



Features

- Two modes of operation AxB where the output signal consists of the sum and the difference of the input frequencies. A second mode is 2A where the output signal is twice input A signal.
- Bypass controls to mix the input signals with the ring modulated output signal

Kit Contents				
Description	Reference	MOTM Qty	MU Qty	Notes
Components Kit	7216-251-1	1	1	See BOM
Accessories Pack including:	7216-251-2	1	1	
Pot Sticky Pads	7210-188	4	4	
10mm M4 Spacers	7210-186	4	4	
M4 x 14 Cap Head Screws	7210-187	4	4	
M3 x 8mm Stainless Panel Screws	7210-189	4	4	
8-Pin IC Socket	7212-331	2	2	
Power Lead	7216-164	1		
MOTM Front Panel	7216-551	1		Black
MOTM Back Panel	7216-851	1		
MU Front and Back Panel	7219-551		1	
Main PCB	7216-051	1	1	
Jack Socket PCB	7215-722	1	1	
Jack Sockets	7216-604	1	1	Pack of 4
B100k Pots Long Shaft Angled	7216-704	1		Pack of 4
B100k Pots Short Shaft Angled	7216-734		1	Pack of 4
KM20B Knobs	7212-104	1		Pack of 4
MU Knobs	7219-104		1	Pack of 4
General Assembly Guidance Booklet		1	1	
BOM	S-7216-051-b	1	1	
Circuit Schematic	S-7216-051-b	1	1	
PCB Layout	S-7216-051-b	1	1	

Assembly Instructions

Other than for chip U2, the Ring Modulator has no particular requirements not already covered in the 'General Guidance on a M²Synth Module Assembly' booklet included with this kit. U2 is surface mount but can still be easily soldered by hand using a fine tipped soldering iron.

Calibration

This module requires calibration using Pr1 & Pr2 using a signal generator and an oscilloscope. Don't have the test gear? Listen to the output and adjust for the lowest audible level where the text below refers to <30mV.

Apply a 1kHz, 10V P-P sine wave to input A with the toggle switch in the up position, Input level pot at 100% and Bypass at 0%. Adjust Pr2 until output is <30mV P-P.

As above but apply sine wave to input B, adjust Pr1 until output is <30mV.

To prove operation, apply a 1kHz 10V P-P sine wave to Input A, toggle switch down and check output is a sine wave at 2kHz (frequency doubling).

Specification

- Supply voltage +/-12Vdc
- Supply current +12mA / -12mA
- Main PCB dimensions 43.5x154.85mm

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