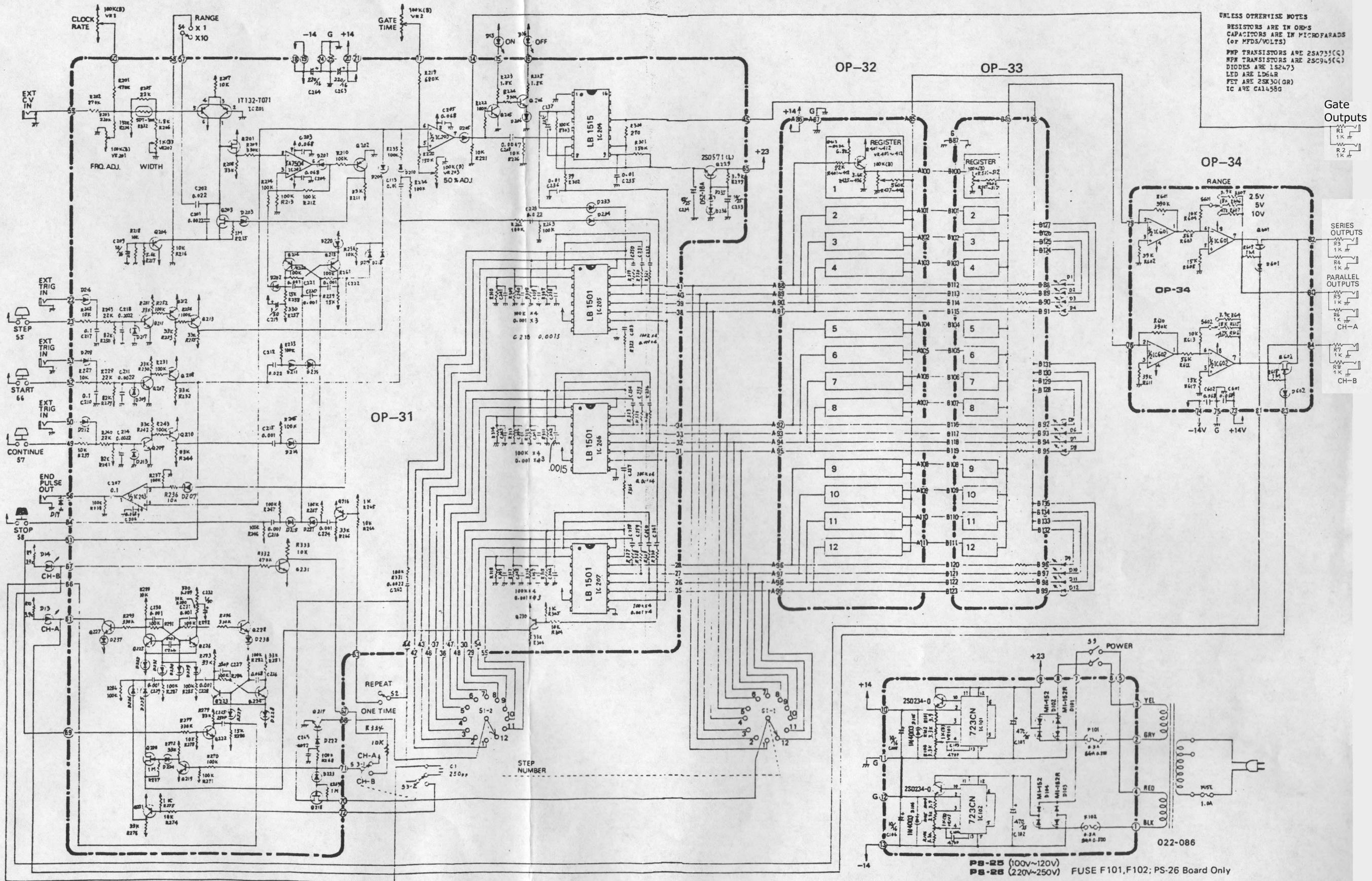
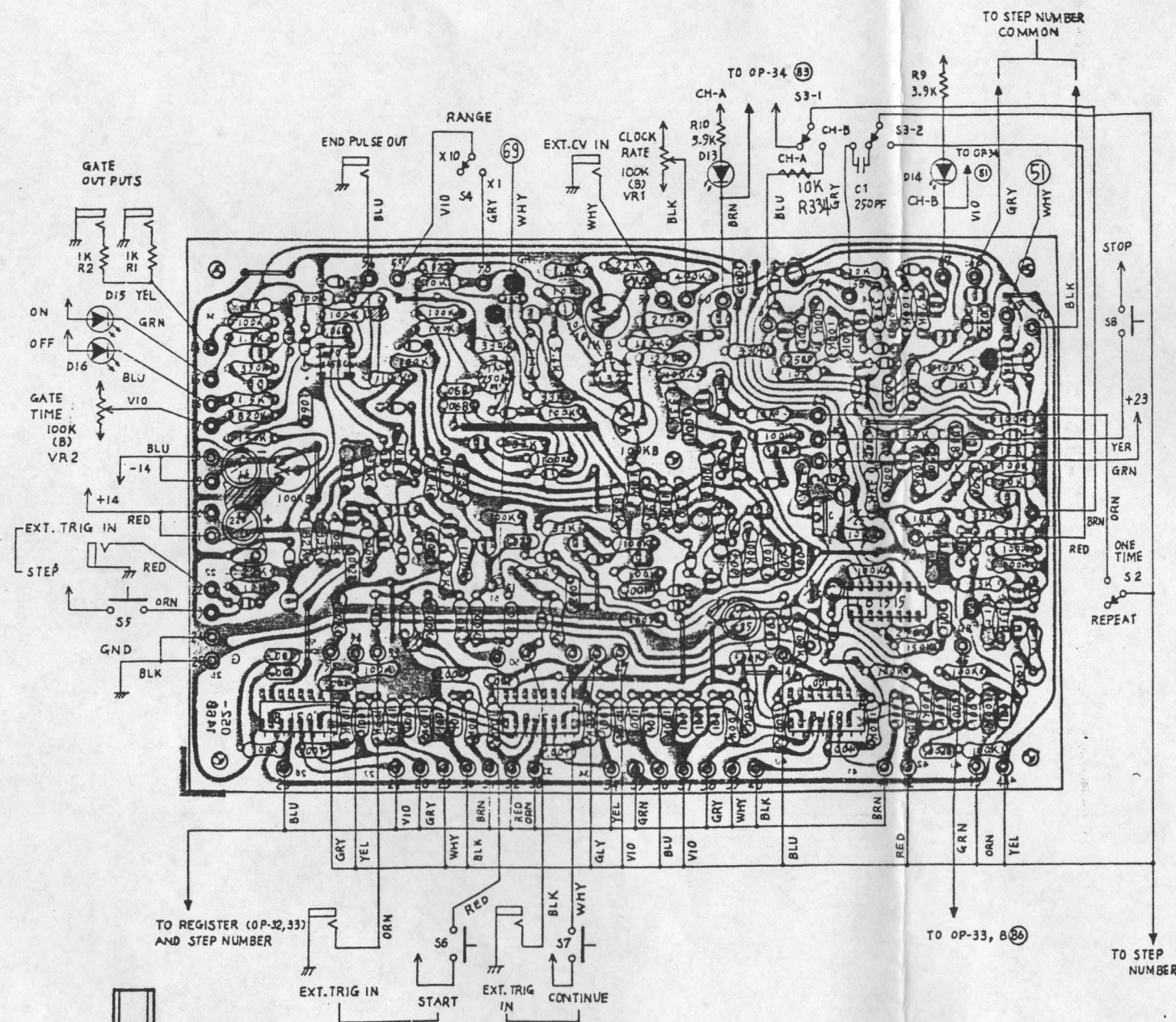


