

Ibanez

SERVICE MANUAL

NO. 012

**MULTI-EFFECTS
UE300**

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★ SPECIFICATIONS

1) COMPRESSOR/LIMITER

- Maximum Input Level +6.5dBm at 400Hz
- Maximum Output Level -10dBm at 400Hz
- Output Level Range -50dBm to -10dBm
- Maximum Compression Ratio 40dB
- Equivalent Input Noise -100dBm (IHF-A Input Shorted)
- Attack Time 6mSec to 20mSec
- Frequency Response 30Hz to 20KHz (+5dB, -2dB)

2) TUBE SCREAMER

- Maximum Output Level 0dBm
- Maximum Amplitude 40dB
- Equivalent Input Noise -110dBm (IHF-A Input Shorted)

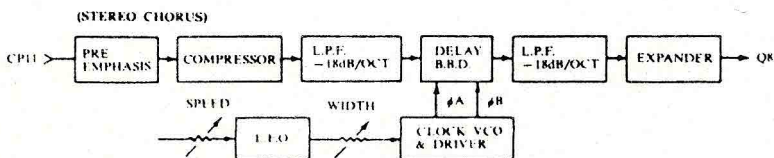
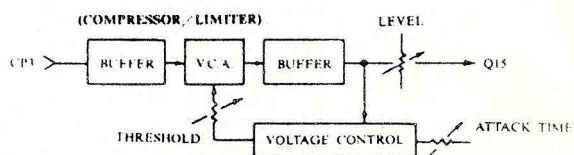
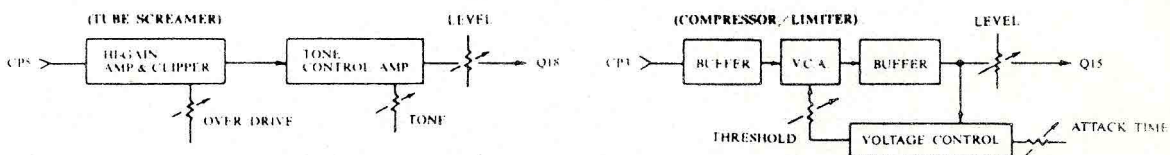
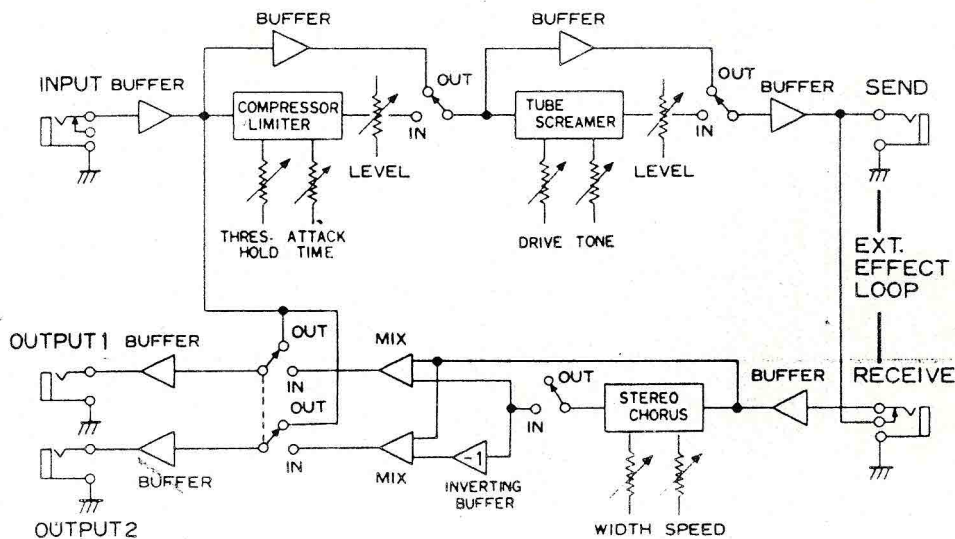
3) STEREO CHORUS

