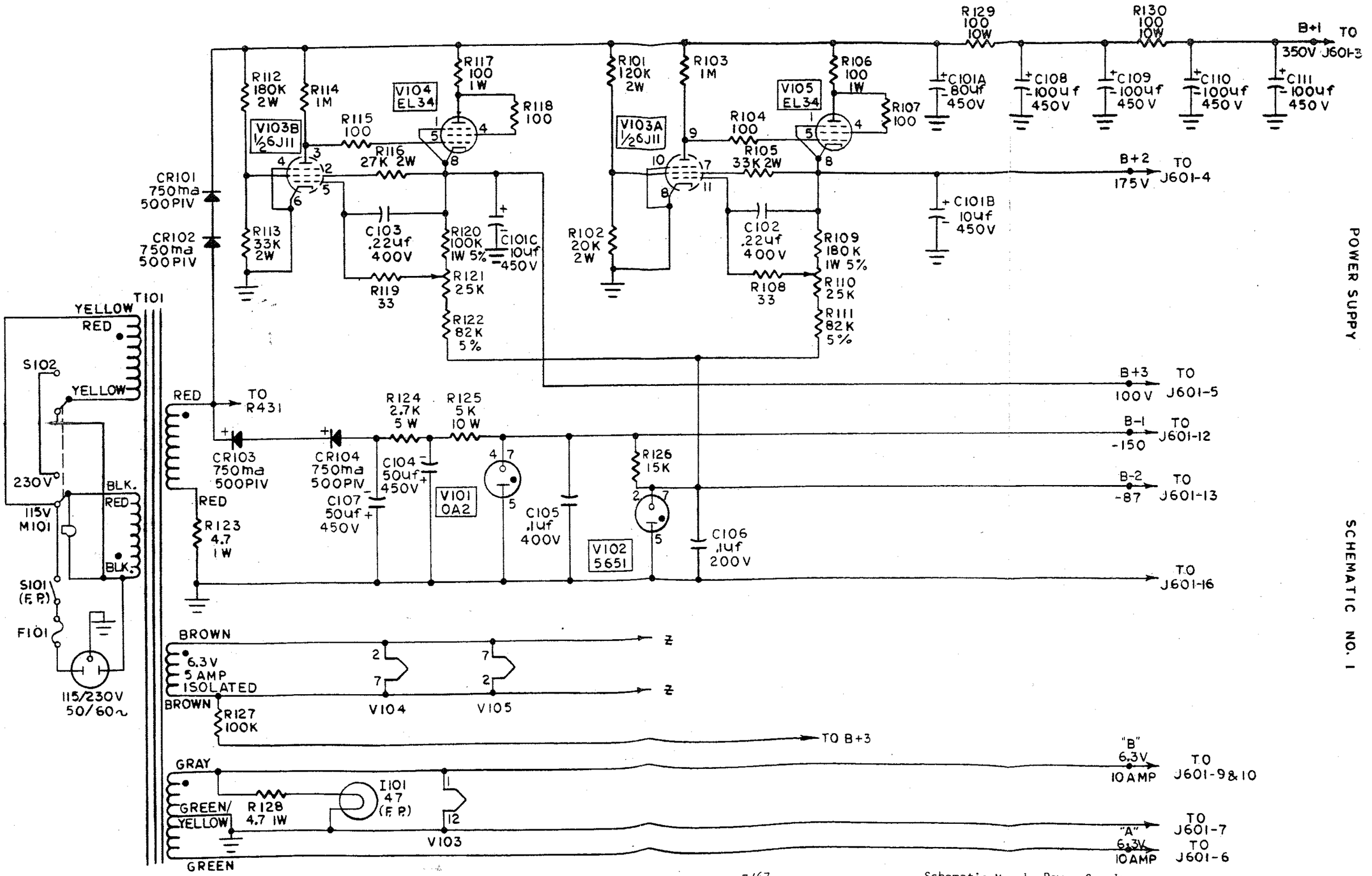
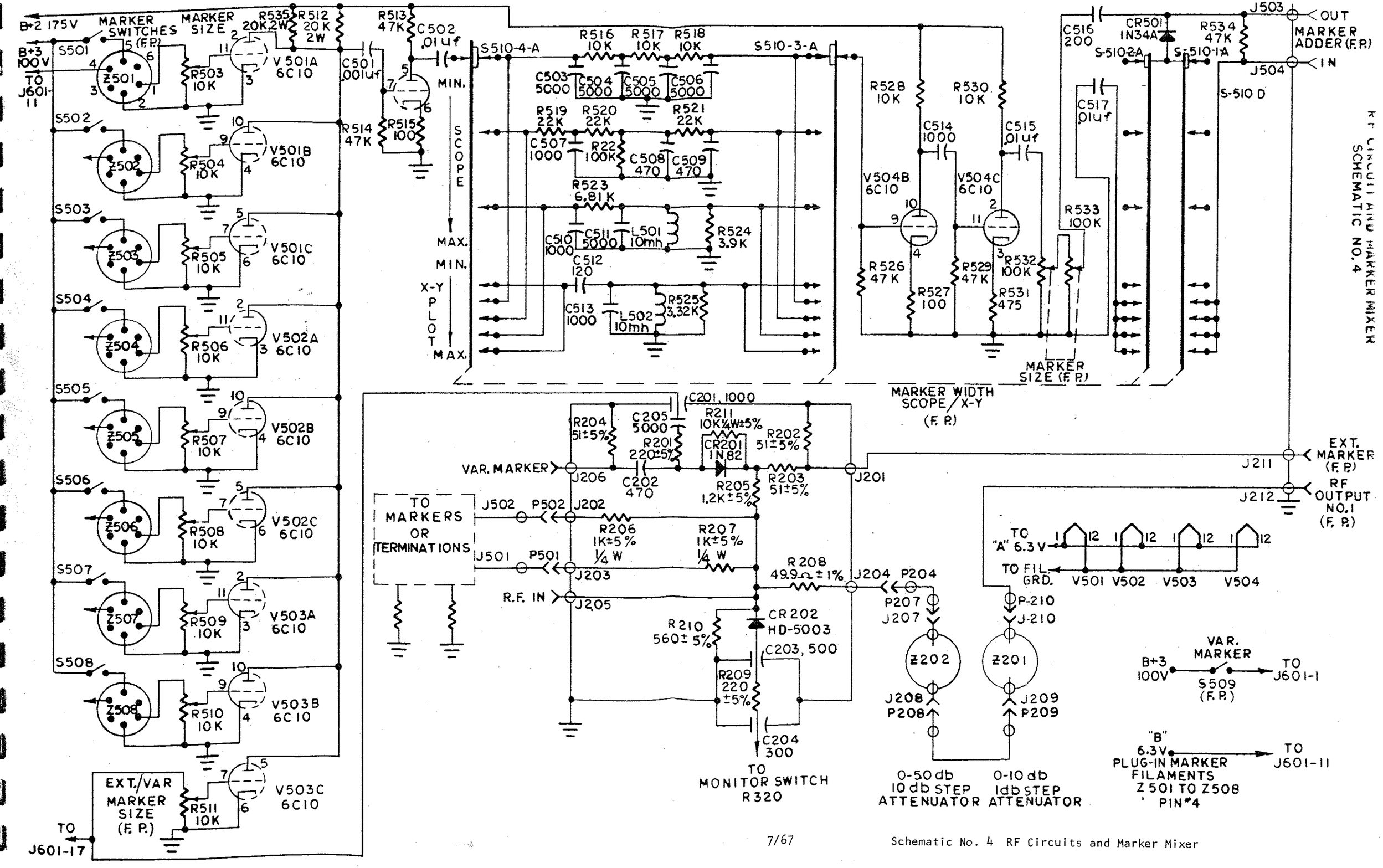
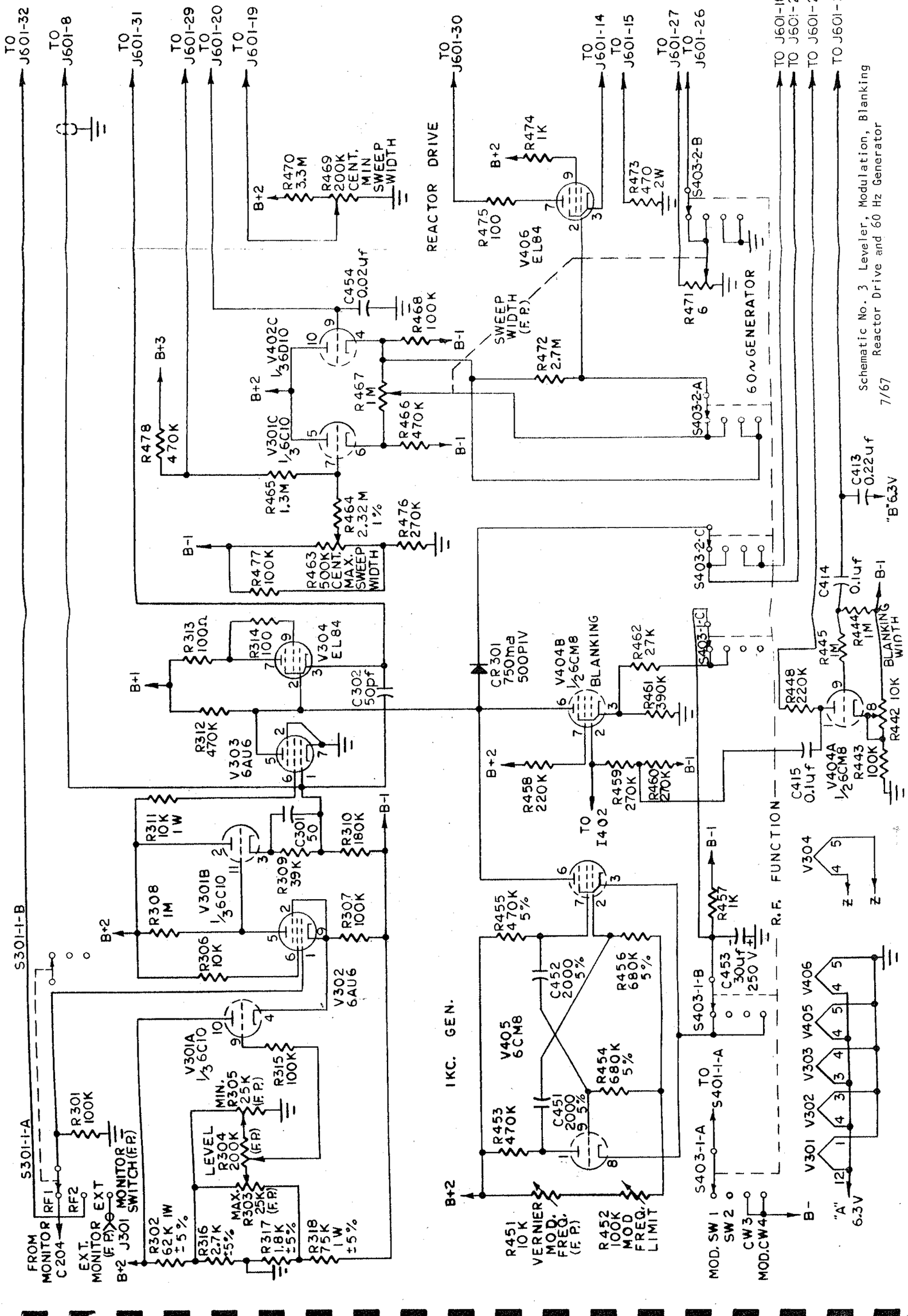
SYMPTOM	CHECK (ON J601)	IF RESULT IS	TROUBLE PROBABLY IN PLUG-IN	TROUBLE PROBABLY IN SM-2000
Weak or no output or unleveled output	DC voltage at Pin 31 with RF LEVEL fully clockwise	High (see values in oscillator manual)	X	
		Low or zero		X
		NOTE: Trouble probably in plug-in if output not level with "LA" series.		
