

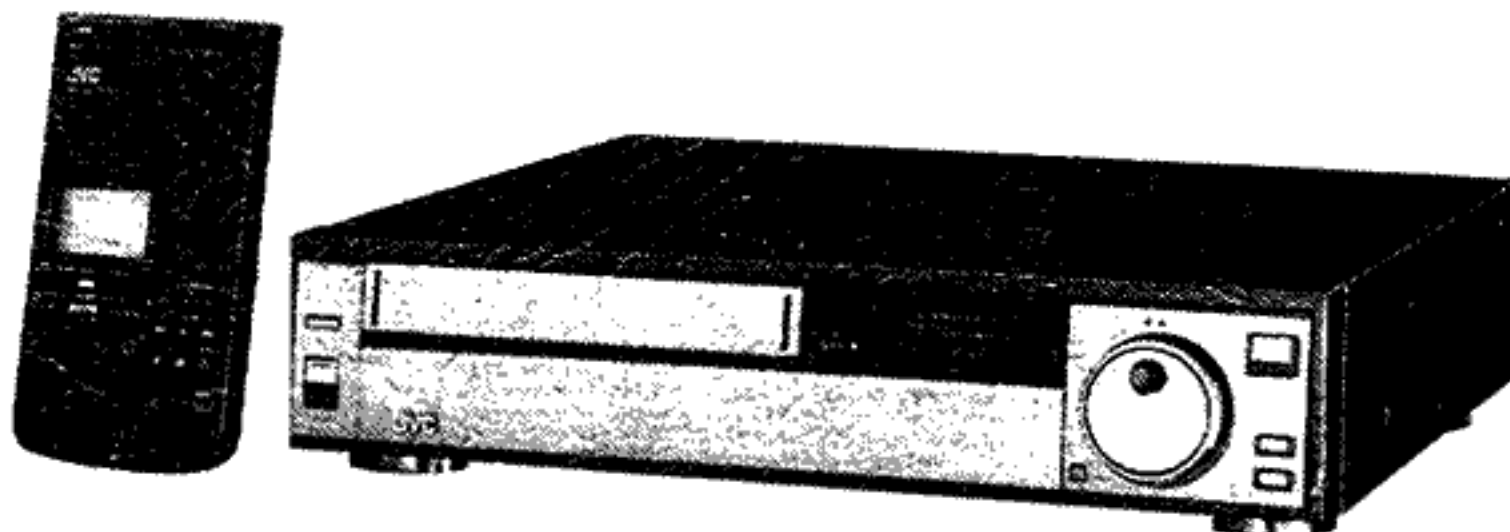
JVC

SERVICE MANUAL

Hi-Fi STEREO VIDEO CASSETTE RECORDER

HR-S5800E/EG

S VHS
625
VHS
PAL



SPECIFICATIONS *(The Specifications shown Pertain Specifically to The Model HR-S5800E)*

GENERAL

Power requirement	: AC 220 V~, 50/60 Hz
Power consumption	: 40 W
Temperature	: 5°C to 40°C (Operating) -20°C to 60°C (Storage)
Operating position	: Horizontal only
Dimensions (WxHxD)	: 435 x 102 x 390 mm
Weight	: 7.0 kg
Format	: S-VHS/VHS PAL standard
Tape width	: 12.65 mm
Tape speed (SP)	: 23.39 mm/sec
(LP)	: 11.70 mm/sec
Maximum recording time	
(SP)	: 240 min. with E-240 video cassette
(LP)	: 480 min. with E-240 video cassette

VIDEO

Signal system	: PAL colour and separated Y/C signals, 625 lines/50 fields
Recording system	: Rotary two-head helical scan system with slant double-azimuth combination video heads
Input	: 0.5 to 2.0 Vp-p, 75 ohms, unbalanced
Output	: 1.0 Vp-p, 75 ohms, unbalanced
Signal-to-noise ratio	: 43 dB (Rohde & Schwarz noise meter) with PICTURE SHARPNESS control at centre position
Horizontal resolution	: More than 400 lines (S-VHS)/250 lines (VHS) with PICTURE SHARPNESS control at centre position

AUDIO

Input	: Mic: -67 dBs, high impedance, unbalanced : AUDIO IN connector (RCA x 2): -8 dBs, more than 50 k-ohms, unbalanced : AUDIO/VIDEO socket (21-pin Peri connector): -3.8 dBs, (CENELEC standard), 10 k-ohms, unbalanced
Output	: AUDIO/VIDEO socket (21-pin Peri connector): -3.8 dBs, (CENELEC standard), high-impedance load : AUDIO OUT connector (RCA x 2): -6 dBs, high-impedance load less than 1 k-ohm, unbalanced (100 k-ohms, load)

NORMAL AUDIO

Recording system	: Longitudinal track
No. of audio channels	: 1 (monaural)
Frequency range	: 70 Hz to 10,000 Hz

Hi-Fi AUDIO-

Recording system	: Deep-layer recording system conforming to stereo Hi-Fi VHS standard
No. of audio channels	: 2 Hi-Fi audio channels
Frequency response	: 20 Hz to 20,000 Hz
Dynamic range	: More than 90 dB
Wow and flutter	: Less than 0.005% WRMS

TUNER

Tuning system	: Frequency synthesized tuner
TV channel storage capacity	: 48 positions (+ AUX position "AU")
Channel coverage	: VHF 47 - 111 MHz 111 - 300 MHz 302 - 470 MHz UHF 470 - 862 MHz
Aerial output	: UHF channel 36 (adjustable 32 - 40)

TIMER

Clock reference	: Quartz-crystal
Programme capacity	: 1-year/8-programme timer
Memory back-up time	: 60 min.

ACCESSORIES

Provided accessories	: Aerial cable, Infrared remote control unit, "R6" battery x 4, Audio cable (RCA-RCA), S-Video cable (4-pin/4-pin), S-VHS cassette tape (SE-180)
Optional accessories	: VPS adapter VU-V110E VPV adapter VU-V120E VPS/VPV adapter VU-V100E VPT adapter VU-V140E VPS/VPT adapter VU-V150E RGB signal converter KM-V7EG

*Specifications shown are for SP mode unless otherwise specified.
Design and specifications subject to change without notice.*

NOTE: For a technical description, please refer to Technical Guide VTG82057 HR-S5800 PAL.

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- The Instructions shown pertain specifically to the Model HR-S5800E. For detailed descriptions, be sure to consult the Instruction booklets of the other Models.
- The following table lists the differing points between Models (HR-S5800E and HR-S5800EG) in this series.

Model			HR-S5800EG	HR-S5800E
Item				
TV TUNER	Channel coverage	VHF	47 to 111 MHz	← *1)
			111 to 300 MHz	← *1)
			No	302 to 470 MHz
		UHF	470 to 862 MHz	← *1)
TIMER	Memory back-up time		Minimum 3 min	60 min
	VPS		Built-in	Option (VU-V110E)
TELETEXT	VPV		Option (VU-V120E) *2)	Option (VU-V100E) *3)
	VPT (with TOP) *4)		Option (VU-V140E) *2)	Option (VU-V150E) *3)

Notes: *1) ← The same as model at left.

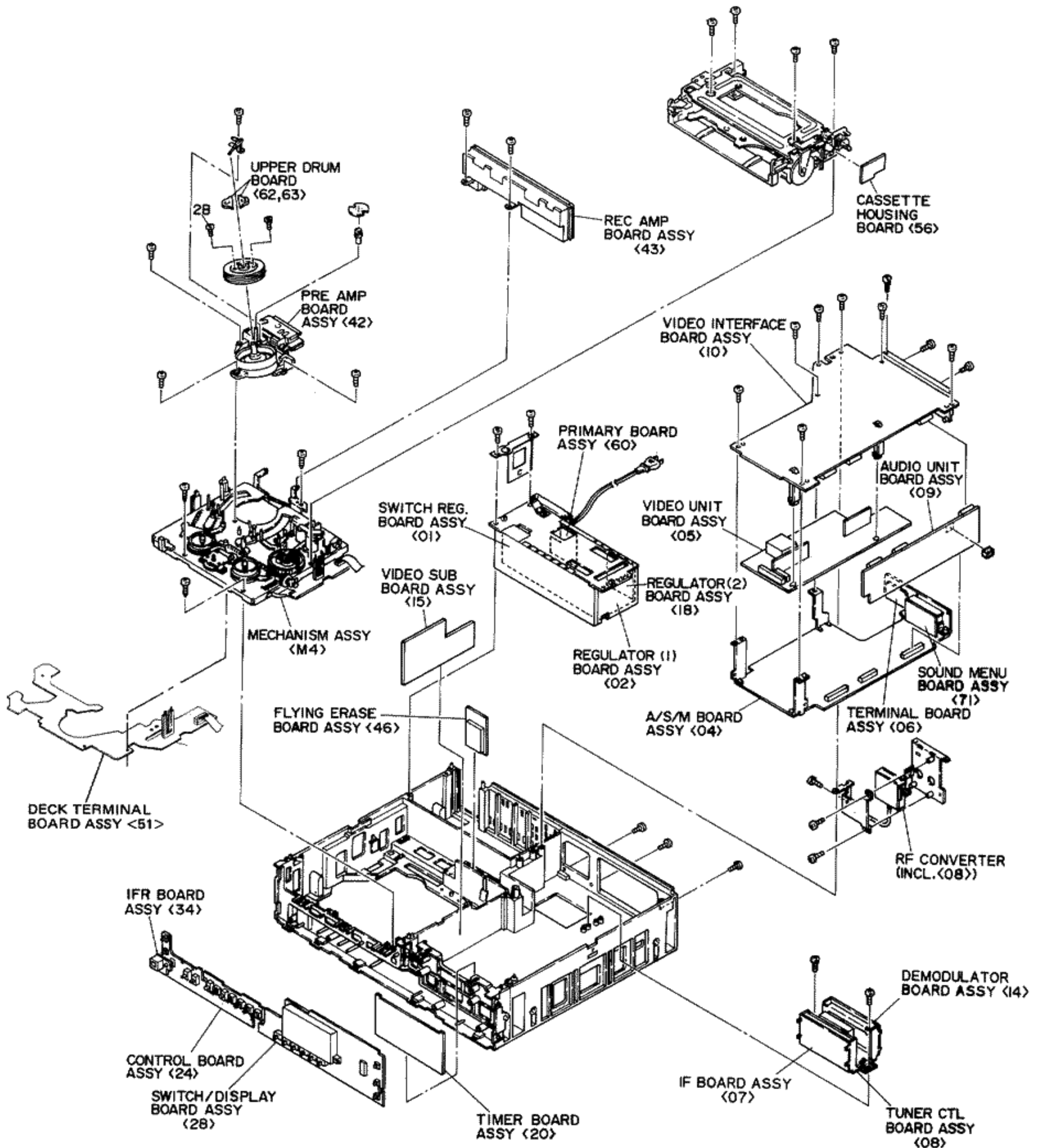
*3) VU-V100E/VU-V150E with VPS

*2) VU-V120E/VU-V140E without VPS

*4) TOP: TOP of page

SECTION 3 CHARTS AND DIAGRAMS

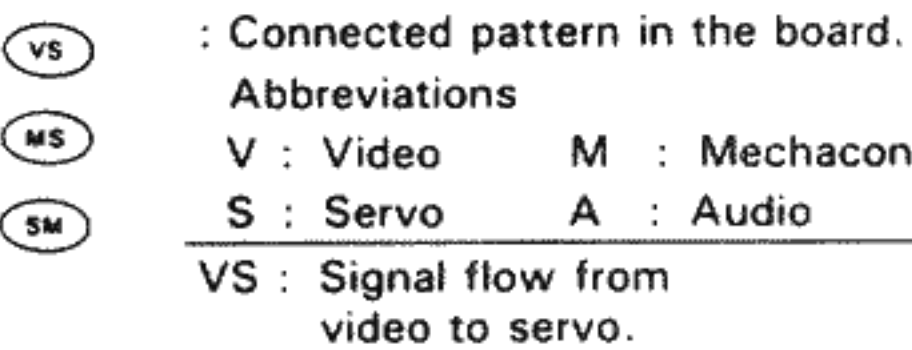
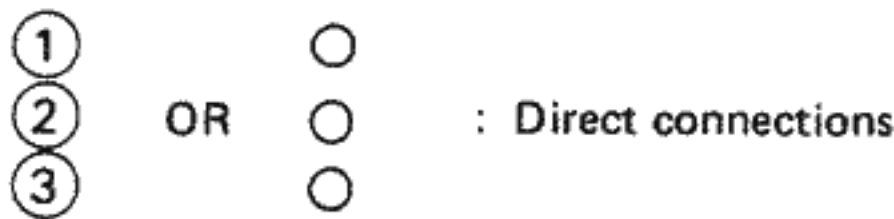
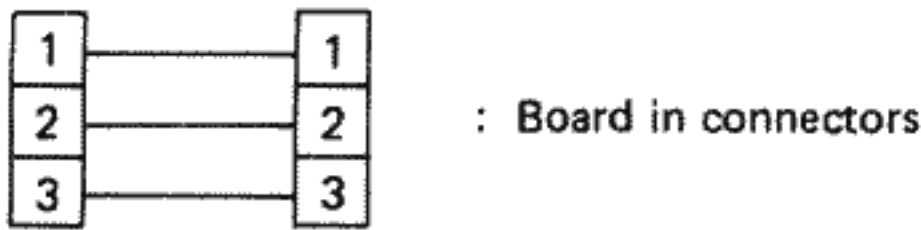
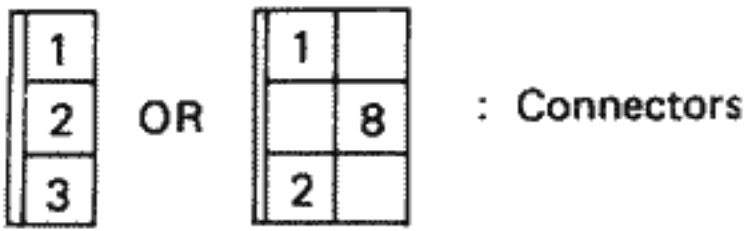
3.1 CIRCUIT BOARD AND LOCATION



3.2 GENERAL INFORMATION

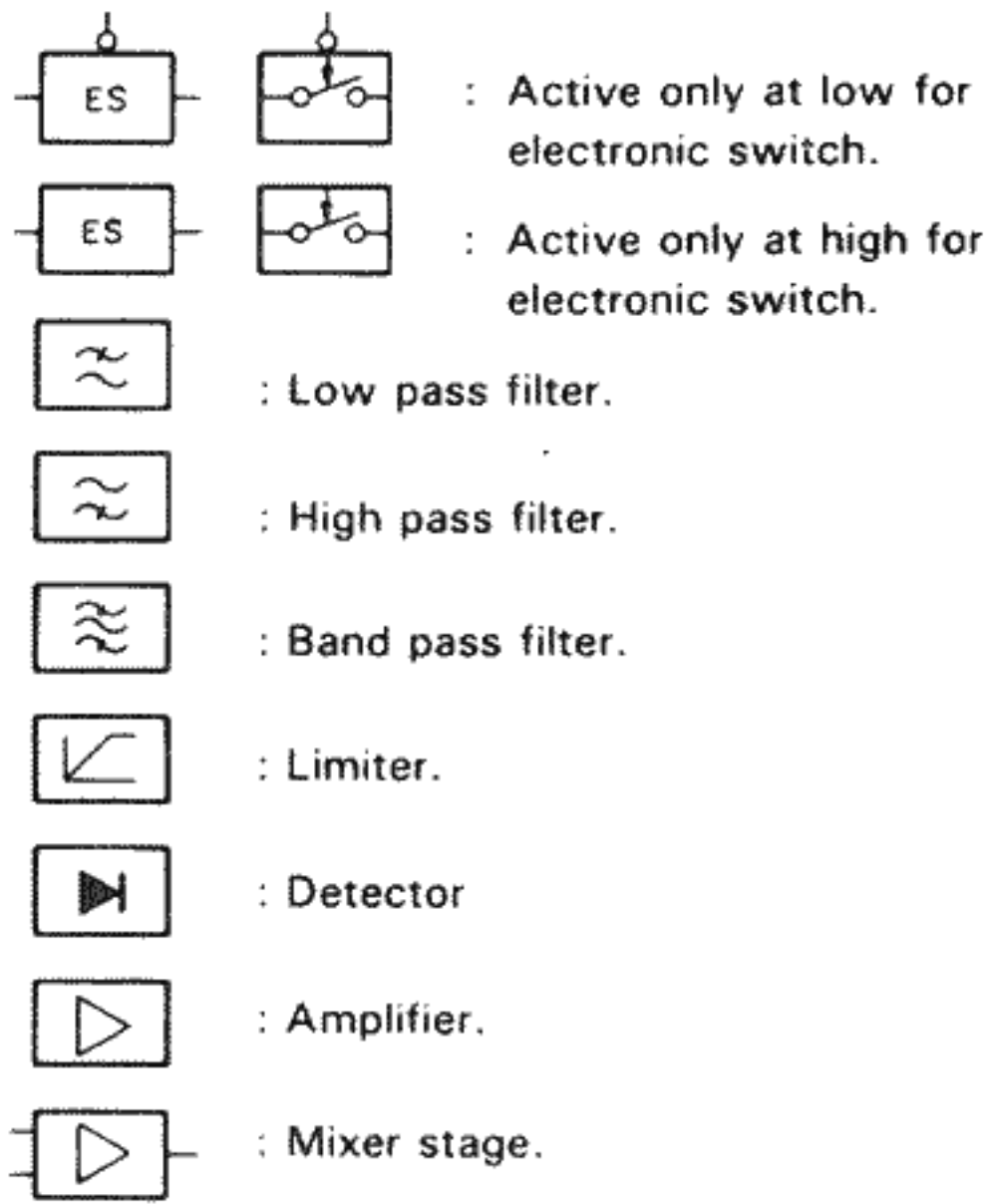
3.2.1 Connections

Note:
Unless otherwise specified, only signal input flow is indicated.
Connection arrows indicate only signal outputs.