- Maximum Input Level +5.6dBm at 400Hz
- Delay Time 3.2mSec to 8.6mSec
- Sweep Speed 0.3Hz to 3.0Hz
- Input/Output level Ratio 1 : 1
- Equivalent Input Noise -98dBm (IHF-A Input Shorted)

4) OVERALL

- Input Impedance 500Kohms
- Output 1 Impedance less than 10Kohms
- Output 2 Impedance less than 10Kohms
- Ext. Effect Loop Send Impedance less than 10Kohms
- Ext. Effect Loop Receive Impedance 500Kohms
- Dimensions 310(W) × 190(D) × 70(H)mm (12.2 × 7.5 × 2.8 in.)
- Weight 1.9kg (4.2 lbs.)
- Power Requirement 117V AC 60Hz 3.7W
220VAC to 240VAC 50Hz 5.2W

★ BLOCK DIAGRAM



★ NORMAL CHECK LIST & ADJUSTMENT PROCEDURES

(I) D.C. VOLTAGE

- 1) Check $15V \pm 1V$ at marked [8]. (GND.= [9])
- 2) Check ripple noise less than 4mV at the same point above.

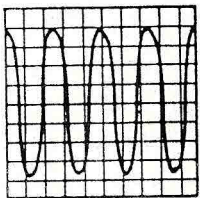
(II) COMPRESSOR/LIMITER

- 1) Set knobs as follows.
ATTACK TIME=SHORT
THRESHOLD=LOW
LEVEL=MAX
- 2) Adjust VR1 for just zero voltage at R9 terminals.

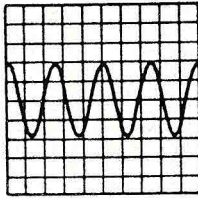
(III) TUBE SCREAMER

- 1) Put 30mV 1kHz sinewave into INPUT.
- 2) Check each wave form as follows.

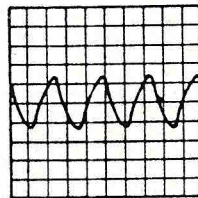
- DRIVE - MAX
- TONE - +5
- LEVEL - MAX



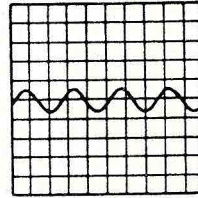
- DRIVE - MIN
- TONE - +5
- LEVEL - MAX



- DRIVE - MAX
- TONE - -5
- LEVEL - MAX



- DRIVE - MIN
- TONE - -5
- LEVEL - MAX



(IV) STEREO CHORUS

- 1) Connect the FREQUENCY COUNTER and the SYNCHROSCOPE at marked CPI.
- 2) Set knobs as follows.
SPEED=FAST
WIDTH=MIN
- 3) Adjust VR3 for a frequency of 80kHz.
- 4) Set knobs as follows.
SPEED=SLOW
WIDTH=MAX
- 5) Check clock periodic time $9.6 \mu\text{sec.}$ to $14.4 \mu\text{sec.}$ (104kHz to 69kHz), also sweeping frequency 0.3Hz.
- 6) Set knobs as follows.
SPEED=SLOW
WIDTH=MIN
- 7) Put 0dBm (0.775mV) 400Hz sinewave into INPUT.
- 8) Adjust VR2 for a symmetrical clipped wave form at C23.

(V) OUTPUT

- 1) Check no switching shock noise.
- 2) Check each phase of OUTPUT. The phase of OUTPUT 2 is inverted against the phase of OUTPUT 1.

