

## NEW DNM PRODUCT ANNOUNCEMENT

### ZERO REFLECTION TERMINATION NETWORK (ZRTN)



**ZRTN shown life-size**

To achieve the full performance from a hi-fi amplifier, it is important to accurately impedance-terminate the speaker cable, so that it will not interfere with the amplifier through the critical range of radio frequencies in which feedback system operates.

The DNM ZRTN's are inserted at the amplifier end of the speaker cable and they make a series/parallel connection with the cable, giving full control over the cable impedance at radio frequencies.

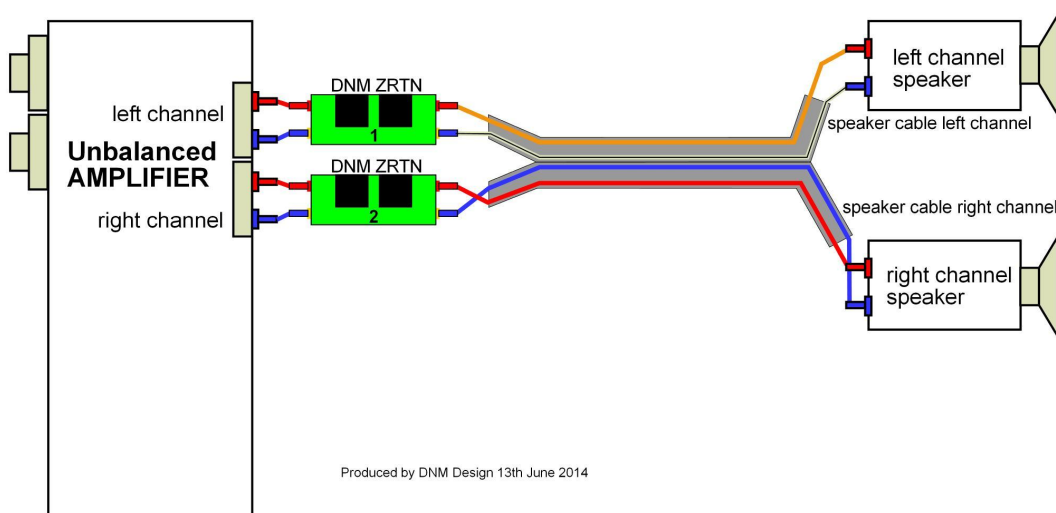
The ZRTN is designed for use with DNM Resolution and DNM Stereo Solid Core Precision 2 speaker cables. Because it is connected in series with the speaker cable, a single ZRTN can be used only with unbalanced (ground referenced) amplifiers. Balanced amplifiers can be used if two ZRTN's are connected to each channel, linked in the appropriate way. The balanced ZRTN application is shown in the second illustration below.

The first illustration below shows the connection method for using ZRTN's with an unbalanced (ground referenced) amplifier. ZRTN's are sold in pairs, so for this upgrade order 1 pair of ZRTN's on the DNM online shop.

## Application of the DNM Zero Reflection Termination Network (ZRTN)

### Connecting the DNM ZRTN to an amplifier with unbalanced (ground referenced) outputs

Fit two DNM ZRTN's, one per channel connected as shown (labelled 1 left channel & 2 right channel) at the amplifier end of the speaker cable.



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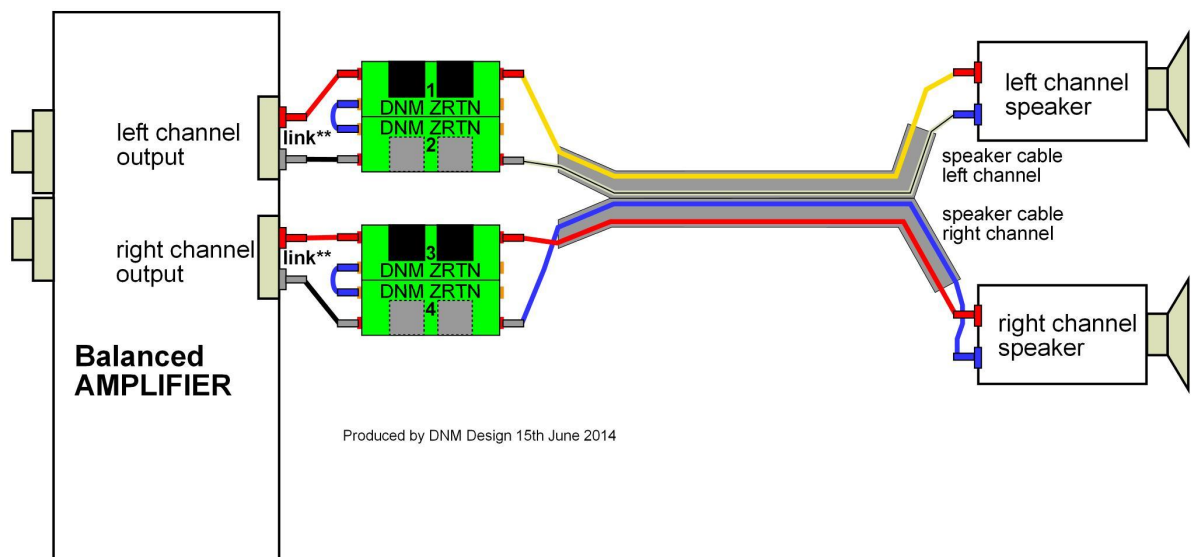
The illustration below shows the connection method for using ZRTN's with a **balanced** amplifier. ZRTN's are sold in pairs, so for this upgrade order 2 pairs of ZRTN's on the DNM online shop.