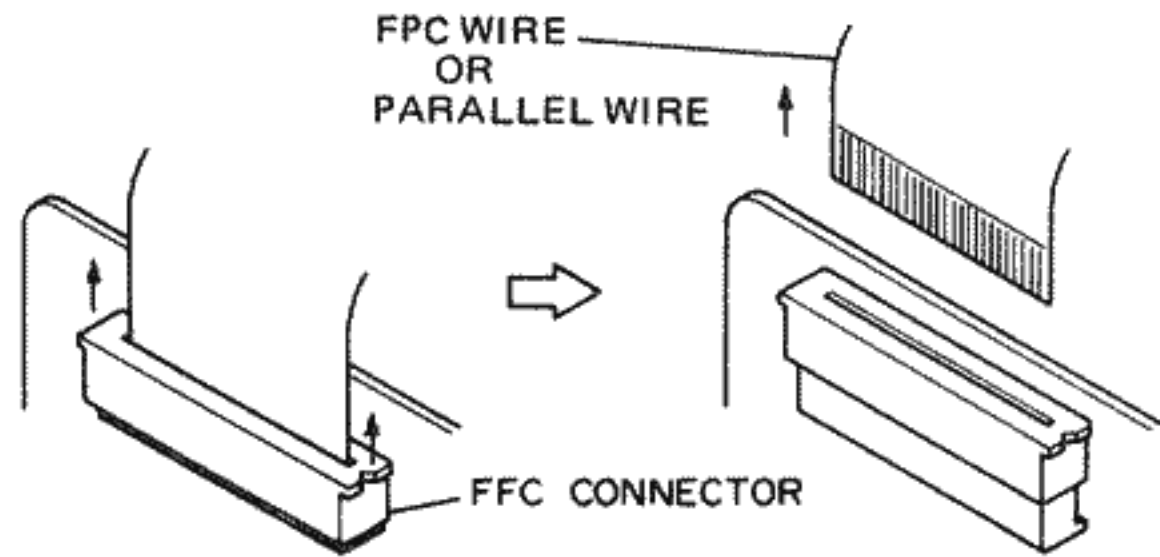
3.2.3 Indications

AUX : Active only at high.
 $\overline{\text{AUX}}$: Active only at low.
 $\overline{\text{AUX}}$: Active only at middle.
 $\overline{\text{AUX}}$: Active only at open.

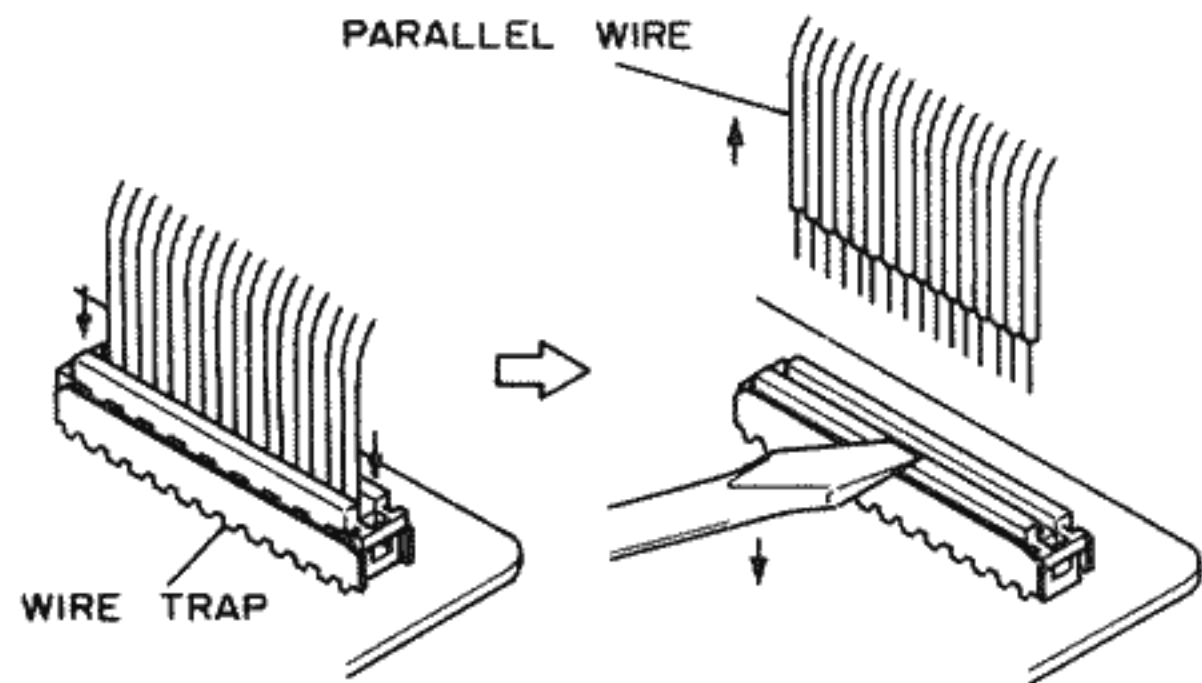


3.2.2 Disconnecting the flatwire

1. Pull the connector structure upward to release the clamp when removing or inserting the flat wire cable.



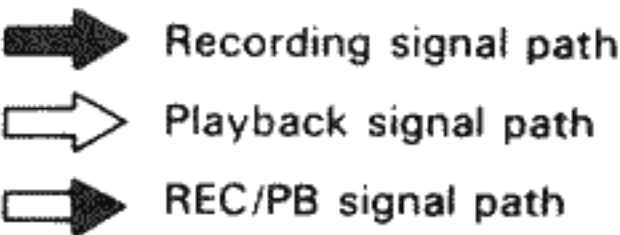
2. Depress the connector structure downward to release the clamp when removing or inserting the flat wire cable, as indicated below.



3.2.4 Schematic diagram values

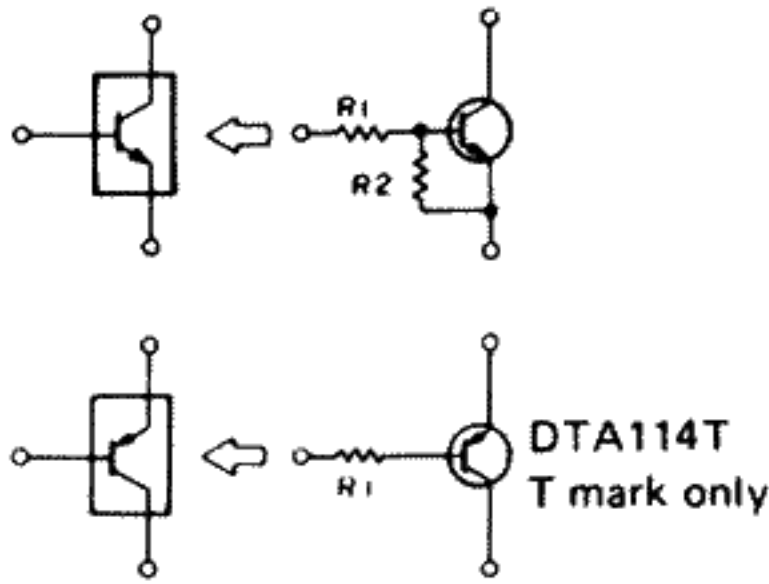
- Unless otherwise specified.
1. All resistance values are in ohms, 1/6 W, 1/8 W, (refer to parts list).
 2. All capacitance values are in μF , (P; PF).
 3. All inductance values are in μH , (m; mH).
 4. All diodes are 1SS133 or MA165, (refer to parts list).
 5. Voltages are DC-measured (reference to ground) with a digital voltmeter during recording (S VHS, SP mode) and playback (S VHS, SP mode) with alignment tape. Where voltages differ between recording and playback, the voltage during playback is shown in parentheses.
 6. Waveforms (VIDEO System) are measured (reference to ground) with a color bar during recording (S VHS, SP mode) and playback (SP mode) with alignment tape.
 7. Waveforms (AUDIO System) are measured (reference to ground) with 1 kHz (-8 dBs) during recording and playback with alignment tape (1 kHz).
 8. Shaded () parts are critical for safety. Replace only with specified parts numbers.

3.2.5 Signal flow in the schematic

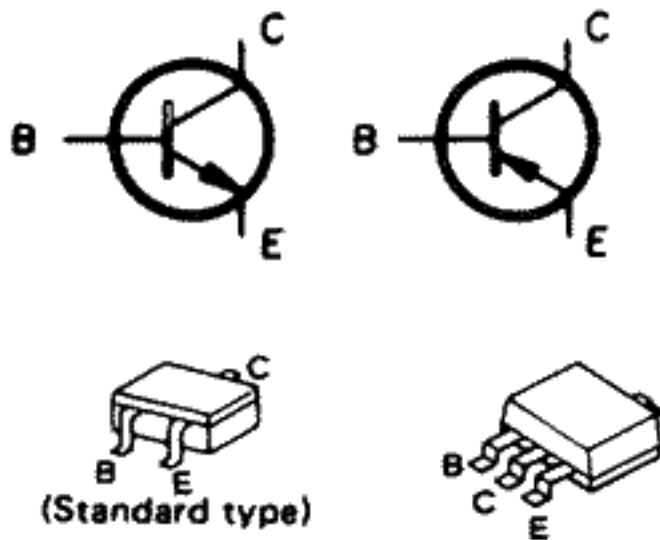


3.2.6 Semiconductors

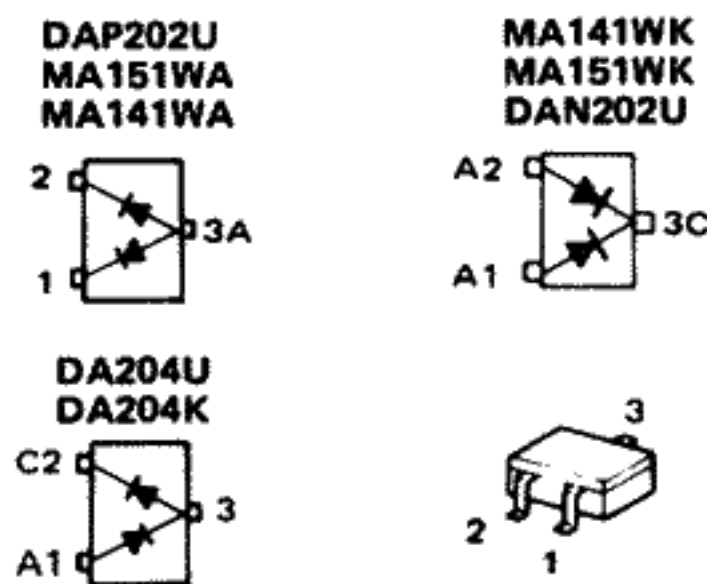
1. Digital transistor



2. Chip transistor



3. Chip diode



Note:

The digital transistor includes built in resistors. It features small size and high reliability. Both PNP and NPN types are available.

Uses:

Inverter, Interface, driver circuits.

3.2.7 Replacement of chip parts

For replacing chip parts, proceed it as follows.

Use a well insulated fine-tipped soldering iron (approx. 17 W, 130°C ~ 260°C in temp.).

In addition, it is recommended to use a soldering iron (55 W approx.) with solder absorber for convenience.

- Caution:**
- Do not apply heat for more than 3 seconds.
 - Do not rub electrodes.
 - Do not reuse chips removed once. Discard them.
 - Supplementary cementing is not required.

1. Soldered condition of chip parts

- Resistors, capacitors, etc.

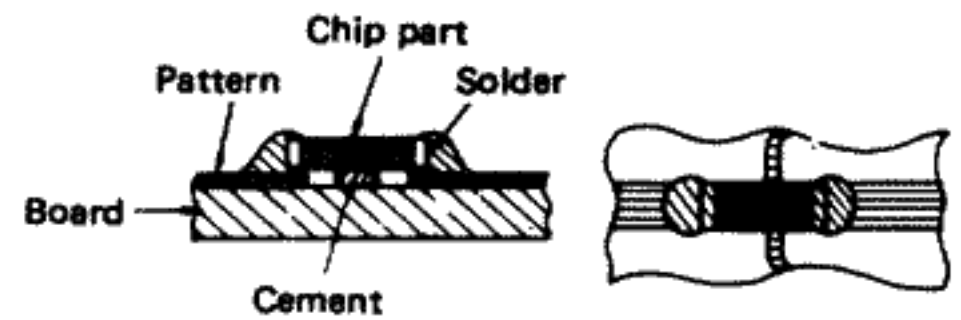


Fig. 3-2-1 Soldering condition-1

- Transistors, diodes, etc.

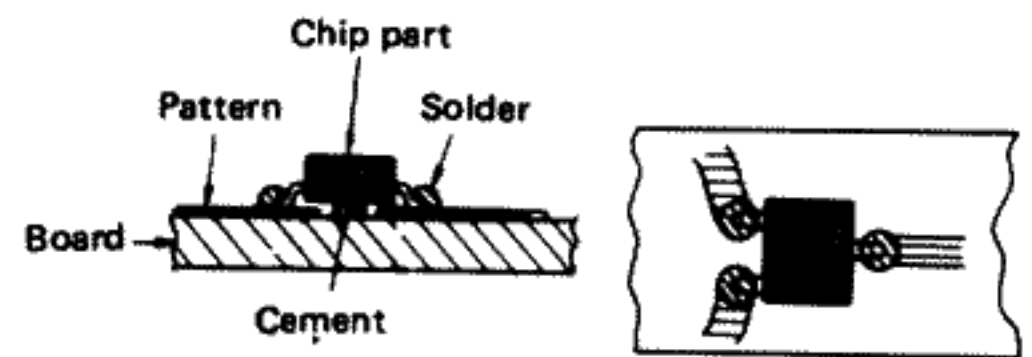


Fig. 3-2-2 Soldering condition-2

2. How to remove chip parts

- Resistors, capacitors, etc.

- 1) Set a chip parts replacing tool onto the chip parts to hold it down.
- 2) Unsolder at a side of the chip parts.

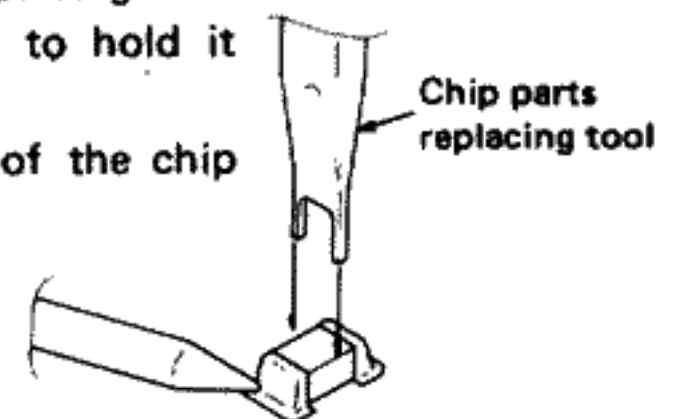


Fig. 3-2-3 R/C removal-1

- 3) Remove the chip parts by twisting and sliding it.

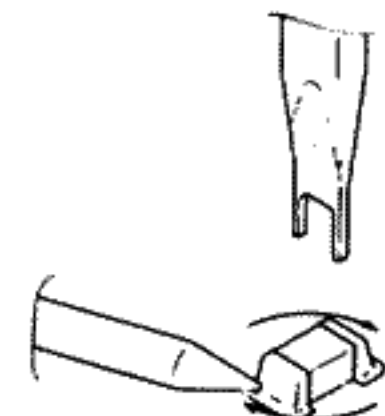


Fig. 3-2-4 R/C removal-2

3. How to remove transistors, diode.

- 1) Unsolder at the one-lead side of the chip parts.

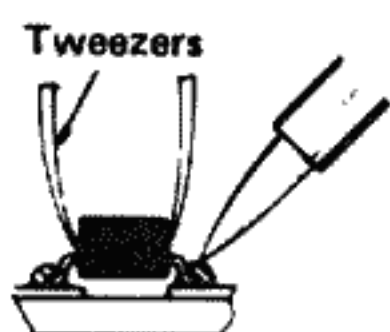


Fig. 3-2-5 Tr/Diode removal-1

- 2) Lift the unsoldered side upwards.



Fig. 3-2-6 Tr/Diode removal-2

- 3) Heat the other two leads simultaneously and remove the chip parts upwards.

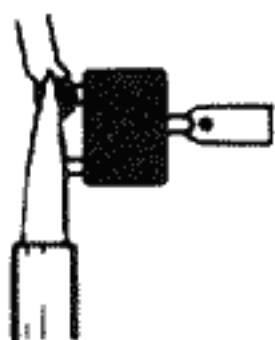


Fig. 3-2-7 Tr/Diode removal-3

4. Preheating and soldering

When setting new chip parts, especially capacitors, but except transistors, preheat them with hot air (150°C approx.) by use of a blower type of hair dryer for about 2 minutes just before soldering. For soldering, use a soldering iron of 30 watt approximately.

5. How to set and solder chip parts

- 1) Presolder the contact points of the circuit pattern to which the chip parts will be soldered.

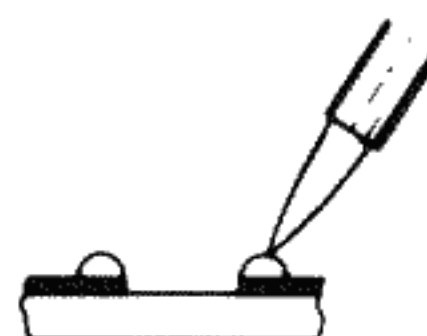


Fig. 3-2-8 Soldering-1

- 2) Holding down the chip parts with the chip parts replacing tool, solder it with a soldering iron.

