

PIONEER



CIRCUIT DIAGRAMS VOL. 1



FOR PIONEER AUDIO EQUIPMENTS

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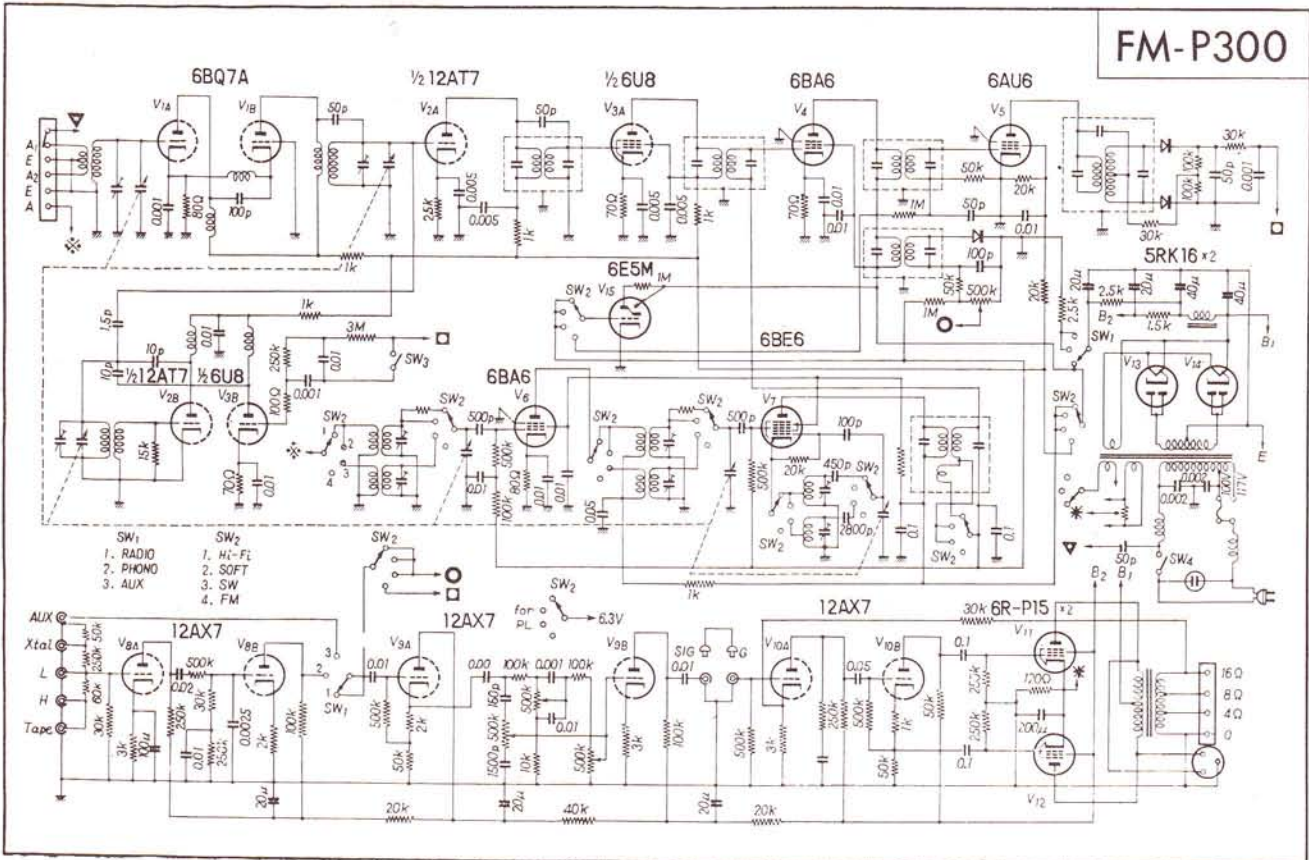
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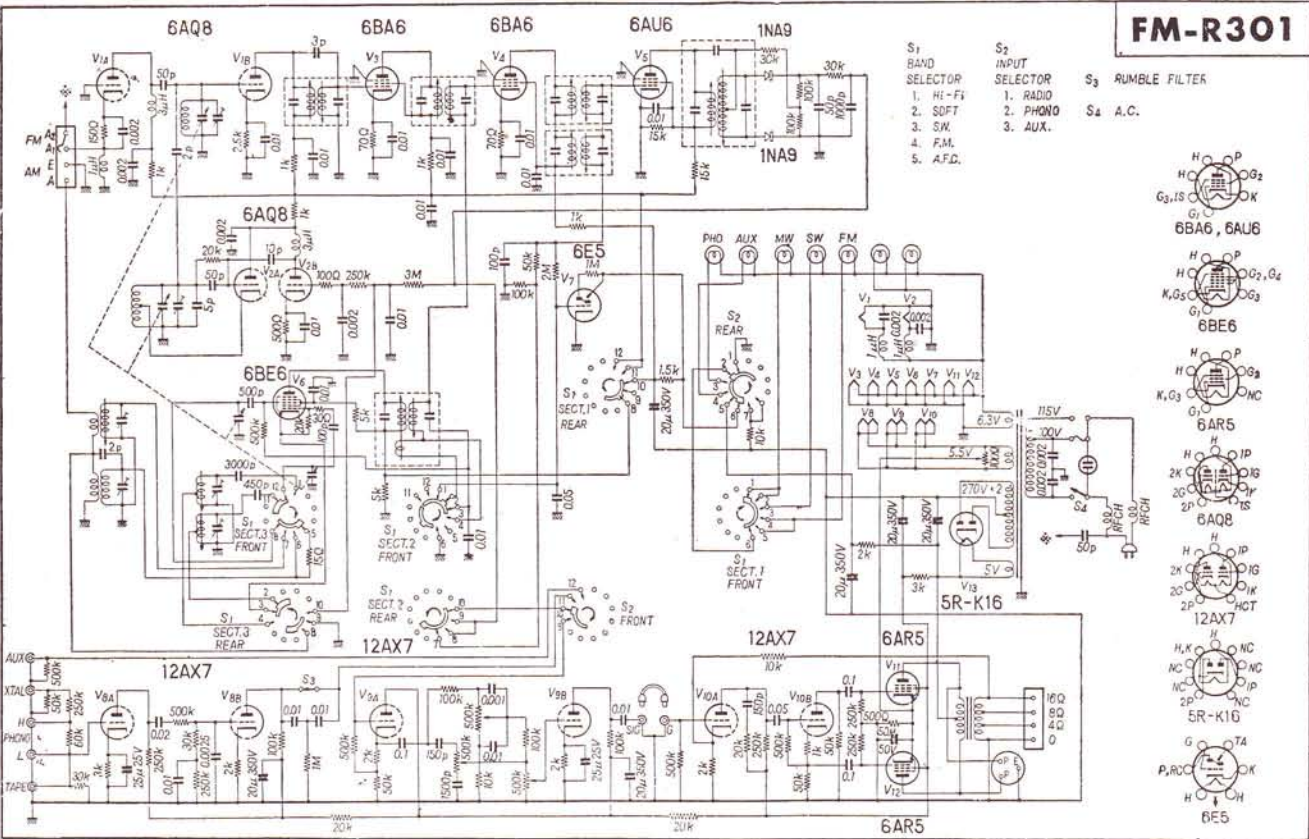
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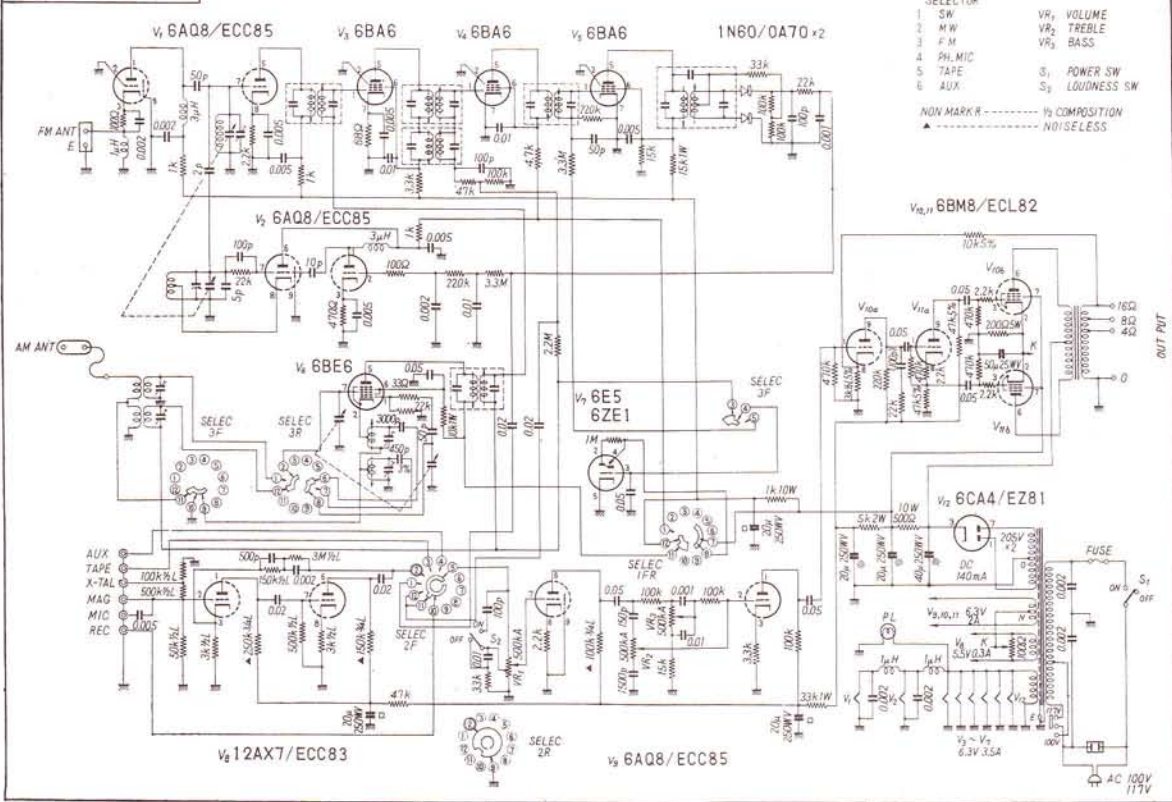
FM-P300



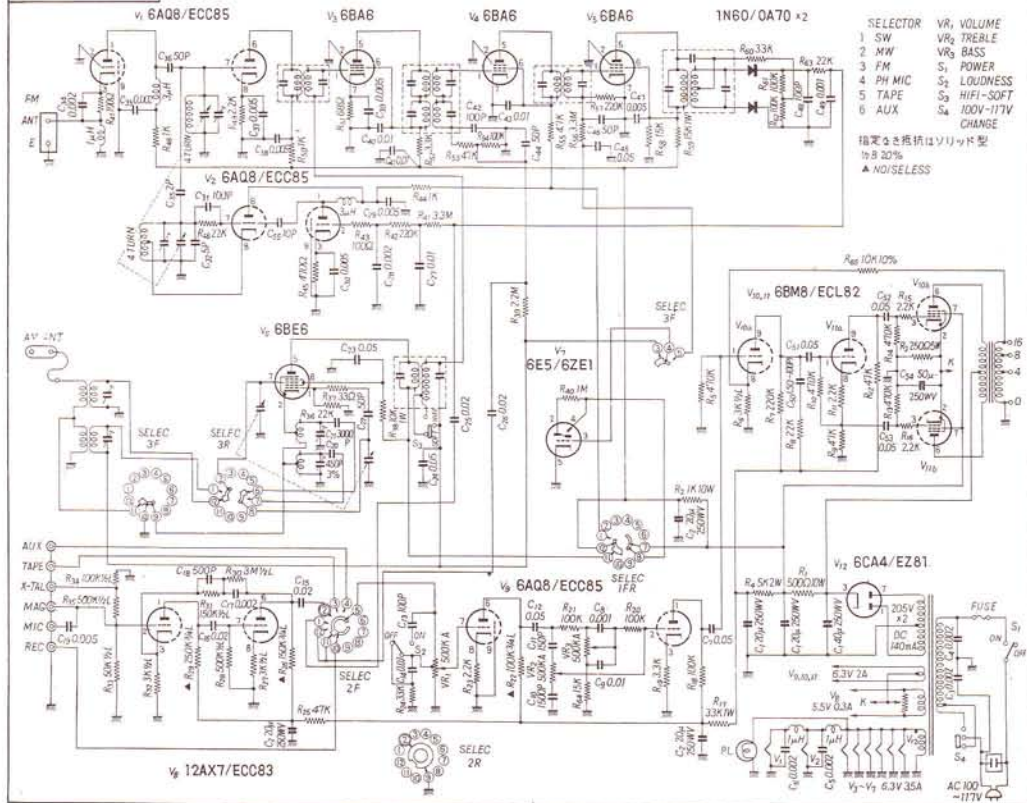
FM-R301



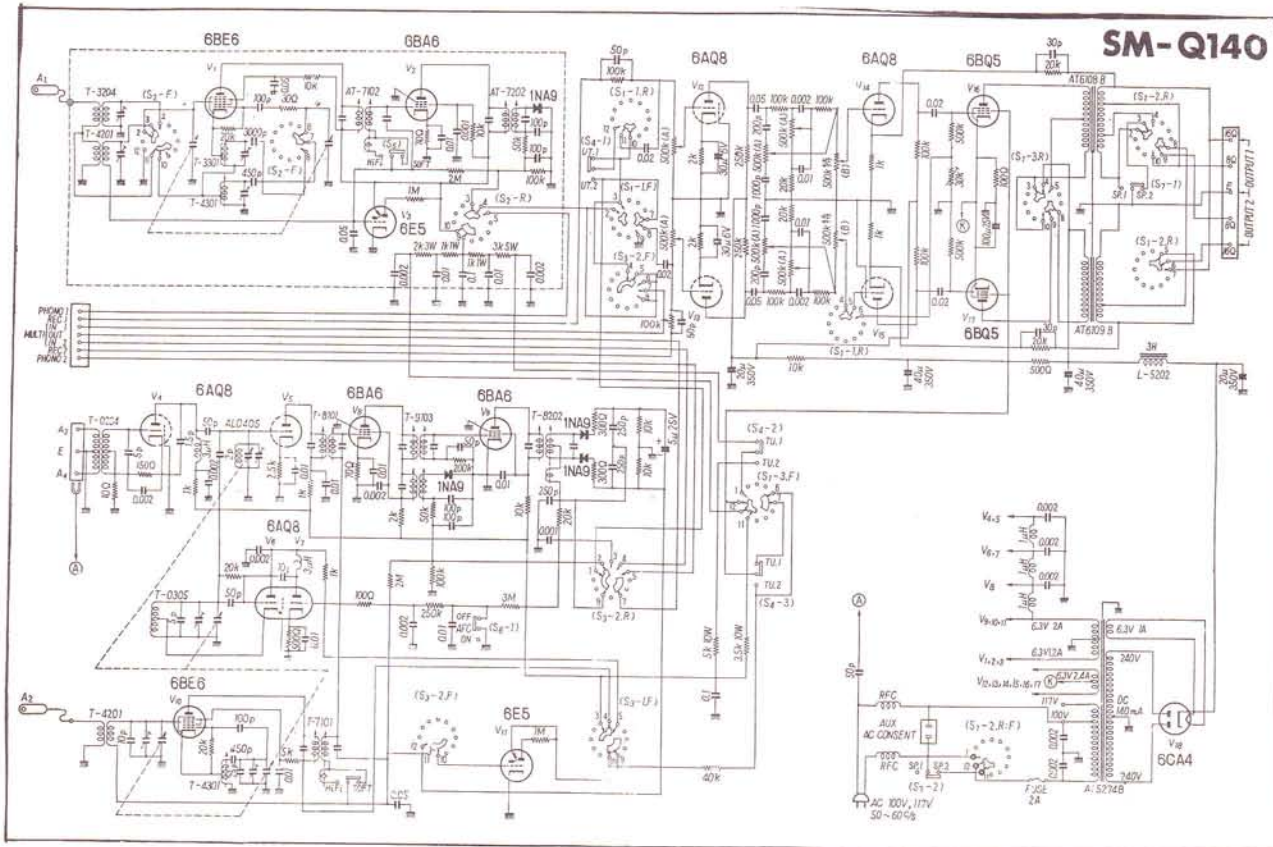
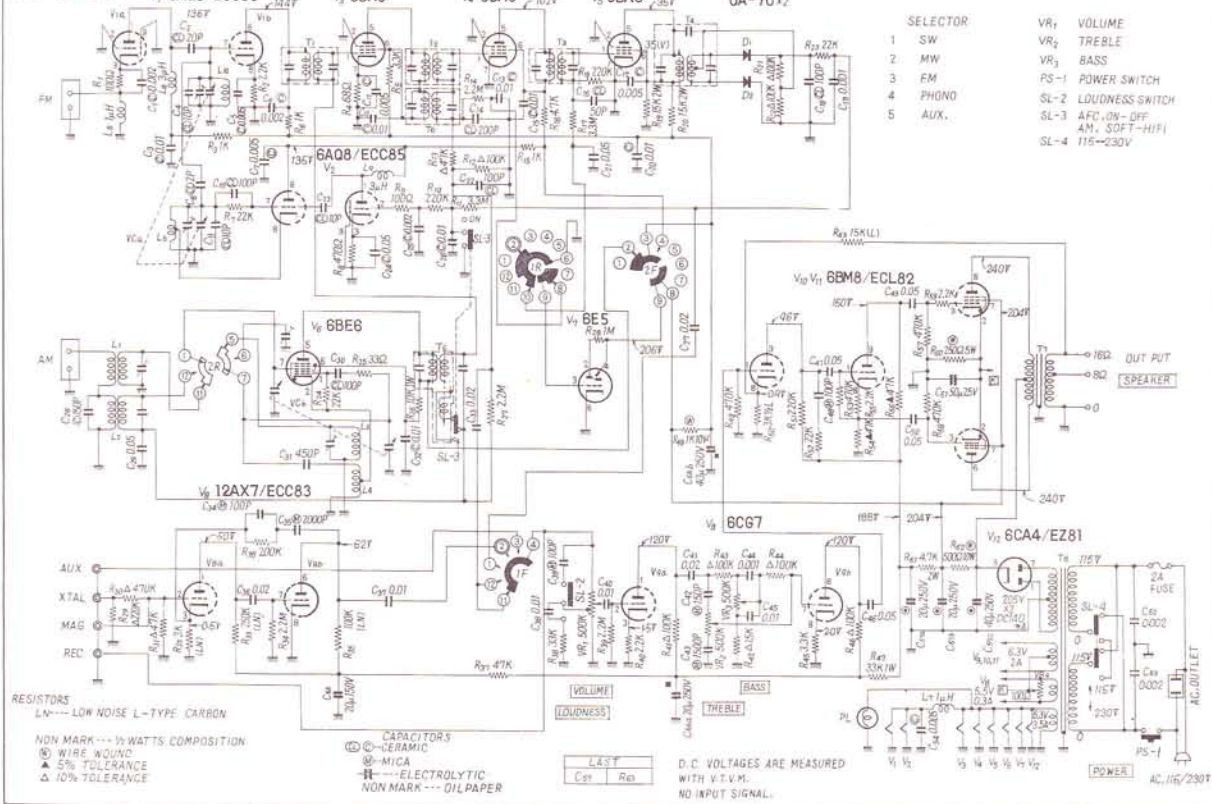
FM-B302

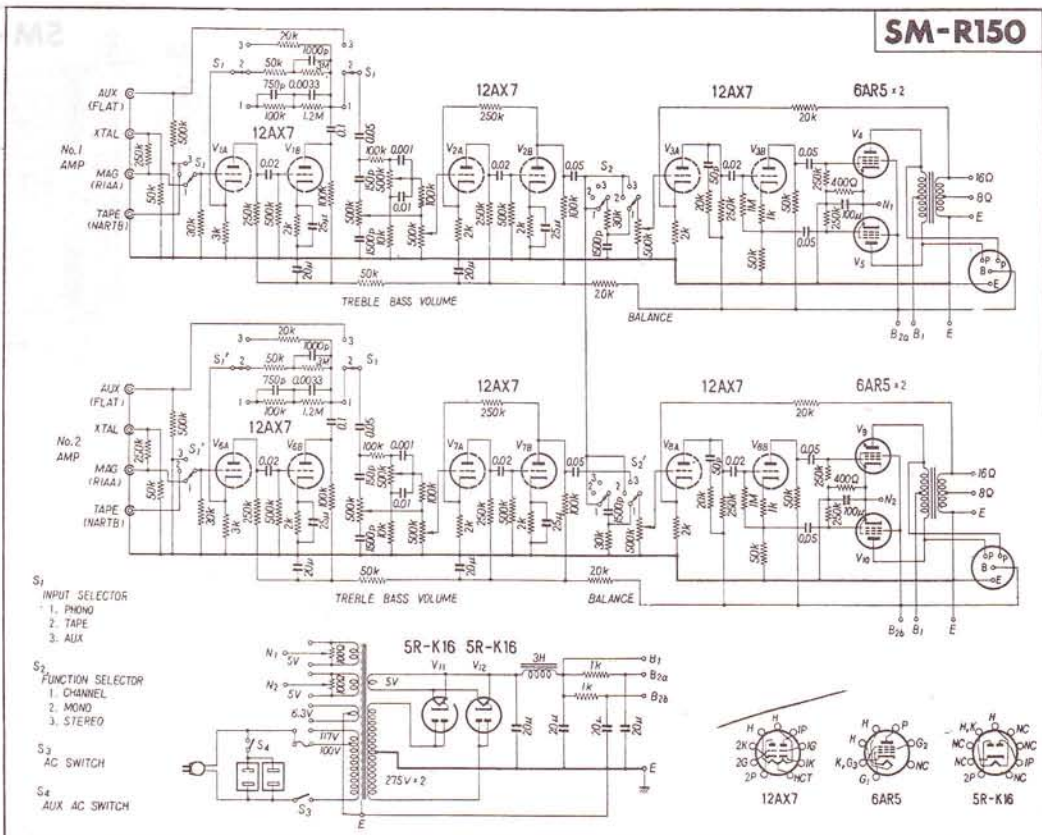
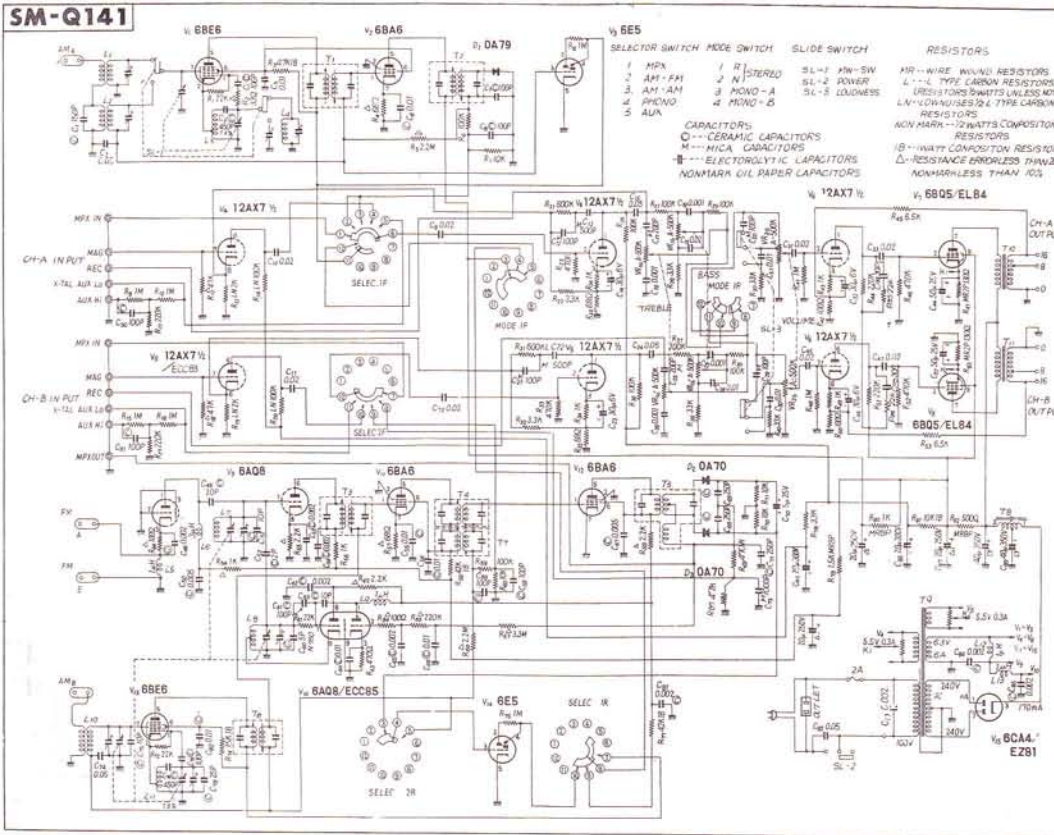


