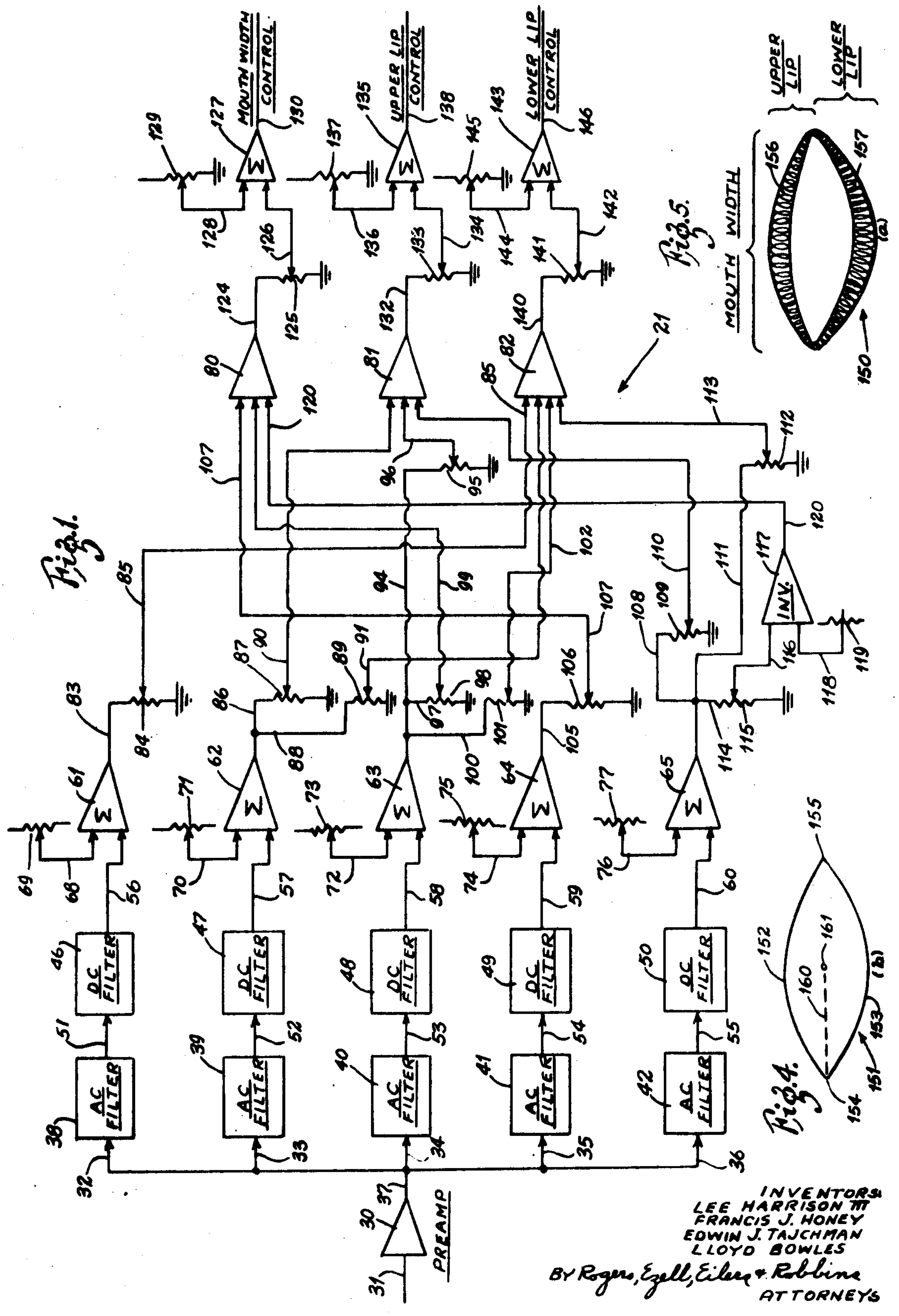


INVENTORS:
LEE HARRISON III
FRANCIS J. HONEY
EDWIN J. TAJCHMAN
LLOYD BOWLES
BY Rogers, Ezell, Eilers & Robbins
ATTORNEYS

Fig. 2.

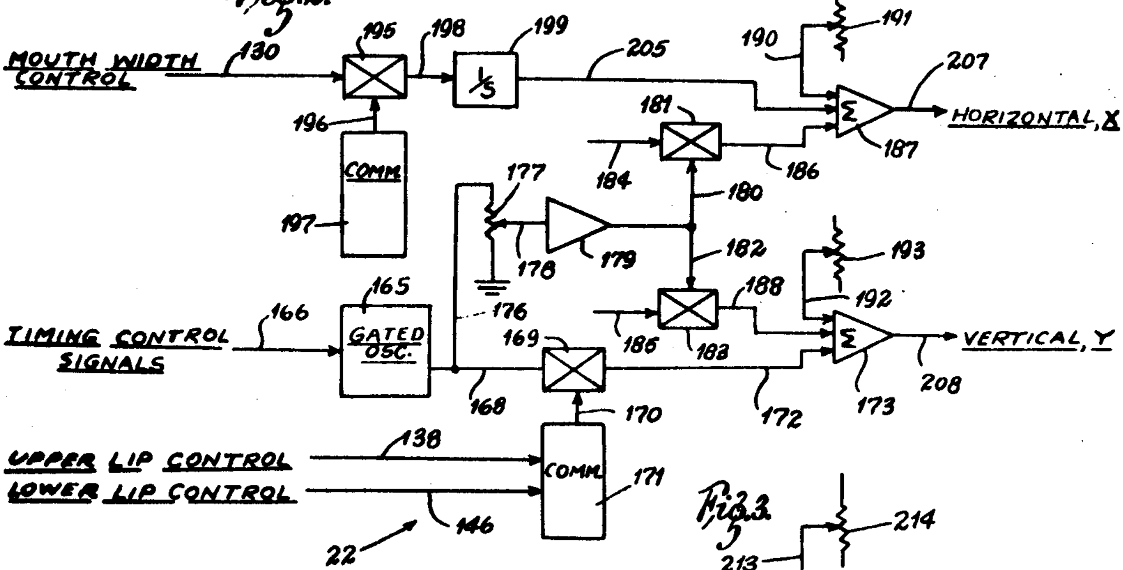
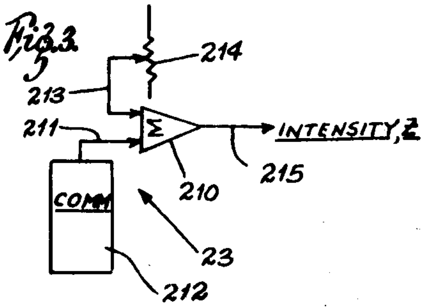


Fig. 3.



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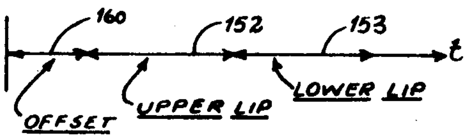


Fig. 7.

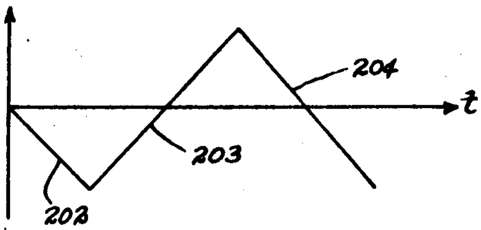


Fig. 8.

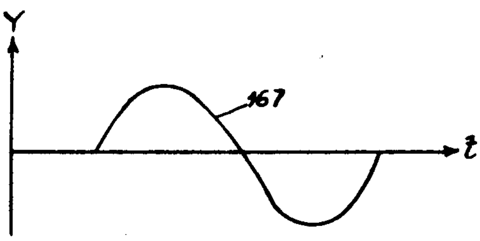
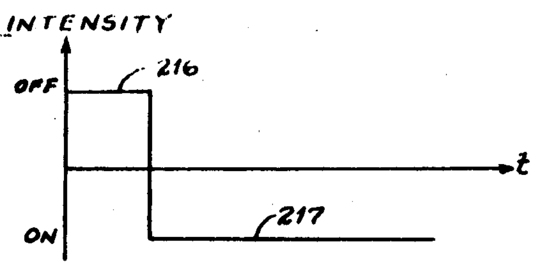


Fig. 9.



INVENTORS:
LEE HARRISON III
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EDWIN J. TAJCHMAN
LLOYD BOWLES
BY Rogers, Ezell, Eilers & Robbins
ATTORNEYS

Aug. 4, 1970 L. HARRISON III 3,523,289
APPARATUS FOR GENERATING A REPRESENTATION OF THE JUNCTION BETWEEN TWO SOLIDS IN A CATHODE RAY TUBE DISPLAY
Filed Jan. 15, 1968 2 Sheets-Sheet 2

Fig. 2.

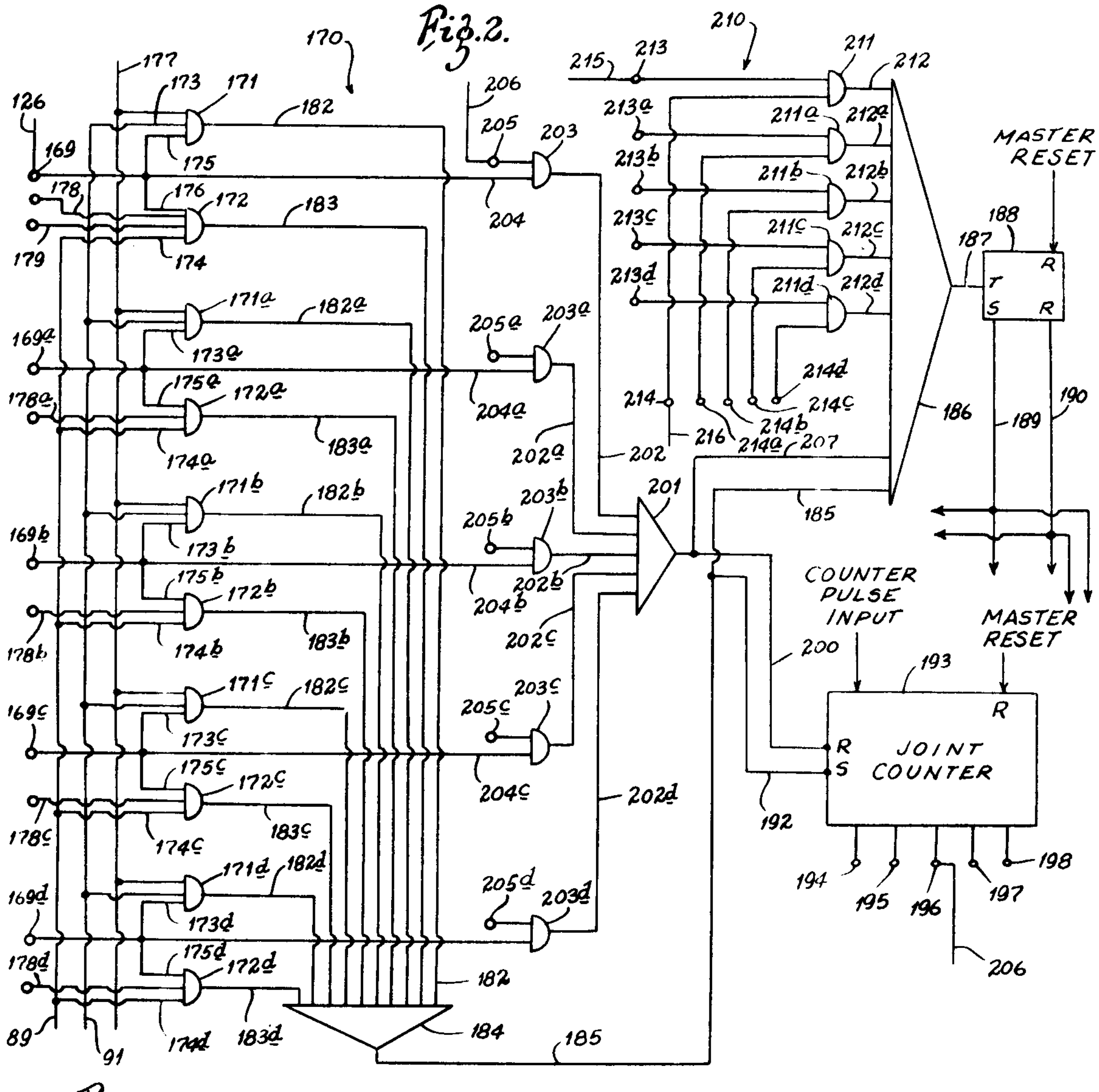


Fig. 3.

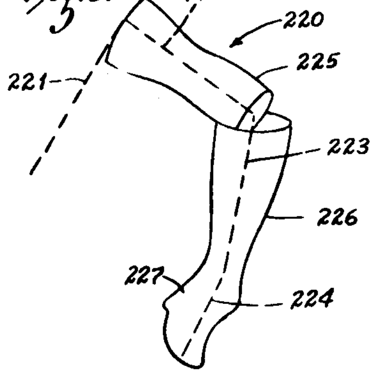
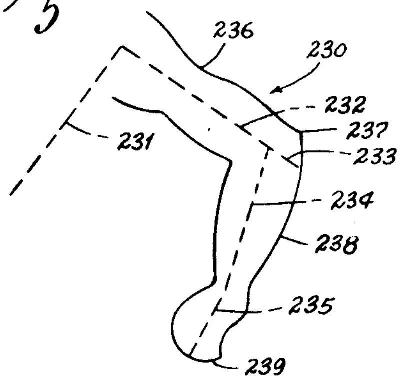


Fig. 4.



INVENTOR
LEE HARRISON, III

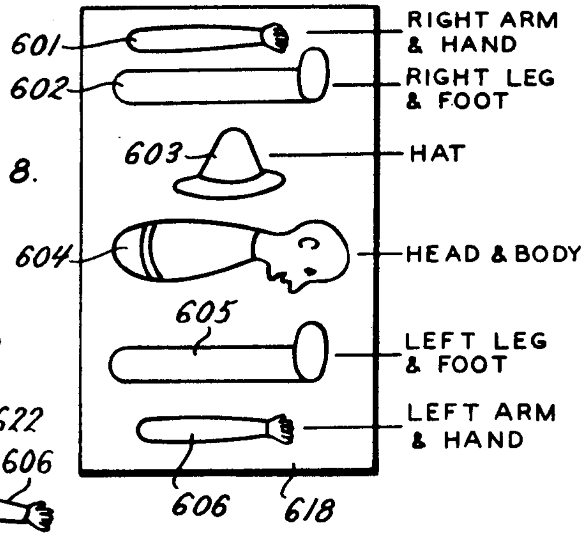


FIG. 8.

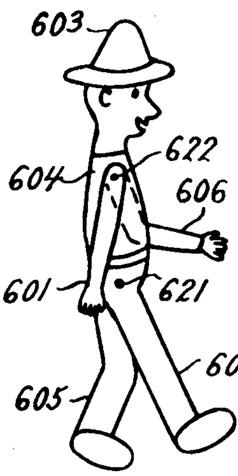


FIG. 9.

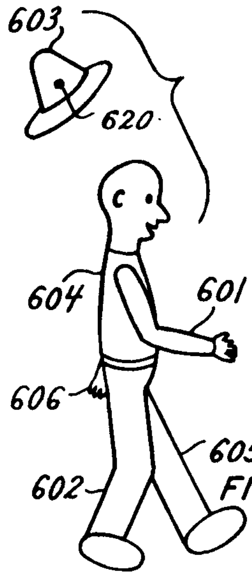


FIG. 10.

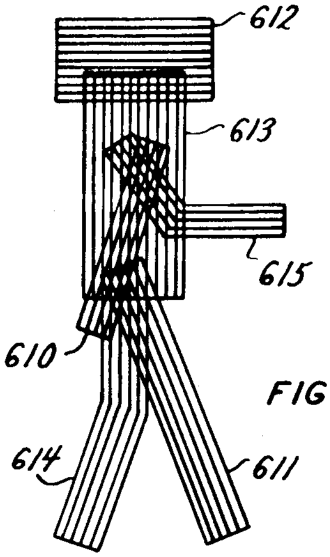


FIG. 11.

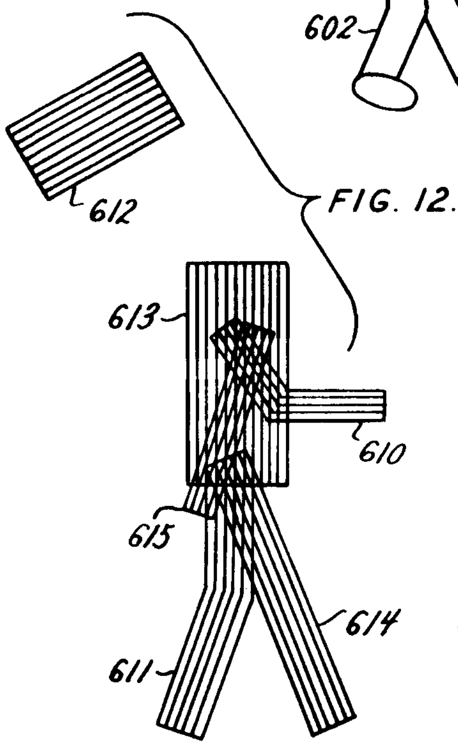


FIG. 12.

INVENTORS
LEE HARRISON III
FRANCIS J. HONEY
EDWIN J. TAJCHMAN
MARSHALL M. PARKER
BY Rogers, Ezell, Eilers & Robbins
THEIR ATTORNEYS

July 8, 1969 L. HARRISON III 3,454,822

MEANS AND METHOD FOR GENERATING SHADOWS ON CONTINUOUS SURFACES IN AN IMAGE PRODUCED BY AN ELECTRONIC IMAGE GENERATOR

Filed Jan. 15, 1968

Fig. 3.

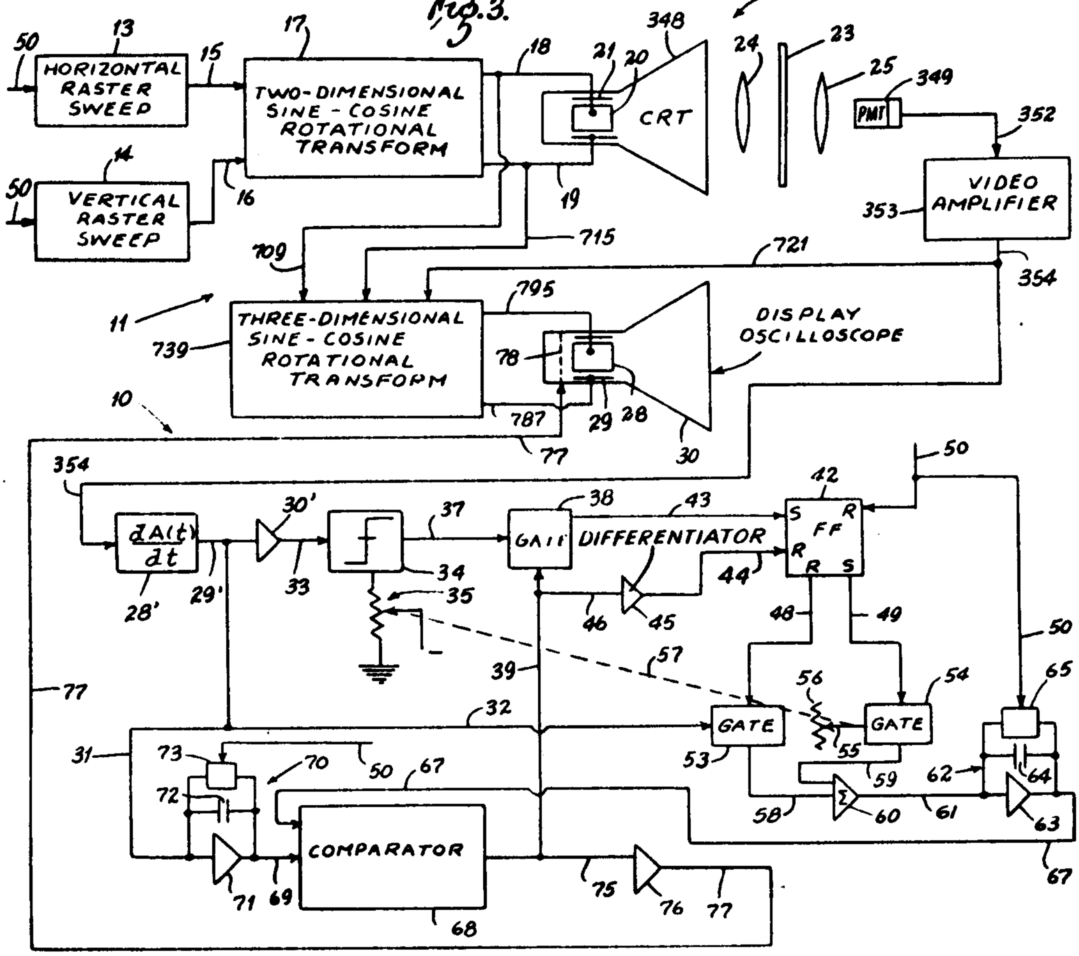


Fig. 2.

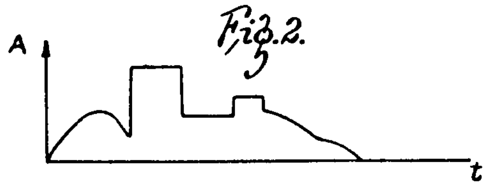
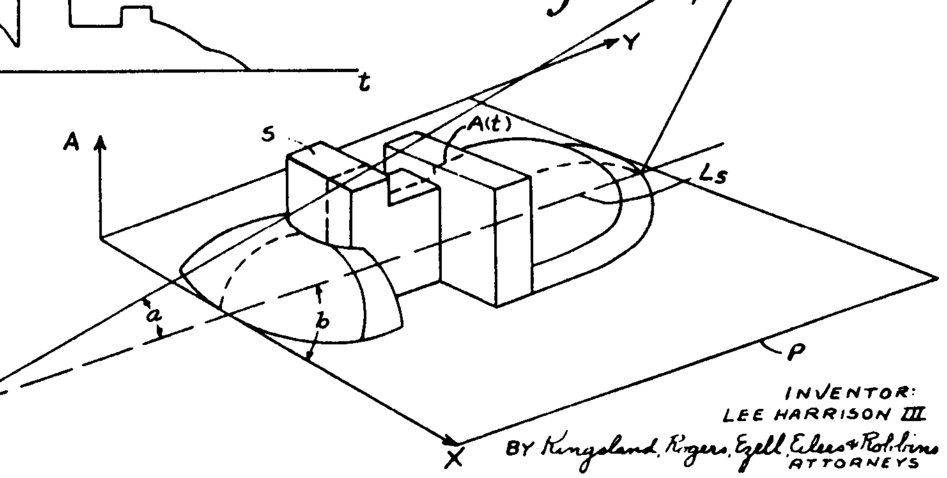


Fig. 1.



INVENTOR:
LEE HARRISON III
BY Kingsland, Rogers, Ezell, Eilers & Robbins
ATTORNEYS

Aug. 23, 1966 | L. HARRISON III | 3,267,799

SYSTEM FOR RECORDING THE SURFACE CHARACTERISTICS OF AN OBJECT

Filed Oct. 21, 1963 | 2 Sheets-Sheet 1

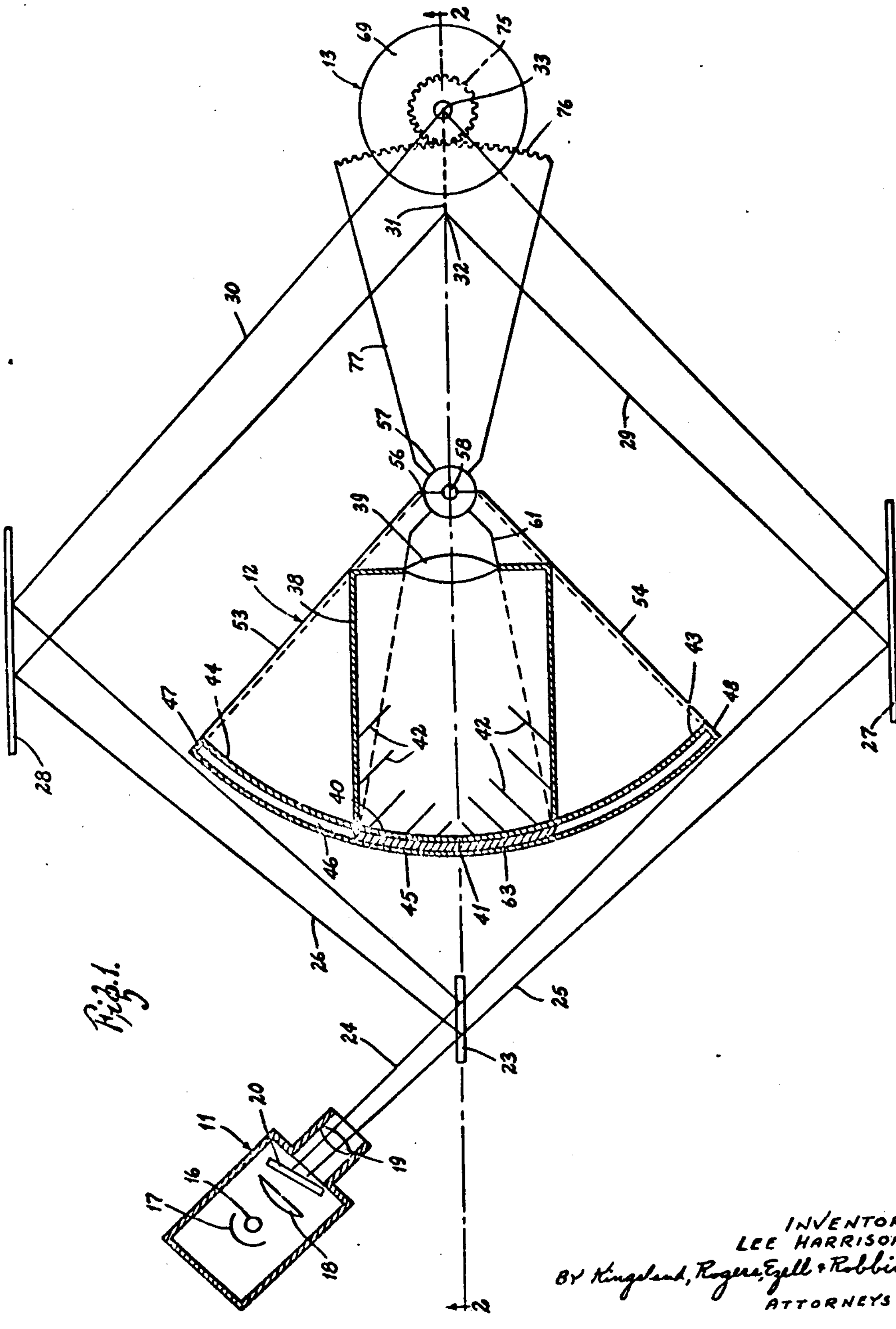


Fig. 1.

