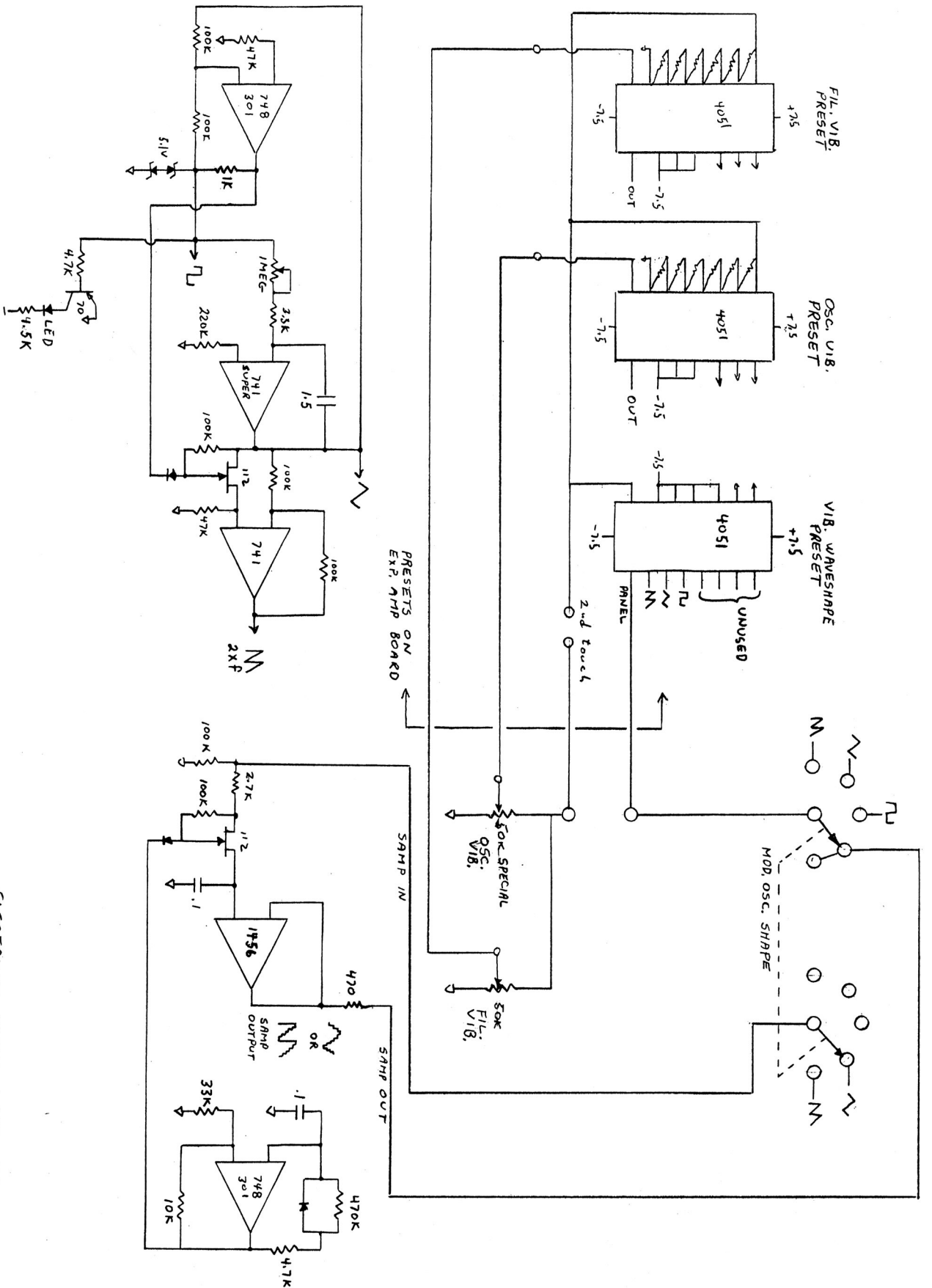


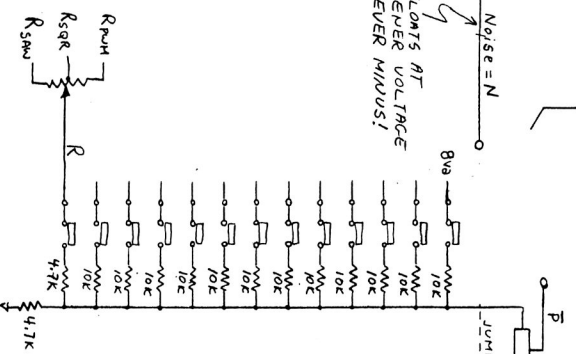
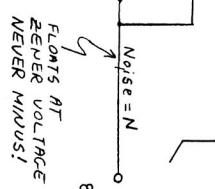
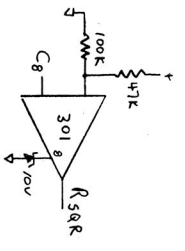
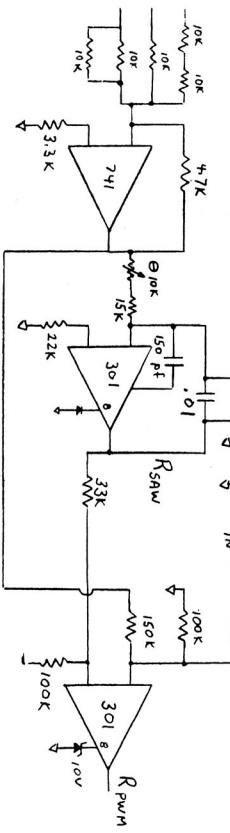
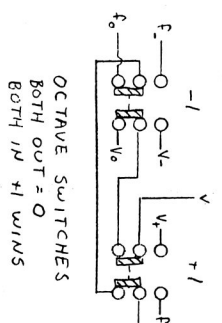
