DSP5200.2 DIGITAL ACTIVE LOUDSPEAKER

1. Which input socket is D1 and which is D2?

The two sockets are not hardware-set as either D1 or D2. Instead, the input numbering is determined by a setting chosen when the loudspeaker has its "Type" set. If "RJ45" was selected when the loudspeaker was Typed, then the SpeakerLink input becomes "D1". If "co-ax" was selected during Typing, then the RCA (coaxial) digital input will be assigned as "D1".

2. Can I connect sources to both input sockets?

The loudspeaker acting as the Master loudspeaker in the system can be configured to switch between its input sockets according to which source is selected on the system. This feature allows a pair of loudspeakers to be fed with two different sources of audio without additional switching hardware. Naturally, this allows the loudspeakers to be used as a simple, self-contained system with two sources, but it also allows for a pair of loudspeakers which are connected to an audio matrix or other multiroom equipment to be switched between the external feed and a source local to the room containing the loudspeakers.

3. The DSP5200SE has three drive units. Does this mean it is a "three-way" design with treble, mid-range and bass frequencies sent separately to the three drive units?

No. In a straightforward three-way design, bass output is limited by the capabilities of the single drive unit used for the low frequencies. In the DSP5200SE, the tweeter receives the treble and one of the mid/bass drivers is sent the rest of the frequency range. The second mid/bass driver is sent purely low-frequency bass. This doubles the bass-handling of the loudspeaker without adding the inevitable blurring of the image caused when sound is crossed over between the tweeter and two mid-range drivers on the front of the loudspeaker. The "2½-way" design of the DSP5200SE combines the purity of the single treble-to-mid crossover found in a three-way design with the additional bass capability of a three-driver, two-way design.

4. Is EBA (also known as FFA) enabled on the loudspeakers by default?

Yes. By default, the loudspeakers have EBA enabled and the internal switch for EBA is set to change only if a loudspeaker receives the relevant command on its SpeakerLink input. This is determined by the setting "EBA SL" in the configuration of the loudspeaker. Having the setting on "SL" means "do as instructed over the SpeakerLink connection." This setting can be changed to "ON" or "OFF" which switches EBA to be enabled or disabled irrespective of any command received over SpeakerLink.

5. The digital display on the loudspeakers is distracting when the room lights are dimmed. Is there any way of turning it off?

Yes. There are options for what the loudspeakers display. One option has the display light up briefly when the loudspeaker controls are used, but blanked in between times. For example, the display will appear to show the volume being turned up or down, but will revert to blank after a second or two.

6. In a two-channel system which is "star-wired" with SpeakerLink cables, which loudspeaker should I set as Master – the left or right?

Either loudspeaker can be set as Master – it just needs to be connected to the "Master" socket on the product feeding the loudspeakers. The one consideration to be taken into account is that only a Master loudspeaker can be configured to accept IR commands. If IR control through the loudspeakers is a requirement, it may be that the physical location of the loudspeakers may mean that one is better positioned than the other in regard to "line-of-sight" for reception of IR from the user's remote control.

7. In a two-channel system which is wired in a "daisy-chain" arrangement, which loudspeaker should I set as Master – the left or right?

If a Meridian product is feeding the loudspeakers from a single SpeakerLink output then the loudspeaker directly connected to the source product must be set as Master. For convenience of wiring, this usually leads to the loudspeaker which is nearest to the source product being set to Master. However, it is perfectly okay to set the more-distant loudspeaker as Master as long as the cabling is arranged accordingly. IR control is possible only on the Master loudspeaker, not the Slave. So, if IR control is a requirement and one of the loudspeakers is better positioned than the other in regard to "line-of-sight" for reception of IR from the user's remote control, then this loudspeaker may need to be made Master regardless of which is nearest to the source product.

8. Why do I have to set the loudspeakers to Left, Right or Centre even when they are being fed with an independent SpeakerLink leads?