INVENTOR:
LEE HARRISON,

BY Kingsland, Rogers, Ezell & Robbins
ATTORNEYS

Fig. 1.

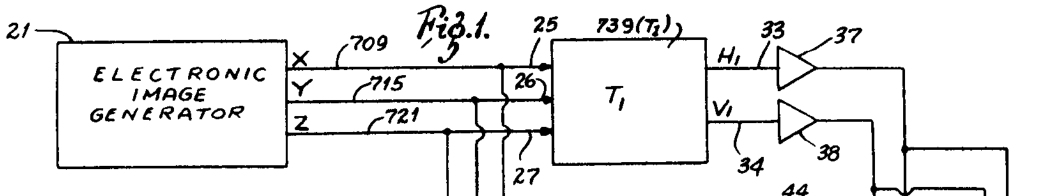
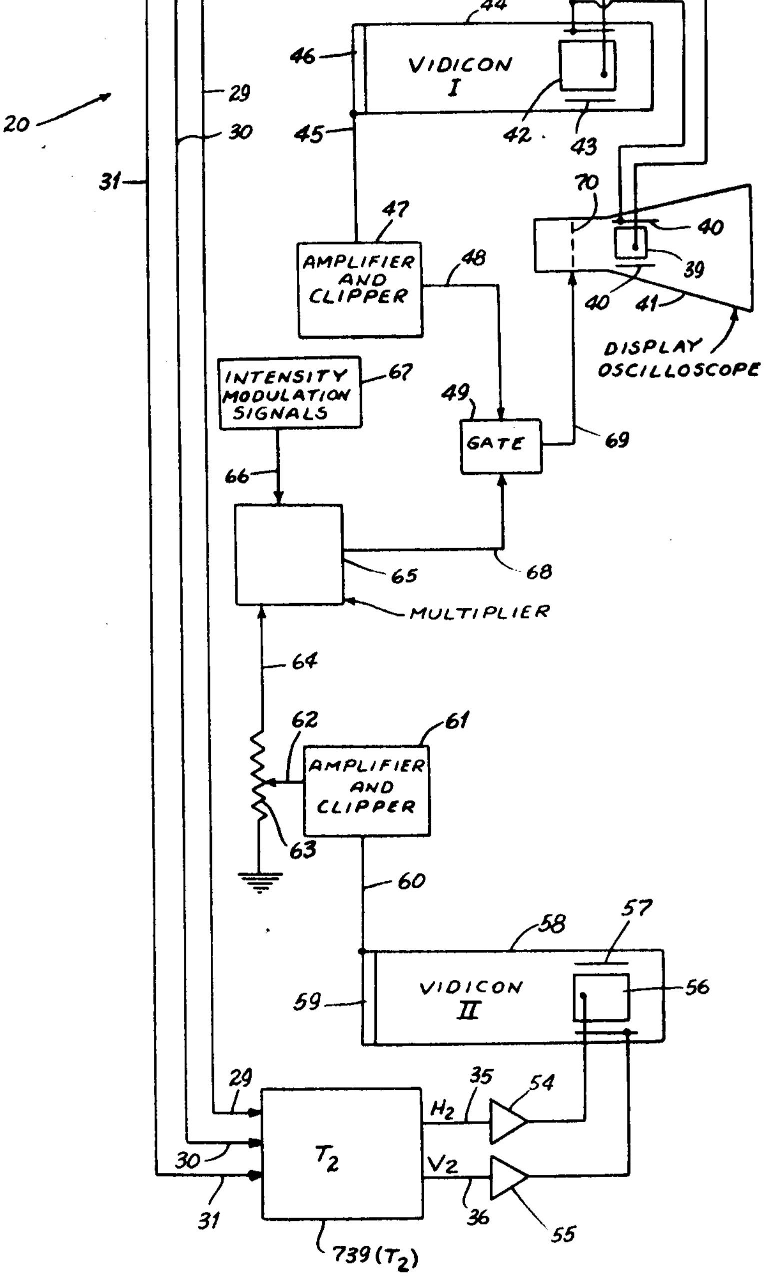



Fig. 3.

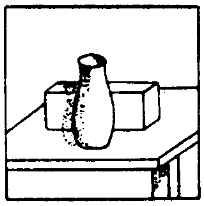


Fig. 4.

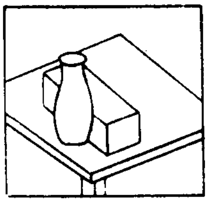


Fig. 5.

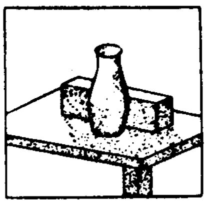
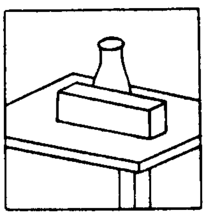


Fig. 6.

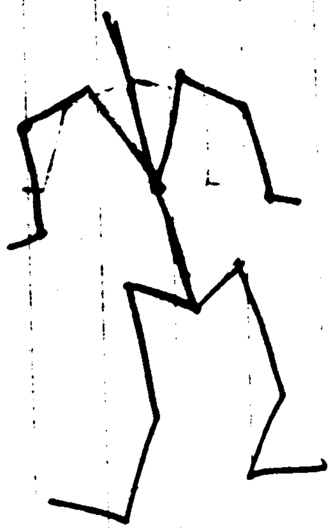


INVENTOR
LEE HARRISON III
BY Kingsland, Rogers, Ezell, Eilers & Robbins
ATTORNEYS

BONE MAN

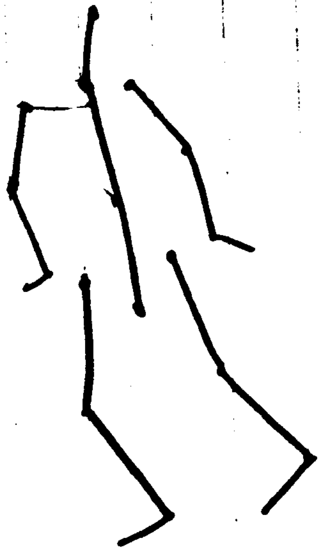
WITH "Z" BONE GEN

①



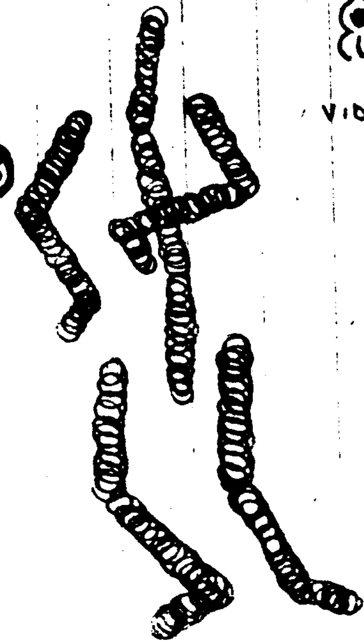
WITH PLUGBOARD, COUNTOR, AND PROGRAMMED BLANKING

②



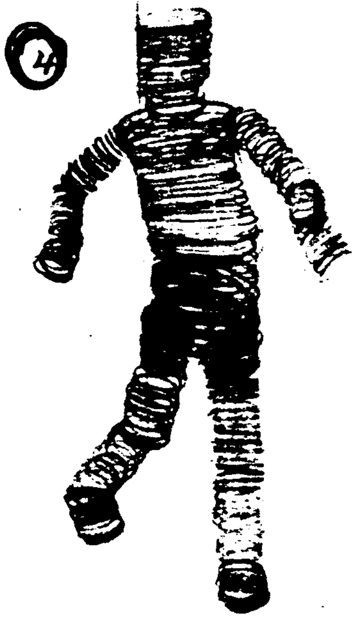
WITH [illegible]

③



[illegible] AND MULTIPLIER NETWORK (●+●) (USING A GATED D-C "VIDEO".

④



WITH SCANNER - AND GETING OFF BACK OF FIGURE

⑤

CREATING PULSE AT EDGES (SIN ψ = 0) AND A PULSE BY THRESHOLD OFF FILM (INTERNAL LINES)

⑥

LIP & EYE SYNC

REQUIREMENTS:

a. PLACEMENT
b SIZE
c. MOTION

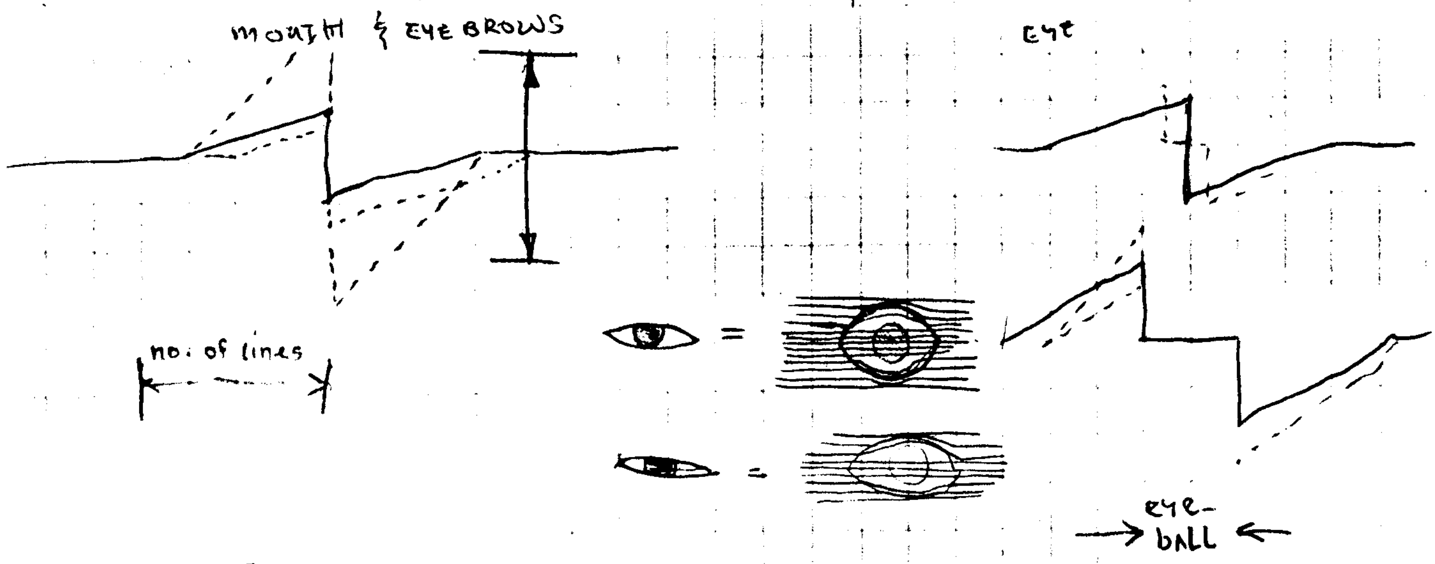
a. PLACEMENT
WHEN FILM IS IN PLACE, ~~AREA~~ OF SCAN DISTORTION MUST BE PLACED TO CORRESPOND WITH POSITION OF EYE OR MOUTH OR EYEBROW
1. VERTICAL & HORIZONTAL PLACEMENT

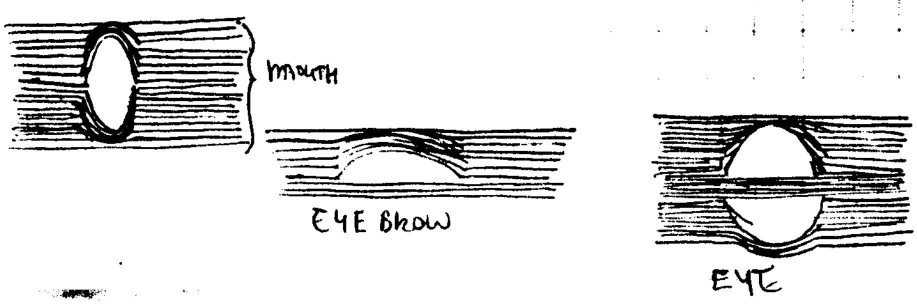
b. SIZE.
THE SIZE OF AREA OF SCAN-DISTORTION MUST BE VARIED IN WIDTH (clipping level) (HORIZ) AND ~~[illegible]~~ ~~[illegible]~~ HEIGTH (envelope width) (VARY NO. OF SCAN LINES INVOLVED IN DISTORTION.)

c. MOTION.
MOTION IS ACCOMLISHED BY VARYING AMOUNT OF DISTORTION FROM 1.) NO DISTORTION (STRAIGHT SCAN) TO 2.) FULL PARABOLIC DISTORTION. by VARYING ENVELOPE (amplitude)

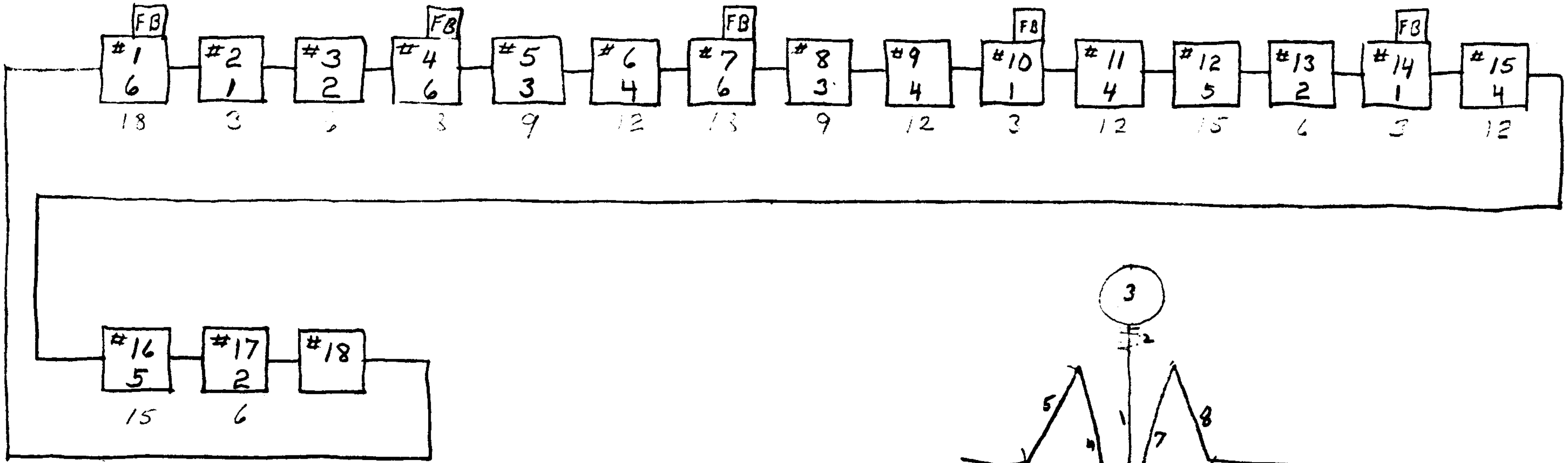
a & b. (above) REMAIN CONSTANT FOR EA. FIGURE.

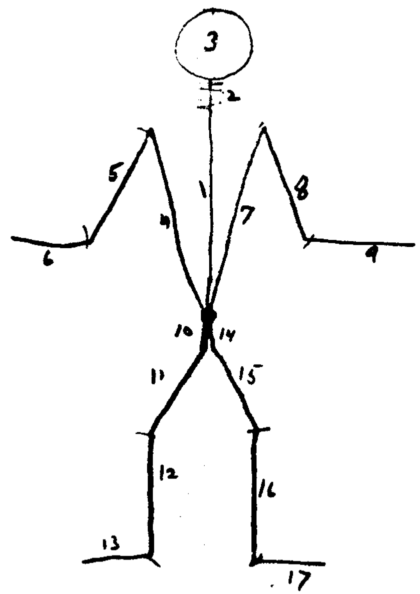
ENVELOPE WAVEFORMS NECESSARRY



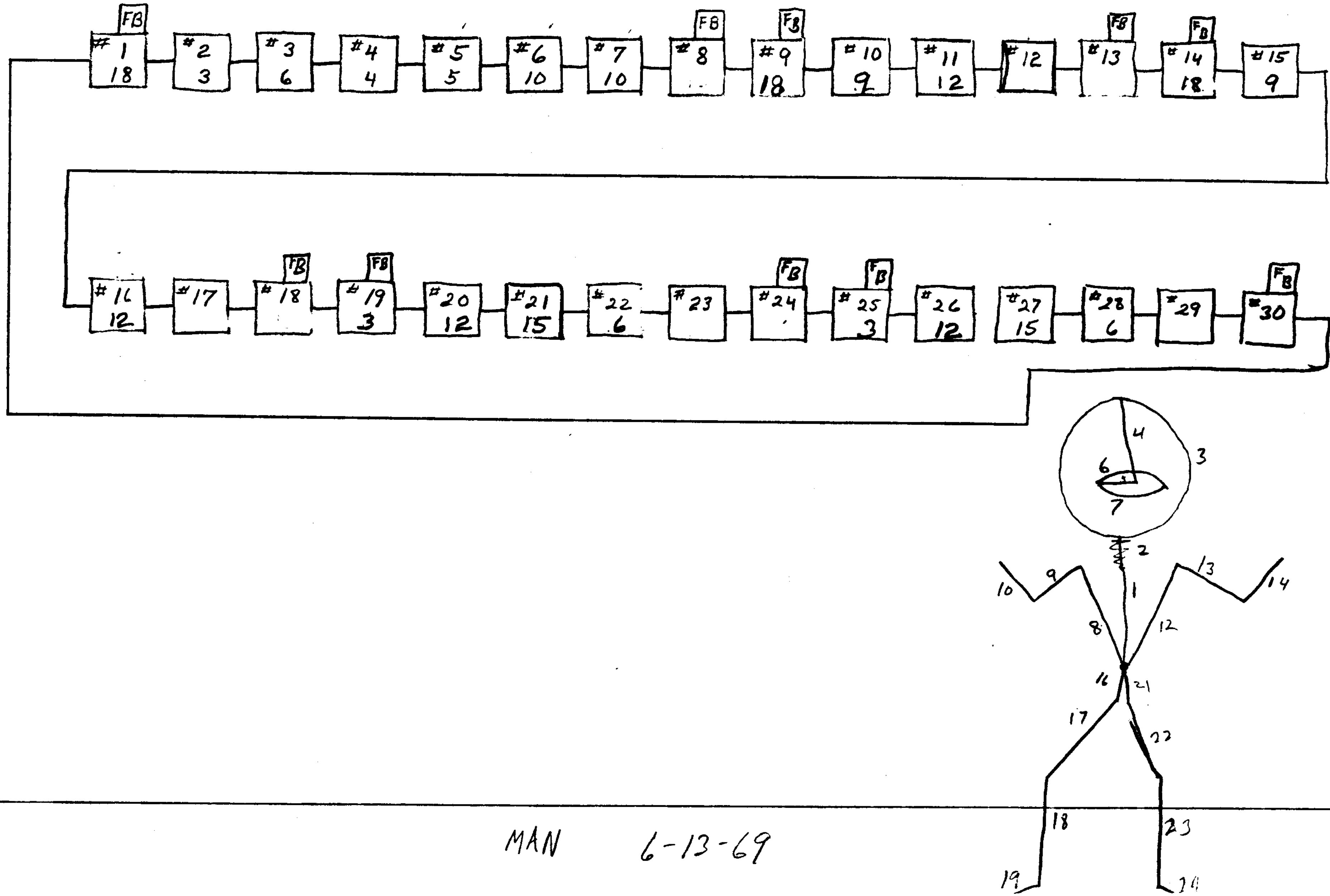


EYEBALLS ARE SUPERIMPOSED ON SKIN FILM USING CELLULOID & MOVED ACCORDINGLY.


FB
#1
6
18
#2
1
3
#3
2
FB
#4
6
3
#5
3
9
#6
4
12
FB
#7
6
#8
3
9
#9
4
12
FB
#10
1
3
#11
4
12
#12
5
15
#13
2
6
FB
#14
1
3
#15
4
12
#16
5
15
#17
2
6
#18


3
2
1
4
5
6
7
8
9
10
14
11
15
12
16
13
17

MAN 6-6-69


FB
#1 18
#2 3
#3 6
#4 4
#5 5
#6 10
#7 10
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#10 9
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#27 15
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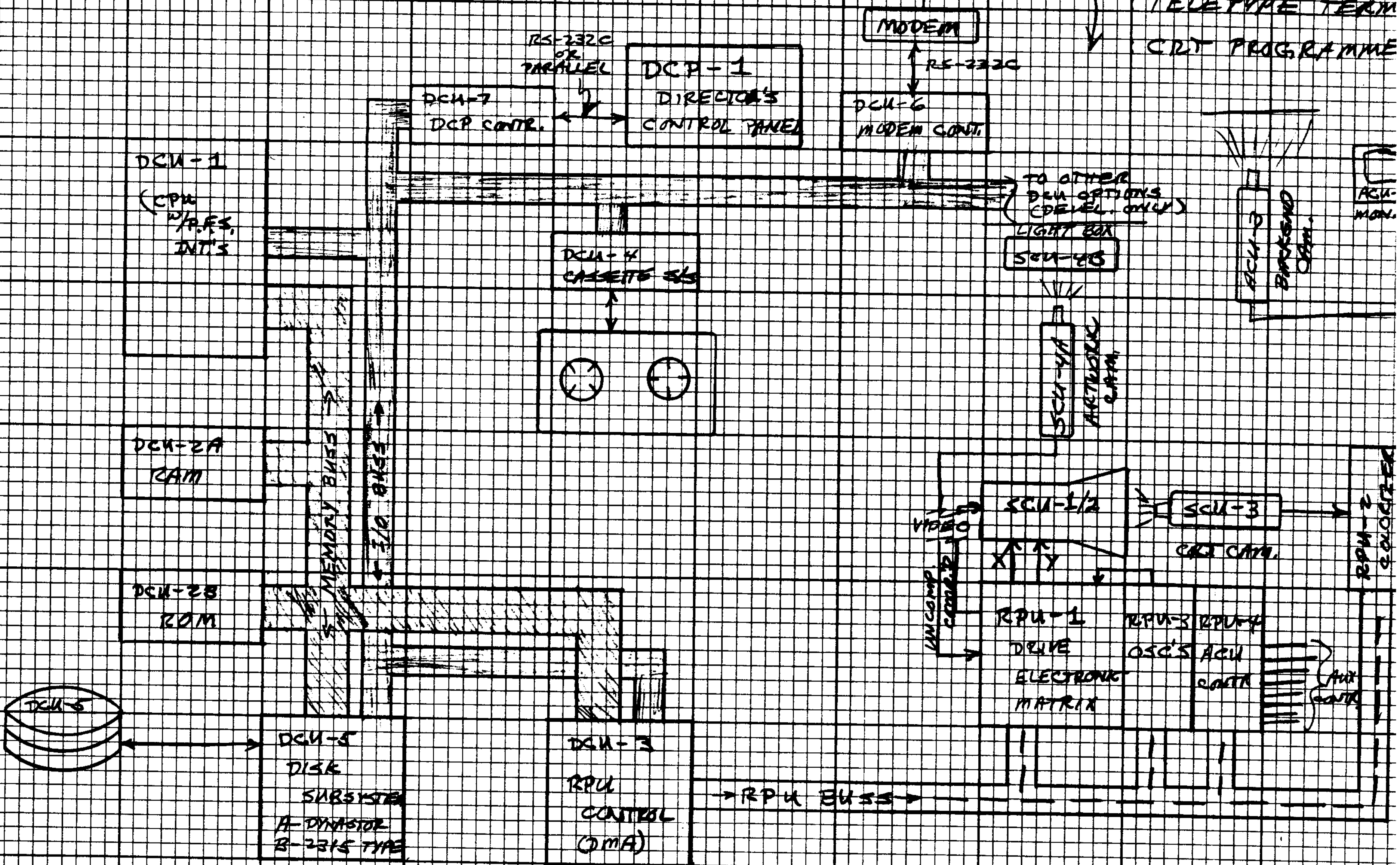
4
3
6
7
2
9
10
13
14
1
8
12
16
21
17
22
18
23
19

MAN 6-13-69

C.I. SYSTEM IV

CONFIGURATION BLOCK DIAGRAM:

FOR DEVELOPMENT,
ADD: LINE PRINTER SU
TELETYPE TERM
CRT PROGRAMME



AUX SUBSYSTEMS INCLUDE
VTR CONTROL
AUDIO "
VIDEO "

