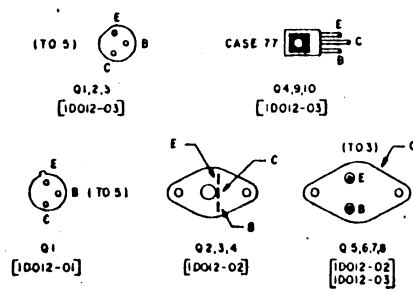


BOTTOM VIEWS

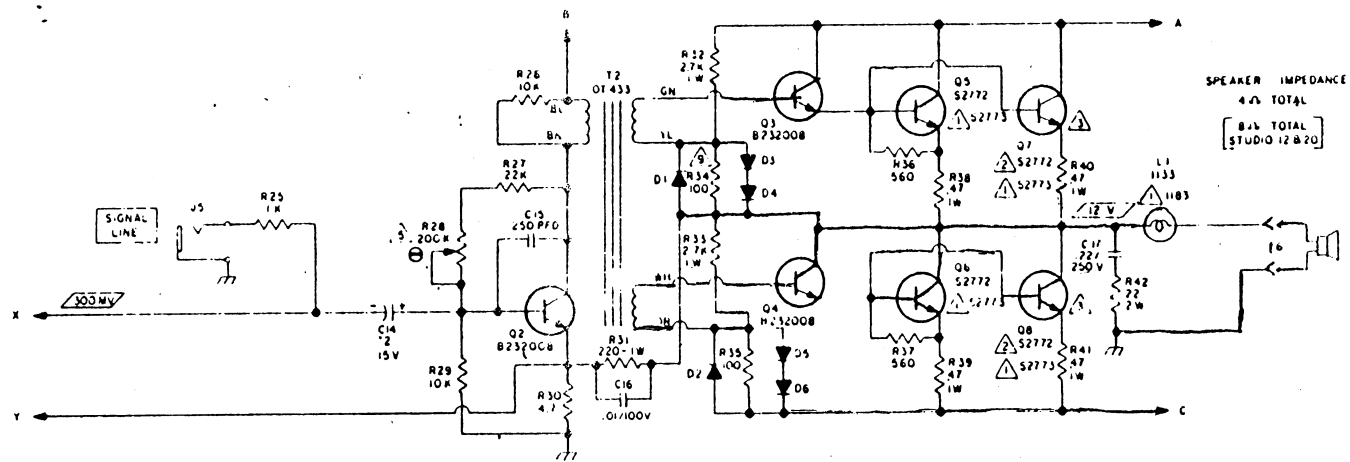


- NOTES:
- 1 RESISTANCE VALUES IN OHMS (K=1000)
  - 2 ALL RESISTORS 1/2 WATT UNLESS NOTED.
  - 3 CAPACITANCE VALUES ARE IN MICROFARADS UNLESS NOTED (PFD=PICTOMICROFARADS).
  - 4 [Symbol] ACTUAL FRONT OR REAR PANEL NOTATION.
  - 5 [Symbol] INDICATES APPROX. RMS SIGNAL LEVEL WITH VOLUME, BASS AND TREBLE C.W.; REVERB, SPEED AND INTENSIFY C.C.W. WITH 300 HZ INPUT SIGNAL.
  - 6 ALL INDICATED DC VOLTAGE LEVELS ±10%.
  - 7 SWITCHES SHOWN IN "ON" OR "HIGH" POSITIONS.