★ PARTS LIST

PARTS NAME	TYPE	PARTS NO.	REF. NO.
Power Trans.	UE300		Confirm your country
Fuse Holder	UE300		Confirm your country
Fuse	UE300		Confirm your country
Power Supply Cord	UE300		Confirm your country
Cord Bush		SR5N4	
Chassis	Top	MS-UE0701	
Chassis	Bottom	MS-UE0702	
Side Cover	Left	MS-UE0703A	
Side Cover	Right	MS-UE0704A	
Knob	φ18	MK-NS0102	
Knob	φ15.5	MK-NS0101	
Jack	Open	NEW MOLD	OUT1, 2, SEND
Jack	Close	NEW MOLD	INPUT, RECEIVE
Rubber Leg		SK-15	
Foot Switch		Q-1	
Parts on P.C.B. (Foot Switch)			
P.C.B.		MP-UE0702A	
Tr.		2SC2458GR	Q1, 2, 3
D.		MA150	D1
LED		LN222RP	D2 (RED)
LED		LN322GP	D3 (GREEN)
Parts on P.C.B. (Main)			
P.C.B.		MP-UE0701A	
IC		MN3007	IC5
IC		MN3101	IC6
IC		NE570 or μPC1571CH	IC4
IC		LM13600	IC1
IC		NJM4558	IC2, 3, 7~11
IC		7815	IC12
Tr.		2SC2458GR	Q1~7, 9, 10, 12, 13, 16
Tr.		2SK1180	Q8, 14, 15, 17~22
D.		MA150	D1~18
D.		W03C	D19~22
Pot.		EVH-9LA308G24	TONE
Pot.		EVH-9LA308B15	LEVELx2 WIDTH, SPEED
Pot.		EVH-9LA308C25	THRESHOLD
Pot.		EVH-9LA308A55	OVERDRIVE
Pot.		ENK-HGA35Z1H6	ATTACK TIME
Trim Pot.	10k Ω	EVN-K4A	VR1, 2
Trim Pot.	200k Ω	EVN-K4A	VR3
C.	1000 μ F 35V		C86
Heat Sink	UE300		
Name Plate		MM-UE0701	COMPRESSOR
Name Plate		MM-UE0702	TUBE SCREAMER
Name Plate		MM-UE0703	STEREO CHORUS
Name Plate		MM-UE0704	MASTER

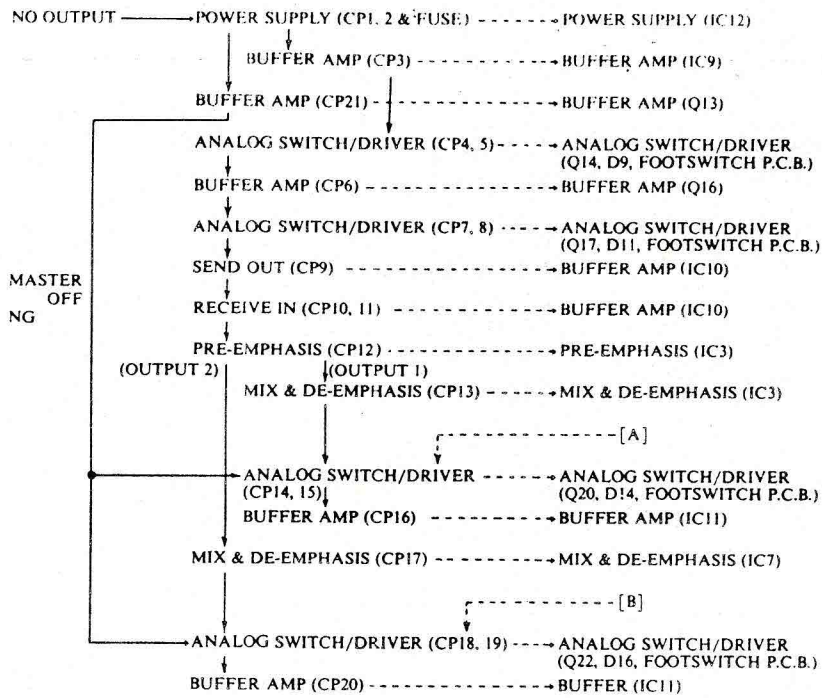
TYPE	A.C. LINE (v)	COUNTRY (example)	Power Supply Cord	Fuse	Fuse Holder	Power Trans.
M	100	JAPAN	0.75V-FF2M	0.5A 30mm 61ML	S-N2059	MT-AD501
N	120	U.S.A	SVT182C6FT	0.5A 30mm 61ML	S-N2059	MT-AD502
T	120	CANADA				
Q	220	SWITZERLAND	KP418	0.5A 20mm ES2-0500	S-N2250	MT-AD503
U	220	EUROPE	BB6721	0.5A 20mm ES2-0500	S-N2250	MT-AD503
R	240	U.K.	BS	0.5A 20mm ES2-0500	S-N2250	MT-AD503
S	240	AUSTRALIA NEWZEALAND	KP550LTS36FT	0.5A 20mm ES2-0500	S-N2250	MT-AD503

