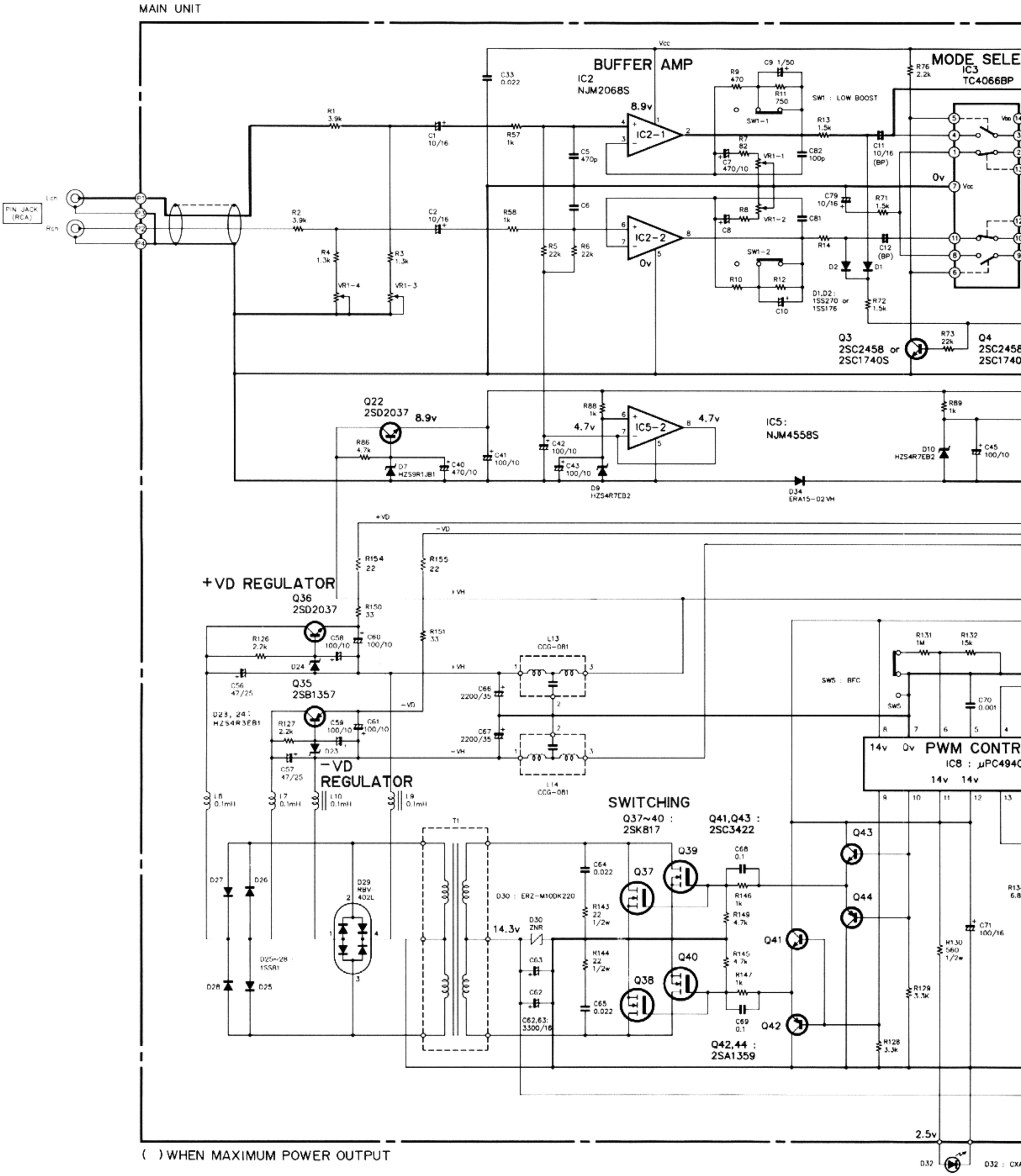
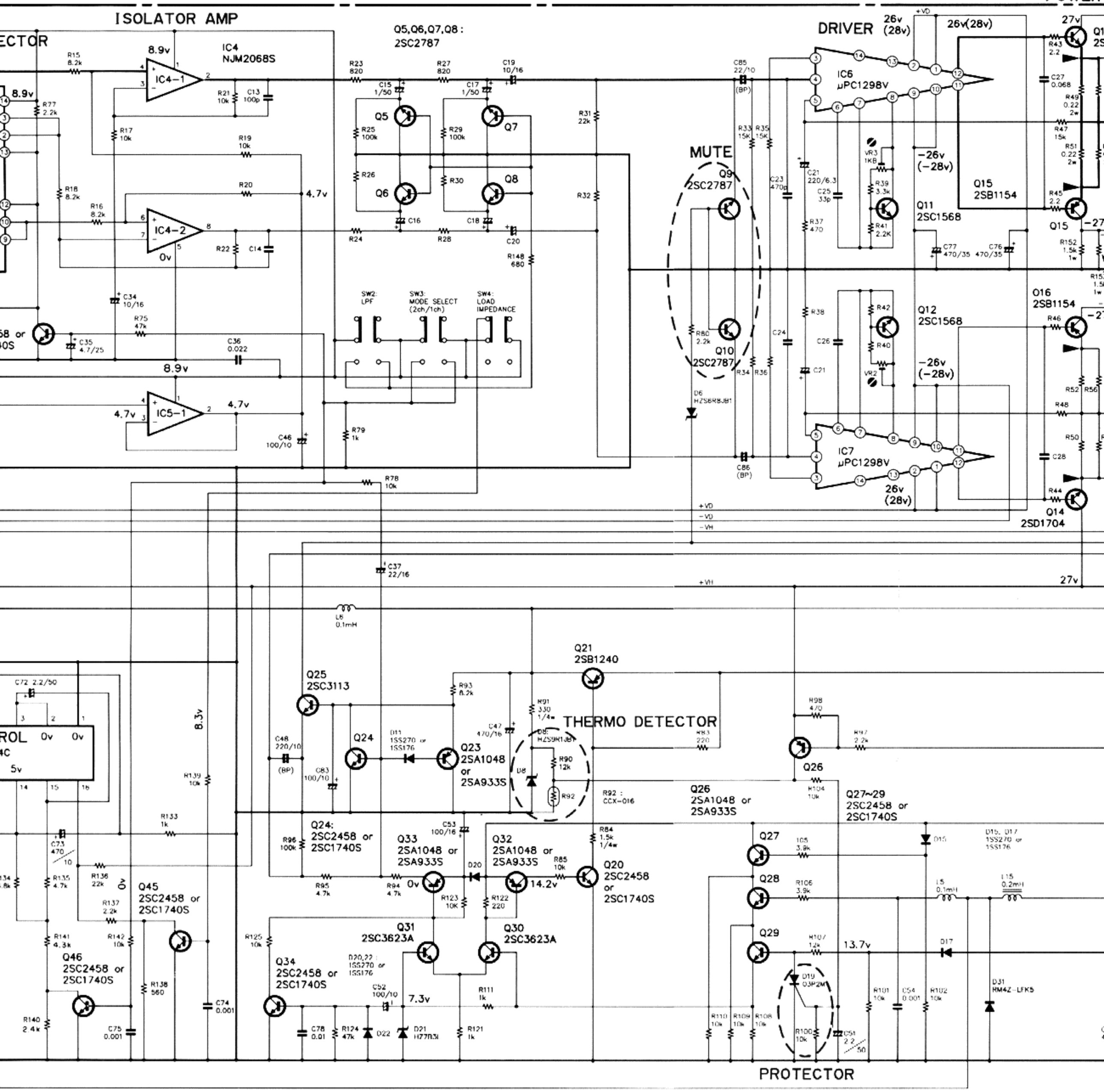
10. SCHEMATIC CIRCUIT DIAGRAM (GM-2000/UC)