GENERAL CIRCUIT DIAGRAM



SEQUENCE BOARD ASSEMBLY OP-31 (149-031)

(Serial No.560950 and higher)



Front view



2SK30A (GR, Y)

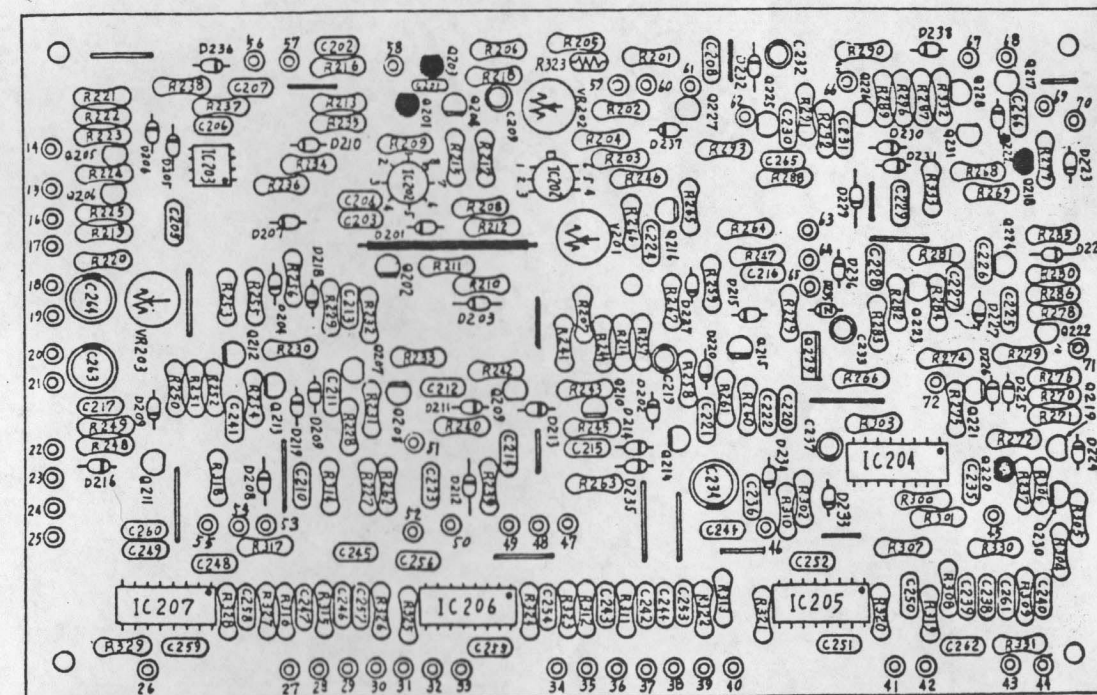


2SD414 (Q)
2SD571 (L)

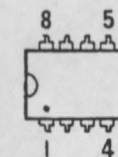


2SC945 (Q)
2SA733 (Q)

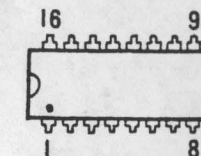
- | | |
|-----------------|-------------|
| ○ 2SA733(Q) | ○ IS-2473 |
| ○ 2SC945(Q) | ○ 05Z-16A |
| ● 2SK30A(GR, Y) | ▬ 2SD571(L) |