CI SYSTEM IV

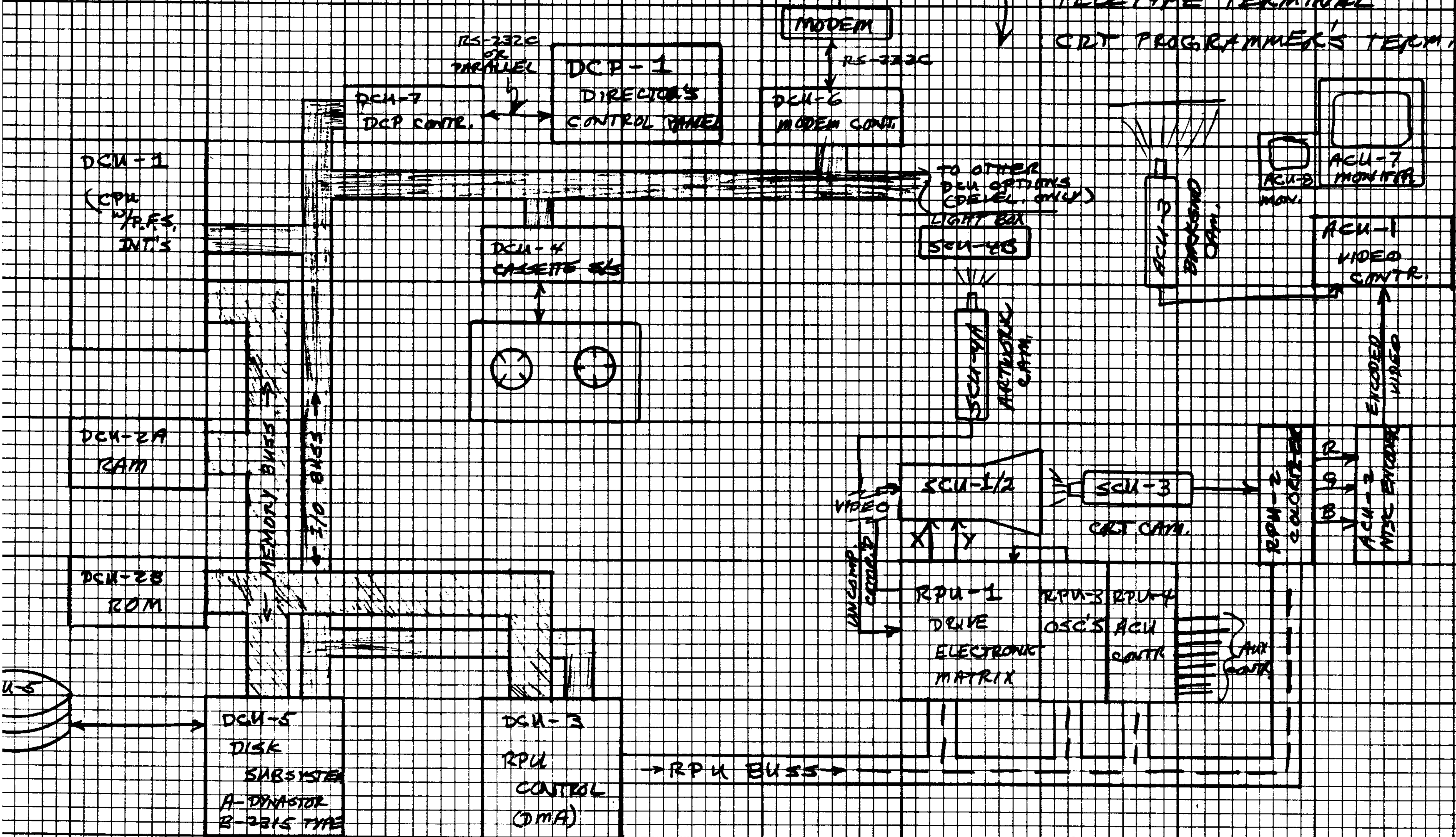
ATION BLOCK DIAGRAM:

FOR DEVELOPMENT,

ADD: LINE PRINTER SUBSYSTEM

TELETYPE TERMINAL

CRT PROGRAMMER'S TERM.



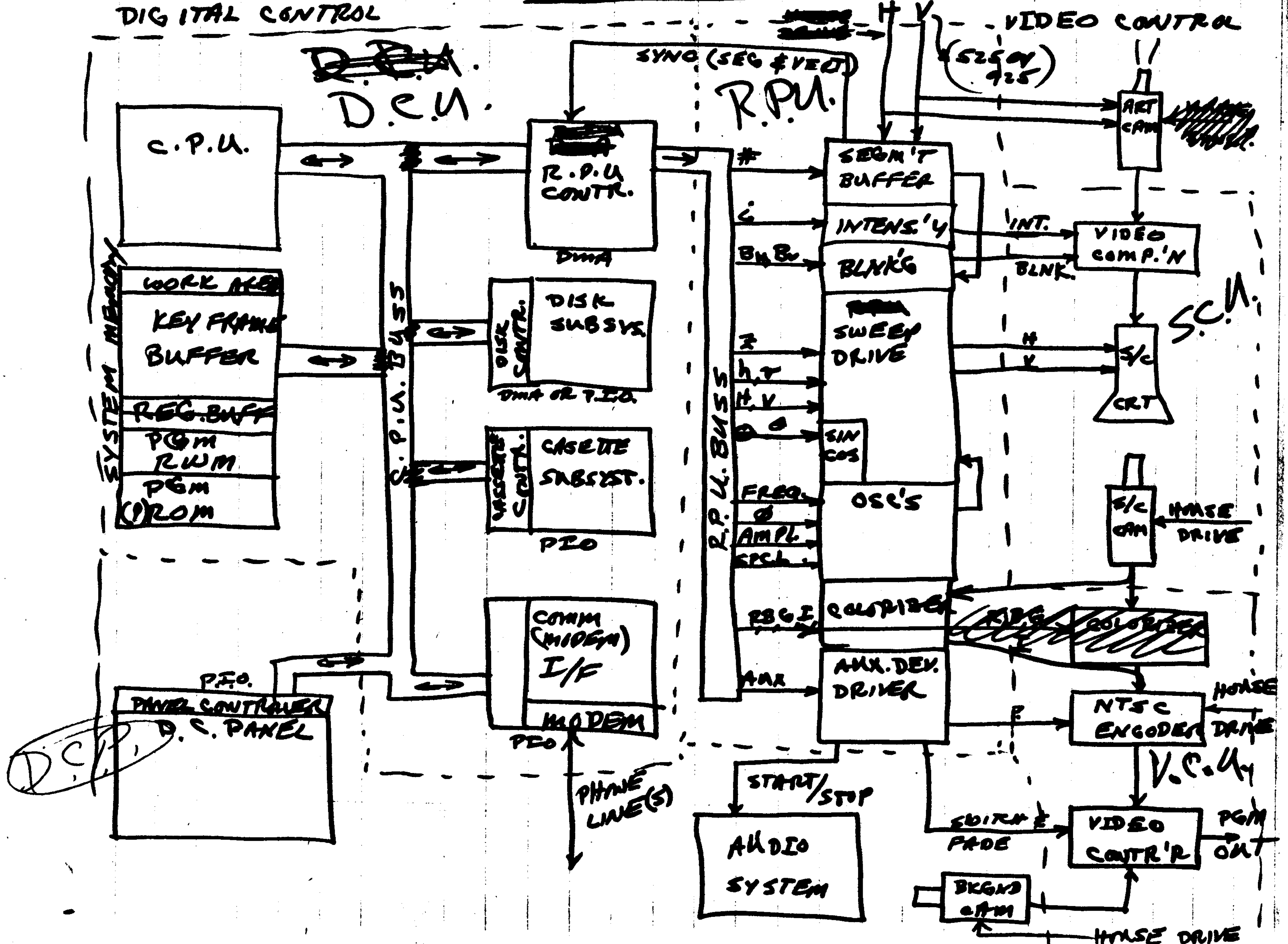
AUX SUBSYSTEMS INCLUDE

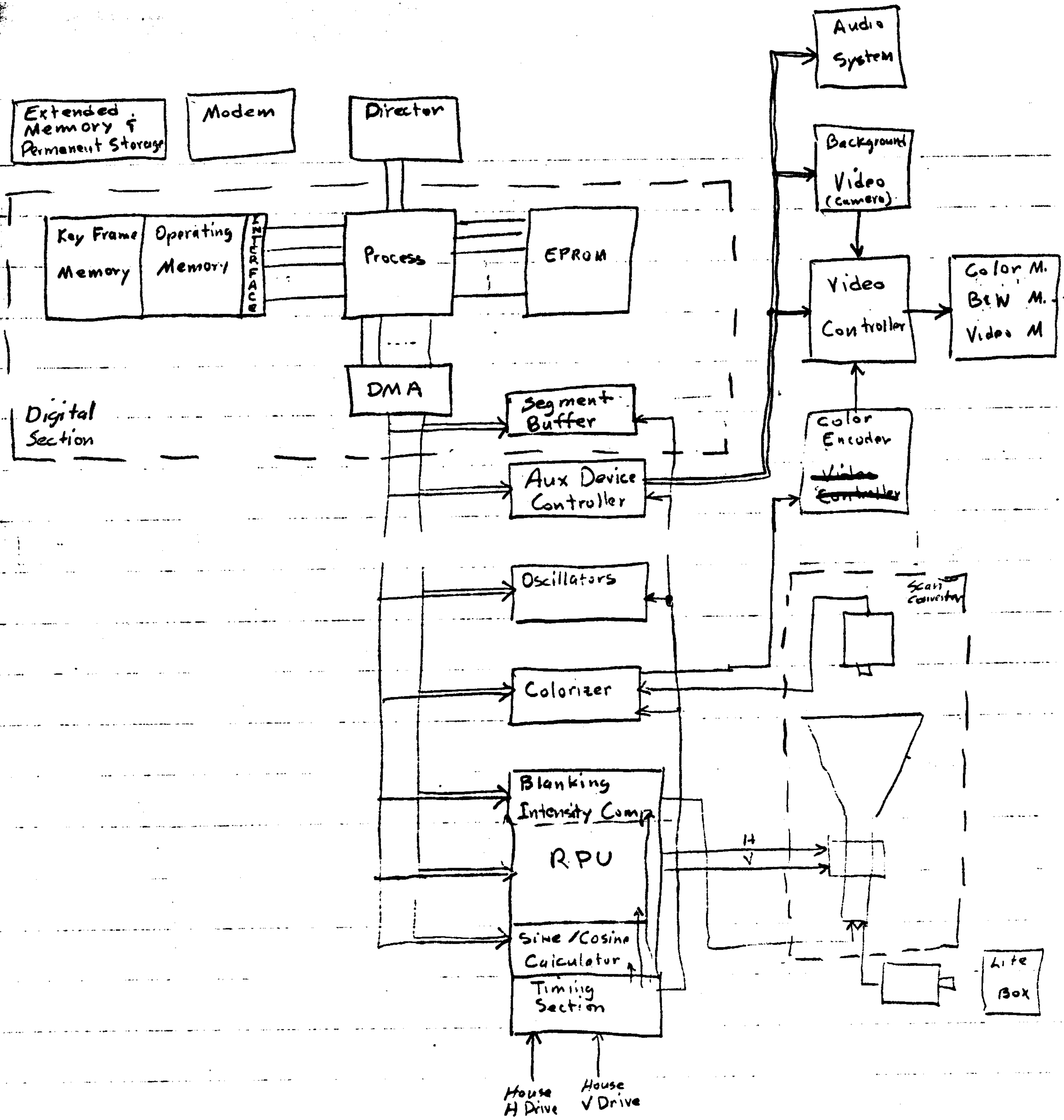
VTR CONTROL

AUDIO "

VIDEO "

SYSTEM III/IV - FULLY OPTIONED





Audio System
Extended Memory & Permanent Storage
Modem
Director
Background Video (camera)
Key Frame Memory
Operating Memory
INTERFACE
Process
EPROM
Video Controller
Color M.
B&W M.
Video M
DMA
Digital Section
Segment Buffer
Color Encoder
~~Video Controller~~
Aux Device Controller
Oscillators
Scan Converter
Colorizer
Blanking
Intensity Comp
RPU
H
V
Sine /Cosine Calculator
Timing Section
Lite Box
House H Drive
House V Drive

SYSTEM TECHNICAL DESCRIPTION

THE SYSTEM III/IV OVERALL BLOCK DIAGRAM IS SHOWN IN FIG 4.

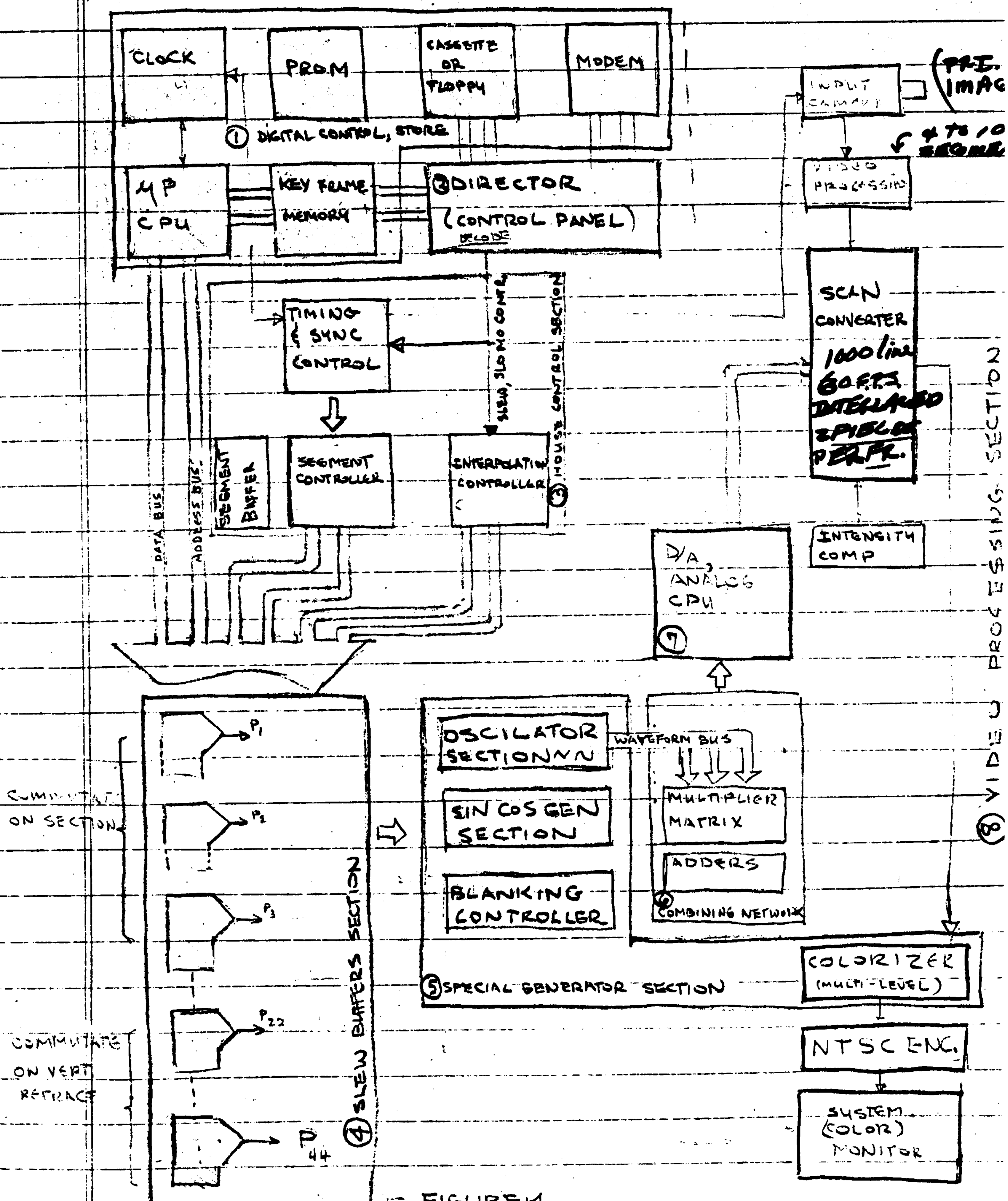


FIGURE 4

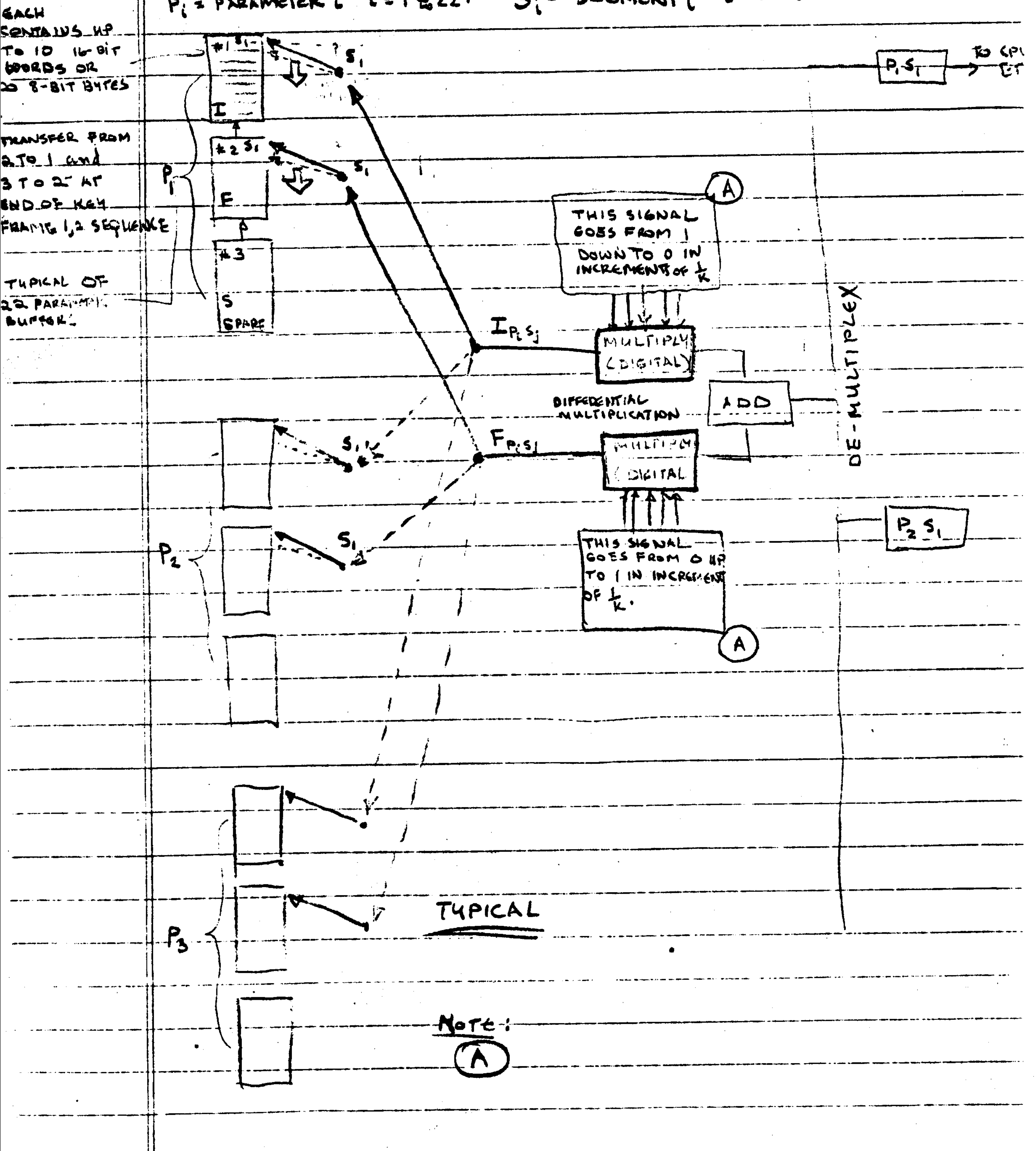
SLEW BUFFER

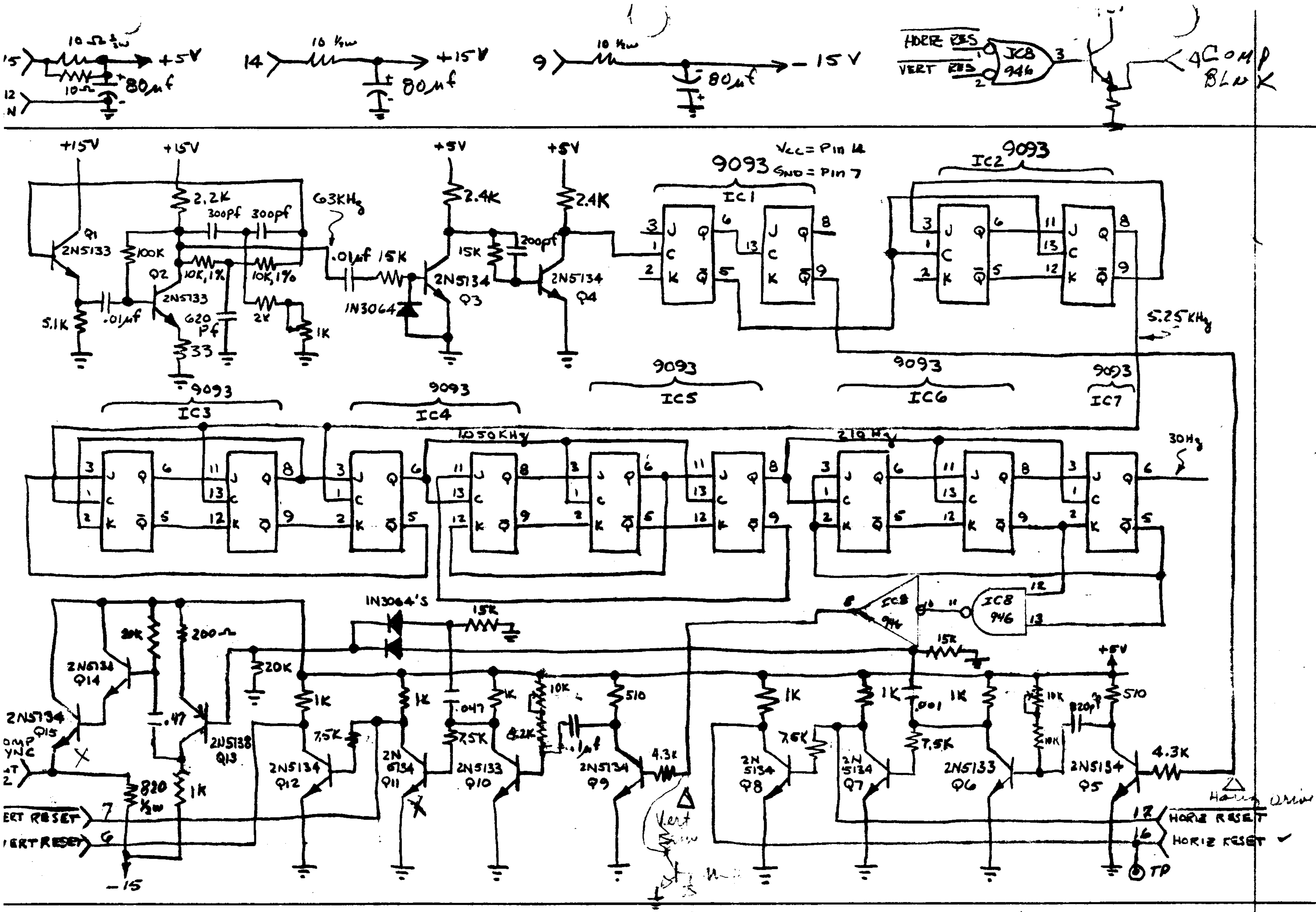
SYMBOL USED ON OVERALL BLOCK DIAGRAM.

STORE 3 KEY FRAMES, INITIAL (I), FINAL (F), AND SPARE

K = NO. OF FRAMES BETWEEN KEY FRAMES

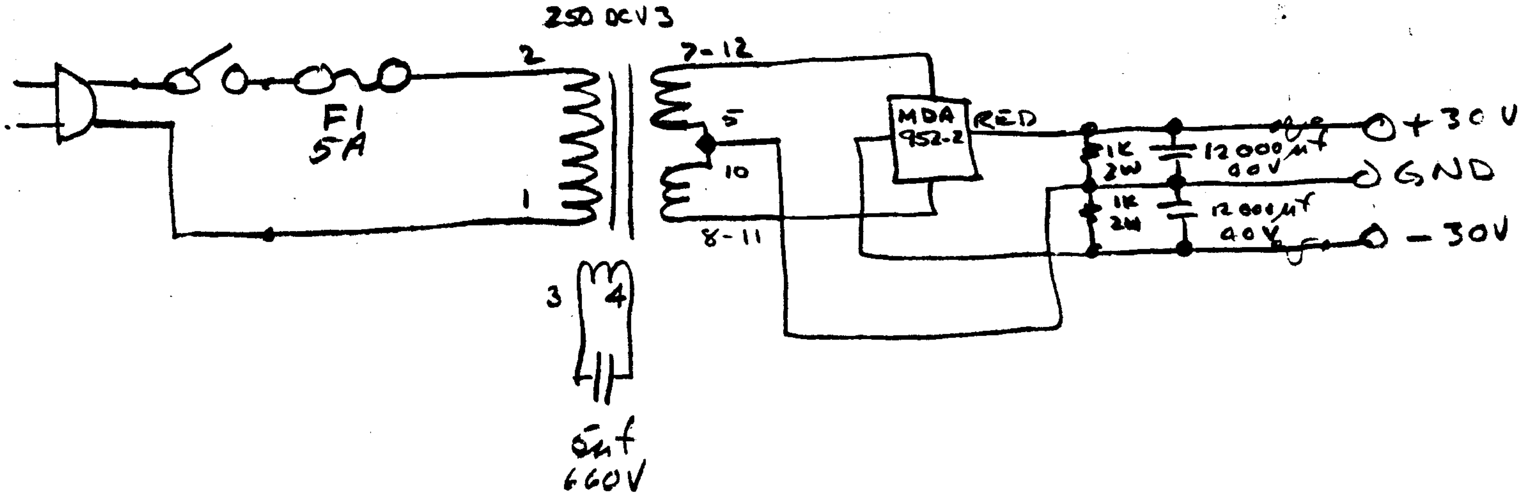
P_i = PARAMETER i $i = 1$ to 22? S_i = SEGMENT i $i = 1 \ldots 5 \ldots 10$?