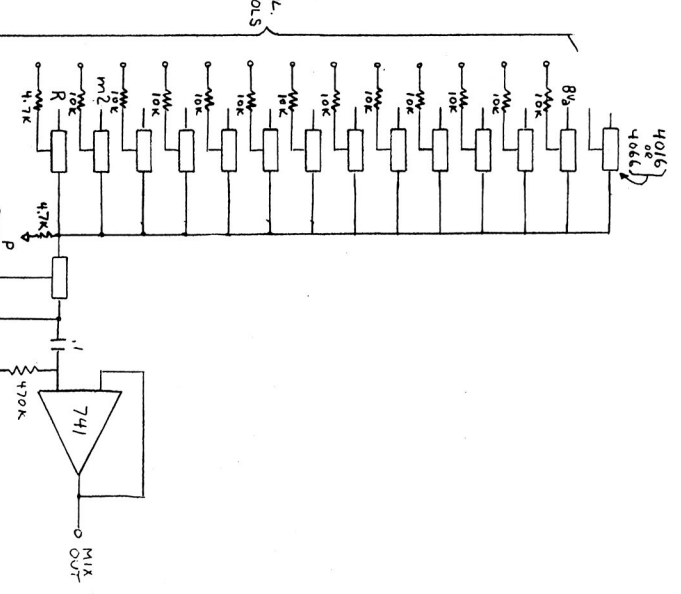
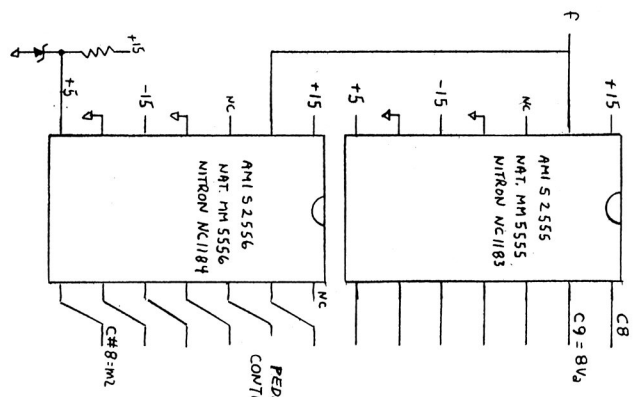
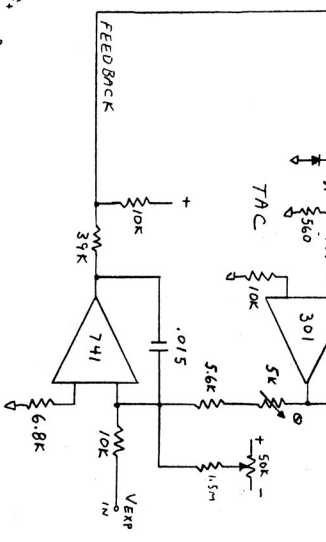
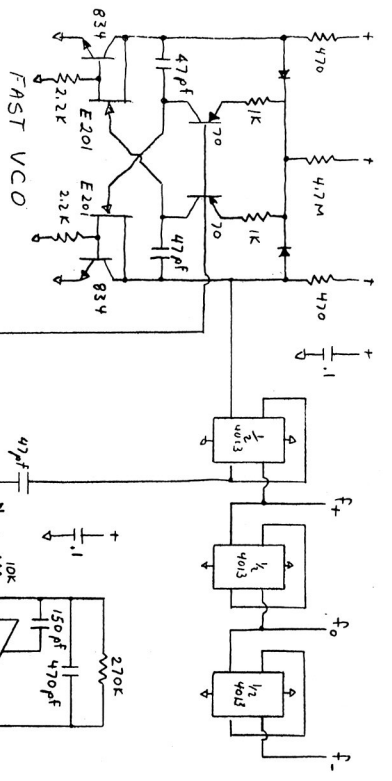
ELECTRONIC MUSIC LABS., INC.
 VERNON, CT.
 SYN-KEY