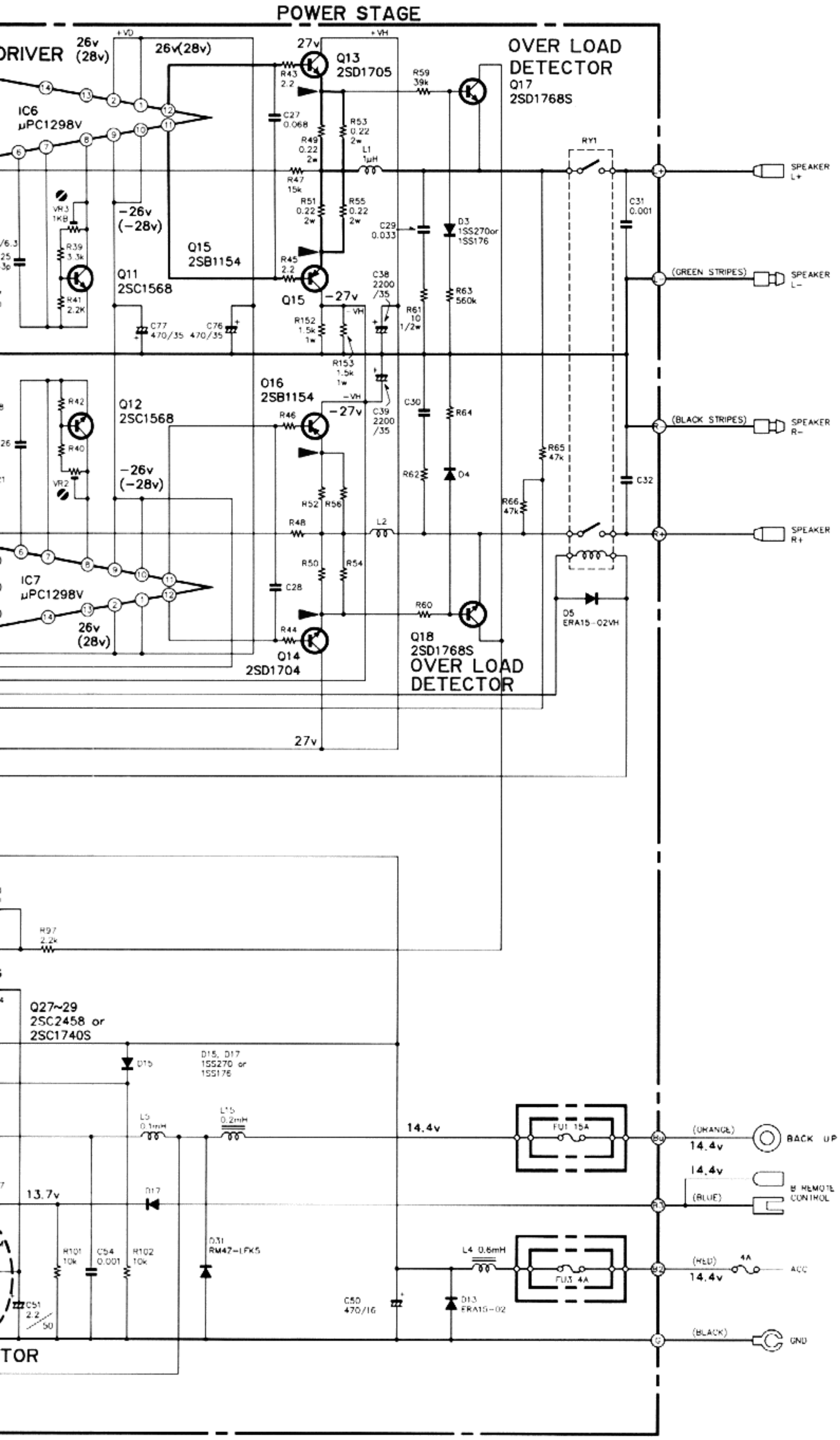


4 | 5 | 6 | 7



XA2183

4 | 5 | 6 | 7



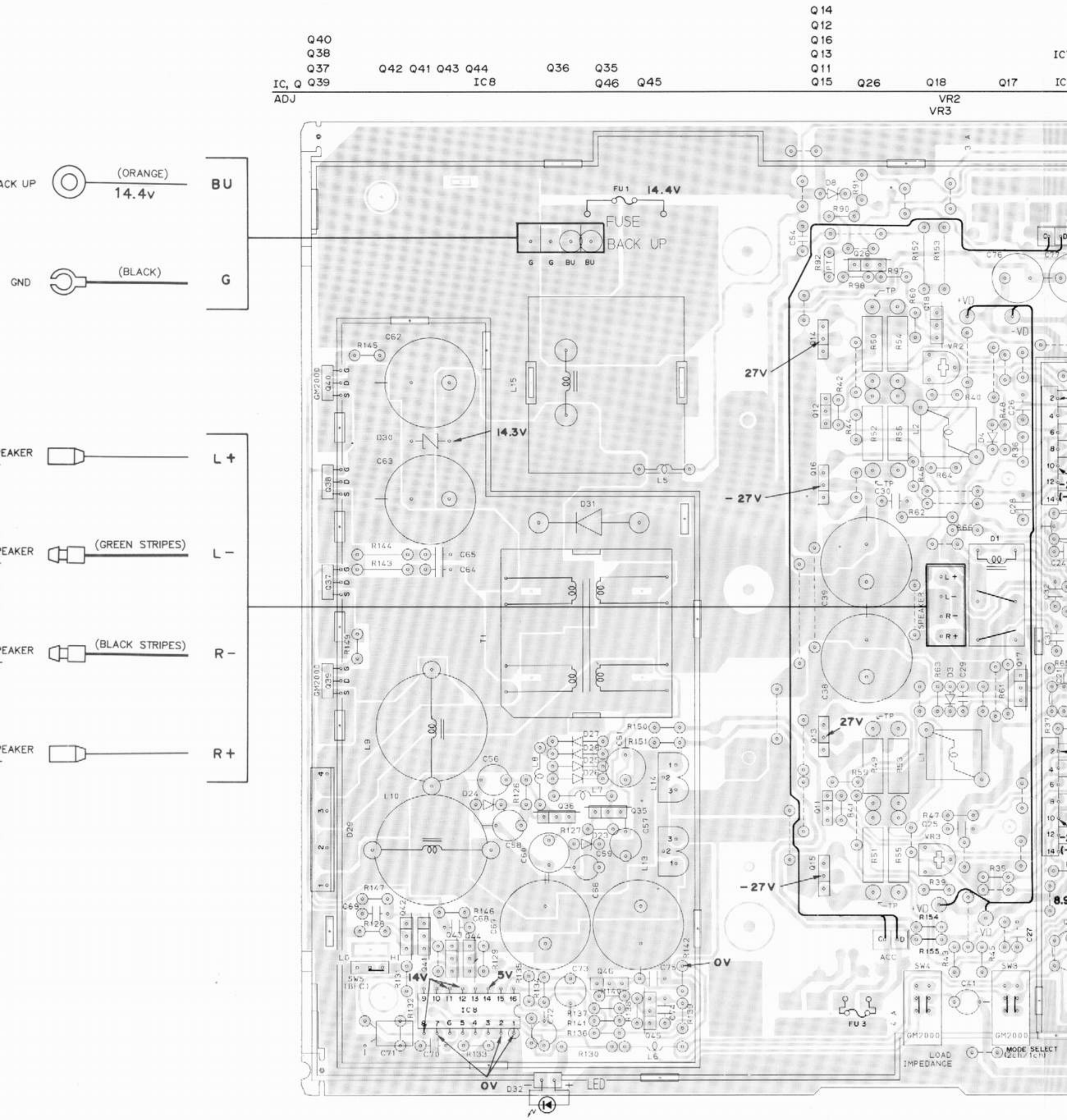
SWITCHES

SW1: LOW BOOST SWITCH . . . . . ON-OFF
SW2: LPF SWITCH . . . . . ON-OFF
SW3: MODE SELECT SWITCH 1ch-2ch
SW4: LOAD IMPEDANCE SWITCH 2Ω-4Ω
SW5: BFC SWITCH . . . . . LOW HIGH

The underlined indicates the switch position.