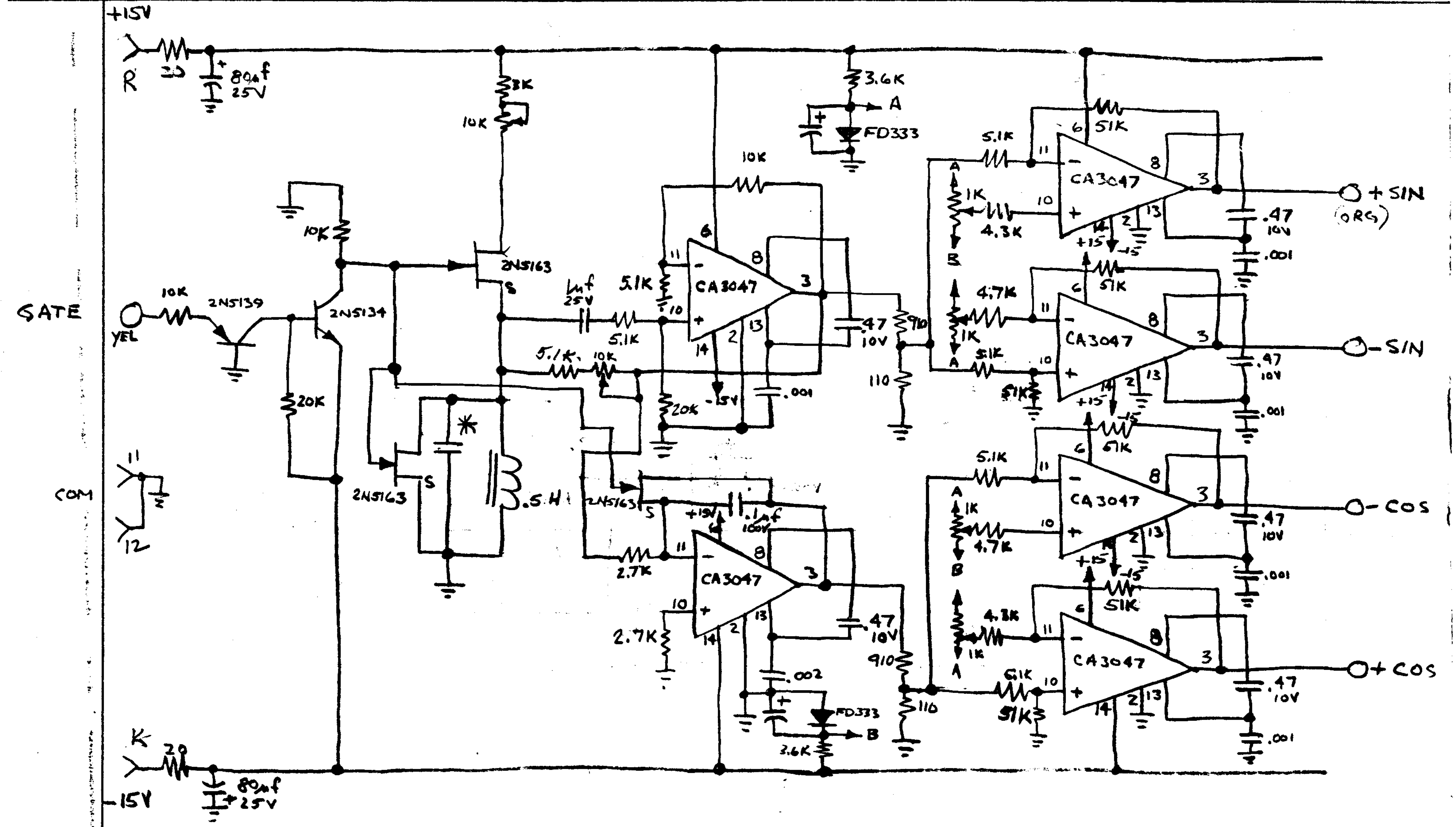
SCANIMATE SYNC GENERATOR (TV ONLY)

XSM 105



Monitor Power Supply

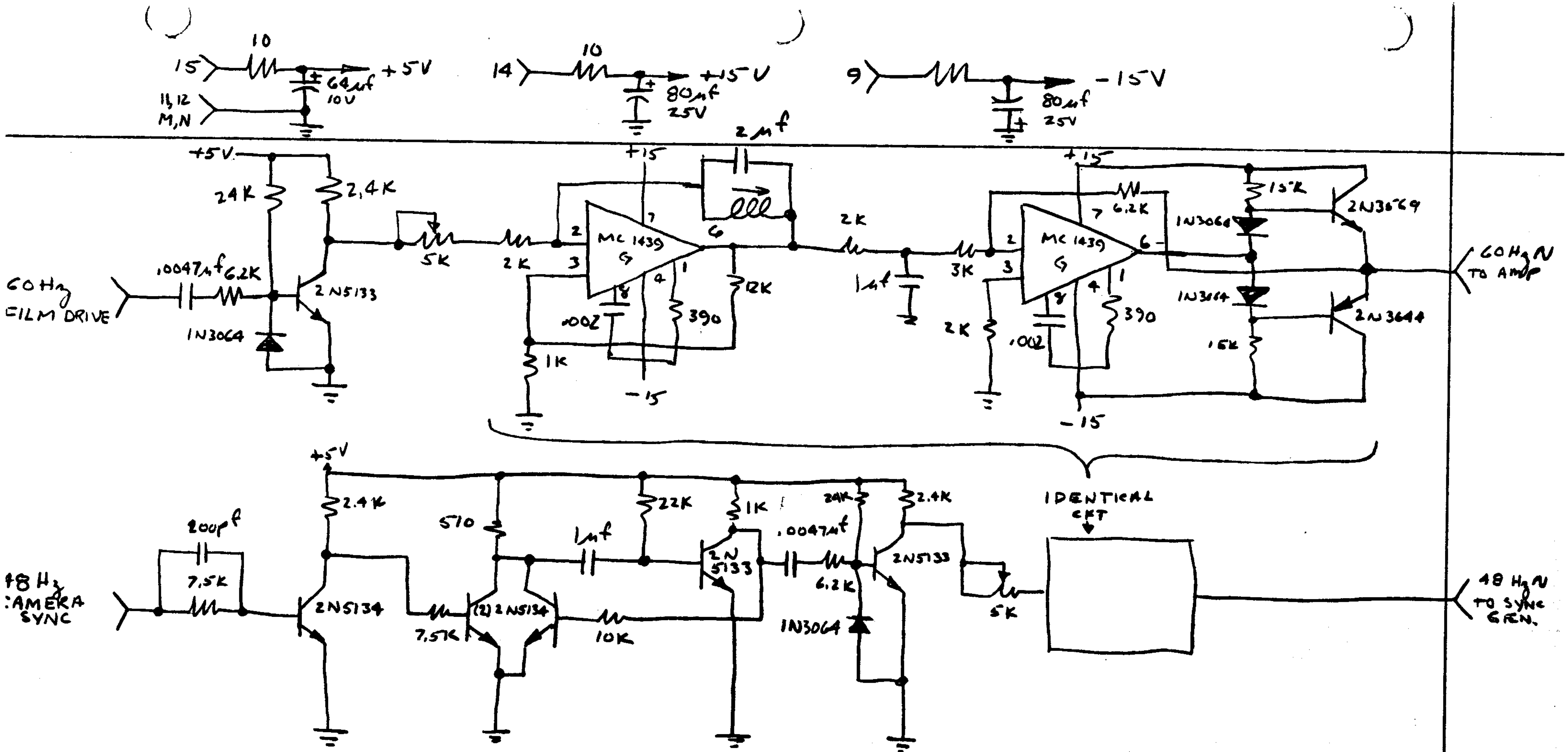
11/4/68



* ≈ .15μf (PARALLEL & USE POLYSTYRENE)

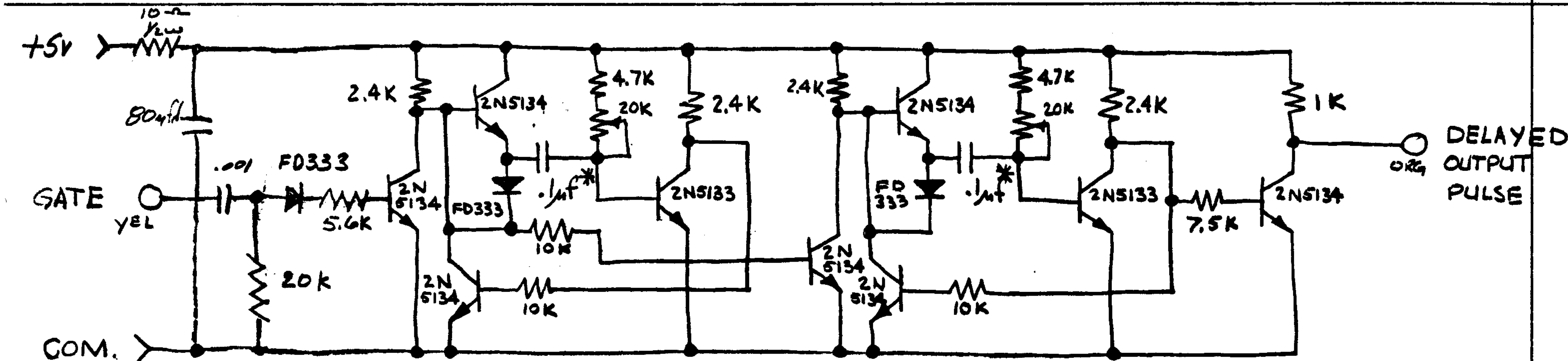
CIRCLE BONE

(GATED ± SINE, ±COSINE GENERATOR)



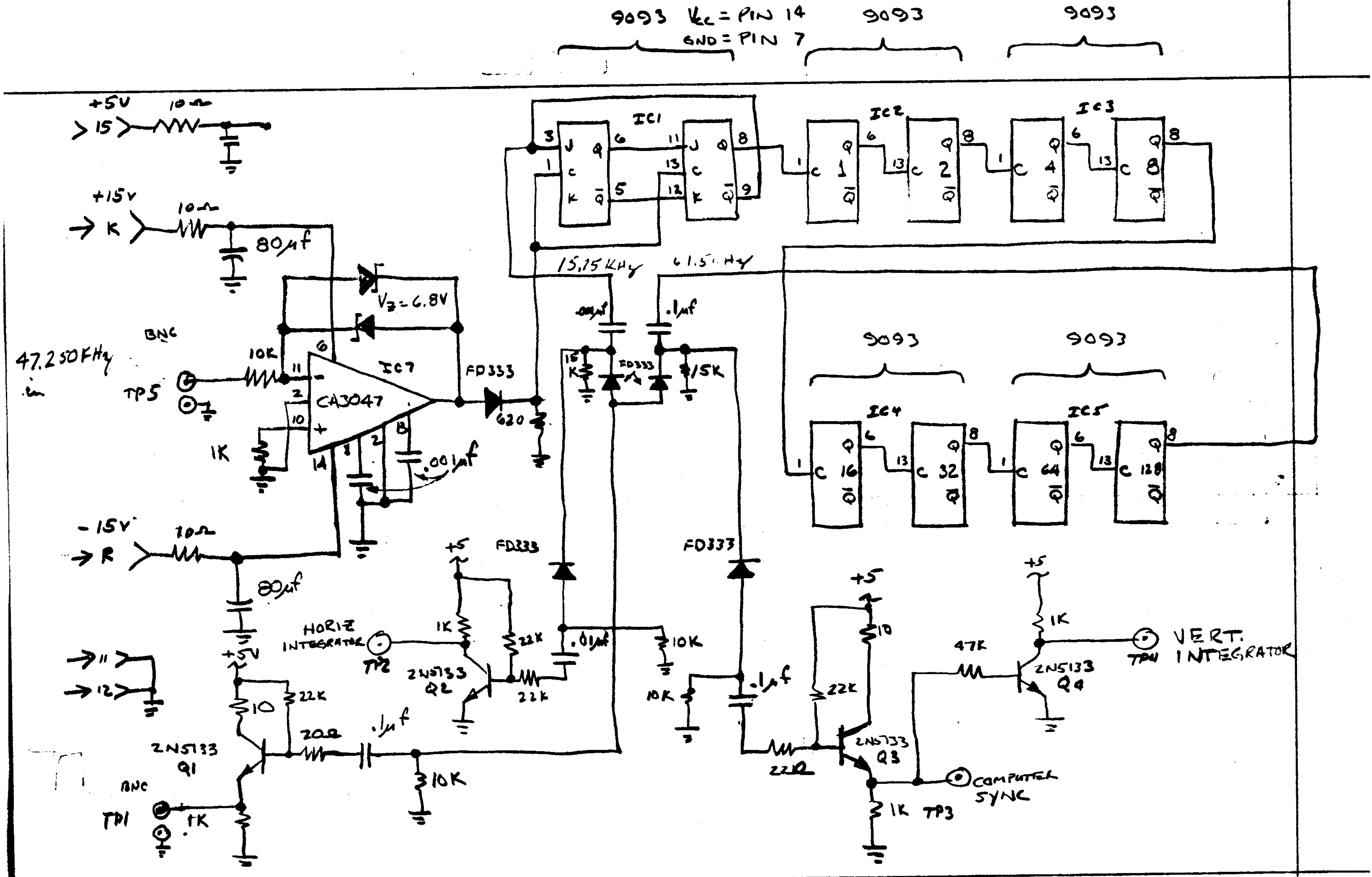
SCANIMATE SIGNAL CONDITIONERS

11/7/68



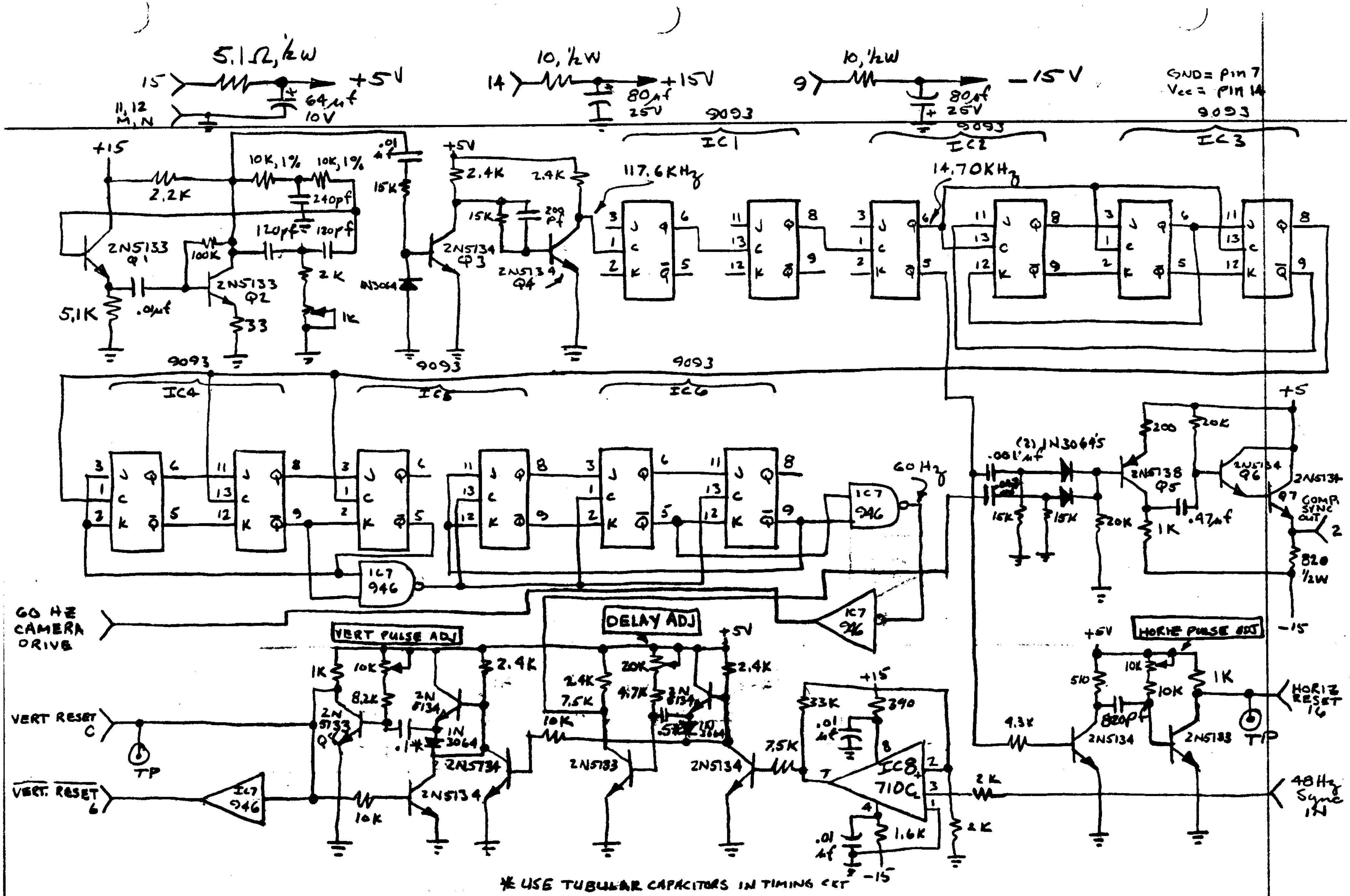
CIRCLE BONE BLANKER

Y0119

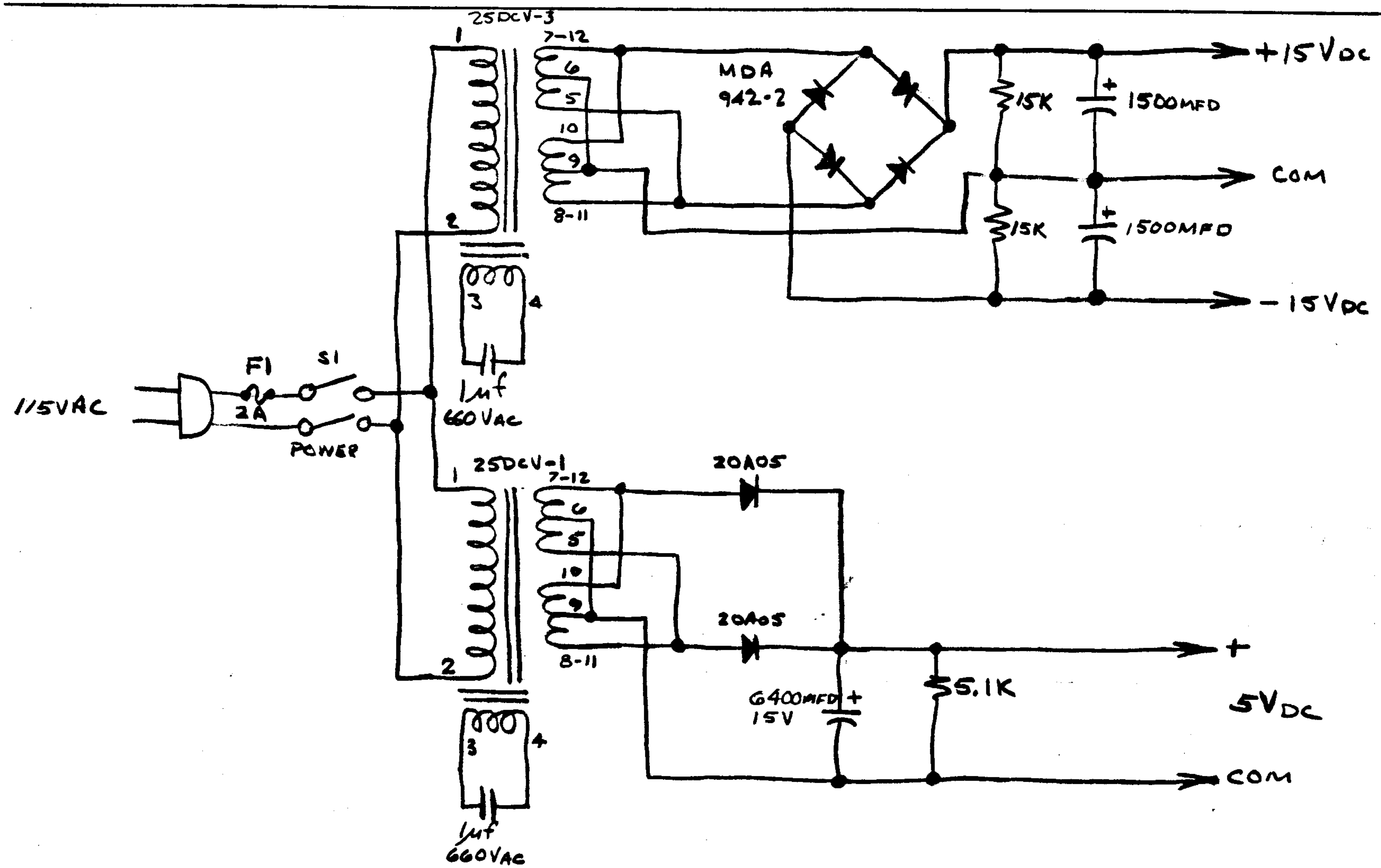


TV CAMERA / COMPUTER INTERFACE & SYNC

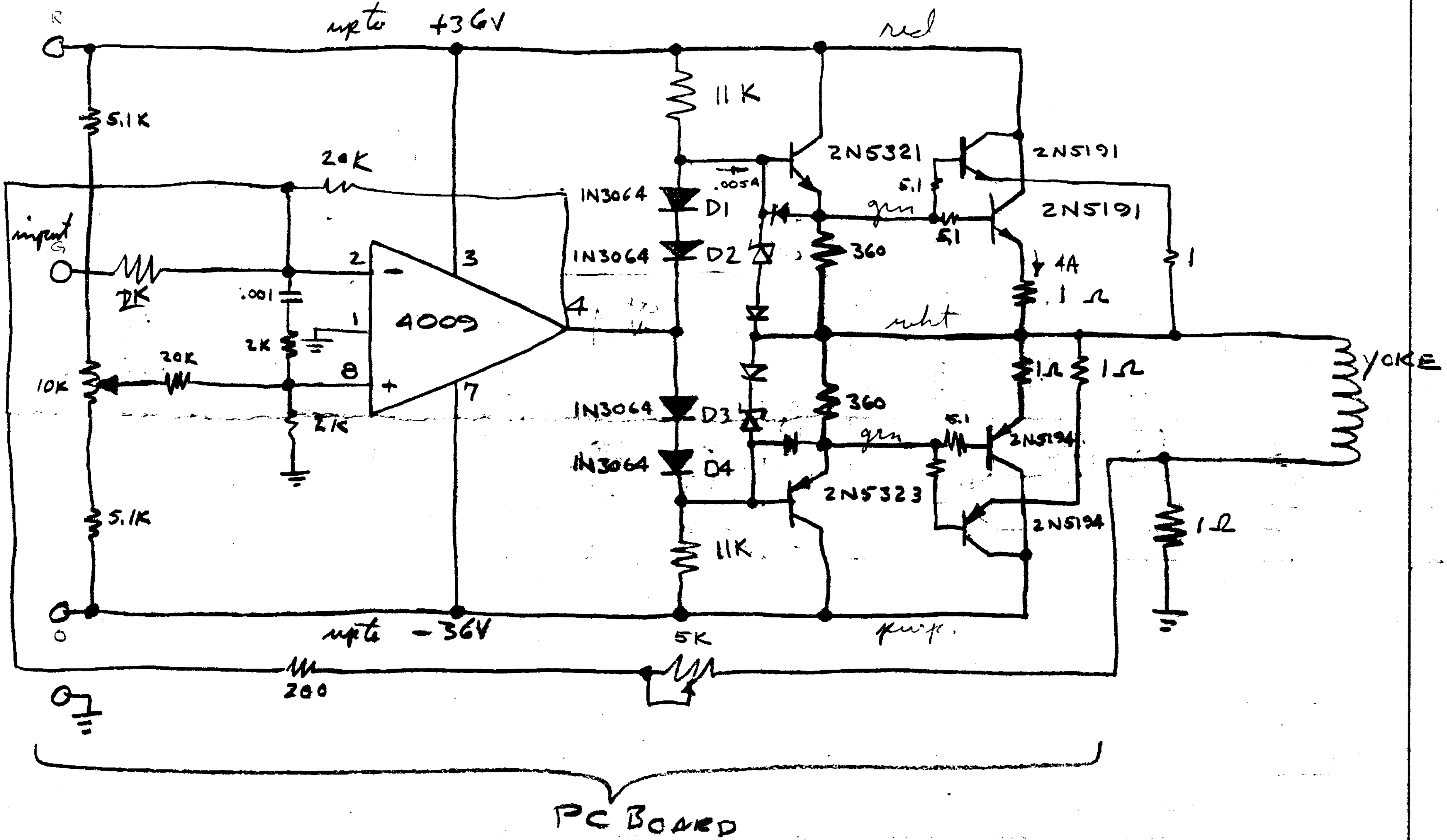
XP120

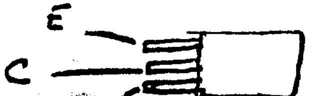


SCANIMATE SYNC GENERATOR (TV & FILM)