SAMPLER
 PORTAMENTO
 EXP. RAMP.
 PRESETS

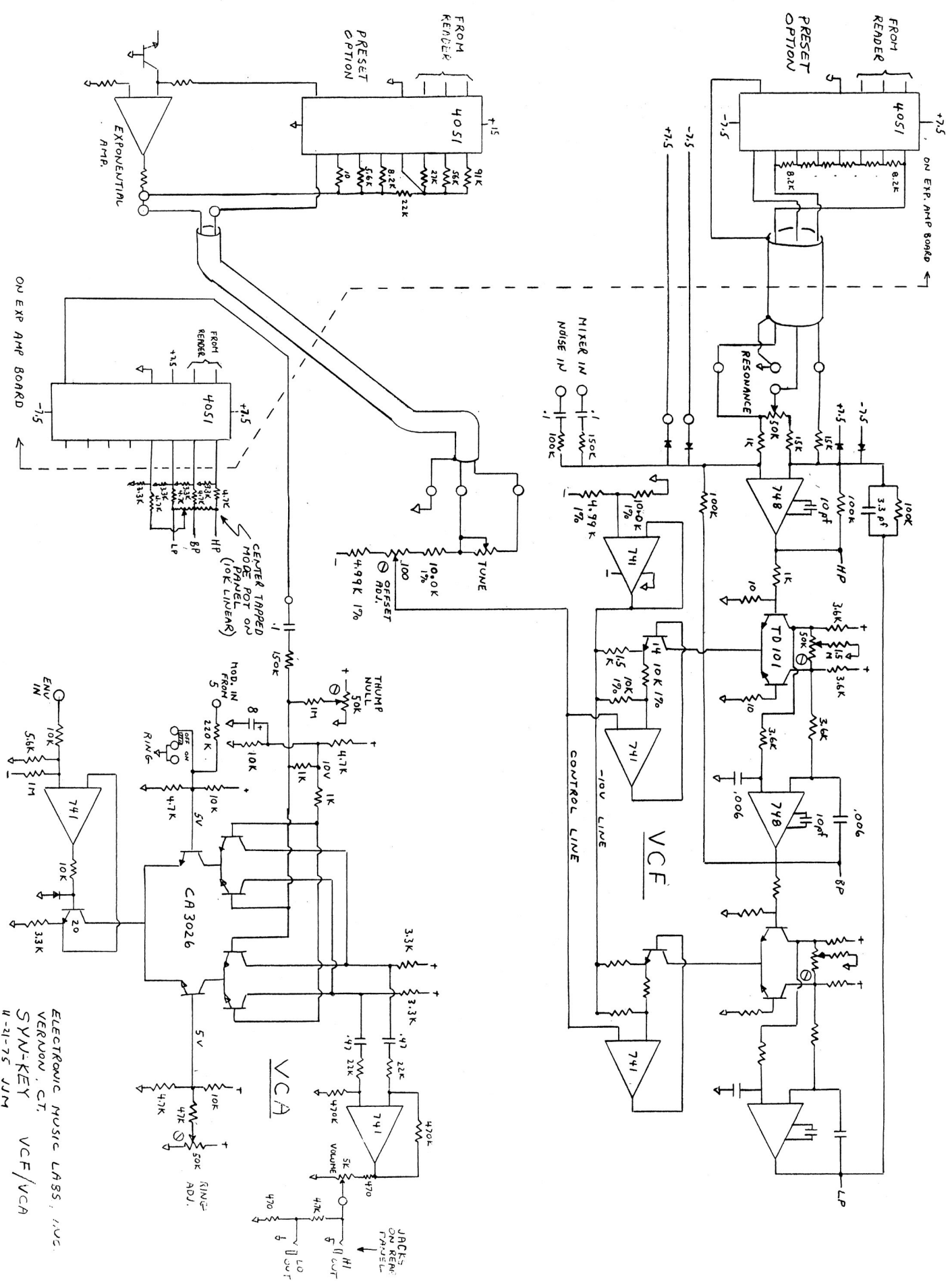
11-24-75 JJM



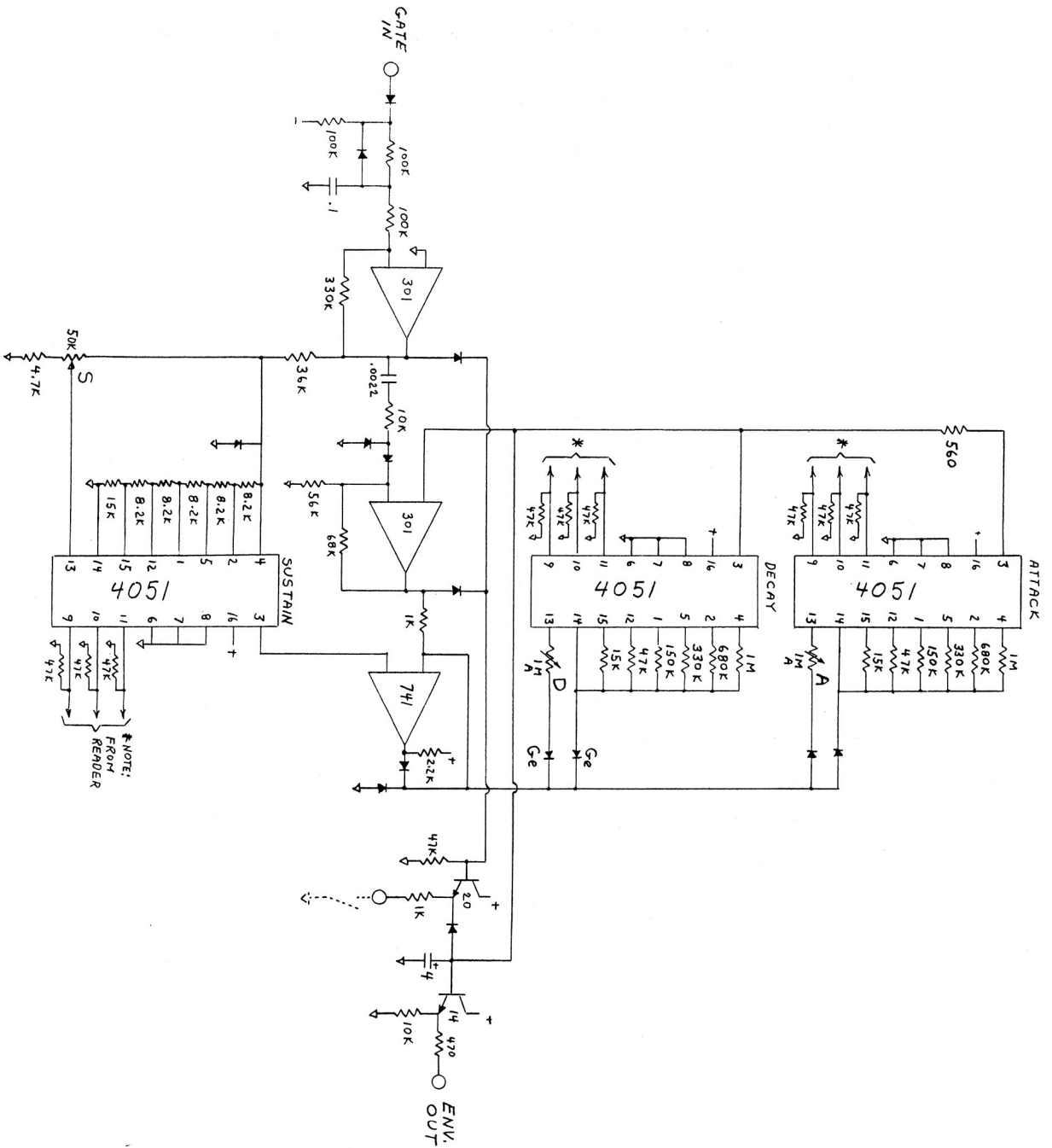
ELECTRONIC MUSIC LABS., INC.
 SYN-KEY MODULATION OSC
 JMM - 5-23-75
 REVISED 11-24-75