RF 2 output not leveled ("E" Models only)	RF 1 output	Leveled RF 1 output	X	
		RF 1 output not level		X
No sweep width	With "L" Models: 1. Voltage across R473	Sawtooth or triangular waveform	X	
		OV or DC voltage	Inconclusive. See check #2	
	2. Resistance between Pins 14 and 15, 28 and 29, 30 and 4.	Open on any check	X	
		Continuity		X
	With "E" and "S" Models: Resistance between Pins 27 and 9, 26 and 27, 26 and ground.	Open between		
		27 and 9	X	
		26 and 27		X
		26 and ground	X	
Changing sweep width changes center frequency	With "L" Models: Resistance between Pins 29 and 5, 28 and 5, 29 and ground.	Open on any check	X	
		Continuity		X
	With "E" and "S" Models, the frequency range above and below the dial setting normally will be unequal except at narrow sweep widths. With oscillators which are current-tuned, a change in center frequency with a change in sweep width is normal.			
No variable marker (Plug-in marker present)	1. For birdy at Pin 17	Birdy present		X
		No birdy	Inconclusive. See check #2	
	2. DC voltage at Pin 1	100 V	X	
		Low or no voltage		X

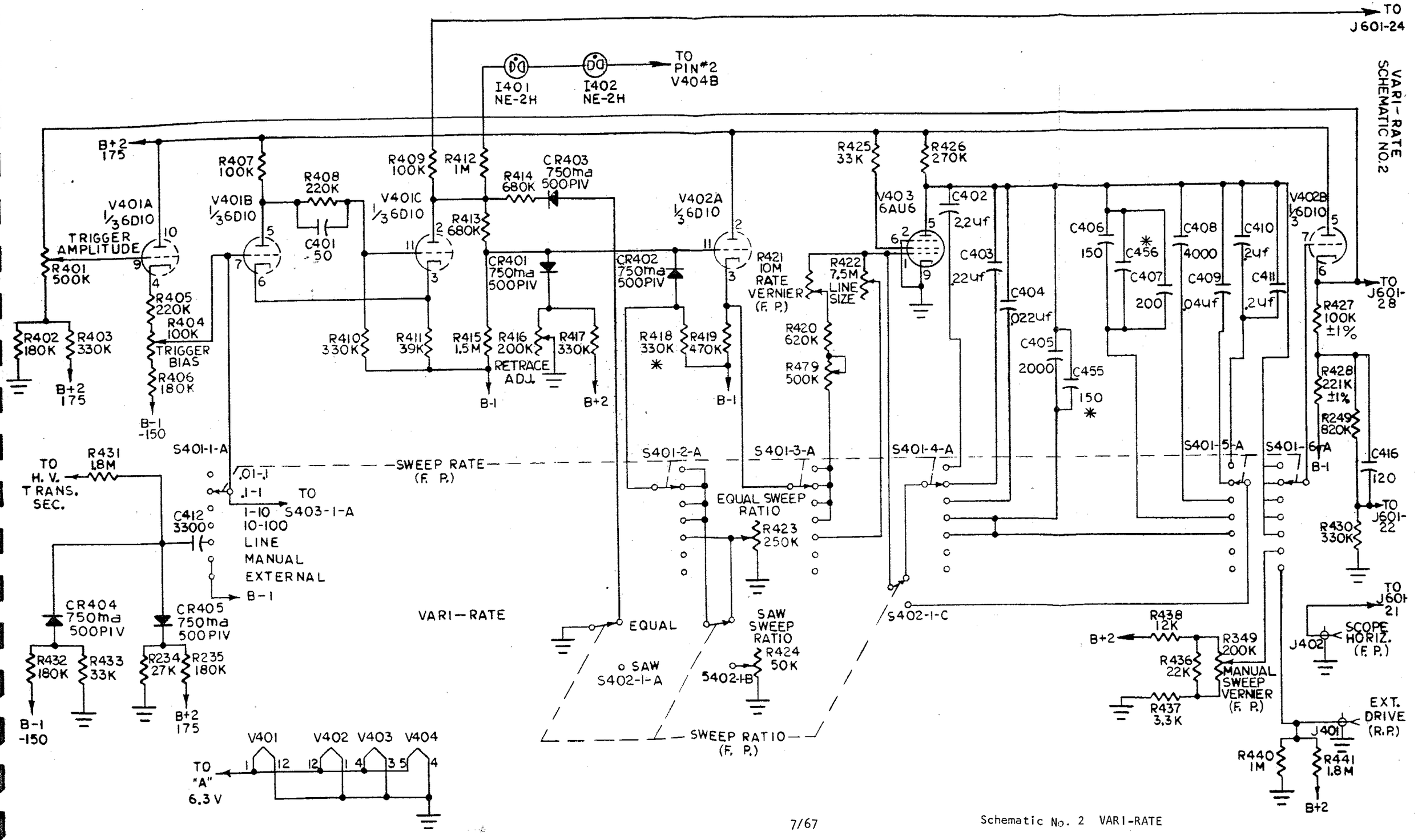

POWER SUPPLY
SCHEMATIC NO. 1
T101
S102
S101 (F.P.)
