

## IFD- Series Prescaler Demonstration Circuit Board

version 1 7/15/94 MCR  
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### Applications Bulletin

#### Introduction

This board is designed for use with the IFD-50310 divide by four MMIC. There are three versions of the board available. The first

capacitor on the Vee line for each IC. Chip capacitors of 1000 pF or more should be used to ensure adequate low frequency bypassing. Vcc - Vcc should be 5 Volts. When using

want to use a larger value of capacitance on the output line.

3) If you have received the right half of the board as shown in figure 3, you may need to cut the

Version 1 Divide by 16 Qty	Version 2 or 3 Divide by 4 Qty	Part Description
1	1	IFD circuit Board
2	2	SMA connectors (EF Johnson type 142)
5-7	3-4	1000 pF chip capacitors
2	1	IFD-05310 divide by four MMICs

version allows two of the IFDs to be connected in series for divide by sixteen operation. The second and third versions of the board are simply the result of cutting the version one board in half, resulting in divide by four operation. Figures 1, 2 and 3 show component placement on all three versions of the board.

#### Assembly Notes:

Table 1 lists parts that will be needed to assemble the circuit board:

1) Use at least one bypass

the board it is strongly recommended that you do not exceed the maximum IC voltage ratings shown on the data sheet.

2) Each input and output line requires the use of blocking capacitors to isolate the IC from external DC voltages that might cause bias shifts (and performance irregularities) in the IC. Usually 1000 pF chip capacitors will be adequate, but when using a low output frequency (<50 MHz), you may

input line to allow installation of the necessary blocking capacitor. Make the cut at the position indicated by the dotted line shown in figure 1.

4) The boards have been designed to accommodate EF Johnson model 142-0701-801 SMA connectors. These connectors are readily available from Newark, Digi-Key and others for about \$7 each. The connectors will just slip on to the edge of the board without any drilling. Be sure to solder the

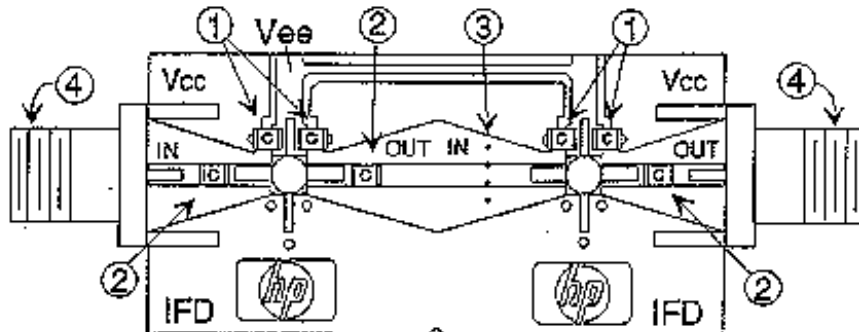


Figure 1. Divide by 16 board

pins on the connector to the ground-plane on both sides of the board to ensure low ground inductance.

A more detailed description of the assembly process can be found in Applications Bulletin number XXXX.

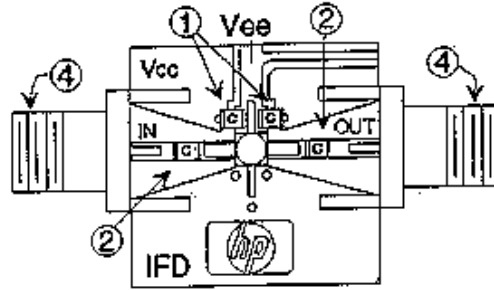


Figure 2. Left side half of the board: divide by 4

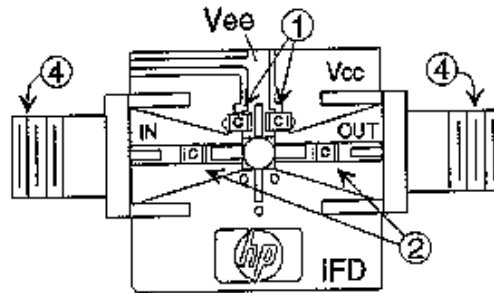


Figure 3. Right side half of the board: divide by 4