Fig. 23

4 5 6



( ) WHEN MAXIMUM POWER OUTPUT

4 5 6

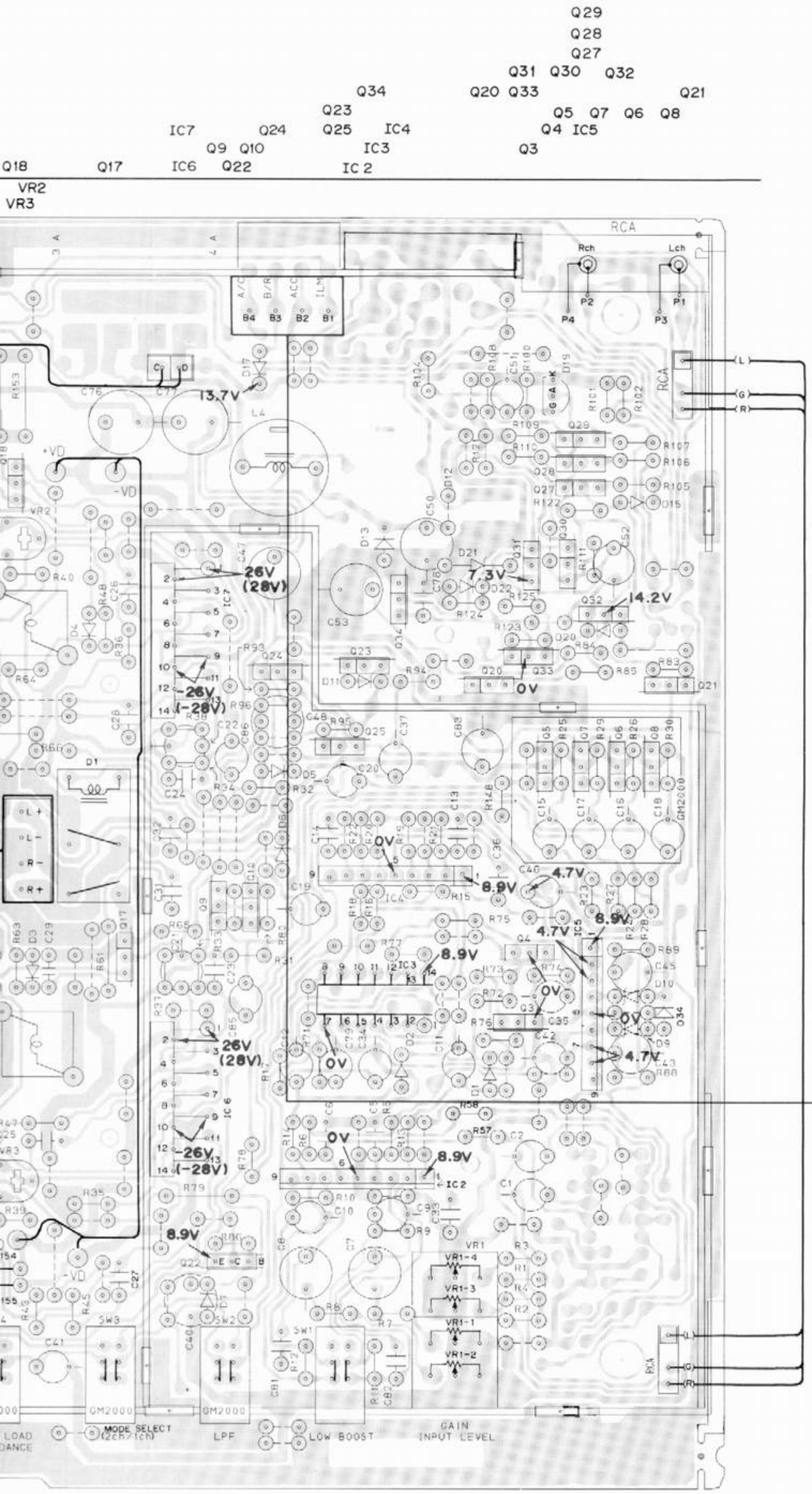

Q29
Q28
Q27
Q31 Q30 Q32
Q34 Q20 Q33 Q21
Q23 Q5 Q7 Q6 Q8
IC7 Q24 Q25 IC4 Q4 IC5
Q9 Q10 IC3 Q3
Q18 Q17 IC6 Q22 IC 2
VR2
VR3
RCA
Rch
Lch
P2
P1
P4
P3
B4 B3 B2 B1
13.7V
+VD
-VD
26V (28V)
-26V (-28V)
7.3V
14.2V
0V
8.9V
4.7V
L+
L-
R-
R+
GM2000
MODE SELECT (2ch/1ch)
LPF
LOW BOOST
GAIN (INPUT LEVEL)
14.4v
(BLUE)
B REMOTE CONTROL
B3
B2
(RED)
14.4V
4A
ACC

Fig. 24

4.2 PWM (Pulse Width Modulation) POWER SUPPLY

The PWM power supply is a circuit that maintains stable secondary voltage in a DC/DC converter, regardless of the voltage fluctuation and load fluctuation of the primary voltage.
In actual operation, the output voltage (Vout) expressed by formula (1) is maintained at a stable level. Consequently, when load fluctuation or fluctuation of the primary (battery) voltage occurs, the PWM circuit illustrated in Fig. 17-2 and 17-3 to control the pulse width of the gate voltage at A.