UE300

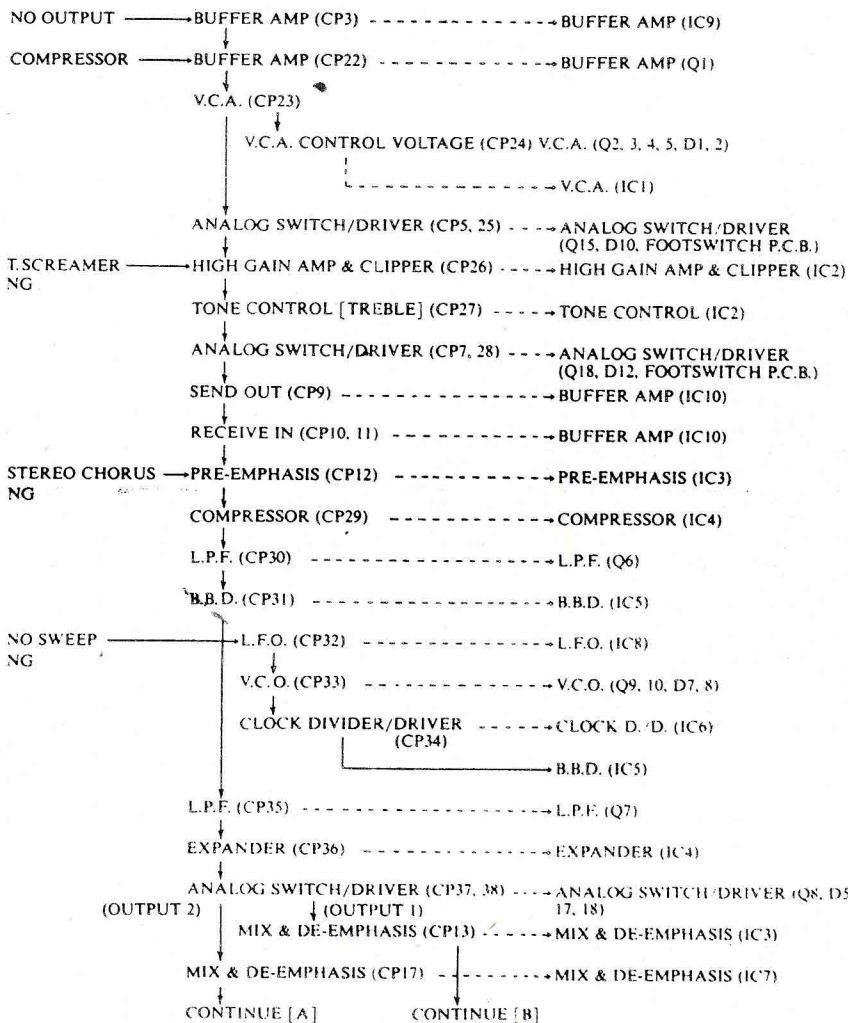
★ TROUBLE SHOOTING

—OK ———→NG

[1] MASTER: ON COMP/LIMITER, T.SCREAMER, STEREO CHORUS: OFF



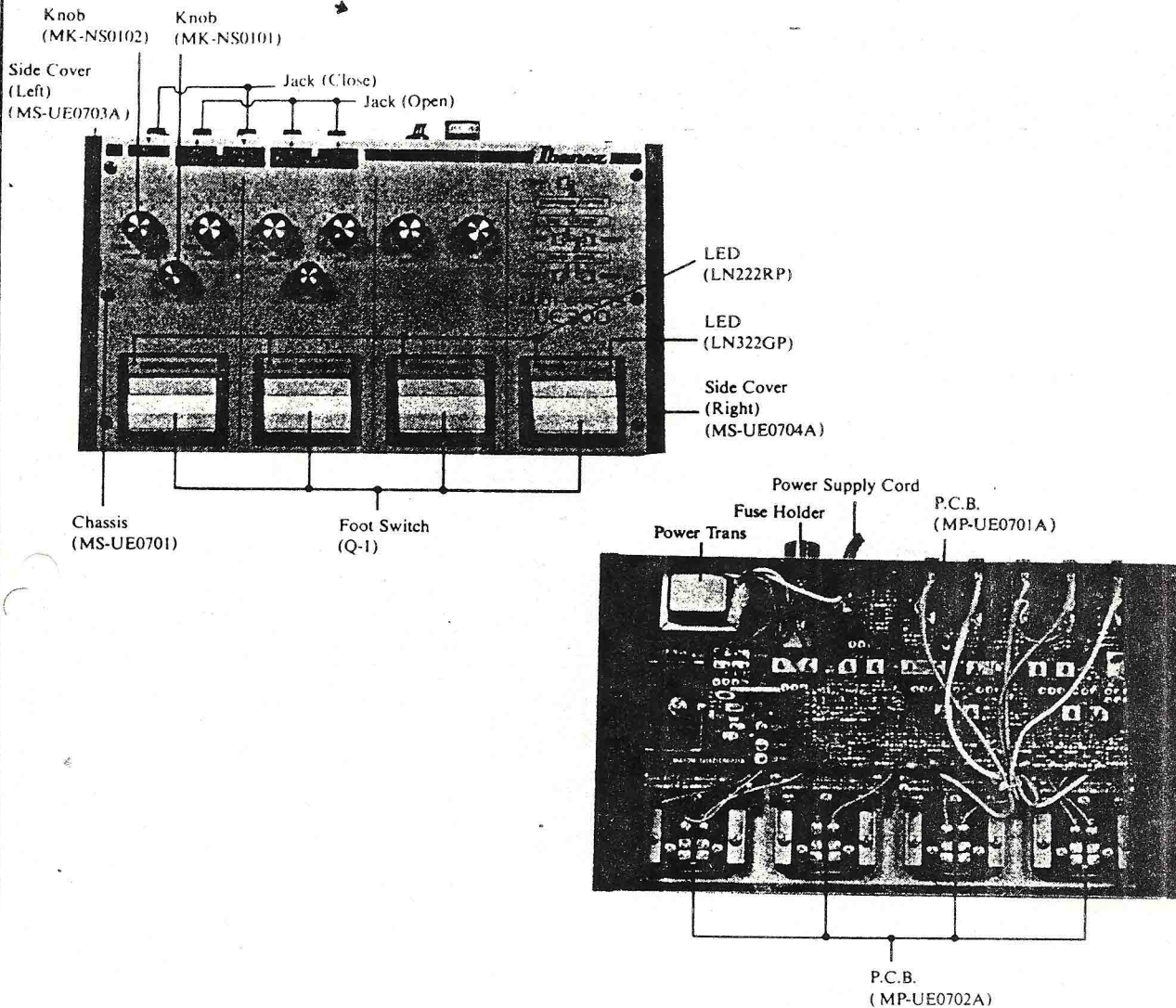
[2] COMP/LIMITER, T.SCREAMER, STEREO CHORUS, MASTER: ON



REFERENCE DATA OF WAVE FORM AT EACH CHECK POINT

- STEREO CHORUS→CS9 (SERVICE MANUAL NO.003)
- TUBE SCREAMER→TS9 (SERVICE MANUAL NO.004)
- COMPRESSOR/LIMITER→CP9 (SERVICE MANUAL NO.006)