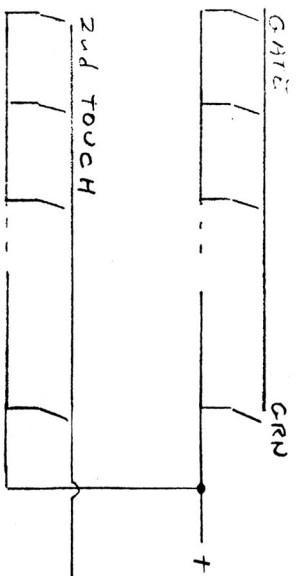
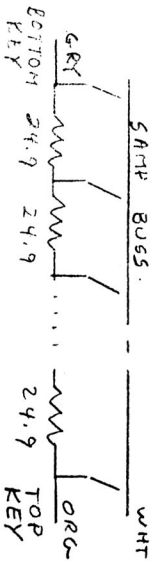
FOR PRESET OPTION:
 1. CUT JUMPER
 2. PLUG IN 4 4016/4066
 3. PLUG IN PRESET CABLE



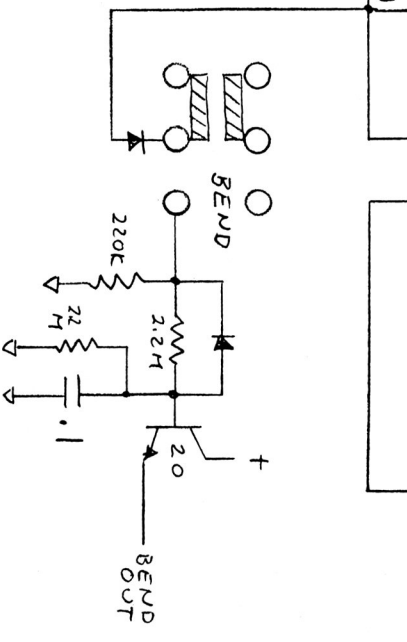
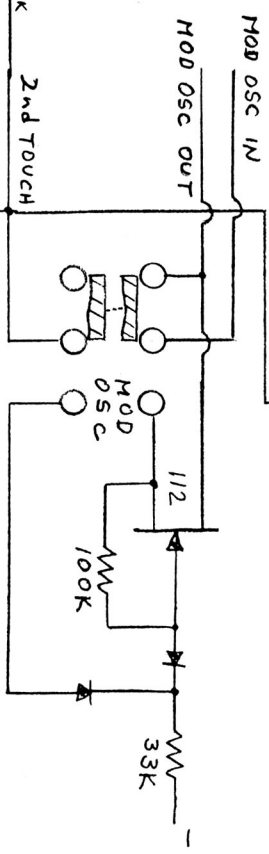
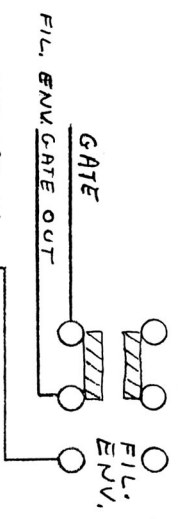
ELECTRONIC MUSIC LABS, INC.
 VERBON, CT.
 SYN-KEY VCF/VCA
 11-21-75 JJM



