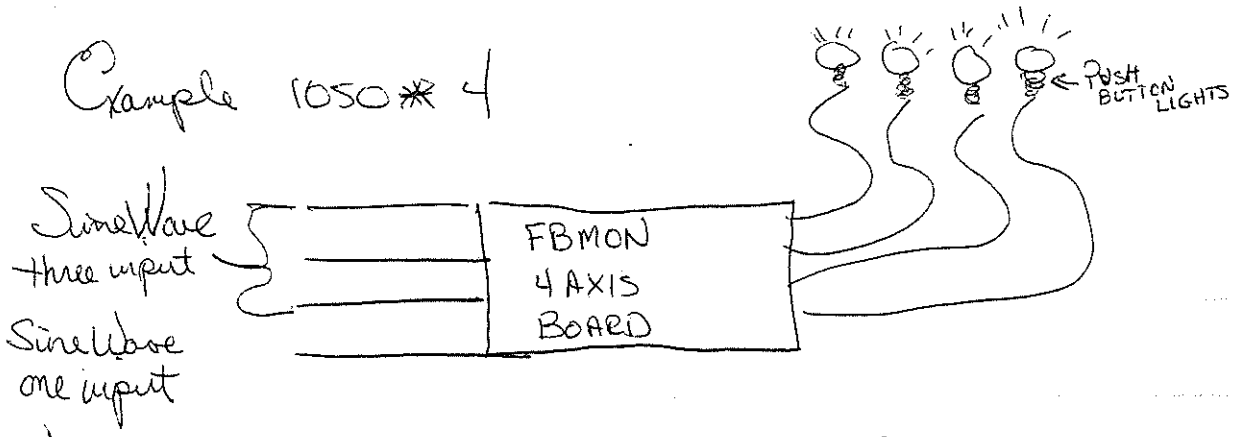
Reference Zero 1050MC Control

1. Turn on Axis X Cart
2. Turn on 1050 Control
3. Turn on Power Supply switch on Axis Cart – Provides 15 volts to Servo Drives
4. Press On Button on 1050 Control. This should bring the control out of E-Stop.
5. Turn 1050 Mode Knob to MANUAL position.
6. Turn 1050 Incr Feed Knob to REF position.
7. Depress X on keyboard and hit cycle start. Axis should start to spin, then hit X Ref SW button just under the Edit Section of the control station. Axis should come to a stop. Do the same for Y and Z axis.
8. Once all axis have stop turn Incr Feed knob to HIGH and you should be able to jog any of the three axis.

Sine wave generator put a 2.5KHz signal in a 10.4 V P-to-P into inputs of FBMON.

Example 1050 # 4



Burn Control up all lights should be on, try getting out of E-STOP, then reset all lights, attempt to get out of E-STOP again, should be able to move.

→ The single input SineWave generator change to see if you can trip the board. get pictures of outputs

1K
1.5K
2K
2.5K
3K
3.5K

The output signal when it is out of its specified window should show a double pulse.

Sink scope on counter of sign wave.

Hook up Six push button on control.

74LS107 Feedback error

When PB Lite is out 2 goes hi 1 has no pulse

When freq. goes low PB lite come on 2 goes low 2 has a pulse.