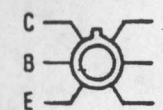
Top view



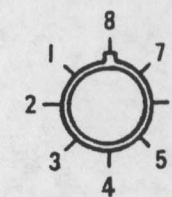
JPC1458C



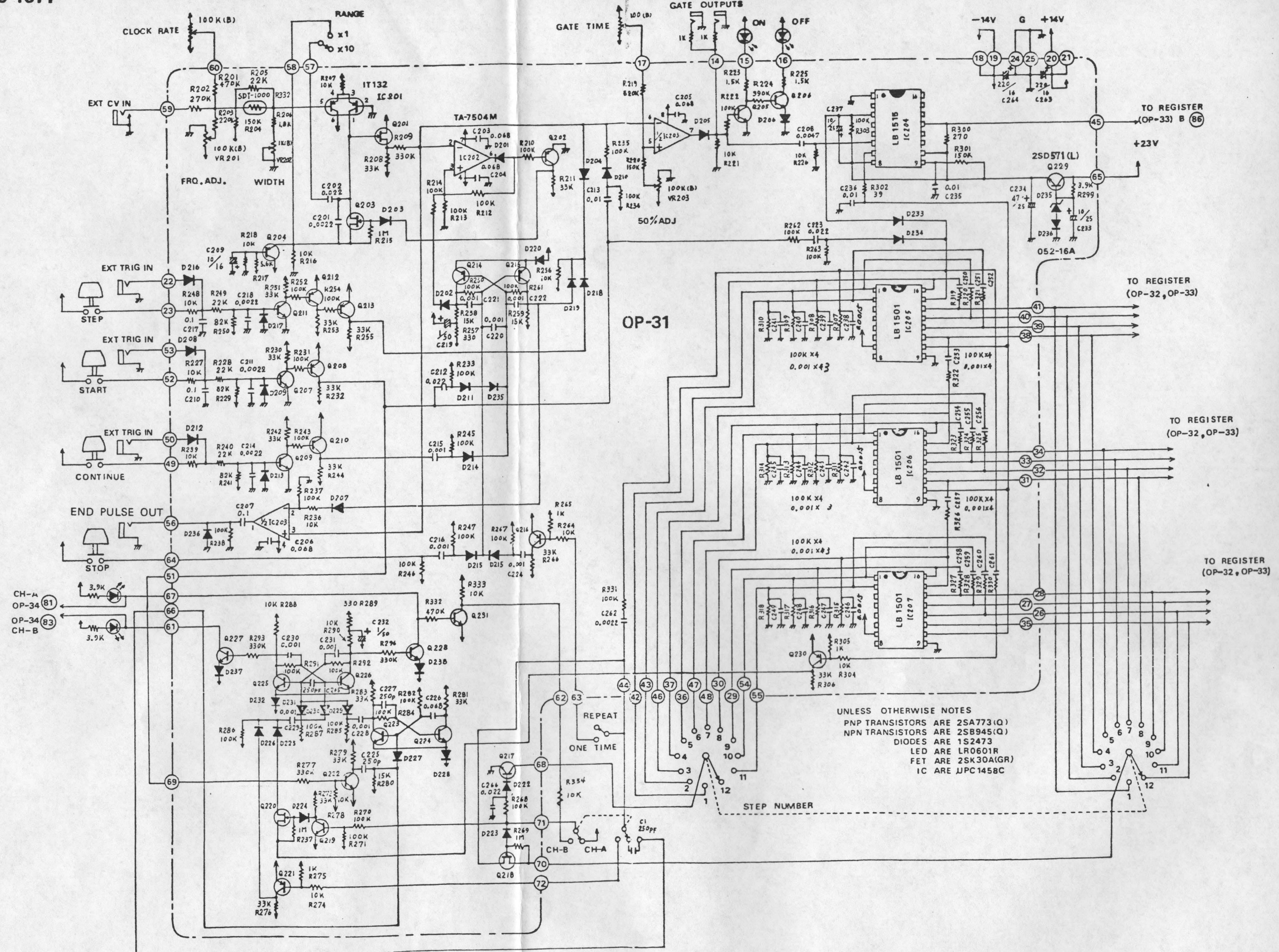
LB1515
LB1501



IT132



TA7504M

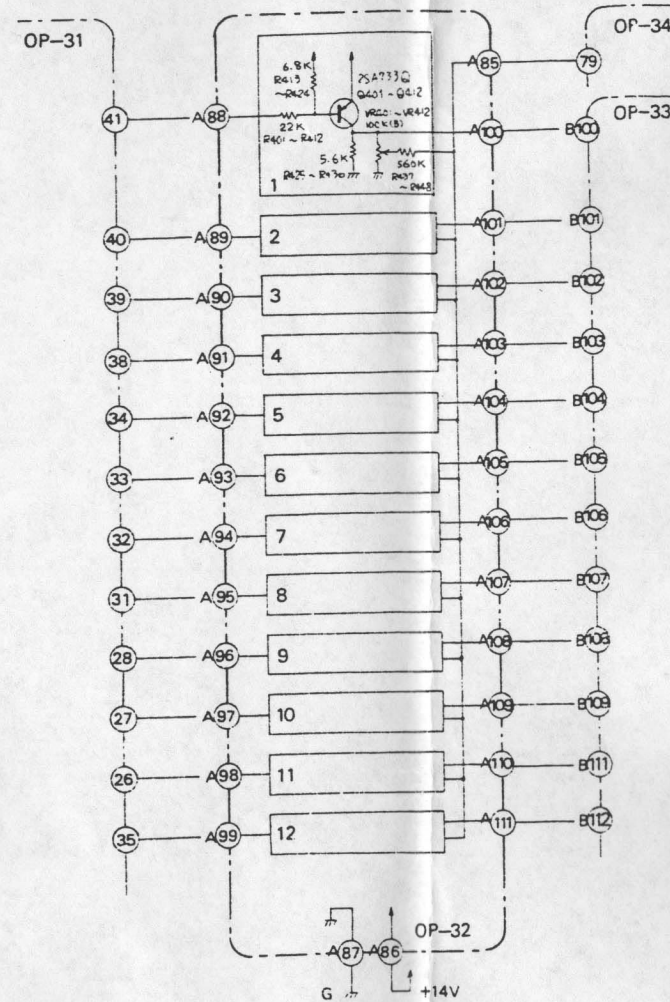
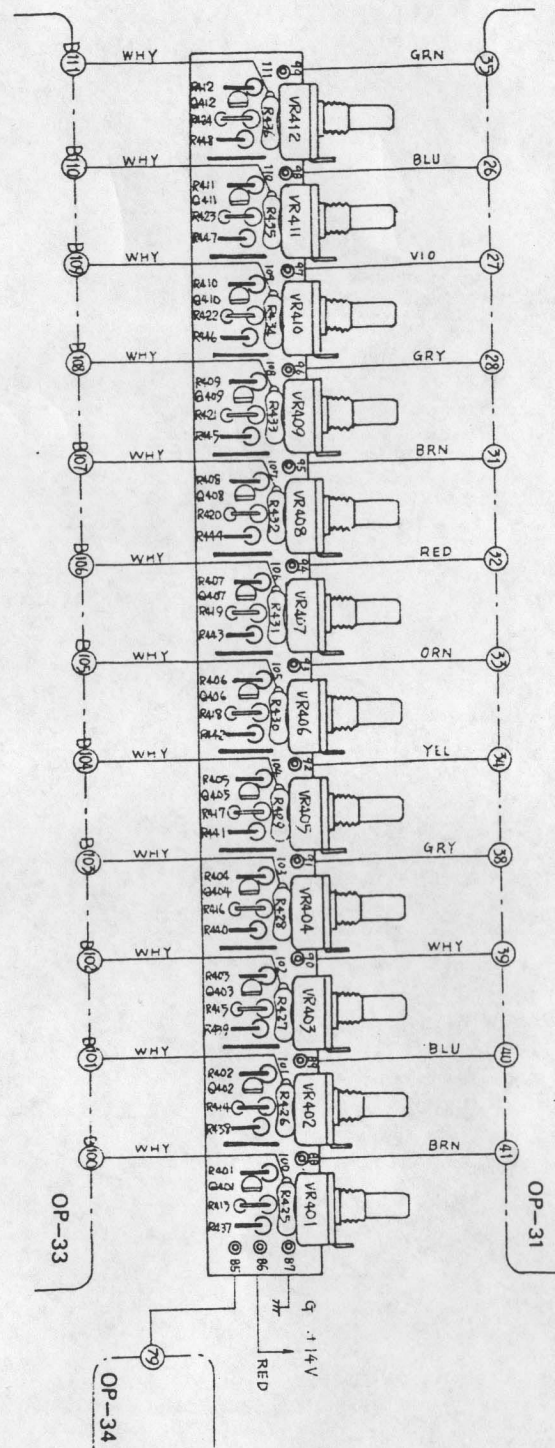