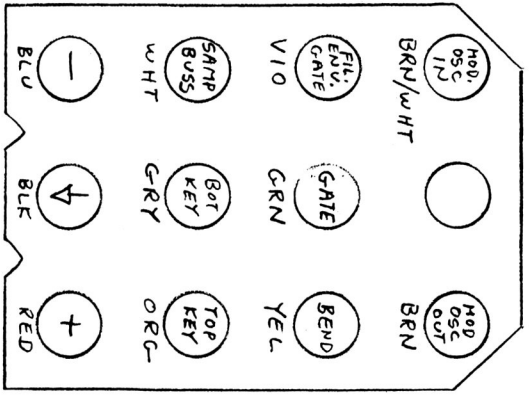
ELECTRONIC MUSIC LABS, INC.
 VERMON, CT 06066
 SYN-KEY® ENVELOPES
 JULY 4-8-76



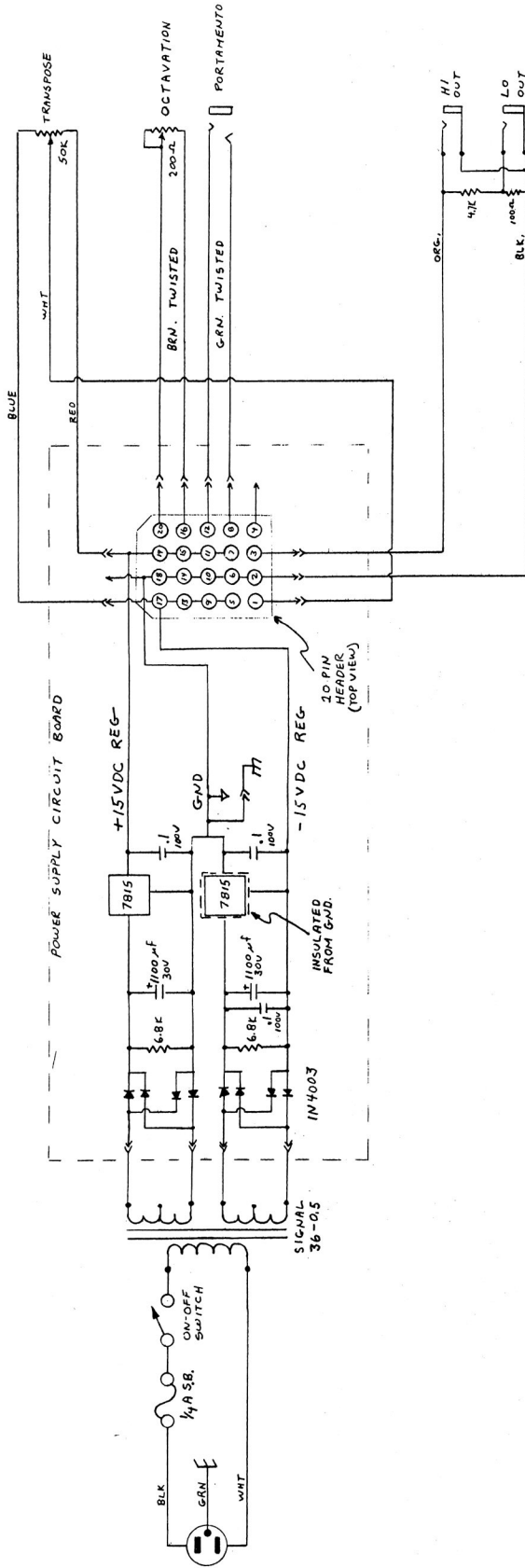
← OFF ON →



SECOND TOUCH CIRCUIT

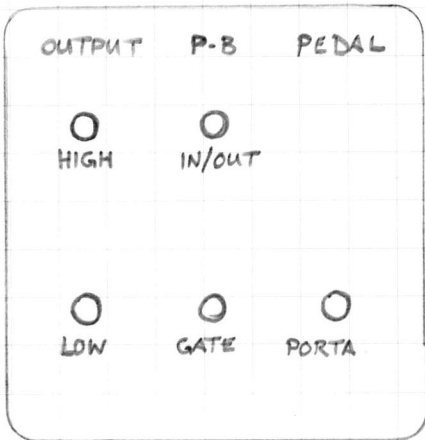
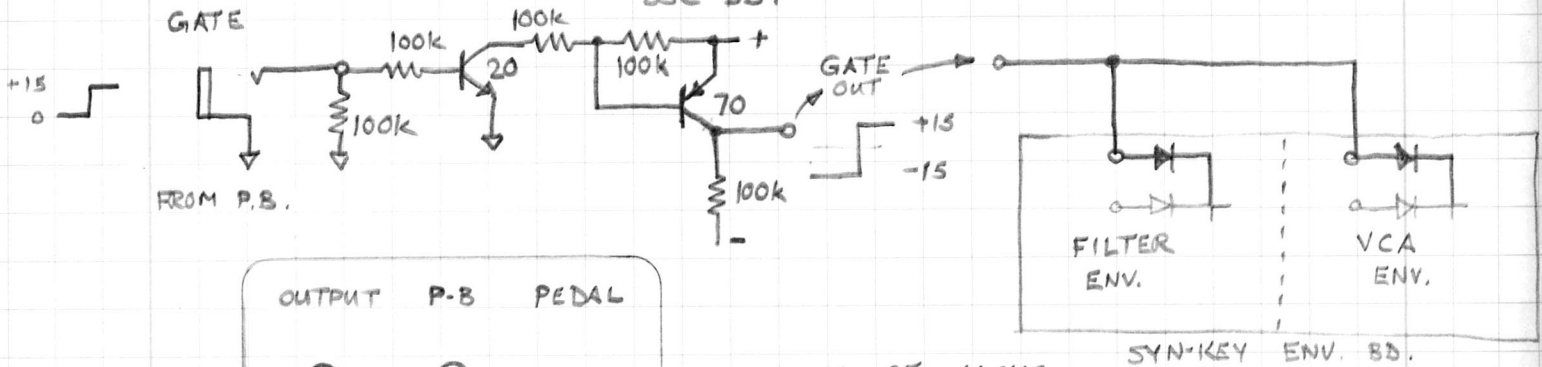
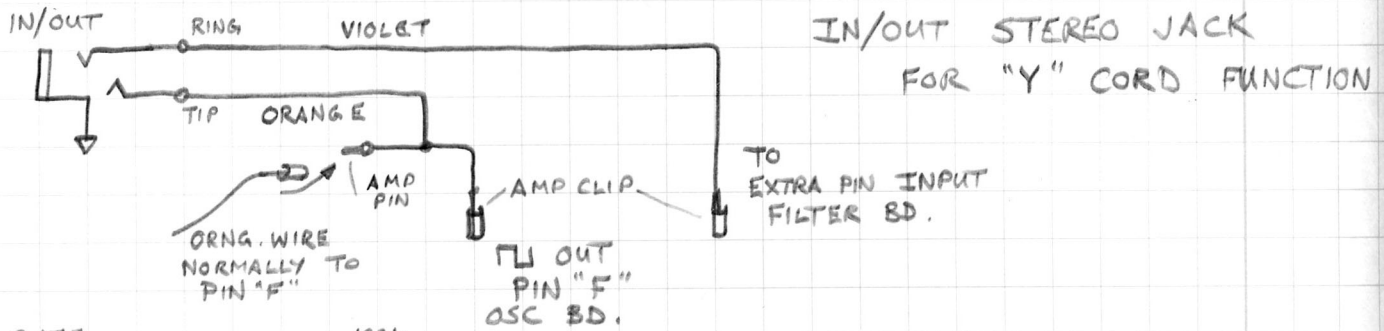