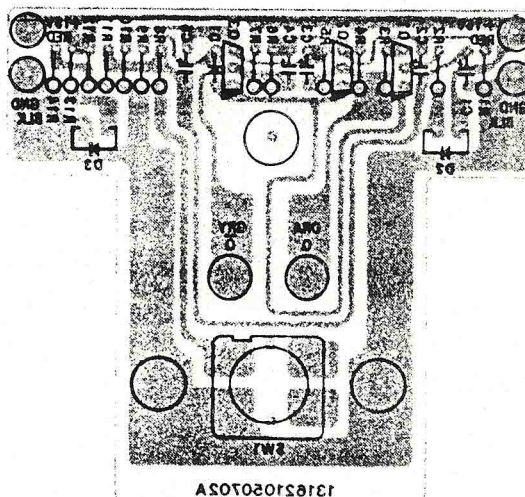
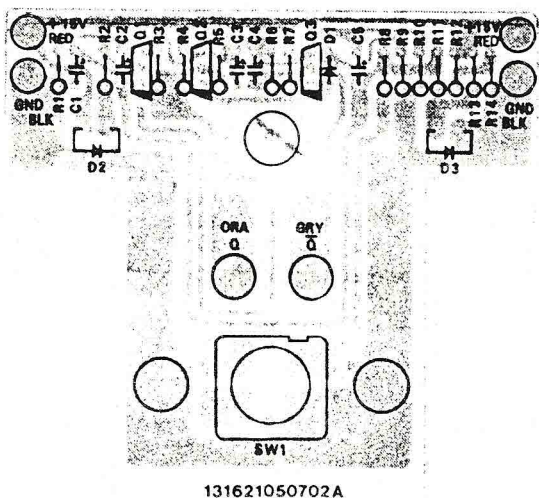
★ DISPOSITION OF PARTS



★ P.C.B. (MP-UE0702A)