FM-B100

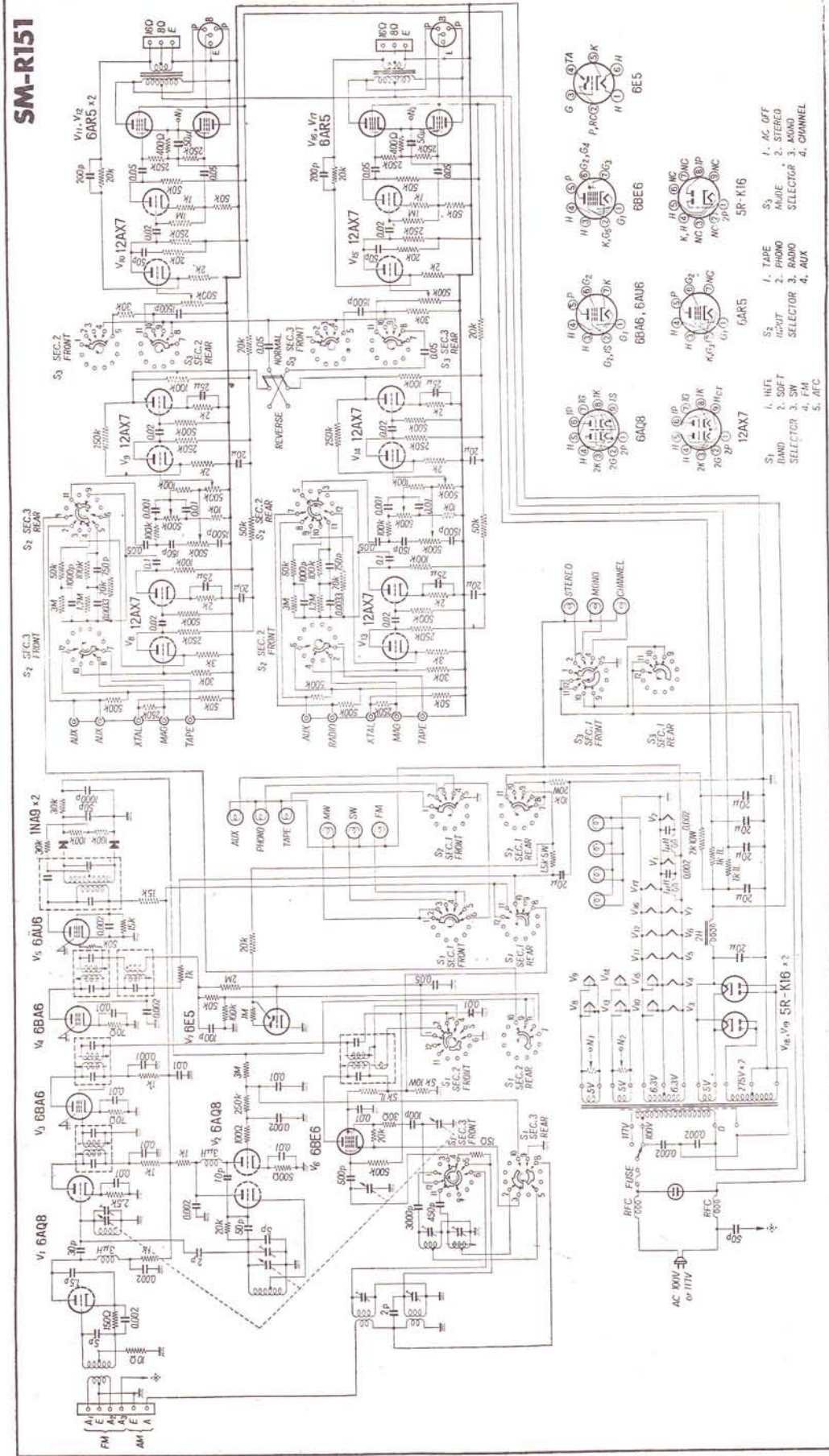


FM-B101

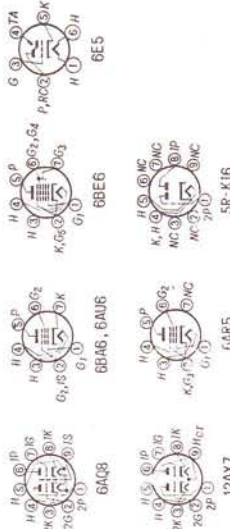




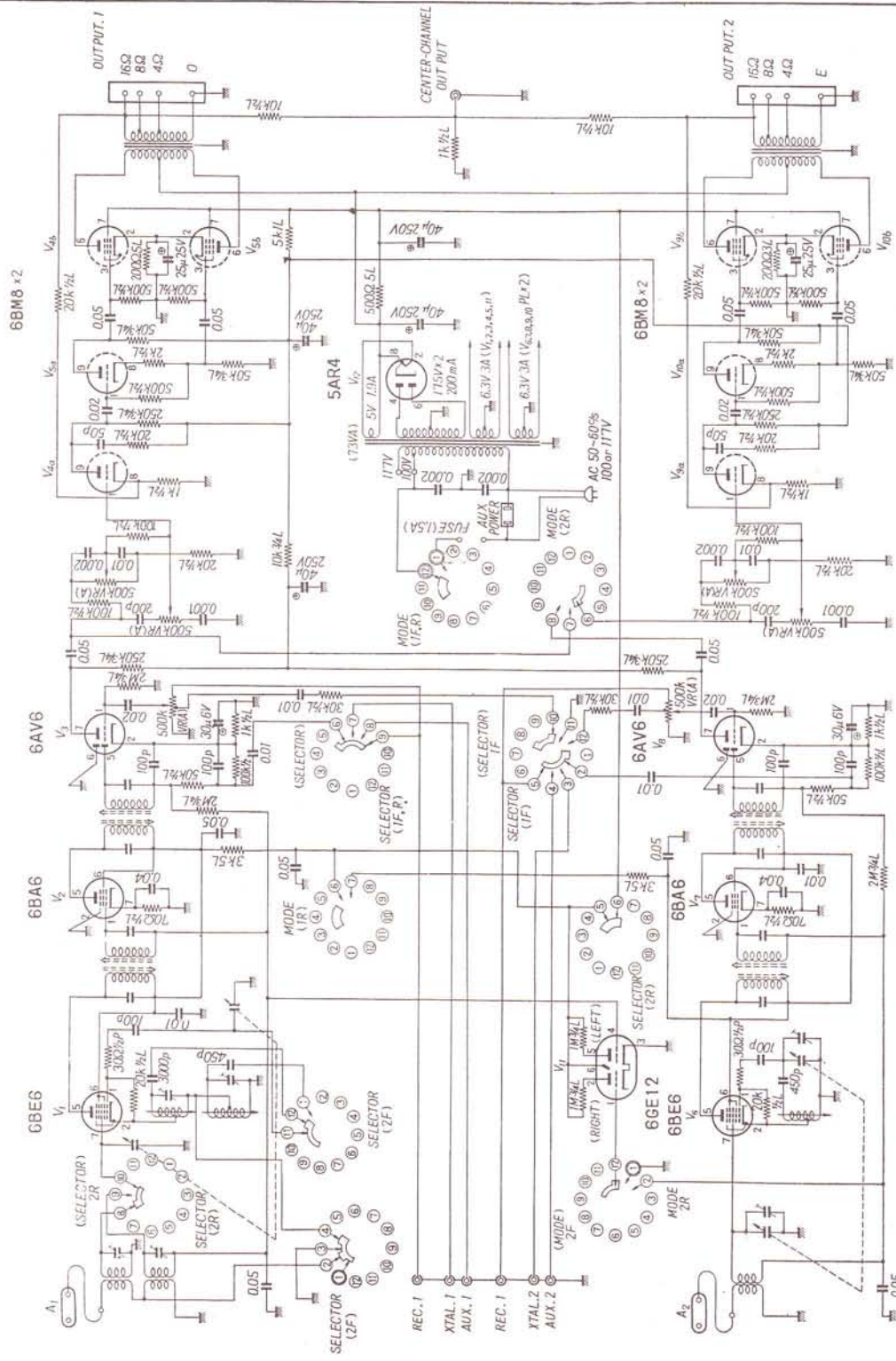
SM-R151



- S₁ BAND SELECTOR
- S₂ MODE SELECTOR
- S₃ CHANNEL SELECTOR
- S₄ REVERSE
- S₅ AUX



SM - B160



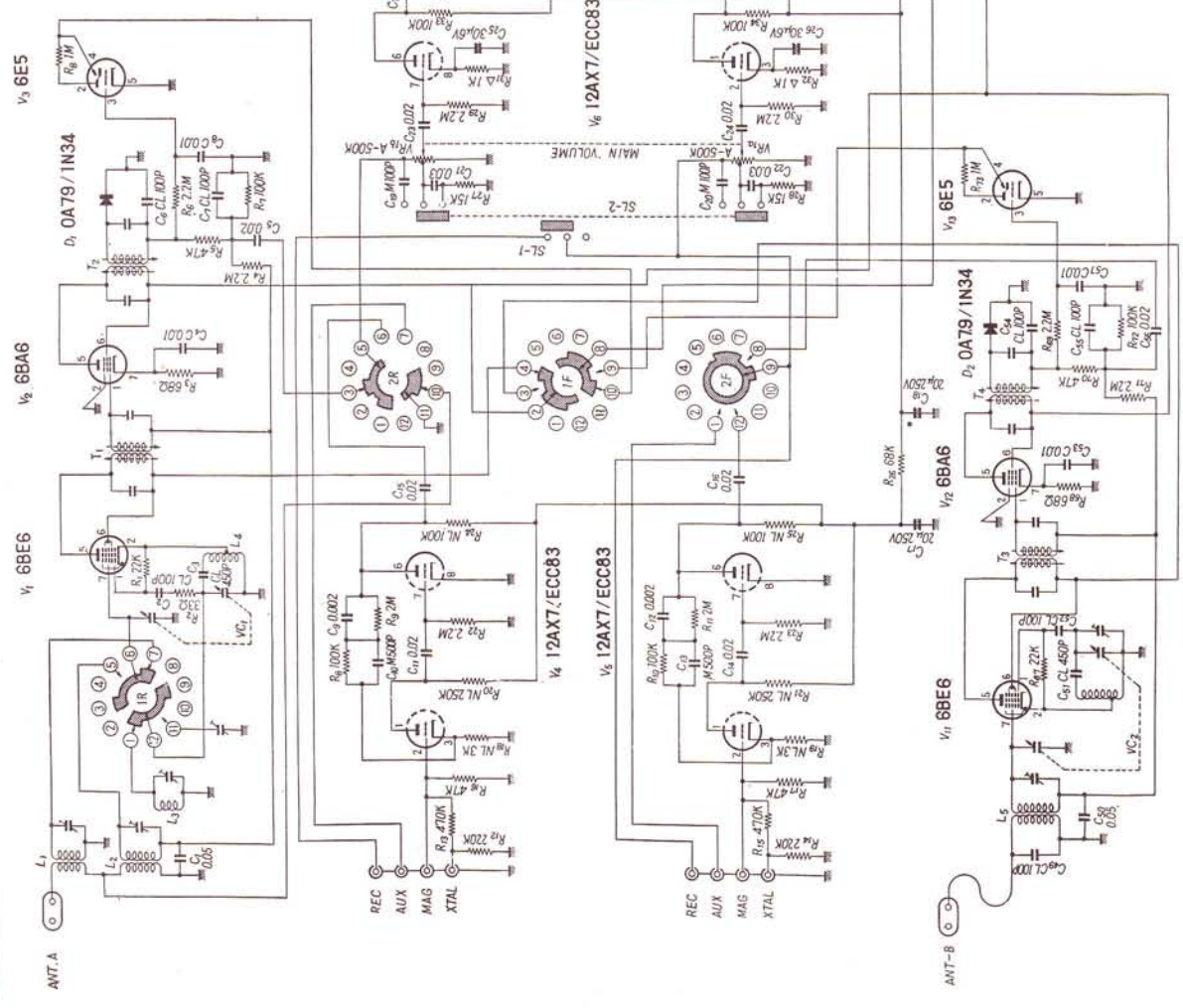
- SELECTOR (1.)** MODE SELECTOR
 1 AC-OFF
 2 MONO
 3 STEREO
- SELECTOR (2.)** INPUT SELECTOR
 1 SW
 2 MW
 3 PHONO
 4 AUX

SM-B161

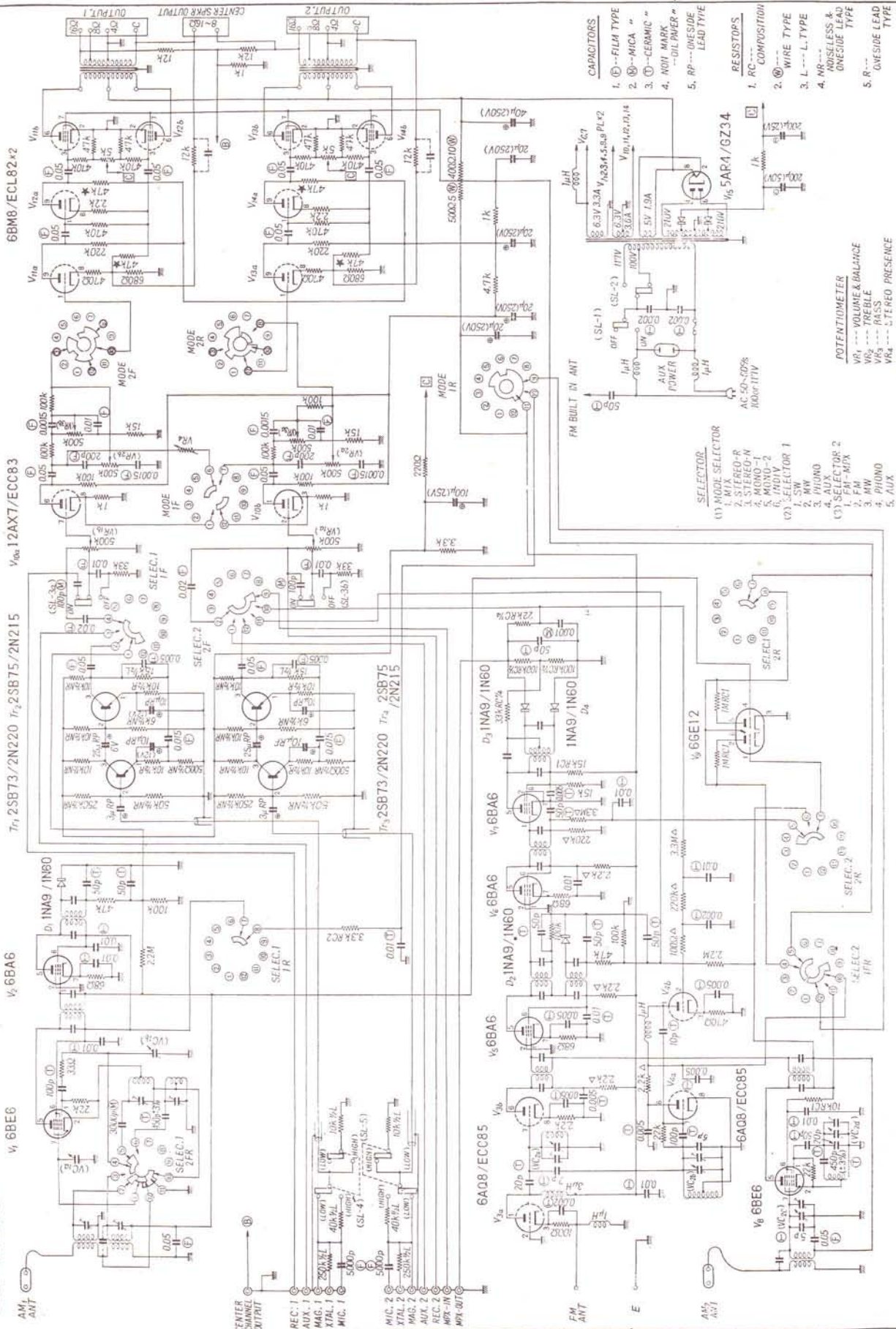
- RESISTORS**
 W---WIRE WOUND RESISTORS
 L---L-TYPE CARBON RESISTORS
 (RESISTORS 1/2 WATTS UNLESS NOTED)
 LN---LOW NOISES 1/2L-TYPE CARBON RESISTORS
 NON MARK---1/2 WATTS COMPOSITION RESISTORS
 Δ---RESISTANCE ERROR LESS THAN 10%
 Δ---RESISTANCE ERROR LESS THAN 20%

- SELECTOR**
 SW (Channel A)
 1 MW (A) / MW (B)
 2 PHONO / MW (B)
 3 AUX
 4
 5
- SL SWITCH**
 SL-1 MODE (STEREO---MONO)
 SL-2 LOUDNESS
 SL-3 VOLTAGE SELECTOR
 SL-4 POWER SWITCH

- CAPACITORS**
 C---CEMIC CAPACITORS
 M---MICA CAPACITORS
 E---ELECTROLYTIC CAPACITORS
 ANM MARK OIL PAPER CAPACITORS



SM-B200

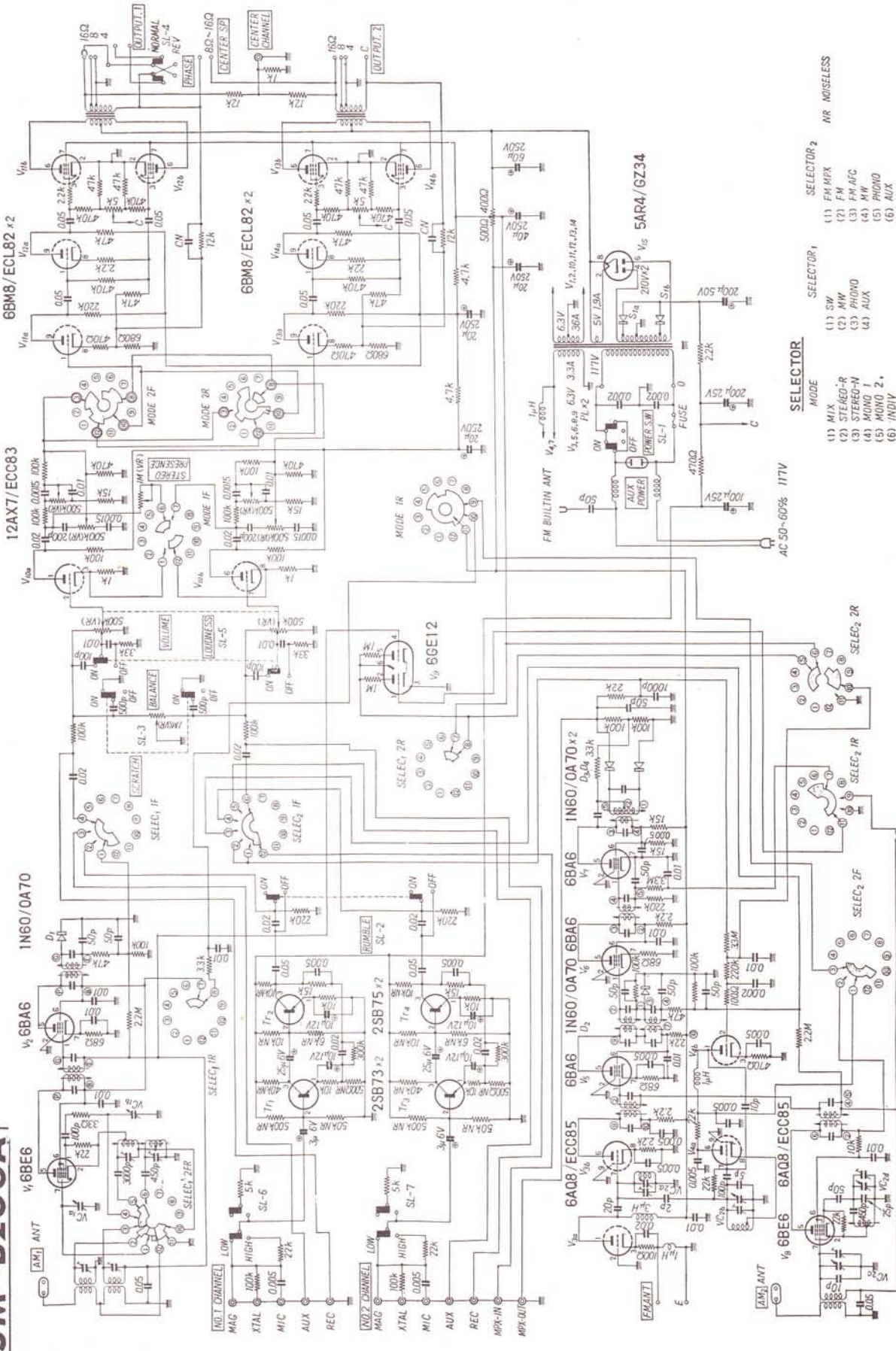


- CAPACITORS**
- ① --- FILM TYPE
 - ② --- MICA "
 - ③ --- CERAMIC "
 - ④ --- "DIL DIMER" "
 - ⑤, RP --- ONE-SIDE LEAD TYPE
- RESISTORS**
- 1, AC --- COMPOSITION
 - 2, ⑥ --- WIRE TYPE
 - 3, L --- L-TYPE
 - 4, AR --- AIRLESS & ONE-SIDE LEAD TYPE
 - 5, R --- ONE-SIDE LEAD TYPE

- POTENTIOMETER**
- V1 --- VOLUME & BALANCE
 - V2 --- TREBLE
 - V3 --- BASS
 - V4 --- STEREO PRESENCE

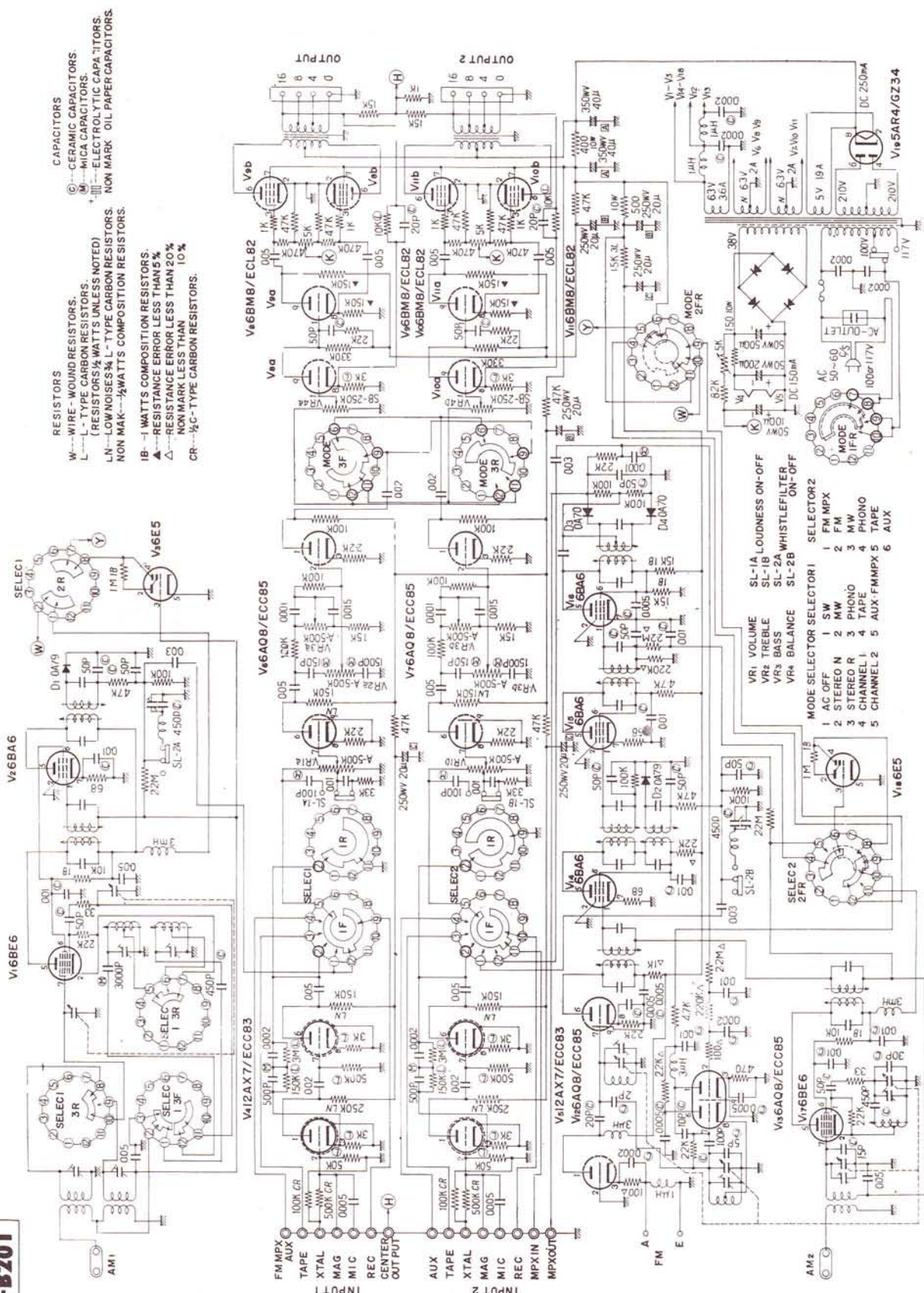
- SELECTOR**
- (1) MODE SELECTOR
 1. MIX
 2. STEREO-R
 3. MONO-1
 5. MONO-2
 6. INDIV
 - (2) SW
 1. SW
 2. PHONO
 4. AUX
 - (3) SELECTOR 2
 1. FM-MIX
 2. FM
 3. MW
 4. PHONO
 5. AUX

SM-B200A



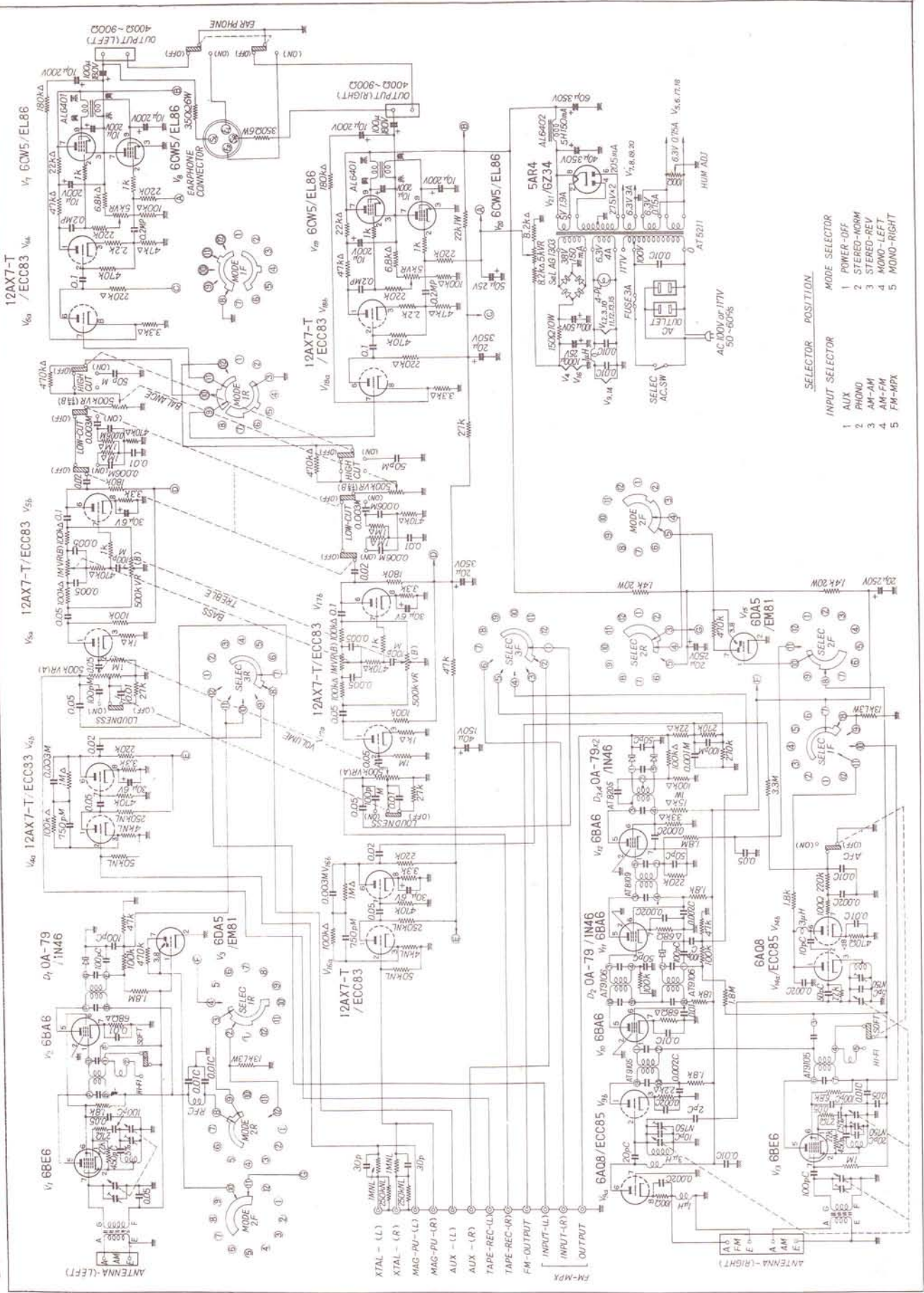
- SELEC1, SELEC2 MODE**
- (1) MIX
 - (2) STEREO-R
 - (3) STEREO-N
 - (4) MONO 1
 - (5) MONO 2
 - (6) INDIV
- SELEC1, SELEC2 MODE**
- (1) SW
 - (2) MW
 - (3) PHONO
 - (4) AUX
- NR NOISELESS**
- (1) FM MPX
 - (2) FM
 - (3) FM/ACC
 - (4) FM
 - (5) PHONO
 - (6) AUX