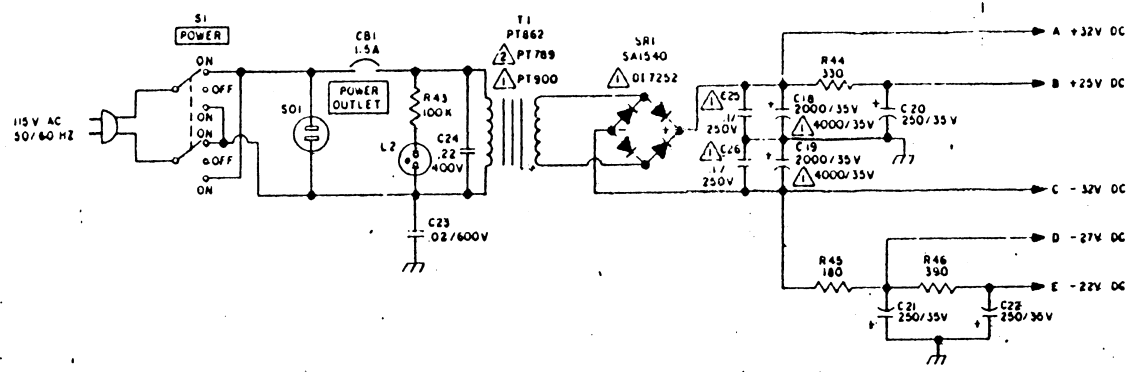
ITEM	STANDEL PART NO.	DESCRIPTION
R1	A-B	10-3C
R2		10-7
R3,4	A-B	10-1B
R5	A-B	10-13
R6,7,8,9		5-43
R10,11,12,13		5-25
R14,15		5-23
R16,17		0-30
R18		5-25
R19		5-4
R20		5-8
R21,22		10-6
R23		10-6
R24		5-4
R25		5-22
R26		5-25
R27		5-27
R28		10-6
R29		5-25
R30		5-3
R31		5-7B
R32,33		5-8B
R34,35		5-5
R36,37		5-9
R38,39		5-1
R40,41		5-1
R42		5-7A
R43		5-1B
R44		5-14
R45		5-B
R46		5-16
R47,48		5-1W
C1,2		4-12
C3,4		4-16
C5,6		4-12
C7		4-19
C8		4-12
C9		4-16
C10		4-21
C11,12		4-12
C13		4-9
C14		4-10
C15		4-9
C16		4-16
C17		4-12
C18		4-4
C19		4-3
C20,21,22		4-6
C23		4-15
C24		4-26
C25,26		4-13
C27		4-17
C28		4-17
C29		15-1
J3,4,5		15-2
J6		15-2
M1,2		22-10
M3		22-2B
M4		22-4
M5		22-3A
D1,2		DIODE
D3,4		DIODE

SCHEMATIC DIAGRAM  
1969  
PRE-AMPLIFIER  
ALL CUSTOM & STUDIO MODELS  
DRAFTSMAN: HMM, CHECKED: MDB, APP. DATE: 2-6-69, REC: 1D012-01

COND OM 1D012-02



SPEAKER IMPEDANCE  
4Ω TOTAL  
[8Ω TOTAL STUDIO 12 B 20]

