

Meridian 861 Supplement

Introduction

The 861 has been designed to give the very highest sound quality in a wide range of systems and to provide playback for all the sound formats currently available.

The technology in 861 is the most advanced; it is also designed to be flexible in the future. The card-based construction and use of flash memory for the built-in software mean that we expect to be able to keep your system up to date, or to evolve as your requirements change.

861 Documentation

This 800 Series System Guide is not yet available. However, the Meridian 800 Series dealers are fully trained in Meridian surround systems.

This sheet supplements your 861 User Guide and provides some items you or your dealer need to be aware of.

Most of the information in this sheet will be in the 800 Series System Guide when it is available. Please return the enclosed form to register your 861 purchase. We will send you the System Guide with any updates as soon as it is ready.

861 Built-in software

The 861 is a very advanced audio computer. The software that controls 861 and the DSP programs that process and decode the audio are held in a re-programmable 'flash' memory.

At any time the software inside 861 can be updated by connecting the 861 to either a personal or laptop computer – more details are given later in this supplement.

It is Meridian's intention to make appropriate software updates available through its support network.

Software updates may be necessary to allow the addition of new cards, new DSP functions, to expand functionality of the whole installation or to correct minor bugs under warranty.

We recommend that you take the dealer's advice about whether or not updates are appropriate to your application.

Product Configuration Software

The 861 is a sophisticated device that offers a very large number of options to the installer – and therefore excellent all-round performance in a wide range of applications.

Because there are so many things that can be customised in an 861, we have chosen to use a computer to assist in setup.

The Meridian Product Configuration Program is an exciting departure for high-end audio. The advantages of this approach become obvious as the setup proceeds – and in particular in the way the setups can be stored either as User Types or as computer files for backup.

Types and User Types

All Meridian products use the *Type* method of resetting the product back to one of several pre-programmed factory configurations.

Typing the product clears all settings you may have made in Calibration or by using the 861 Store or Assign keys. *Typing* also re-inserts a suite of previously stored settings or factory default settings. These settings can cover a large variety of things – ranging from input and output assignments, to detailed menu settings for each format + source combination.

To learn how to use *Type*, please refer to the 861 User Guide.

If you do not want to lose all the settings in your 861, they can be first stored as a file in a computer using the Product Configuration Program described later.

Your dealer may have created one or more User Types for you. The advantage of this is that you or the dealer can rapidly switch between a number of pre-determined options during installation, and you can have the security of being able to restore the dealer's settings at any time. User Types are created and installed using the Product Configuration Program.

Labeling

The back panel of each 800 Series card typically has the inputs and output sockets numbered, for example as D1, D2 etc. Beside each socket there is a white label area in which you can write the assignment in a way that helps you remember which is which.

The 861 is supplied with a number of self-adhesive pre-printed labels so that the inputs and outputs can be neatly marked to avoid writing on the product itself.

Taking time to fix the labels will help a great deal in the future – especially if you have more than one card of the same kind.

The labels can also be safely removed and changed at a later date.

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Standard input connections

A standard 861 is fitted with:

- One analogue input card IA00 with inputs labeled A1 through A6.
- One digital input card ID10 with inputs labeled D1 through D6, O1 and O2.
- One Video-switching card VS00 with inputs labeled V1 to V4 and S1 to S4.

The factory Type settings give a standard assignment of these inputs which is described in the table below. These assignments may already be suitable to your needs.

Source	Audio In	Video In
CD	D1	Last Valid
Radio	A2	Last Valid
LP	A1	Last Valid
TV	A3	V2
Tape 1	A4	Last Valid
Tape 2	D4	Last Valid
CDR	D3	Last Valid
Cable	O2	S3
DVD	D2	S1
VCR1	A5	V1
VCR2	A6	S4
LDisc	O1	S2

If an RF00 AC-3 Demodulator card is fitted, then the default for the LD audio input will be the RF card. Connect the RF input and either the optical or digital input.

If any other optional input cards are fitted, they are not accessed as part of the standard Types and the 861 will need to be configured to use them.

Standard output connections

Analogue systems

A standard analogue system uses two OA00 analogue output cards. These cards are probably pre-labeled #1 and #2. OA00 #1 (nearer the centre of 861) has the master oscillators engaged and is used for the front channels.