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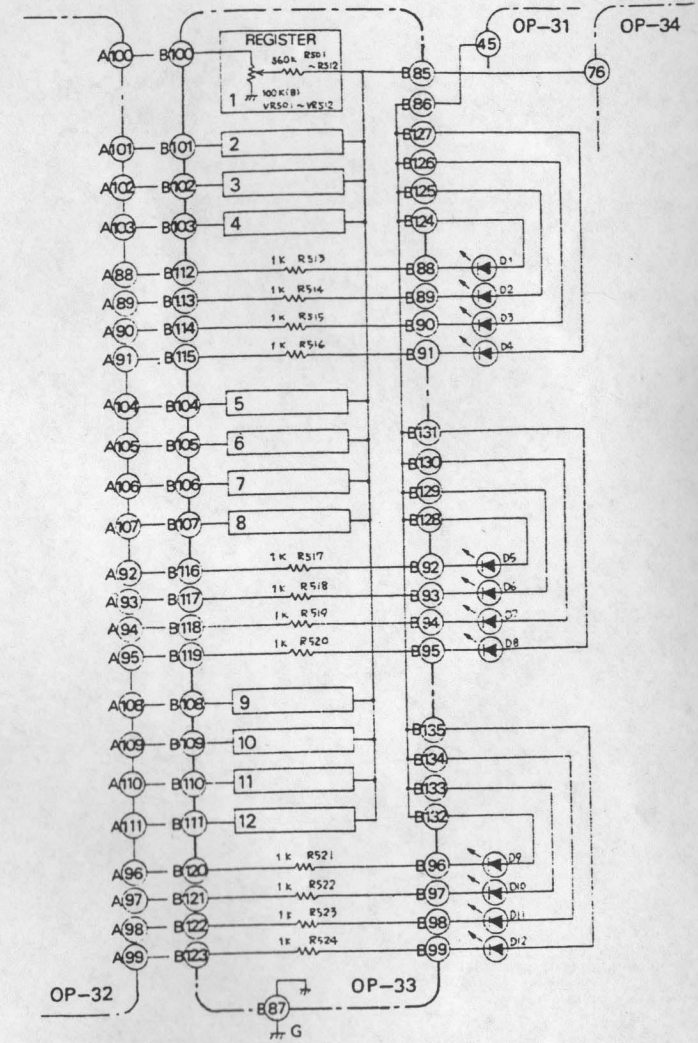
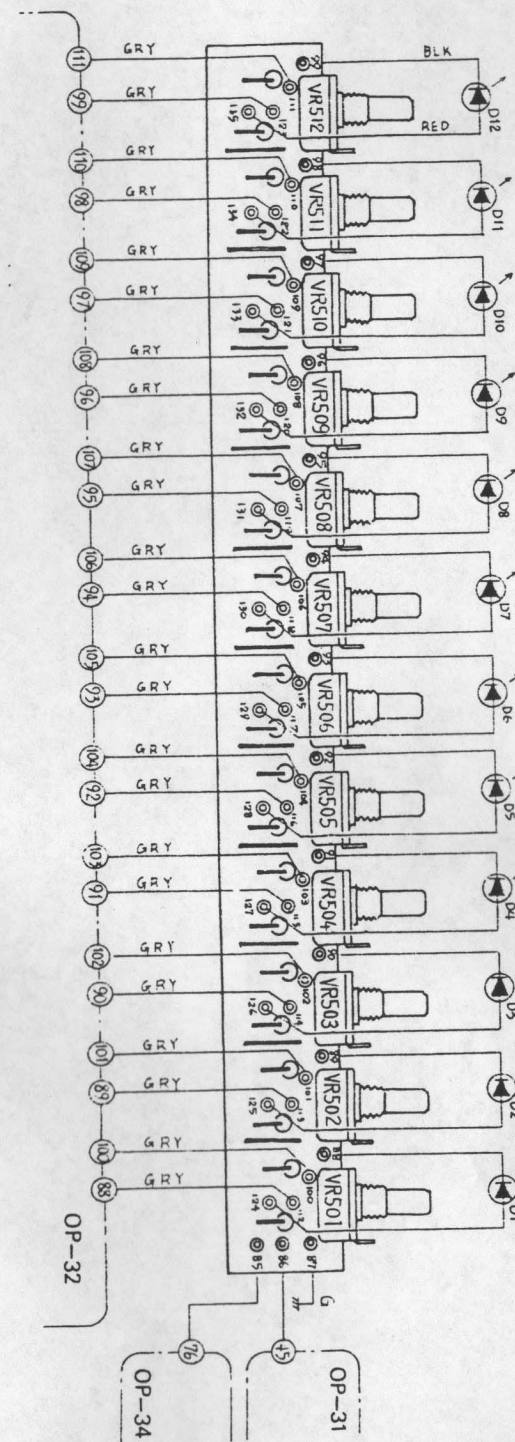
REGISTER BOARD ASSEMBLY

OP-33 (149-033)