F101
M101
115V
230V
115/230V 50/60~
YELLOW
RED
BLK.
BROWN
GRAY
GREEN/YELLOW
GREEN
6.3V 5 AMP ISOLATED
CR101 750ma 500PIV
CR102 750ma 500PIV
CR103 750ma 500PIV
CR104 750ma 500PIV
R112 180K 2W
R113 33K 2W
R114 1M
R115 100
R116 27K 2W
R117 100 1W
R118 100
R119 33
R120 100K 1W 5%
R121 25K
R122 82K 5%
R123 4.7 1W
R124 2.7K 5W
R125 5K 10W
R126 15K
R127 100K
R128 4.7 1W
R101 120K 2W
R102 20K 2W
R103 1M
R104 100
R105 33K 2W
R106 100 1W
R107 100
R108 33
R109 180K 1W 5%
R110 25K
R111 82K 5%
R129 100 10W
R130 100 10W
C101A 80uf 450V
C101B 10uf 450V
C101C 10uf 450V
C102 .22uf 400V
C103 .22uf 400V
C104 50uf 450V
C105 .1uf 400V
C106 .1uf 200V
C107 50uf 450V
C108 100uf 450V
C109 100uf 450V
C110 100uf 450V
C111 100uf 450V
V103B 1/2 6JJ1
V103A 1/2 6JJ1
V104 EL34
V105 EL34
V101 0A2
V102 5651
I101 47 (F.P.)
V103
V104
V105
B+1 TO 350V J601-3
B+2 175V TO J601-4
B+3 100V TO J601-5
B-1 -150 TO J601-12
B-2 -87 TO J601-13
TO J601-16
TO B+3
"B" 6.3V 10AMP TO J601-9&10
"A" 6.3V 10AMP TO J601-7
TO J601-6
TO R431


B+2 175V
MARKER SWITCHES
MARKER SIZE
B+3 100V
TO J601-11
S501
S502
S503
S504
S505
S506
S507
S508
Z501
Z502
Z503
Z504
Z505
Z506
Z507
Z508
R503 10K
R504 10K
R505 10K
R506 10K
R507 10K
R508 10K
R509 10K
R510 10K
R511 10K
R535 20K 2W
R512 20K 2W
R513 47K
R514 47K
R515 100
C501 .001uf
C502 .01uf
V501A 6C10
V501B 6C10
V501C 6C10
V502A 6C10
V502B 6C10
V502C 6C10
V503A 6C10
V503B 6C10
V503C 6C10
EXT./VAR MARKER SIZE (F.P.)
TO J601-17
SCOPE
MAX.
MIN.
X-Y PLOT
MAX.
S510-4-A
S510-3-A
R516 10K
R517 10K
R518 10K
C503 5000
C504 5000
C505 5000
C506 5000
R519 22K
R520 22K
R521 22K
C507 1000
R22 100K
C508 470
C509 470
R523 6.81K
C510 1000
C511 5000
L501 10mh
R524 3.9K
C512 120
C513 1000
L502 10mh
R525 3.32K
R528 10K
R530 10K
C514 1000
C515 .01uf
V504B 6C10
V504C 6C10
R526 47K
R527 100
R529 47K
R531 475
R532 100K
R533 100K
C516 200
C517 .01uf
CR501 1N34A
R534 47K
J503
OUT MARKER ADDER (F.P.)