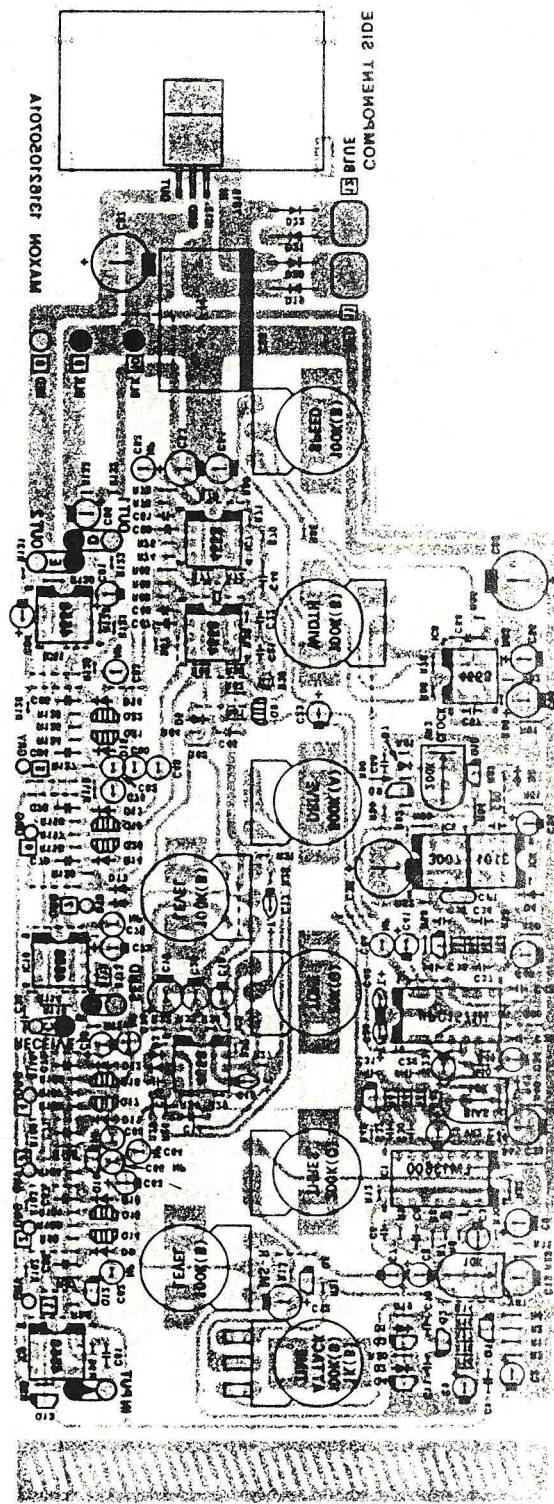
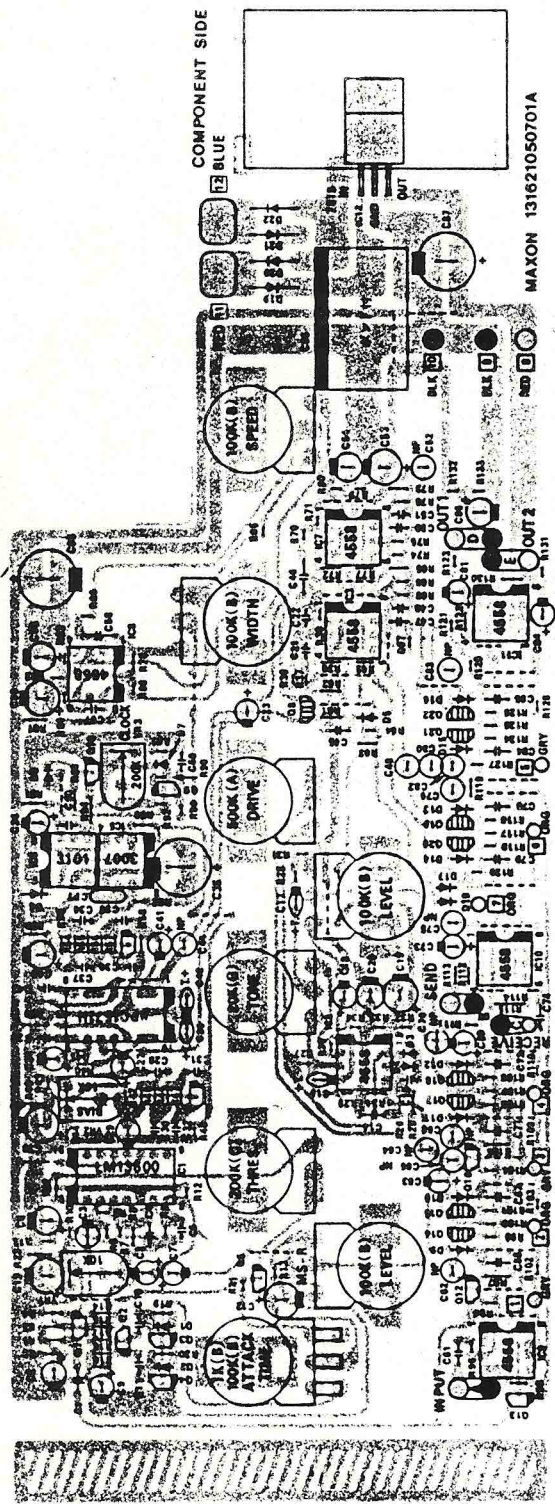
(TOP VIEW)

(BOTTOM VIEW)