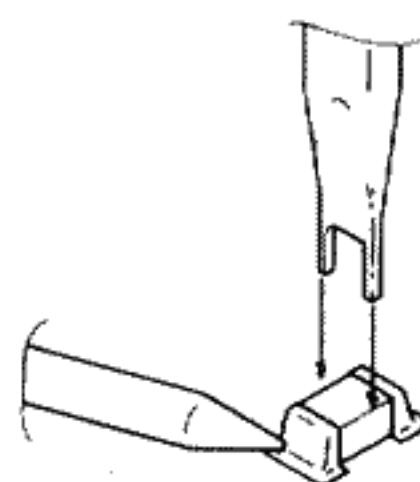
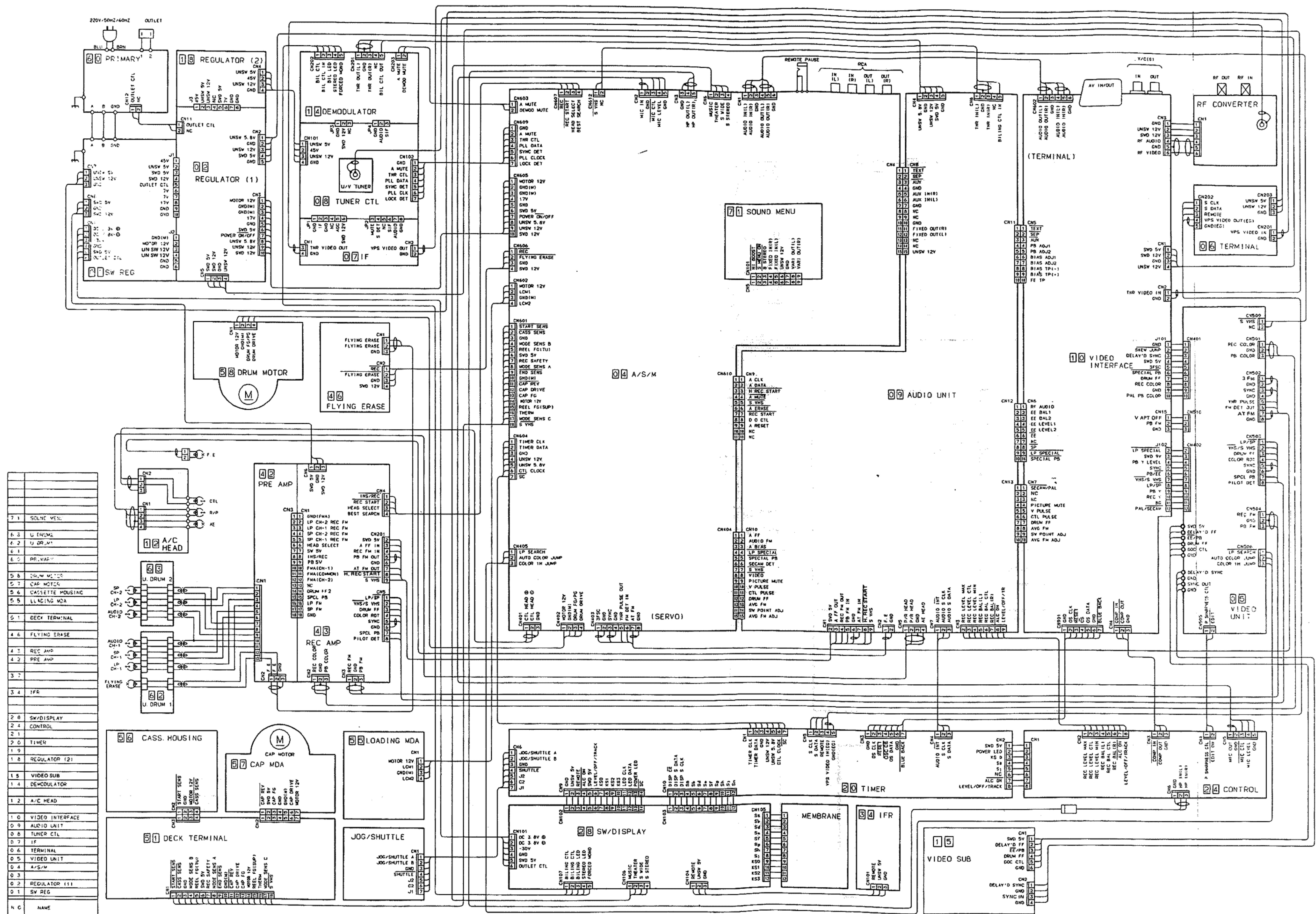
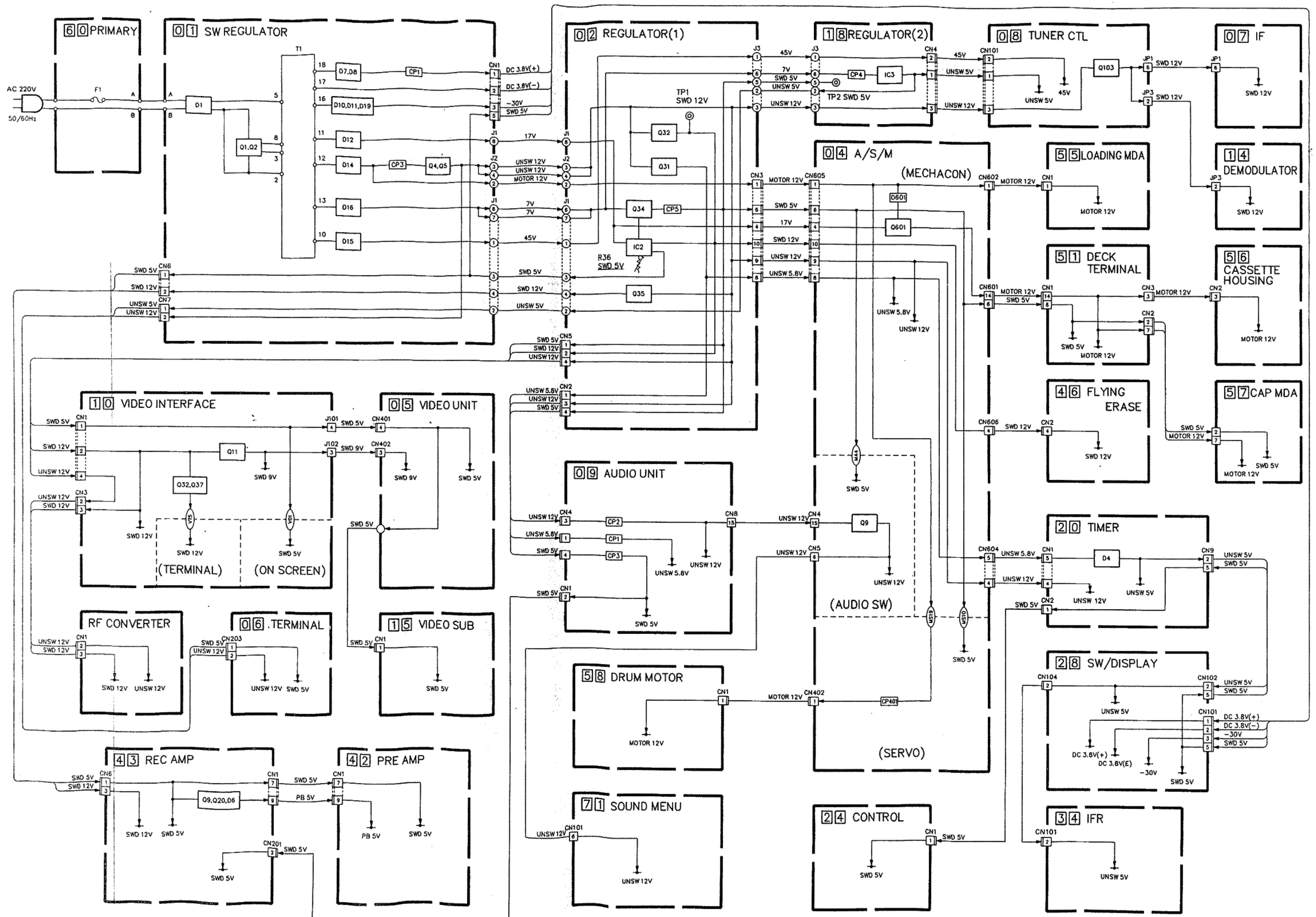