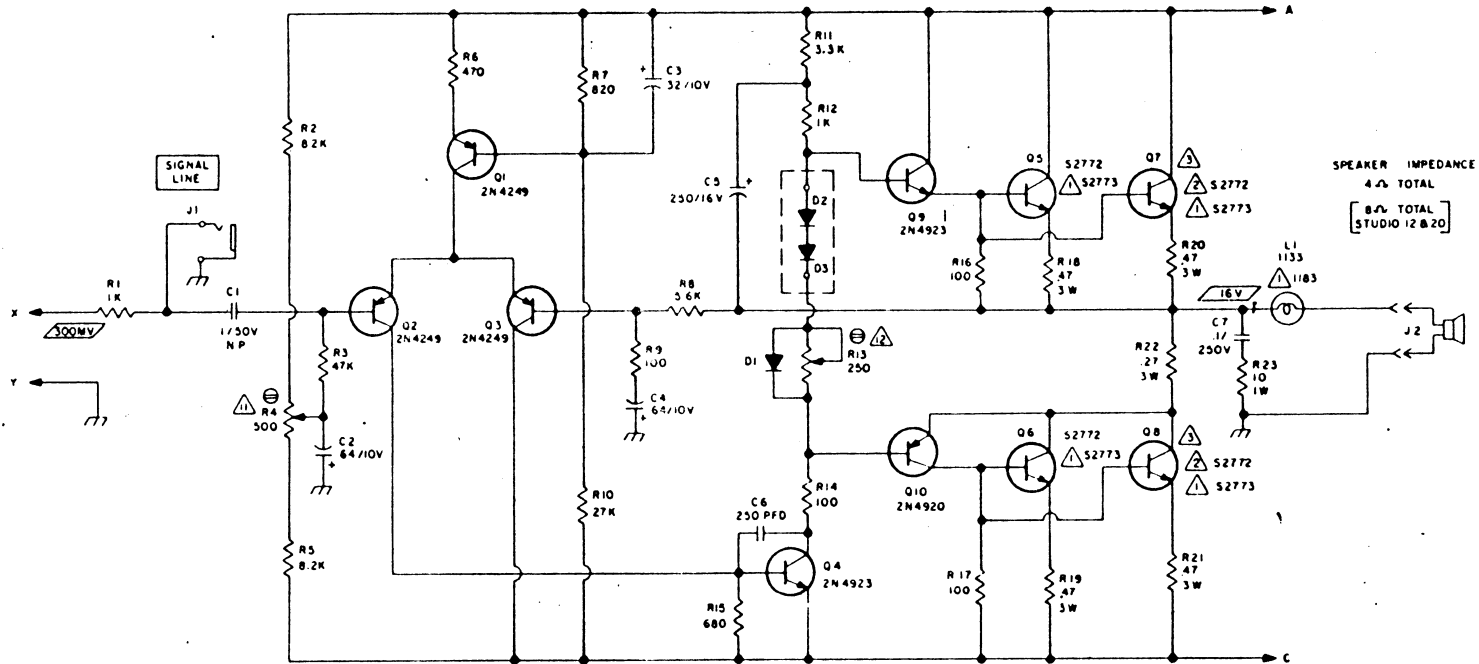


CONTD FROM 10012-01

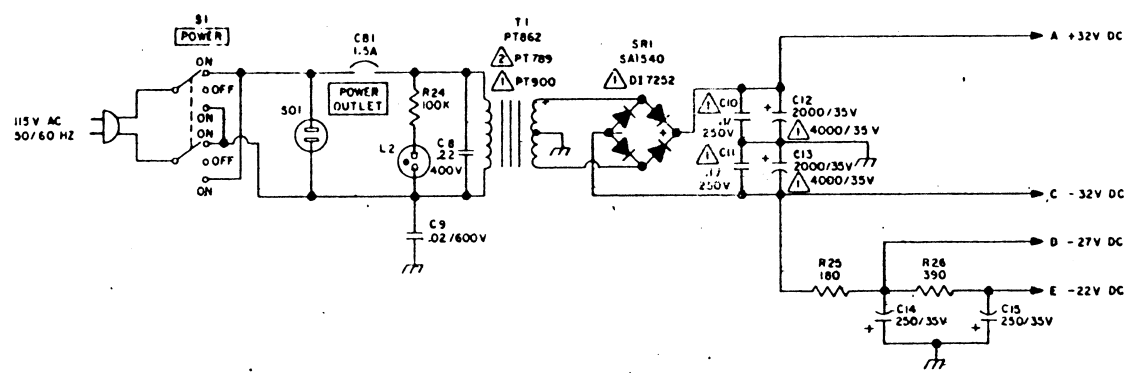
- ⊖ INDICATES SCREWDRIVER ADJUST.
- ⚠ USED ONLY ON CUSTOM MODELS.
- ⚠ USED ONLY ON STUDIO.
- ⚠ OMITTED ON STUDIO 12, 20.
- ⚠ OMITTED ON STUDIO MODELS.
- ⚠ ADJUST. FOR MIN. OUTPUT DISTORTION (APPROX. 4 V DC ACROSS PRIMARY OF OT433).
- ⚠ ADJUST REVERB DRIVER FOR 10V DC ACROSS R20.
- ⚠ ADJUST R21 FOR CORRECT MAXIMUM REVERB VOLUME.
- ⚠ FACTORY SELECTED VALUE FOR CORRECT MAXIMUM TREMOLO INTENSITY.
- ⚠ FACTORY SELECTED VALUE FOR 20 MA IDLE CURRENT THROUGH OUTPUT TRANSISTORS WITH LINE VOLTAGE AT 100V AC.
- ⚠ OMITTED ON STUDIO 20.

