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Meridian 565 User Manual Supplement for DTS

Introduction

Meridian have recently released a new hardware version of the famous 565. The hardware change includes a new Z3 DSP card.

The Z3 card runs Version 4.x software, and will add support for all the audio formats of DVD – including Dolby Digital (AC-3), DTS, MPEG Audio and 24-bit PCM.

The first release of Version 4 software does not include MPEG decoding; this will be provided as a maintenance upgrade.

This sheet supplements your 565 Installation and User guides and describes how to use the 565 to play back DTS material.

The information in this sheet will be incorporated into a new 565 User Manual when the MPEG software upgrade to your 565 is available. Please return the enclosed form to register your Version 4 purchase. We will send you a final manual in due course.

Installing 565 for DTS

DTS soundtracks are available on CD, LaserDisc and DVD. In each case the encoded DTS stream is delivered from the SPDIF cable or optical output of the player to the 565. There is no need for a demodulator for DTS LaserDiscs or for Dolby Digital on DVD.

Consequently there is no need to change the way your 565 is connected; DTS will be delivered from the digital output of the CD and DVD players or the optical output of the LaserDisc player directly to the 565, or 562V if one is present. (See page 9 of the *565 Installation guide.*)

Please note: the digital signal carrying DTS can be safely passed through a Meridian 519 Demodulator if you have one.

The setup procedures for a new 565 are the same as those outlined in the *Installation guide* for a 565 AC-3. There is one additional *Config* parameter, and some *Config* subtleties – as outlined in this supplement.

New presets

The 565 has three new factory presets for DTS. These are:

- DTS CD – normally used for CDs. This preset will be automatically called up by 565 if you play a DTS CD and the 565 source is labelled 'CD'.
- DTS – for DTS movie soundtracks. The default settings for Version 4.x assign this preset to the LP source.
- DTS THX – adding THX processing to DTS movies. This preset loads automatically when the source is 'LD'.

In keeping with current guidelines from Dolby, the AC-3 presets are now labelled 'Digital' and 'Dig. THX'. If you find this confusing, you can label your user presets in a more helpful way.

How to use DTS

The 565 automatically detects DTS if you play a DTS CD, LaserDisc or DVD.

When the disc starts playing, the 565 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 565 will reload another DSP preset – like Trifield or Dolby Digital (AC-3).

Alternatively, you can manually select one of the DTS presets at any time. (See page 18 of the *User guide.*) Please note: if you do deliberately select a DTS preset, the 565 will *only* decode DTS and be silent for all other formats until the preset is changed.

DSP parameters

The DSP preset parameters for DTS are the same as those for Dolby Digital (AC-3), except for 'Compress' which is not a feature of DTS. (See page 40 of the *User guide.*)

Correct use of the LFE Level control is important with DTS recordings.

It is conventional for decoders to boost the LFE signal by 10dB for movie reproduction (this is the expected setting at the cinema).

Some DTS music material may not expect the normal theatrical 10dB boost to the LFE signal. If you find the sound of some material to be particularly boomy, you should turn this parameter down to 'LFE –10dB' or use the DTS CD preset instead, which has a default LFE level of –10dB.

When DTS is being decoded, there is an additional display available on the 565 that shows the encoded format, like '4.0' or '5.1'.

Storing Presets

Once you have customised a DTS preset to your liking, you can store and name these settings as a User Preset in the same way as any other DSP preset.

However, there is a very important difference in functionality: while 565 will allow you to create a DTS preset – it will not assign it to a source as part of the 'Store' process. (See page 30 of the *User guide.*)

If you want to assign a DTS preset to a source, you have to do that in *Config*. (See page 48 of the *Installation guide.*)

Why is DTS handled differently?

Unfortunately, to understand this we have to delve into some arcane technical issues.

Dolby Digital and MPEG are both 'flagged' as non-audio in the data stream and so devices like 565 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 directly played as audio, the result is a loud hiss.