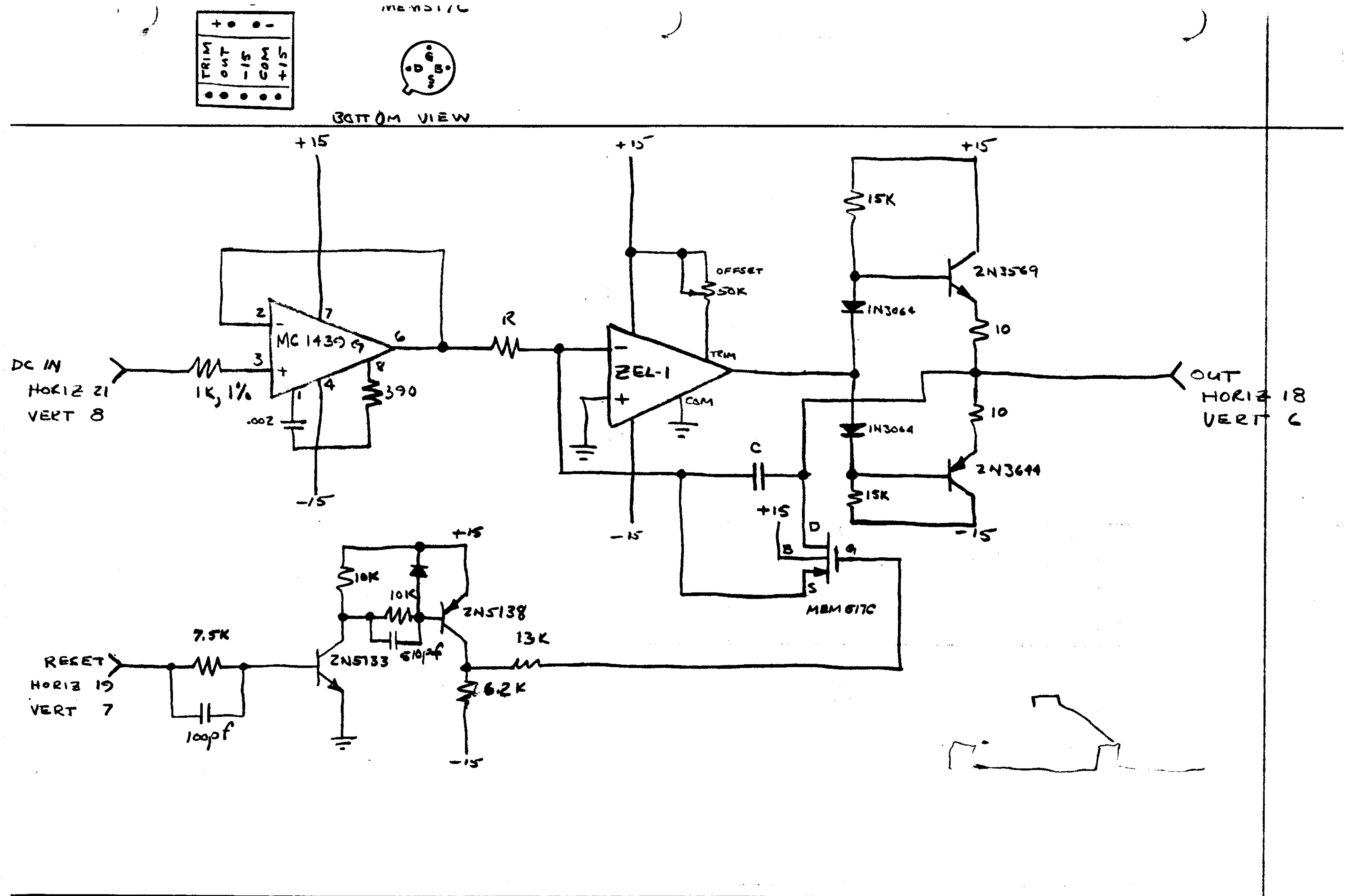
SCANIMATE POWER SUPPLIES (+5 & ±15VDC)



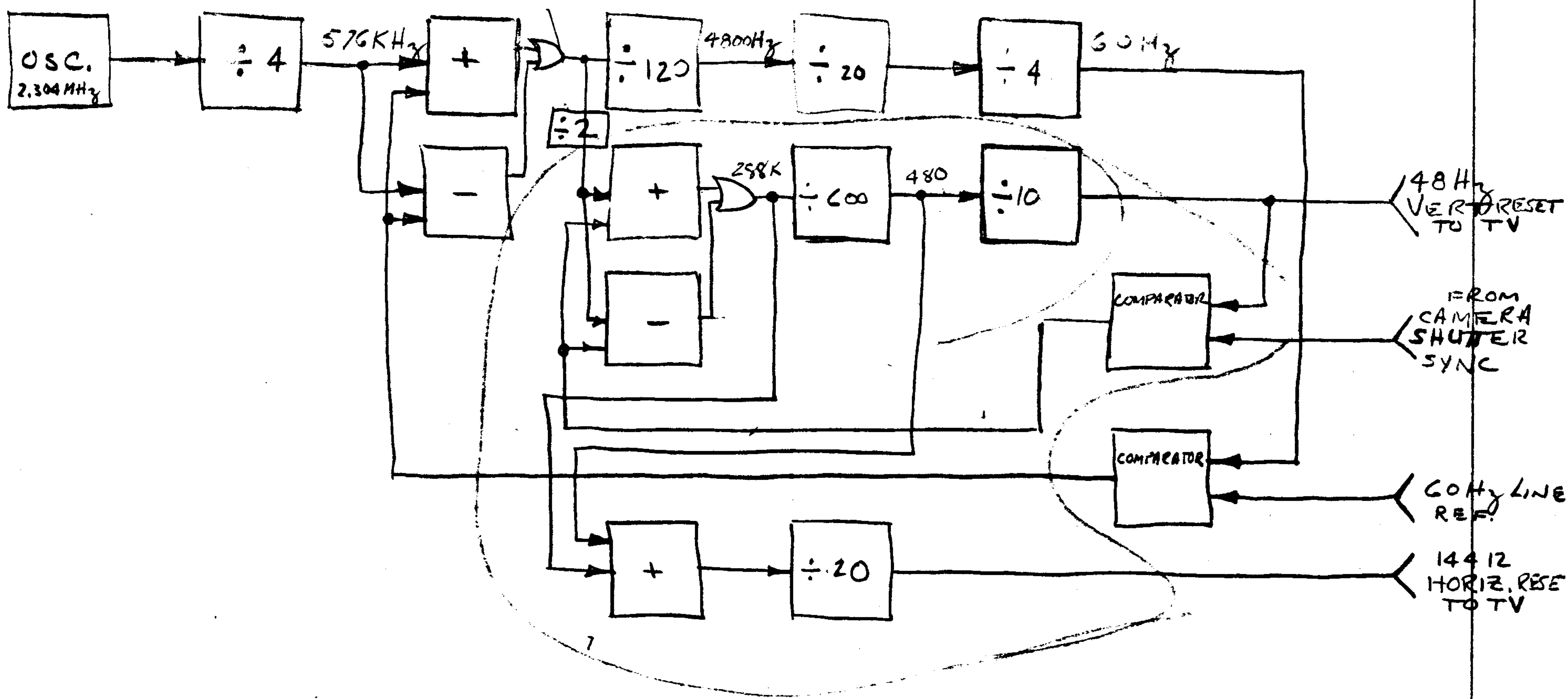


VIEW IS OF METAL SIDE down

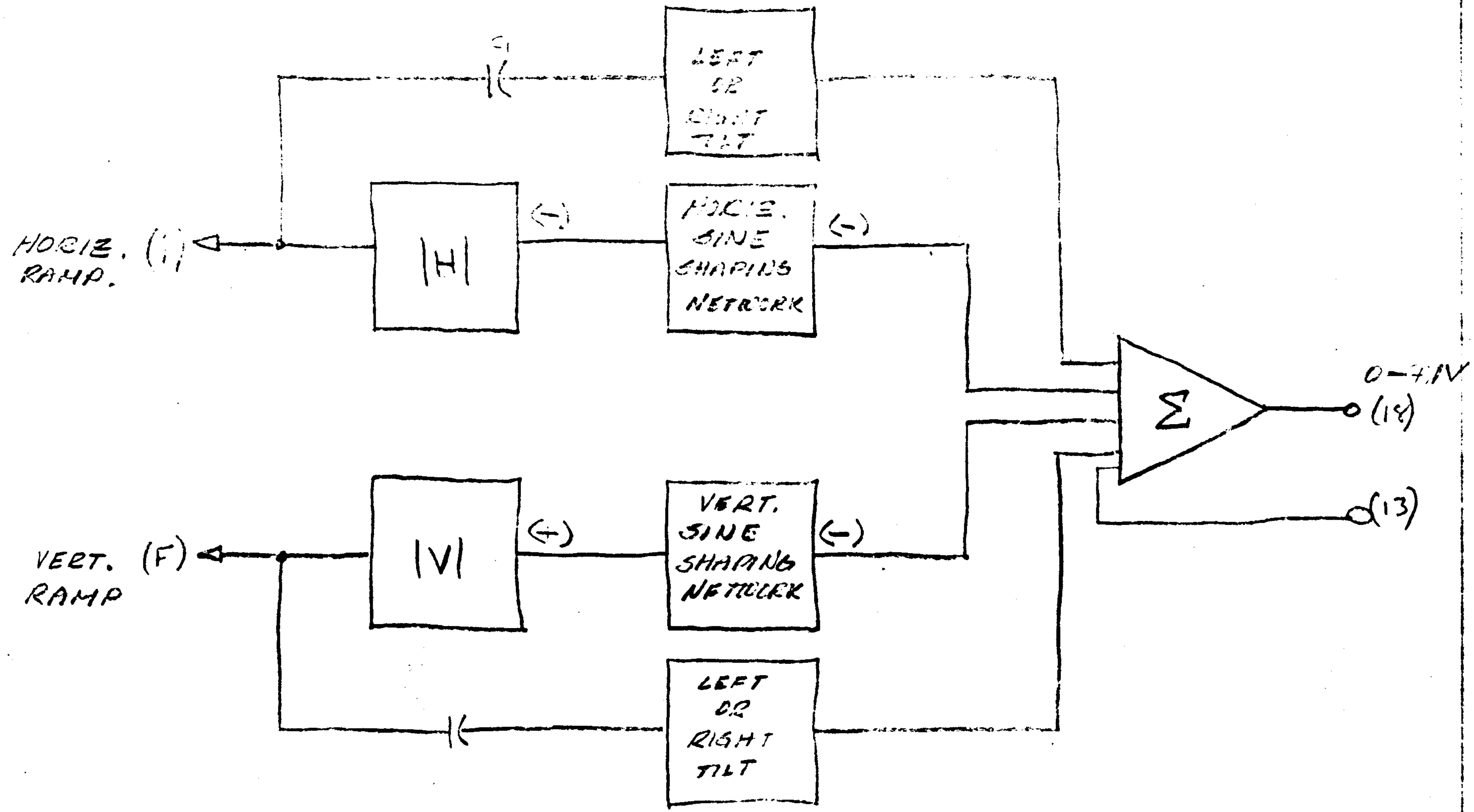
Diodes D1- D4 on heatsink with output Xsistors



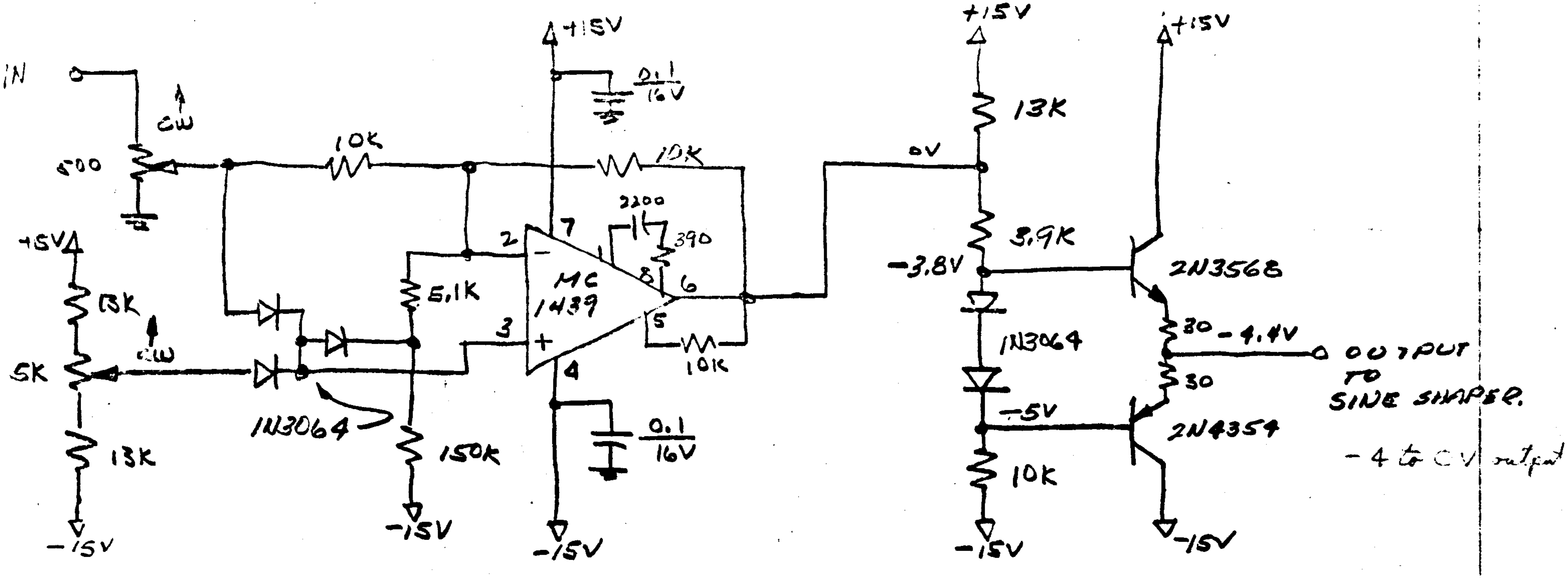
WIDEBAND INTEGRATOR



SCANIMATE SERVO SYNC

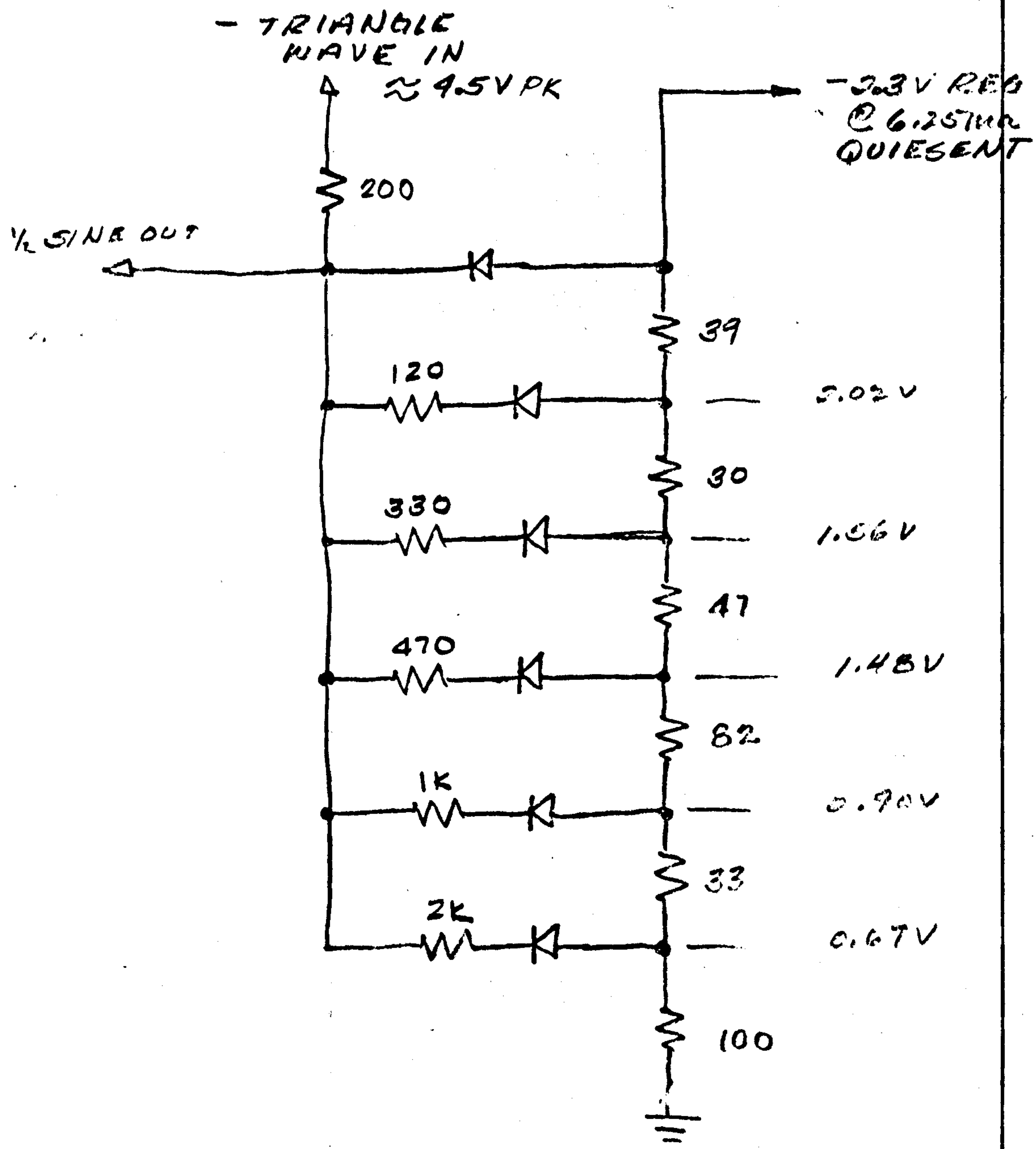


BLOCK DIAGRAM
VIDICON SHADING COMPENSATION



ABSOLUTE VALUE CIRCUIT
SHADING COMPENSATOR

BRANDT
9/2/69

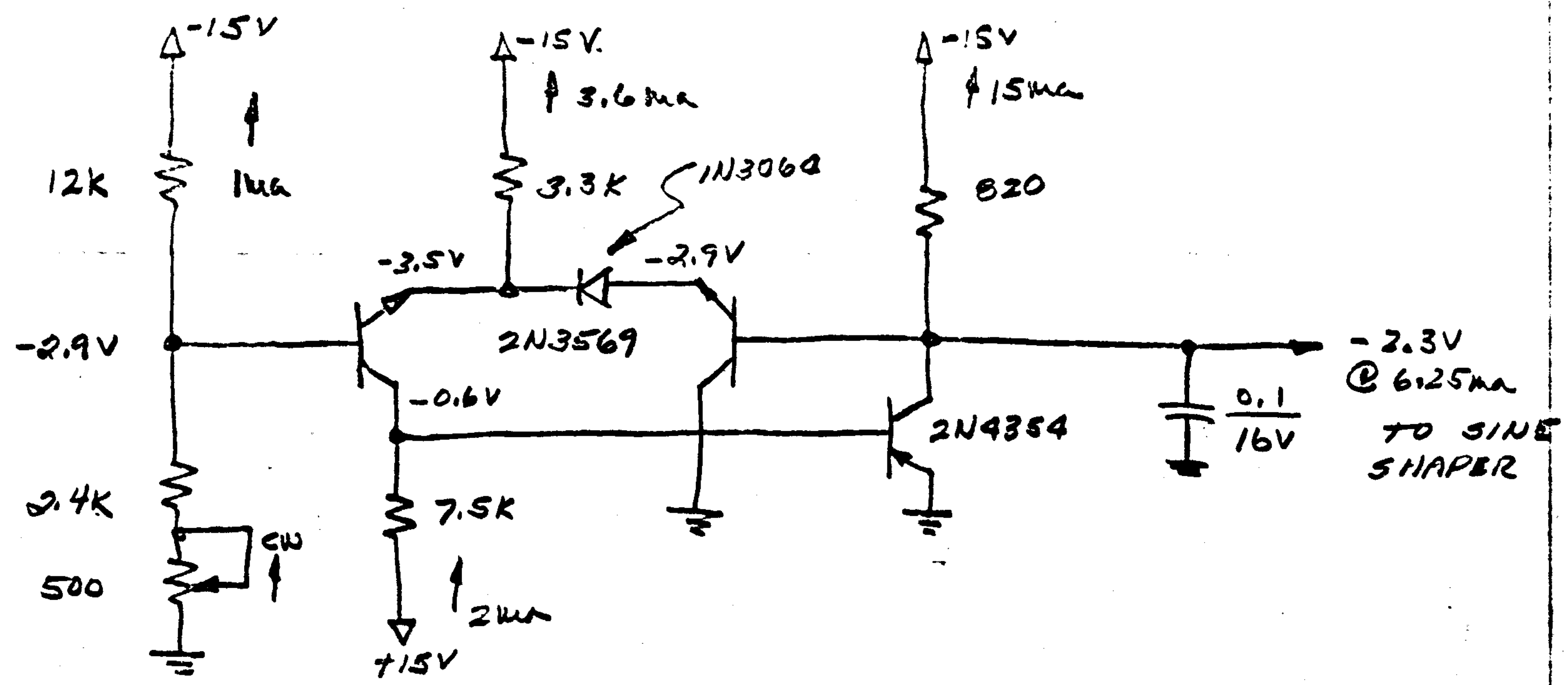


NOTES: ALL RES. ¼W 5%.

ALL DIODES 1N3064.

SINE SHAPING NETWORK

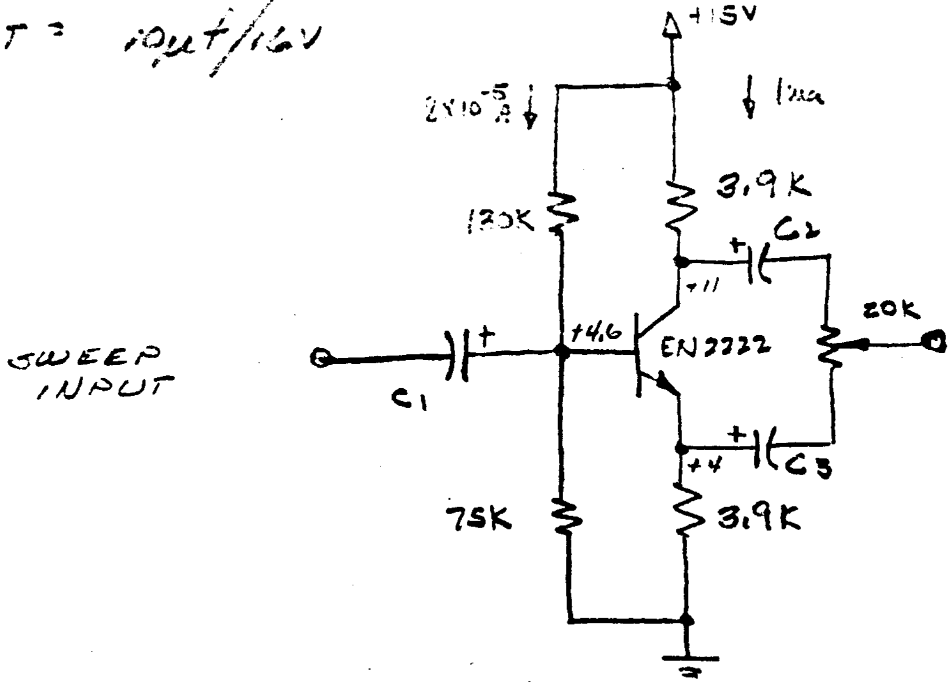
CAMERA SHADING COMP.



