

**DUAL RF DIVIDER.**

**A3079**

**PS/AA/87-7**

Test and Alignment Procedure.

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PSAA

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Test Equipment required.

Frequency Counter    HP5308  
Signal Generator     HP8660a  
Tektronix 465 Oscilloscope

- 1) Connect a 500mV 10MHz signal to the **RF IN** SMA terminal.
- 2) Set the division ratio to **2** using the binary switches.
- 3) Using the Oscilloscope with a feed through termination , check that a square wave output of  $> 2.4V$  pk is present on both  $0^0$  and both  $180^0$  outputs. Ensure the unused outputs are terminated in  $50\Omega$ .
- 4) Confirm that the  $0^0$  and  $180^0$  outputs are  $180^0$  antiphase.
- 5) Check the input sensitivity by varying the input level between 100mV and 1V , ensuring that the divided output remains stable.
- 6) Using the Frequency Counter , verify that the output frequency is 5.000000MHz.
- 7) Returning the input level to 500mV. Increase the input frequency in 5MHz steps and confirm reliable division up to about 25MHz.<sup>1</sup>
- 8) Set the input frequency back to 10MHz and set the division ratio to **256**.
- 9) Verify the output frequency is 39.0625KHz and has a very nearly 50% duty cycle.
- 10) Increase the input frequency in 5MHz steps and confirm reliable division up to approximately 50MHz.<sup>2</sup>
- 11) Set the input frequency to 1MHz and verify the undivided **BAL OUT** signal is correct.
- 12) Check the divided balanced output.
- 13) Set the divider binary switch to the final required division ratio.
- 14) Perform steps 1 to 13 for the second divider circuit in the module.
- 15) Label each divider chain with the selected division ratio.  
Let reset on the front panel if required.
- 16) Label the module , stating it has been checked and adjusted.  
Date and sign the label.

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<sup>1</sup> Max. frequency limited by post division amplifier response

<sup>2</sup> Max. frequency limited by divider refresh cycle time.