CONTD ON 10012-03

ITEM	STANDEL PART NO	DESCRIPTION
Q1	7-4	DRIVER TRANSISTOR
Q2, 3, 4	7-19	CASCADE DRIVER TSTR
Q5, 6, 7, 8	7-13, 7-12	OUTPUT TRANSISTOR
T1	7-8, 7-11, 7-12, 7-19	POWER TRANSFORMER
T2	7-8	DRIVER TRANSFORMER
SRI	7-11, 7-19	BRIDGE RECTIFIER
L1	13-5, 13-7	BLUB
L2	13-2	PILOT LIGHT
S1	8-6	DPDT POWER SWITCH
S2, 3, 4, 5	8-4	SPDT SWITCH
S01	9-1	POWER OUTLET
T01	56-1	REVERB UNIT
CBI	17-107	CIRCUIT BREAKER
RFC1	2-15	RF CHOKER



SPEAKER IMPEDANCE  
4Ω TOTAL  
[STUDIO 12 & 20]



CONTD FROM 1D012-02

⚠️ ADJUST DC OFFSET POT TO 0V ±50MV AT SPEAKER TERMINALS.

⚠️ ADJUST BIAS POT AT 100V LINE, 4 OHMS LOAD, 1 VOLT P-P TILL CROSSOVER DISTORTION JUST DISAPPEARS.

ITEM	STANDEL PART NO.	DESCRIPTION
R1	5-22	RESISTOR
R2	5-92	RESISTOR
R3	5-34	RESISTOR
R4	10-15	POT
R5	5-92	RESISTOR
R6	5-18	RESISTOR
R7	5-21	RESISTOR
R8	5-62	RESISTOR
R9	5-63	RESISTOR
R10	5-28	RESISTOR
R11	5-94	RESISTOR
R12	5-22	RESISTOR
R13	10-14	POT
R14	5-63	RESISTOR
R15	5-20	RESISTOR
R16,17	5-63	RESISTOR
R16,15,20,21	5-97	8Ω TOTAL
R22	5-93	POT
R23	5-95	RESISTOR
R24	5-38	RESISTOR
R25	5-8	RESISTOR
R26	5-16	RESISTOR
C1	4-20	ELECTROLYTIC CAP
C2	4-30	ELECTROLYTIC CAP
C3	4-31	ELECTROLYTIC CAP
C4	4-30	ELECTROLYTIC CAP
C5	4-29	ELECTROLYTIC CAP
C6	4-19	DISC CAPACITOR
C7	4-13	CAPACITOR
C8	4-26	ELECTROLYTIC CAP
C9	4-15	ELECTROLYTIC CAP
C10,11	4-13	ELECTROLYTIC CAP
C12	4-4	⚠️ 4-2
C13	4-3	⚠️ 4-1
C14,15	4-6	ELECTROLYTIC CAP
J1	15-1	CLOSED CIRCUIT JACK
J2	15-2	SPEAKER JACK & LEAD
D1,2,3	7-18	DIODE
Q1,2,3	7-15	SIGNAL TRANSISTOR
Q4	7-22	PRE-DRIVER TRANSISTOR
Q5,6,7,8	⚠️ 7-12 ⚠️ 7-13	OUTPUT TRANSISTOR
Q9	7-22	PRE-DRIVER TRANSISTOR
Q10	7-23	DRIVER TRANSISTOR
T1	2-8 ⚠️ 2-9, ⚠️ 2-1	POWER TRANSFORMER
S1	7-11 ⚠️ 7-15	BRIDGE RECTIFIER
L1	13-5	BLUB
L2	13-2	PILOT LIGHT
S1	8-6	DPDT POWER SWITCH
SO1	5-1	POWER OUTPUT
CB1	17-107	CIRCUIT BREAKER
SCHEMATIC DIAGRAM 1969 ALTERNATE POWER SECTION ALL CUSTOM & STUDIO MODELS		
DRAFTSMAN HMM	CHECKED M.D.B.	APP. DATE R.G.H. 5-16-69
		1D012-03