



Meridian Audio Limited
Latham Road, Huntingdon
Cambridgeshire PE29 6YE
United Kingdom

T +44(0)1480 445678
F +44(0)1480 445686
E info@meridian.co.uk
www.meridian-audio.com

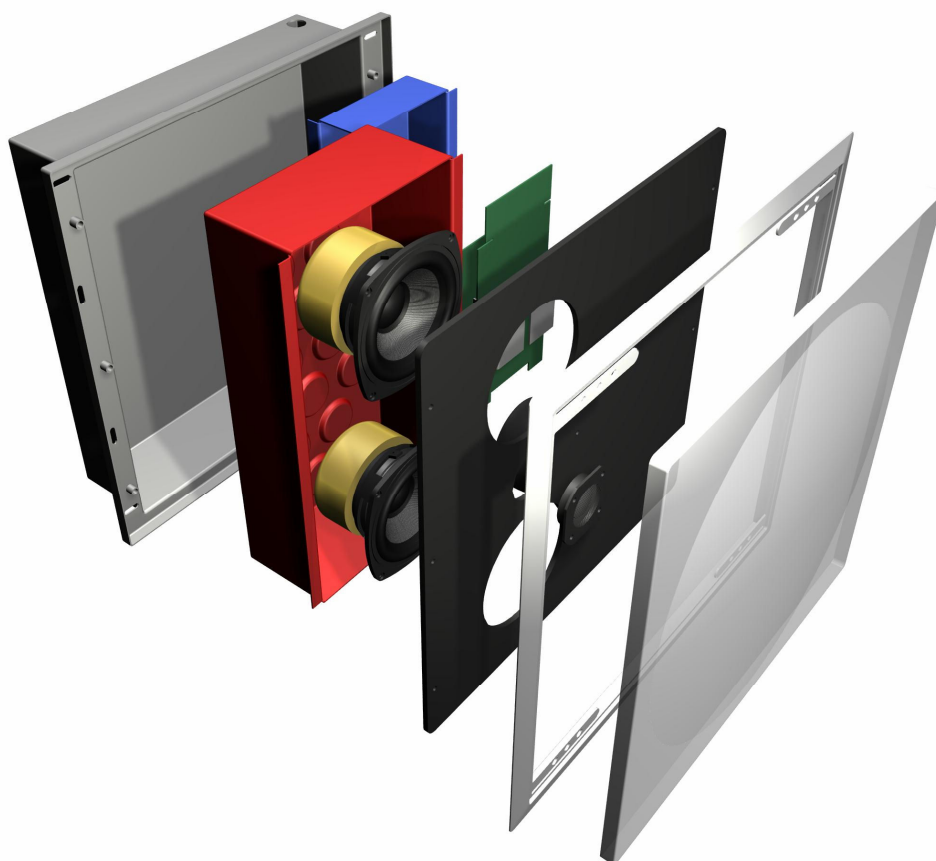
Technical Note TN27

15th October 2009

DSP420 and RF420 - Functional Testing

For all practicable purposes, the DSP420 can only be used when connected to another Meridian product. This is because the DSP420 requires a Meridian "comms" signal and a valid digital audio signal to be fed to it before it will "wake up" out of Standby.

Also, the DSP420 speaker can only be used with its associated "back-box" - the aluminium box which is fitted into the wall to house the speaker. This is shown in grey in this illustration



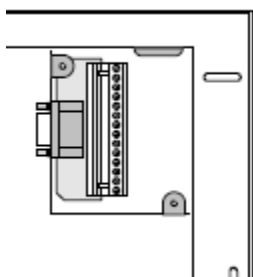
The Meridian model number for the back-box is "RF420". The back-box provides the connections to the speaker (short VGA cable) and carries electronic protection for the input circuitry of the speaker. Without it, the speaker cannot be used without damage.



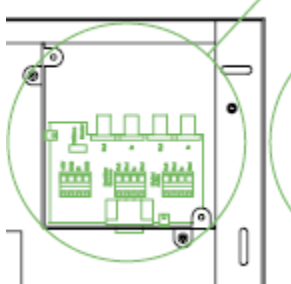
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Over the years, there have been three versions of the back-box. The main difference between versions concerns the method by which the back-box is connected to the rest of the system. These connections are housed under a small cover in the corner of the back-box.

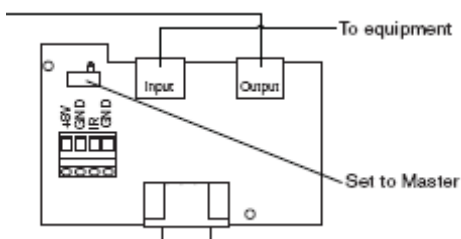
Version 1 - only screw terminals are fitted:



Version 2 - BNC connectors and screw terminals:



Version 3 - RJ45 SpeakerLink terminals.



The type of back-box determines which type of lead is required to connect to the "source" product and, in the case of Version 3, which type of product can be connected at all.

Version 1 needs to be connected to a suitable Meridian product using two co-ax cables. One of these will carry comms, so it needs to be terminated at the source end with either a 240 degree DIN-plug wired as for a 5M lead, or a BNC connector. The product being used to feed the speaker may determine which of these is appropriate. The second cable carries digital audio, so it needs to be terminated with an RCA phono plug. At the back-box end, both cables need to be stripped-back for connection to the screw terminals.



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Version 2 can be connected using a BNC-to-BNC for the comms and an RCA-to-BNC for the digital audio. If the "source" product does not have BNC comms (e.g. 861 prior to V6), the comms cable must be terminated with a 240 degree DIN-plug wired as for a 5M lead.

Version 3 needs to be connected using a single RJ45 cable to a Meridian product which features RJ45 SpeakerLink outputs.

Once the back-box had been connected to the Meridian source product, the speaker needs to be set as a "Master". On Versions 2 and 3, this is done using the small switch located close to the audio and comms connections. On Version 1, it is done by having no link wire fitted between terminals 7 and 8 as described in the back-box installation guide.

Mains power can now be connected to the back-box.

The speaker should now be fitted to the back-box. It is recommended that the speaker is fitted only to the extent necessary to make it safe. This will make it easier to gain access to the back-box connections should it be necessary to check them later on.

The source product and speaker can now be powered up. The red power indicator on the front of the speaker should light up. If it does not, the speaker, back box or mains supply is faulty and will need further investigation.

After a few seconds, bring the source product out of Standby. The speaker should lock onto the incoming digital audio. This is indicated by the green "lock" light illuminating. This light will not come on if no audio is received. The speaker should now be playing whatever sound it is being fed.

Check full comms operation by adjusting the volume on the source product. If the product is not equipped with a volume knob, it will be necessary to use a remote-control.

If sound is produced and volume is adjustable, the speaker's basic functions are working!