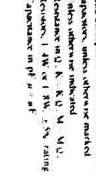
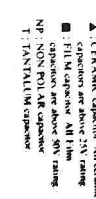
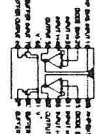
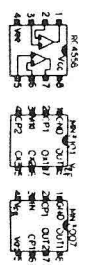
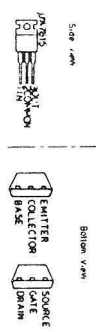
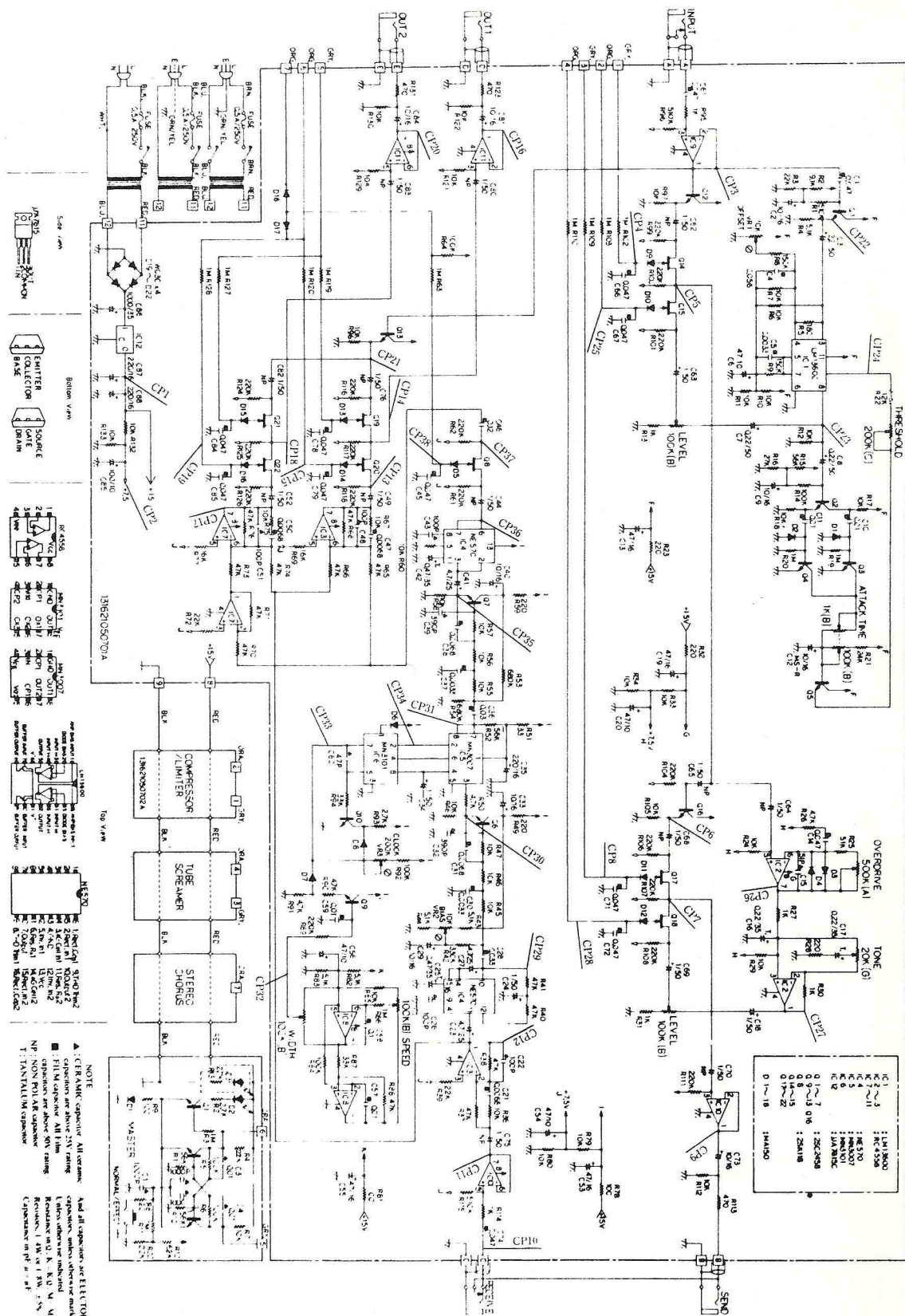


(TOP VIEW)

(BOTTOM VIEW)



★ SCHEMATIC DIAGRAM



NOTE

- ▲ CERAMIC CAPACITOR AIR-TRIMMERS
- CAPACITORS ARE SHOWN IN PARENTHESES
- FILM CAPACITORS ARE SHOWN IN SQUARES
- RESISTORS ARE SHOWN IN RECTANGLES
- NP NON-POLAR CAPACITOR
- T-TANTALUM CAPACITOR

And all capacitors are ELECTROLYTIC

IC1	1N1800
IC2	6X4
IC3	6X4
IC4	6X4
IC5	6X4
IC6	6X4
IC7	6X4
IC8	6X4
IC9	6X4
IC10	6X4
IC11	6X4
IC12	6X4
IC13	6X4
IC14	6X4
IC15	6X4
IC16	6X4
IC17	6X4
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