

**MULTI-FREQUENCY
MICROWAVE MANIFOLD
UPDATED**

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Microwave Up Date 2011 Conference
Enfield, Connecticut

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I. INTRODUCTION

At the 2009 Microwave Up Date (MUD) Conference in Dallas, a concept was presented to provide local oscillator signals for the microwave bands from 1296 MHz through 10,368 MHz all generated from a common 10 MHz source. The baseband signal was located in a temperature controlled environment, i.e. the shack about 72 deg. F, and all of the microwave band generation took place on the tower with 90 MHz fed from the shack to the microwave module on the tower. A good OCXO will provide acceptable stability for all the microwave bands with decent phase noise. This concept has now been expanded to include 24,192 MHz with all bands generated from the common source. This results in solving the local oscillator stability/accuracy problem once for all of these bands.

II. APPROACH

Since this approach was presented at the 2009 conference, that information will not be repeated here. What is new is the inclusion of the 24 GHz band, along with block diagrams depicting the way in which the Microwave Manifold signals can be used to drive RF modules for all of the microwave bands mentioned. The summary paper does not get into the circuit design details but is used to present the frequency scheme by which all of these microwave bands can be generated when using an available I.F. such as a Yasue FT-817. This approach results in having to develop only one good local oscillator to achieve operation on all of the bands mentioned.