Fig. 3-2-9 Soldering-2

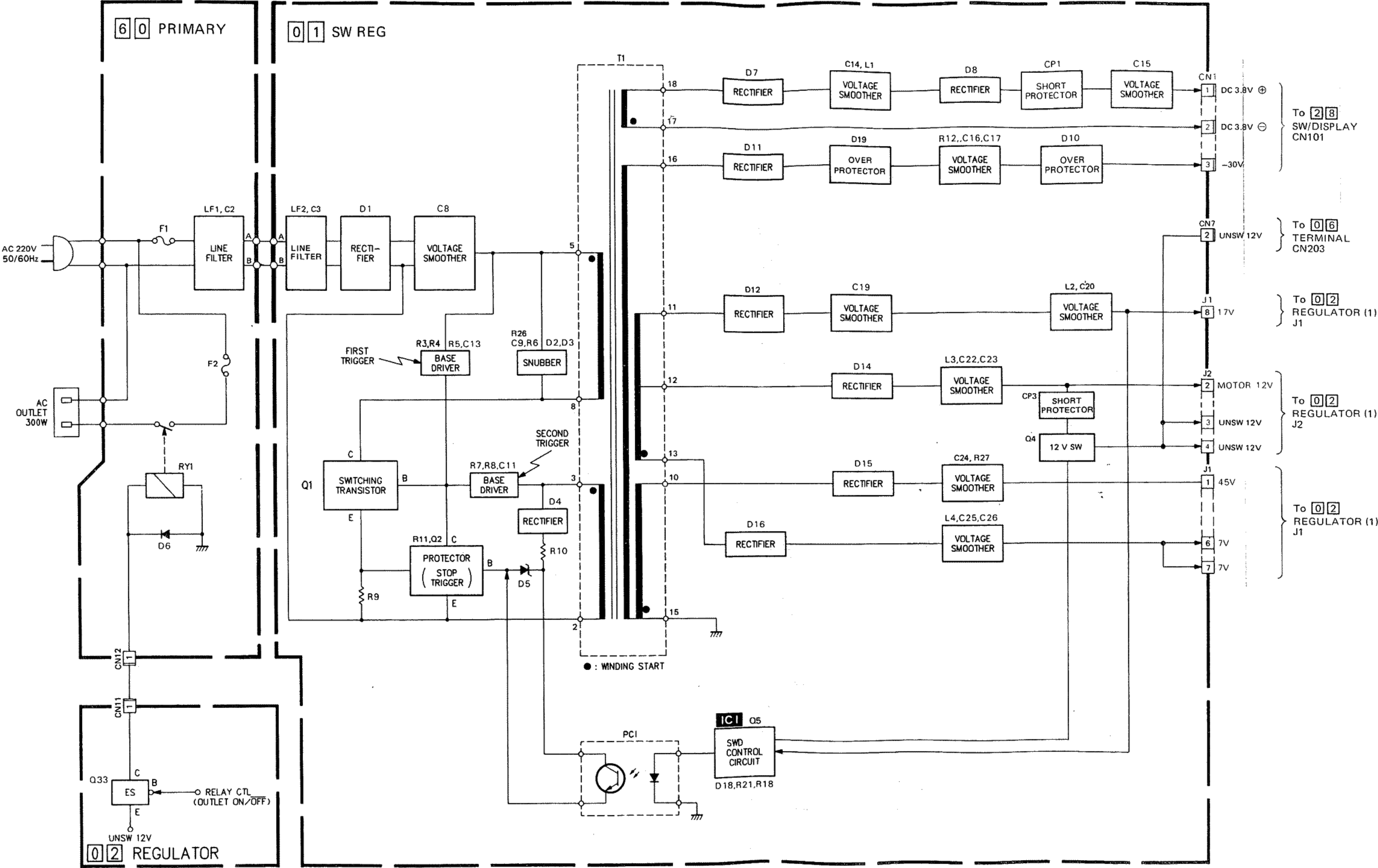
3.3 BOARD INTERCONNECTIONS



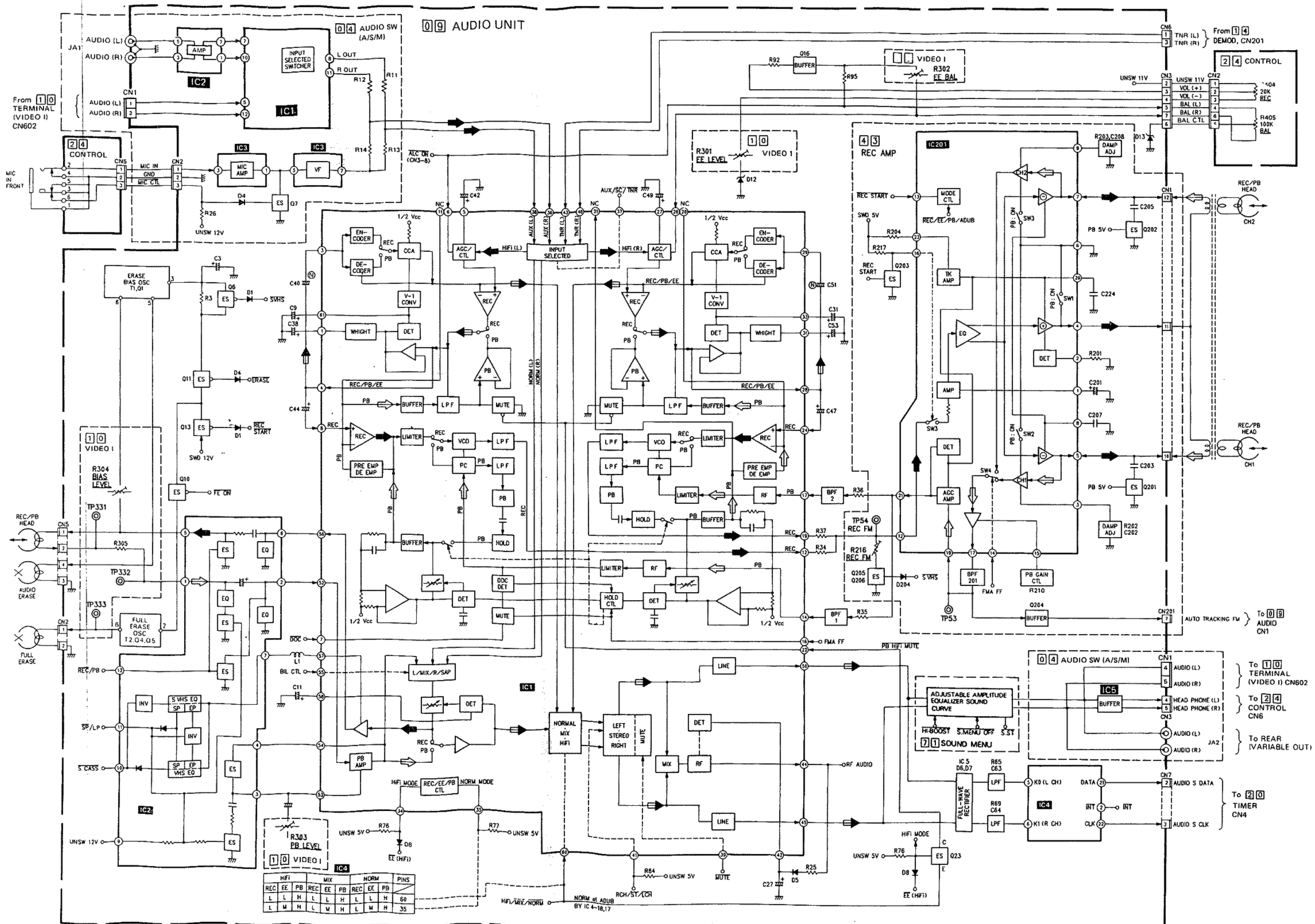
3.4 POWER SYSTEM BLOCK DIAGRAM



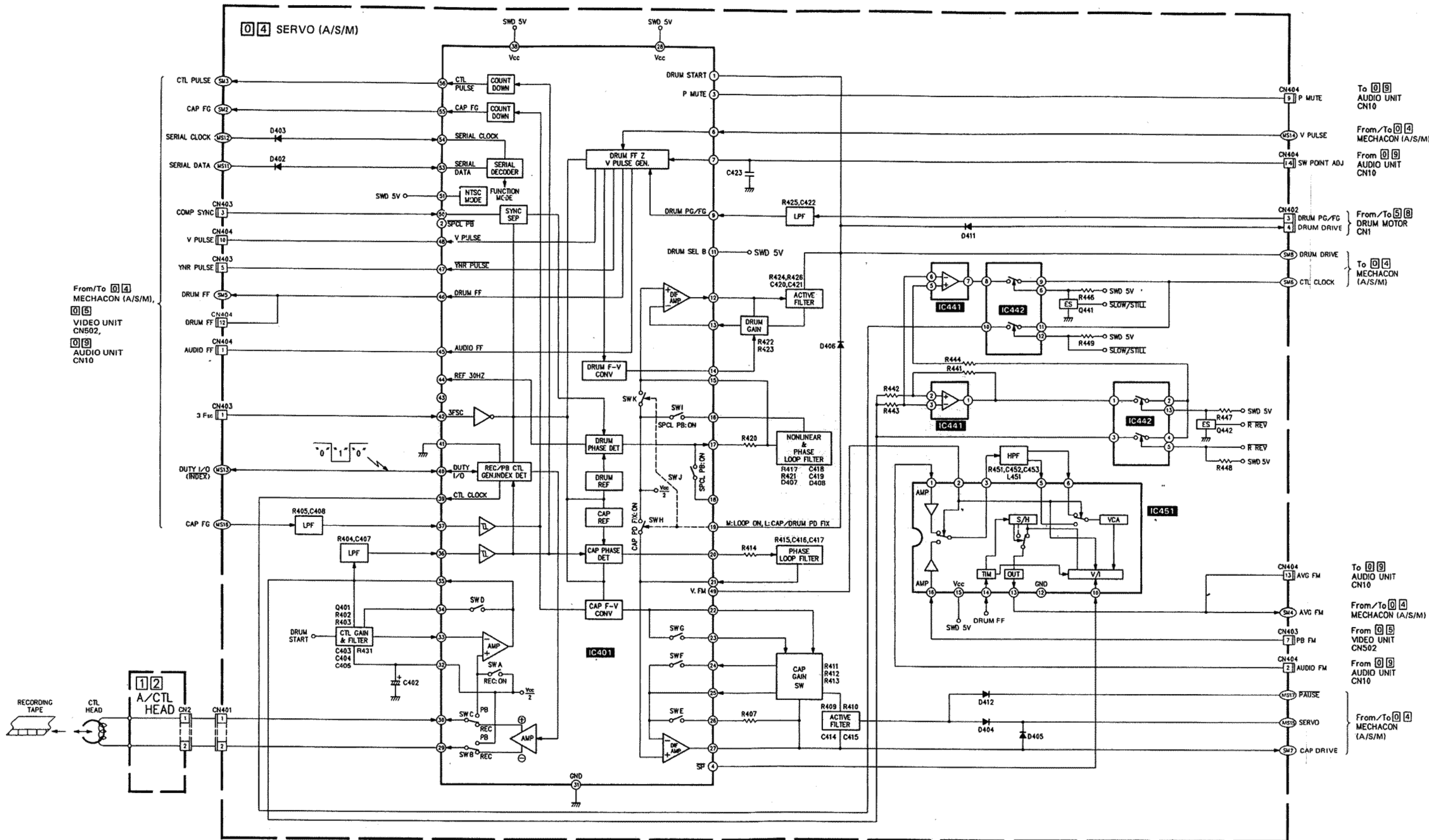
3.5 SWITCHING REGULATOR BLOCK DIAGRAM



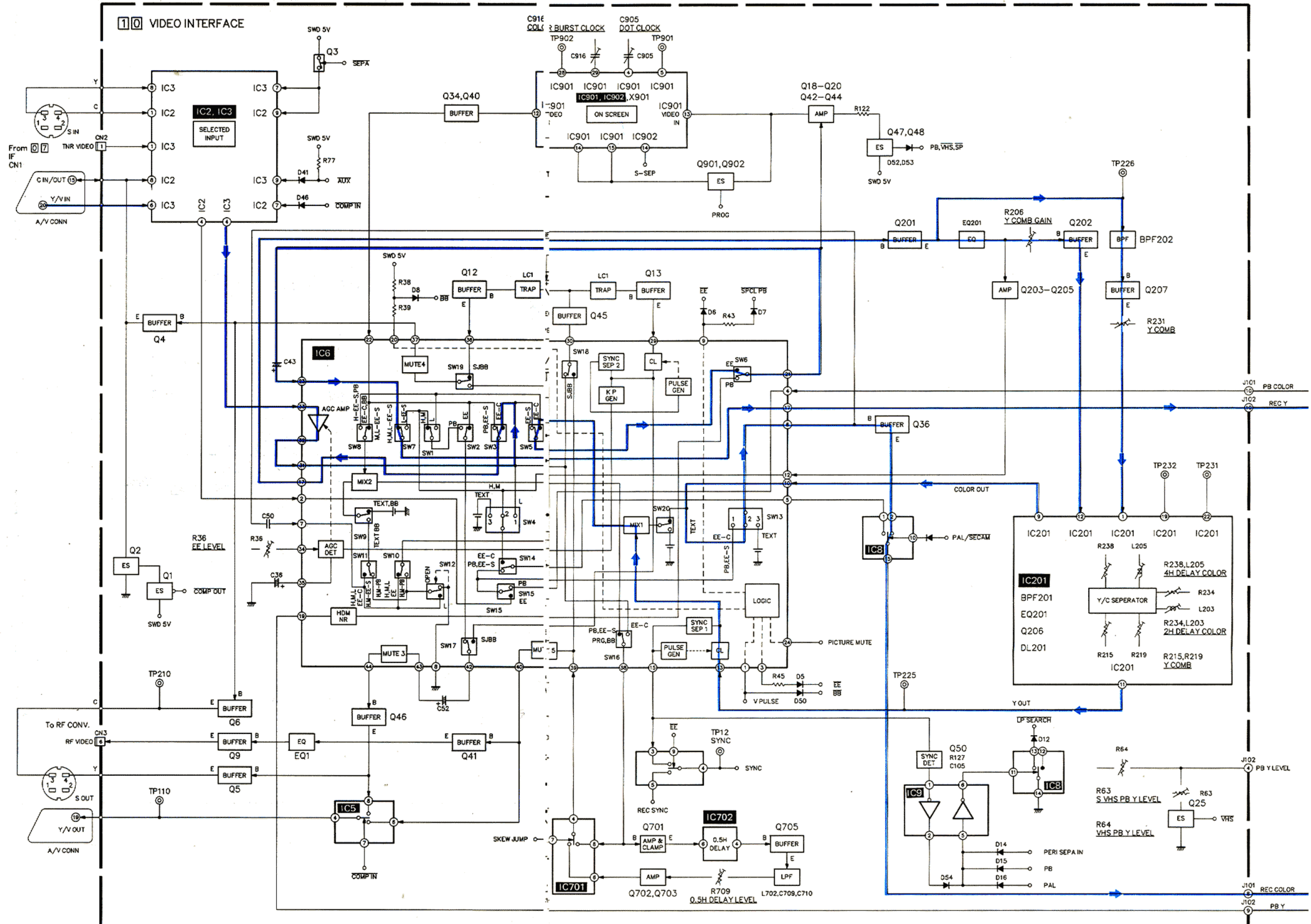
3.6 AUDIO BLOCK DIAGRAM



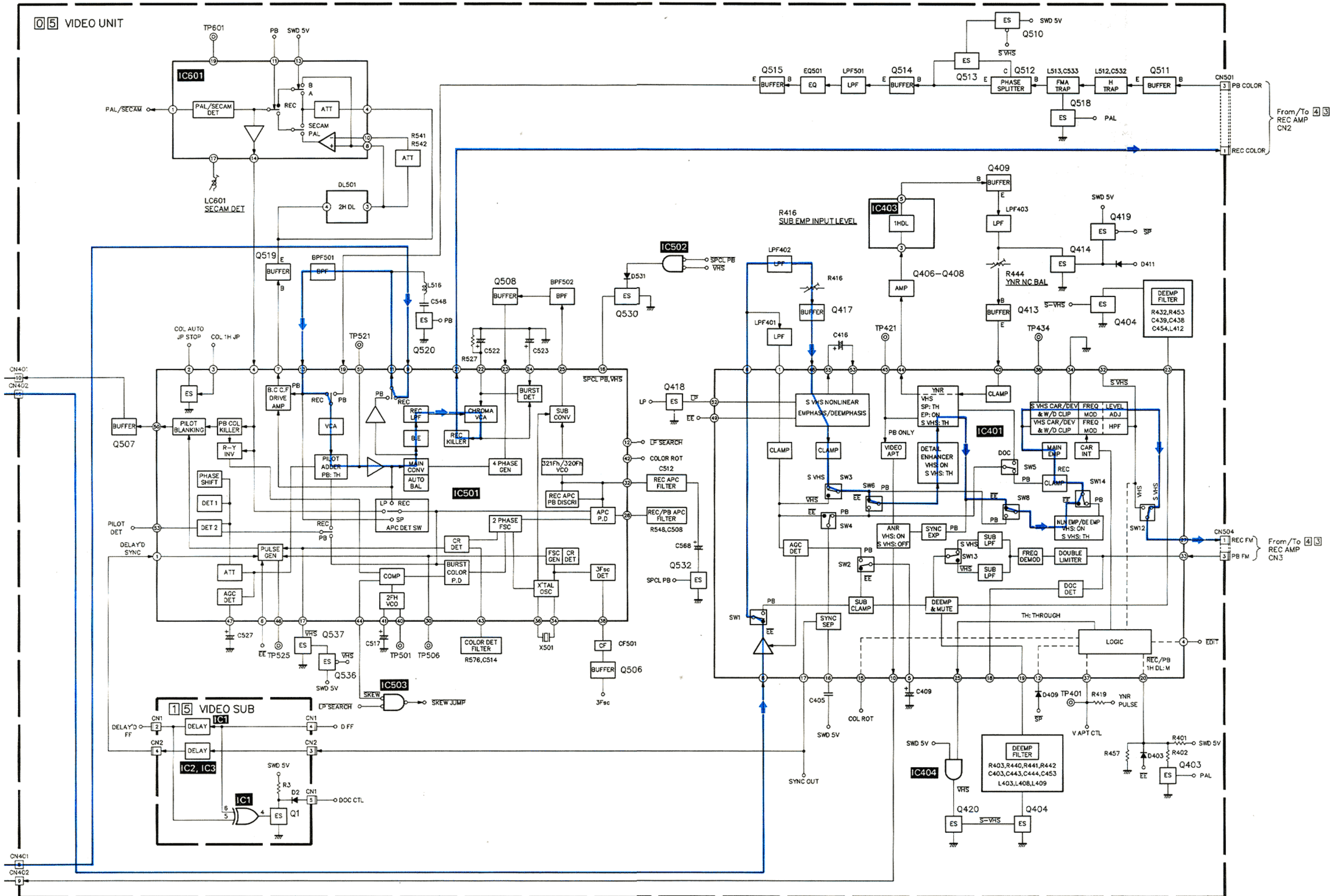
3.7 SERVO BLOCK DIAGRAM



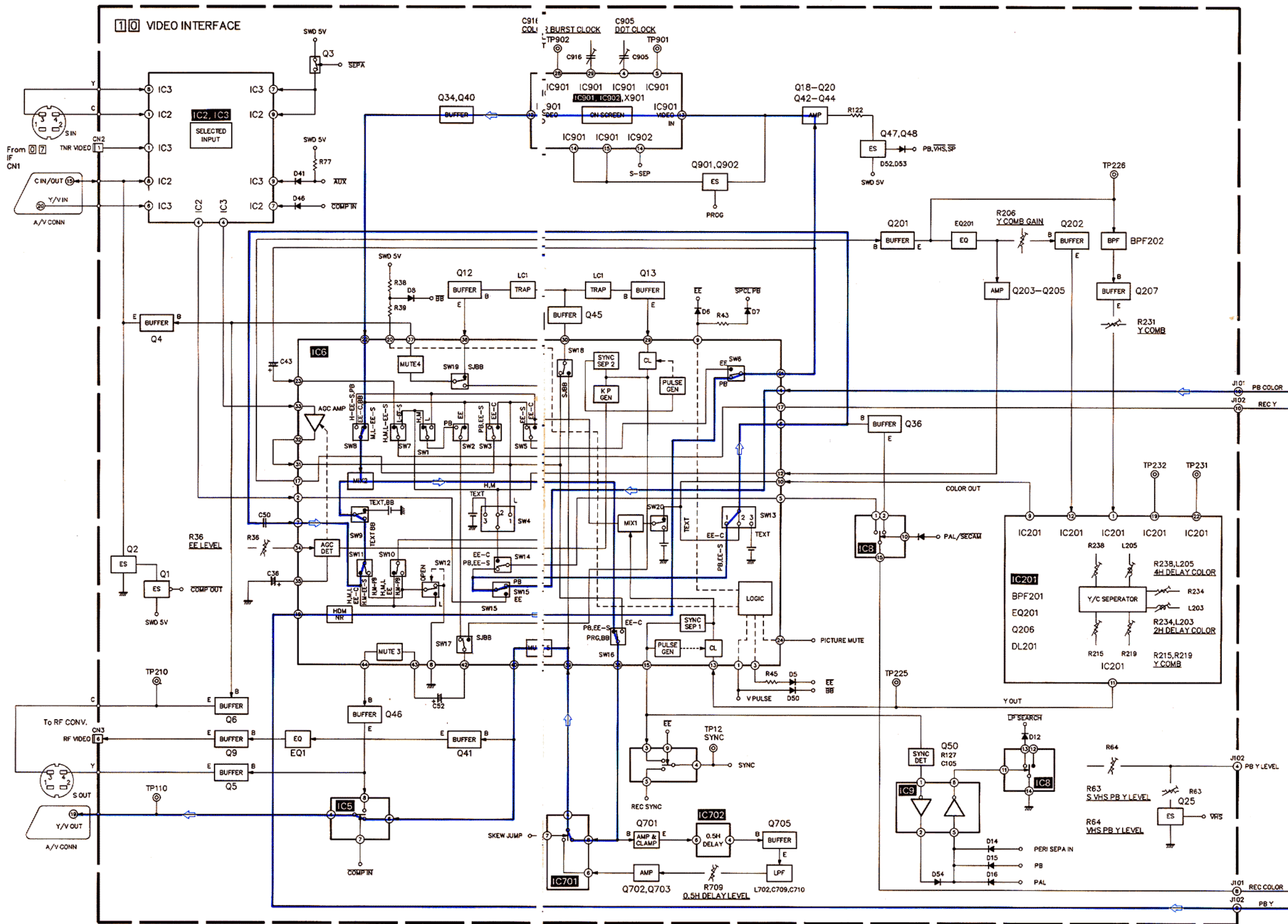
3.8 VIDEO BLOCK DIAGRAM (EE, REC)