ELECTRONIC MUSIC LABS., INC.
 VERNON, CT. 06066
 SYN-KEY KEYBOARD WIRING
 JJM 11-24-75



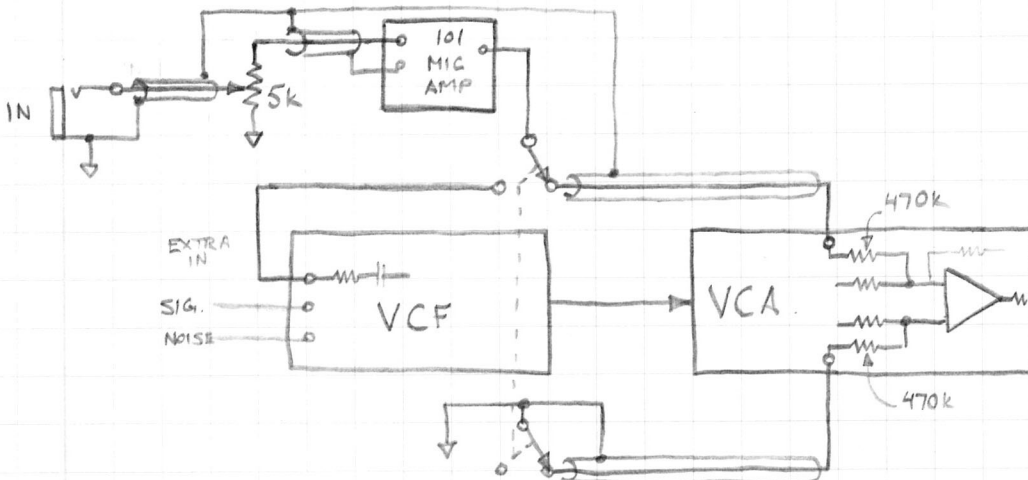
ELECTRONIC MUSIC LABS., INC.
 BOX N, VERNON, CT. 06066
 SYN-KEY® POWER SUPPLY
 AND REAR PANEL WIRING
 JUN 3-22-76

SYN-KEY / POLY-BOX INTERFACE.