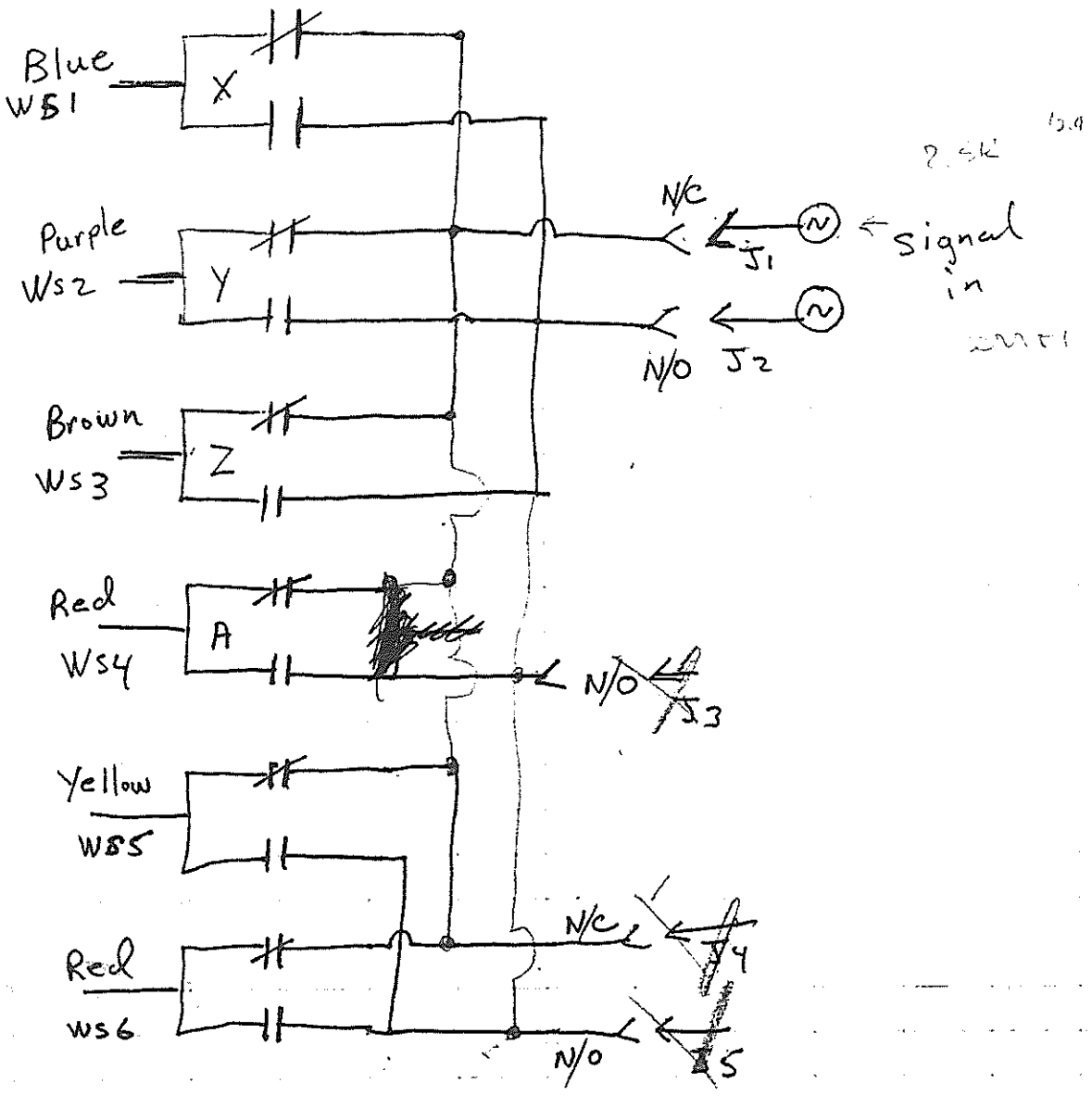
As the freq. goes out of threshold (2.4K - 2.6K Hz) the output of 74LS00 pin 3 which is the J input to J-K FF feedback error. will develop a pulse which will stop the flip flop to latch.

IF There is a square wave on Pin 1 ⌐¬⌐¬ There is no 2.5 KHz input to Pin 9 on 74163 Binary Counter.

pin 1 → The pulse is ⌐¬⌐¬ @ .1 msec 10 KHz
07 J @ 2.35 KHz
1.8 @ 555 Hz 2.65 KHz

FB

2.35 KHz SET Fault
2.50 KHz Clear Fault
2.65 KHz SET Fault


Blue
WS1
X
Purple
WS2
Y
Brown
WS3
Z
Red
WS4
A
Yellow
WS5
Red
WS6
N/C
J1
N/O
J2
signal in
N/O
J3
N/C
J4
N/O
J5
GND
J6
Parity
J7

Cable assembly for FBMON 1050*6 Board 16 Sept 94

LPL Pin Location		Length	Connect To	Twisted Pair
1	WS*1	35"	X Test Jack Pin	Blue
2	Shield*1	35"	NC	White
3	WS*2	35"	Y Test Jack Pin	Purple
4	Shield*2	35"	NC	White
5	WS*3	35"	Z Test Jack Pin	Brown
6	Shield*3	35"	NC	White
7	WS*4	35"	A Test Jack Pin	Red
8	Shield*4	35"	NC	White
9				
10				
11				
12	FB Error Clear PB*1	125"	X PB-~~3~~ 2	White = 6
13	FB Error PB*1 Lite	125"	X PB-~~1~~ B ~~Black~~	Blue = 2
14	FB Error Clear PB*2	125"	Y PB-~~3~~ 2	White
15	FB Error PB*2 Lite	125"	Y PB-~~1~~ B	Purple = 2
16	FB Error Clear PB*3	125"	Z PB-~~3~~ 2	White
17	FB Error PB*3 Lite	125"	Z PB-~~1~~ B	Brown = 2
18	FB Error Clear PB*4	125"	A PB-~~3~~ 2	White
19	FB Error PB*4 Lite	125"	A PB-~~1~~ B	Red = 4