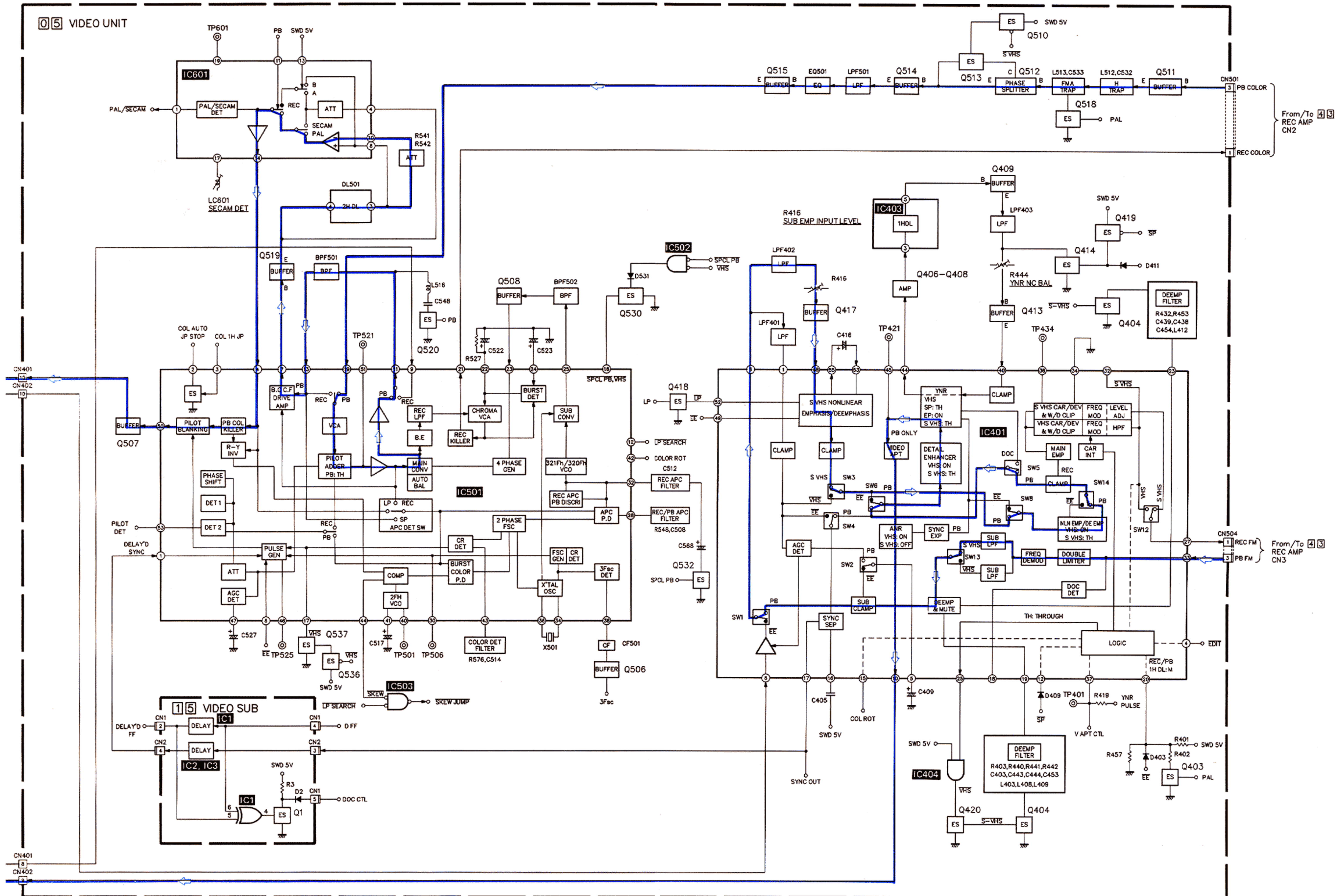
05 VIDEO UNIT



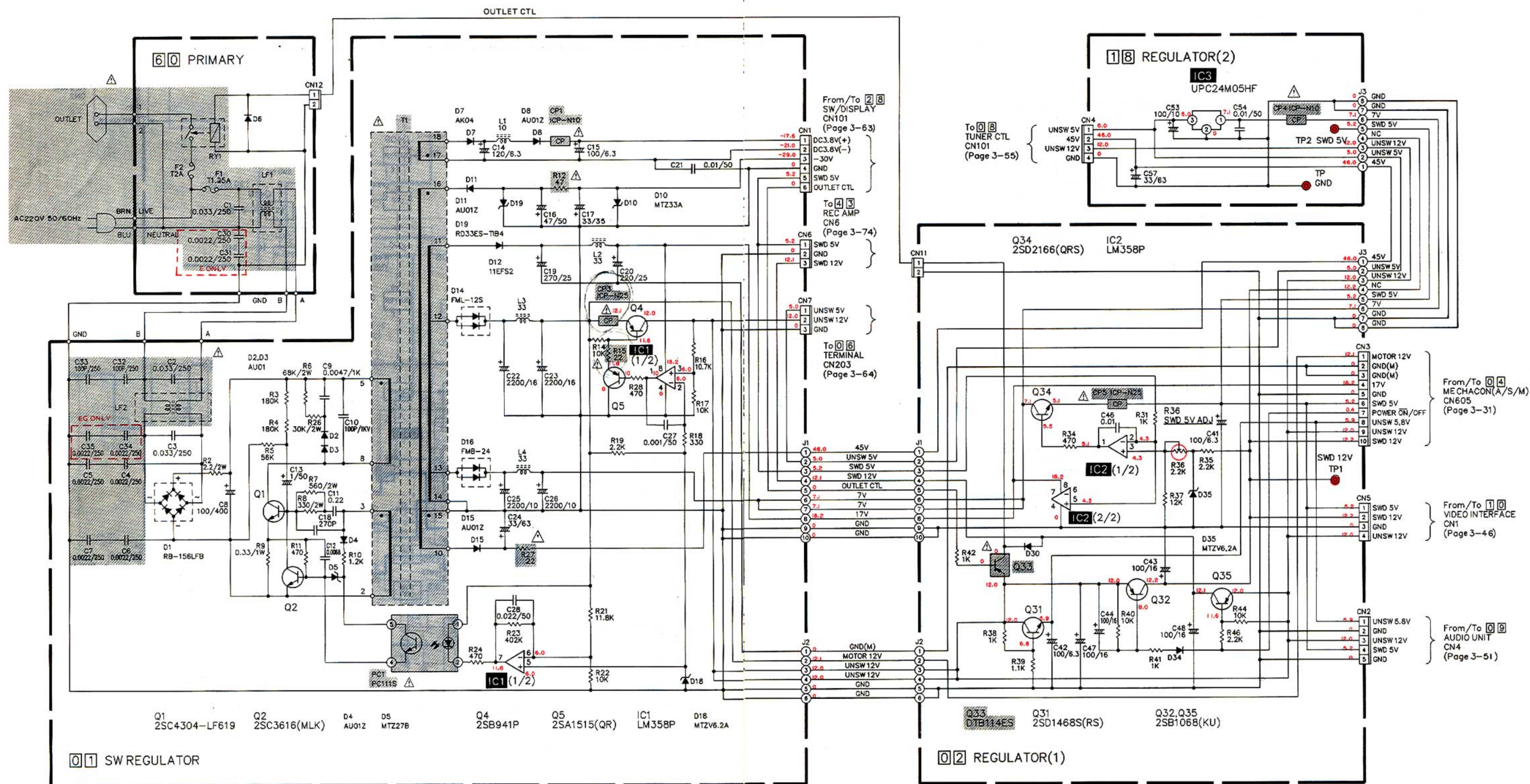
3.9 VIDEO BLOCK DIAGRAM (PB)