SM-B201

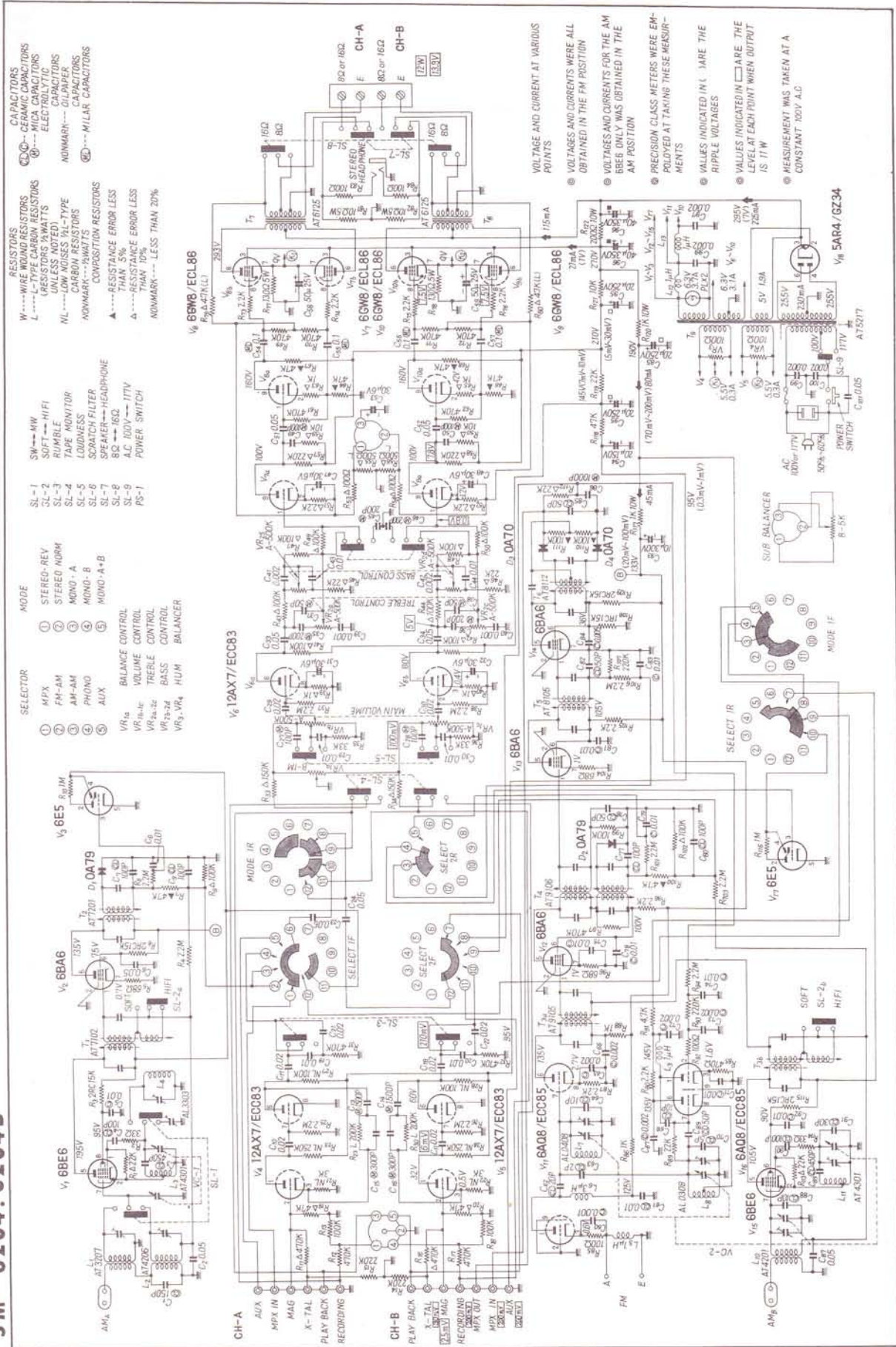


- RESISTORS**
- W - WIRE-WOUND RESISTORS
 - L - L-TYPE CARBON RESISTORS
 - M - M-TYPE CARBON RESISTORS (RESISTANCE ERROR LESS THAN 5%)
 - LN - LOW NOISE 1/4 WATT L-TYPE CARBON RESISTORS
 - NON MARK - 1/2 WATT COMPOSITION RESISTORS
 - IB - 1 WATT COMPOSITION RESISTORS
 - ▲ - RESISTANCE ERROR LESS THAN 5%
 - △ - RESISTANCE ERROR LESS THAN 20%
 - NON MARK - 1/2 WATT CARBON RESISTORS
 - CR - 1/2-C TYPE CARBON RESISTORS
- CAPACITORS**
- Ⓢ - CERAMIC CAPACITORS
 - Ⓜ - MICA CAPACITORS
 - Ⓛ - ELECTROLYTIC CAPACITORS
 - NON MARK - OIL PAPER CAPACITORS

SM - W203 (PSC - 2)



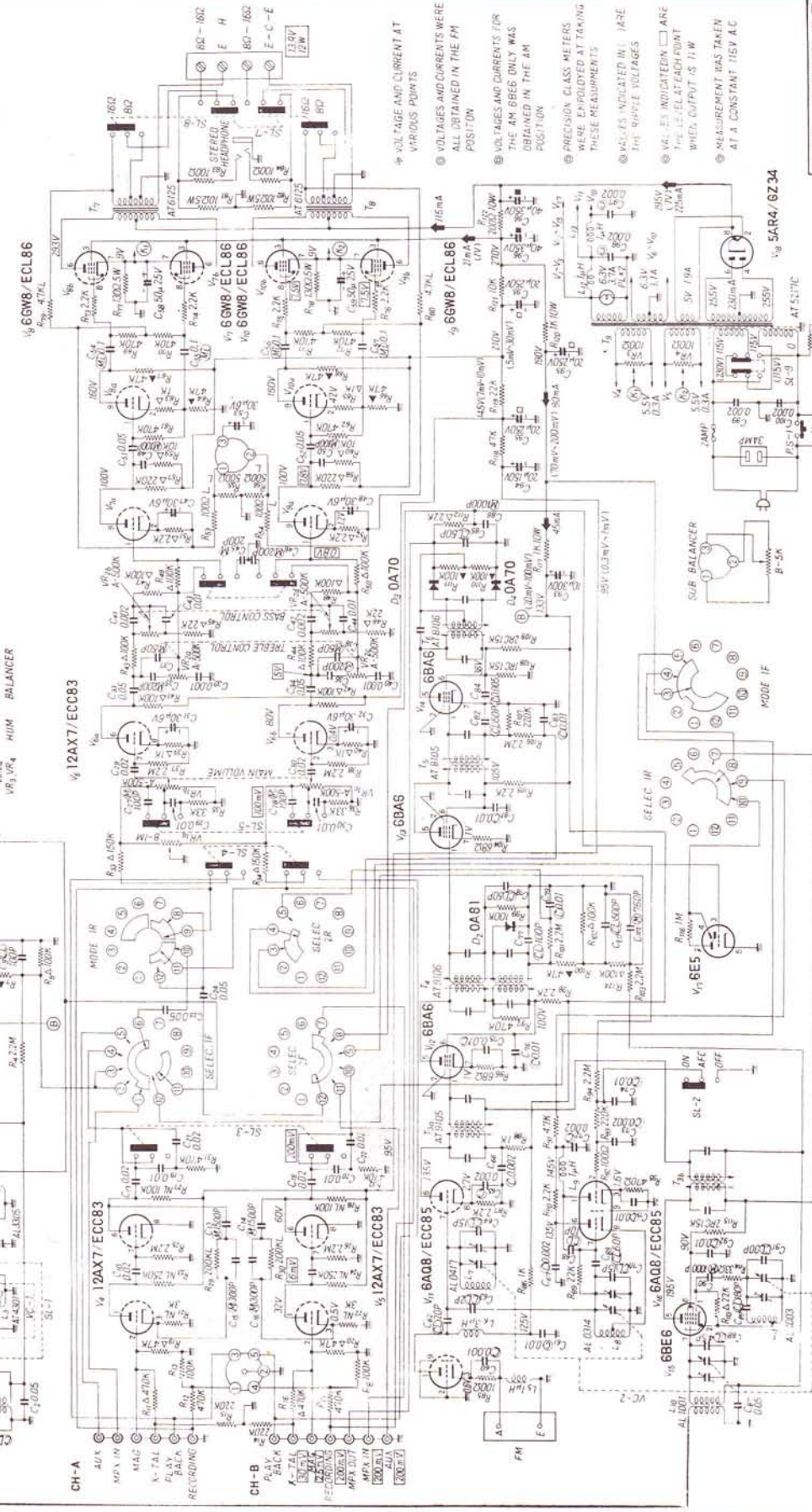
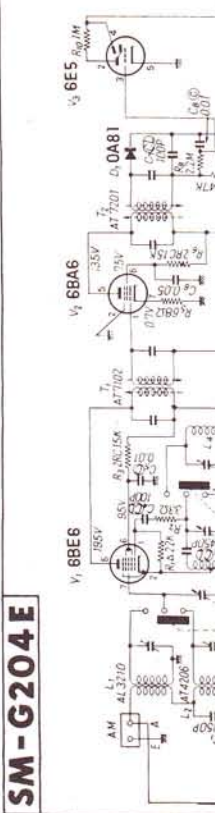
SM - G204. G204B



SM-G204E

- RESISTORS**
 W---WATTS
 L---L-TYPE CARBON RESISTORS
 (RESISTORS IN WATTS UNLESS NOTED)
 LN---LOW NOISES P-L-TYPE CARBON RESISTORS
 NOMARK---WATTS
 COMPOSITION RESISTORS
 ▲---RESISTANCE ERROR LESS THAN 5%
 △---RESISTANCE ERROR LESS THAN 10%
 NOMARK---LESS THAN 20%
- CAPACITORS**
 C---CERAMIC CAPACITORS
 E---ELECTROLYTIC CAPACITORS
 CAPACITOR
 NOMARK---OIL PAPER CAPACITORS
 (M)---MILLAR CAPACITORS

- MODE**
 (1) R } STEREO
 (2) M }
 (3) N }
 (4) MONO - A
 (5) MONO - B
 (6) MONO - A + B
- SELECTOR**
 (1) MPX
 (2) FM-AM
 (3) LW-AM
 (4) PHONO
 (5) AUX
- FUNCTIONS**
 SW---MW
 ON-AFC-OFF
 RUMBLE FILTER
 TAPE MONITOR
 LOUDNESS
 SCRATCH FILTER
 SPEAKER---HEADPHONE
 RO---RO
 A.C. 115V---230V
 POWER ON-OFF
- CONTROLS**
 VR₁₈ BALANCE CONTROL
 VR₁₉ VOLUME CONTROL
 VR₂₀ TREBLE CONTROL
 VR₂₁ BASS CONTROL
 VR₂₂ HUIR BALANCER

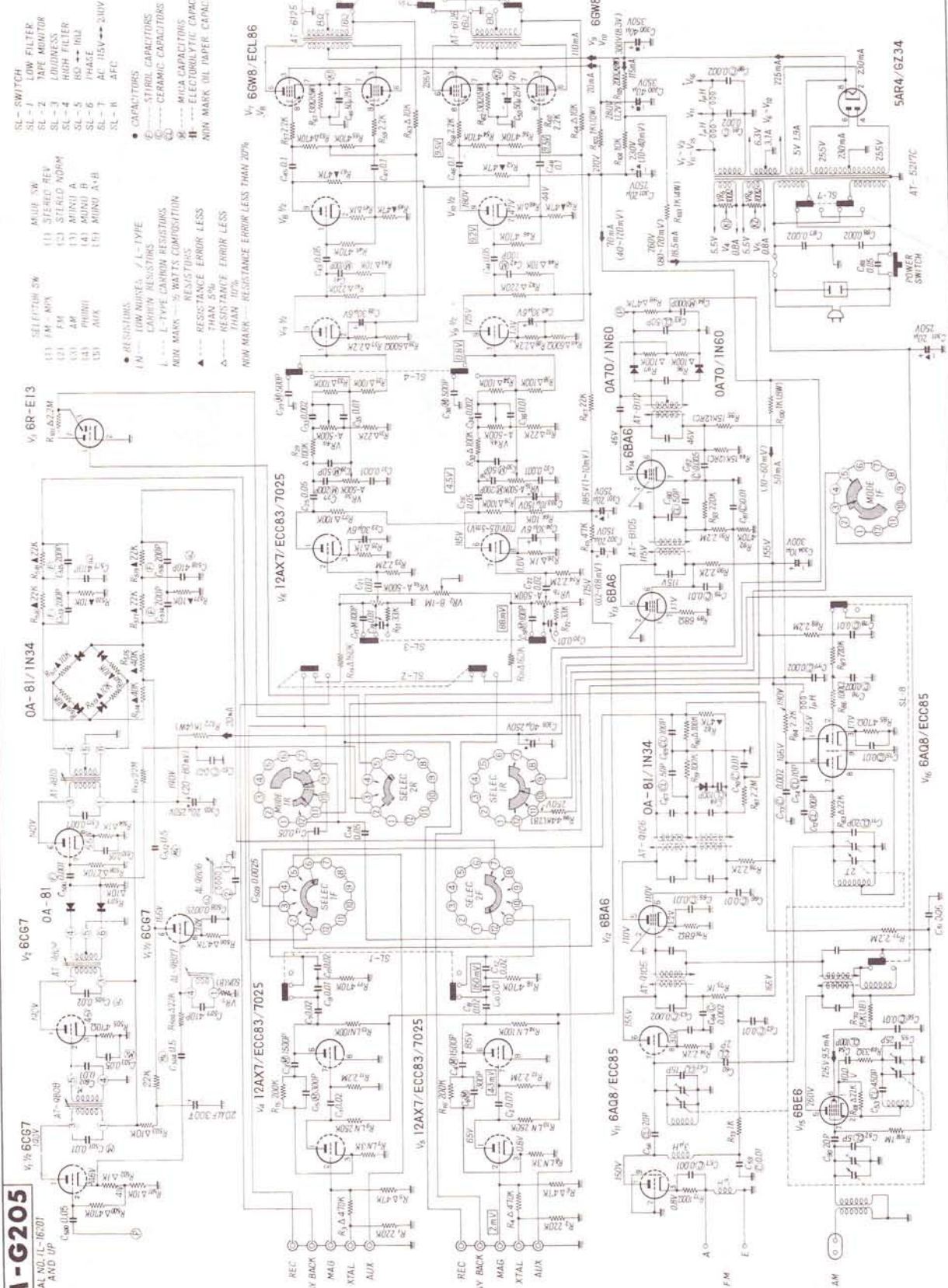


SM-G204E

- ⊕ VOLTAGE AND CURRENT AT VARIOUS POINTS
- ⊙ VOLTAGES AND CURRENTS WERE ALL OBTAINED IN THE PH POSITION
- ⊛ VOLTAGES AND CURRENTS FOR THE AM 6BE6 ONLY WAS OBTAINED IN THE AM POSITION
- ⊜ PRECISION CLASS METERS WERE EMPLOYED AT TAKING THESE MEASUREMENTS
- ⊝ VALVES INDICATED IN LARE THE RIPLE VOLTAGES
- ⊞ VALVES INDICATED IN ARE THE LEVEL AT EACH POINT WHEN OUTPUT IS 1 W
- ⊟ MEASUREMENT WAS TAKEN AT A CONSTANT 115V AC

SM-G205

SERIAL NO. IL-16201
AND UP



- SL - SWITCH
SL-1 - LOW FILTER
SL-2 - TUNE MONITOR
SL-3 - LOUDNESS
SL-4 - HIGH FILTER
SL-5 - RD - 0.2
SL-6 - PHASE
SL-7 - AT 15V - 24V
SL-8 - AFC

- SELECTION SW
(1) FM - 80%
(2) STEREO REV
(3) FM
(4) AM
(5) PHONO
(6) AUX

- RESISTORS
LOW NUMBERS - 1% TYPE
LARGE NUMBERS - 5% TYPE
L - TYPE CARBON RESISTORS
NUM MARK - 5% WATTS COMPOSITION
RESISTORS
RESISTANCE ERROR LESS
THAN 5%
RESISTANCE ERROR LESS
THAN 10%

- CAPACITORS
E - STYROL CAPACITORS
C - CERAMIC CAPACITORS
M - MYLA CAPACITORS
P - ELECTROLYTIC CAPACITORS
NUM MARK OIL PAPER CAPACITORS

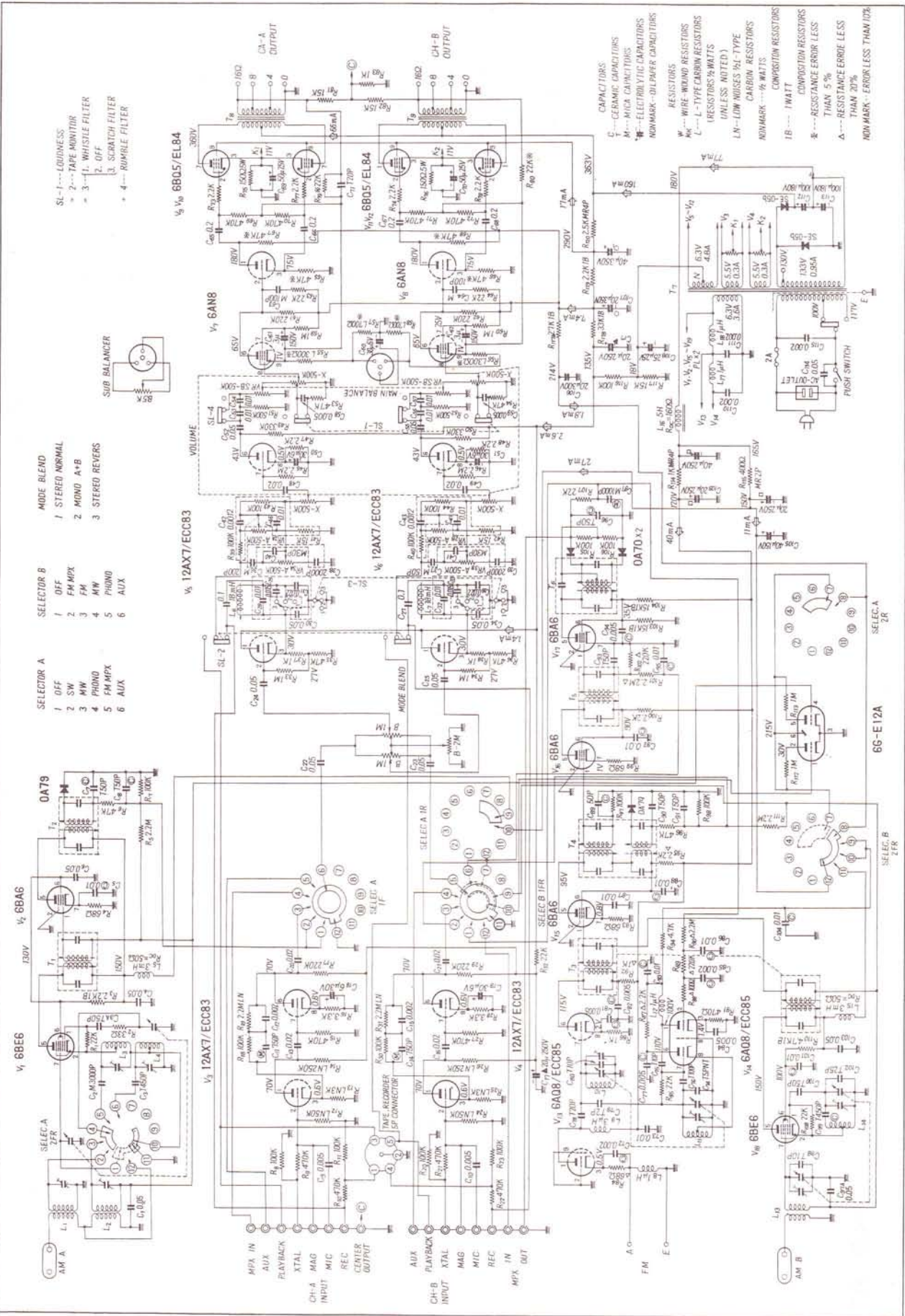
- MIN MARK - RESISTANCE ERROR LESS THAN 20%

- MIN MARK - RESISTANCE ERROR LESS THAN 20%

- MIN MARK - RESISTANCE ERROR LESS THAN 20%

- MIN MARK - RESISTANCE ERROR LESS THAN 20%

SM-Q300.Q300A.Q300B



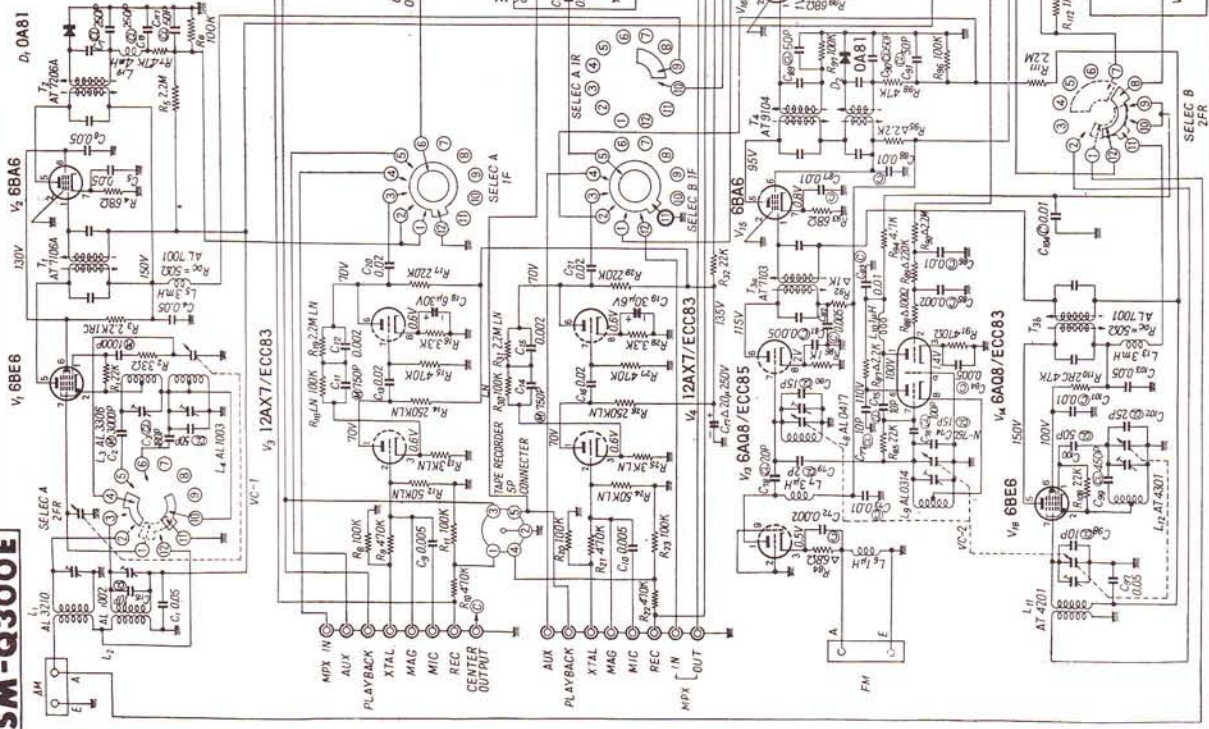
SM-Q300E

- SE-1... LOUDNESS
- TR-1... TAPE MONITOR
- TR-2... WHISTLE FILTER
- TR-3... SCRATCH FILTER
- TR-4... RUMBLE FILTER
- TR-5... VOLTAGE SELECT
- SW-1... POWER SWITCH (USH TYPE)

- TR-1... MODE BLEND
- TR-2... TREBLE CONTROL
- TR-3... BASS CONTROL
- TR-4... VOLUME CONTROL
- TR-5... BALANCE CONTROL
- TR-6... HUM BALANCER

- SELECTOR A
 - 1 OFF
 - 2 SW
 - 3 LW
 - 4 PHONO
 - 5 FM MPX
 - 6 AUX
- SELECTOR B
 - 1 OFF
 - 2 FM MPX
 - 3 STEREO REVERS
- MODE BLEND
 - 1 STEREO NORMAL
 - 2 MONO A+B
 - 3 STEREO REVERS

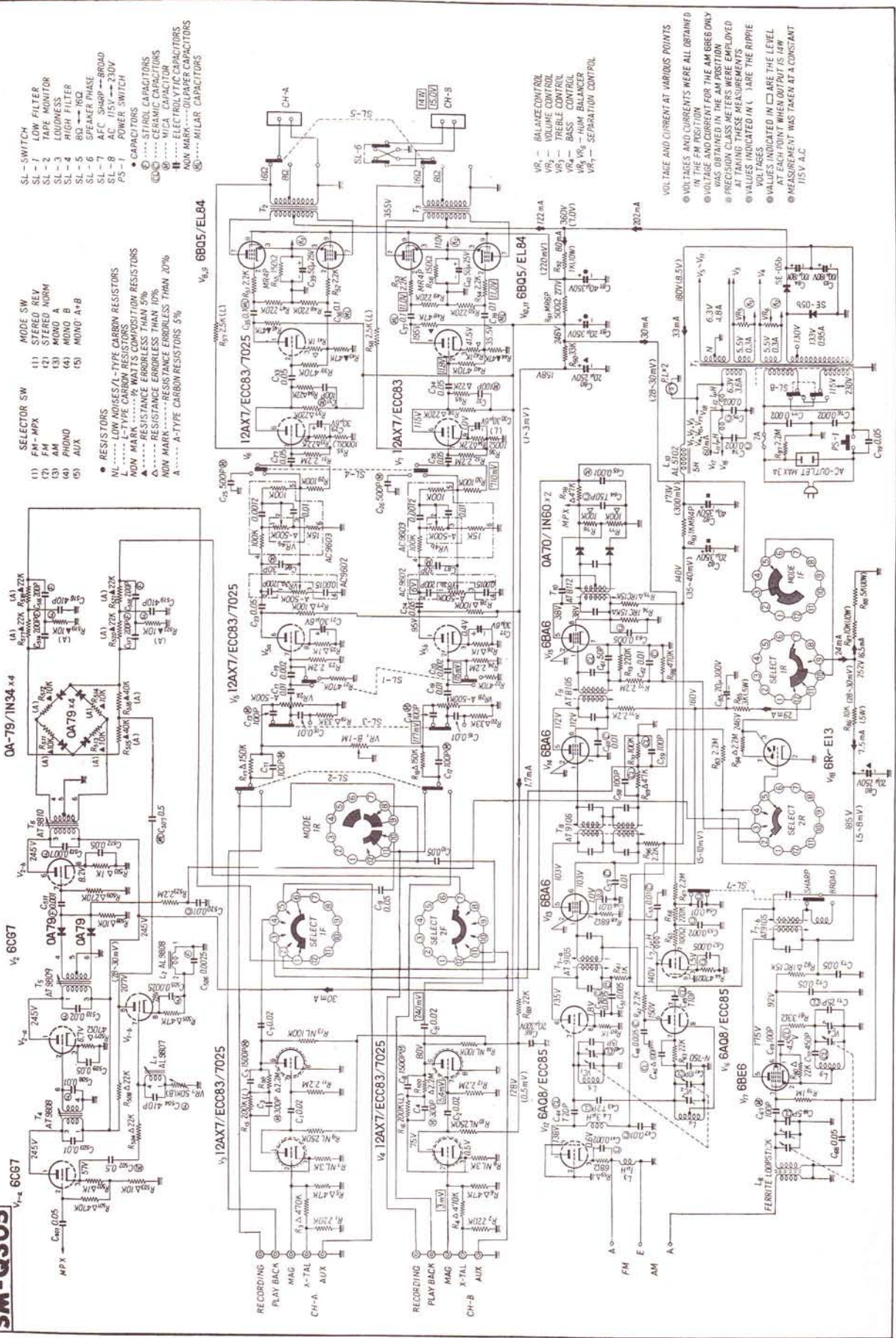
電圧・電流測定用の条件
 SELECTOR A 3 LW
 SELECTOR B 3 FM
 MODE BLEND STEREO NORMAL