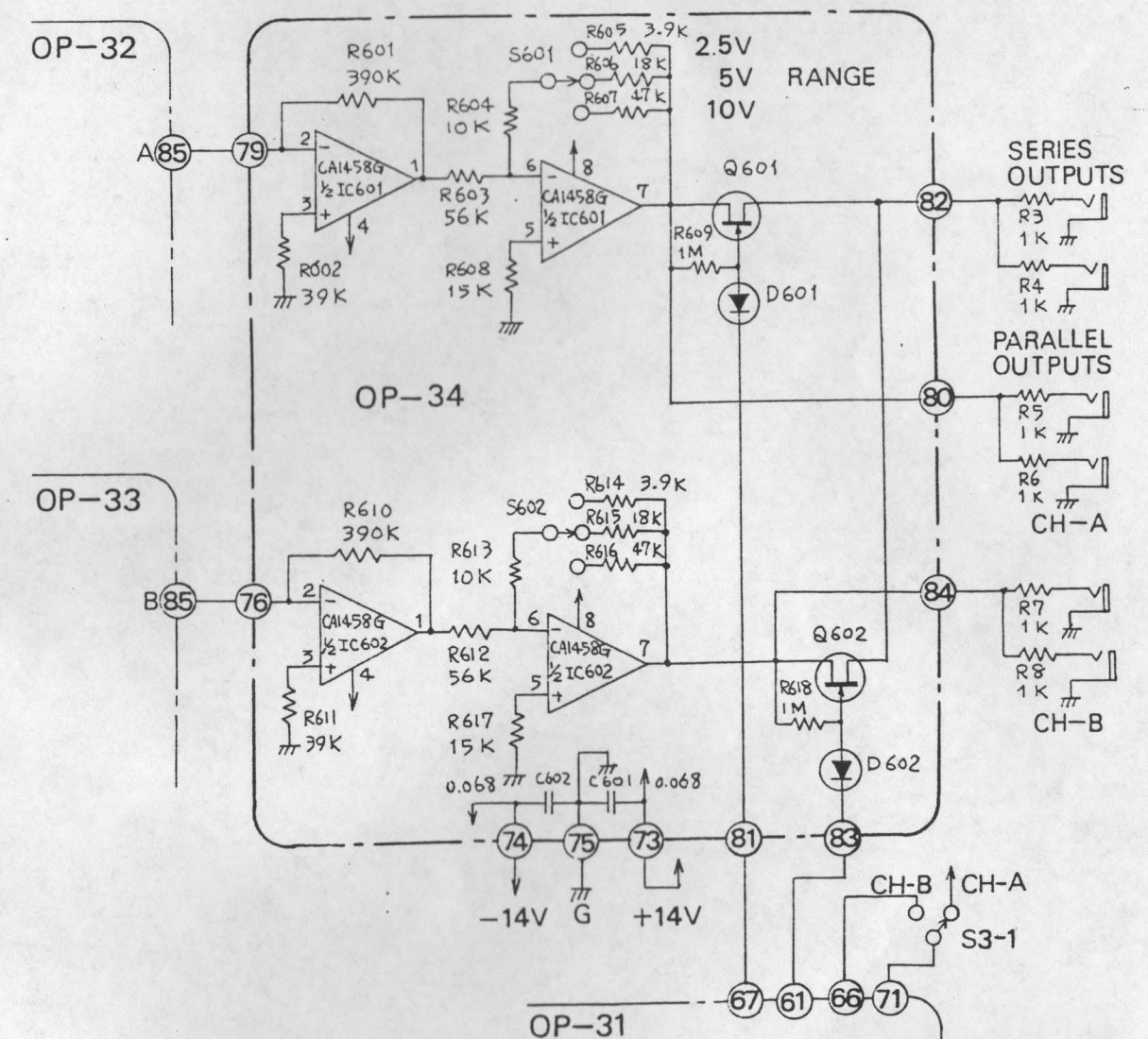
OP-32 (149-032)



Front view
2SA733(Q)



OP-34 (149-034)



PARTS LIST

Sequence Board Assembly OP-31 (149-031)

052-146B	PCB	(less Parts)
020-010	IC	TA7504M (741C)
020-062	IC	μ PC1458C
020-049	IC	LB-1501
020-050	IC	LB-1515
020-055	IC	IT-132 (μ PA41C)
017-013	Transistor	2SC945(Q) (2SC828, 2SC372)
017-012	Transistor	2SA733(Q) (2SA495(Y))
017-072	Transistor	2SD571(L) (2SD414(Q))
017-016	FET	2SK30A (GR)
017-014	FET	2SK30A (Y)
018-014	Diode	IS2473 (IS1555)
018-026	Diode	05Z16A
018-015	Thermistor	SDT-1000

Trimmer Potentiometers

028-002	1K (B)	EVT (L) - R4XA00 13B
028-007	100K (B)	EVT (L) - R4XA00 15B

Capacitors

037-007	250pF	50V $\pm$ 10%	Ceramic
032-033	1 μ F	50V	Electrolytic
032-038	10 μ F	16V	Electrolytic
032-050	10 μ F	25V	Electrolytic
032-015	47 μ F	25V	Electrolytic
032-047	220 μ F	16V	Electrolytic

Register Board Assembly

OP-32 (149-032)

OP-33 (149-033)

052-147	PCB (less parts)
017-012	Transistor 2SC945(Q) (2SC828, 2SC372(Y))
030-133	Potentiometer 100K (B) V16L4N 15S-B100K (EVH-BOAS15B15)

Output Range and Channel Select Board Assembly OP-34 (149-034)

052-148	PCB (less parts)
020-062	IC μ PC1458C
017-016	FET 2SK30A (GR)
001-092	Slide switch S-J0215

Power Supply Board Assembly

PS-25 (100V-120V) (146-025)

PS-26 (220V-250V) (146-026)

052-133B	PCB (less parts)
048-001	Heatsink No.1
020-031	IC 723CN
017-010	Transistor 2SD234(O)

Diodes

018-028	ESA-B01-03C
(018-062)	(MI-152)
018-029	ESA-B01-03N
(018-063)	(MI-152R)
018-022	IN4003

Trimmer Potentiometer

028-002	1K (B) EVL (T) R4XA00B13
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Capacitors

037-008	470pF	50V±10%	Ceramic
032-033	10μF	16V±10%	Electrolytic
032-068	470μF	35V	Electrolytic
010-038	Wafer Terminal A-2461-8C		