Test jacks

PB 4

UPL Pin Location		Length	Connect To	Twisted Pair
1	WS*5	35"	B Test Jack Pin	Yellow 2
2	Shield*5	35"	NC	White
3	WS*6	35"	C Test Jack Pin	Red
4	Shield*6	35"	NC	White
5				
6				
7				
8				
9				
10				
11				
12	FB Error Clear PB*5	125"	B PB-3 2	White
13	FB Error PB*5 Lite	125"	B PB-1 B	Yellow
14	FB Error Clear PB*6	125"	C PB-3 2	White
15	FB Error PB*6 Lite	125"	C PB-1 B	Red
16				
17				
18				
19				

TEST JACKS

~~all 6 PB-B to~~ all 6 PB-#B to 5.7V

all 6 PB-#4 to 0V

PB A - Black
B white
2 Blue
4 orange

FEEDBACK MONITOR MODIFICATION

GENERAL DESCRIPTION

The Feedback Monitor Modification prevents grid jumps from occurring by monitoring the feedback signal (wave shaper) from each axis to be monitored and removing power from the servos by forcing ESTOP in the event of any irregularity which would usually have caused the control to improperly tack the machine's position. The feedback monitor board (FBMON) performs this function as well as illuminating a pushbutton to indicate that there was a feed-back error which caused the ESTOP condition. There is a separate pushbutton for each axis. If the fault on the feedback's signal was momentary (which is often the case), pushing the illuminated pushbutton will clear the fault on the FBMON board and allow ESTOP to be cleared by the normal procedure of pushing the Control On pushbutton.

All axes are initially in the faulted condition after turning the control on and must be cleared by pushing each feedback error pushbutton in order to allow ESTOP to be cleared and the machine to be run. This serves as a test of the FBMON board and the error lights. If there is a solid problem with the feedback signal, the error will not clear when the button is pushed. The problem will have to be corrected before the machine can be run.

Currently available for GE Series 100, 7500, 8500, 550, 1050T, 1050MC, 1050MCCM, 1050TZ, 1054T, 1050P and 1050XLO.

20 Sept 94

1050 FEEDBACK MONITOR BOARD (FBMON 1050*4 & FBMON 1050*6)

INSTALLATION INSTRUCTIONS

1. Turn control off. You may remove the incoming power from the control for your own safety. However, this is not necessary for the installation of this modification.

2. Insert the FBMON board into any available slot in the Logic Rack.

3. Plug cable(s) into handle end of board.

4. Insert round pin terminals into appropriate test jacks on AXIS boards:

1050MC

Pin	AXIS Board	Yellow Test Jacket	Location
X	AXIS2 *1	J4	Upper
Y	AXIS2 *1	J3	Lower
Z	AXIS2 *2	J4	Upper
A	AXIS2 *2	J3	Lower
B	AXIS3 *3	J4	Upper
C	AXIS3 *3	J3	Lower

1050T

X	AXIS2 *1	J4	Upper
Z	AXIS2 *1	J3	Lower

5. Feed cables with pushbuttons through cable trough under Logic Rack and along path with other control station cables to desired location on control station. (If there is not enough spare square pushbutton holes in control station, you will have to cut some out. A square 7/8" punch will be needed to do this, it is not included in this kit.)

6. Remove pushbutton inserts one at a time - notice cable wires are not marked - unscrew cap body from switch body. Push cap body through front of control station into desired hole and attach switch body. Replace insert.

7. Connect loose white wire and black wires as follows:

*1050MC

White	CMGND	601TB-S or 601TB-T
Black	+5.7V	603TB-E or 603TB-F

1050T

White	CMGND	602TB-M or 602TB-N
Black	+5.7V	603TB-E or 603TB-F

* Check your prints for Ex-Cell-O machines.

8. Secure wires with cable-ties.

9. Apply power to control and turn control on. All feedback error lights should be on and you should not be able to clear ESTOP. To clear feedback errors, push the feedback error pushbutton for each axis and that light should extinguish. Once all errors have been cleared you should be able to clear ESTOP and run the machine. If a feedback error light should illuminate at any time other than when turning the control on, this indicates that there is a problem with the feedback signal from that axis that should be investigated and corrected.

TROUBLESHOOTING INFORMATION

Feedback problems may be investigated with the FBMON completely functional, using the error lights to indicate the problem, or they may be investigated by conventional methods with the feedback monitor disabled. To disable the monitor, turn the control off and unplug the FBMON board as well as the pins in the yellow test jacks.

To determine if a fault is due to the feedback signal or the FBMON board, swap the pin in the yellow test jack of the faulted axis with any other pin. (Removing these pins will create a fault.) If the same error light remains lit, the problem is in the FBMON board. If the other light (the one you swapped with) now illuminates, the problem is in the feedback signal which originally showed the fault.