- CAPACITOR
- CERAMIC CAPACITORS
- MICA CAPACITORS
- ELECTROLYTIC CAPACITORS
- NOMARK OIL PAPER CAPACITORS
- MILAR CAPACITORS
- RESISTORS
- WIRE-WOUND RESISTORS
- L-TYPE CARBON RESISTORS (RESISTORS IN WATTS UNLESS NOTED)
- LOW NOISES IN-TYPE CARBON RESISTOR
- NOMARK... 1/2 WATTS CONDUCTION RESISTOR
- CONDUCTION RESISTORS
- RESISTANCE ERROR LESS THAN 5%
- RESISTANCE ERROR LESS THAN 20%
- NOMARK LESS THAN 10%

SM-Q300E

SM-Q305

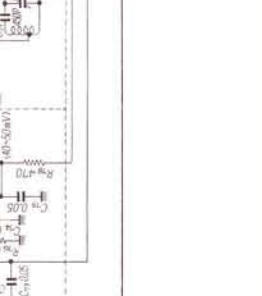
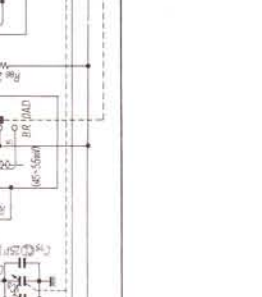
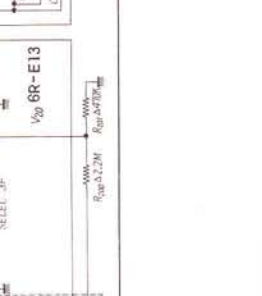
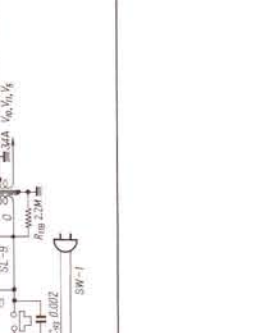
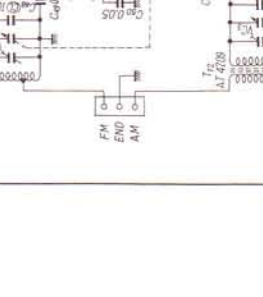
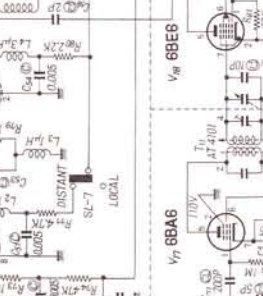
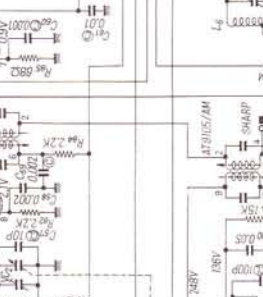
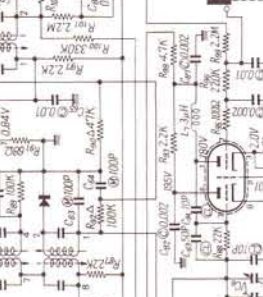
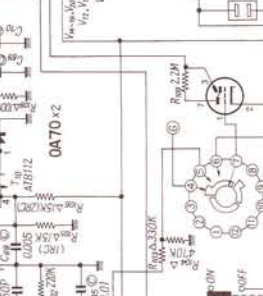
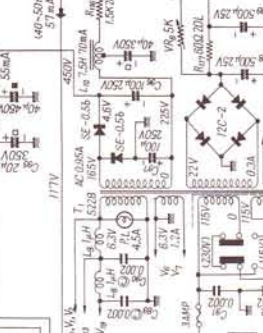
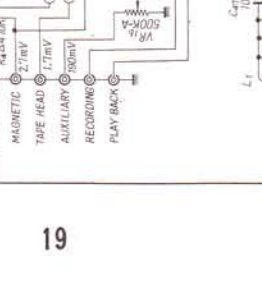
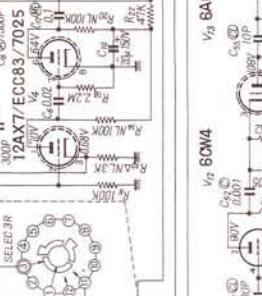
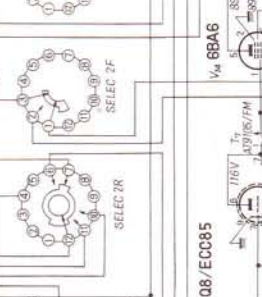
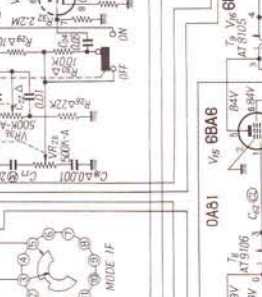
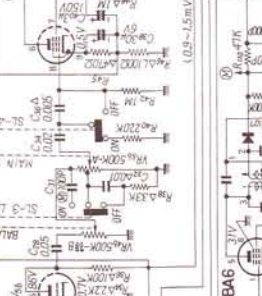
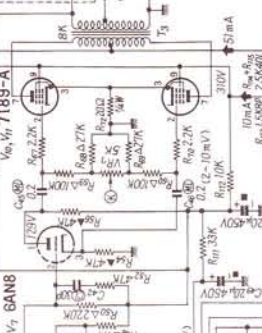
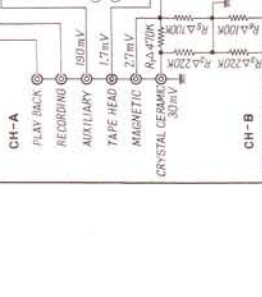
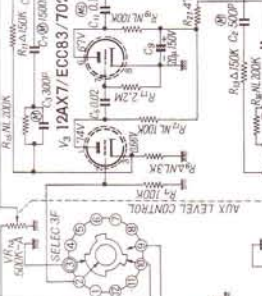
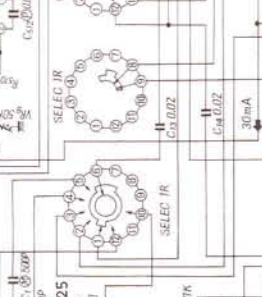
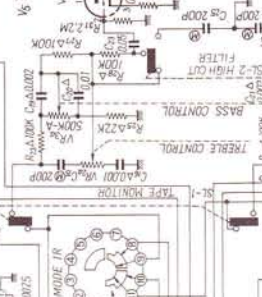
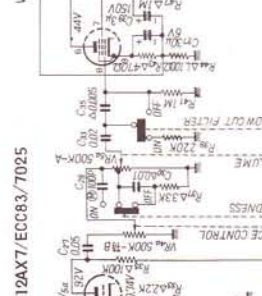
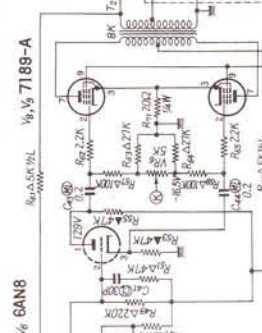
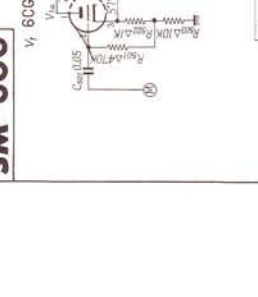
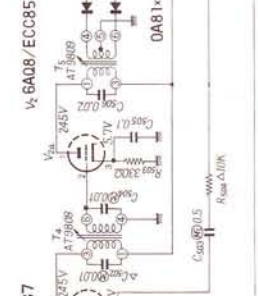
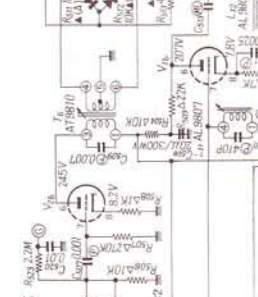
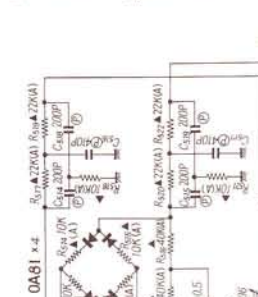
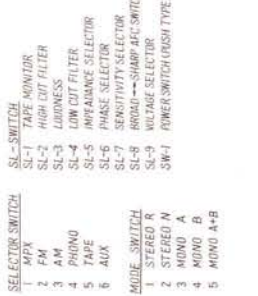


- MODE SW**
- (1) STEREO REV.
 - (2) STEREO NORM.
 - (3) AM
 - (4) MONO B
 - (5) MONO A+B
- SELECTOR SW**
- (1) FM-MPX
 - (2) STEREO
 - (3) AM
 - (4) MONO B
 - (5) MONO A+B
- RESISTORS**
- RESISTORS ARE 1/4-WATT CARBON RESISTORS
 - L-TYPE CARBON RESISTORS
 - NON-MARKED RESISTORS ARE 5% TOLERANCE
 - RESISTANCE ERRORLESS THAN 10%
 - RESISTANCE ERRORLESS THAN 20%
 - A-TYPE CARBON RESISTORS 5%
- CAPACITORS**
- STROBE CAPACITORS
 - CERAMIC CAPACITORS
 - VICA CAPACITOR
 - ELECTROLYTIC CAPACITORS
 - MILAR CAPACITORS

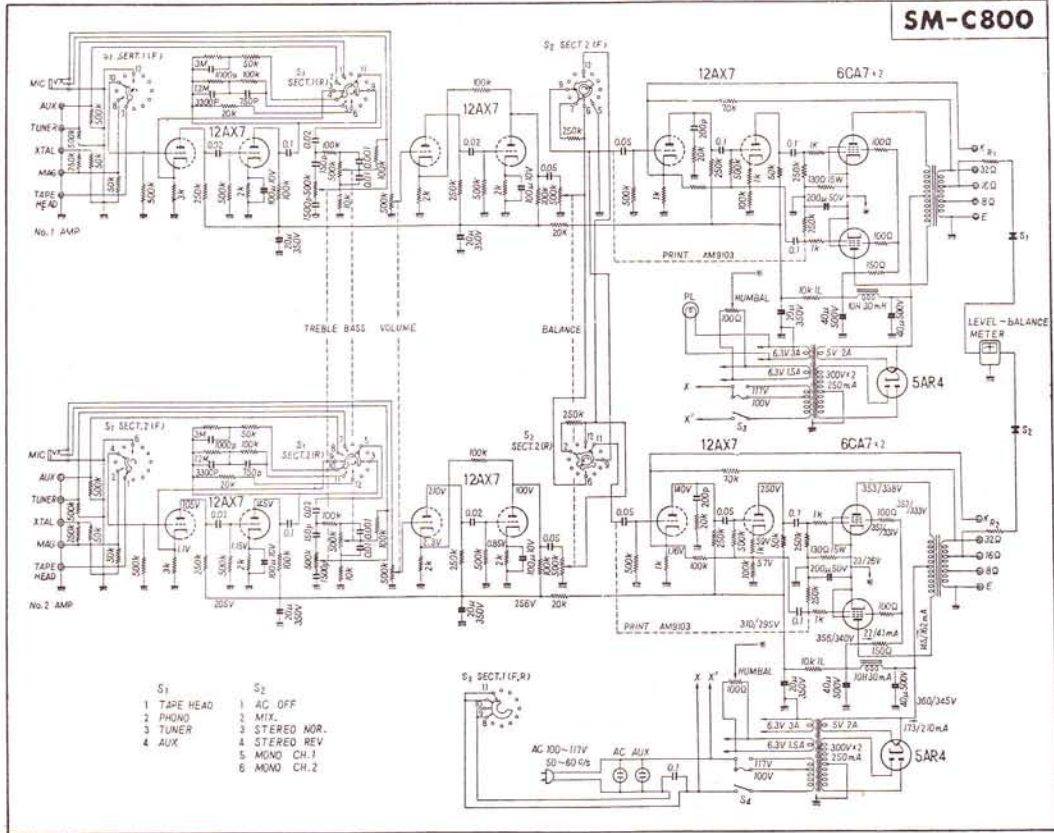
- VARIABLES**
- VR₁ - BALANCE CONTROL
 - VR₂ - VOLUME CONTROL
 - VR₃ - TREBLE CONTROL
 - VR₄ - BASS CONTROL
 - VR₅ - HUM BALANCER
 - VR₆ - SEPARATION CONTROL
- VOLTAGE AND CURRENT AT VARIOUS POINTS**
- VOLTAGES AND CURRENTS WERE ALL OBTAINED IN THE FM POSITION
 - VOLTAGE AND CURRENT FOR THE AM BREG ONLY WAS OBTAINED IN THE AM POSITION
 - VALUES INDICATED IN [] ARE THE RIPPLE
 - VALUES INDICATED IN [] ARE THE LEVEL AT EACH POINT WHEN OUTPUT IS 14W
 - MEASUREMENT WAS TAKEN AT A CONSTANT 115V A.C.

SM-600

- SL-SWITCH**
- 1 MPX
 - 2 FM
 - 3 AM
 - 4 PHONO
 - 5 TAPE
 - 6 AUX
- MODE SWITCH**
- 1 STEREO R
 - 2 STEREO L
 - 3 MONO A
 - 4 MONO B
 - 5 MONO A+B
- SELECTOR SWITCH**
- 1 TAPE MONITOR
 - 2 HIGH CUT FILTER
 - 3 LOUDNESS
 - 4 LOW CUT FILTER
 - 5 INFRA-BASS SELECTOR
 - 6 PHASE SELECTOR
 - 7 SENSITIVITY SELECTOR
 - 8 BROAD-SHARP AFC SWITCH
 - 9 VOLTAGE SELECTOR
 - SW-1 POWER SWITCH (PUSH TYPE)
- VOLUME**
- V₁ AUX LEVEL CONTROL
 - V₂ TREBLE CONTROL
 - V₃ BASS CONTROL
 - V₄ BALANCE CONTROL
 - V₅ MAIN VOLUME
 - V₆ V₇ 708-A
 - V₈ DC BALANCE CONTROL
 - V₉ 708B-A BIAS CONTROL
 - V₁₀ SEPARATION CONTROL
- RESISTOR**
- LW --- LOW NOISE / L-TYPE CARBON RESISTORS
 - L --- L-TYPE CARBON RESISTORS
 - NIN MARK --- 1/4 WATT COMPOSITION RESISTORS
 - Δ --- RESISTANCE ERROR LESS THAN 5%
 - Δ --- RESISTANCE ERROR LESS THAN 10%
 - NIN MARK --- RESISTANCE ERROR LESS THAN 20%
 - A --- J-TYPE CARBON RESISTORS 5% CAPACITORS
 - ⊖ --- STEROL CAPACITORS
 - ⊙ --- CERAMIC CAPACITORS
 - ⊕ --- MICA CAPACITORS
 - W --- WIRE WOUND RESISTORS
 - ⊖ --- ELECTROLYTIC CAPACITORS
 - NIN MARK --- OIL PAPER CAPACITORS ERROR 20%
 - Δ --- OIL PAPER CAPACITORS ERROR 10%
 - ⊖ --- MILAR CAPACITORS
 - ⊕ --- POLY ETHYLENE CAPACITORS

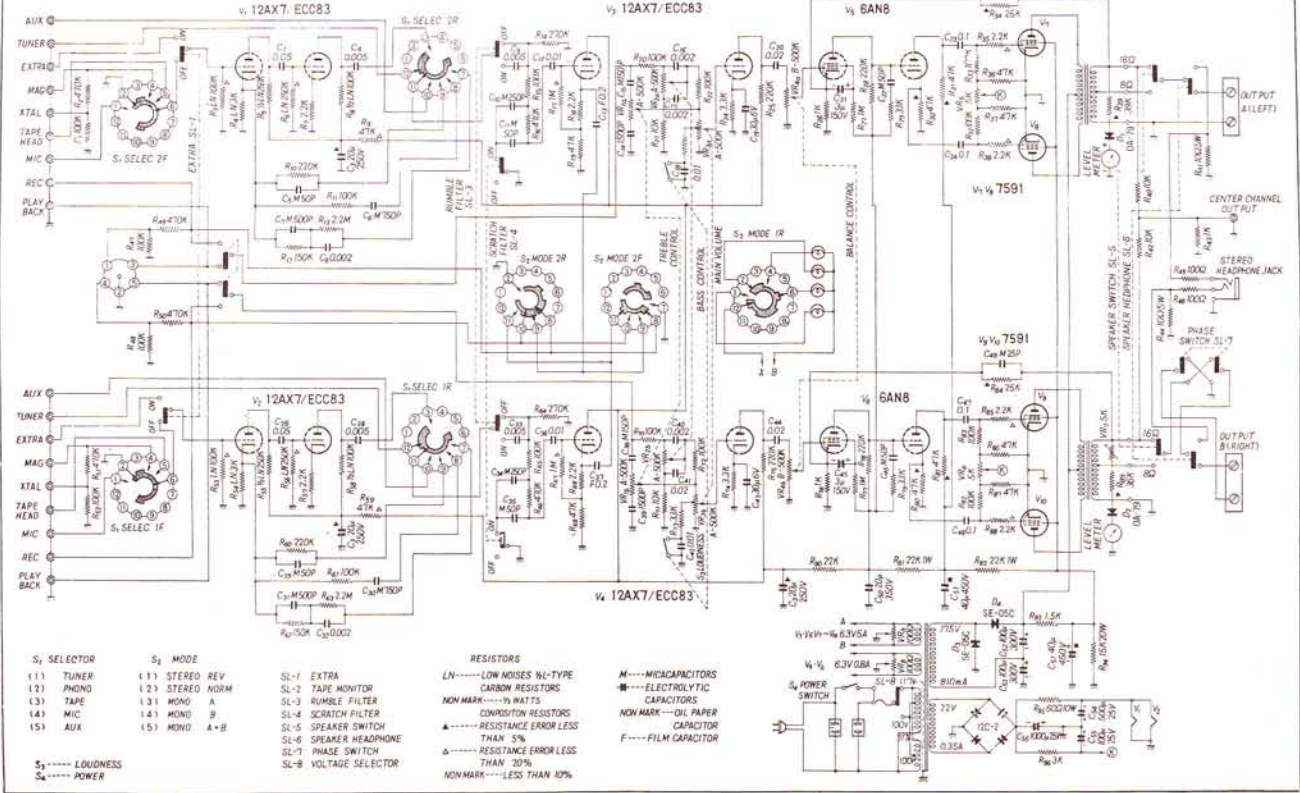


SM-C800



- S₁ S₂
- | | |
|-------------|---------------|
| 1 TAPE HEAD | 1 AC OFF |
| 2 PHONO | 2 MIX. |
| 3 TUNER | 3 STEREO MON. |
| 4 AUX | 4 STEREO REV |
| | 5 MONO CH. 1 |
| | 6 MONO CH. 2 |

SM-801



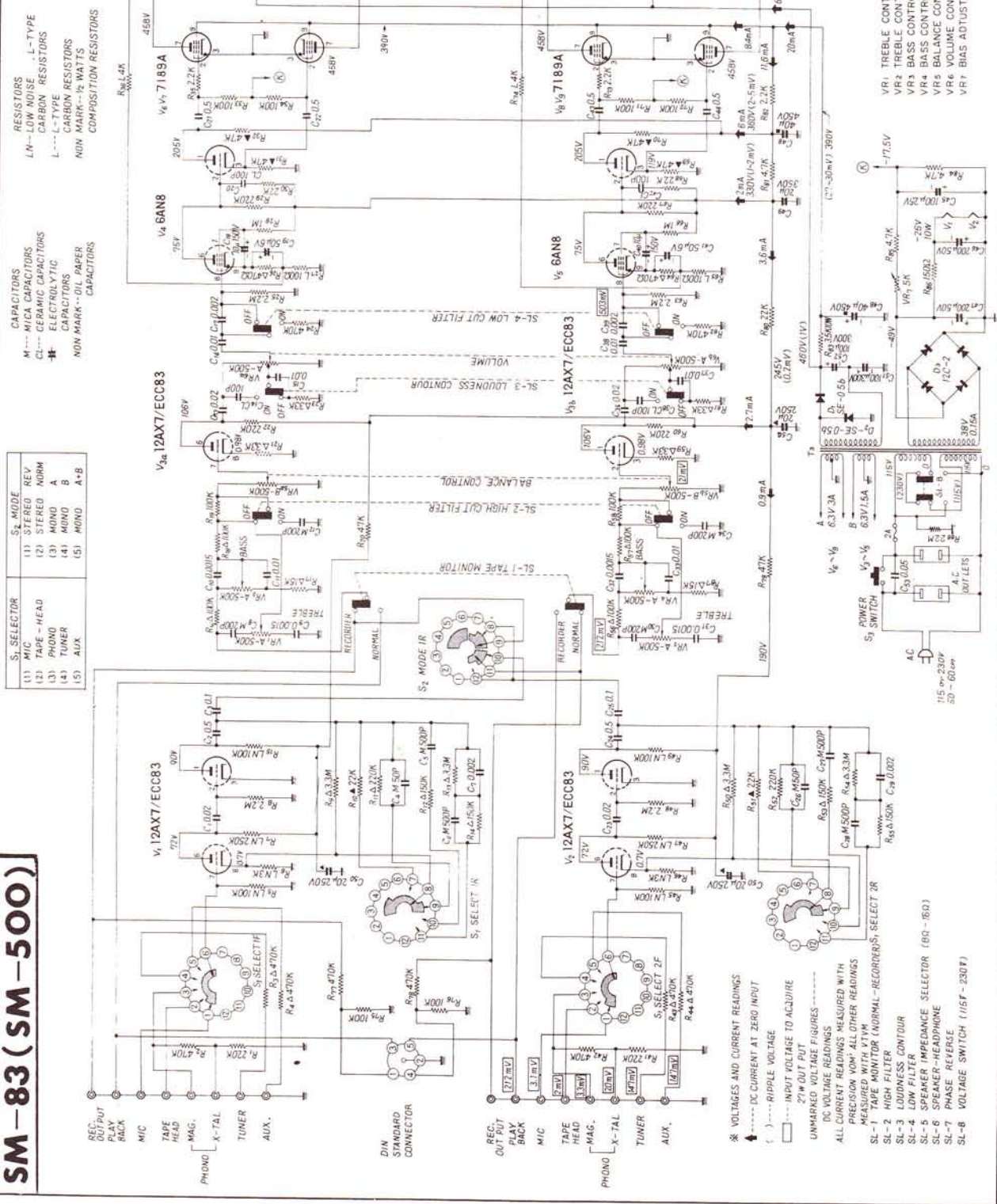
- | | | | | |
|-------------------------|---------------------|------------------------|---|-----------------------------------|
| S ₁ SELECTOR | S ₂ MODE | SL-1 EXTRA | RESISTORS | M-----MICROCAPACITORS |
| (1) TUNER | (1) STEREO REV | SL-2 TAPE MONITOR | LN-----LOW NOISES ½-WATT CARBON RESISTORS | •-----ELECTROLYTIC CAPACITORS |
| (2) PHONO | (2) STEREO NORM | SL-3 RUMBLE FILTER | NON-MARK-----½-WATT CONDUCTION RESISTORS | NON-MARK-----OIL PAPER CAPACITORS |
| (3) TAPE | (3) MONO A | SL-4 SCRATCH FILTER | ▲-----RESISTANCE ERROR LESS THAN 5% | ○-----FILM CAPACITOR |
| (4) MIC | (4) MONO B | SL-5 SPEAKER SWITCH | △-----RESISTANCE ERROR LESS THAN 20% | |
| (5) AUX | (5) MONO A+B | SL-6 SPEAKER HEADPHONE | NON-MARK-----LESS THAN 10% | |
| | | SL-7 PHASE SWITCH | | |
| | | SL-8 VOLTAGE SELECTOR | | |
- S₃-----LOUDNESS
S₄-----POWER

SM-83 (SM-500)

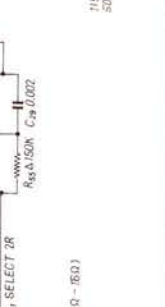
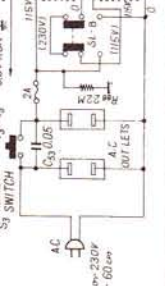
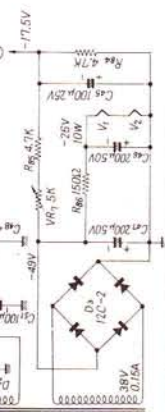
S ₁ SELECTOR	S ₂ MODE	REV
(1) MIC	(1) STEREO	(1) STEREO
(2) TAPE HEAD	(2) STEREO	(2) STEREO
(3) PHONO	(3) MONO	(3) MONO
(4) TUNER	(4) MONO	(4) MONO
(5) AUX.	(5) MONO	(5) MONO

- RESISTORS
 LN--- MICA CAPACITORS
 L--- L-TYPE CARBON RESISTORS
 L--- L-TYPE CERAMIC CAPACITORS
 L--- ELECTROLYTIC CAPACITORS
 NON MARK--- 1% WATTS
 COMPOSITION RESISTORS

- RESISTORS
 LN--- MICA CAPACITORS
 L--- L-TYPE CARBON RESISTORS
 L--- L-TYPE CERAMIC CAPACITORS
 L--- ELECTROLYTIC CAPACITORS
 NON MARK--- 1% WATTS
 COMPOSITION RESISTORS

