DS360 Output Impedance

Application Note #10

Setting the Output Impedance of the DS360 Function Generator

It is possible to get various output impedances from the DS360 Function Generator by choosing different combinations of impedance and amplitude settings.

By setting the amplitude to 0.5× or 2× (under certain conditions), the DS360 has the following output impedance capabilities:

Unbalanced

25 Ω	(set to unbal, Hi Z, normal amplitude)
50 Ω	(set to unbal, 50 Ω, normal amplitude)
75 Ω	(set to bal, 150 Ω, 2× amplitude)
300 Ω	(set to bal, 600 Ω, 2× amplitude)
600 Ω	(set to unbal, 600 Ω, normal amplitude)

Balanced

50 Ω	(set to bal, Hi Z, normal amplitude)
100 Ω	(set to 50 Ω, unbal, 0.5 normal amplitude)
150 Ω	(set to bal, 150 Ω, normal amplitude)
600 Ω	(set to bal, 600 Ω, normal amplitude)
1200 Ω	(set to unbal, 600 Ω, 0.5 normal amplitude)

By changing some resistors you can get 150 Ω unbalanced and 300 Ω balanced. You will need to set the amplitude to 0.5 or 2× in a few cases.

Change R623, R630 to 453 Ω, ½ W
Change R624, R631 to 464 Ω, ½ W
(or all resistors can be changed to 453 Ω, for a 1 % error)

This will provide the following impedances:

Unbalanced

25 Ω	(set to unbal Hi Z, normal amplitude)
150 Ω	(set to unbal, 50 Ω, normal amplitude)
75 Ω	(set to bal, 150 Ω, 2× amplitude)
300 Ω	(set to bal, 600 Ω, 2× amplitude)
600 Ω	(set to unbal, 600 Ω, normal amplitude)

Balanced

50 Ω	(set to bal, Hi Z, normal amplitude)
300 Ω	(set to 50 Ω, unbal, 0.5 amplitude)
150 Ω	(set to bal, 150 Ω, normal amplitude)
600 Ω	(set to bal, 600 Ω, normal amplitude)
1200 Ω	(set to unbal, 600 Ω, 0.5 amplitude)

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