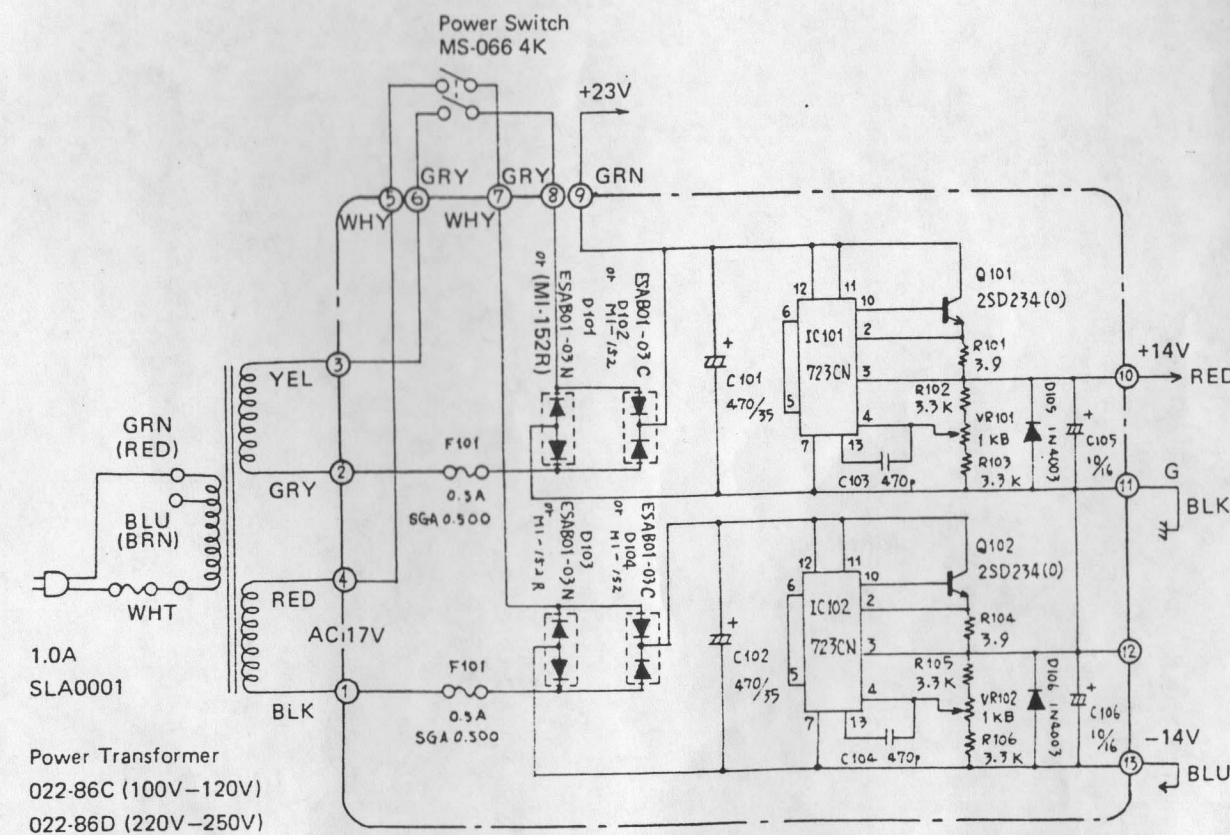
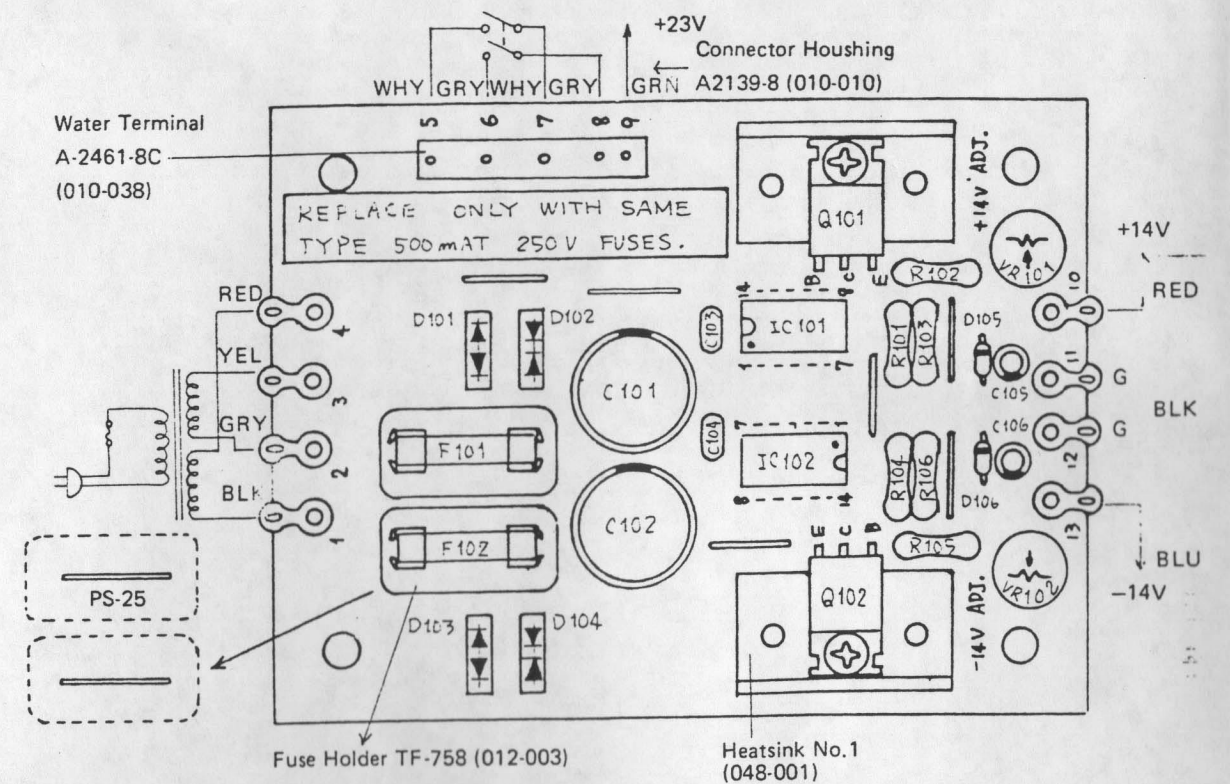
PS-26 only

