

mm Mux (#737)

Dick Plambeck, 12/30/05

circuit designed and built by Tap Lum, 1993

Function: Switches bias voltage to the selected mm oscillator. Also controls the Agilent 8767 switch that connects appropriate phaselock mixer to the mm phaselock box.

Brief circuit description: The BIMA receivers use a single mm phaselock box and a single Xband reference oscillator. Currently there are 2 receiver bands (1mm and 3mm), each with its own LO plate, but only one can be operated at a time. The mm mux switches the mm oscillator bias voltage to the correct plate. Also, by controlling the Agilent 8767 switch, it selects which phaselock mixer is connected to the mm phaselock.

Pwr/control input: 9-pin D-subminiature connector, male

1	NC
2	NC
3	GND
4	+5 V, xx mA
5	+15 V, xx mA
6	TTL address line A (least significant bit)
7	GND
8	TTL address line B (most significant bit)
9	GND

Bands are selected as follows:

band	B = pin 8	A = pin 6
'A' = 1mm	0	0
'B' = 3mm	0	1
'C' not used	1	0
'D' not used	1	1

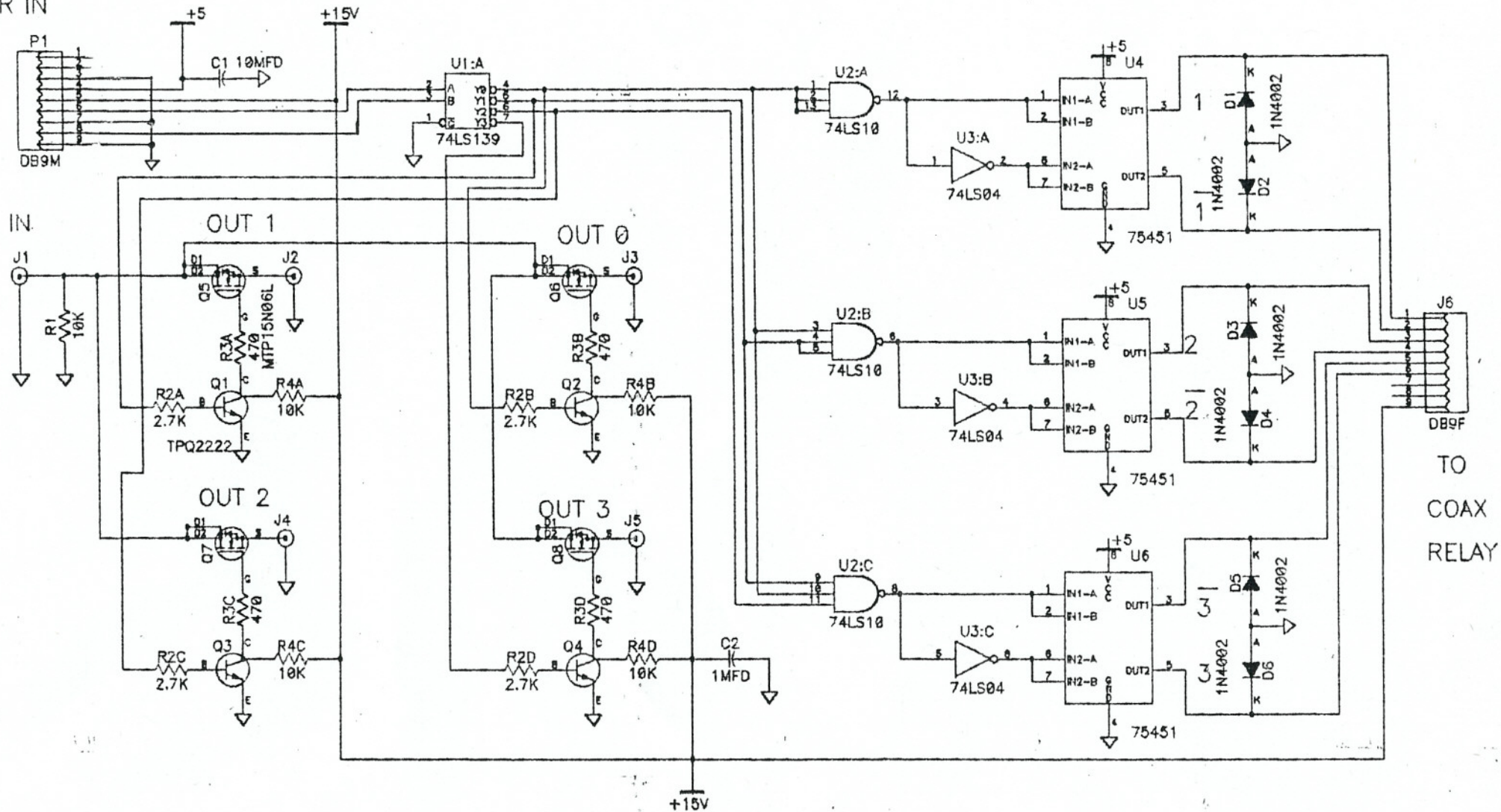
Pwr/control output to Agilent 8767 switch: 9-pin D-subminiature connector, female

1	bypass 1
2	select 1
3	bypass 2
4	select 2
5	bypass 3
6	select 3
7	NC
8	NC
9	+15 V

Wiring of ribbon cable on Agilent switch. Recently we have purchased the Agilent switches with 10-pin ribbon cables. The Agilent documentation for these is hard to understand. However, here is the wiring that works. All wires in the ribbon cable are gray except for R1, which is red, at the bottom edge of the ribbon.

ribbon cable	D9
R1 = red wire	6
R2	5
R3	-- nc --
R4	4
R5	2
R6	-- nc --
R7	-- nc --
R8	1
R9	3
R10 = gray wire	9

PWR IN

TO
COAX
RELAY

Title MM-MUX

Size Number 737

Date 3/16/93

Filename Sheet of

Rev B

Drawn by WJ

Sheet of