Digital Theatre

A standard Meridian Digital Theatre uses an OD10 digital output card. At this time there should not be more than one of these fitted. For additional subwoofers, or mixed installations one analogue output card OA00 will be used. The connections in these cases are given in the following tables.

Analogue speakers

Speaker	Output
Left Main	OA00 #1: 1
Right Main	OA00 #1: 2
Centre	OA00 #1: 3
Subwoofer	OA00 #1: 4
Left Side	OA00 #2: 1
Right Side	OA00 #2: 2
Left Rear	OA00 #2: 3
Right Rear	OA00 #2: 4

Digital speakers

Speaker	Output
Left Main	OD10 #1: 1/2
Right Main	OD10 #1: 1/2
Centre	OD10 #1: 3/4
Subwoofer	OA00 #1: 4
Left Side	OD10 #1: 5/6
Right Side	OD10 #1: 5/6
Left Rear	OD10 #1: 7/8
Right Rear	OD10 #1: 7/8

Connecting a Theatre System

For more details of connecting a Meridian Theatre system, please refer in the interim to standard training materials and/or the installation manuals for 519, 565 or the DSP speakers. Some of this material can be found at Meridian's website:

<http://www.meridian-audio.com>.

Configuring a Digital Theatre

Installers please note. The 861 has been designed to be the default Controller in a Meridian Digital Theatre system.

Therefore, when you do an *Autoconfigure* procedure (press Clear in Standby) the 861 will become system Controller and the Master Speaker will be set as Non-controller.

This may not be what you prefer for infrared control. In such cases the system controller needs to be setup manually.

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Using the Configuration Program

Overview

Setting up an 861 with the Product Configuration program is easy.

861 settings can be stored on disk and permanently stored in the product as Types so that they may be recalled later.

The 861 stores information about which combination of cards is fitted. This allows, for example, the setup program to only allow inputs to be selected from cards that are fitted.

To set up a new 861 you would typically follow these steps:

1. Install the software with the setup discs. (See 'Program installation').
2. Run the program from the **Start** menu.
3. Select a Serial Port: **View/Options**. This will usually be COM1.
4. Connect the RS232 Cable.
5. Switch on the product. **Fetch** the settings, including the information on which Cards are fitted, from the product with the **Fetch** button on the toolbar. (See 'To fetch the current settings')
6. Double Click on **Surround Controller 1**.
7. Click on Owner and fill in your name.
8. **Save As** your name: Press the **Save** button on the toolbar. This is now your file that you can keep for reference. (See 'To save settings to a disk')
9. Double Click on **Settings**. Give this settings 'Type' your name also.
10. Click on the icons to customise the settings to match your system (See 'Using the Windows 95 program'):
- **Speakers:**
 - Layout
 - Sizes (run Calculator if necessary)
- **Sources**
- **Setup**
11. Store the settings to the product - **File/Store to Products /Everything**. (See 'To Store Settings in the 861'.)
12. Leave the 861 connected to the PC.
13. Calibrate the speakers with the 861's *Calibration* (See *User Guide*).
14. Listen to the system and store any Presets required .
15. If required, Enter *Gain/Sub* Setting mode to set the Analogue input sensitivities and the Sub Crossovers (See *User Guide*).
16. Load the calibrated settings back to the computer with the **Fetch** button on the toolbar.
17. **Save** the calibrated settings: **File/Save**

System requirements

To run the Product Configuration Program, you must have a computer running *Windows 95* or *Windows NT 4.0*, with a 100Mhz or faster Pentium class processor, at least 16MB of RAM and 5 MB of spare hard disk. The computer must have a spare serial port, capable of

running at 38400 baud. A suitable null-modem serial cable is supplied.

Note: 861 internal software can be updated using a program which only requires DOS and a serial port. (See 'The FUPLOAD program'.)

Program installation

The setup program will have arrived on floppy disks containing an installation program.

To install, insert disk 1 into the floppy drive of your computer, and from you 'Start' menu, Run 'a:setup'.

The program will then install itself, to a directory called 'c:\program files\Meridian\Meridian'.