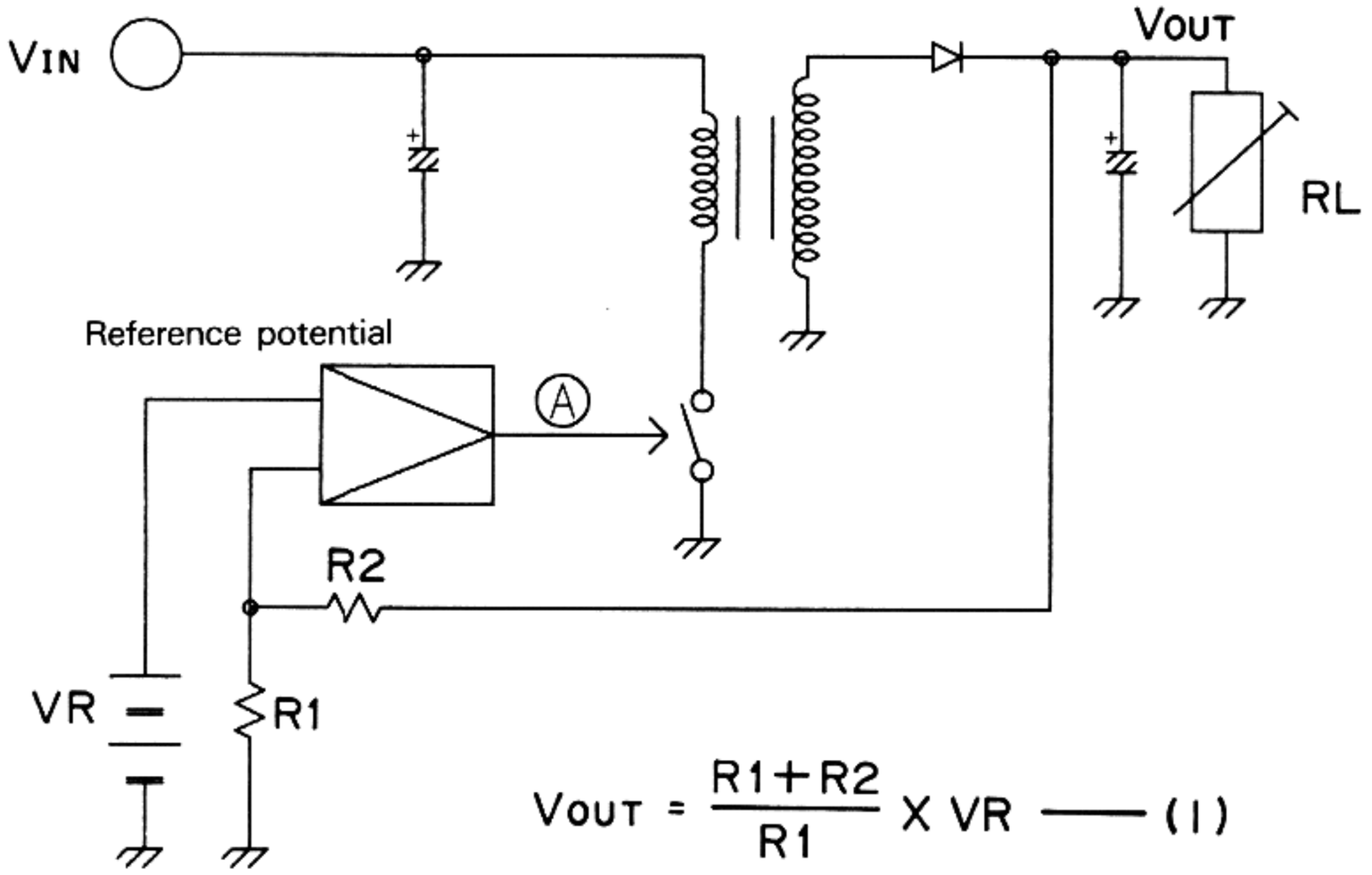


Fig. 17-1

- **Waveforms at point A (V: 10V/div, H: 10μS/div)**

No signal

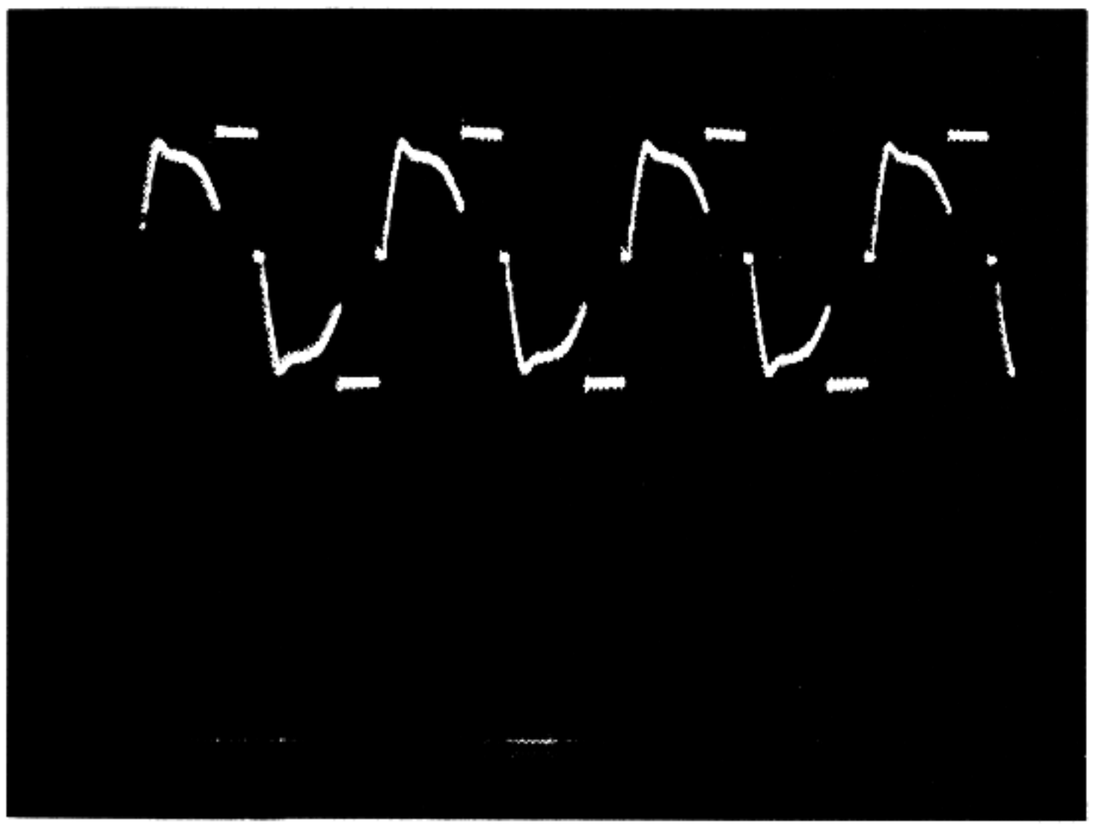


Fig. 17-2

Large output or drop in input voltage (VIN)