VOLTAGE REGULATOR FOR SINE SHAPING NETWORK

RCHARDT
9/5/69

C1,2,3 HORIZ = 0.1µf/16V
C1,2,3 VERT = 10µf/16V



$R_C = \frac{4V}{1 \times 10^{-3}} = 4K$
$\approx 3.9K$

$I_B = \frac{1 \times 10^{-3}}{5 \times 10^{1}} = .2 \times 10^{-4}$
$= 2 \times 10^{-5}$

$R_1 = \frac{10.4V}{8 \times 10^{-5}} = 1.3 \times 10^{5}$
$= 130k$

$R_2 = \frac{4.6V}{6 \times 10^{-5}} = .766 \times 10^{5}$
$= 75K$

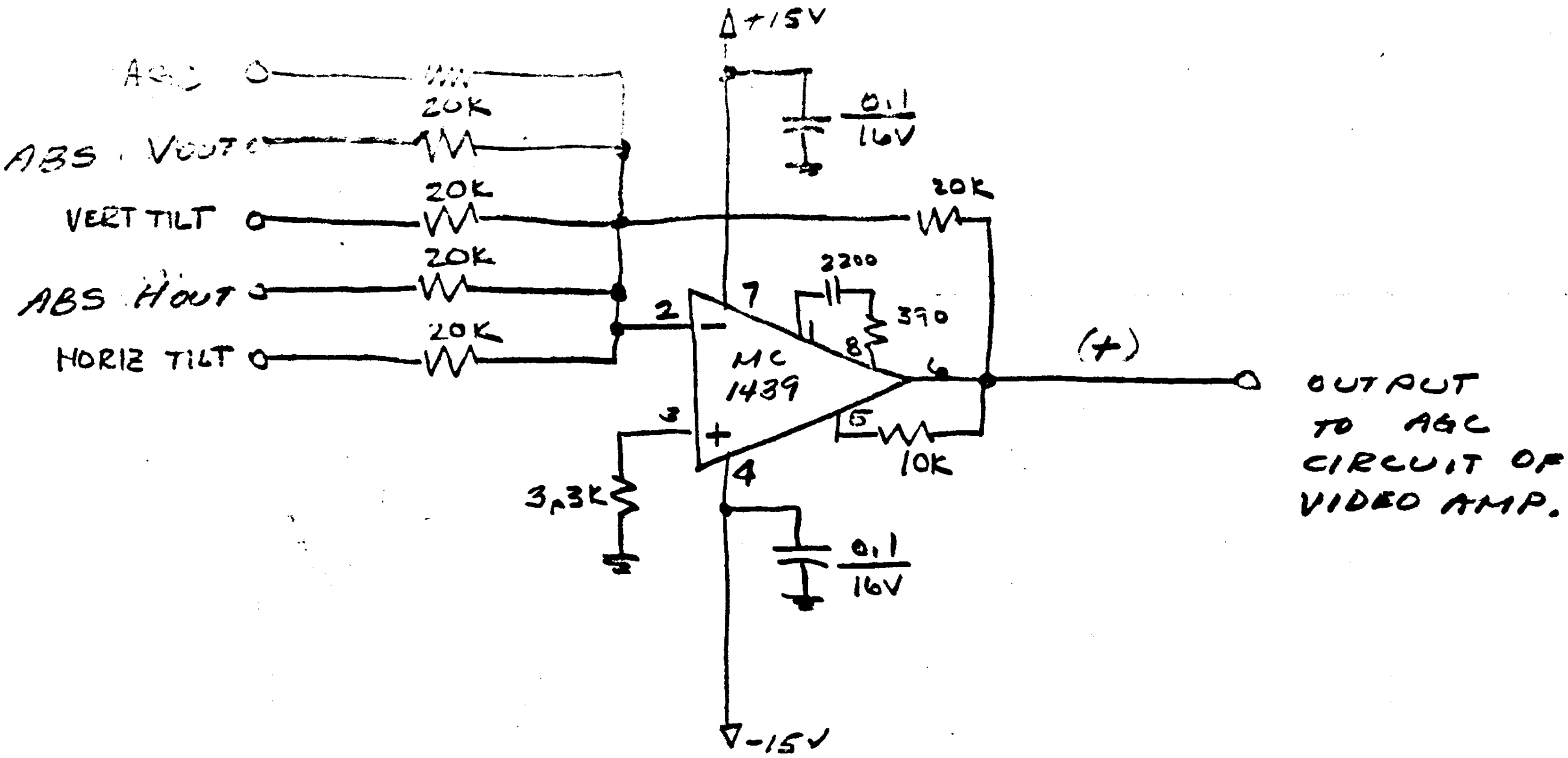
$Z_{IN} = 130k // 75k = \frac{9.75 \times 10^{9}}{2.05 \times 10^{5}} = 4.76 \times 10^{4}$

$47k // 19.5K = \frac{9.16 \times 10^{8}}{6.65 \times 10^{4}} = 1.378 \times 10^{4}$

$Z_{IN} \cong 13K$

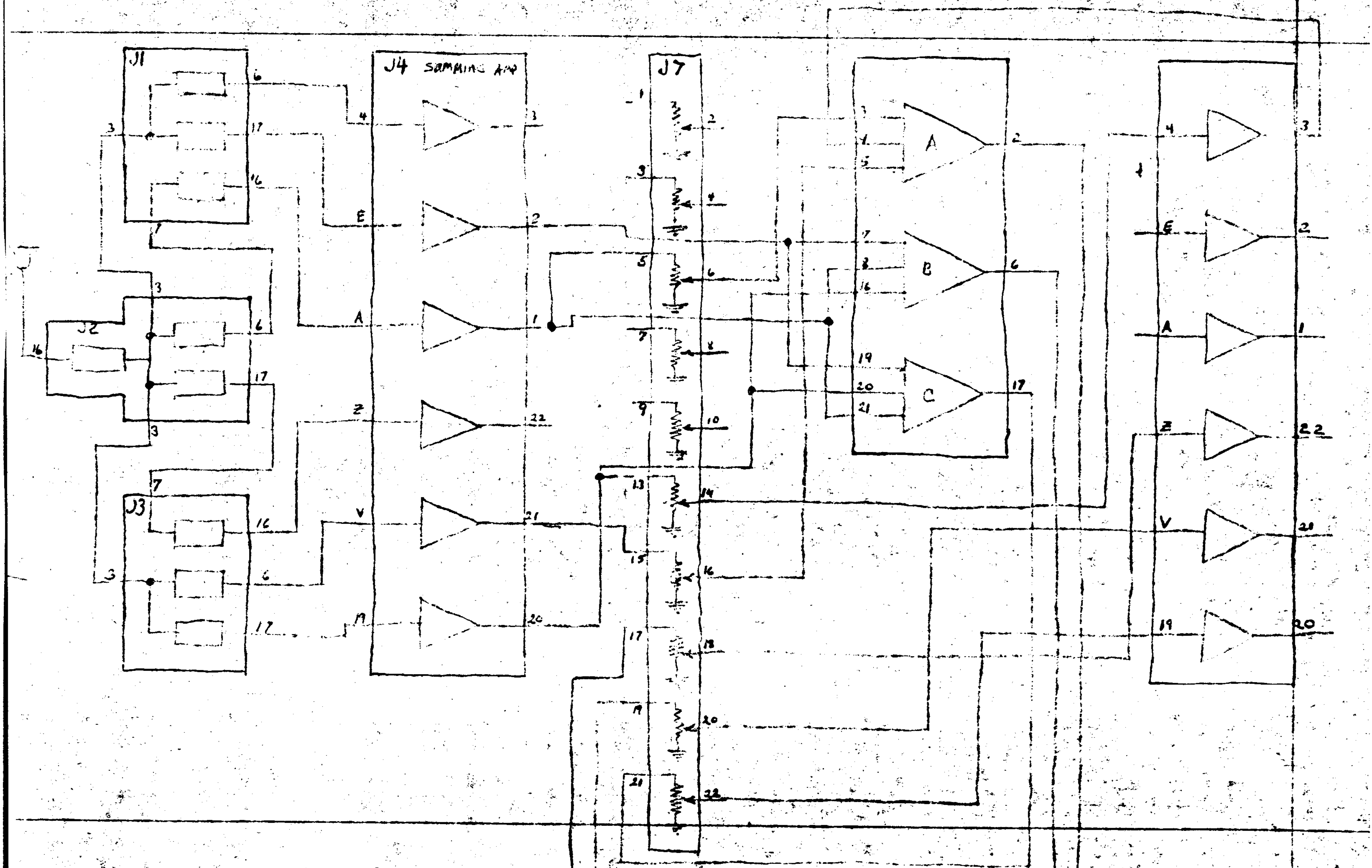
PHASE SPLITTER

BRANDT
9/2/69

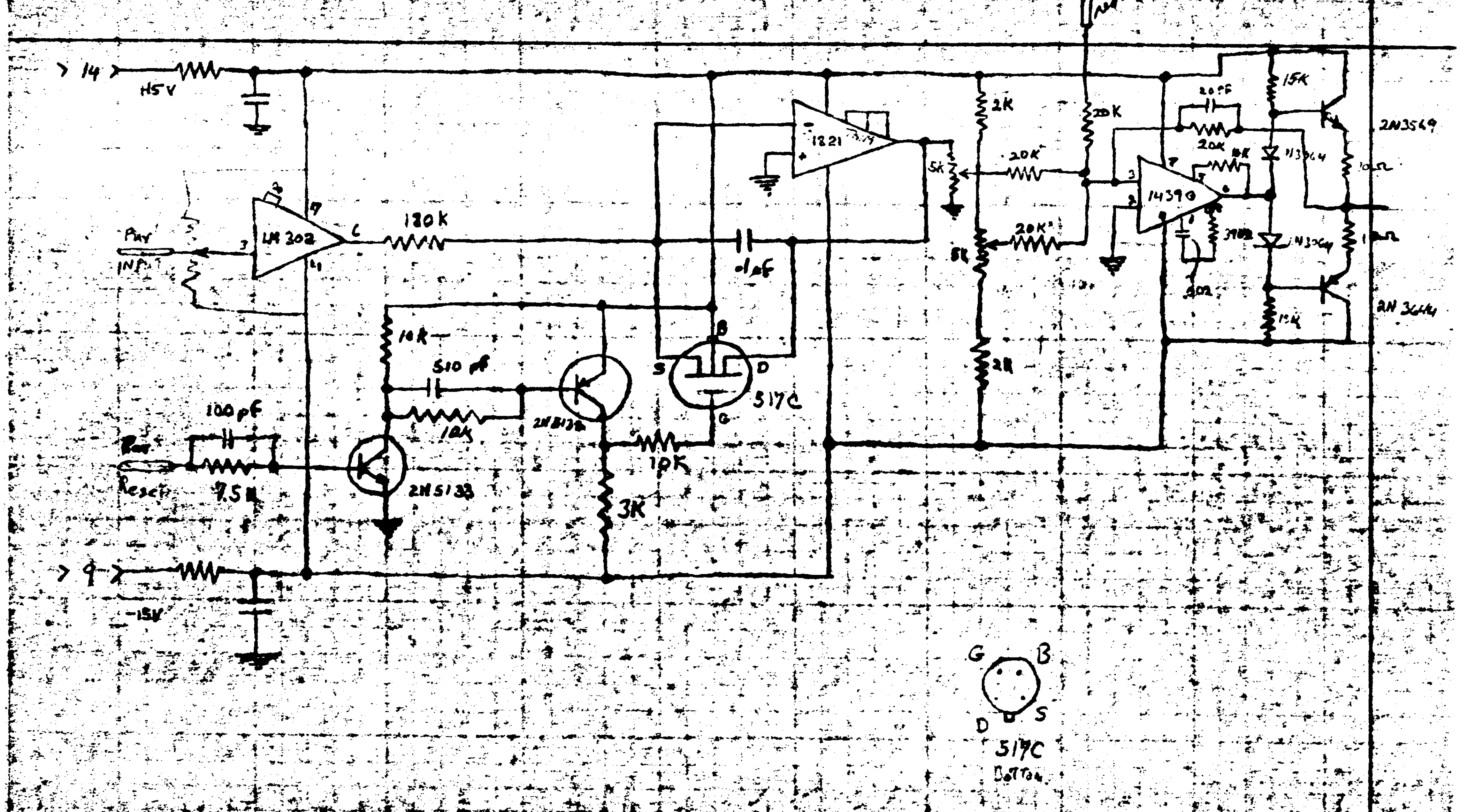


SUMMING AMPLIFIER
SHADING COMPENSATOR

BRANDT
9/10/69

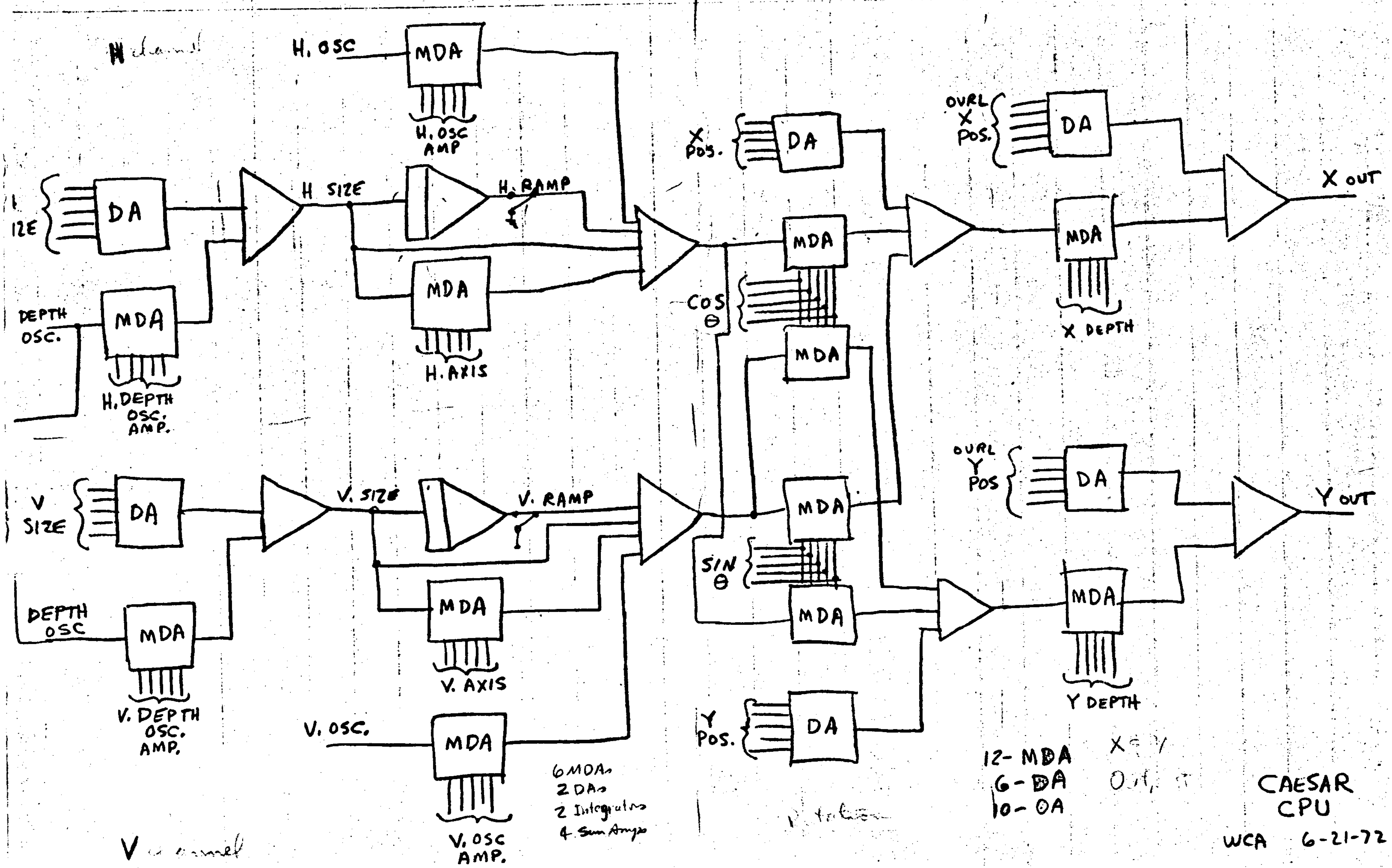


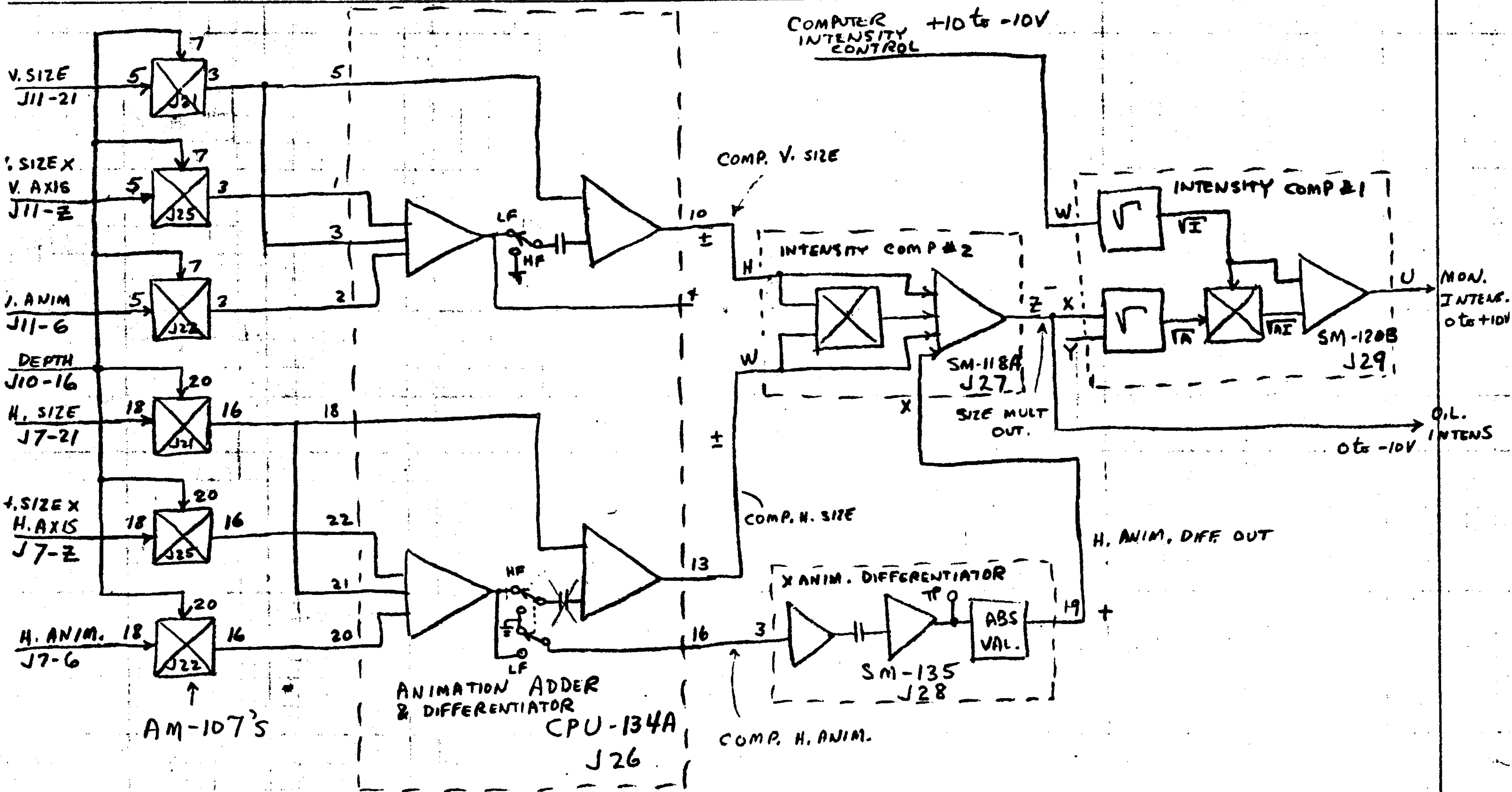
Mouth Circuit 8/5/69


14
+15V
LM 302
Ray Input
180K
1821
.01 µF
2K
20K
5K
15K
20 pF
2N3569
2N3644
10Ω
10K
510 pF
100 pF
Reset
7.5K
2N5133
3K
517C
S
D
B
G
-15V
G
B
D
S
517C
Bottom

RAMP

9 in
18 out


H. OSC
MDA
H. OSC AMP
SIZE
DA
H SIZE
H. RAMP
DEPTH OSC.
MDA
H. DEPTH OSC. AMP.
MDA
H. AXIS
X POS.
DA
MDA
COS θ
MDA
OVRL X POS.
DA
MDA
X DEPTH
X OUT
V SIZE
DA
V. SIZE
V. RAMP
DEPTH OSC
MDA
V. DEPTH OSC. AMP.
MDA
V. AXIS
V. OSC.
MDA
V. OSC AMP.
6 MDAs
2 DAs
2 Integrators
4 Sum Amps
MDA
SIN θ
MDA
Y POS.
DA
OVRL Y POS
DA
MDA
Y DEPTH
Y OUT
12- MDA
6- DA
10- OA
CAESAR
CPU
WCA 6-21-72



CAESAR CPU

INTENSITY COMP.

5-24-72

ANIMAC

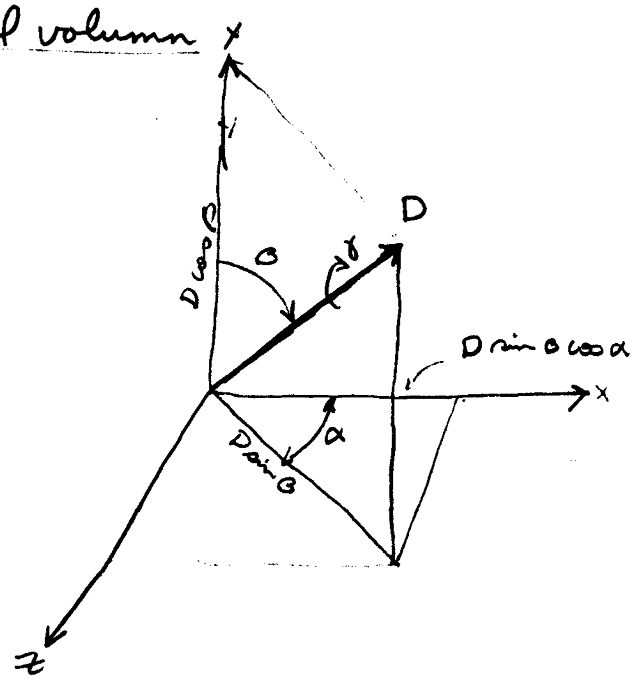
Basic process

Vary bones

I) vary length - control flip flops

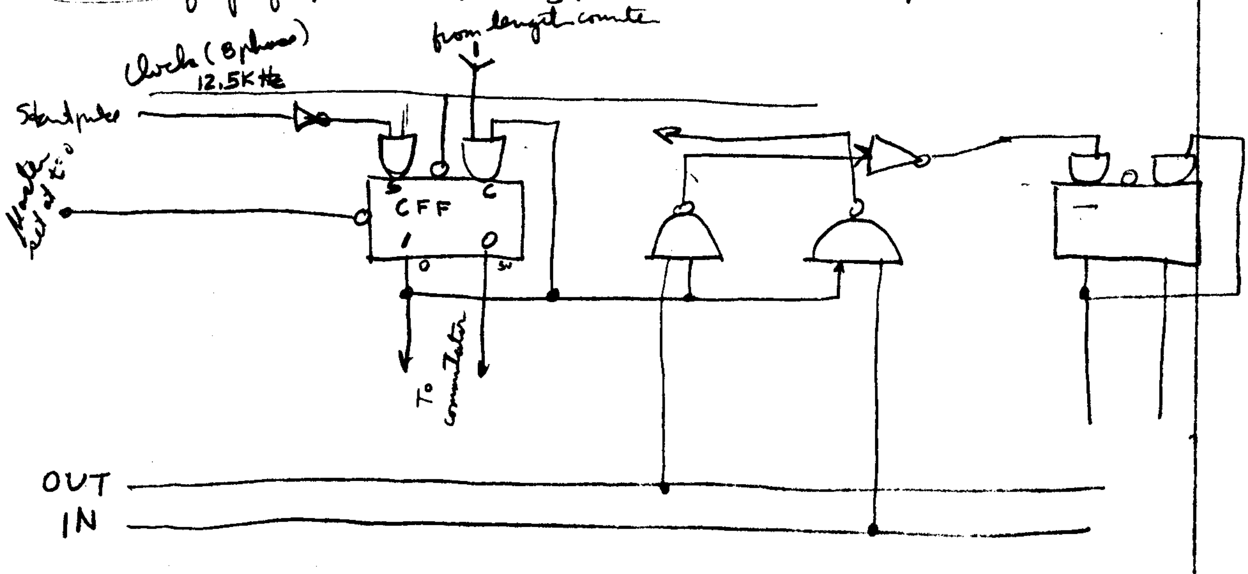
II) control direction - analog gates (commutator)

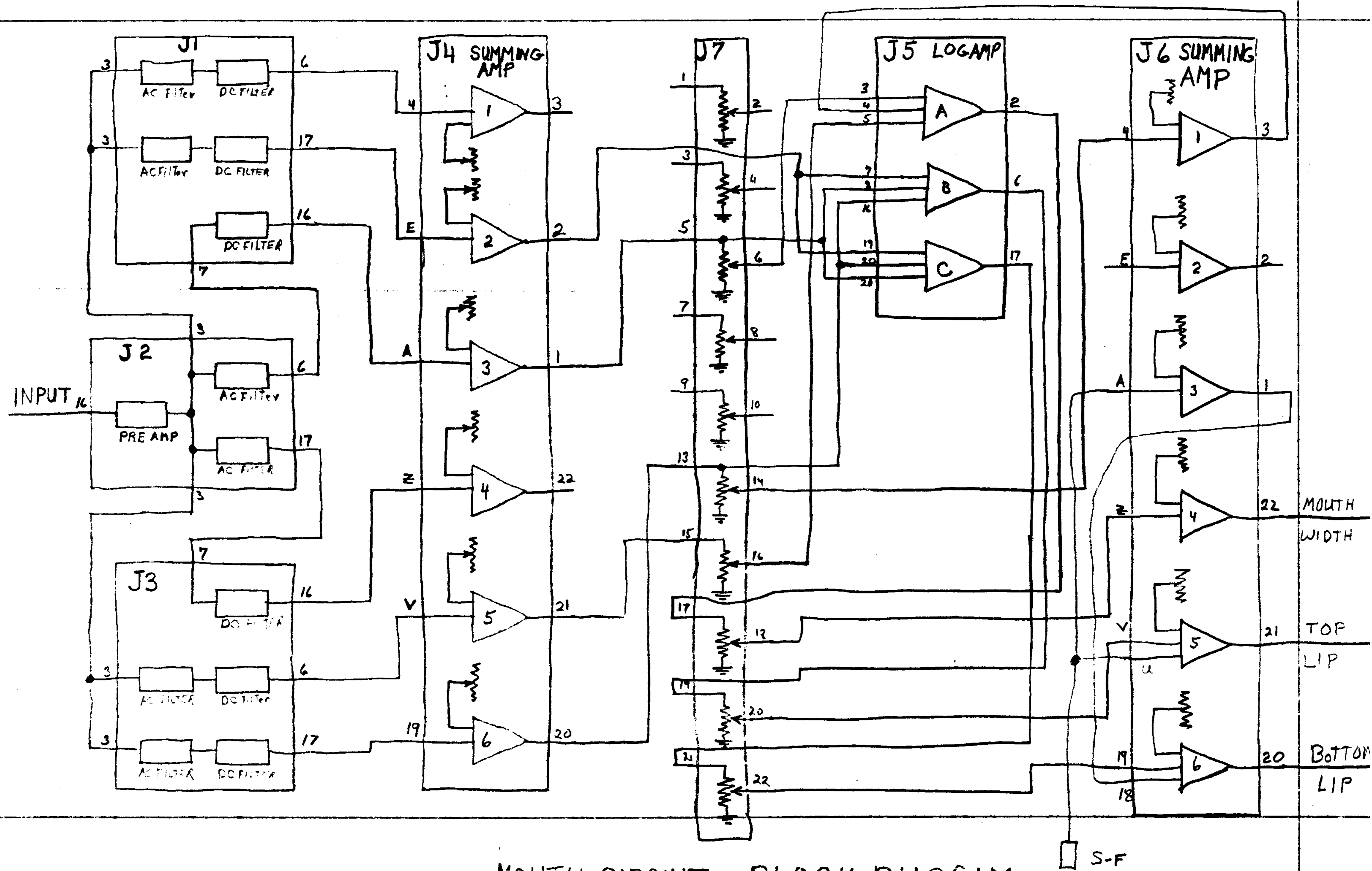
III) control volumn



Vary length

1) Control flip-flops (one for every bone) (30 in system)