05 VIDEO UNIT

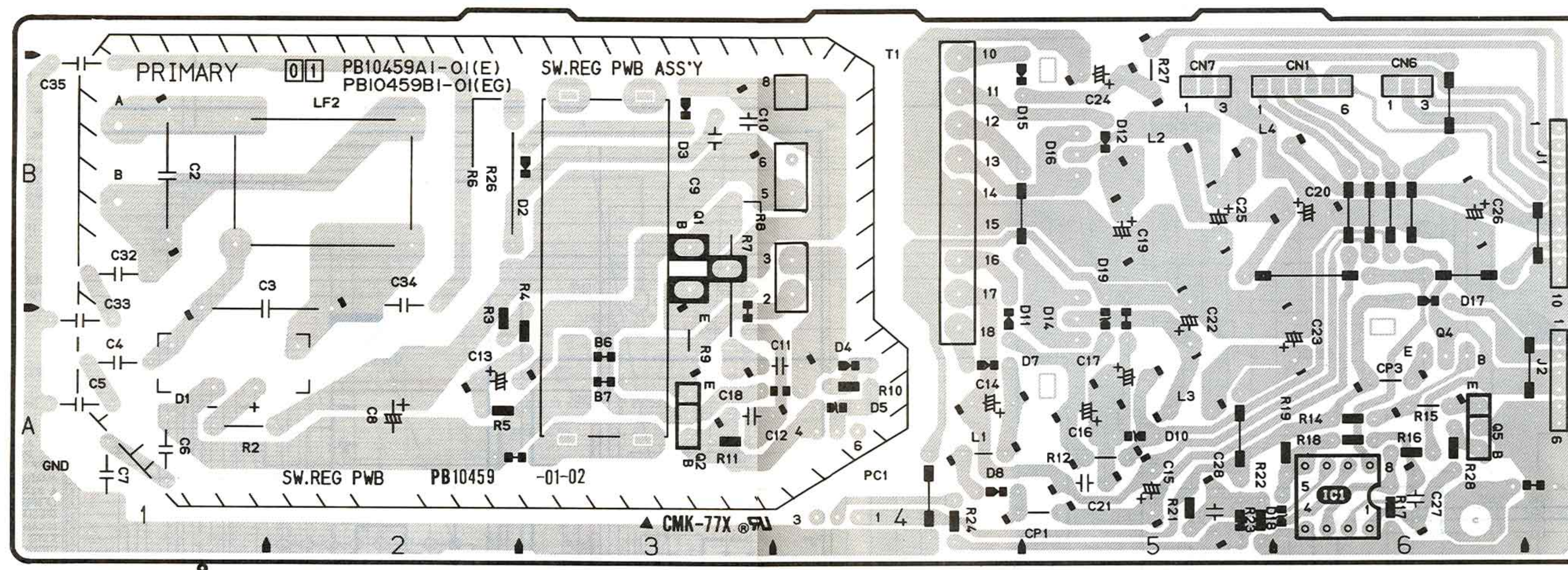


3.10 SW REG, REGULATOR (1), (2) AND PRIMARY SCHEMATIC DIAGRAMS

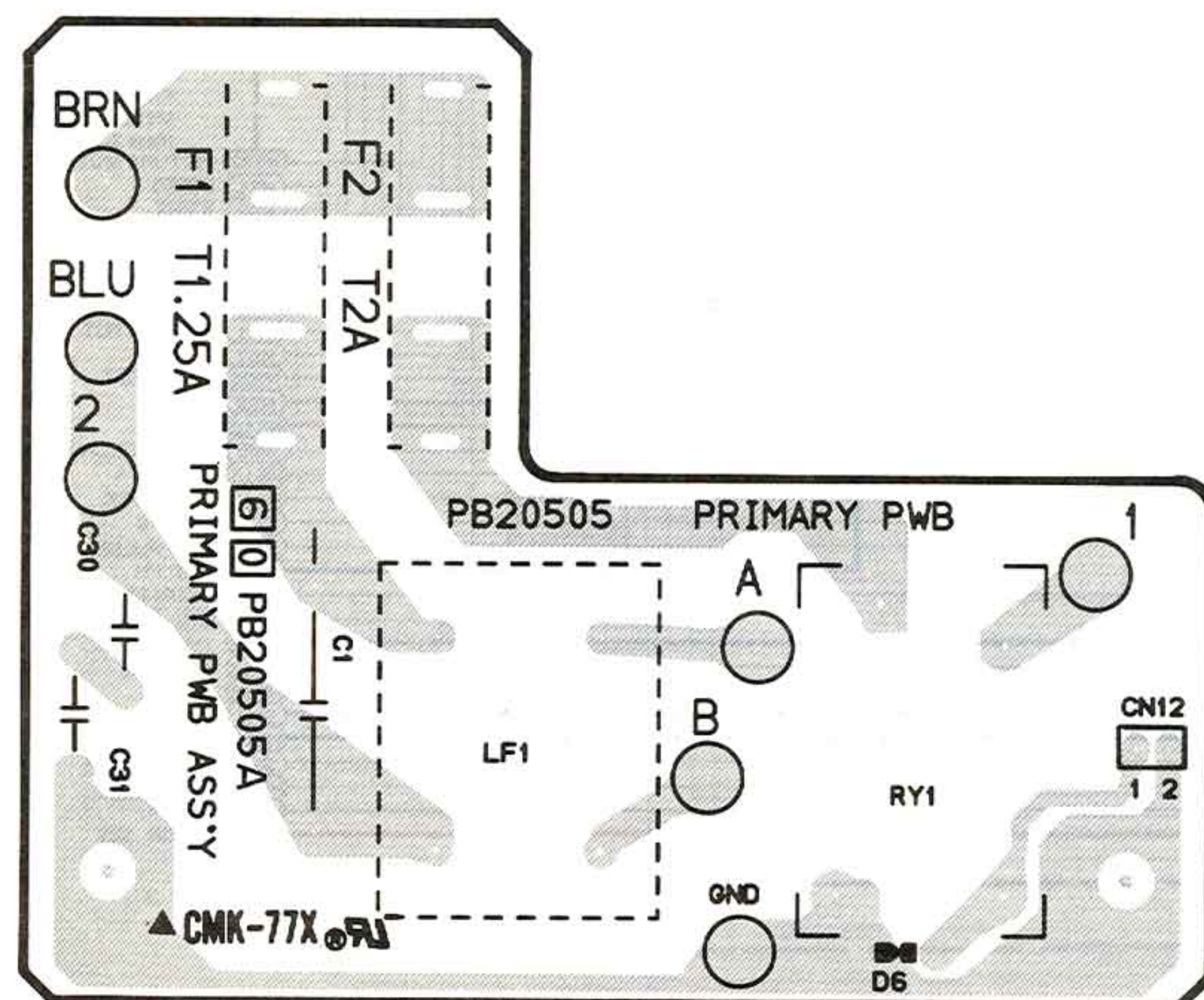


3.11 SW REG, REGULATOR (1), (2) AND PRIMARY CIRCUIT BOARDS

— SW REG —

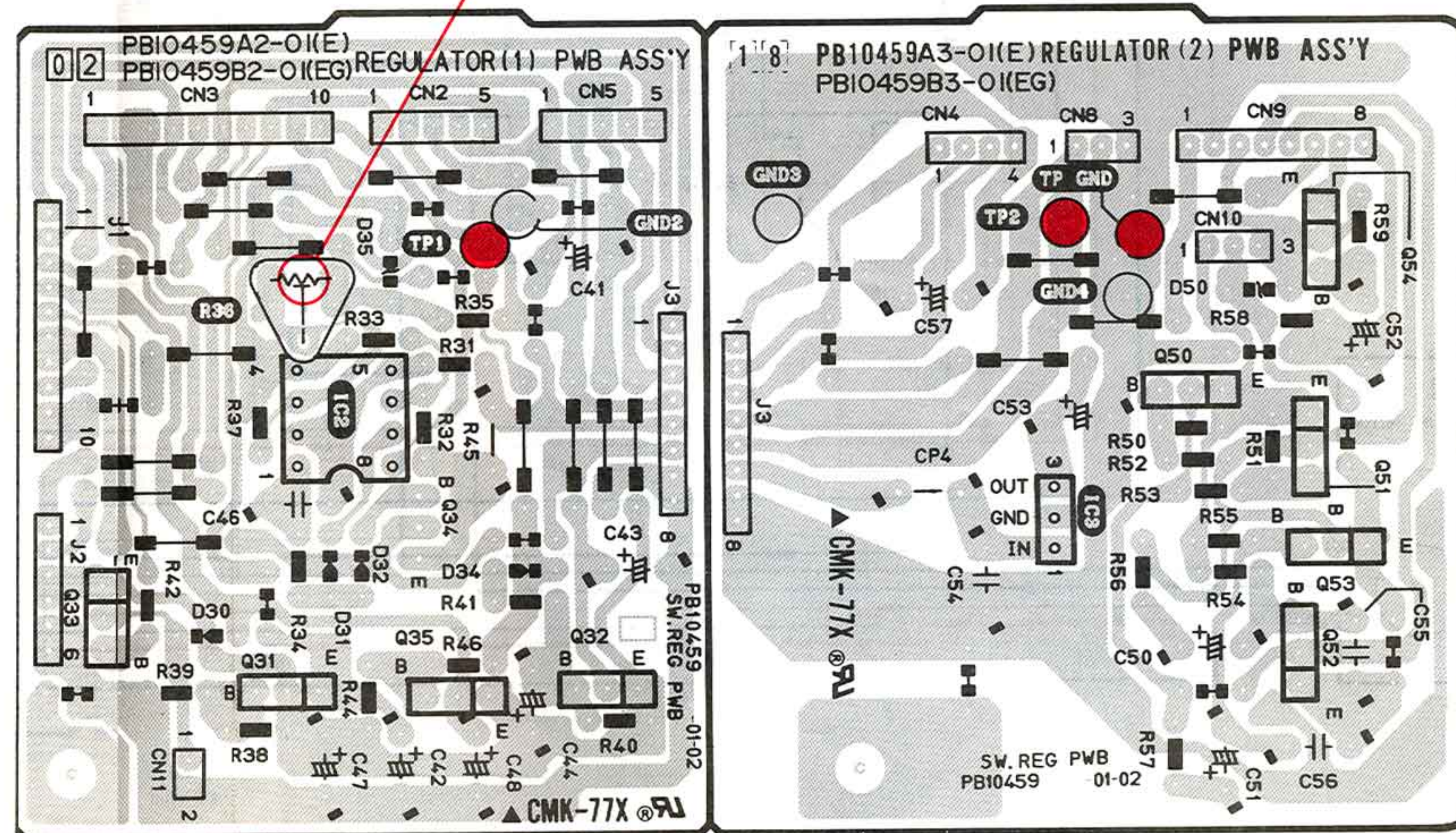


— PRIMARY —

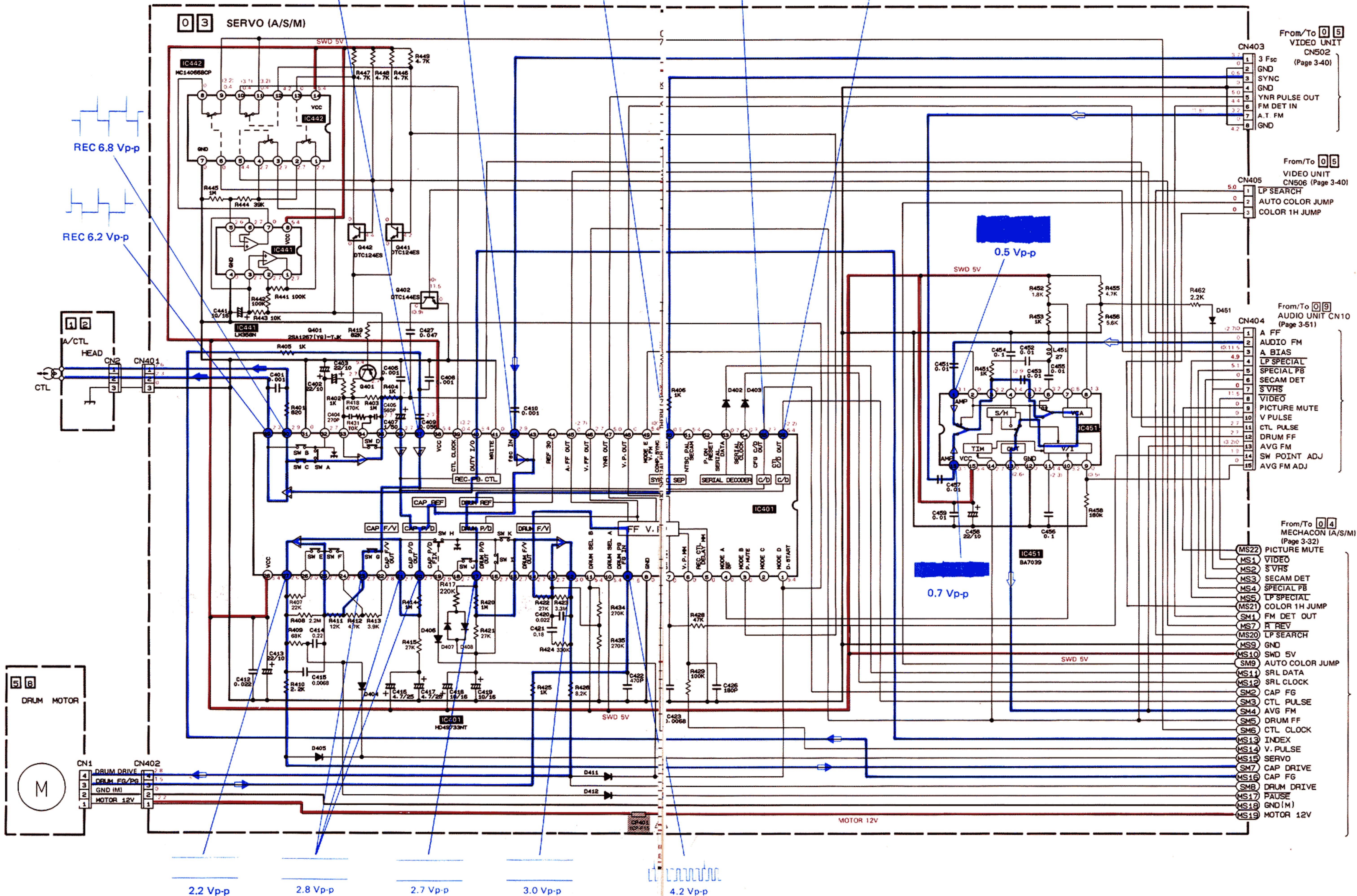


— REGULATOR (1), (2) —

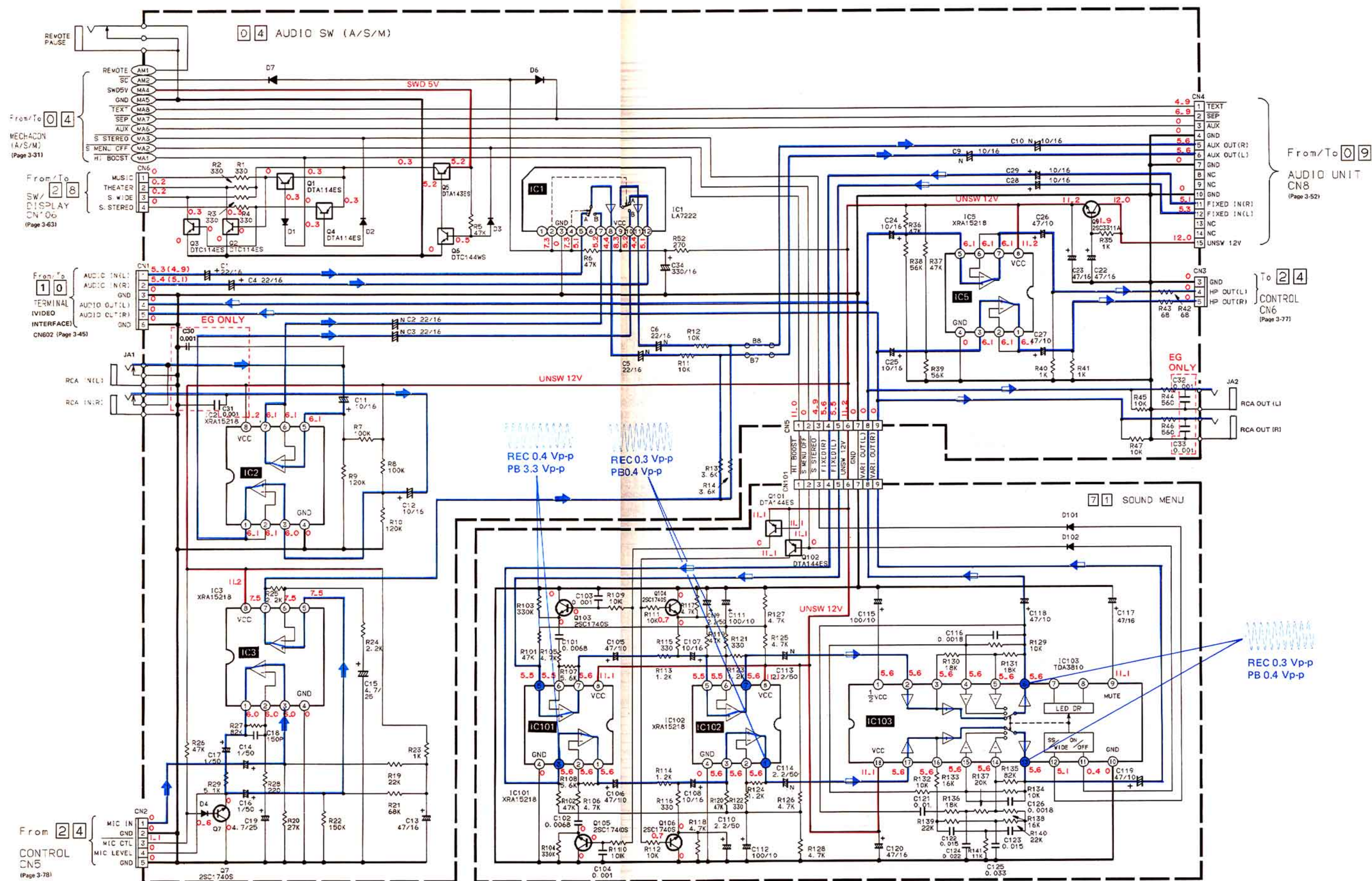
R36
SWD 5V ADJ



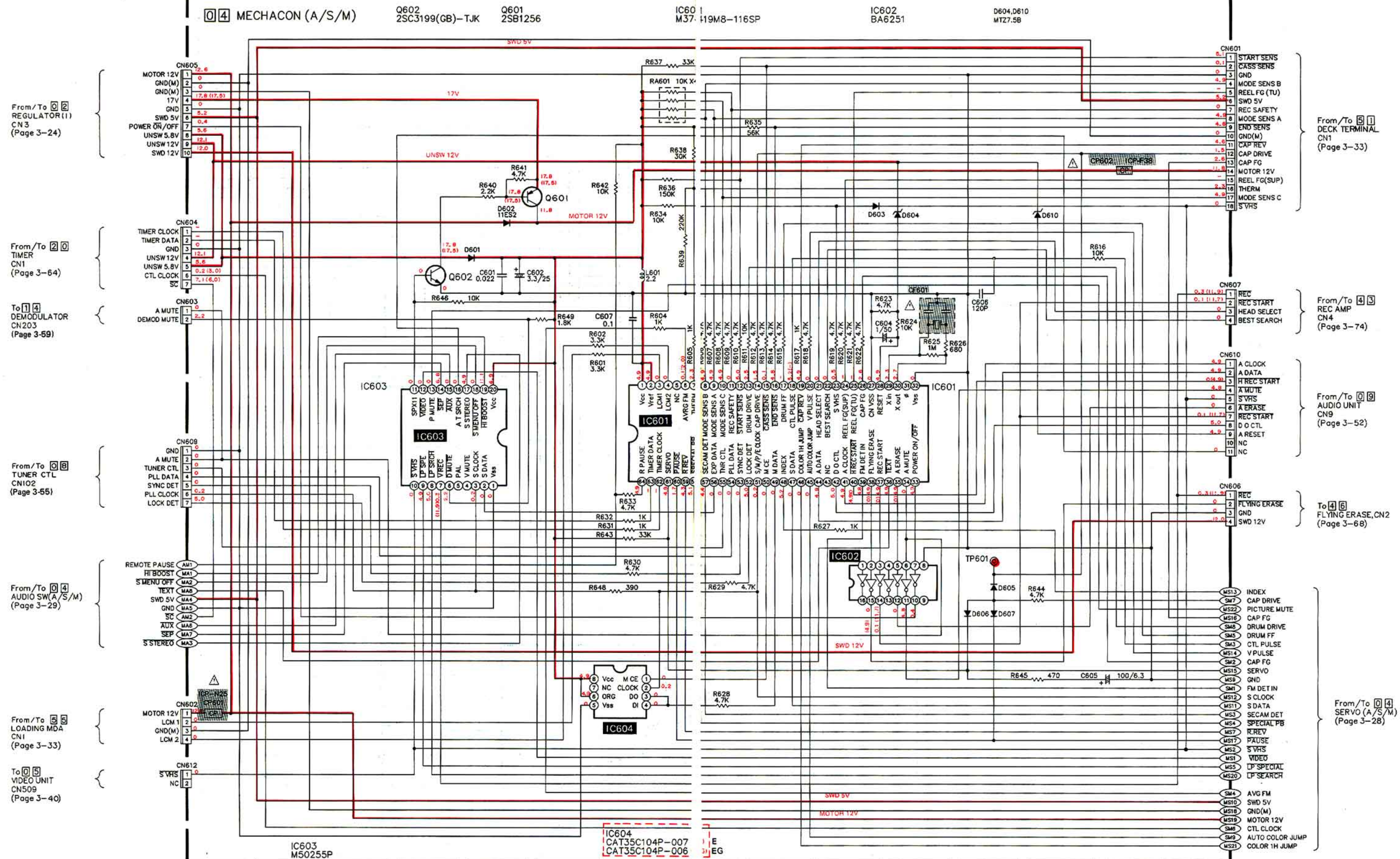
Abstract



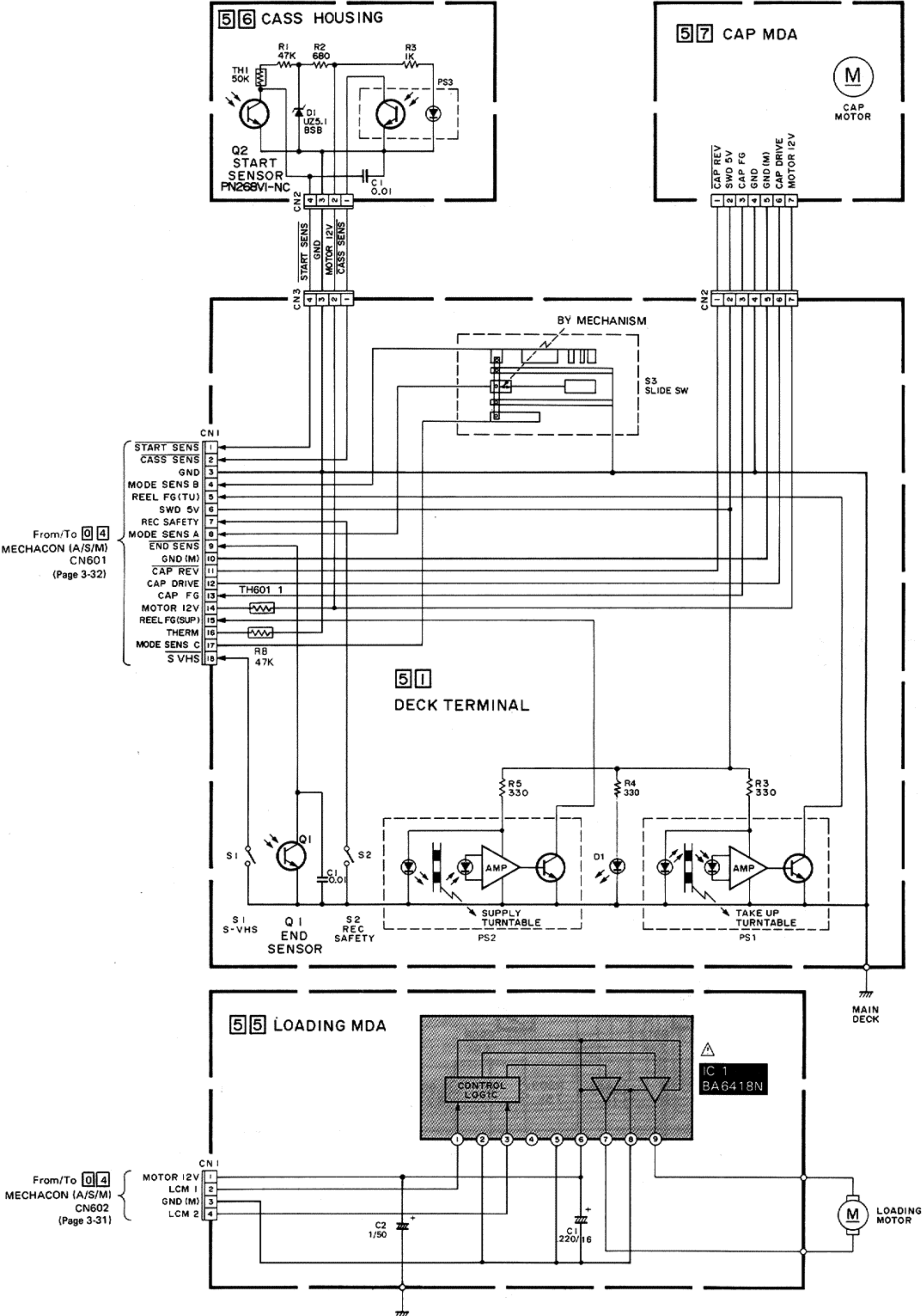
3.13 AUDIO SW AND SOUND MENU SCHEMATIC DIAGRAMS