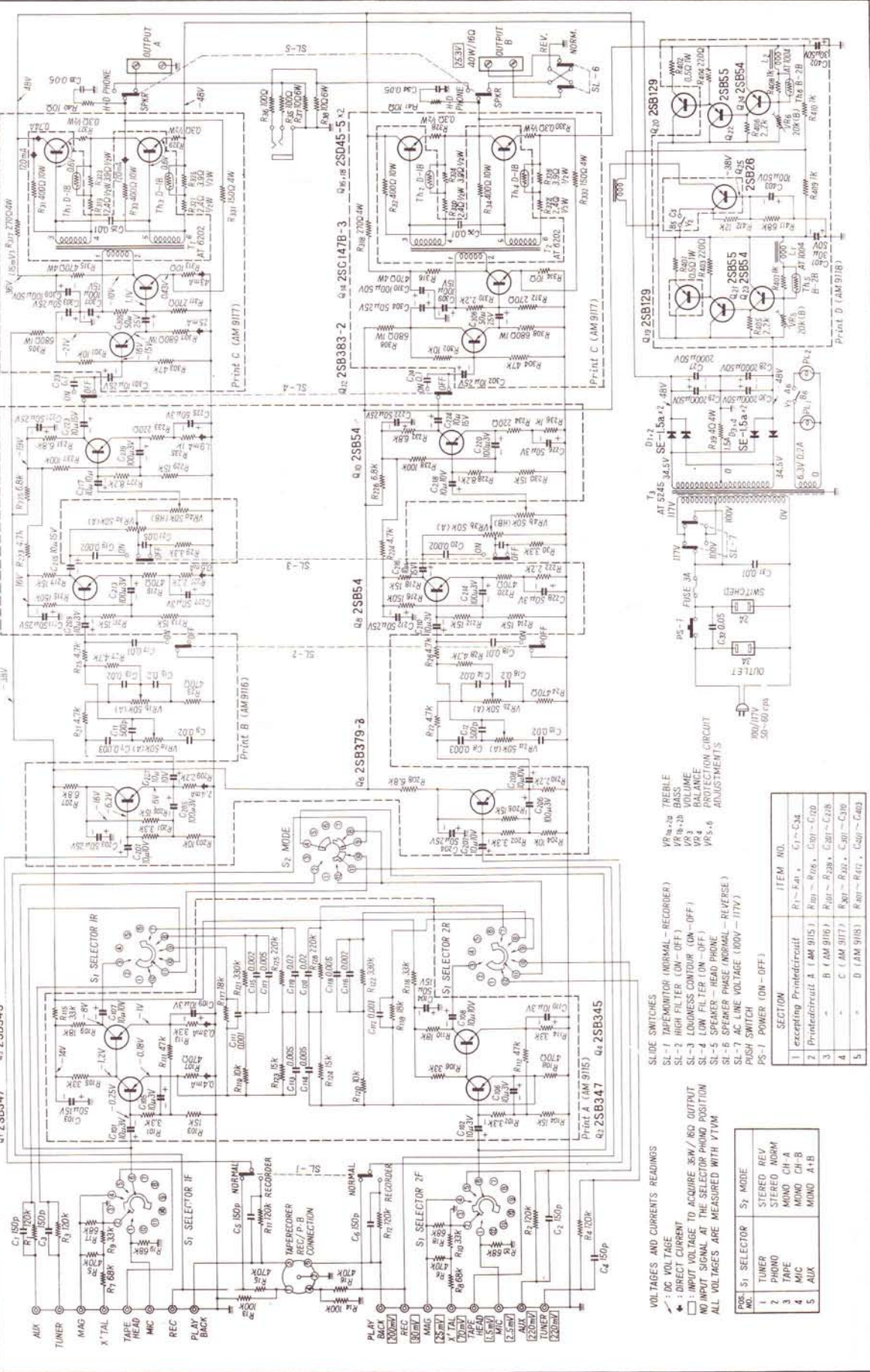


- VR1 TREBLE CONTROL (CH-A)
 VR2 TREBLE CONTROL (CH-B)
 VR3 BASS CONTROL (CH-A)
 VR4 BASS CONTROL (CH-B)
 VR5 BALANCE CONTROL (CH-B)
 VR6 VOLUME CONTROL
 VR7 BIAS ADJUSTMENTS



⊗ VOLTAGES AND CURRENT READINGS
 ⊕ DC CURRENT AT ZERO INPUT
 ⊖ RIPPLE VOLTAGE
 ⊖ INPUT VOLTAGE TO ACQUIRE
 ⊖ 27W OUTPUT
 UNMARKED VOLTAGE FIGURES
 ALL CURRENT READINGS MEASURED WITH
 PRECISION 10MΩ ALL OTHER READINGS
 MEASURED WITH VTVM
 SL-1 TAPE MONITOR (NORMAL-RECORDERS) SELECT 2R
 SL-2 HIGH FILTER
 SL-3 LOUDNESS CONTROL
 SL-4 LOW FILTER
 SL-5 SPEAKER IMPEDANCE SELECTOR (8Ω-16Ω)
 SL-6 SPEAKER-HEADPHONE
 SL-7 PHASE REVERSE
 SL-8 VOLTAGE SWITCH (115F-230V)

SMT - 84

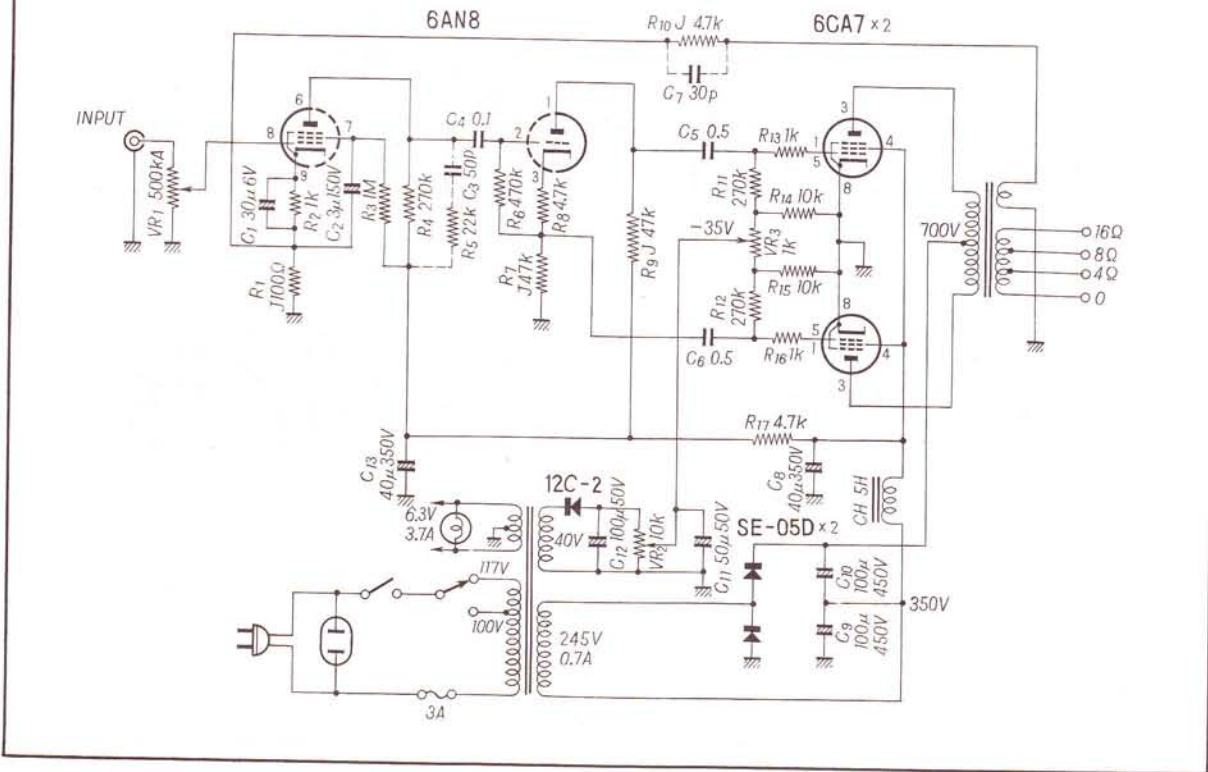


- VOLTAGES AND CURRENTS READINGS**
- DC VOLTAGE
 - DIRECT CURRENT
 - INPUT VOLTAGE TO ACQUIRE 35W/16Q OUTPUT
 - NO INPUT SIGNAL AT THE SELECTOR-PHONO POSITION
 - ALL VOLTAGES ARE MEASURED WITH VTVM
- SLIDE SWITCHES**
- SL-1 TAPEMONITOR (NORMAL - RECORDER)
 - SL-2 HIGH FILTER (ON - OFF)
 - SL-3 LOUDNESS CONTROUR (ON - OFF)
 - SL-4 LOW FILTER (ON - OFF)
 - SL-5 SPEAKER - HEAD PHONE
 - SL-6 SPEAKER PHASE (NORMAL - REVERSE)
 - SL-7 AC LINE VOLTAGE (100V - 117V)
 - PS-1 POWER (ON - OFF)

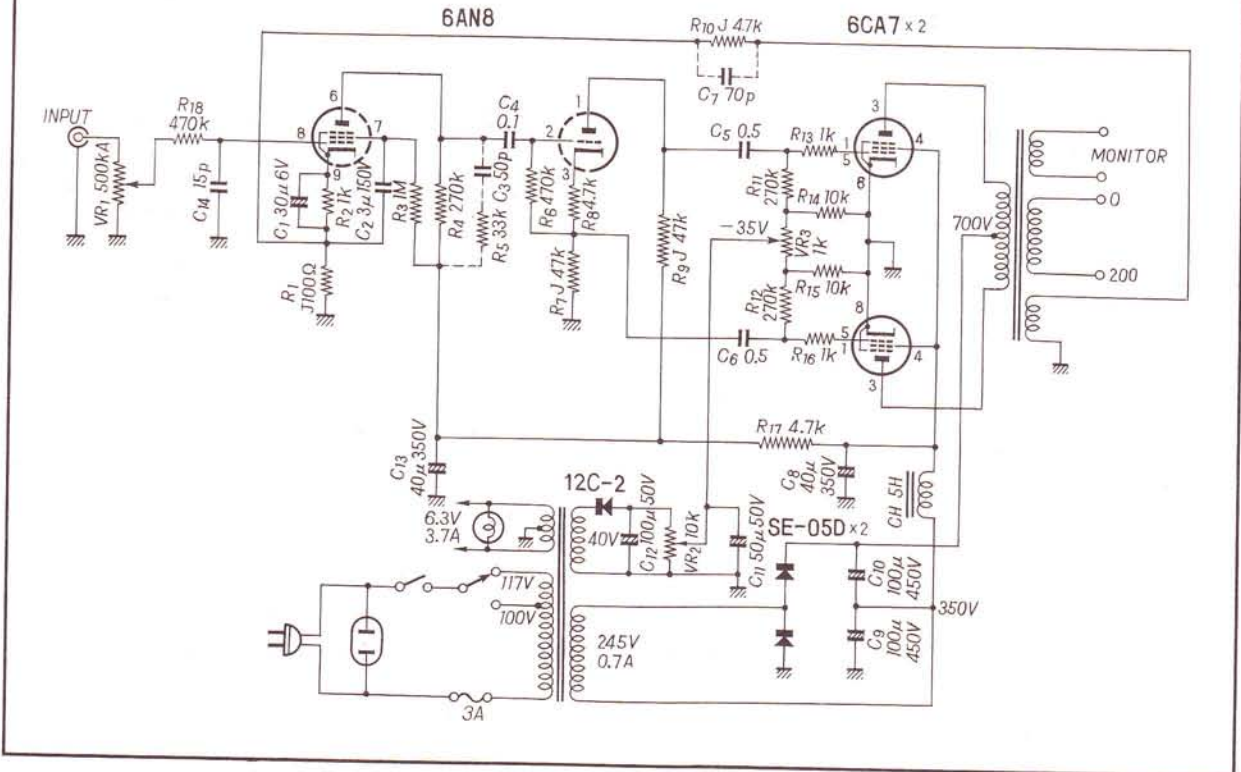
POS.	S1 SELECTOR	S2 MODE
1	TUNER	STEREO REV
2	PHONO	STEREO NORM
3	TAPE	MIND CH-A
4	MIC	MIND CH-B
5	AUX	MIND A+B

SECTION	ITEM NO.
1	Excepting Printed Circuit
2	Printed Circuit A (AM 9115)
3	Printed Circuit B (AM 9116)
4	Printed Circuit C (AM 9117)
5	Printed Circuit D (AM 9118)

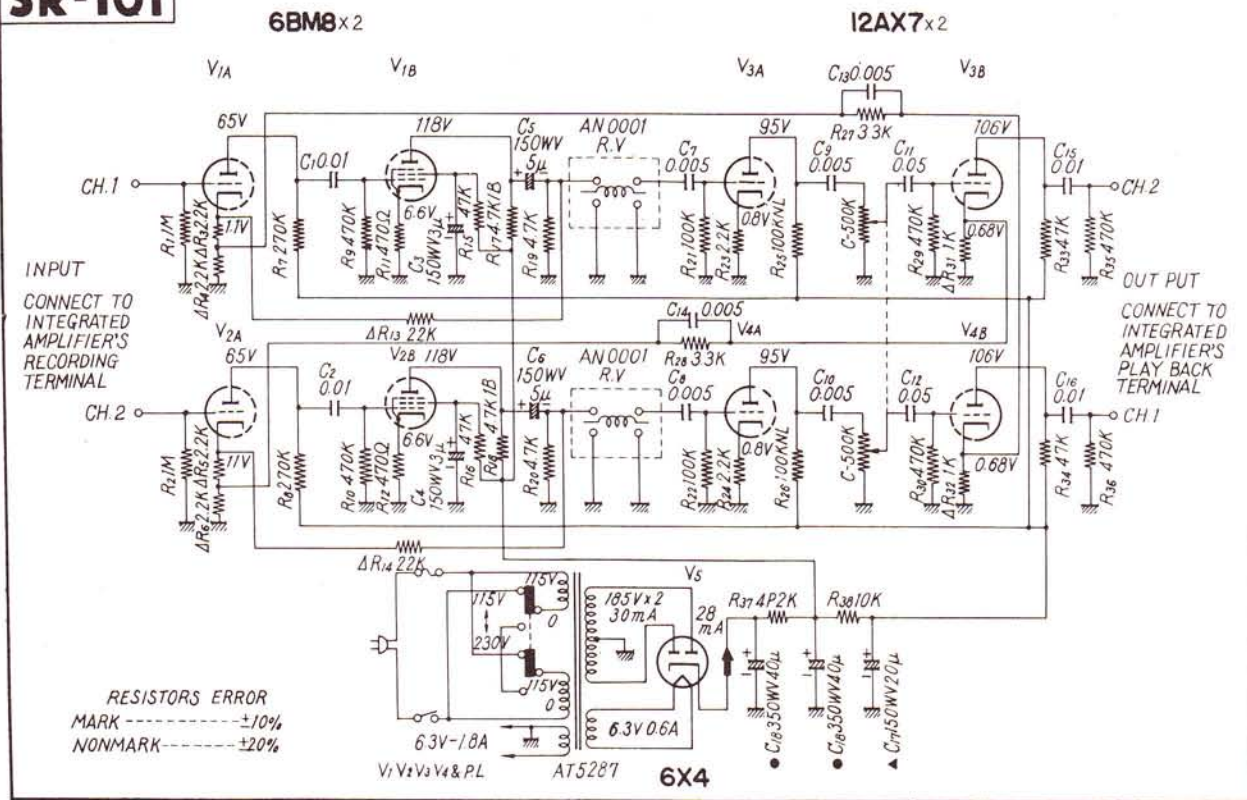
HF-90M



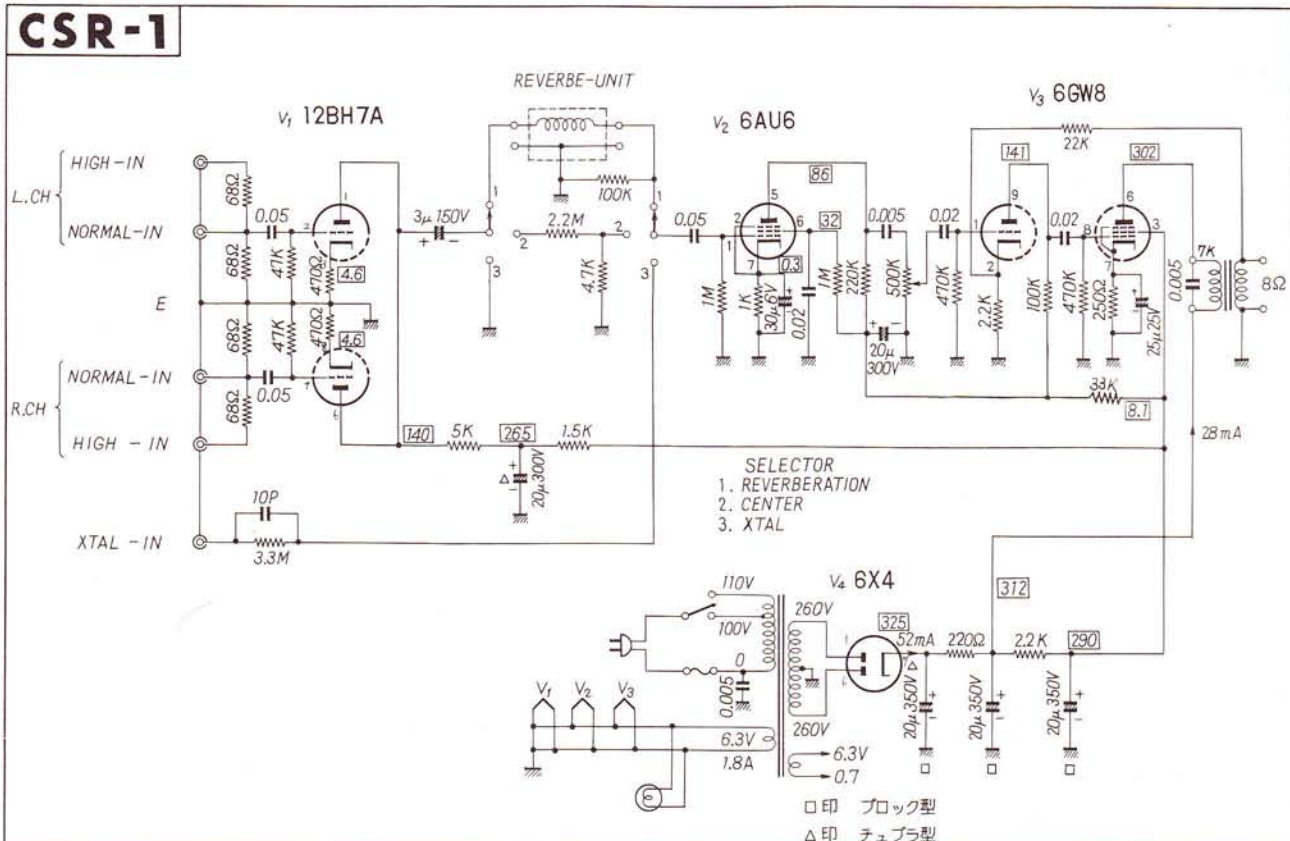
HF-90MH

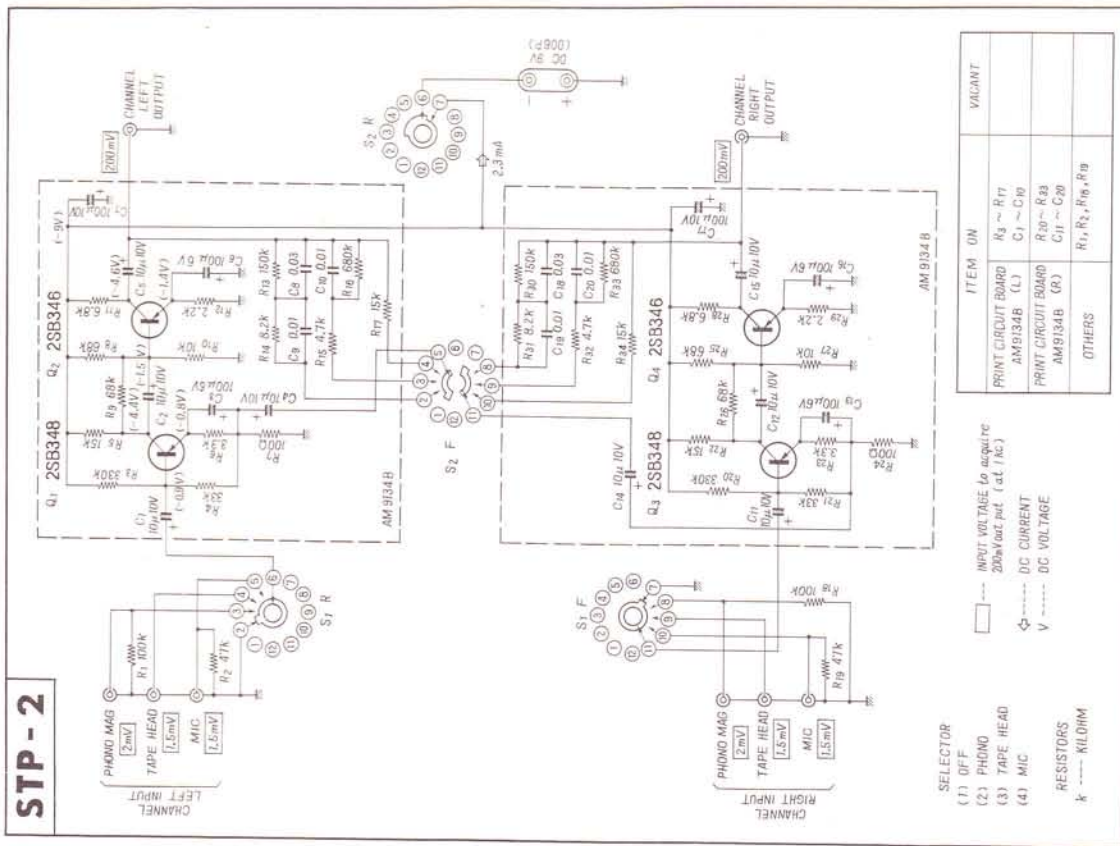
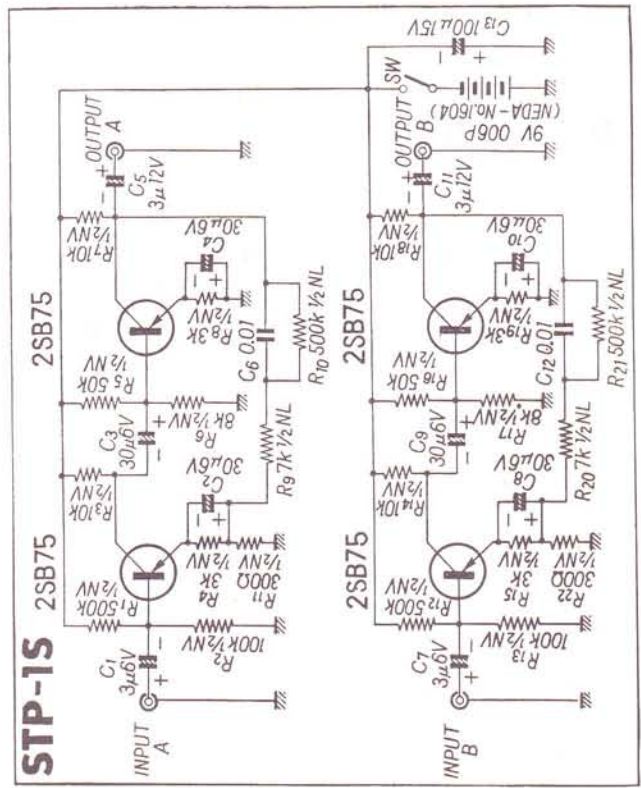
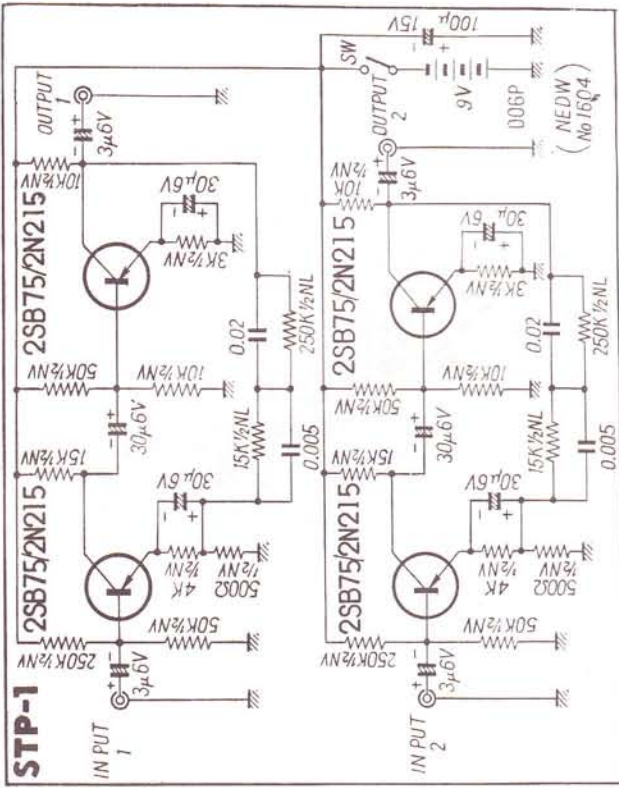