J504
IN
S-510-2A
S-510-1A
S-510 D
MARKER SIZE (F.P.)
MARKER WIDTH SCOPE/X-Y (F.P.)
RF CIRCUITS AND MARKER MIXER SCHEMATIC NO. 4
C201, 1000
R204 51±5%
C205 5000
R211 10K¼W±5%
CR201 1N82
R202 51±5%
R201 220±5%
C202 470
R205 1.2K±5%
R203 51±5%
VAR. MARKER
J206
J201
J211
EXT. MARKER (F.P.)
J212
RF OUTPUT NO.1 (F.P.)
TO MARKERS OR TERMINATIONS
J502
P502
J202
J501
P501
J203
R.F. IN
J205
R206 1K±5% ¼W
R207 1K±5% ¼W
R208 49.9Ω±1%
J204
P204
P207
J207
Z202
Z201
J208
P208
J209
P209
P-210
J-210
R210 560±5%
CR202 HD-5003
C203, 500
R209 220 ±5%
C204 300
TO MONITOR SWITCH R320
0-50 db 10 db STEP ATTENUATOR
0-10 db 1db STEP ATTENUATOR
TO "A" 6.3V
TO FIL.
GRD.
V501
V502
V503
V504
VAR. MARKER
B+3 100V
S509 (F.P.)
TO J601-1
"B" 6.3V PLUG-IN MARKER FILAMENTS Z501 TO Z508 PIN #4
TO J601-11

LEVELER, MODULATION, BLANKING, REACTOR DRIVE AND 60 ~ GENERATOR

SCHEMATIC NO. 3




VARI-RATE SCHEMATIC NO.2
TO J601-24
TO PIN #2 V404B
I401 NE-2H
I402 NE-2H
B+2 175
V401A 1/3 6D10
V401B 1/3 6D10
V401C 1/3 6D10
V402A 1/3 6D10
V403 6AU6
V402B 1/3 6D10
TRIGGER AMPLITUDE
R401 500K
R402 180K
R403 330K
R404 100K
TRIGGER BIAS
R405 220K
R406 180K
B-1 -150
R407 100K
R408 220K
C401 50
R409 100K
R410 330K
R411 39K
R412 1M
R413 680K
R414 680K
R415 1.5M
R416 200K
RETRACE ADJ.
R417 330K
CR401 750ma 500PIV
CR402 750ma 500PIV
CR403 750ma 500PIV
R418 330K
R419 470K
R420 620K
R421 10M RATE VERNIER (F. P.)
R422 7.5M LINE SIZE
R425 33K
R426 270K
R427 100K ±1%
R428 221K ±1%
R249 820K
R430 330K
C402 .22uf
C403 .22uf
C404 .022uf
C405 2000
C406 150
C407 200
C408 4000
C409 .04uf
C410 .2uf
C411 .2uf
C455 150
C456
C416 120
R479 500K
S401-1-A
S401-2-A
S401-3-A
S401-4-A
S401-5-A
S401-6-A
SWEEP RATE (F. P.)
.01-.1
.1-1
1-10
10-100
LINE
MANUAL
EXTERNAL
TO S403-1-A
TO H. V. TRANS. SEC.
R431 1.8M
C412 3300
CR404 750ma 500PIV
CR405 750ma 500PIV
R432 180K
R433 33K
R234 27K
R235 180K
B+2 175
B-1 -150
EQUAL SWEEP RATIO
R423 250K
VARI-RATE
EQUAL
SAW SWEEP RATIO
R424 50K
o SAW S402-1-A
S402-1-B
S402-1-C
SWEEP RATIO (F. P.)
R438 12K
R349 200K
R436 22K
R437 3.3K
MANUAL SWEEP VERNIER (F. P.)
J402
SCOPE HORIZ. (F. P.)
J401
EXT. DRIVE (R.P.)
R440 1M
R441 1.8M
TO J601-28
TO J601-22
TO J601-21
V401 V402 V403 V404
TO "A" 6.3 V