3.14 SYSTEM CTL SCHEMATIC DIAGRAM

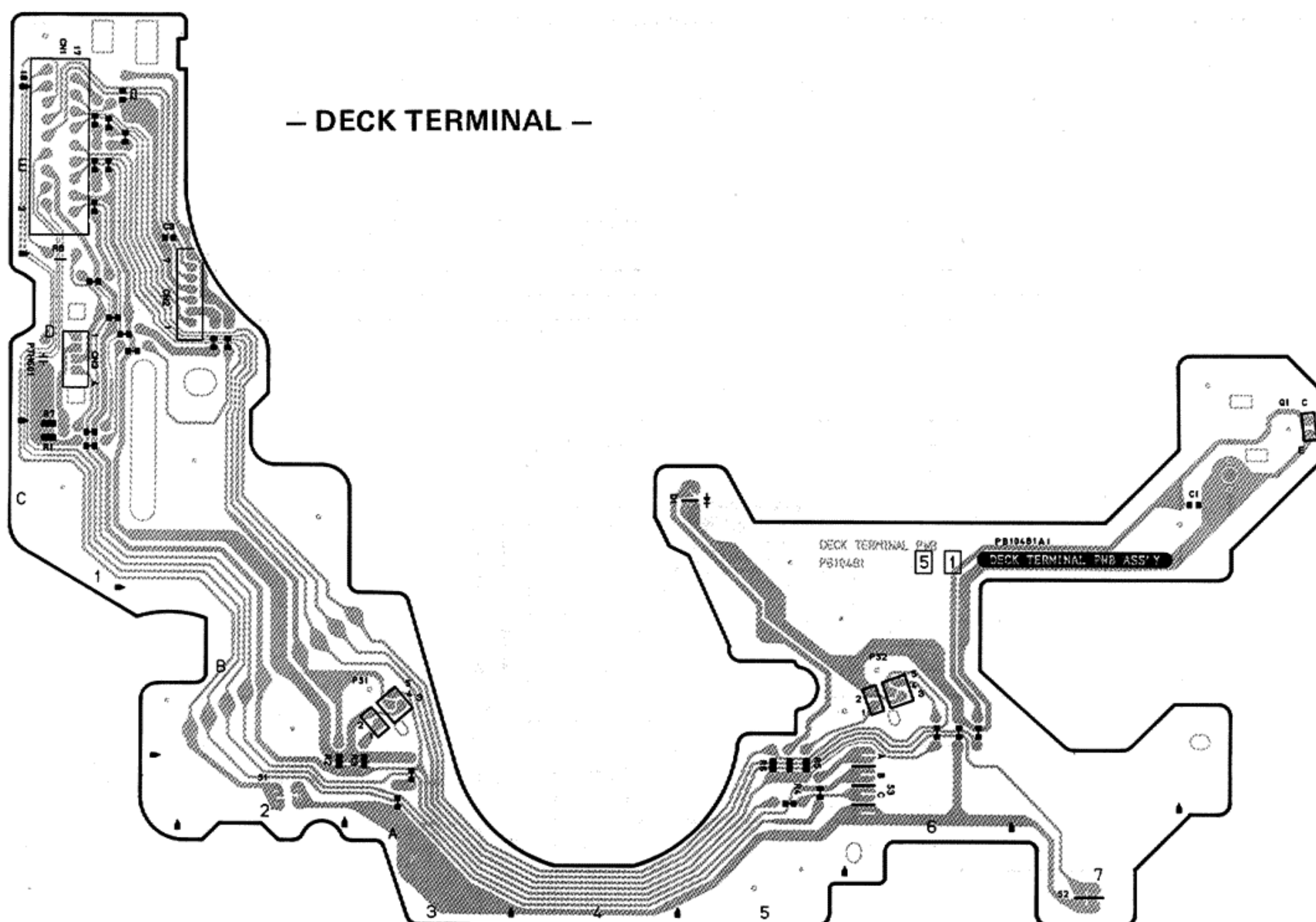


3.15 DECK TERMINAL, LOADING MDA, CAPSTAN MDA, C. HOUSING
SCHEMATIC DIAGRAMS

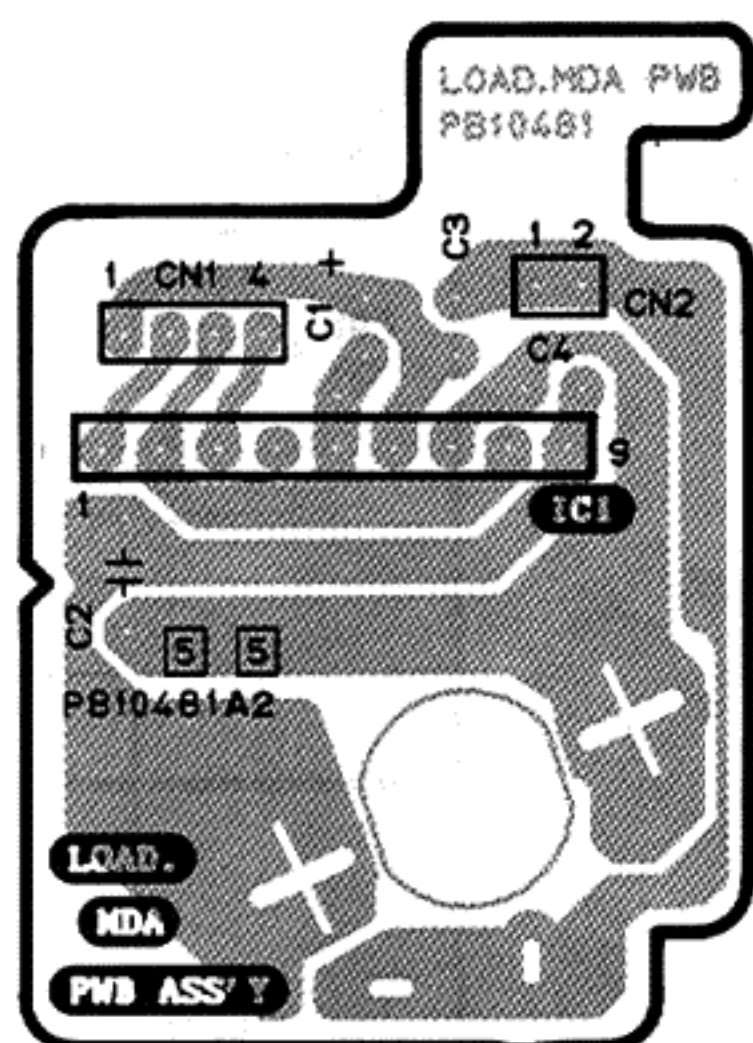


3.16 DECK TERMINAL, LOADING MDA, C. HOUSING, A/C HEAD CIRCUIT BOARDS

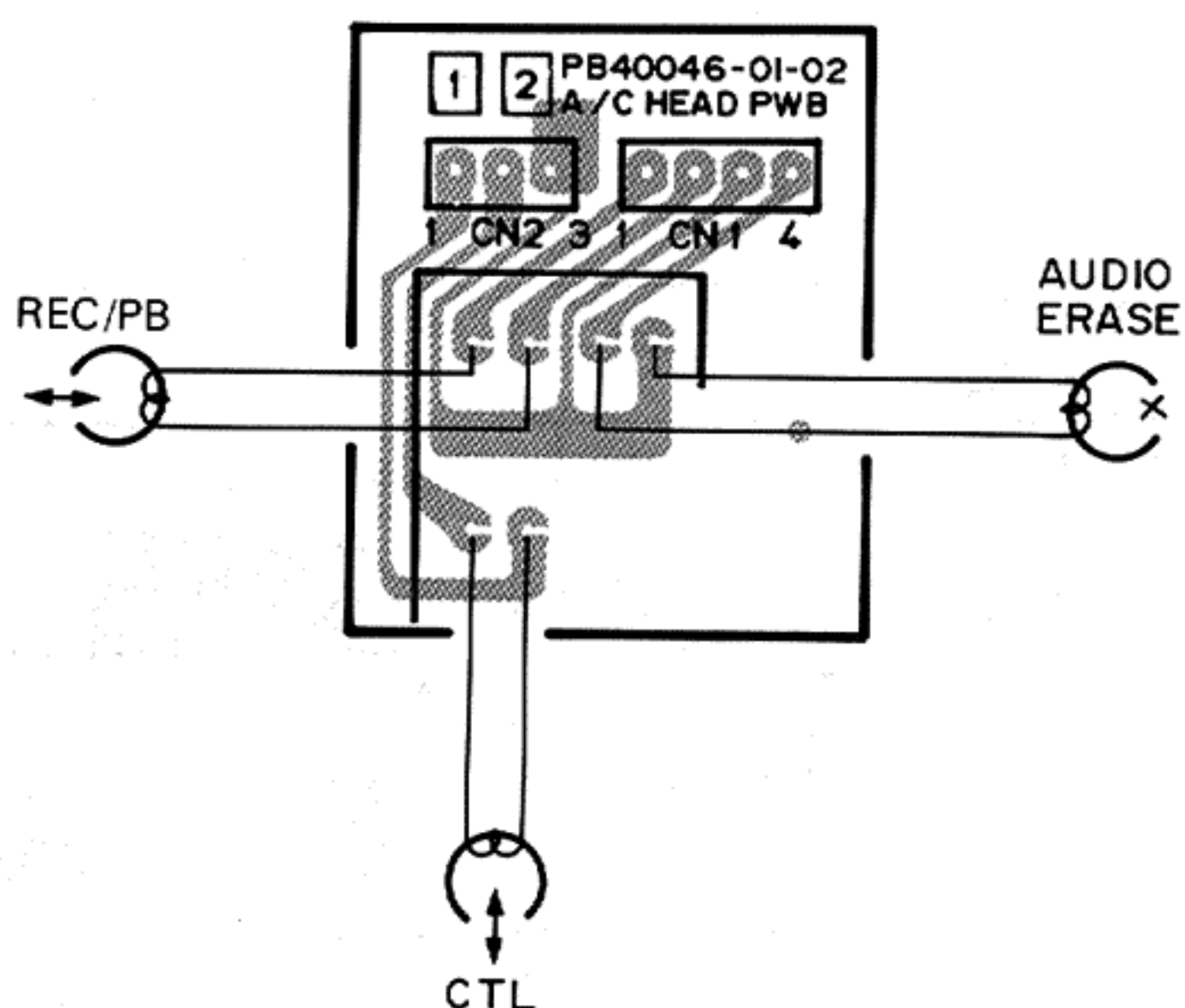
— DECK TERMINAL —



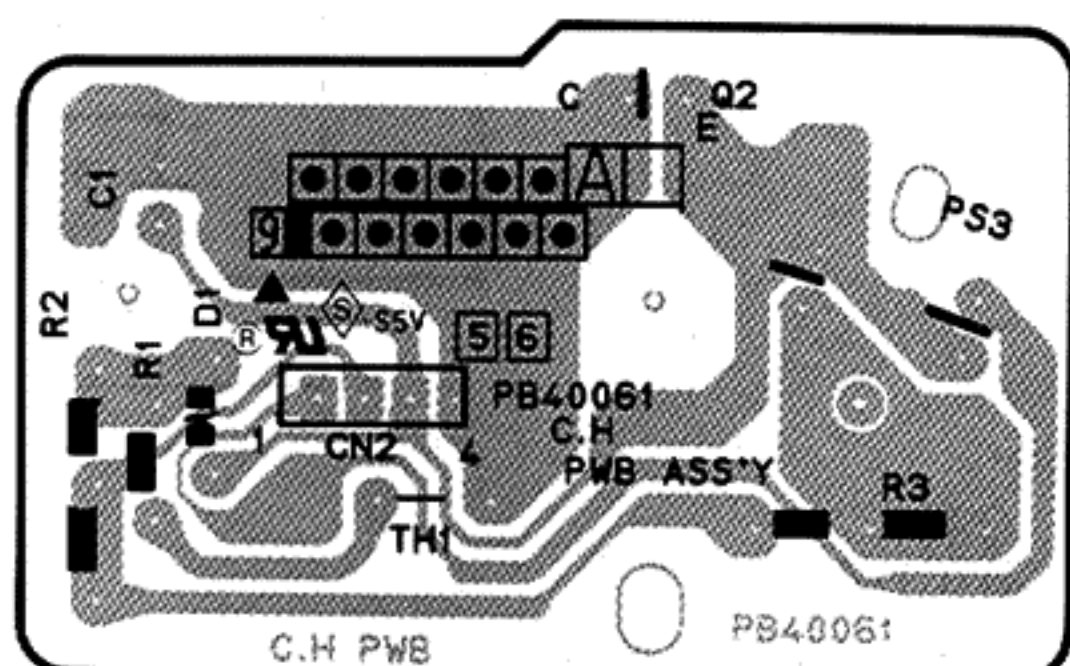
— LOADING MDA —



— A/C HEAD —

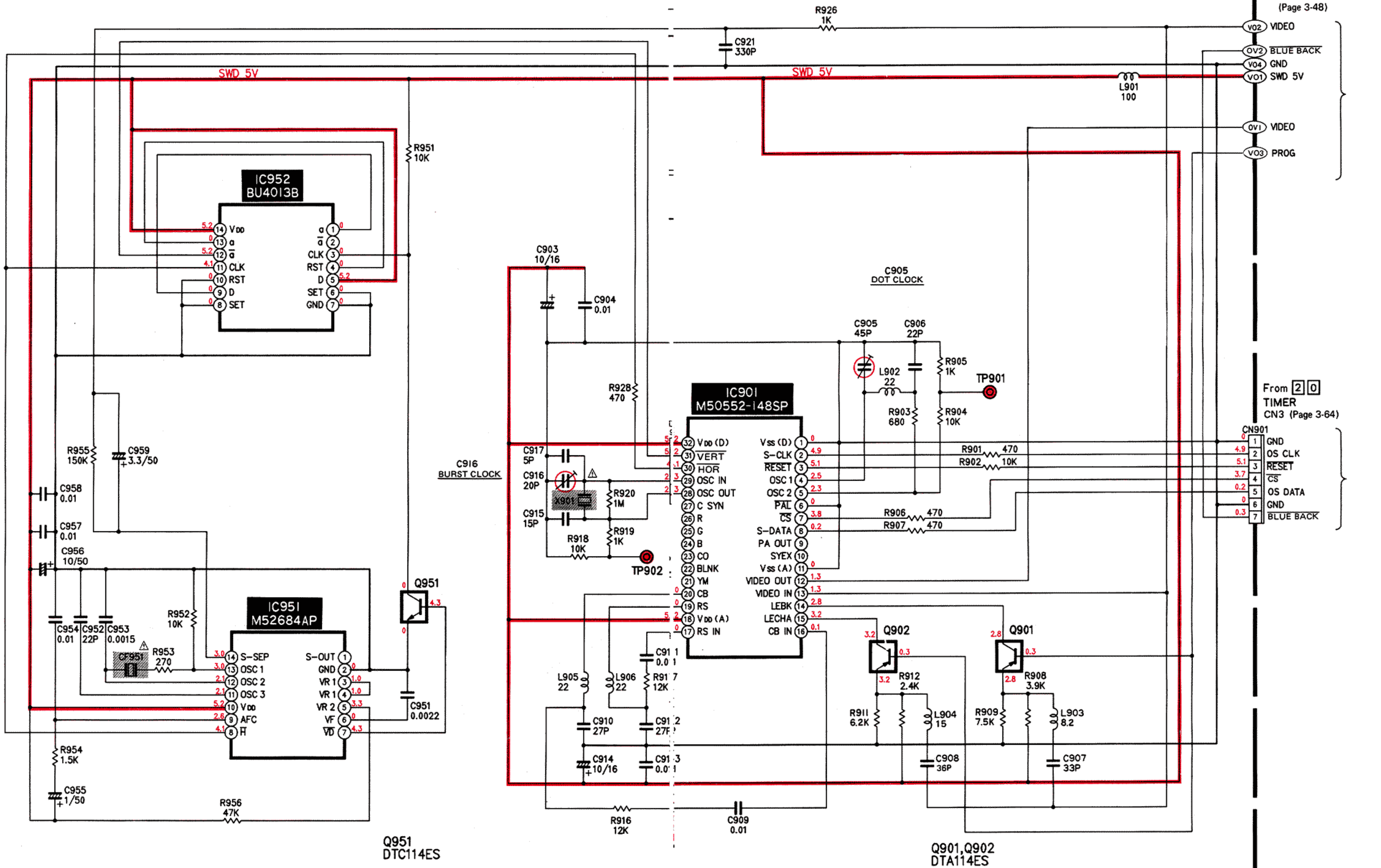


— CASSETTE HOUSING —

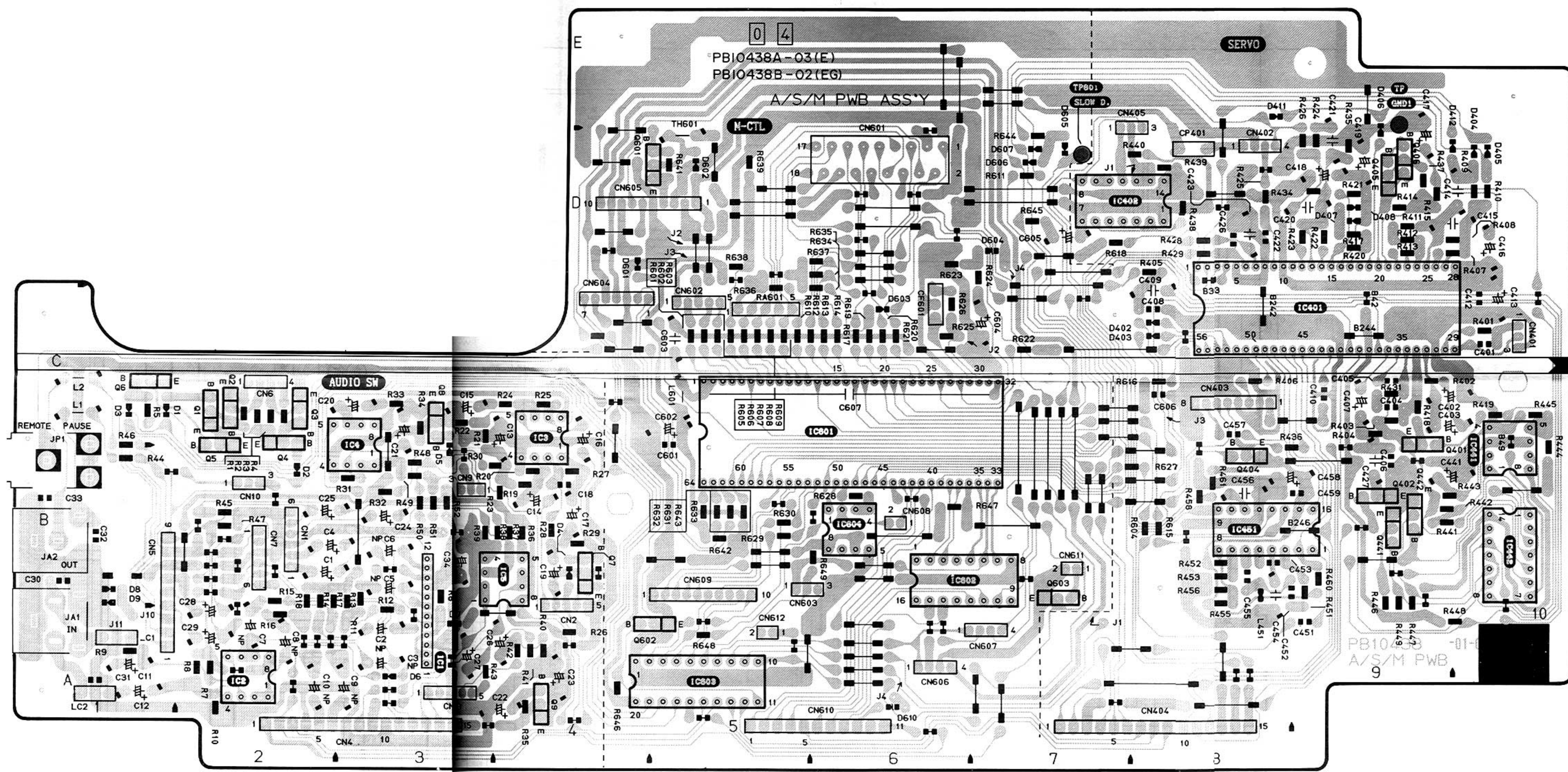


3.17 ON SCREEN SCHEMATIC DIAGRAM

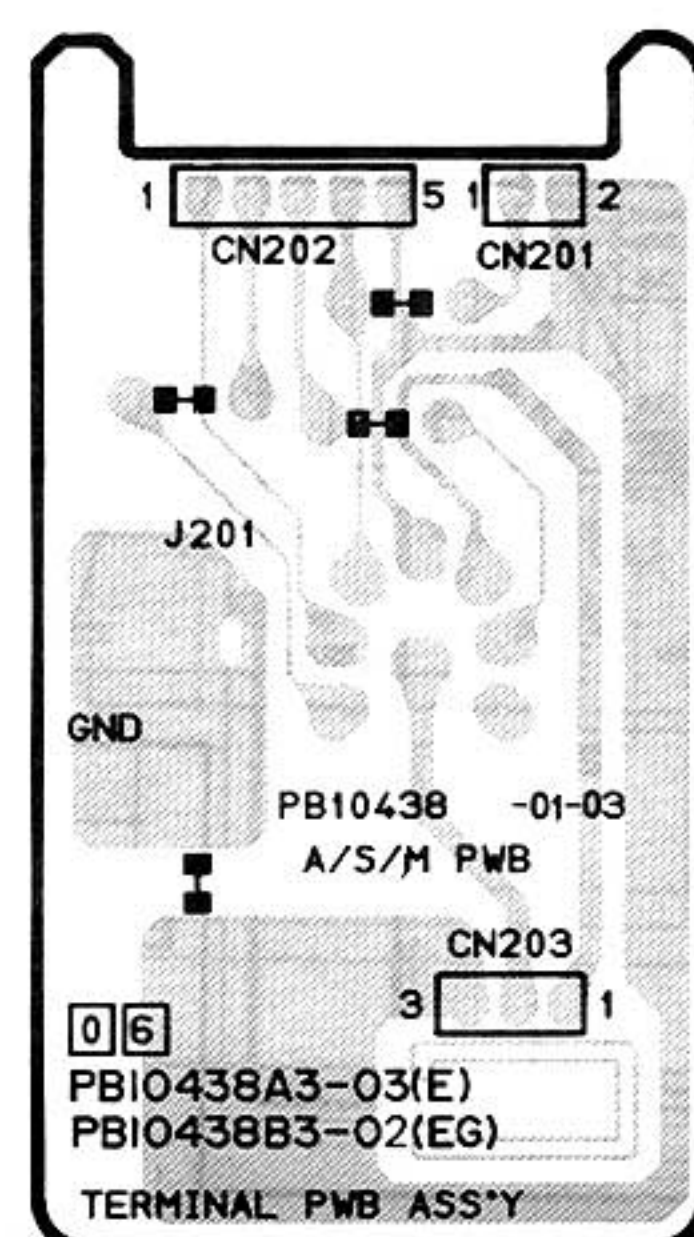
10 ON SCREEN (VIDEO INTERFACE)