SR-101

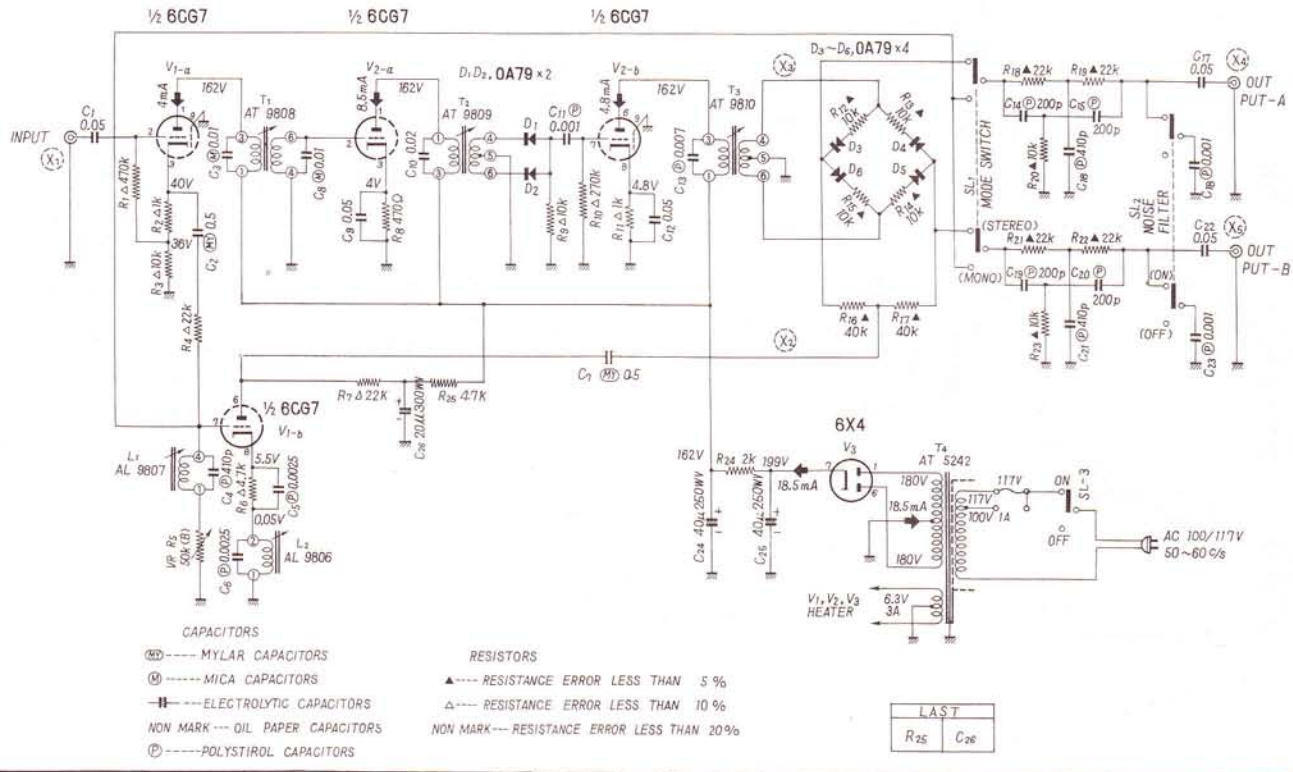


CSR-1

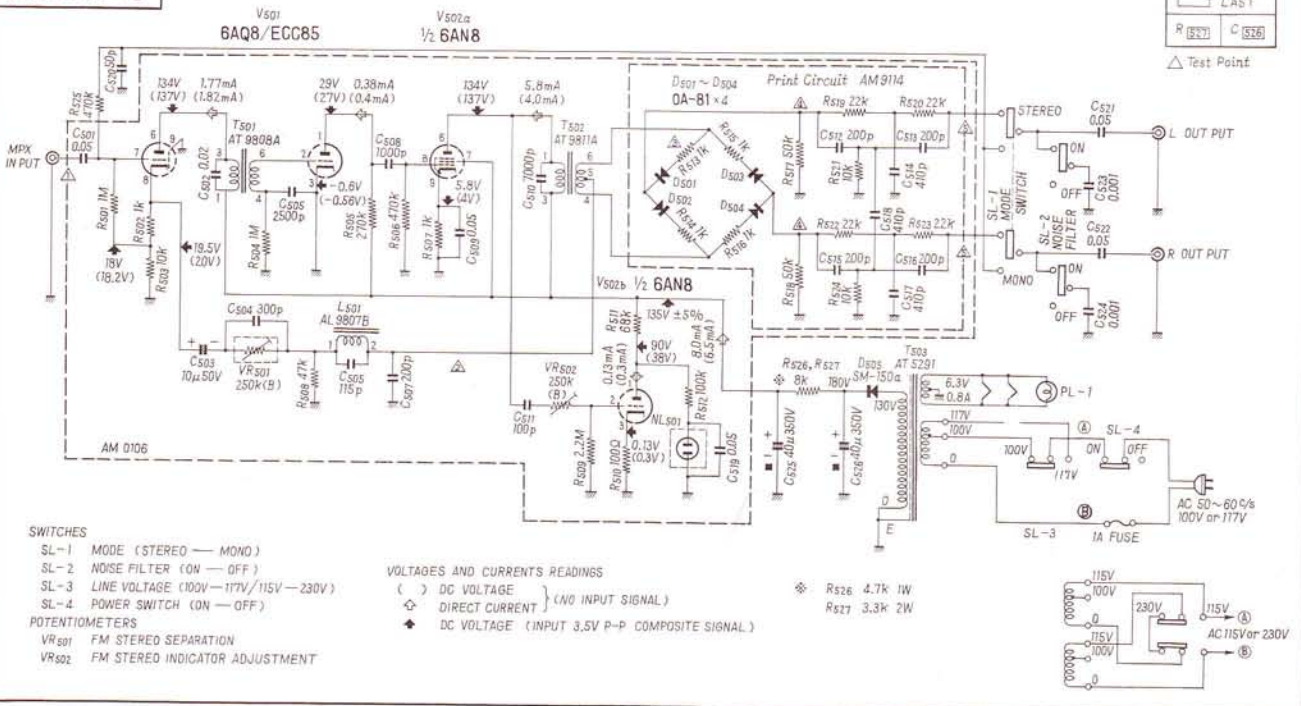


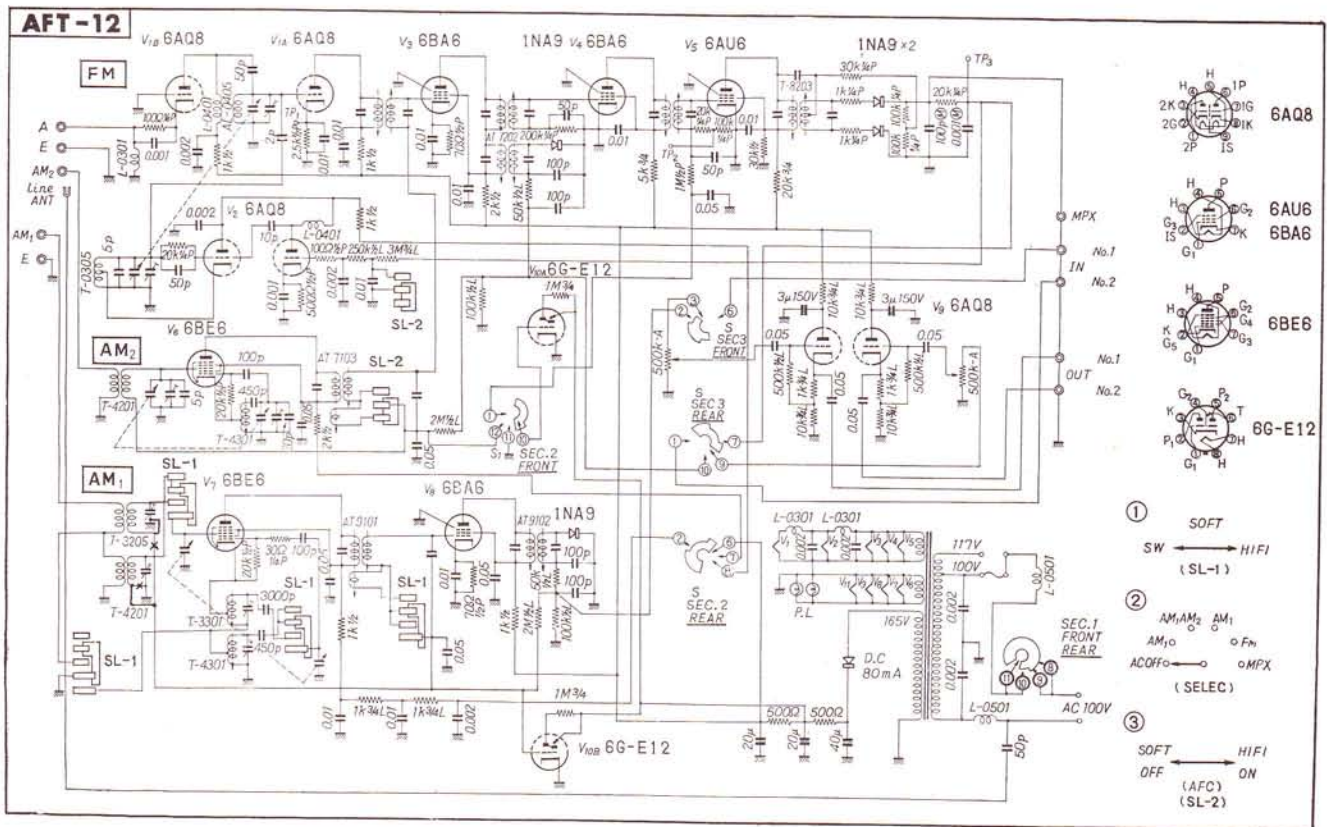
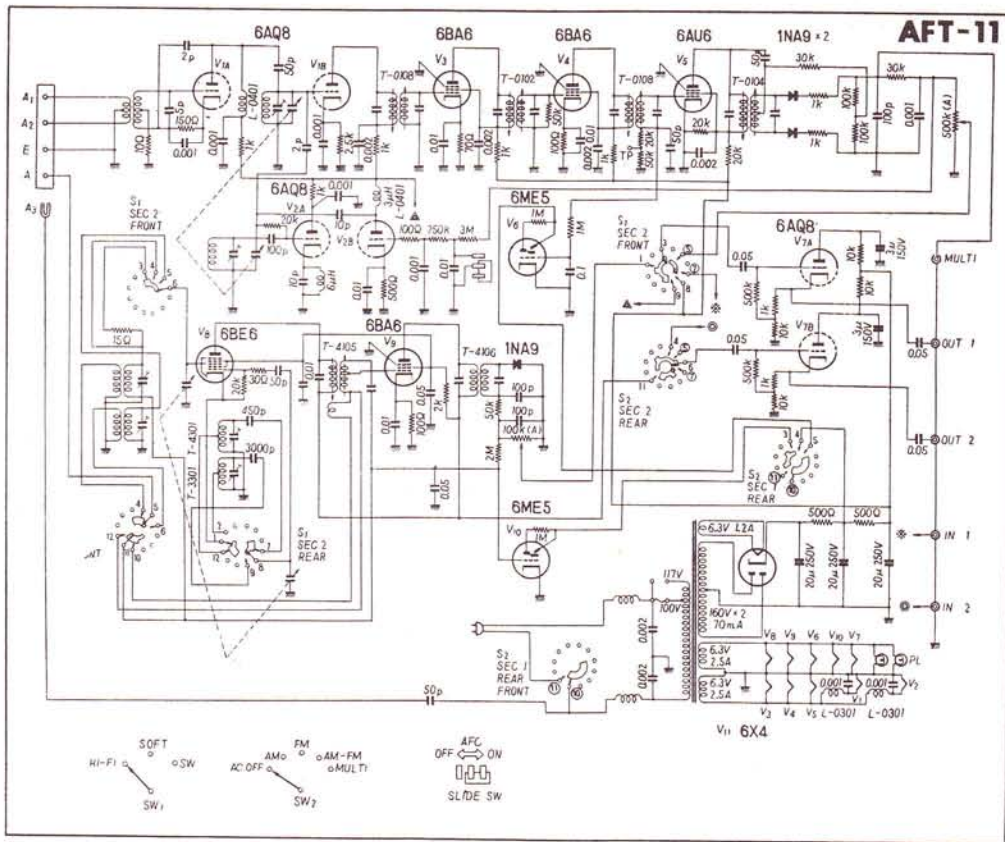


MXA-1A

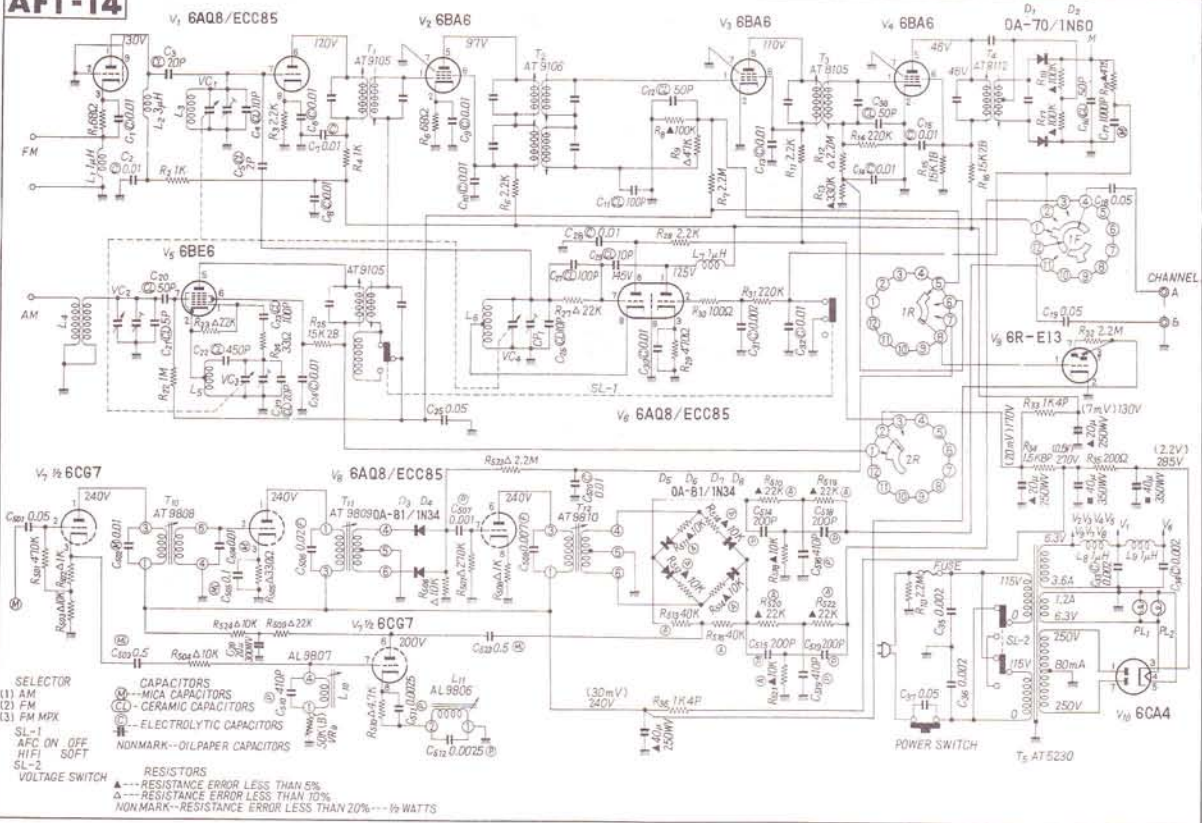


MXA-3

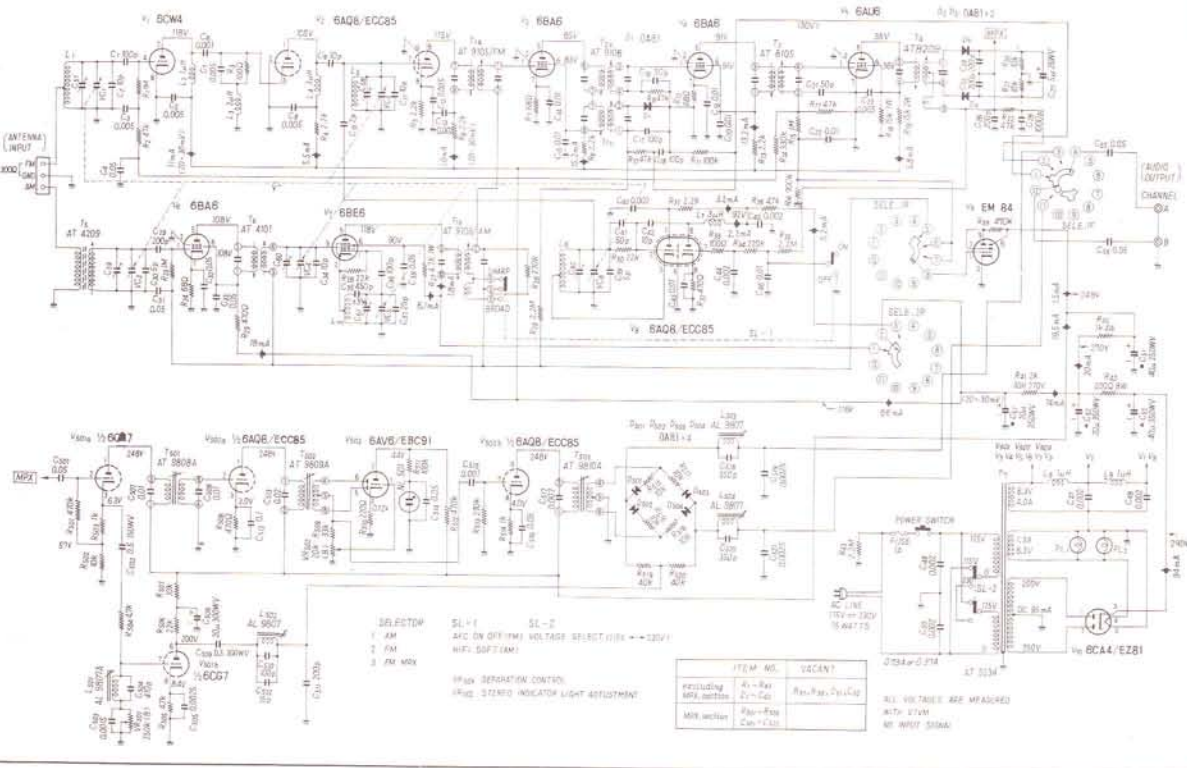




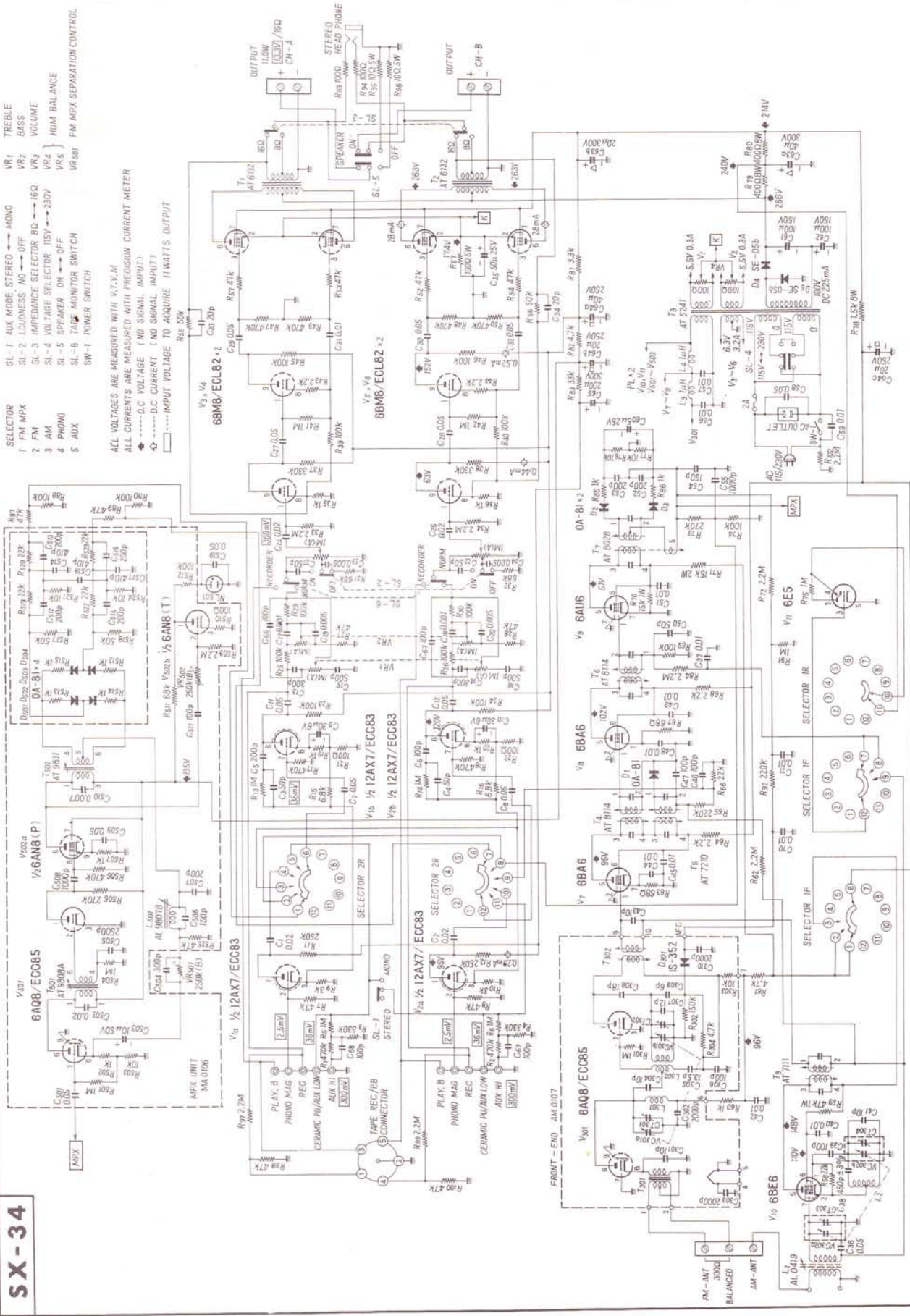
AFT-14

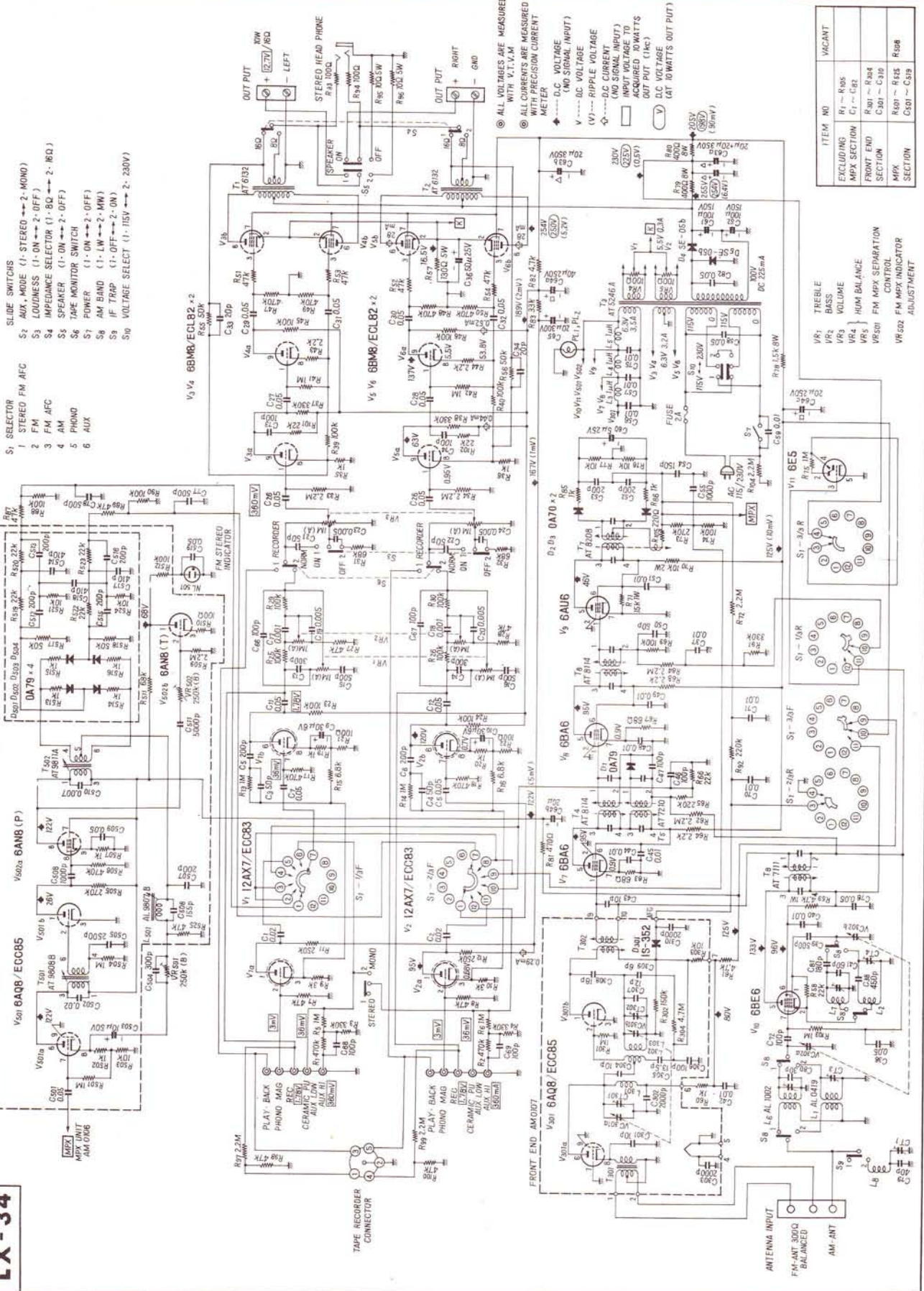


TX-5



SX-34





- S1 SELECTOR**
 1 STEREO FM AFC
 2 FM AFC
 3 FM AFC
 4 AM
 5 PHONO
 6 AUX
- SLIDE SWITCHES**
 S2 MIX MODE (1-STEREO → 2-MONO)
 S3 LOUDNESS (1-ON → 2-OFF)
 S4 IMPEDANCE SELECTOR (1-BQ → 2-16Ω)
 S5 SPEAKER (1-ON → 2-OFF)
 S6 TAPE MONITOR SWITCH
 S7 POWER (1-ON → 2-OFF)
 S8 AM BAND (1-LW → 2-MW)
 S9 IF TRAP (1-OFF → 2-ON)
 S10 VOLTAGE SELECT (1-115V → 2-230V)

⊗ ALL VOLTAGES ARE MEASURED WITH V.T.V.M.
 ⊙ ALL CURRENTS ARE MEASURED WITH PRECISION CURRENT METER
 V ---- D.C. VOLTAGE (NO SIGNAL INPUT)
 (V) ---- R.I.PPLE VOLTAGE (NO SIGNAL INPUT)
 (V) ---- D.C. CURRENT (NO SIGNAL INPUT)
 (V) ---- AC CURRENT (NO SIGNAL INPUT)
 (V) ---- AC VOLTAGE TO ACQUIRED TOWARTTS
 (V) ---- D.C. VOLTAGE (AT TOWARTTS OUT PUT)

ITEM NO	VACANT
R1 ~ R95	
C1 ~ C81	
R101 ~ R104	
C101 ~ C110	
R101 ~ R105	
C101 ~ C110	

VR1 TREBLE
 VR2 BASS
 VR3 VOLUME
 VR4 HUM BALANCE
 VR5 FM MPX SEPARATION CONTROL
 VR501 FM MPX INDICATOR ADJUSTMENT
 VR502 FM MPX INDICATOR ADJUSTMENT

SX-40

- CAPACITORS
IN μF - 20% TOLERANCE UNLESS OTHERWISE NOTED
- ① - STEREO (5%) ② - POLYETHYLENE (10%)
③ - STEREO (15%) ④ - CERAMIC (10%)
⑤ - MICA (10%) ⑥ - CERAMIC (10%)
⑦ - MICA (10%) ⑧ - MYLAR
⑨ - CERAMIC
⑩ - ELECTROLYTIC NON MARK - OIL PAPER

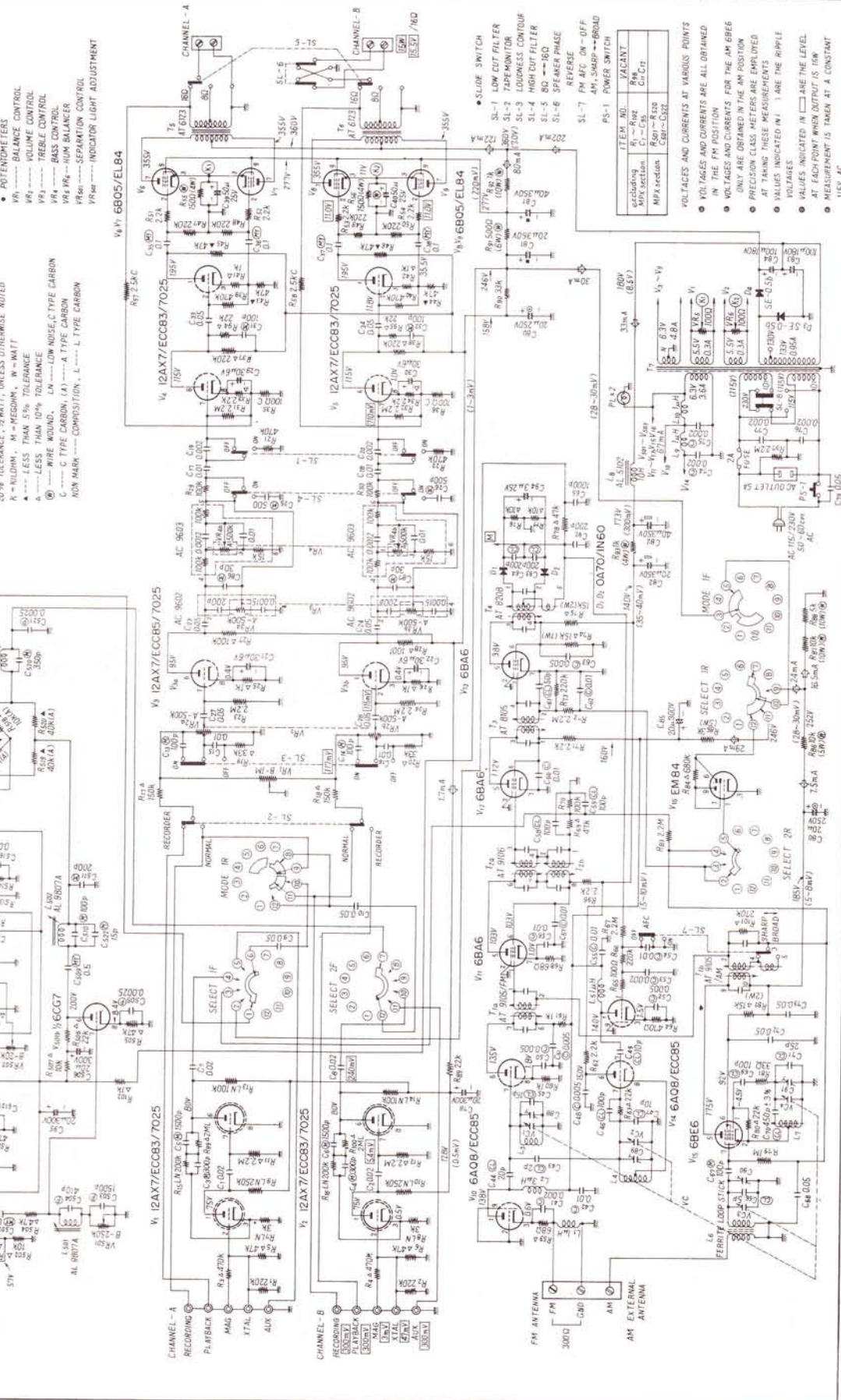
- POTENTIOMETERS
V1 - BALANCE CONTROL
V2 - VOLUME CONTROL
V3 - TREBLE CONTROL
V4 - BASS CONTROL
V5 - TUN BALANCER
V6a - SEPARATION CONTROL
V7a - INDICATOR LIGHT ADJUSTMENT