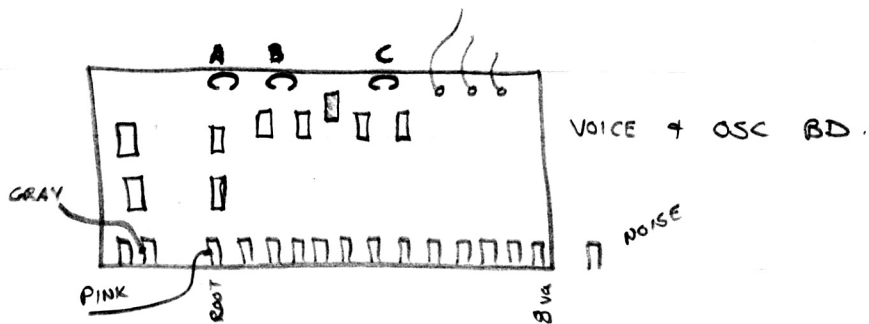
LOCATION OF JACKS ON SYNKEY BACK PANEL

MIC-AMP MOD TO SYN-KEY



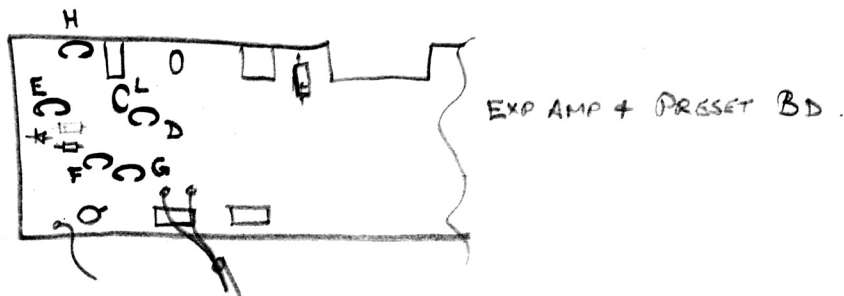
EML SYNKEY

TRIMPOT CALLOUT



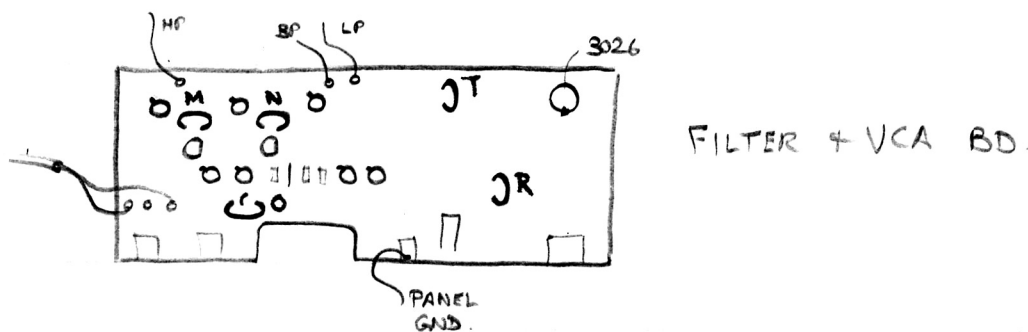
VOICE + OSC BD.

- A - 4.5 mSec/TU
- B - OSC. LINEARITY
- C - PULSE WIDTH



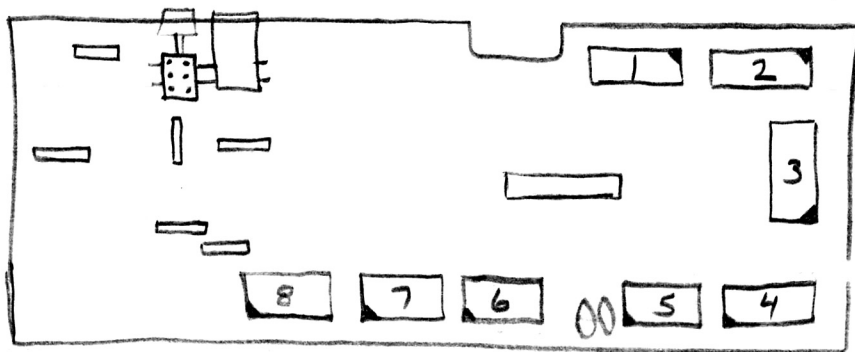
EXP AMP + PRESET BD.

- D - LOW KEY (FILTER)
- E - E_{ref}
- F - ~~INTERACTION~~ NULL
- G - SCALE (FILTER)
- H - SCALE 1046 (OSC)
- L - LOW 87 (OSC)



FILTER + VCA BD.

- M - } $\frac{1}{2}$ FILTER AC NULL
- N - } $\frac{1}{2}$ FILTER AC NULL
- O - FILTER OFFSET
- R - RING MOD.
- T - VCA THUMP NULL



4051 KEY

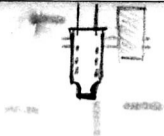
- 1, FILT. CONTROL - VIB.
- 2, Osc. VIB.
- 3, MOD. OSC. SHAPE
- 4, FILT. - LP, BP, HP
- 5, FILT - Q
- 6, WAVESHAPE
- 7, FILT CONTROL - ENV.
- 8, FILT TUNE

PORTA

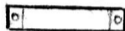
ROOT
SHAPE

1

2



CARD READER



PLUG

3

ALL IC's
4051

726
O

8

7

6

5

4

SYN·KEY

EXP. AMP 4 PRESET BD.

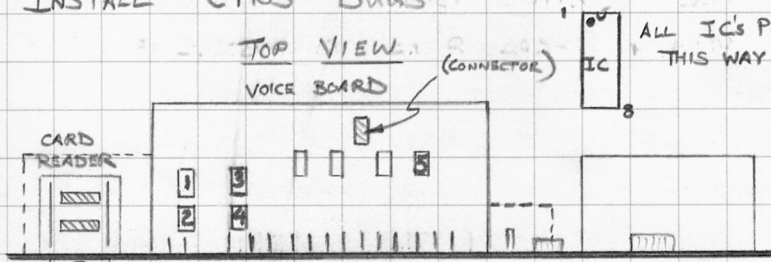
- 1 FILT. VIB. CONT.
- 2 OSC. VIB.
- 3 MOD. OSC. SHAPE
- 4 FILTER MODE

- 5 FILTER Q
- 6 WAVESHAP
- 7 FILT. ENV. CONT.
- 8 FILTER TUNE



SYNOKEY CHECKOUT PROCEDURE

1. INSTALL CMOS BUGS



ALL IC'S PLUG IN THIS WAY

C-MOS

- | | | |
|--------|--------|-----------------|
| 1 & 2. | 4013 | |
| 3. | 5832 N | |
| 4. | 5833 N | |
| 5. | 4016 | OR JUMP PIN 8-9 |