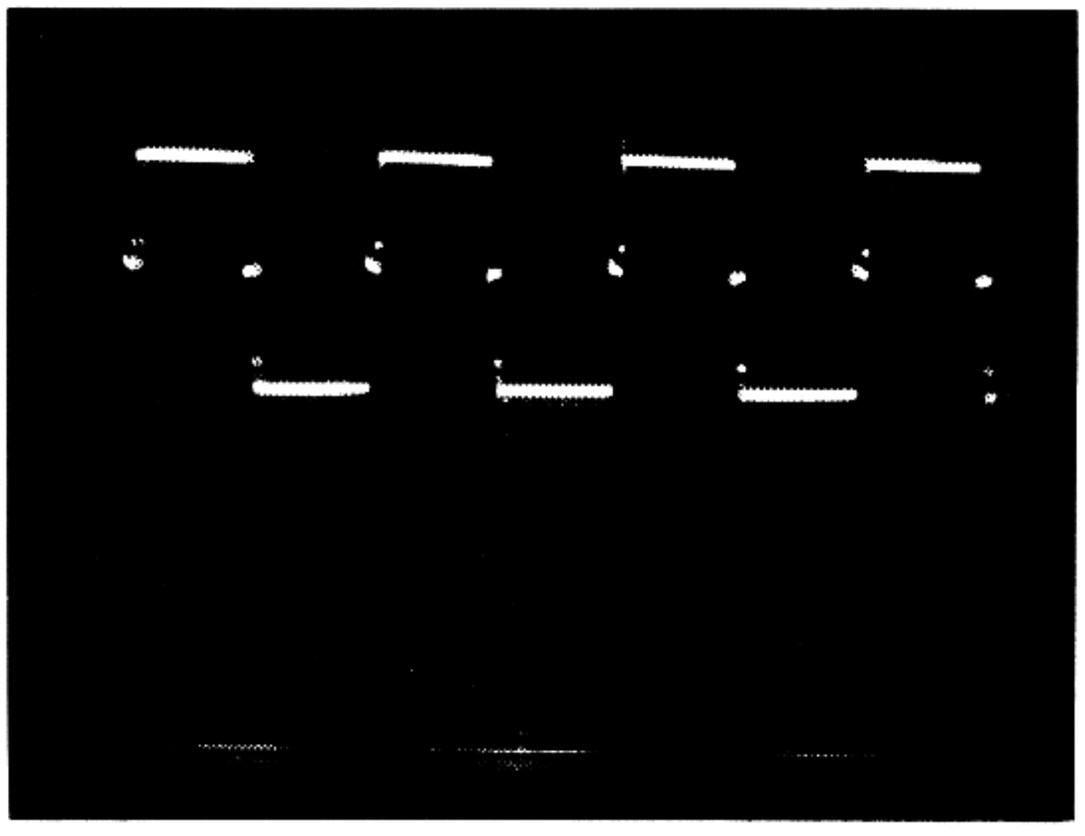


Fig. 17-3

5. ADJUSTMENT

- **Connection Diagram**

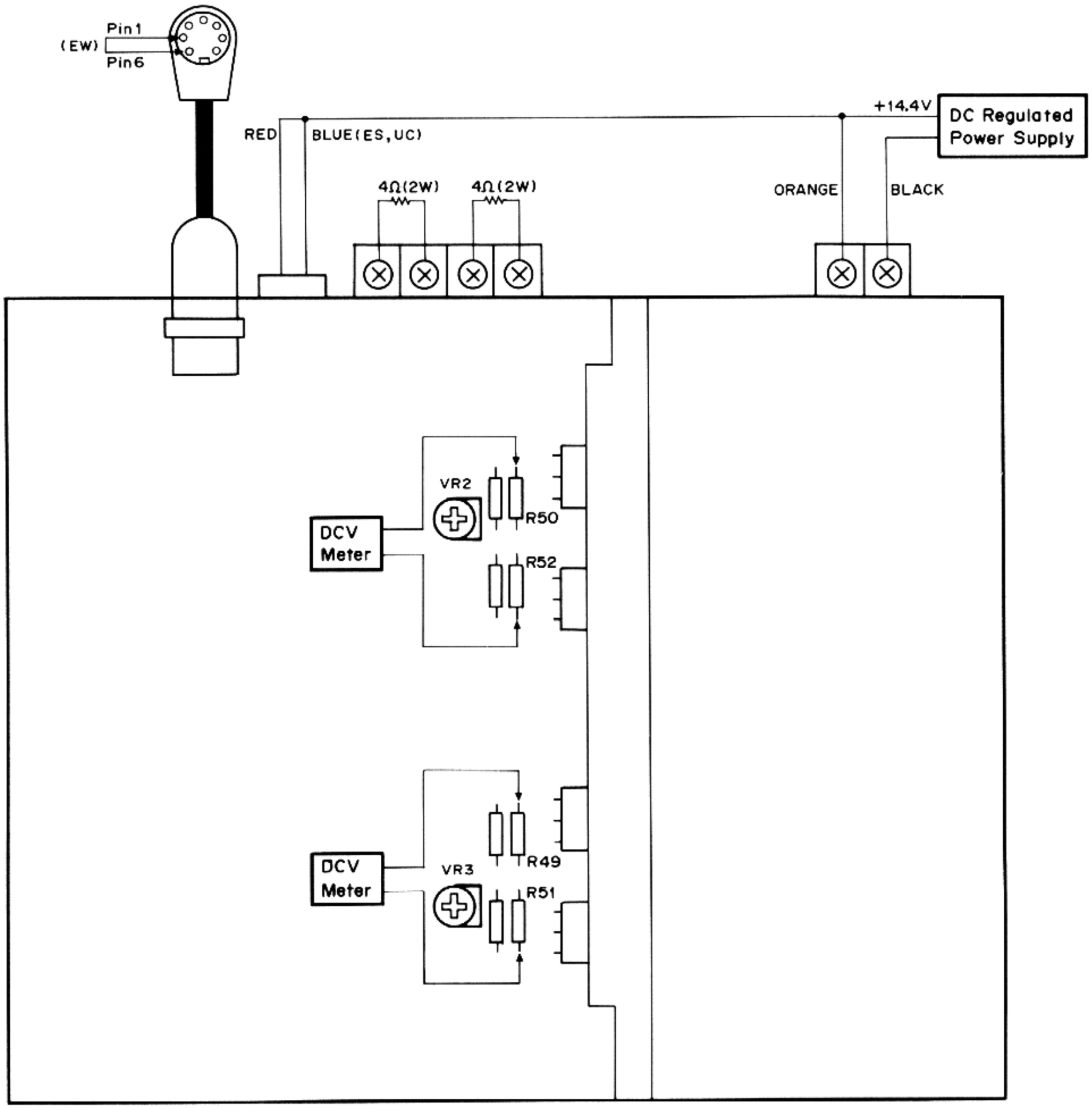


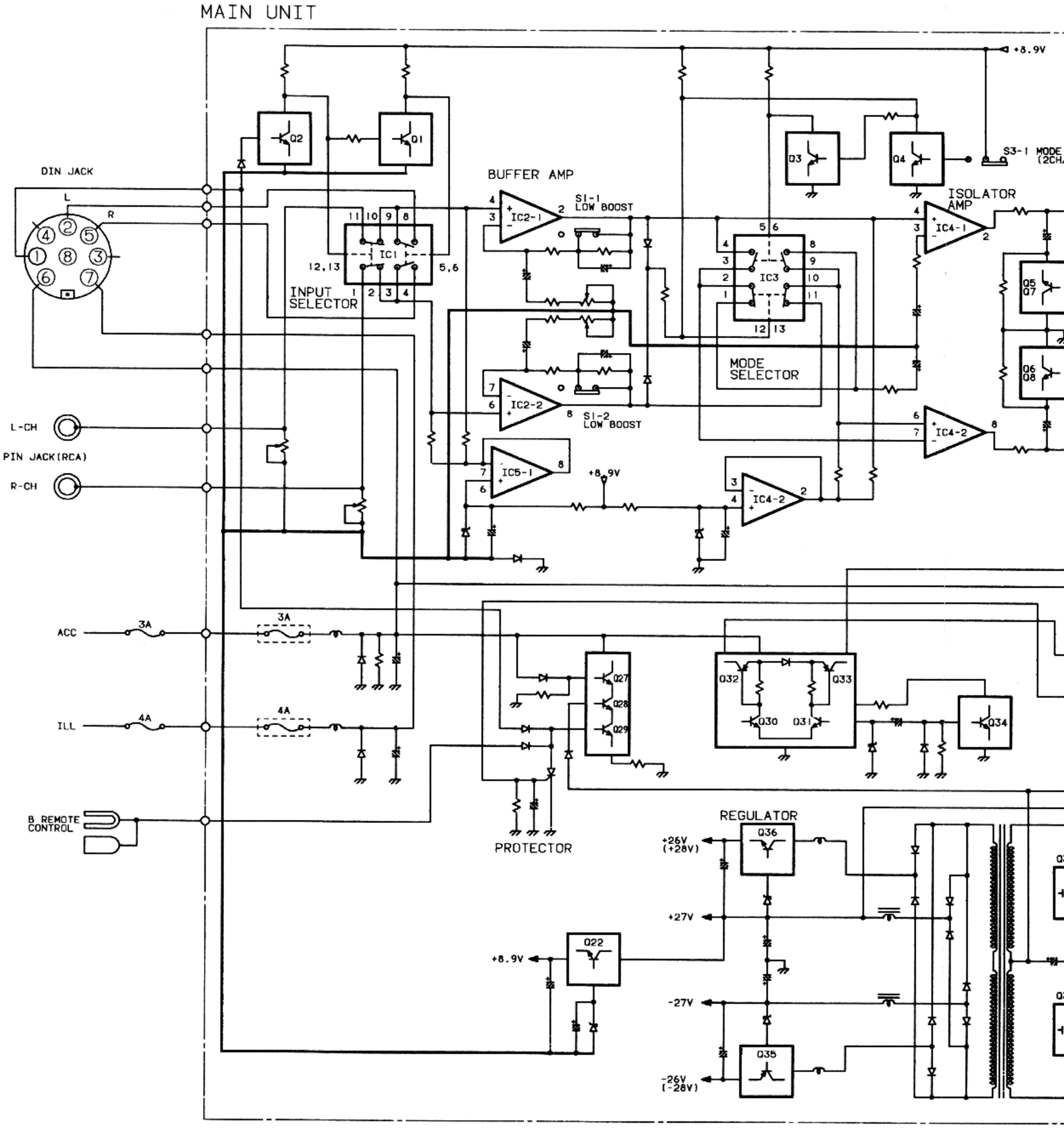
Fig. 18

5.1 IDLE CURRENT ADJUSTMENT

No.	Adjusting Point	Adjustment Method
1		Rotate VR2 and VR3 counterclockwise. Turn the power on, and wait about 30 minutes.
2	VR2,3	DC V Meter: 6.6 mV + 1.1 mV (GM-2000) − 2.2 mV DC V Meter: 13.2 mV + 2.2 mV (GM-1000) − 4.4 mV

