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ASSUMED ANSWERED

HP 8590B Option 1

Question asked by **RFguy** on Feb 6, 2012

Latest reply on Feb 6, 2012 by tabbott 

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I have a 8590B with option 001 and 003. Just wondering if there is a way to internally convert from the 75 ohm option 1 to 50 ohm. I know Pasternak makes an impedance matching connector (PE7028) that will convert 75 to 50, but I would like to avoid the additional connectors.

Also, I'm sure the impedance matching pads would probably introduce some loss in accuracy.

Any thoughts or help would be greatly appreciated!

Thanks

No one else has this question

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1 Reply



tabbott

Feb 6, 2012 1:41 PM

Hi -

When using an external matching pad or network, the analyzer does not know that it is connected, so you have to compensate for that 5-6 dB front end loss for sure. If you plan to convert the analyzer, you can find the details below. Since your analyzer is very old, you may not be able to get the conversion parts needed, not sure.

Agilent 8590B and HP 8591A Conversion for 50 or 75 ohm Operation

Parts listed for the impedance input required. Order one of each.

75 Ohm	Description	50 Ohm
0590-1251	NUT HEX 15/32-32	NONE
08590-20182	CBL AY-RF INPUT	08590-20157
08590-60179	RF INPUT	1250-2191
NONE	ADPT M N - F BNC	1250-0780
6960-0150	PLUG-HOLE	6960-0148
08590-60028	Cable, Cal Out	8120-5052
5062-6452 (75ohm)	CABLE, CAL Out-RF In	8120-2682 (50ohm)
0955-0453	A24A4 ATTENUATOR, TG OUTPUT	0955-0453
08590-20179	J2 MATCHING PAD	NONE

Agilent 8590B Dress Panel

75 Ohm	Description	50 Ohm
08590-00039	HARD KEYPAD	08590-00038
08590-00046	RUBBER KEYPAD	08590-00045

HP 8591A Dress Panel

75 Ohm	Description	50 Ohm
08591-00002	HARD KEYPAD	08591-00001
08591-00014	RUBBER KEYPAD	08591-00013

Common to the HP8590B and the Agilent 8591A conversions.

To convert a 50 ohm 3RD CONVERTER, p/n 08590-60192, 08593-60021 or 08591-60081 to 75 ohm, order the parts listed in the 75 ohm column and replace the parts listed in the 50 ohm column.

To convert a 75 ohm 3RD CONVERTER, p/n 08590-60193 or 08590-60344 to 50 ohm, order the parts listed in the 50 ohm column and replace the parts listed in the 75 ohm column.

75 Ohm	Description	50 Ohm
0698-7239, 1.33 KOHM	A9R20	0698-7237, 1.1 KOHM
0698-7216, 147 OHM	A9R21	0698-7212, 100 OHM
0698-7216, 147 OHM	A9R23	0698-7212, 100 OHM
9135-0076, 39 NH	A9L2	9135-0070, 24 NH

The RF input cable (W10) that connects to the rear of the RF Input connector remains the same for both configurations since it attaches to the rear of the Minimum Loss Adapter or the N connector.

Refer to "STOR PWR ON UNITS" in Chapter 13 (Service Softkey Descriptions) in the service manual for setting the Impedance and Power-On units of the analyzer to 50 or 75 ohm input.

Special considerations for 75 ohm spectrum analyzers.

If the final configuration is 75 ohms (Opt. 001), use only the 75 ohm cable (5062-6452) for calibration and use only 75 ohm cables for signal input. Using a 50 ohm cable can damage the 75 ohm input connector which is the Minimum Loss Adapter (MLA). The replacement cost of the MLA is currently \$220. The MLA is not field repairable.

The recommended 75 ohm F to 75 ohm BNC connector p/n is 1250-0076, using Radio Shack type connectors WILL eventually damage the input connector because it is a 50 ohm BNC connector.

If converting an Option 011 (75 ohm TG) to 50 ohms, remove the MLA (TG Output Adapter, 50 to 75 ohm) and re- place with the type N (f), p/n 1250-2191, connector.

Special Considerations for the Agilent 8590B with a Count Lock, Option 013

If the 8590B has a Count Lock Option (Option 013), the output attenuator (0955-0453) will have to be added to the TG output or the TG Cal will fail. The reason is the analyzer will now ID as an Agilent 8591A, so when the Cal TG test routine is run the firmware will attempt to change the TG attenuator and test the results.

Regards -

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