BOTTOM VIEW



ALL C-MOS

(14.) 4051

2. CLIP SCOPE PROBE TO SAMPLED VOLTAGE (CAP) — PLUG KEYBOARD

3. POWER ON

A. CHECK FOR VOLTAGE TRACK W/KEYBOARD

B. CHECK FOR MOD OSC. LED FLASH (RATE)

4. CHECK P.S. +15 & -15 VOLTS & NO (mV) RIPPLE OR NOISE — ALSO $\pm 7.5V$ ZENERS

5. CONNECT DVM TO 8.2K Ω RESISTOR — SET E_{ref} TO 4.40 VOLTS. — BLUE POT E

6. SET BLUE POT F. FULL CCW. (FILTER INTERACTION NULL)

7. CONNECT DVM TO GRAY LEAD ON +1 OCTAVE SW., LOOK AT ROOT SWITCH (PINK)

WITH SCOPE ON 1 mSec/div. — SET BLUE POT A FOR 4 1/2 div.

□ CYCLE. (4.5 mSec/□) WITH DVM @ 1.00 VOLTS.

8. SET TUNE AND INTERVAL CONTROLS CENTRAL. (BACK PANEL)

A. MAKE SURE BLUE POT B (LINEARITY) IS CENTRAL.

9. WITH SCOPE ON X-Y DISPLAY AGAINST STD. (87/1046) & ROOT @ 1

A. TUNE BLUE POT L (LOW 87) W/ LOW F KEY DOWN; } FOR STANDSTILL LISSAJOUS
 B. TUNE BLUE POT H (HI C) W/ UPPER C KEY DOWN; }

10. CHECK FOR OSC. LINEARITY — LOOK AT MIDDLE F KEYS

A. SET BLUE POT B TO INCREASE ERROR (ROLL RATE OF PATTERN)

B. USE BACK PANEL TUNE & INT. TO STANDSTILL 87/1046

C. REPEAT A. & B. UNTIL MIDDLE F'S & C'S ARE STANDSTILL OR VERY SLOW ROLL. — OSC IS NOW LINEAR

D. REPEAT 8. & 9. TO CENTER REAR PANEL KNOBS

11. SET ROOT TO PULSE WIDTH (FULL CCW) AND FILTER SUSTAIN FULL CW. & +1 OCTAVE

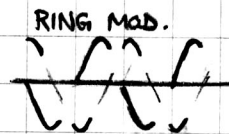
A. HIT KEY AND CHECK P.W. MOD.

B. ADJUST BLUE POT C FOR KEY UP \square 50% AND KEY DOWN \square 5-10%

(WORST CASE)

SYNKEY FILTER AND VCA.

1. SET TUNE JUST PAST 2 & G TO MAX. (FULL CW)
2. CONNECT DVM BETWEEN JUMPER WIRE (-) & BLUE POT O (FILTER OFFSET) JUMPER BLACK (FILTER DRIVE) TO GND. (SHORTED)
[F-JOV] *← ALL OTHERS MIN* *← WIPER*
3. ADJUST OFFSET TO +.003 VOLTS (2 or 3 mV.) - REMOVE JUMPER & DVM
4. LOOK AT LOW PASS (PURPLE) w/SCOPE - TUNE FILTER EXP. AMP. (CHECK FOR SCREAM)
 - A. HIT UPPER C KEY AND ADJUST BLUE POT G FOR MAX AMPLITUDE
 - B. HIT LOW F KEY AND ADJUST BLUE POT D FOR MAX AMPLITUDE
 - C. REPEAT A. & B. UNTIL HIGH TO LOW AMPLITUDE IS CONSTANTCHECK FOR UNEVEN GAIN (DIP IN MIDDLE OR ENDS) OF KEYBOARD RANGE.
NOTE: BLUE TRIMPOTS D. & G. INTERACT & ROTATION IS OPPOSITE.
5. SWITCH ROOT OFF & SET FILTER MOD. OSC. CONTROL TO MAX (FULL CW) w/MOD OSC @ 7 SPEED
** LO Q (FULL CCW)*
 - A. ADJUST BLUE POT N ($\frac{1}{2}$ FILTER AC NULL) FOR MINIMUM AMPLITUDE w/UPPER C
 - B. LOOK AT HIGH PASS (BROWN) AND ADJUST BLUE POT M ($\frac{1}{2}$ FILTER AC NULL) FOR MINIMUM LEVEL (SCOPE @ 50mV/div.)
 - C. REPEAT A. & B UNTIL BEST MINIMAL LEVEL OVER KB RANGE AT HI & LO Q IS OBTAINED.
6. SET FILTER CONTROLS OFF AND LOOK AT OUTPUT JACK w/SCOPE
 - A. PULSE A KEY AND SET BLUE POT T (THUMP NULL) FOR MINIMUM SPIKE
 - B. SWITCH ROOT IN & VCA SUSTAIN MAX. (FULL CW) - SHOULD HAVE STEADY SINE.
 - C. SWITCH RING MOD. IN AND ADJUST BLUE POT R FOR EQUAL AMPLITUDE
 - D. CHECK VCA FOR PROPER ATTACK & DECAY & w/SUSTAIN.



POSITION IS BETWEEN BOTH BROKEN LINE POINTS OF BLUE POT