## Application of the DNM speaker cable ZRTN

Connecting the DNM series/parallel ZRTN to a system with a balanced amplifier

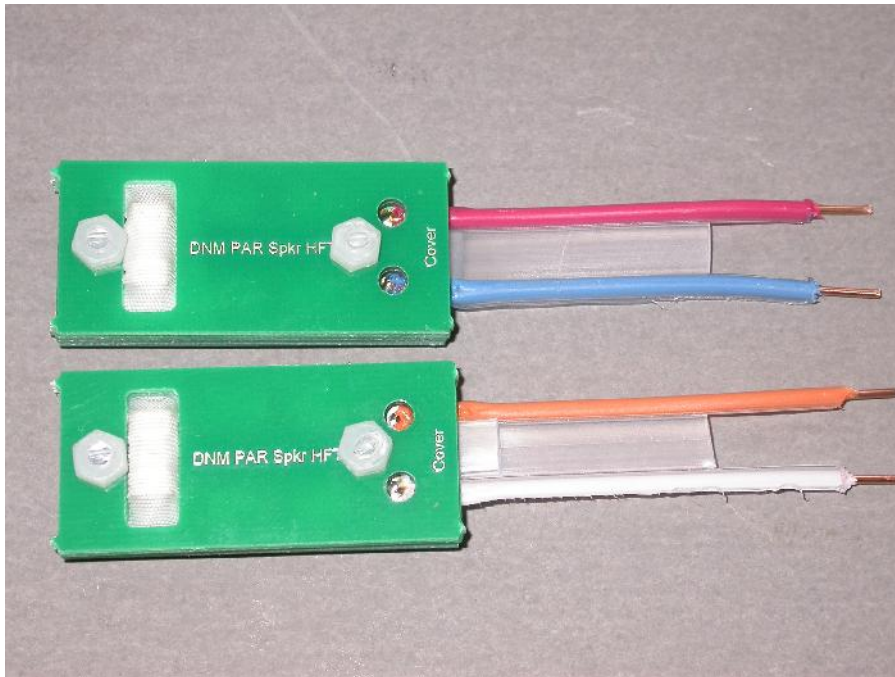
**NB. two ZRTN's are needed for each channel for use on an amplifier with balanced outputs.**  
**Important note: the two negative terminals of the ZRTN pair must be link\*\* connected as shown.**

Fit four DNM ZRTN's arranged in two pairs, connected as shown (labelled 1 & 2 left channel, 3 & 4 right channel) at the amplifier end of the speaker cable.



## DNM HFTN for use with speaker cables

The DNM termination system, named “**H**igh **F**requency **T**ermination **N**etwork” (**HFTN**) is a circuit that controls the radio frequency (RF) load presented by the cable to the amplifier.



The HFTN parallel terminates the cable at the radio frequencies generated by the amplifier's feedback system so the RF interface is improved and the amplifier's feedback accuracy is enhanced. This gives a substantial increase in audio clarity.