012-003	Fuse Holder TF-758
008-024	Fuse (Midget) 0.5A SGA0.500

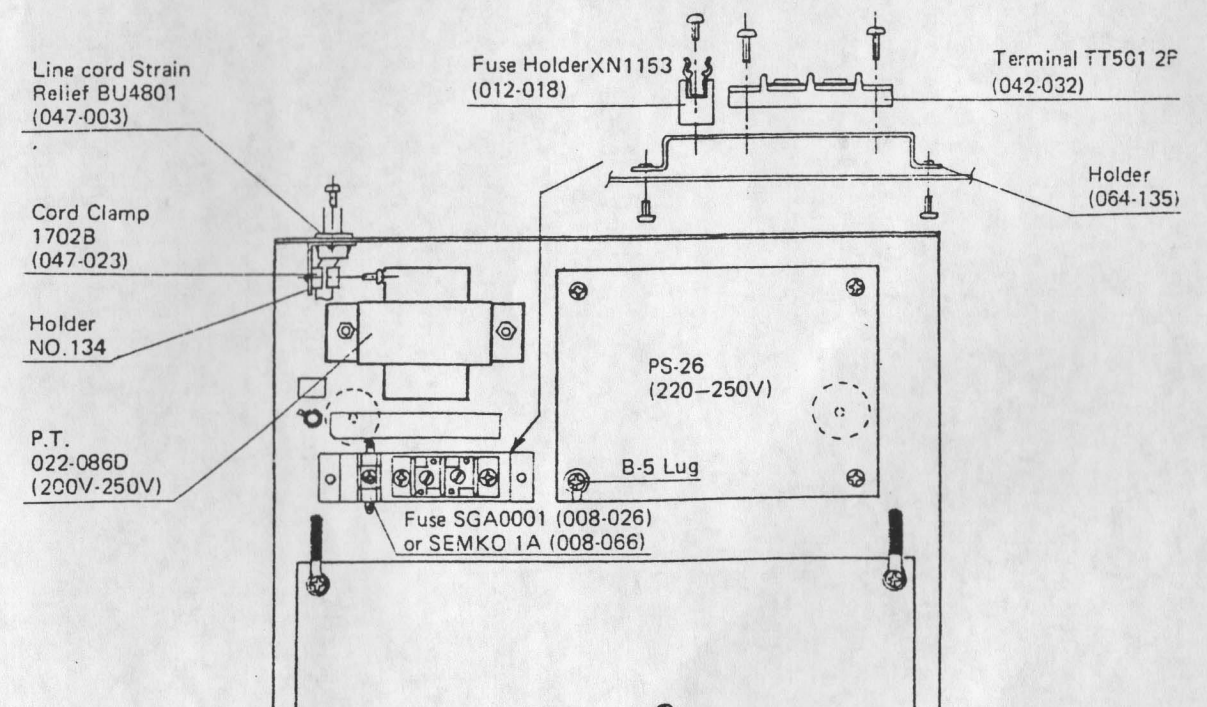
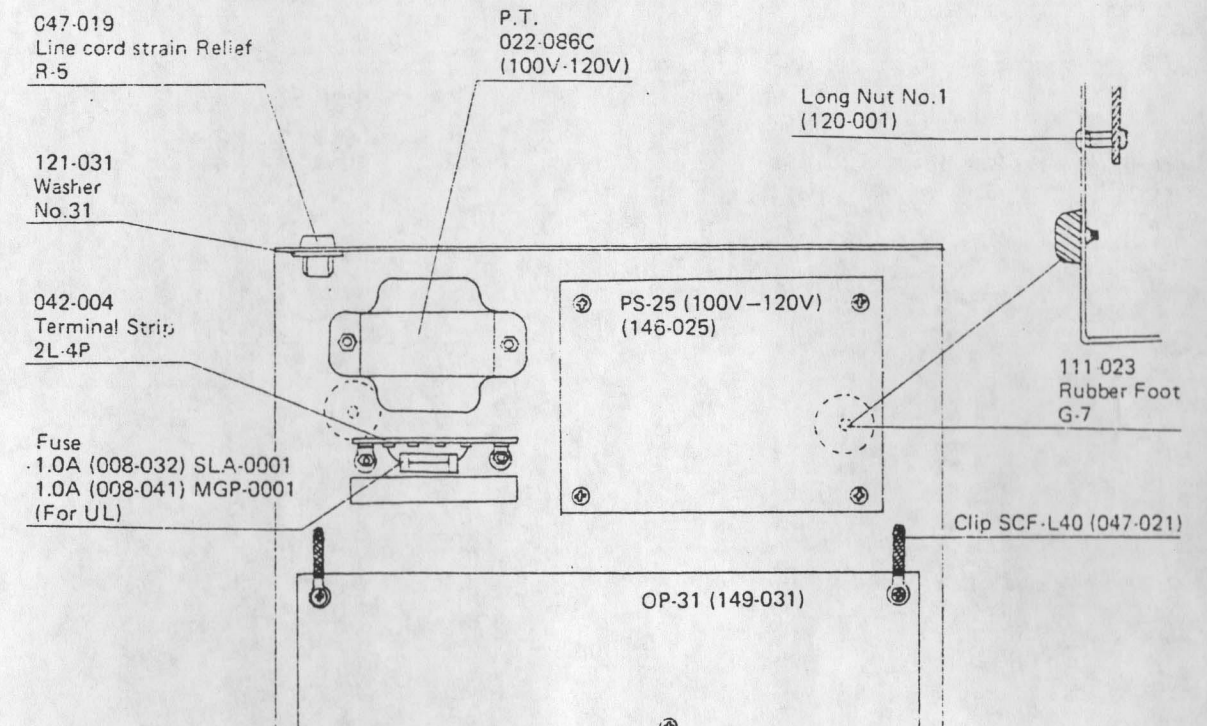
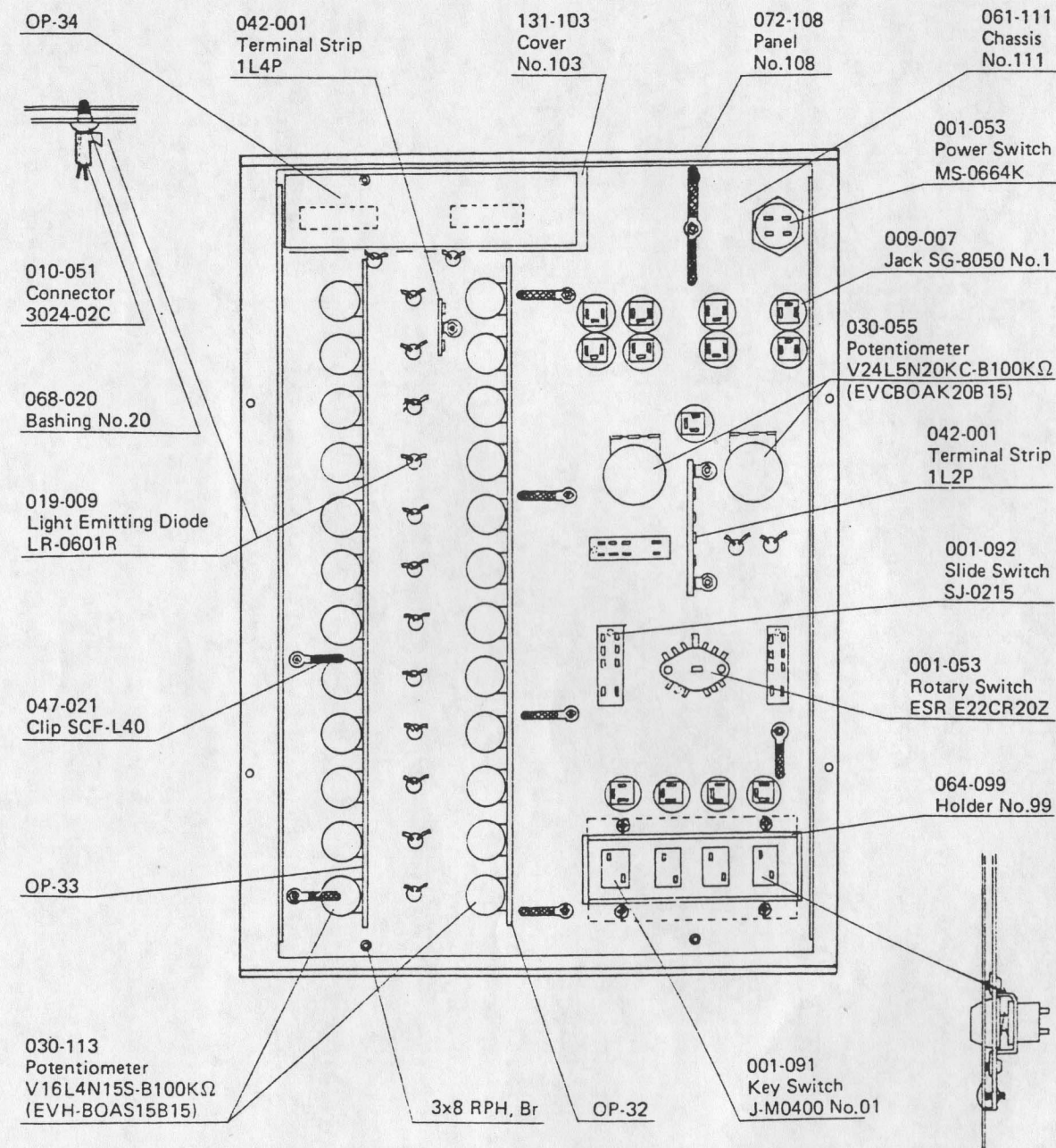
* For parts not listed above.
Refer to 2. DISASSEMBLY or 9. PARTS PICTORIAL.
* Carbon film resistors of 1/4W, and mylars are omitted.