- SELECTOR
(1) STEREO REV
(2) FM MFK
(3) AM
(4) PHONO
(5) AUX

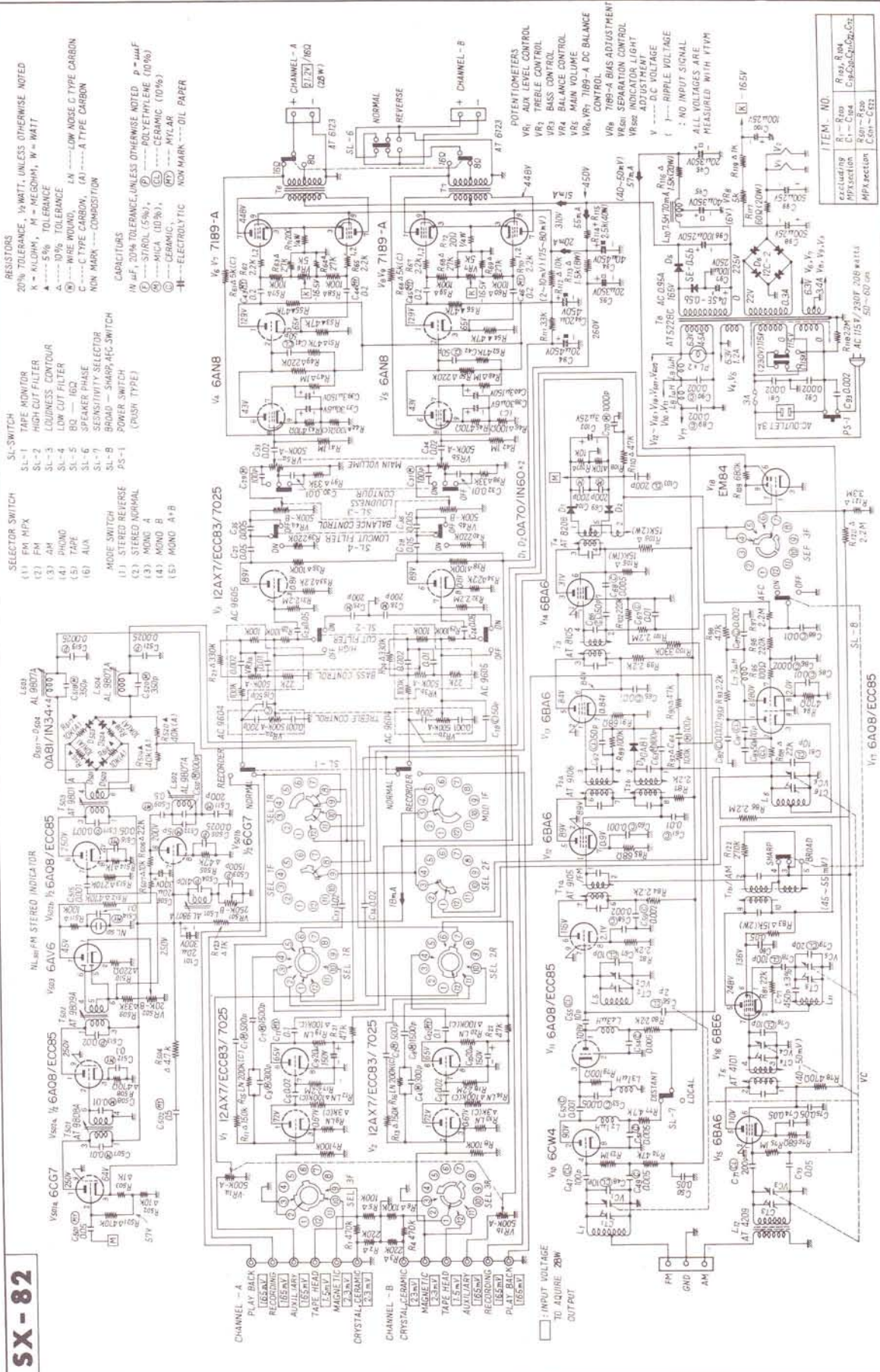
- RESISTORS
20% TOLERANCE UNLESS OTHERWISE NOTED
- R - 1/2 WATT, M - 1/4 WATT, W - 1/8 WATT
- ① - 5% TOLERANCE
② - 10% TOLERANCE
③ - LESS THAN 10% TOLERANCE
- ④ - WIRE WOUND, ⑤ - LOW MOISTURE C TYPE CARBON
⑥ - C TYPE CARBON, ⑦ - A TYPE CARBON
NON MARK - COMPOSITION, L - L TYPE CARBON

- MODE
(1) STEREO REV
(2) FM MFK
(3) AM
(4) PHONO
(5) AUX

- VOLTAGES AND CURRENTS AT VARIOUS POINTS
IN THE FM POSITION
ONLY ARE OBTAINED IN THE AM POSITION
PRECISION CLASS METERS ARE EMPLOYED
AT TAKING THESE MEASUREMENTS
VALUES INDICATED IN ① ARE THE RIPPLE
VALUES INDICATED IN ② ARE THE LEVEL
VALUES INDICATED IN ③ ARE THE LEVEL
AT EACH POINT WHEN OUTPUT IS 15W
MEASUREMENT IS TAKEN AT A CONSTANT
155V AC



SX-82



- RESISTORS**
 20% TOLERANCE, 1/4 WATT, UNLESS OTHERWISE NOTED
 K = KILOHM, M = MEGOHM, W = WATT
 Δ --- 5% TOLERANCE
 ▲ --- 10% TOLERANCE
 ○ --- WIRE WOUND, (N) --- LOW NOISE C-TYPE CARBON
 C --- C-TYPE CARBON, (A) --- A-TYPE CARBON
 NON MARK --- COMPOSITION
- CAPACITORS**
 IN μF, 20% TOLERANCE, UNLESS OTHERWISE NOTED, P = μMFD
 (P) --- STYROL (5%), (P) --- POLYETHYLENE (10%)
 (M) --- MICA (10%), (EL) --- CERAMIC (10%)
 (C) --- CERAMIC, (MY) --- MYLAR
 --- ELECTROLYTIC NON MARK --- OIL PAPER
- SL-SWITCH**
 SL-1 TAPE MONITOR
 SL-2 HIGH CUT FILTER
 SL-3 LOUNGSNESS CONTROL
 SL-4 LOW CUT FILTER
 SL-5 BO - 16Q
 SL-6 SPEAKER PHASE
 SL-7 SENSITIVITY SELECTOR
 SL-8 BROAD - SHARP AFC SWITCH
 PS-1 POWER SWITCH (CRUSH TYPE)
- MODE SWITCH**
 (1) STEREO REVERSE
 (2) STEREO NORMAL
 (3) MONO A
 (4) MONO B
 (5) MONO A+B
- SELECTOR SWITCH**
 (1) FM MPX
 (2) FM
 (3) AM
 (4) PHONO
 (5) TAPE
 (6) AUX

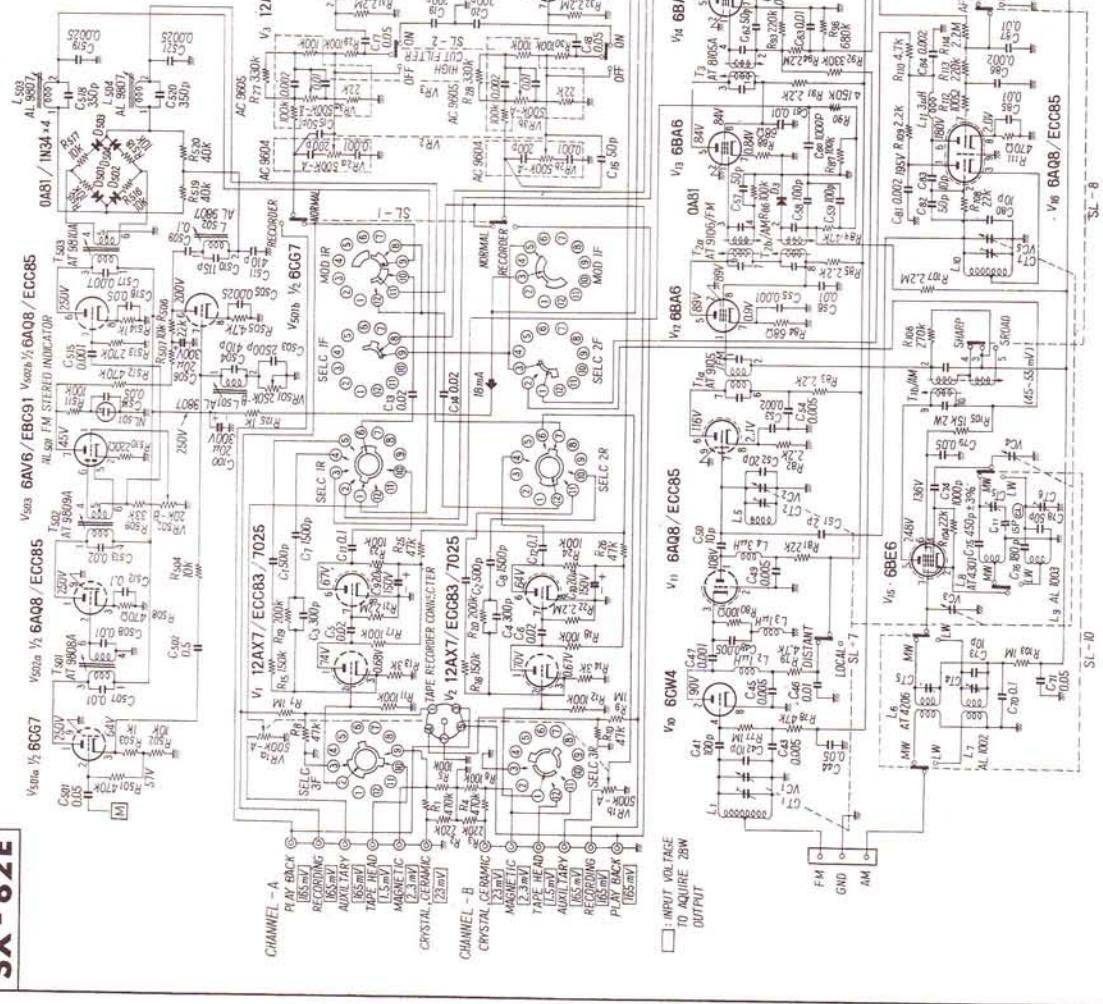
ITEM NO.	DESCRIPTION
R-9	Resistor
C-1	Capacitor
MP	Microphone
SP	Speaker
TR	Transformer
VT	Vacuum Tube
WT	Wattmeter
XT	Crystal
YT	Yoke
ZT	Zener Diode

SX-82E

- POTENTIOMETERS**
 VR1 - AUX LEVEL CONTROL
 VR2 - TREBLE CONTROL
 VR3 - BASS CONTROL
 VR4 - BALANCE CONTROL
 VR5 - MAIN VOLUME
 VR6 - VR7 7189-A, DC BALANCE ADJUSTMENTS
 VR8 - 7189-A, BIAS ADJUSTMENT
 VR9 - FM STEREO SEPARATION CONTROL
 VR00 - FM STEREO INDICATOR ADJUSTMENT
 V - DC VOLTAGE
 () - RIPPLE VOLTAGE
 () - NO INPUT SIGNAL
- ALL VOLTAGES ARE MEASURED WITH VTVM.**

- SL - SWITCHES**
 SL-1 - TAPE MONITOR
 SL-2 - HIGH CUT FILTER
 SL-3 - LOUDNESS CONTOUR
 SL-4 - LOW CUT FILTER
 SL-5 - 60 - 160
 SL-6 - SPEAKER PHASE
 SL-7 - SENSITIVITY SELECTOR
 SL-8 - BROAD - SHARP ATC SWITCH
 SL-9 - SPEAKER - HEADPHONE
 SL-10 - LW - MW
 SL-11 - 15V → → 230V
 SL-12 - POWER SWITCH (PUSH TYPE)
- SELECTOR SWITCH**
 1 - FM MPX
 2 - FM
 3 - AM
 4 - PHONO
 5 - TAPE
 6 - AUX
- MODE SWITCH**
 1 - STEREO REVERSE
 2 - STEREO NORMAL
 3 - MONO A
 4 - MONO B
 5 - MONO A+B

- ITEM. NO.**
 excluding MPX section
 MPX section
 R1 - R25
 C1 - C100
 R301 - R320
 C501 - C521



SX-110

- POTENTIOMETERS**
- VR1 AUX LEVEL CONTROL
 - VR2 TREBLE CONTROL
 - VR3 BASS CONTROL
 - VR4 BALANCE CONTROL
 - VR5 MAIN VOLUME
 - VR6, VR7 7868 DC BALANCE ADJUSTMENTS
 - VR8 7868 BIAS ADJUSTMENT
 - VR9 FM SENSITIVITY SELECTOR
 - VR10 FM BROAD-SHARP FM AFC SWITCH
 - VR11 FM STEREO SEPARATION CONTROL
 - VR12 FM STEREO INDICATOR ADJUSTMENT

- SELECTOR SWITCH**
- 1 FM MFX
 - 2 FM
 - 3 AM
 - 4 PHONO
 - 5 TAPE
 - 6 AUX
 - 7 MODE SWITCH
 - 8 STEREO REVERSE
 - 9 STEREO NORMAL
 - 10 MONO A
 - 11 MONO B
 - 12 MONO A+B

- SL- SWITCH**
- SL-1 TIME MONITOR
 - SL-2 HIGH CUT FILTER
 - SL-3 LOUDNESS CONTROL
 - SL-4 LOW CUT FILTER
 - SL-5 EQ - 160
 - SL-6 SPEAKER PHASE
 - SL-7 FM SENSITIVITY SELECTOR
 - SL-8 AM BROAD-SHARP FM AFC SWITCH
 - SL-9 POWER SWITCH (PUSH TYPE)

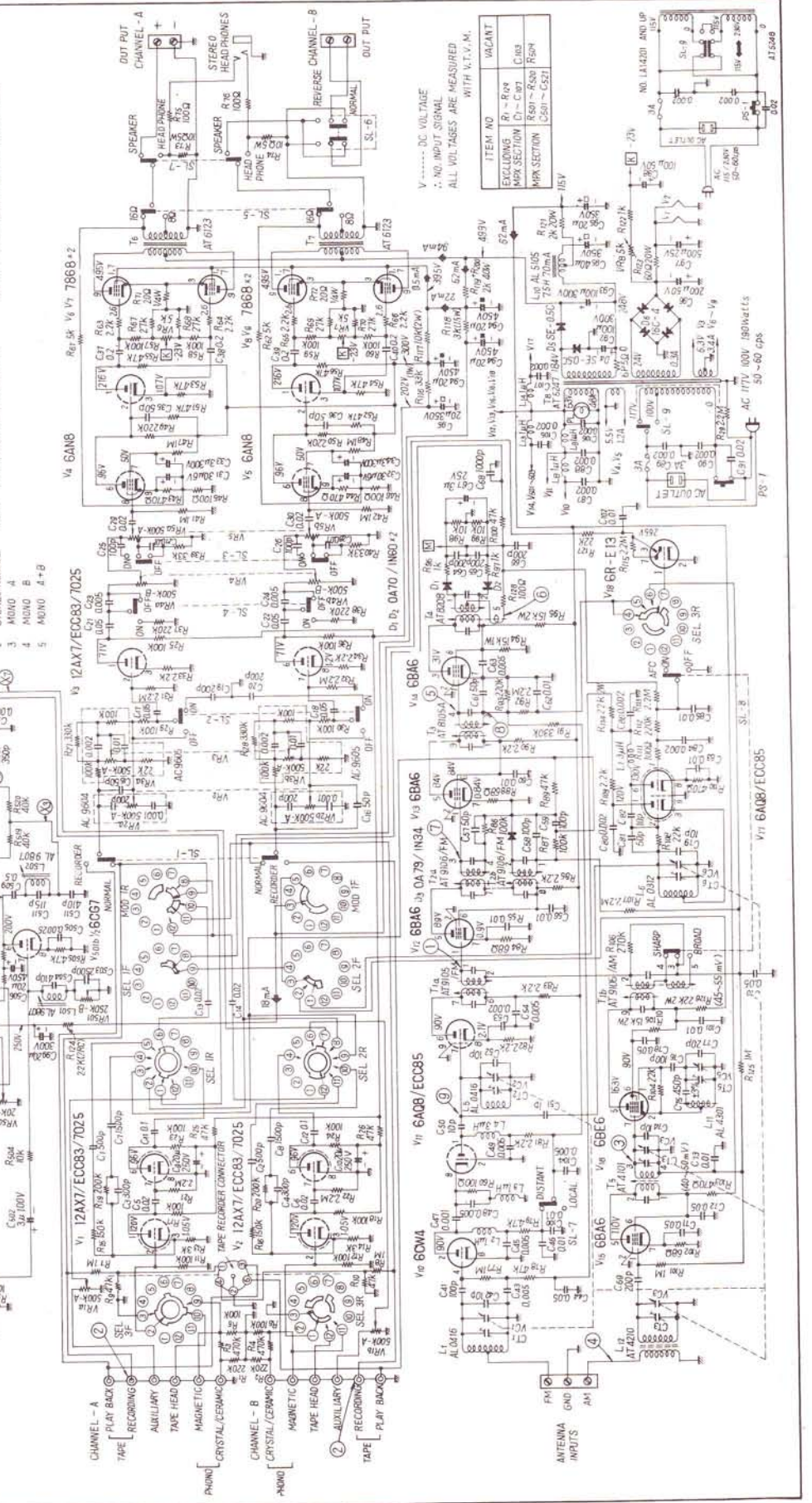
- FN STEREO INDICATOR**
- NL 501

- REORDER CONNECTOR**
- 1 TAPE REORDER CONNECTOR
 - 2 TAPE REORDER CONNECTOR
 - 3 TAPE REORDER CONNECTOR
 - 4 TAPE REORDER CONNECTOR
 - 5 TAPE REORDER CONNECTOR
 - 6 TAPE REORDER CONNECTOR
 - 7 TAPE REORDER CONNECTOR
 - 8 TAPE REORDER CONNECTOR
 - 9 TAPE REORDER CONNECTOR
 - 10 TAPE REORDER CONNECTOR
 - 11 TAPE REORDER CONNECTOR
 - 12 TAPE REORDER CONNECTOR

- REORDER CONNECTOR**
- 1 TAPE REORDER CONNECTOR
 - 2 TAPE REORDER CONNECTOR
 - 3 TAPE REORDER CONNECTOR
 - 4 TAPE REORDER CONNECTOR
 - 5 TAPE REORDER CONNECTOR
 - 6 TAPE REORDER CONNECTOR
 - 7 TAPE REORDER CONNECTOR
 - 8 TAPE REORDER CONNECTOR
 - 9 TAPE REORDER CONNECTOR
 - 10 TAPE REORDER CONNECTOR
 - 11 TAPE REORDER CONNECTOR
 - 12 TAPE REORDER CONNECTOR

- REORDER CONNECTOR**
- 1 TAPE REORDER CONNECTOR
 - 2 TAPE REORDER CONNECTOR
 - 3 TAPE REORDER CONNECTOR
 - 4 TAPE REORDER CONNECTOR
 - 5 TAPE REORDER CONNECTOR
 - 6 TAPE REORDER CONNECTOR
 - 7 TAPE REORDER CONNECTOR
 - 8 TAPE REORDER CONNECTOR
 - 9 TAPE REORDER CONNECTOR
 - 10 TAPE REORDER CONNECTOR
 - 11 TAPE REORDER CONNECTOR
 - 12 TAPE REORDER CONNECTOR

- REORDER CONNECTOR**
- 1 TAPE REORDER CONNECTOR
 - 2 TAPE REORDER CONNECTOR
 - 3 TAPE REORDER CONNECTOR
 - 4 TAPE REORDER CONNECTOR
 - 5 TAPE REORDER CONNECTOR
 - 6 TAPE REORDER CONNECTOR
 - 7 TAPE REORDER CONNECTOR
 - 8 TAPE REORDER CONNECTOR
 - 9 TAPE REORDER CONNECTOR
 - 10 TAPE REORDER CONNECTOR
 - 11 TAPE REORDER CONNECTOR
 - 12 TAPE REORDER CONNECTOR



V----- DC VOLTAGE
: NO INPUT SIGNAL
ALL VOLTAGES ARE MEASURED WITH V.T.V.M.

ITEM NO	VACANT
EXCLUDING	R1 - R48
MPX SECTION	D1 - C107
MPX SECTION	R501 - R521
MPX SECTION	C501 - C521

ER-420

- POTENTIOMETERS**
- V1 BALANCE CONTROL
 - V2 TREBLE CONTROL
 - V3 BASS CONTROL
 - V4 LEFT PHONO H/M ADJ
 - V5 RIGHT PHONO H/M ADJ
 - V6 TUNING METER SEAS CONTROL
 - V7 SEPARATION CONTROL
 - V8 INDICATOR CONTROL
 - TUNING METER
 - M1 220 μ A

- SEE-5AW SWITCH**
- S3 TAPE MONITOR ON/OFF
 - S4 DIMNESS CONTROL ON/OFF
 - S5 HIGH FILTER ON/OFF
 - S6 LOW FILTER ON/OFF
 - S7 SPEAKER ON/OFF
 - S8 1/2-BAND ON/OFF
 - S9 1/2-BAND ON/OFF

- MODE SELECTOR**
- 1 STEREO
 - 2 MONO LEFT
 - 3 MONO RIGHT

- SLIDE SWITCH**
- S7 SPEAKER IMPEDANCE SELECTOR (16 Ω @ 8 Ω)
 - S9 LINE VOLTAGE SELECTOR (115V @ 230V)

- POWER SWITCH**
- S9 ON/OFF

- IMPEDANCE SELECTOR**
- 1 AM
 - 2 FM MW
 - 3 FM SW
 - 4 PHONO
 - 5 TAPE HEAD
 - 6 AUX
 - S1 1/2 BAND ON/OFF

- SEE-5AW SWITCH**
- S3 TAPE MONITOR ON/OFF
 - S4 DIMNESS CONTROL ON/OFF
 - S5 HIGH FILTER ON/OFF
 - S6 LOW FILTER ON/OFF
 - S7 SPEAKER ON/OFF
 - S8 1/2-BAND ON/OFF
 - S9 1/2-BAND ON/OFF

- MODE SELECTOR**
- 1 STEREO
 - 2 MONO LEFT
 - 3 MONO RIGHT

- SLIDE SWITCH**
- S7 SPEAKER IMPEDANCE SELECTOR (16 Ω @ 8 Ω)
 - S9 LINE VOLTAGE SELECTOR (115V @ 230V)

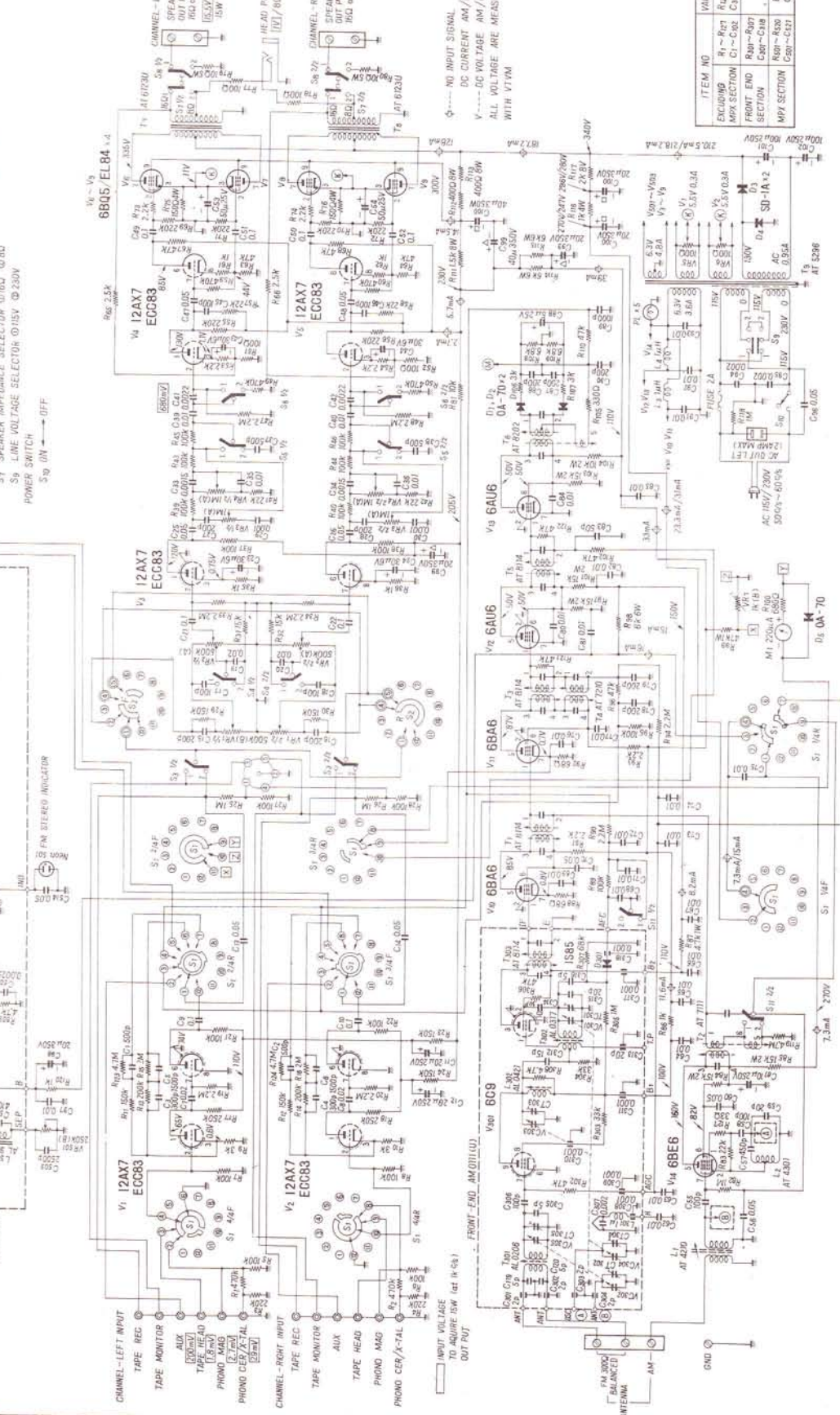
- POWER SWITCH**
- S9 ON/OFF

- IMPEDANCE SELECTOR**
- 1 AM
 - 2 FM MW
 - 3 FM SW
 - 4 PHONO
 - 5 TAPE HEAD
 - 6 AUX
 - S1 1/2 BAND ON/OFF

- SEE-5AW SWITCH**
- S3 TAPE MONITOR ON/OFF
 - S4 DIMNESS CONTROL ON/OFF
 - S5 HIGH FILTER ON/OFF
 - S6 LOW FILTER ON/OFF
 - S7 SPEAKER ON/OFF
 - S8 1/2-BAND ON/OFF
 - S9 1/2-BAND ON/OFF