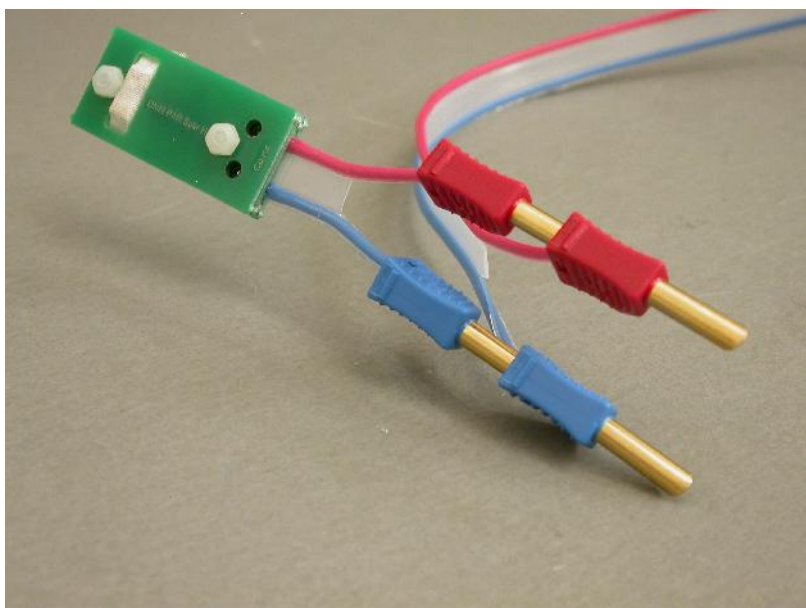
The HFTN is designed for use with DNM Resolution and DNM Stereo Solid Core Precision 2 speaker cables. Because the HFTN is applied across the speaker terminals it can be used with both unbalanced and balanced output amplifiers.

The photograph below shows how the speaker cable HFTN is supplied by DNM Design. Sold in stereo pairs, the HFTN is fitted with a short length of cable (as part of its assembly) with pre-stripped conductors which can optionally be terminated with the 2mm or 4mm speaker plugs (ordered from the DNM online shop).

The speaker cable HFTN is very easy to install.

The photograph below shows how the 4mm leaf type plug (available in the DNM online shop) can be piggy-backed to add the HFTN onto existing connections. Connection can be done in this way at the amplifier and at the speaker end of the cable.

If the speaker cable is already fitted with normal 4mm plugs, the HFTN's plugs can be plugged in first and then the normal 4mm plugs can be plugged into the back of the HFTN plugs.



In a stereo system, the least expensive upgrade to the amplifier/cable interface is two HFTN's connected at the amplifier end of the speaker cables, see HFTN's 1 and 2 above in the illustration below.

DNM HFTN's are sold in pairs, so for this upgrade order 1 pair of HFTN's on the DNM online shop. The illustration below shows how the HFTN is connected to the system.

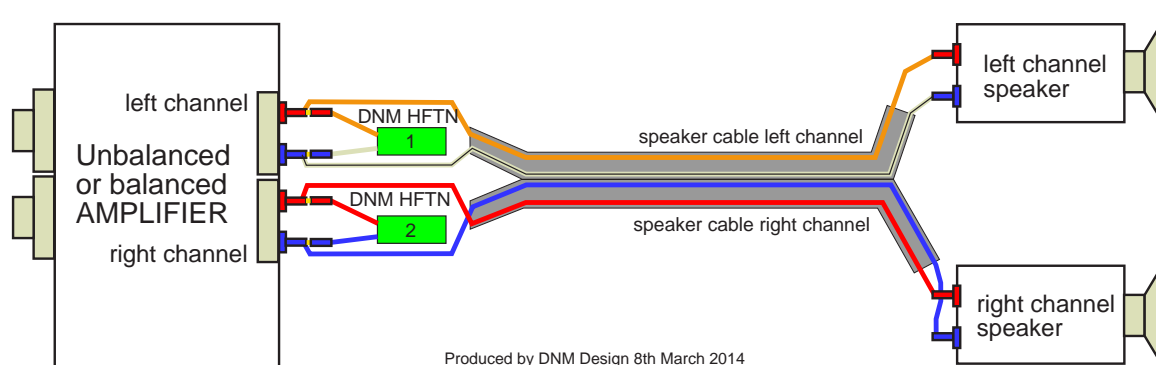
## Application of DNM speaker cable termination networks

### Entry level upgrade to a DNM High Frequency Termination Network (HFTN)

Connecting the parallel DNM HFTN to a system.

Parallel HFTN's can be applied to unbalanced amplifiers (ground referenced) or to balanced amplifiers.

Entry level HFTN upgrade: fit two DNM speaker cable HFTN's (labelled 1 and 2) to the left and right channel terminals at the amplifier end of the speaker cables-as shown.



If plugs are required for the HFTN's they can be ordered on the DNM online shop. Normally 4mm plugs would be ordered, or 2mm plugs can be ordered for use with DNM amplifiers.

In the DNM PA1 and PA3 amplifiers the HFTN can be plugged into the spare amplifier outputs instead of piggy-backing as in the case of 4mm connectors. For example if the speaker cables are plugged into the DNM outputs marked "B" for bass, the HFTN can be plugged into either of the other outputs marked "M" for mid-range or "T" for tweeter. Only one output per channel needs to be terminated.

The speaker cable HFTN can also be used as supplied with bare wire, or with spade connectors to be attached directly to screw-in speaker terminals.

**Please note that a plug fitting charge is not required for this product, it is only necessary to order the HFTN and then order the plugs.**