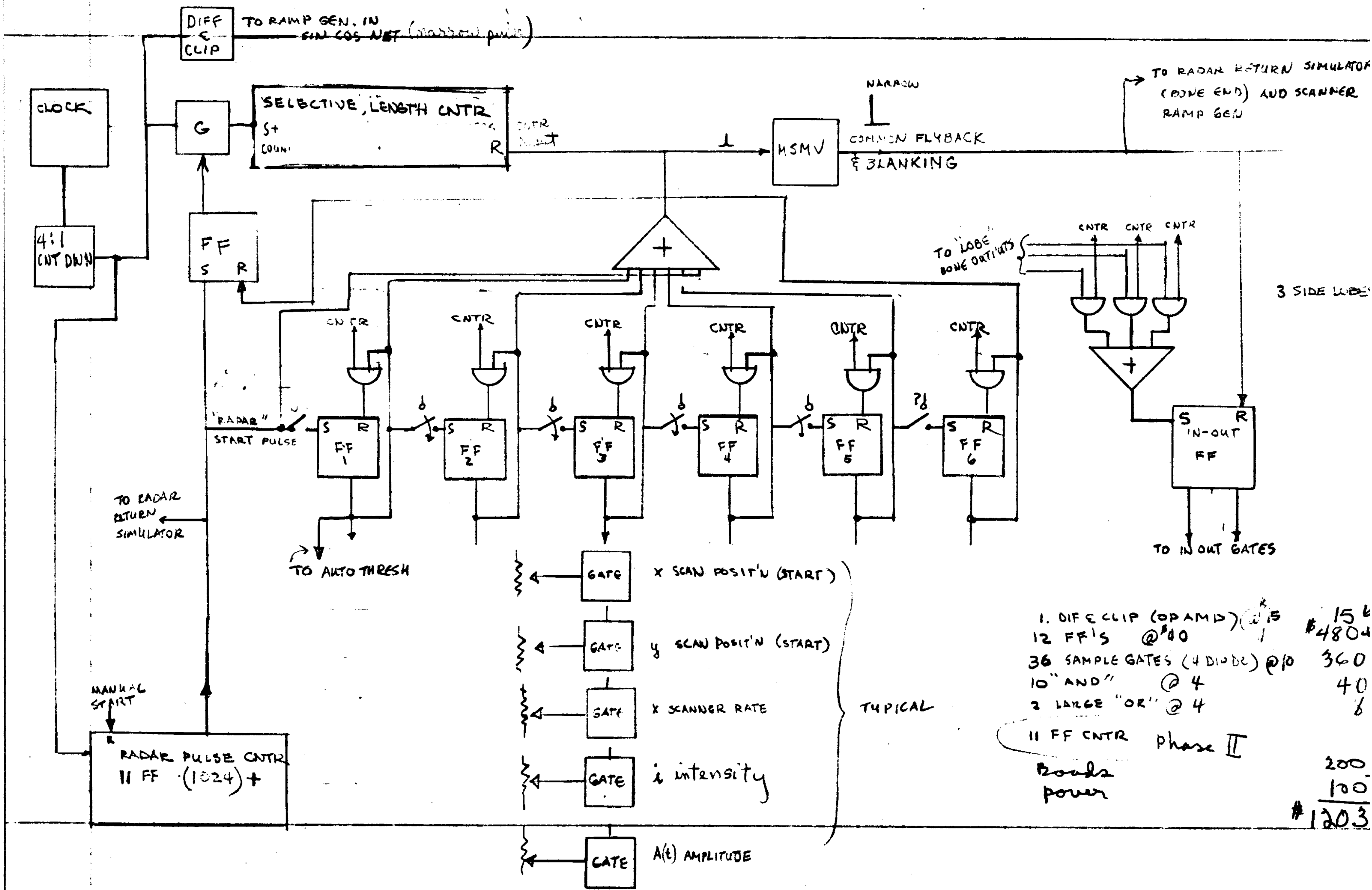




MOUTH CIRCUIT BLOCK DIAGRAM

PHASE I

LENGTH & SEQUENCE PROGRAMMING

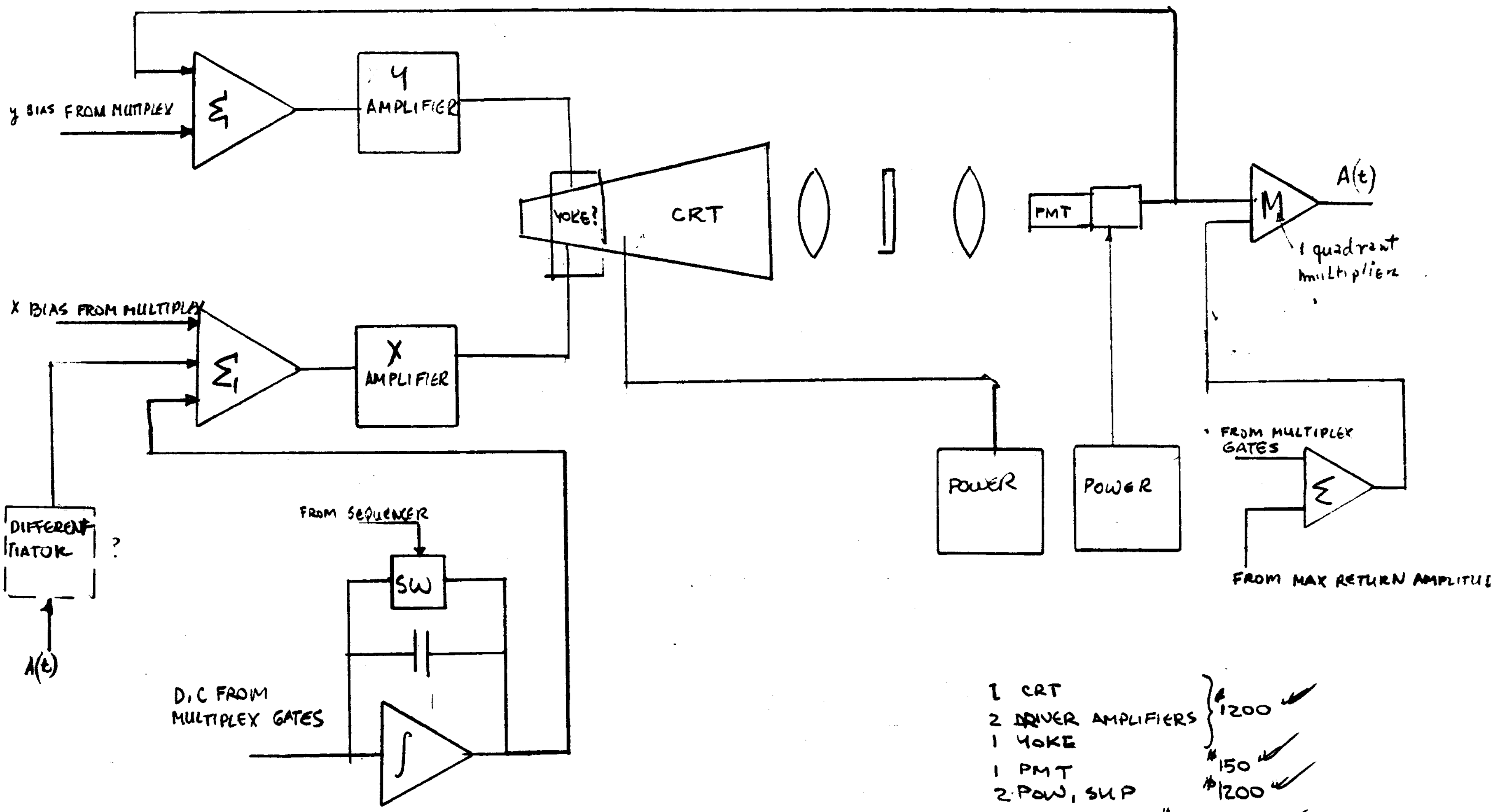


1. DIF & CLIP (OP AMP) @ 15 — 15
12 FF'S @ $40 — $480
36 SAMPLE GATES (4 DIODE) @ 10 — 360
10 "AND" @ 4 — 40
2 LARGE "OR" @ 4 — 8
11 FF CNTR — Phase II
Boards — 200
power — 100
$1203

PHASE I

12-11-66

EDGE TRACKER



1 CRT
2 ~~DRIVER~~ AMPLIFIERS
1 YOKE } $1200 ✓

1 PMT $150 ✓

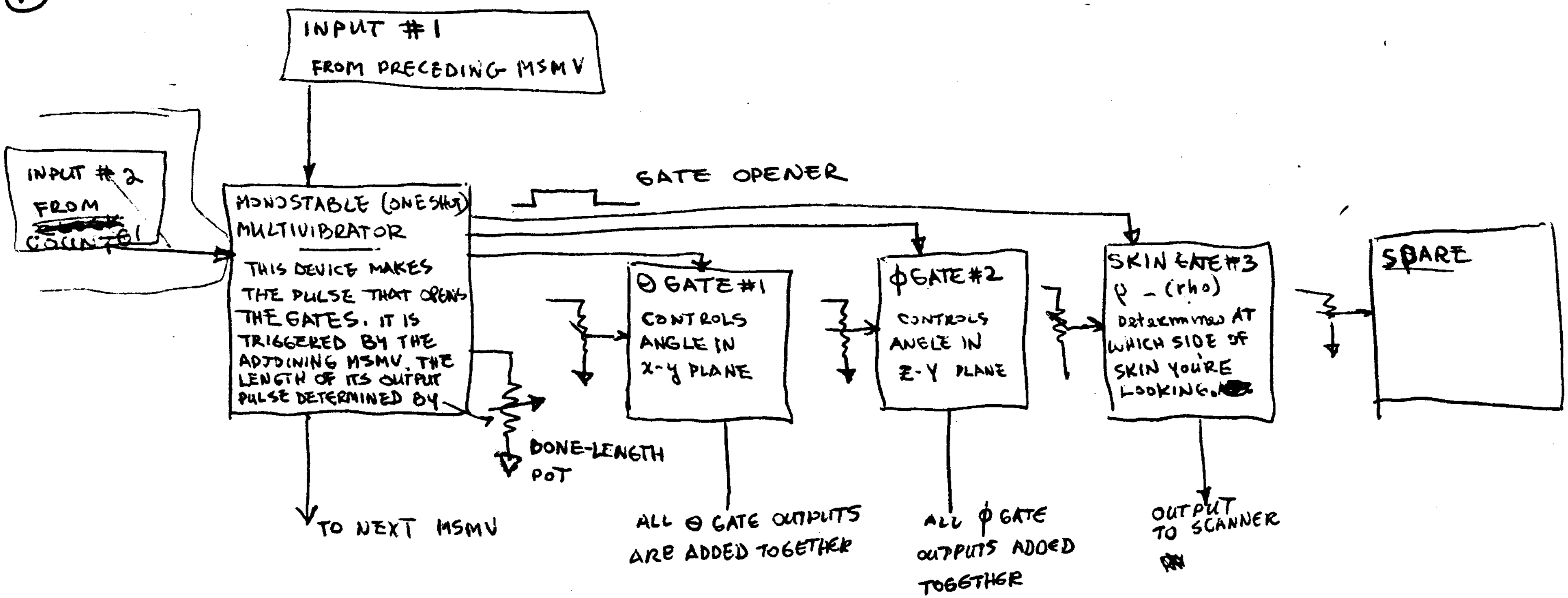
2 POW, SUP $1200 ✓

4 OP AMP @ $30 — 120 ✓

1 MULTIPLIER @ $400 ✓

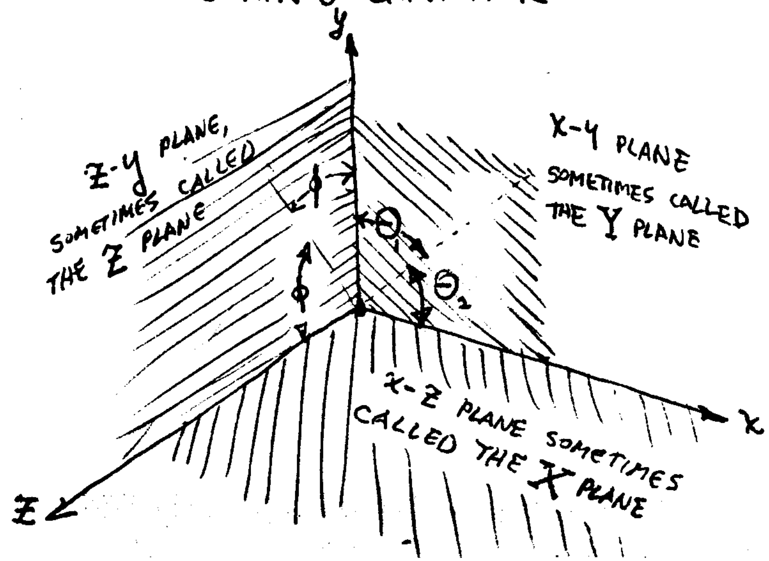
TOTAL $3070

(1)

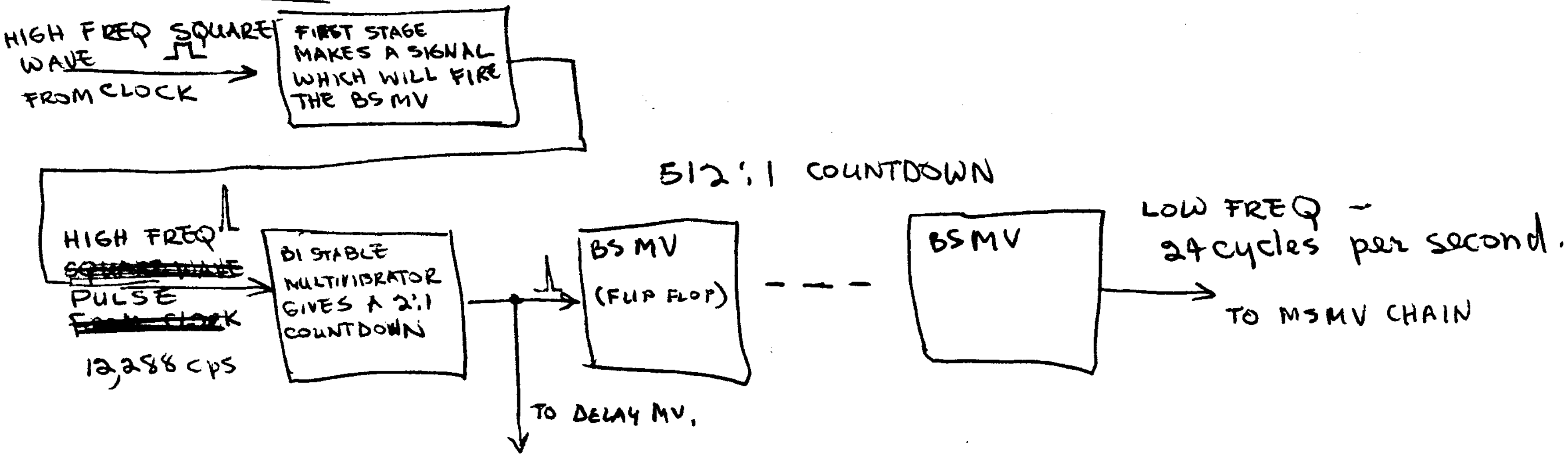


NOTES

1. THE 1st MSMV OF THE CHAIN IS FIRED BY THE COUNTER (LOW COUNT)
2. THE LAST MSMV SENDS PULSE TO SWITCH ACROSS INTEGRATING CAPACITOR WHICH SHORTS OUT CAPACITOR



2) COUNTER



NOTES

1. A COUNTER IS USED TO SYNCHRONIZE THE HIGH & LOW (24 cps) FREQUENCIES. (A HIGH FREQ. IS FED INTO THE MONOSTABLE MULTI-VIBRATORS WHICH OPERATE THE GATES. THE LENGTH OF TIME THAT A GATE IS HELD OPEN (BECAUSE OF THE MSMV) IS A DISCRETE LENGTH BECAUSE THE HIGH FREQ PULSES CAUSE A CAPACITOR IN THE MSMV TO BUILD UP LIKE A STEP, AND THERE WILL BE A PARTICULAR LEVEL AT WHICH THE MSMV WILL CLOSE A GATE, EVEN THOUGH THE BONE-LENGTH POT IS A CONTINUOUS (LINEAR) RESISTANCE POT) IN ORDER THAT THE CHAIN OF MSMV'S MENTIONED BELOW IS FIRED OFF AT A TIME EXACTLY CORRESPONDING TO ONE OF THE ~~SE~~ DISCRETE STEPS, WE COUNT DOWN IN A VERY EXACT & STABLE MANNER BY USING THE COUNTER.

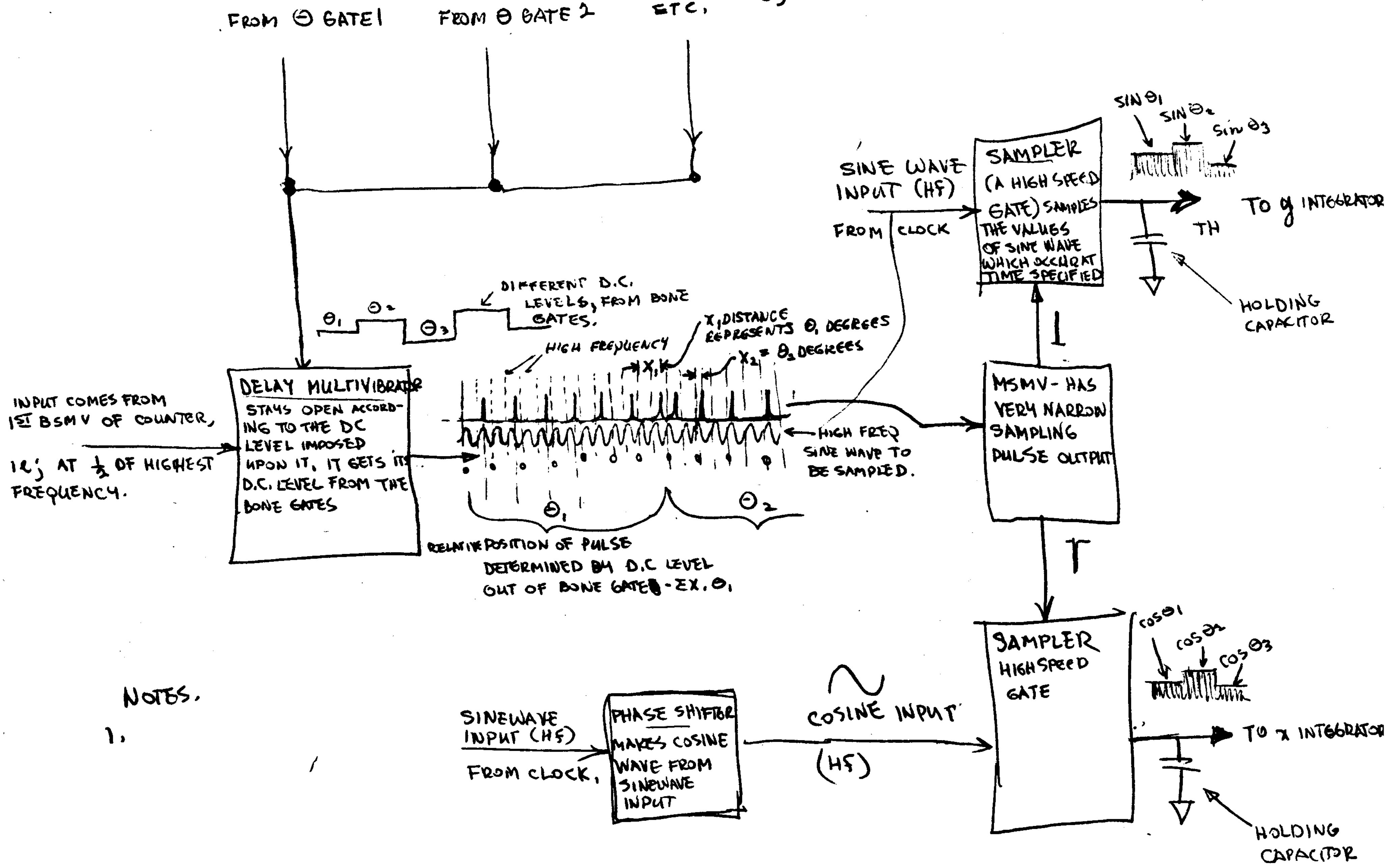
WE CHOOSE A LOW FREQ OF 24 cps BECAUSE THIS IS THE FRAME RATE OF STANDARD MOTION PICTURE PROJECTION, THUS, AN OPERATOR OF THE DEVICE IS WORKING IN "REAL TIME" WHEN HE IS ANIMATING, AND OUR ELECTRONIC FRAMES RECORDED ON TAPE CORRESPOND TO FILM FRAMES.

~~SYNC WITH SAMPLER: THE SAMPLER~~

THE SINE-COSINE GEN (3A) DIVIDES BONE LENGTHS INTO DISCRETE STEPS OR INCREMENTS. THE EXACT CUTOFF OR START TIME OF EACH BONE CORRESPONDS TO A HIGH FREQUENCY BEAT. THUS THE LOW FREQ, SYNCHRONIZED WITH THIS SAME BEAT, ELIMINATES BONE JITTER BY ELIMINATING MINUTE LENGTH CHANGES WHICH [illegible] THOUT SYNC.

(3)(a) SINE-COSINE GEN.

a) A SINE, COSINE FUNCTION GENERATOR and
b) AN INTEGRATOR

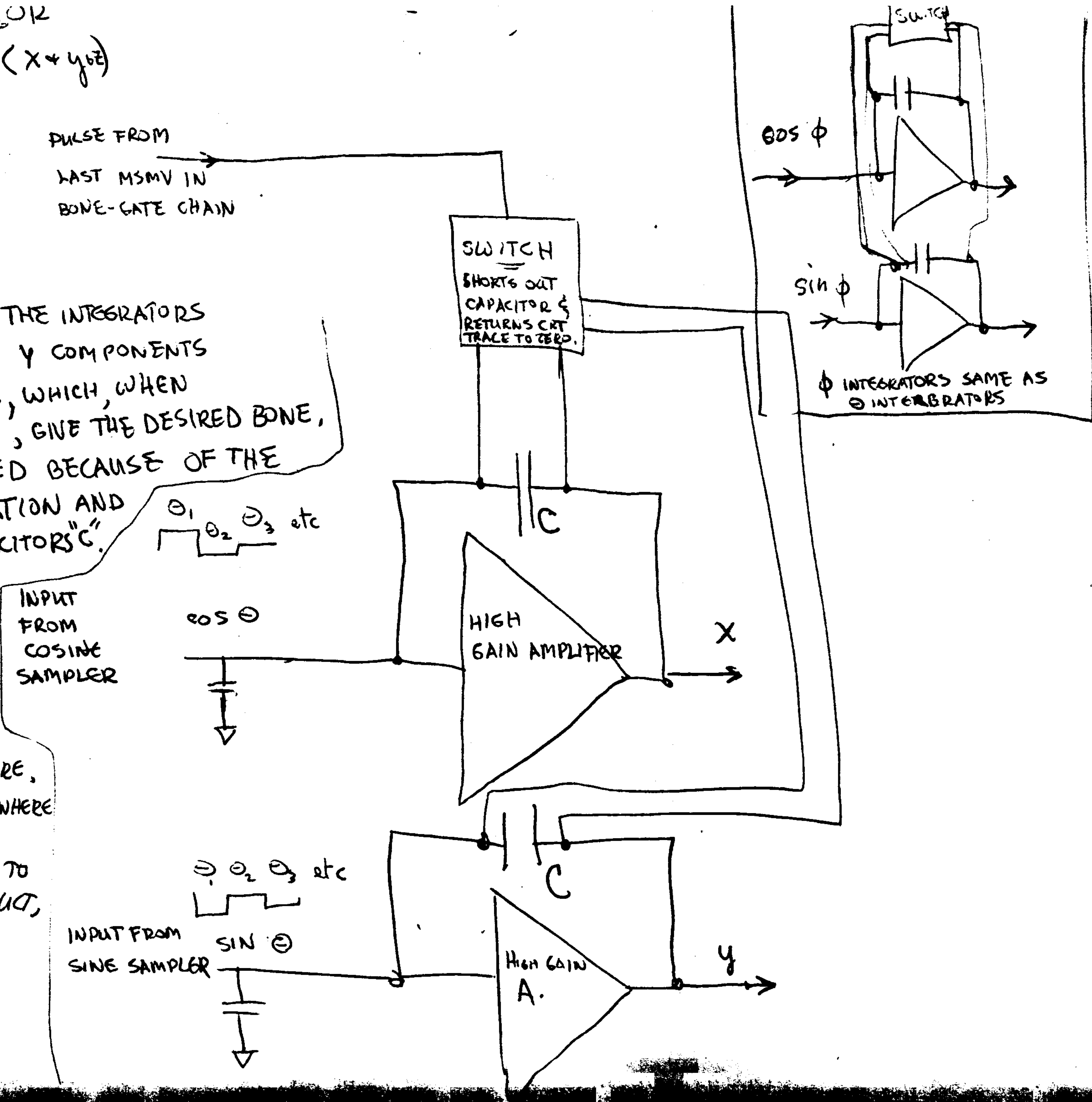


NOTES.