In a Meridian system, digital audio is distributed in pairs of channels. This seems obvious when a pair of loudspeakers is "daisy-chained" However, it is also true when a system is "star-wired"; each SpeakerLink lead always has the ability to carry two channels of audio. Therefore, each loudspeaker must be configured to pick up and play back the correct channel from the lead. Even in cases when there is no sound present in a channel, such as when there is no subwoofer defined in a surround system, the lead connected to the centre-channel still carries digital silence in the unused channel. Set the loudspeaker to pick up the wrong channel and it will output just this silence.

9. Should I use mains conditioning equipment with the loudspeakers?

No. Meridian DSP speakers feature internal protection which, when activated, can demand high current from the mains supply in order to blow the fuse within the product. This is a deliberate aspect of their design and is a key safety feature. If, under these conditions, anything inhibits the current required to blow the fuse, the speaker will be exposed to circumstances for which it was not designed. Such circumstances could result in catastrophic damage. It may be thought that this can be avoided by using a mains conditioner which boasts a current rating which is higher than that required to blow the speaker's fuse. However, the possibility of the mains conditioner itself developing a problem needs to be considered. If a problem in the conditioner restricts its current delivery capabilities, and then the speaker suffers a failure as described above, the fuse may not blow resulting in catastrophic damage.

10. The loudspeakers are showing a yellow LED. What does this mean?

This is the "High Speed" indicator. It shows that the digital signal received by the loudspeaker has a sampling rate of 88.2 kHz or 96 kHz.

11. What happens to digital signals which have sampling rates of 44.1 or 48 kHz?

These signals are upsampled to 88.2 kHz and 96 kHz respectively within the loudspeaker.

12. The loudspeakers are showing a green LED. What does this mean?

This shows that the loudspeaker has activated its first level of thermal protection. When the loudspeaker's internal thermal model suggests that the mid-range or tweeter is too hot, the DSP section will turn down its gain slightly and the green LED comes on. Since the bass isn't turned down the loudspeaker will sound tonally unbalanced in this state.

13. The loudspeakers are showing "Pro95" alongside the volume number on the display. What does this mean?

This shows that the loudspeaker is taking extreme measures to protect itself from being overdriven. At volume levels over 95, if the first level of thermal protection is not enough to protect the loudspeaker, the loudspeaker will force its volume level to 95 and display "Pro95" until it establishes that it has cooled sufficiently to go back into normal mode.

14. When using the coax input on a loudspeaker, is audio fed to the SpeakerLink output?

Yes. Audio fed into the coaxial input is fed through to the coaxial output and SpeakerLink output simultaneously.

15. When using the SpeakerLink input, is audio sent out of the coaxial output?

Yes. Audio is sent out of the coaxial and SpeakerLink outputs simultaneously, regardless of which input socket is used.

16. When Meridian comms is fed into the BNC comms input, does the SpeakerLink output carry comms?

Yes. The loudspeaker sends out comms from the BNC and SpeakerLink outputs simultaneously regardless of which input socket is used.

17. When using the SpeakerLink input, are Meridian comms commands sent out of the BNC comms output?

Yes. The loudspeaker sends out comms from the BNC and SpeakerLink outputs simultaneously regardless of which input socket is used.

18. Given that the DSP5200.2. renders MQA files at a sampling rate of 88.2kHz or 96kHz, what is the difference between how MQA files are handled and how the loudspeaker deals with non-MQA audio signals with the same sampling rates of 88.2kHz and 96kHz?

MQA rendering is carried out according to metadata within the MQA core. This includes which filter should be used from the MQA library stored in the loudspeaker. Exactly what this involves and how it is done is part of the MQA process and is therefore subject to MQA's intellectual property rights. In theory, the "instructions" carried in the metadata can vary from track to track, but in practice it is more common to work on an album-by-album basis. This is all part of what is signed off during the MQA process in the studio.