4. CIRCUIT DESCRIPTION

4.1 BLOCK DIAGRAM (GM-2000/ES)



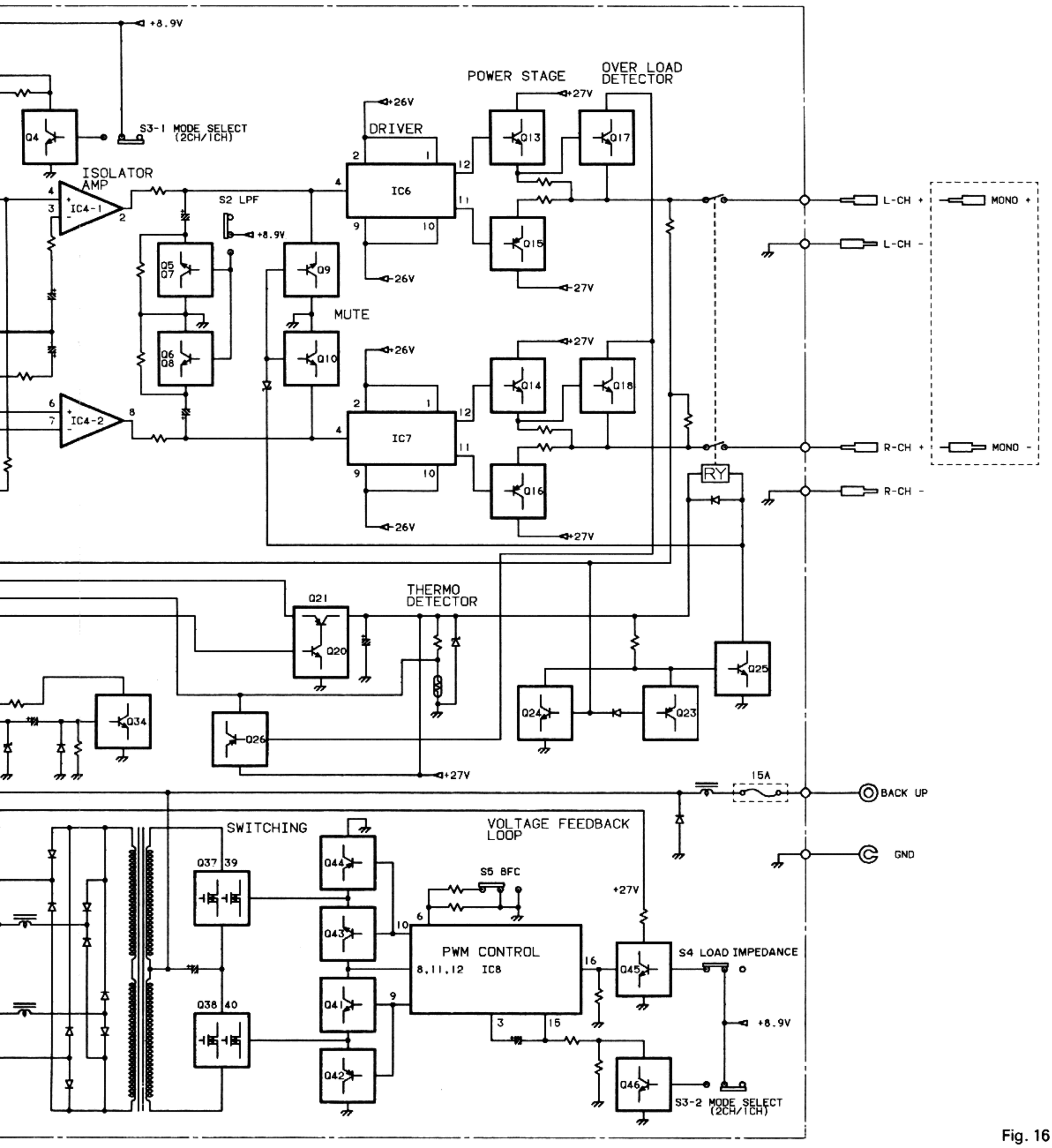

+8.9V
Q4
S3-1 MODE SELECT
(2CH/1CH)
ISOLATOR
AMP
IC4-1
S2 LPF
+8.9V
Q5
Q7
Q6
Q8
Q9
MUTE
Q10
IC4-2
DRIVER
+26V
IC6
IC7
POWER STAGE
OVER LOAD
DETECTOR
+27V
Q13
Q17
Q15
Q14
Q18
Q16
L-CH +
L-CH -
MONO +
R-CH +
R-CH -
MONO -
RY
Q21
Q20
THERMO
DETECTOR
Q34
Q26
Q24
Q23
Q25
15A
BACK UP
GND
SWITCHING
Q37
Q38
Q39
Q40
Q44
Q43
Q41
Q42
S5 BFC
PWM CONTROL
8,11,12 IC8
VOLTAGE FEEDBACK
LOOP
Q45
S4 LOAD IMPEDANCE
Q46
S3-2 MODE SELECT
(2CH/1CH)

Fig. 16