Upgrading

If you are given an updated version of the program, follow the instructions that come with it.

Uninstallation

Use the Windows Settings program 'Add and Remove Programs' to uninstall the Product Configuration Program.

What the software package contains

The package will contain some of the following:

- **MERIDIAN . EXE** – a windows-based application that creates configurations, User Types and that transfers settings between the computer, the product, and files on disk. It can also install new built-in software in the 861. It may also be used to configure a 561 Surround Controller.
- **FUPLOAD . EXE** – a DOS program, which can also install new built-in software in the 861.
- *** . DLL** – various application extensions required by **MERIDIAN . EXE**
- **861_xxx . MFU** – these files (if present) are Meridian Flash Upload images, and contain built-in software for the 861.
- *** . MSF** – these are Meridian Settings Files and will contain settings for the 861.

Running the software

To run the software, click the **Start** button on your desktop, then go to **Programs**. Click on 'Meridian Product Configuration'.

The first time you run the software on a computer:

1. Go to the 'View' menu and select 'Options...'
2. Chose the serial port you intend to use to communication with the 861, e.g. COM1.
3. Click 'OK'.

Once made, this setting will be remembered and only needs changing if you want to use a different serial port.

The setup program can also be started by double-clicking an .MSF (Meridian Settings File) file.

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To fetch the current settings

You can extract the current settings from an attached Meridian 861 so they can be edited or saved to disk.

- 1 Select 'Fetch from products' on the 'File' menu, or click the 'Fetch' icon.

To load settings from a disk

You can load a settings file from disk.

- 1 Select 'Open' on the 'File' menu, or click the 'Open' icon on the tool bar.

To save settings to a disk

To save your settings to disk:

- 1 Select 'Save' or 'Save As...' from the 'File' menu, as appropriate.

To create a new setup

To create a new setup from scratch:

- Select 'New' on the 'File' menu, or click the 'New' icon on the tool bar, then select '861' and click on 'OK' or
- Open a Meridian settings file as a starting point and save it with a new name.

If you do this, the settings will not necessarily correspond to the cards that are fitted to your 861.

To store settings in the 861

To store the program settings back to the product:

- Select 'Store to products/Everything' on the 'File' menu, or
- Click the 'Store' icon on the tool bar.

Using the Windows 95 program

Move around the 861's settings by clicking on icons in the left-hand pane of the application. Clicking once on an icon selects it and displays the corresponding settings in the right-hand pane. Double-clicking on a Product, Settings or 'Back' icon opens it, and the left-hand pane changes to display a set of subsidiary icons – this works much like a directory listing.

As you move around, the title bar reflects your position in the settings. Settings in the right-hand pane may be modified by clicking on them and typing a new value or choosing from a list.

To create a new User Type

To create a new user type:

- 1 Select the left-hand pane icon for an existing set of settings (which can be used as a starting point).
- 2 Hit the 'Copy as new Type' button on the toolbar. This transfers the settings to the clipboard.

This creates a new Type that can be named in its right-hand pane.

Advanced setup features

To update the 861 built-in software

To change the built-in operating software in the 861's flash memory:

- 1 Select the 'Owner' icon for the product. Options for flash uploading are presented in the 'Advanced' tab.
- 2 In the 'Product firmware' box, select the correct .MFU file from the drop-down list. The list will show all upload files starting with '861' in the installation directory. To select an upload that has a different name, or is in a different directory, use the 'Browse...' button. Once the desired firmware has been selected:
- 3 Click 'Upload to product...' in the 'Product firmware' section.

Note: It can take several minutes to update the complete flash memory. In some circumstances screen-savers interfere with serial communications. We recommend that you disable or extend the time-out of any screen-savers before trying to upload a file.