- MODE SELECTOR**
- 1 STEREO
 - 2 MONO LEFT
 - 3 MONO RIGHT

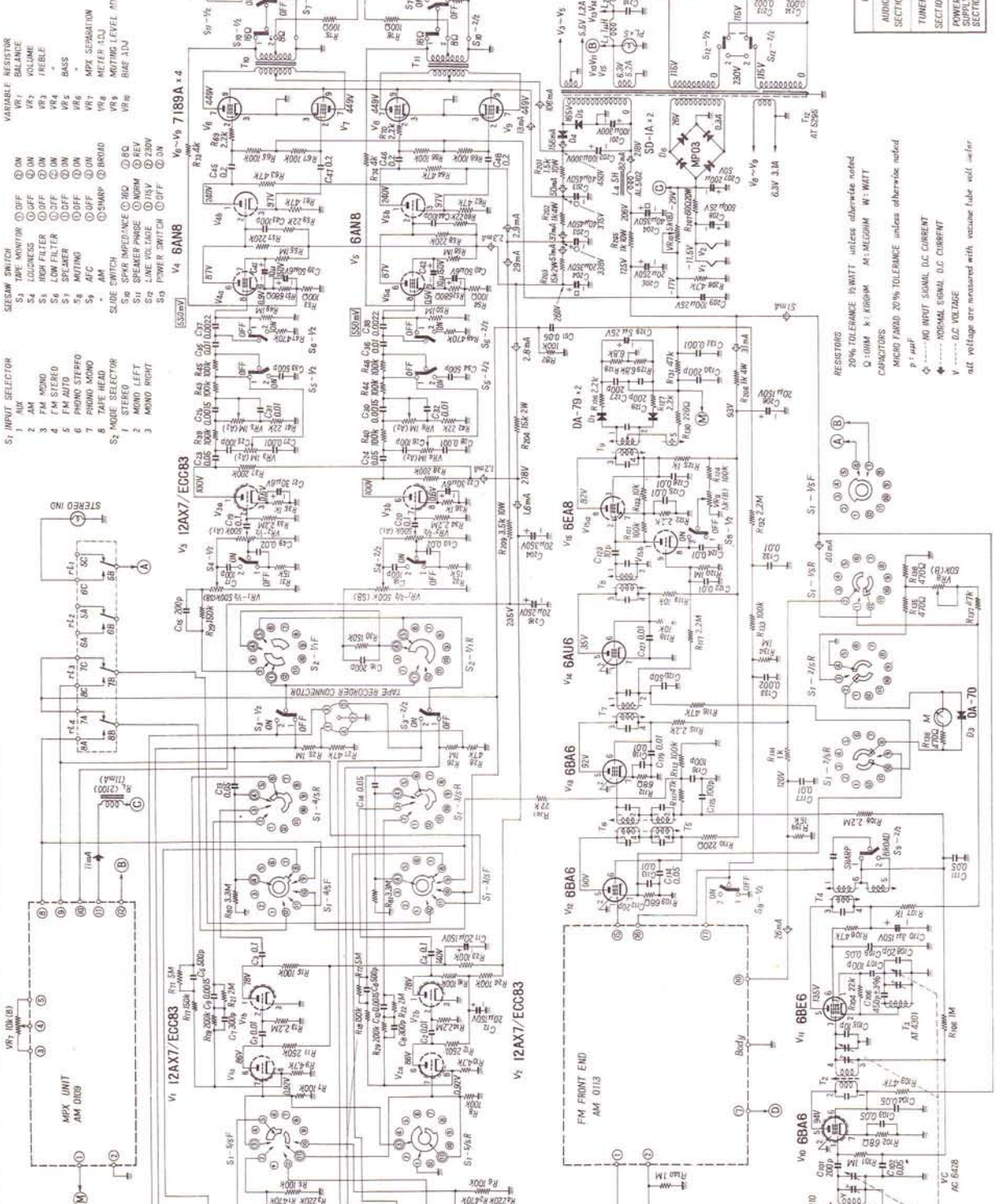
- SLIDE SWITCH**
- S7 SPEAKER IMPEDANCE SELECTOR (16 Ω @ 8 Ω)
 - S9 LINE VOLTAGE SELECTOR (115V @ 230V)



ITEM NO	VACANT
EXCLUDING	R1-R17 R06
MPX SECTION	C1-C12 C17 C21 C22
FRONT END	R89-R93 R97
SECTION	C94-C101
MPX SECTION	R99-R103 R107
	C102-C107

SX-800

INPUT VOLTAGE to acquire 25W at the output



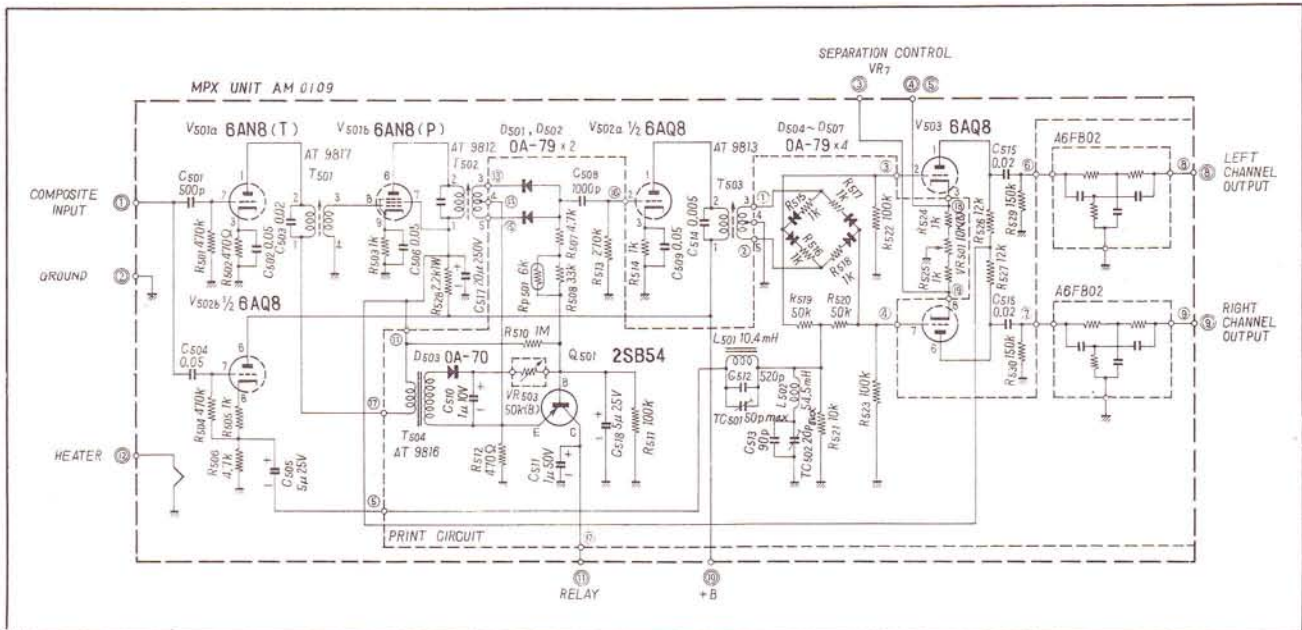
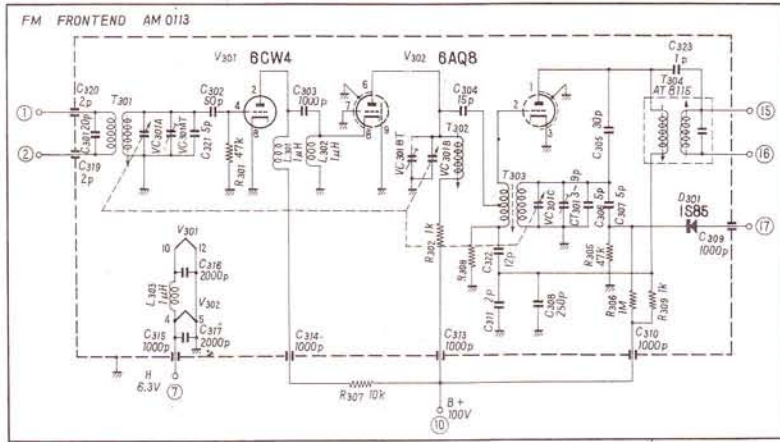
- VARIABLE RESISTOR**
- VR1 BALANCE
 - VR2 VOLUME
 - VR3 FREBLE
 - VR4 BASS
 - VR5 MPX SEPARATION
 - VR6 METER SOL.
 - VR7 MIXING LEVEL ADJ.
 - VR8
 - VR9
- SESAME SWITCH**
- S1 TAPE MONITOR
 - S2 HIGH FILTER
 - S3 LOW FILTER
 - S4 SPEAKER
 - S5 AUTO
 - S6 AM
 - S7 STEREO
 - S8 MONO LEFT
 - S9 MONO RIGHT
- MODE SELECTOR**
- M1 STEREO
 - M2 MONO LEFT
 - M3 MONO RIGHT
- SLIDE SWITCH**
- SW1 SPEAKER PHASE
 - SW2 LINE VOLTAGE
 - SW3 POWER SWITCH
- CHANNEL LEFT INPUT**
- TAPE REC [50mV]
 - TAPE HEAD [50mV]
 - AUX [50mV]
 - TAPE MAG [2.0mV]
 - PHONO MAG [3.0mV]
 - PHONO CER [50mV]
- CHANNEL RIGHT INPUT**
- TAPE MONITOR [50mV]
 - TAPE REC [50mV]
 - TAPE HEAD [50mV]
 - AUX [50mV]
 - TAPE MAG [2.0mV]
 - PHONO MAG [3.0mV]
 - PHONO CER [50mV]

ITEM NO	VACANT
R1-R6	R12
C1-C6	C12
R7-R11	R13
Cap-C10	Cap-C11
Cap-C12	Cap-C13
Cap-C14	Cap-C15
Cap-C16	Cap-C17
Cap-C18	Cap-C19
Cap-C20	Cap-C21
Cap-C22	Cap-C23
Cap-C24	Cap-C25
Cap-C26	Cap-C27
Cap-C28	Cap-C29
Cap-C30	Cap-C31
Cap-C32	Cap-C33
Cap-C34	Cap-C35
Cap-C36	Cap-C37
Cap-C38	Cap-C39
Cap-C40	Cap-C41
Cap-C42	Cap-C43
Cap-C44	Cap-C45
Cap-C46	Cap-C47
Cap-C48	Cap-C49
Cap-C50	Cap-C51
Cap-C52	Cap-C53
Cap-C54	Cap-C55
Cap-C56	Cap-C57
Cap-C58	Cap-C59
Cap-C60	Cap-C61
Cap-C62	Cap-C63
Cap-C64	Cap-C65
Cap-C66	Cap-C67
Cap-C68	Cap-C69
Cap-C70	Cap-C71
Cap-C72	Cap-C73
Cap-C74	Cap-C75
Cap-C76	Cap-C77
Cap-C78	Cap-C79
Cap-C80	Cap-C81
Cap-C82	Cap-C83
Cap-C84	Cap-C85
Cap-C86	Cap-C87
Cap-C88	Cap-C89
Cap-C90	Cap-C91
Cap-C92	Cap-C93
Cap-C94	Cap-C95
Cap-C96	Cap-C97
Cap-C98	Cap-C99
Cap-C100	Cap-C101

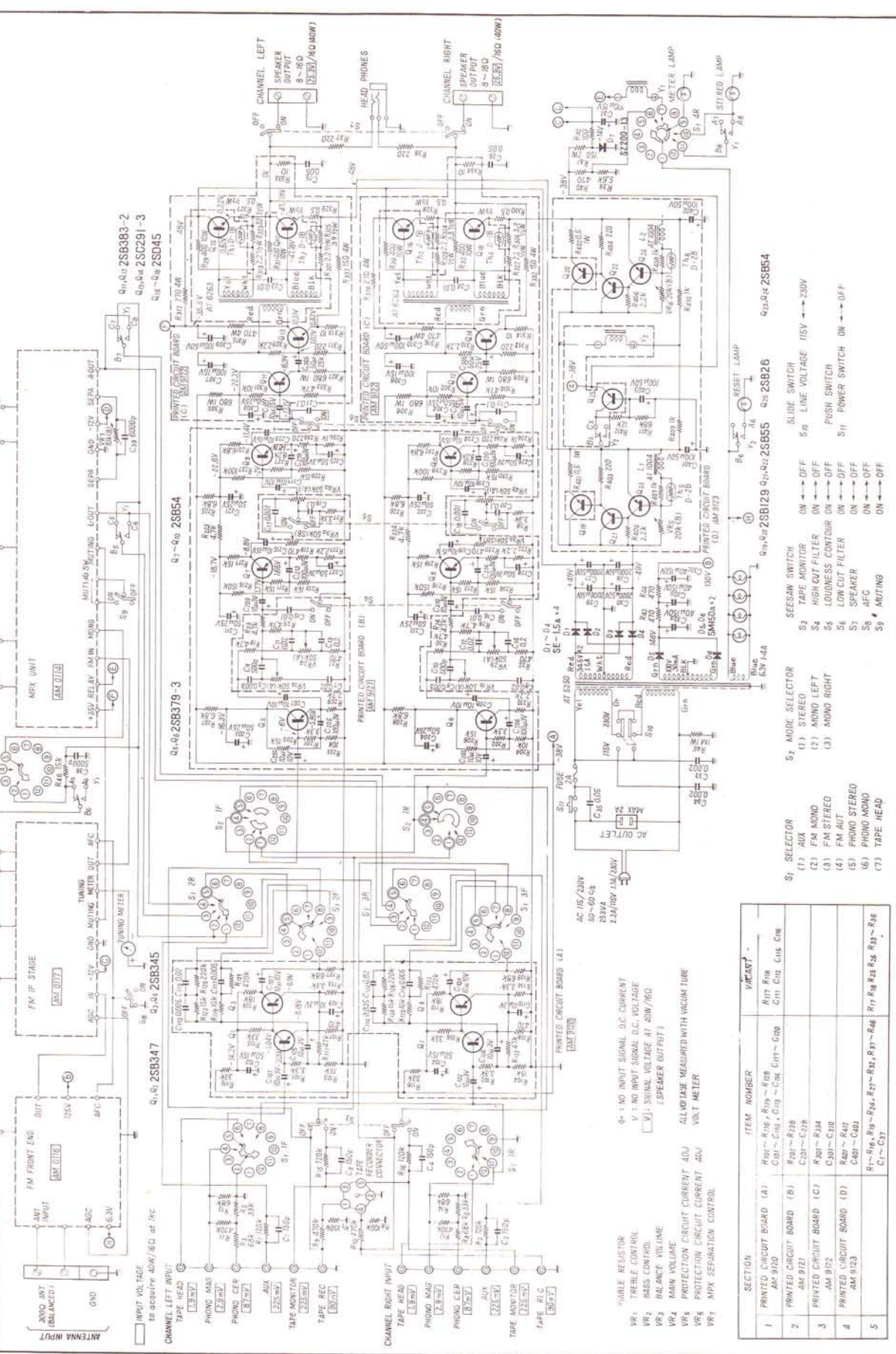
RESISTORS
20% TOLERANCE IN WATT unless otherwise noted
Q-100M K-1000HM A1-MELZHM W1-WATT

CAPACITORS
MICRO FARD: 20% TOLERANCE unless otherwise noted
p-p μF
◇ NO INPUT SIGNAL DC CURRENT
V NORMAL SIGNAL DC CURRENT
▽ D.C. VOLTAGE

all voltage are measured with vacuum tube volt meter



SX-1000T



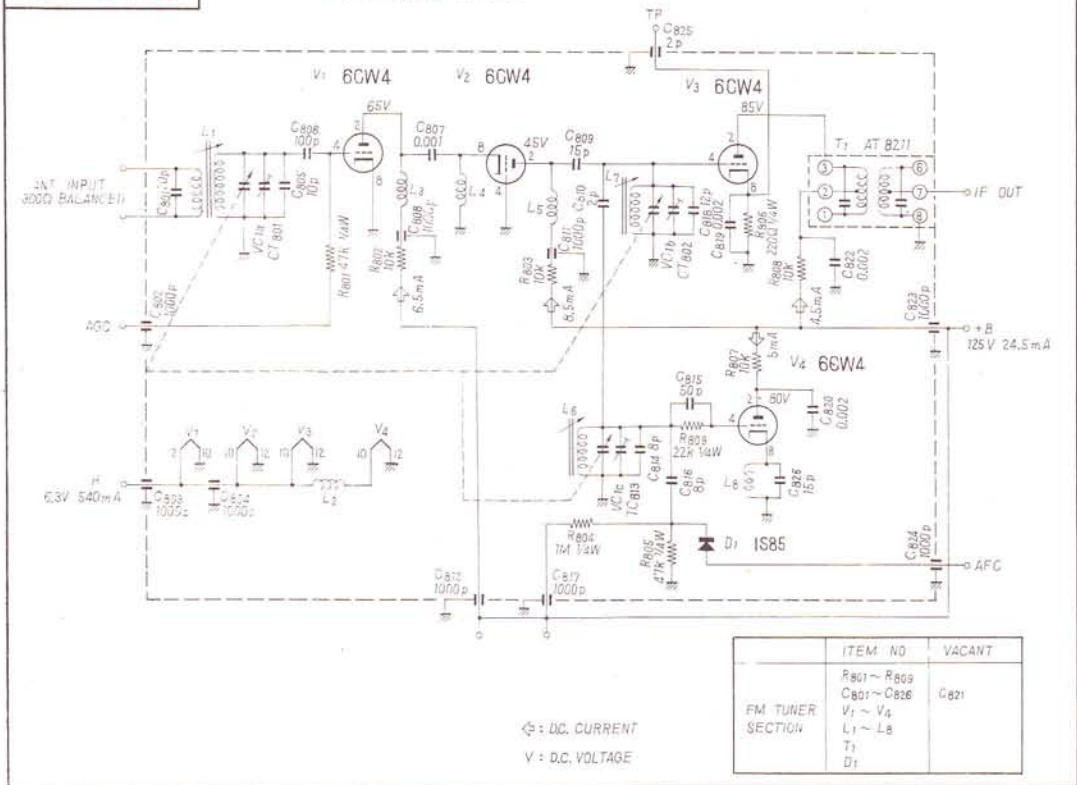
SECTION	ITEM NUMBER	VACANT
1	PRINTED CIRCUIT BOARD (A) AM 9120	R101-R108, R109-R109 R117 R118 C101-C103, C110-C116, C117-C120
2	PRINTED CIRCUIT BOARD (B) AM 9121	R107-R108 C101-C103
3	PRINTED CIRCUIT BOARD (C) AM 9172	R101-R104 C101-C103
4	PRINTED CIRCUIT BOARD (D) AM 9123	R101-R104 C101-C103
5		R11-R10, R19-R24, R27-R28, R31-R36 R37-R38, R39-R46 C1-C37

- S1 SELECTOR**
 (1) AUX
 (2) FM MONO
 (3) FM STEREO
 (4) FM AUTO
 (5) PHONO STEREO
 (6) PHONO MONO
 (7) TAPE HEAD
- S2 MODE SELECTOR**
 (1) STEREO
 (2) MONO LEFT
 (3) MONO RIGHT
- S3 SEESAW SWITCH**
 ON → OFF
 OFF → ON
- S4 TAPE MONITOR**
 ON → OFF
 OFF → ON
- S5 HIGH CUT FILTER**
 ON → OFF
 OFF → ON
- S6 LOUDNESS CONTROL**
 ON → OFF
 OFF → ON
- S7 LOW CUT FILTER**
 ON → OFF
 OFF → ON
- S8 SPEAKER**
 ON → OFF
 OFF → ON
- S9 AF-C**
 ON → OFF
 OFF → ON
- S10 MUTING**
 ON → OFF
 OFF → ON
- S11 POWER SWITCH**
 ON → OFF
 OFF → ON
- S12 LINE VOLTAGE**
 115V → 230V
- S13 SLIDE SWITCH**
 ON → OFF
 OFF → ON
- S14 RESET LAMP**
 ON → OFF
 OFF → ON

Φ = I NO INPUT SIGNAL D.C. CURRENT
 V = I NO INPUT SIGNAL D.C. VOLTAGE
 VR1 = SIGNAL VOLTAGE AT 40W/16Ω
 (SPEAKER OUTPUT)
 VR2 = MAIN VOLUME
 VR3 = PROTECTION CIRCUIT CURRENT 40Ω
 VR4 = PROTECTION CIRCUIT CURRENT 40Ω
 VR5 = MPX SEPARATION CONTROL

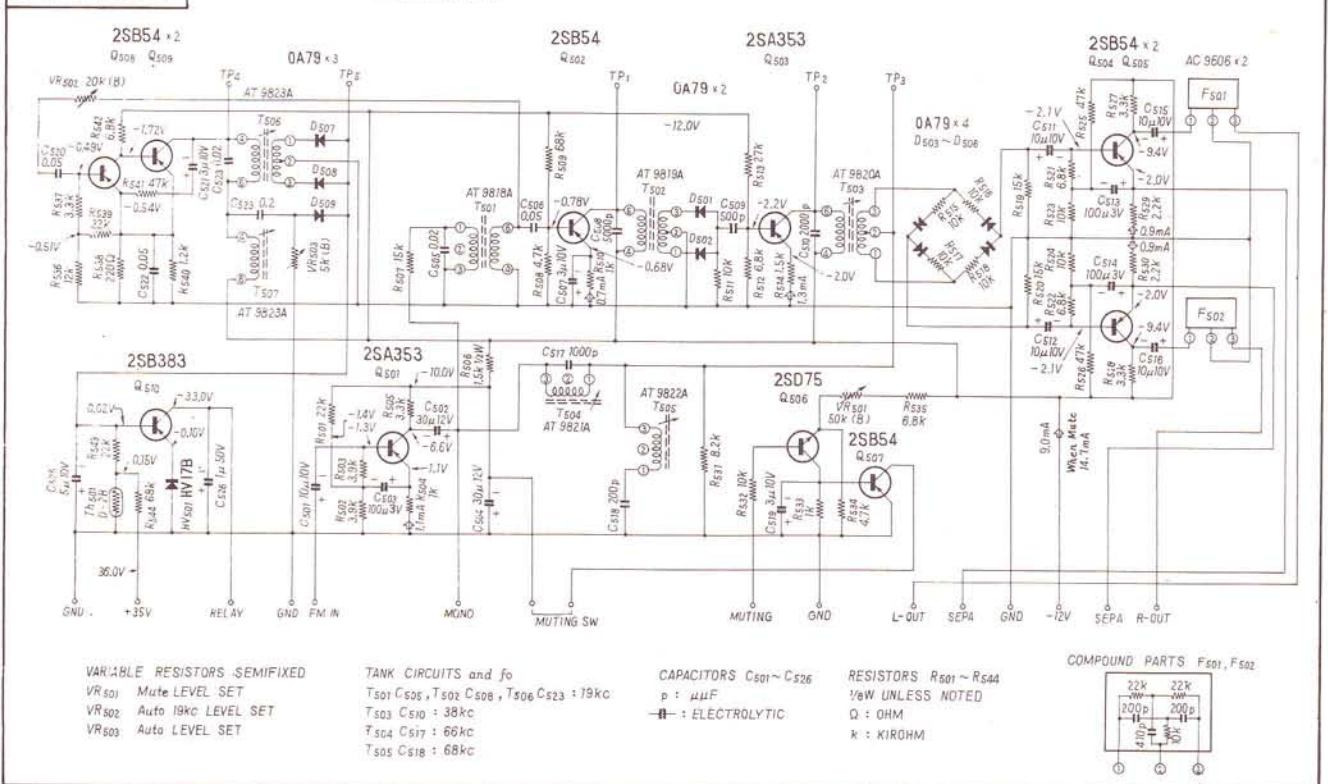
AM0116

FM FRONT END



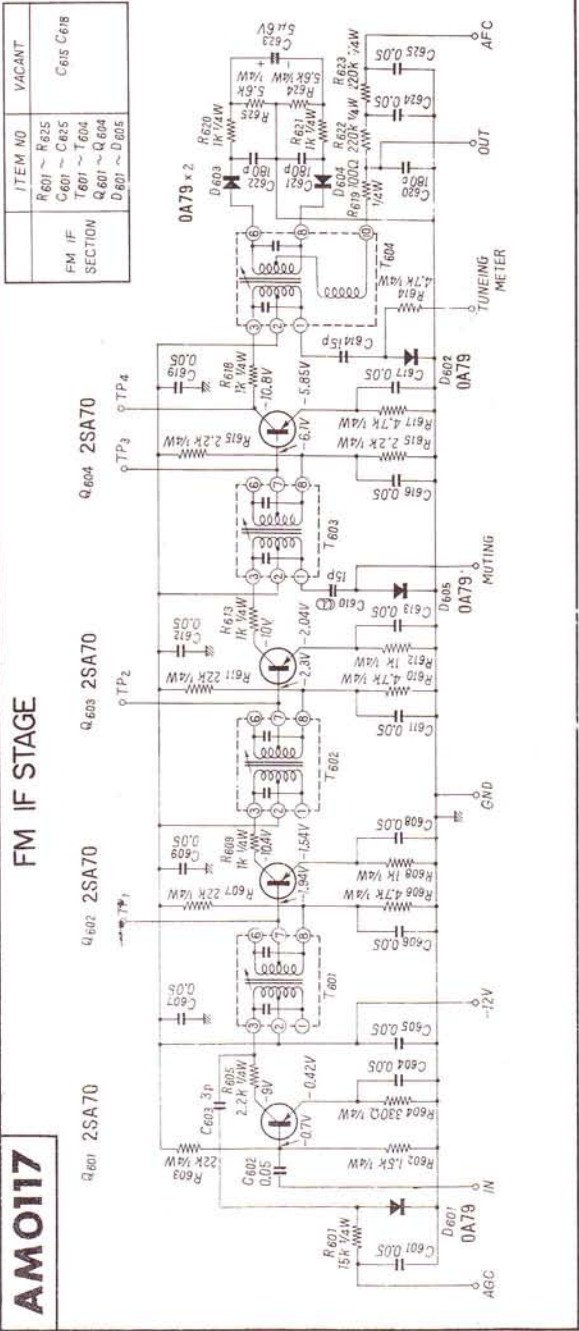
AM0114

MPX UNIT



AM0117

FM IF STAGE



ITEM NO	VACANT
R601 ~ R625	
C601 ~ C625	C615 C618
T601 ~ T604	
Q601 ~ Q604	
D601 ~ D602	

FM IF SECTION

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