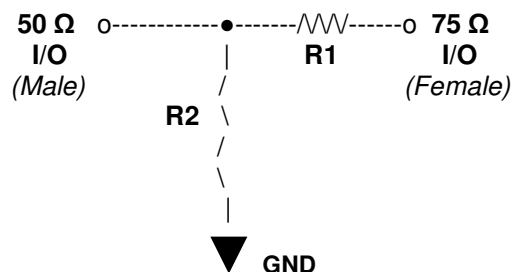


# Minimum Loss 50 to 75 Ohm Matching Pad for Rigol DSA815-TG

## Description:

A Minimum Loss Pad can be used to match different impedances over a very broad frequency range with the lowest possible attenuation. The following Minimum Loss L Pad provides impedance matching of 50 to 75 Ohms, with an attenuation of 5.7 dB (the lowest possible), for use with the DSA815-TG Spectrum Analyzer Input and Tracking Generator Output.

## Schematic:



### Minimum Loss L Pad with 5.7 dB Attenuation

**R1** - 43.3  $\Omega$ , or 120  $\Omega$  in parallel with 68  $\Omega$  for 43.4  $\Omega$

**R2** - 86.6  $\Omega$ , or 120  $\Omega$  in parallel with 330  $\Omega$  for 88.0  $\Omega$ .

**Minimum requirements for these resistors:** Film type,  $\pm 5\%$ , 0.125 W

**Construction:** Use appropriate microwave construction techniques!

It is recommended to assemble the Minimum Loss L Pad in an appropriate Male to Female connector assembly. i.e. Type 'N' for LMR400/RG214, or 'BNC' (preferred) for RG223/RG58, Male and Female 'Clamp' solder type (**not** Crimp) RF coaxial connectors mounted Back-to-Back with a threaded Connecting Bushing\*.

Note \* 'Connecting Bushing' can be fabricated from one of the connectors 'rear cable Clamping Compression Nuts' by grinding or cutting off the outer nut protrusion.

The photo (**center**) shows one of the original 'rear cable Clamping Compression Nuts', and just below it, a fabricated 'Connecting Bushing',



**'N' connectors before (top), and after final assembly (bottom) with a label applied. This construction technique also applies to other 'clamp' solder connector types.**

## Ideal for use with the Rigol DSA815-TG Spectrum Analyzer:

When you select 75 Ohms on the Rigol DA815 Spectrum Analyzer the actual impedances remains at 50 Ohms. Although, 5.7 dB is automatically added to the DSA815's displayed input level to compensate for the loss in the Minimum Loss 50 to 75 Ohm Matching Pad.

Reference the Rigol DSA800 Series User Guide, page 2-22, Input Impedance.