A* light will illuminate.

9.2 To select B input

- press **B**

The *B* light will illuminate.

9.3 To change sampling frequency

The sampling frequency switch toggles between 44.1kHz and 48kHz.

- press **f_s**

The 48kHz and 44kHz frequency lights will illuminate alternately.

9.4 Preemphasis, EQ

Digital audio standards allow for the signal to be processed with either a flat or a preemphasised frequency response. When preemphasis is used, compensatory deemphasis is applied in the decoding product.

- 607 encodes signals fed to the **B** input without preemphasis.
- 607 gives you the choice of preemphasis on the **A** inputs.

Preemphasis allows some improvement to the noise and distortion of an audio system providing the input does not contain too much high-frequency information. This facility is provided because many of the domestic analogue sources have already been subjected to pre- and deemphasis and so can be guaranteed not to overload. Examples of such sources are, cassette tape, vinyl discs and FM radio.

To engage preemphasis:L

- Press **EQ**

The *EQ* light will illuminate, whenever a disc has been recorded with preemphasis. It will extinguish when a disc or track has no equalisation. When the player is paused, muted or moving between tracks the *EQ* light may flash.

9.5 Level indicator

To prevent overdriving the 607 A/D converter – with subsequent distortion, we have provided a **Level** light on the front. This light flashes when the converter is within 3dB of maximum digital code.

You should adjust the input level so that the **Level** light does not flash, but do not use it too far below this point or dynamic range will be lost. Ideally the light may flash briefly on the loudest transients.

10 Cleaning

The main body of the 607 is anodised aluminium. To clean the case, use a cloth barely moistened with water.

Disconnect the power cord before cleaning the unit. Ensure that no water is allowed to get inside the case and do not re-connect the power until you are certain that the 607 is completely dry.

The display panel is glass, the key pad is plastic with gold plated buttons. Use a barely damp chamois leather on these areas.

Do not use abrasive cleaners on any part of the 607.

The connectors on the rear of the 607 are gold-plated and need no cleaning if gold-plated phono plugs are used. Otherwise, we recommend that you remove and replace the plug at least once a year. A proprietary contact cleaner can be used to some advantage.

11 Help

Even the most experienced user can run into 'finger trouble'. This section is designed to help you when things do not appear to be working normally.

If no sound can be heard from your loudspeakers, the most likely causes are:

- No power is reaching the 607 or the entire system
- The audio cable between the 607 and your preamplifier has become disconnected
- The preamplifier is not turned on
- The preamplifier is not set to the correct input or is in tape-monitoring mode
- The volume control is set to its minimum or is in 'mute' condition
- The target unit has failed to 'lock' to the sampling frequency of 607 – try the other frequency.

12 Maintenance & Service

The *Meridian* 600-Series of hi-fi components have been carefully designed to give years of untroubled service. There are no user-serviceable parts inside the case, nor do the units require any form of maintenance.

In the unlikely event that your 607 Digital converter fails to function correctly it should be returned, in its original packing, to your *Meridian* dealer.

In case of difficulty, please write to:

- In the UK, Boothroyd Stuart Ltd.
13 Clifton Road, Huntingdon,
Cambridgeshire, PE18 7EJ.
- In the USA, *Meridian* America Inc.
14120-K Sullyfield Circle, Chantilly, VA 22021
Tel (703) 818 3028, Fax (703) 830 7825
- Outside the UK, contact the importing agent for the territory. A list of *Meridian* agents abroad is available from the above addresses.

No responsibility can be accepted for the 607 whilst in transit to the factory or an agent and customers are, therefore, advised to insure the unit.

13 Guarantee

The 607 Digital Converter is guaranteed against defects in material and workmanship for 12 months from the date of purchase.

The guarantee is void if it has been subjected to misuse, accident or negligence, or has been in any way modified without the written authorisation of Boothroyd Stuart Ltd. Attempted servicing by unauthorised people may also invalidate this guarantee.

Labour and carriage charges are not covered unless by local agreement.

When seeking service under guarantee, proof of the date of purchase will be required.

Outside the UK, local warranty liability is restricted to equipment purchased within the territory. Our agents abroad are only under contractual obligation to service under guarantee equipment sold through them. They are entitled to make a non-refundable charge for any service carried out on other equipment.

This guarantee does not limit your statutory rights within the United Kingdom.

14 Radio interference

NOTE the 607 is a digital audio device which has been designed to very high standards of Electromagnetic compatibility.

FCC WARNING: This equipment generates, uses and can radiate radio-frequency energy and, if not installed and used correctly in accordance with our instructions, may cause interference to radio communications or radio and television reception. It has been type-tested and complies with the limits set out in:

- Subpart J, Part 15 of FCC Rules for a Class B computing device.

These limits are intended to provide reasonable protection against such interference in home installations.

If this equipment does cause or suffer from interference to/from radio or television reception, then the following measures should be tried:

- Reorient the receiving antenna or route the antenna cable of the receiver as far as possible from the 607 and its cabling.
- Ensure that the receiver uses well-screened antenna cable.
- Relocate the receiver with respect to the 607.
- Connect the receiver and the 607 to different AC outlets.
- If the problem persists, contact your dealer.

EEC This product has been designed to comply with EN55013 and EN55020.

REMEMBER to switch off all units before changing any connections.

15 Specification

Frequency response	20Hz – 20KHz ± 0.2dB
Distortion	<0.004%
Noise	<94dB
Conversion	<i>Bitstream</i> Delta-modulator 64 times oversampling. Passive filtering.
Precision	16 bits
Sampling	44.1kHz ± 50ppm 48kHz ± 50ppm
Cable outputs	Two IEC958, 75ohm
Optical outputs	Two EIAJ
Display	48kHz, 44kHz, EQ, Level, A, B indicators
Finish	Black anodised aluminium and glass
Dimensions	160mm x 100mm x 320mm
Weight	3 kg