Like Dolby Digital and MPEG, DTS is a compressed (non-PCM) signal.

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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 565 detects the DTS signal and switches to a DTS preset as quickly as it can. However, even the 565 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 565.

In Version 4.x software we have provided some very useful workarounds, as described in the next four sections.

Pre-loading DTS

Manually pre-loading a DTS preset, as described earlier, avoids the hiss. To further assist, we have set up the LP source to automatically load DTS for LaserDiscs. So, if LP is selected before playing a DTS LaserDisc, the DTS preset will be automatically loaded and no hiss will be heard.

Obviously the LP source can be re-configured differently if you need it.

DTS Delay

There is an additional parameter in the source *Config* of the 565. (See page 48 of the *Installation guide*.) The display will read:

'CD DTS Del. Y'.

This may be set to 'Y' or 'N'. Setting it to 'Y' adds a 32ms delay to the audio for that source. Engaging this delay allows the 565 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 to 'Y' is the ideal and recommended solution to playing DTS from CD. This setting is *not* recommended for video sources (such as LaserDisc or DVD) because an additional 32ms audio delay is equivalent to one video frame, and may affect the *Lipsync* with the picture. (See page 28 of the *User guide* for an explanation of *Lipsync*.)

When you *Type* the 565 (page 20 of the *Installation guide*), the default settings for DTS Delay are 'Y' for CD, Radio and CDR, and 'N' for LP, TV, Tape1, Tape2, Cable, DVD, VCR1, VCR2 and LD.

Dedicated DTS sources

As we described earlier, you can attach a DTS preset in *Config* to one of the sources. The default configuration attaches DTS to the LP source. When such an attachment is made, the 565 will only play DTS material for that source.

You can attach any of the three factory DTS presets, or any DTS user preset in *Config*. (See page 48 of the *Installation guide*.)

Automatic DTS operation

If you want to ignore the short hiss that may occur at the start of LaserDiscs, then you can just use the 565 as before.

CDs will always behave well because of the default DTS delay.

If you follow this method, the 565 will load one of its DTS presets automatically if a DTS signal is detected. The preset that gets loaded depends on *how the source is labelled* – as described below:

- Label is 'LD' – loads DTS THX
- Label is 'CD' – loads DTS CD
- All others – loads DTS

For example, you can therefore force the 565 to use DTS CD with the CDR source, by re-labelling it CD as described on pages 48–49 of the *Installation guide*.

Using a 562V with the new 565

There is an upgrade to the 562V software, Version 1.8, which includes a DVD input for video and digital audio, and also supports the LP key for DTS LaserDiscs. Whilst not necessary to enjoy DTS material, it is available from Meridian dealers.

Using 518 with the new 565

If you have a Meridian 518 Digital Processor, this will de-jitter a DTS signal for optimum sound quality.

However the resolution enhancement features of the 518 are not appropriate as DTS is a compressed digital stream, not standard digital audio. Hence your 518 should be switched to Bypass mode prior to listening to a DTS CD or LaserDisc.

There is an upgrade to the 518 software, Version 1.2, which allows it to detect a DTS stream. In this case, the 518 automatically selects Bypass when DTS is detected.

Version 1.2 adds four DTS modes to the 518 which can be assigned to sources in *Config*. The modes are:

- DTSMU – 518 mutes on receipt of DTS (used when 518 is a preamp).
- DTSCD – detects DTS with a normal strategy and selects Bypass.
- DTSLD – detects DTS with a rapid strategy and selects Bypass.
- DTSMA – mastering processor mode ignores DTS.

These can be selected according to *Type* as follows:

- Type 0 – all sources DTSMU
- Type 1 – all sources DTSCD except DVD and LD which are DTSLD
- Type 2 – all sources DTSMA

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Meridian 565 User Request

Please register your Version 4 565 with us. We can then send you a complete user manual when MPEG 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 list4@meridian-audio.com

Your name ....

Mailing address ....
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565 Serial number ....

Dealer who supplied it ....
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Comments

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