Hints and tips for the setup program

- Do not run other applications that use the same serial port as the Meridian application at the same time. This may cause a loss of connectivity. Quitting both applications and restarting should fix the problem.
- The 861 must be in Standby to communicate with the PC. If it is taken out of Standby (whether directly, or using the Comms or MSR) the next fetch or store operation may fail with a 'No Current Session' error. The operation will normally succeed if re-tried. If you intend to deliberately bring the product out of standby while running the setup application, use the 'Disconnect products' option beforehand.
- A maximum of 10 User Types can be uploaded into a product.
- Each User Type uses 300k of RAM while being edited. So, if a large number of types are being edited, the computer must have sufficient memory.
- By default, sources have the same names as the MSR buttons that will select them. If a source name is changed, the MSR legend is shown in brackets after the name.
- Screen-savers. In some circumstances screen-savers interfere with serial communications. We recommend that you disable or extend the time-out of any screen-savers before trying to upload a file.

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Advanced 861 settings

Settings with video

The 861 provides a *LipSync* feature to allow you to delay the sound by up to one video frame.

Some installations require longer delays to compensate for the delay in video processors. Video processors like line-doublers may delay the picture by up to 5 video frames – interfering significantly with the sound/picture alignment. The 861 allows an overall Delay setting to compensate for this.

To access this setting, Look under 'Sources'; select a source (e.g.LD) and click the 'Advanced' tab.

Trigger outputs

The CO00 computer card in the 861 has three trigger outputs that can be used to operate 'Function Select' or certain relays. They may be used to trigger amplifier, video or environmental changes.

The state of the three outputs is adjusted in the setup program. Look under 'Sources'; select a source (e.g. CD) and click the 'Advanced' tab.

The trigger outputs each provide +12V nominal when selected 0V when de-selected. Each trigger can supply up to 50mA.

Special settings for DTS

The 861 automatically detects DTS if you play a DTS CD, LaserDisc or DVD. When the disc starts playing, the 861 will switch to one of its DTS presets.

If you subsequently play a different disc – such as a standard CD or a Dolby Digital LaserDisc – the 861 will reload another DSP preset like Trifield or Dolby Digital (AC-3).

Dolby Digital and MPEG are both 'flagged' as non-audio in the incoming data stream and so devices like 861 or digital/analogue converters (DACs) know not to play it as normal audio by mistake. (This same method is used to prevent you playing back CDRoms as audio in a CD player.) If, for any reason, compressed streams are played as audio, the result is a loud hiss.

Like Dolby Digital and MPEG, DTS is a compressed (non-PCM) signal. DTS streams on the other hand are not flagged in this way; consequently normal DACs and decoders have no direct method of preventing you hearing the compressed stream as a loud hiss.

The Meridian 861 detects the DTS signal and switches to a DTS preset as quickly as it can. However, even the 861 needs a short time to be sure that this really is DTS. So, when you play a DTS LaserDisc you may hear the compressed signal as a short burst of hiss before DTS is identified. As we have explained, this is an unavoidable limitation of the way DTS is delivered, not of the 861. (See 'DTS Delay'.)

DTS Delay

In the setup program, look under 'Sources', select a source (e.g. CD) and click the 'Advanced' tab. There is an additional check-box that allows a short delay to be added to the audio for that Source.

Clicking on the box selects it. When this setting is stored in the 861 it will add a 32ms delay to the audio for that source. This delay allows the 861 time to detect a DTS signal before it is played out, and therefore prevents the short hiss occurring as the disc starts playing.

Setting DTS Delay is the ideal and recommended solution to playing DTS from CD. This setting is *not necessarily* recommended for video sources (such as LaserDisc or DVD) because 32ms audio delay may affect the *Lipsync* with the picture. It can be used in conjunction with the delay setting described in the 'Advanced settings with Video' section.

When you *Type* the 861, the default settings apply DTS Delay only to CD, Radio and CDR.

Reporting

If you need to report a problem, please provide the following information:

- Software version and date (select 'About' from the 'Help' menu).
- The computer hardware and operating system version in use.
- The exact error message (if any) reported by the 861 or the setup program.
- Any messages displayed on the product.
- A .MSF file containing the settings you were working on at the time.
- A description of what you think you did to cause the problem.

Meridian 861 User Request

Please register your 861 with us. We can then send you a complete installation manual when it is released. You can register in the following ways:

- Complete the details below and either mail or fax this sheet to Meridian Audio in the UK or Meridian America in Atlanta.
- Register by email by sending the necessary information to list6@meridian-audio.com

Your name

Mailing address

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861 Serial number

Extra cards

Dealer who supplied it

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Comments

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