POWER SUPPLY BOARD

PS-25 (146-025)
(100V-120V)
PS-26 (146-026)
(220V-250V)



PARTS PICTORIAL



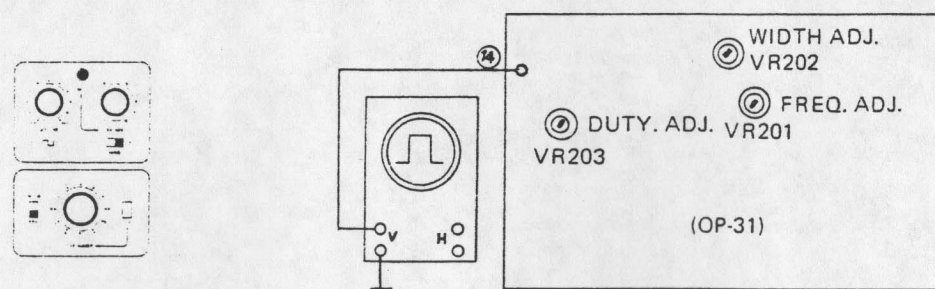
ADJUSTMENT PROCEDURE

1. Power Supply Voltage adjustment

- Connect the Digital Voltmeter to terminal "10" of the PCB (PS-25 or PS-26), and adjust VR101 for reading $+14V \pm 100mV$.
- In the same manner with connection to terminal "13", adjust VR102 for reading $-14V \pm 100mV$.

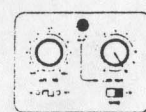
2. CLOCK RATE adjustment

Set the controls as illustrated bellow

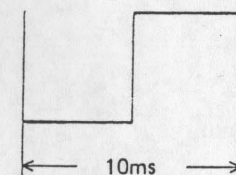


(RANGE: X10. REPEAT)

a



adjust VR201 for

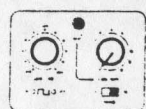
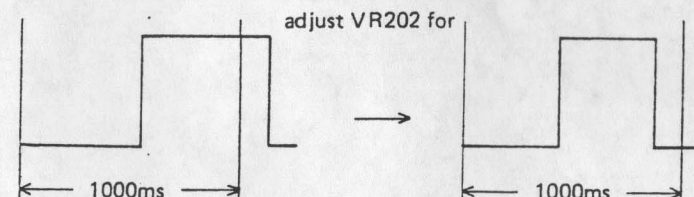


(CLOCK RATE: 10)

b

a little longer than 1000ms

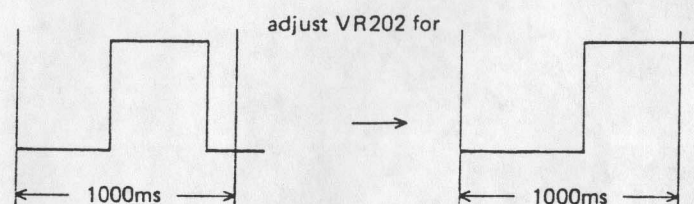
a little shorter than 1000ms



(CLOCK RATE: 0)

a little shorter than 1000ms

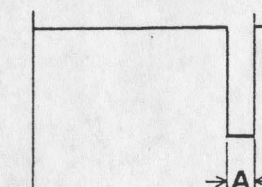
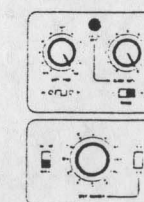
a little longer than 1000ms



- Step (b) may cause variation on the 10ms width on (a). Repeat, then, the steps (a) and (b) until waveforms are within $10ms \pm 10\%$ and $1000ms \pm 10\%$.

3. GATE TIME adjustment

a

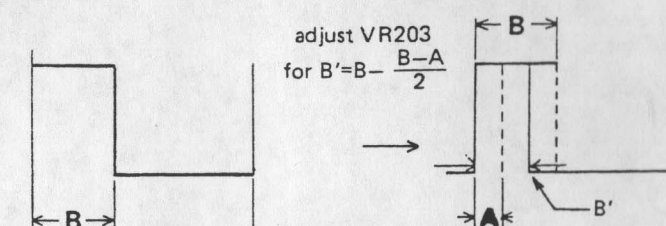


Note width of space (A)

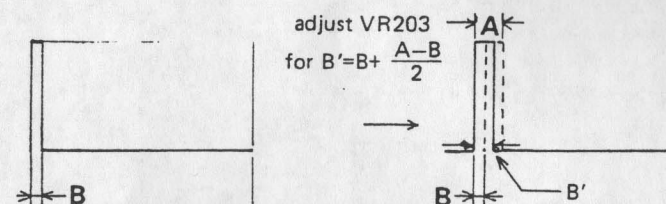
(CLOCK RATE: 10. GATE TIME: MAX)

b

wider than A



narrower than A



(GATE TIME: MIN)

- Repeat the above steps (a) and (b) until $A=B$