1.

36.) BONE GENERATOR

b. INTEGRATORS (X & Y OF)

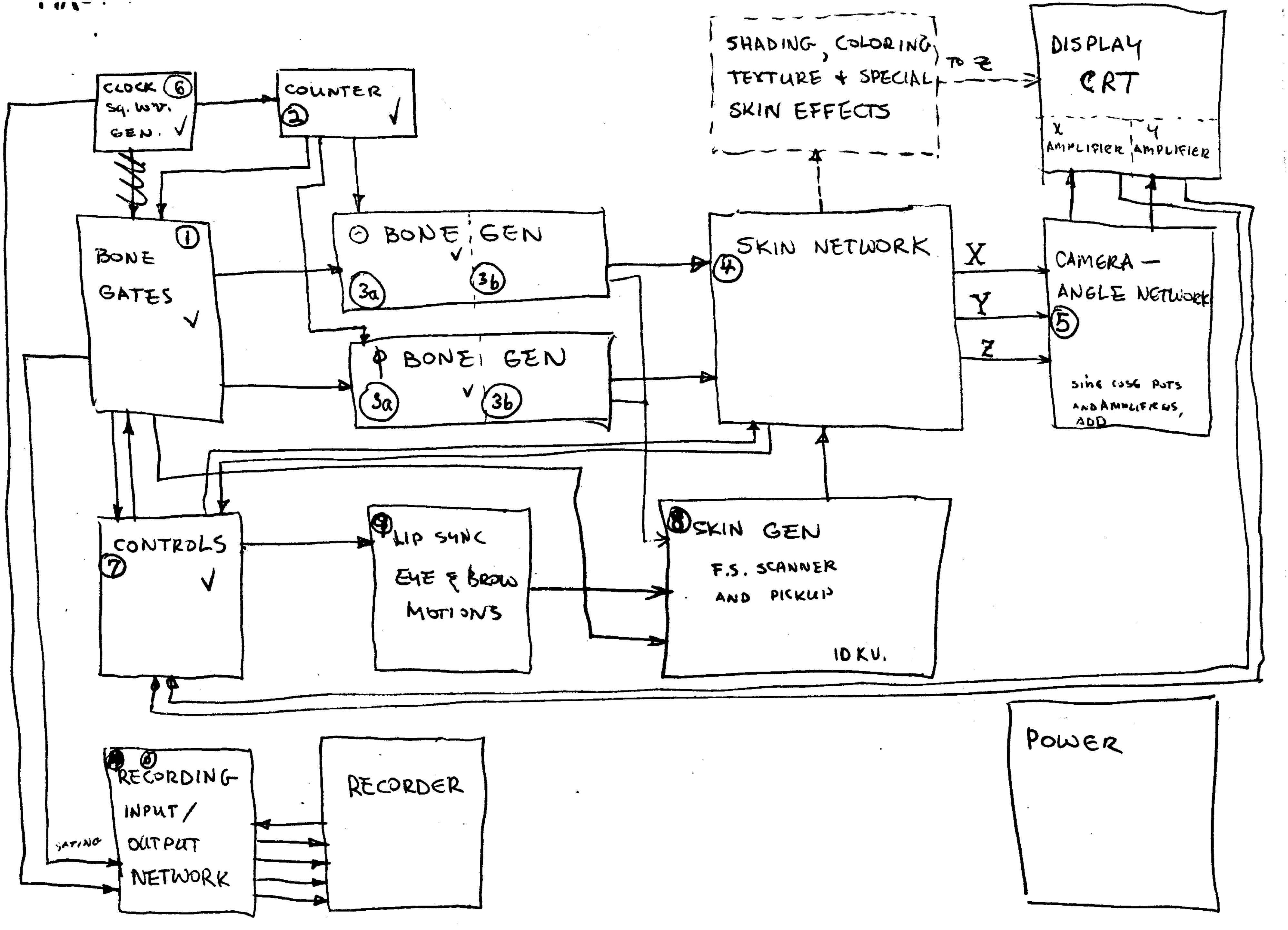


NOTES.

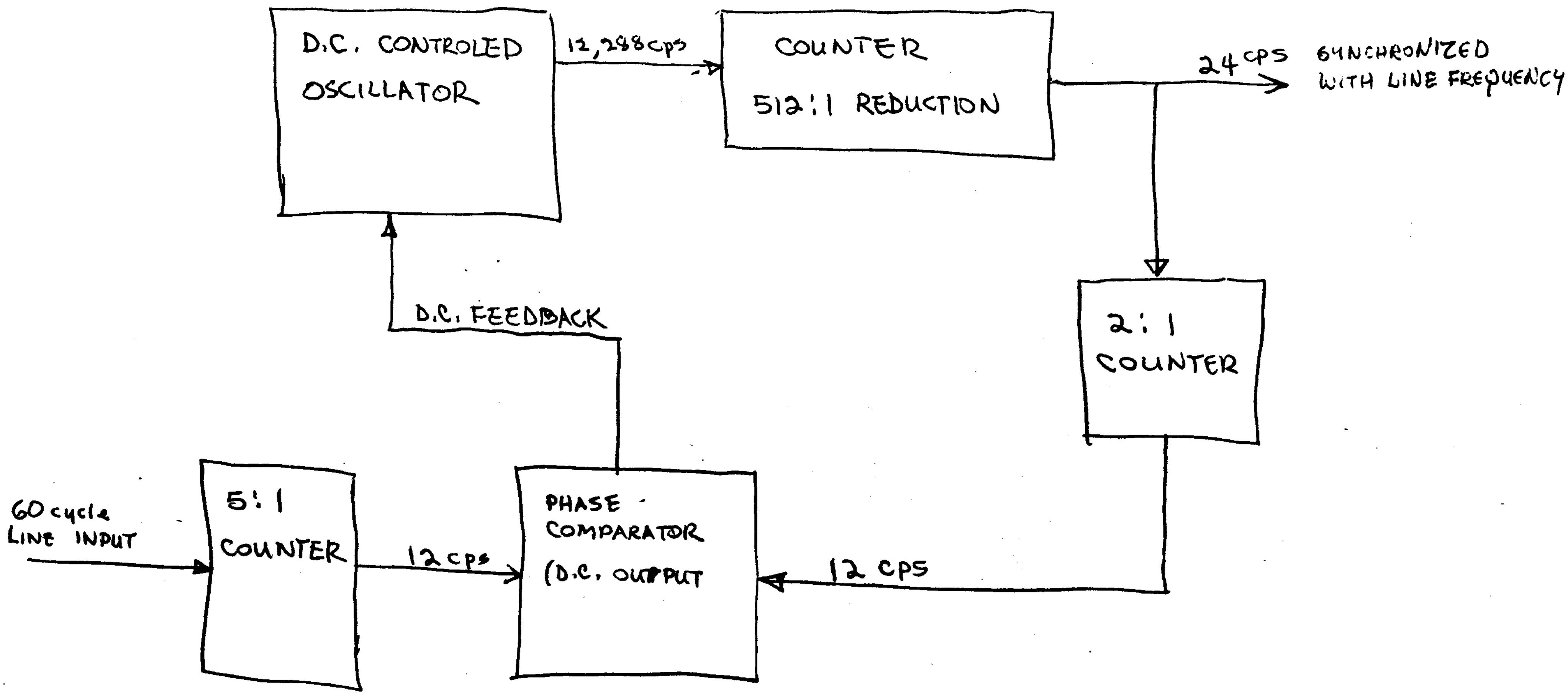
1. THE OUTPUT OF THE INTEGRATORS REPRESENT THE x AND y COMPONENTS OF THE BONE VECTORS, WHICH, WHEN COMBINED ON A SCOPE, GIVE THE DESIRED BONE,

2. BONES ARE CONNECTED BECAUSE OF THE CONTINUOUS INTEGRATION AND THE "MEMORY" OF CAPACITORS "C".

3. PARTS OF THE SKIN NETWORK ARE AN INTEGRAL PART OF THE INTEGRATORS OF THE BONE GEN. THOSE PARTS ARE NOT SHOW HERE, SEE THE "SKIN NETWORK" WHERE THE ANALYTIC GEOMETRICAL FORMULAS ARE FOLLOWED TO PRODUCE THE END PRODUCT,

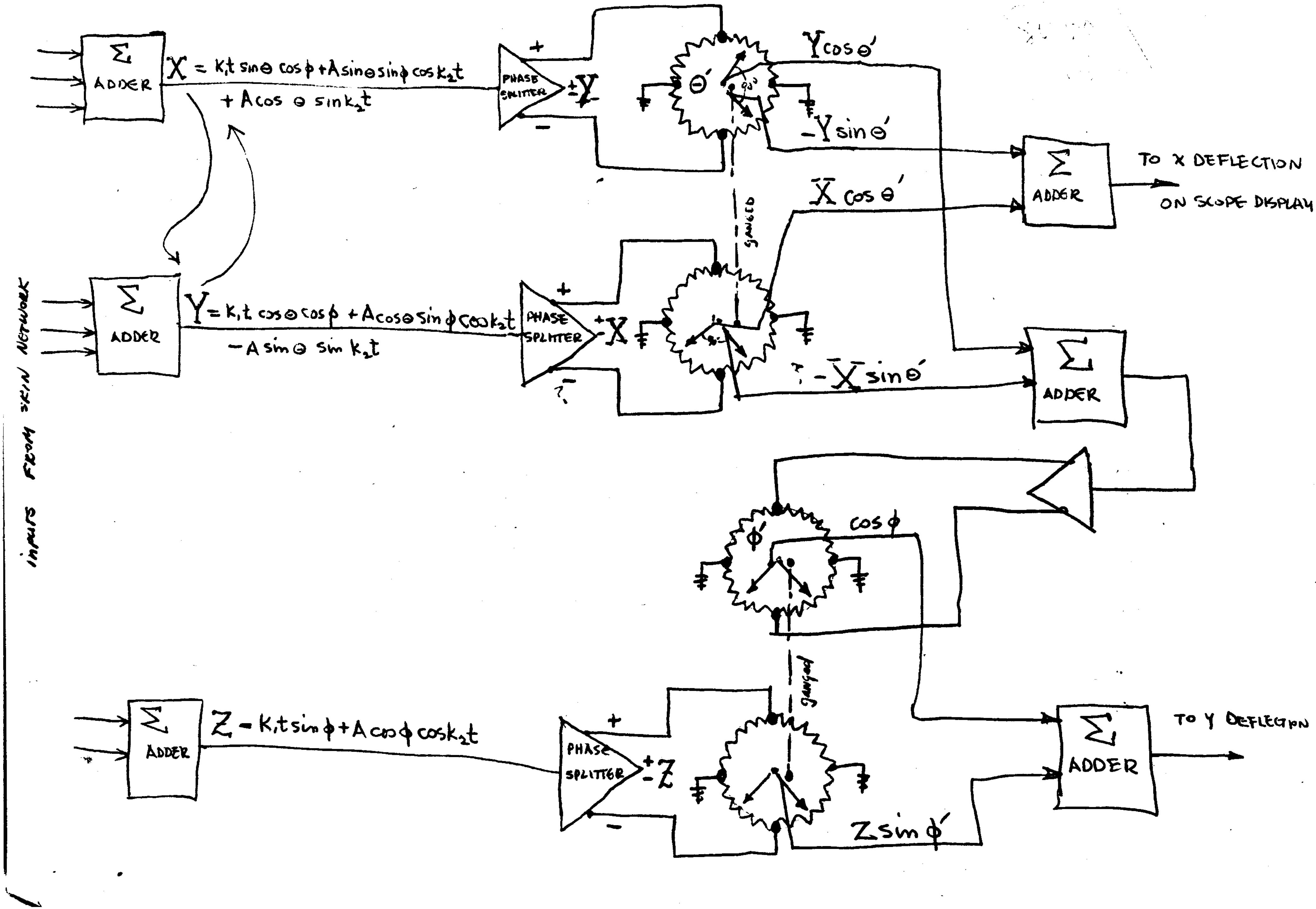

CLOCK 6
Sq. WV. GEN.
COUNTER 2
SHADING, COLORING TEXTURE & SPECIAL SKIN EFFECTS
TO Z
DISPLAY CRT
X AMPLIFIER
Y AMPLIFIER
BONE GATES 1
BONE GEN
3a
3b
BONE GEN
3a
3b
SKIN NETWORK 4
X
Y
Z
CAMERA-ANGLE NETWORK 5
CONTROLS 7
LIP SYNC EYE & BROW MOTIONS 9
SKIN GEN 8
F.S. SCANNER AND PICKUP
10 KV.
RECORDING INPUT/OUTPUT NETWORK
RECORDER
POWER

TIMING CONTROL (FOR 24 cps FRAME RATE)
(CLOCK)



CAMERA ANGLE NETWORK

THIS NETWORK ALLOWS FOR THE ROTATION OF THE AXIS OF PROJECTION, AND HAS THE EFFECT OF CHANGING THE OBSERVERS VIEWING ANGLE.

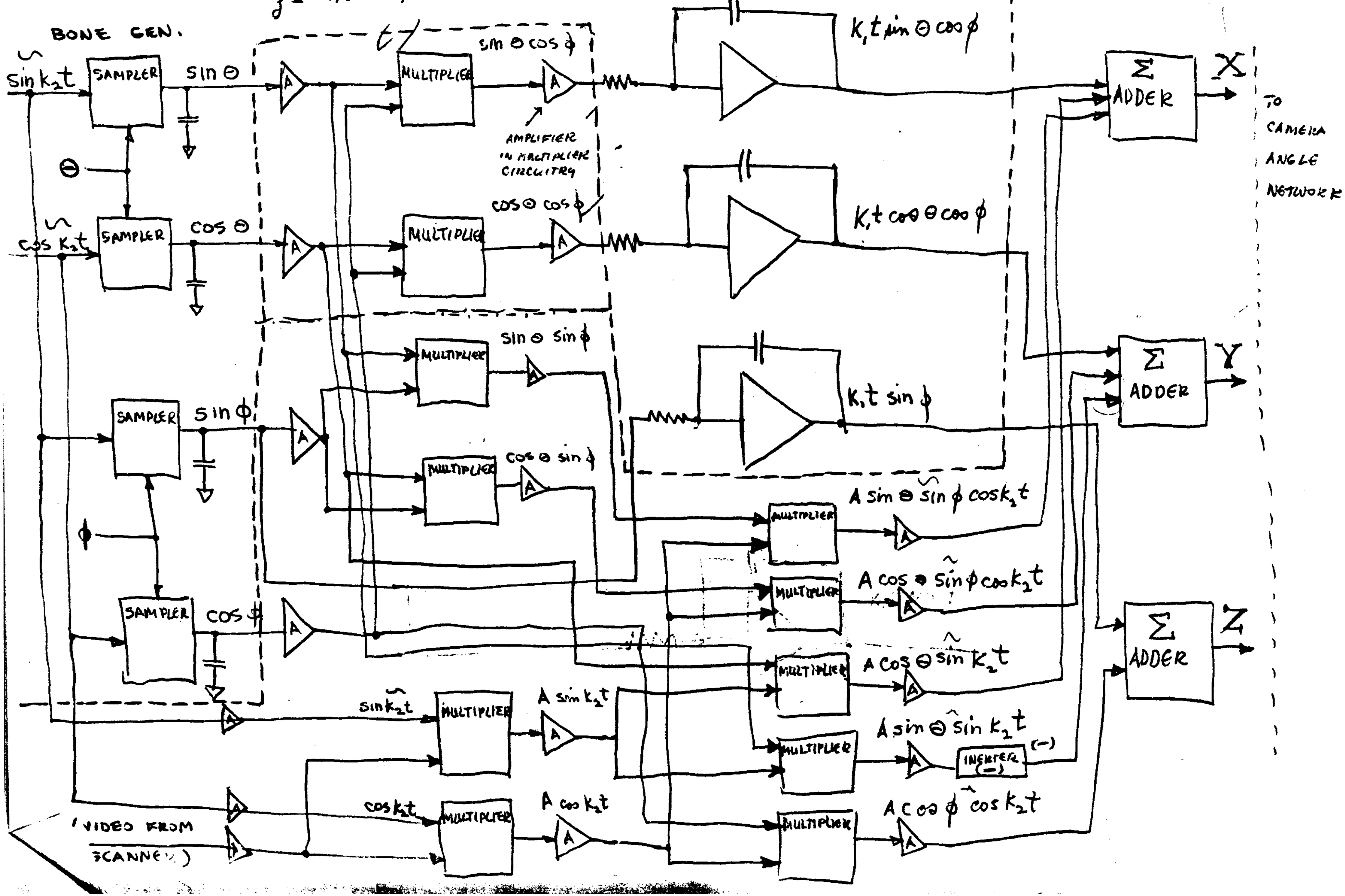


x, y, z, : time components of figure

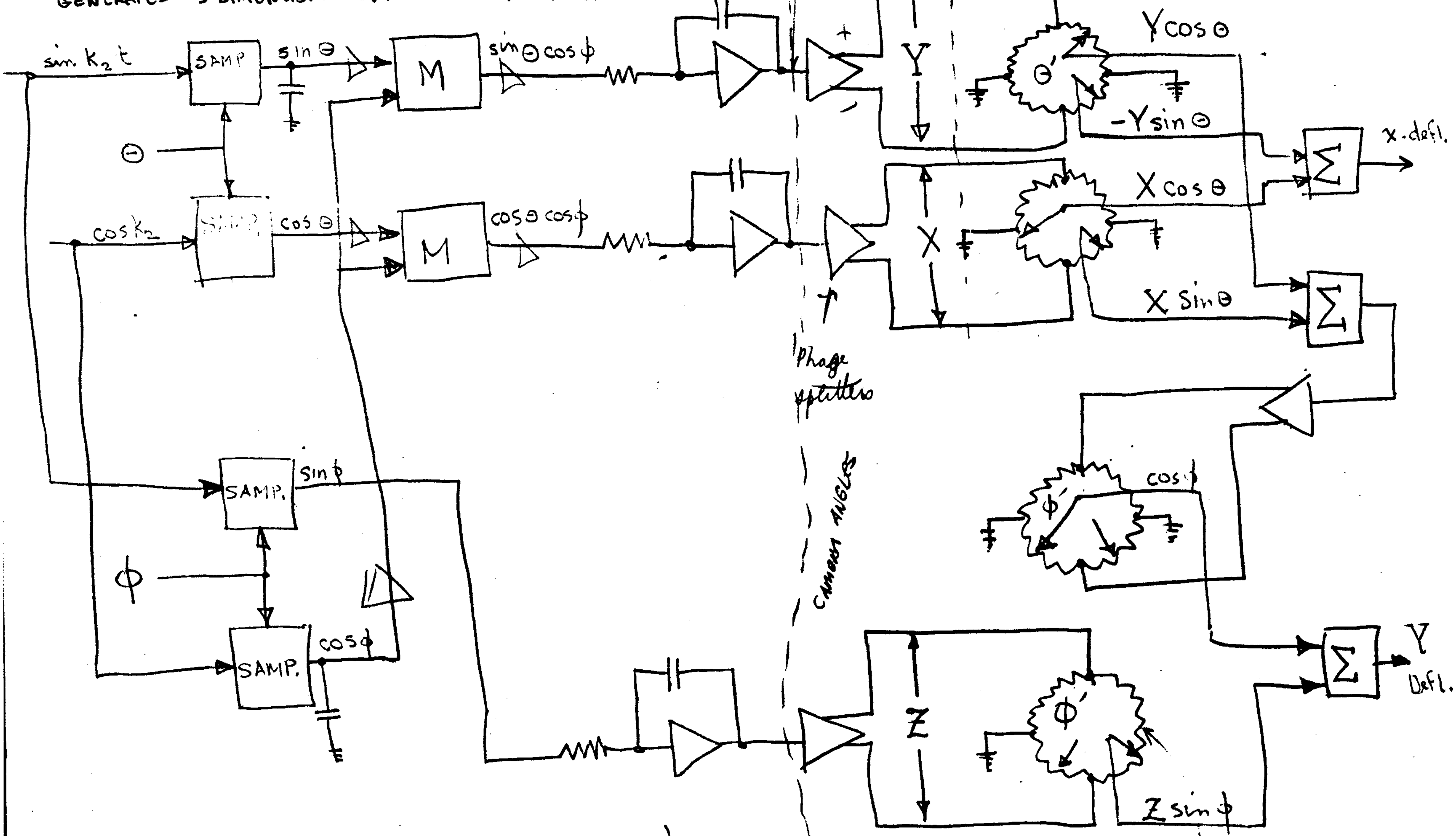
$$X = k_1 t \sin\theta \cos\phi + A \sin\theta \sin\phi \cos k_2 t + A \cos\theta \sin k_2 t$$

$$y = k_1 t \cos\theta \cos\phi + A \cos\theta \sin\phi \cos k_2 t - A \sin\theta \sin k_2 t$$

$$z = k_1 t \sin\phi + A \cos\phi \cos k_2 t$$



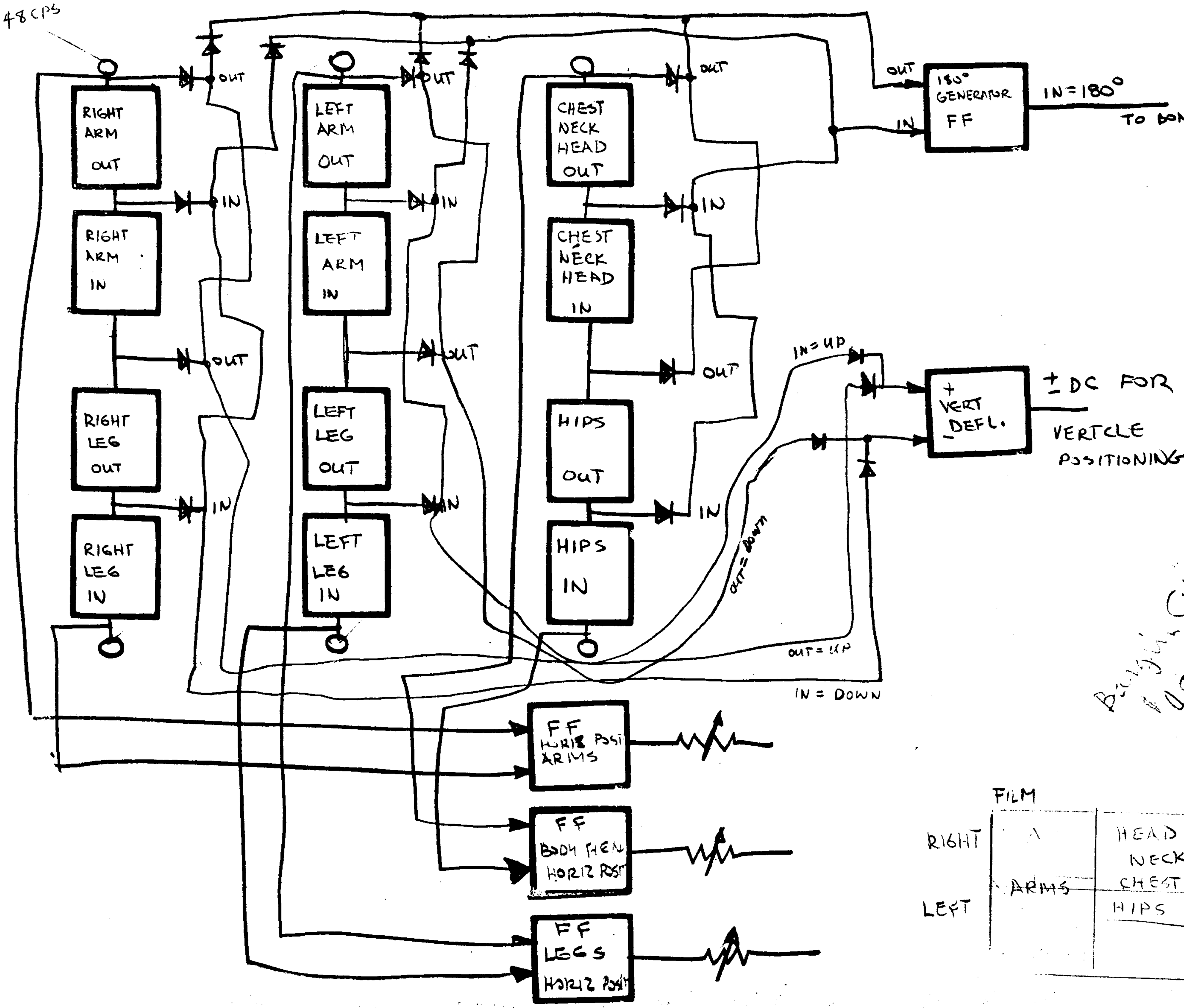
GENERATES 3-DIMENSIONAL EFFECT OF BONES IN SPACE



PUT AMPLIFIERS ON INPUT & OUTPUT OF ALL MULTIPLIERS

"ELECTRONIC" ~~BE~~ STICK M'N.

[redacted]



Bargain City
$49.77
1 to 2 weeks

	FILM		
RIGHT	ARMS	HEAD NECK CHEST HIPS	LEGS
LEFT			