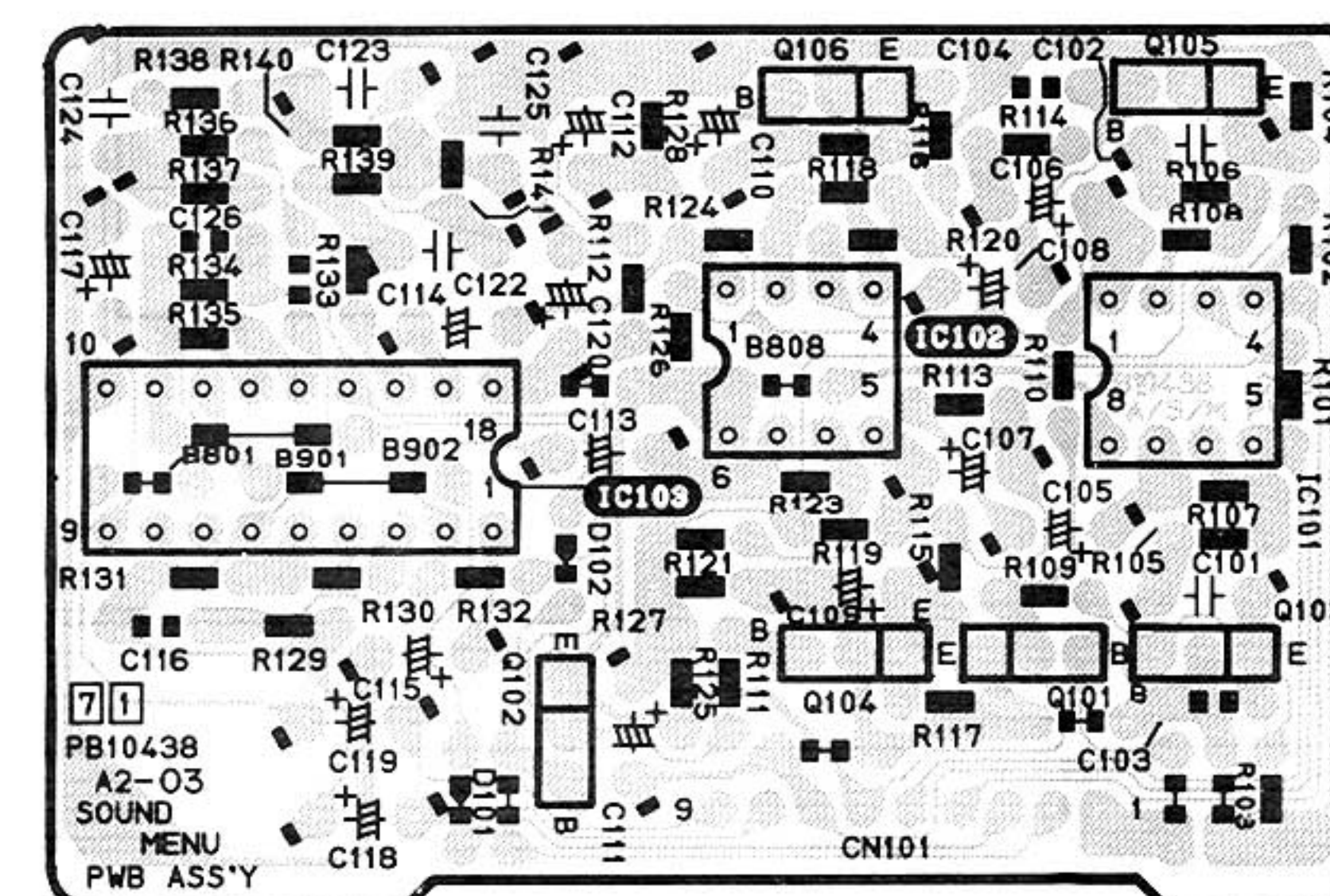
- A/S/M -



- TERMINAL -

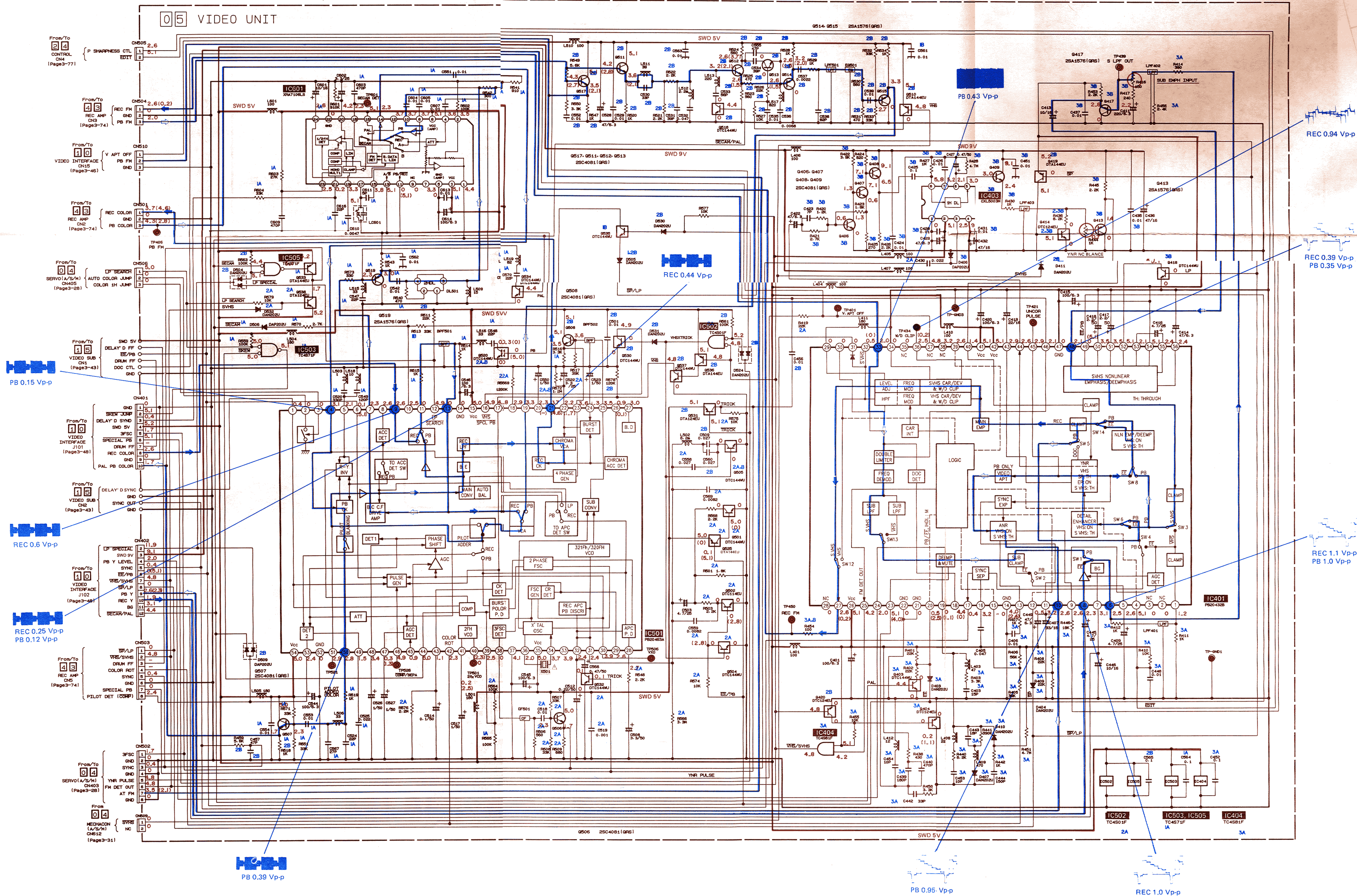


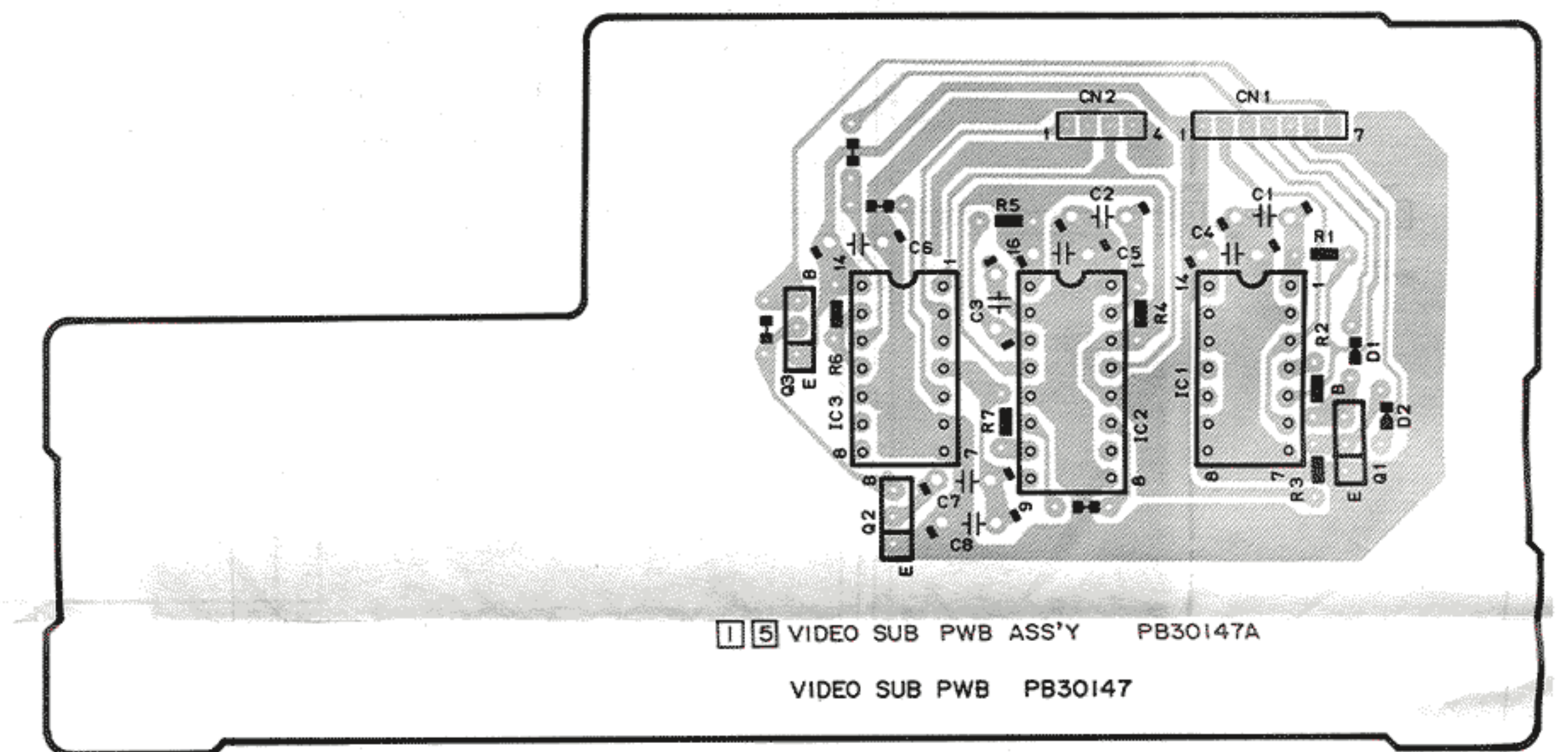
- SOUND MENU -



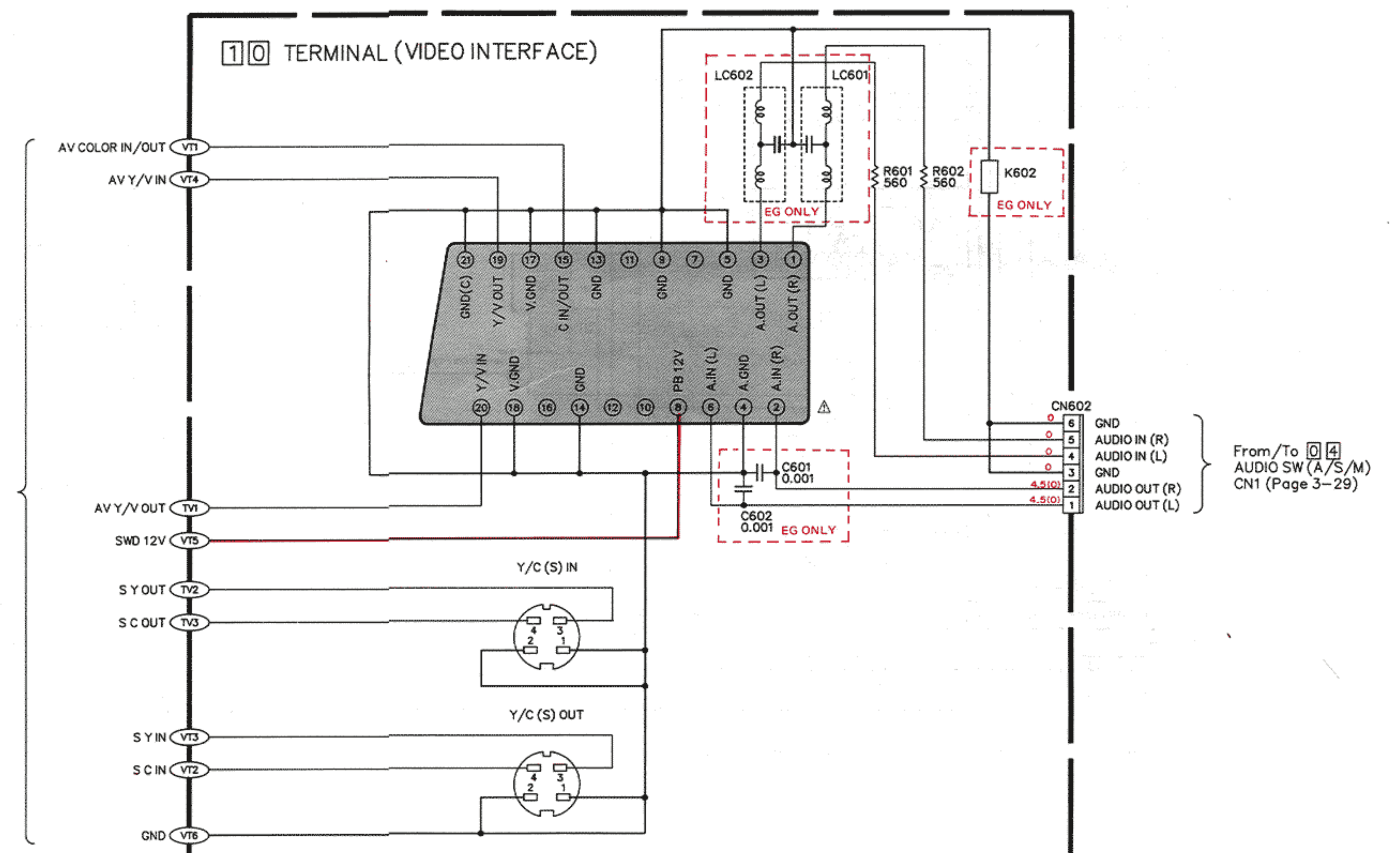
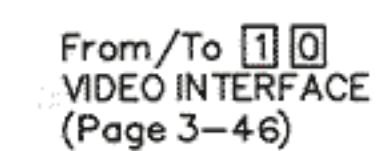
• Address of chip parts
1D
—Address

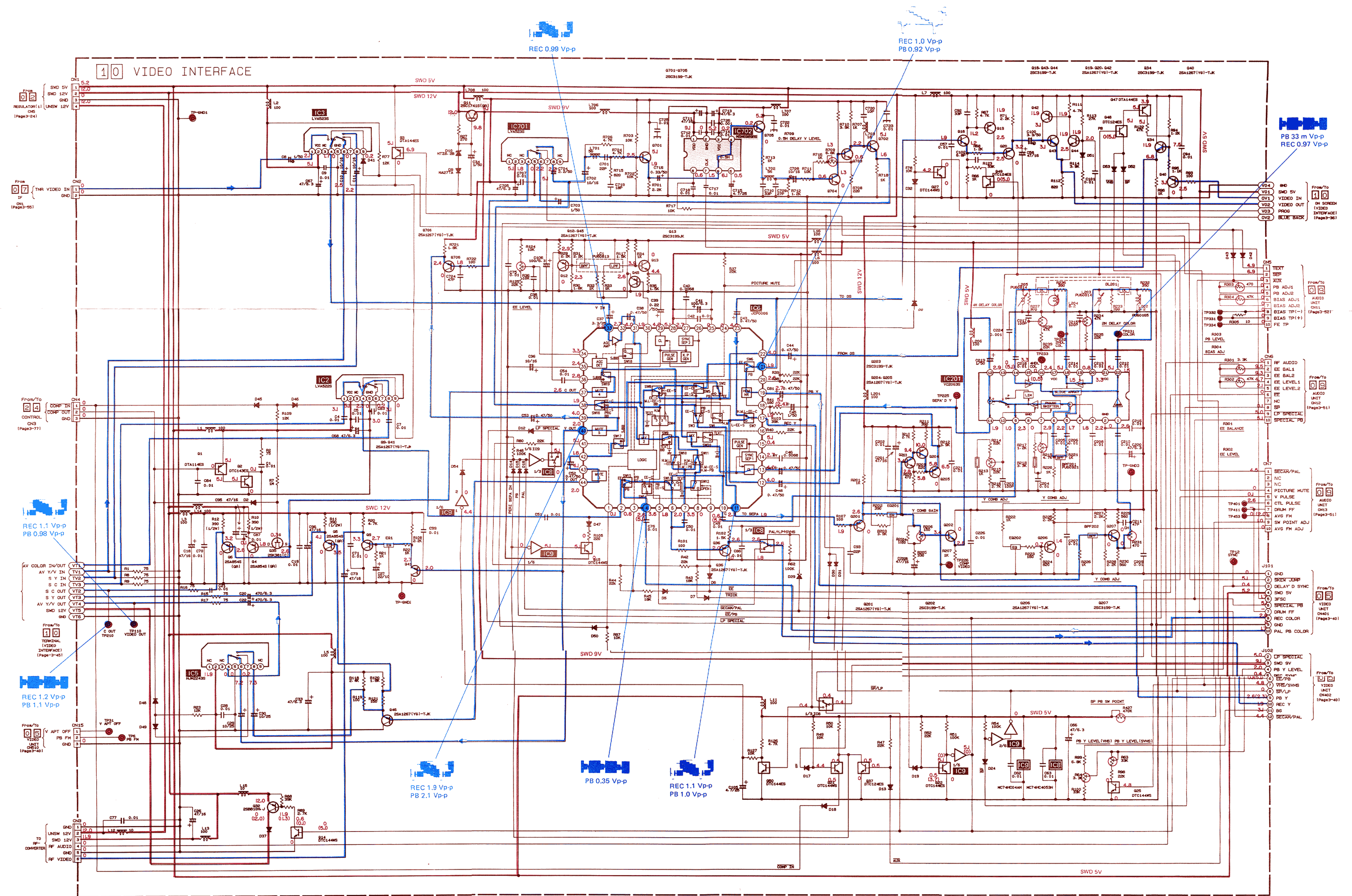
05 VIDEO UNIT



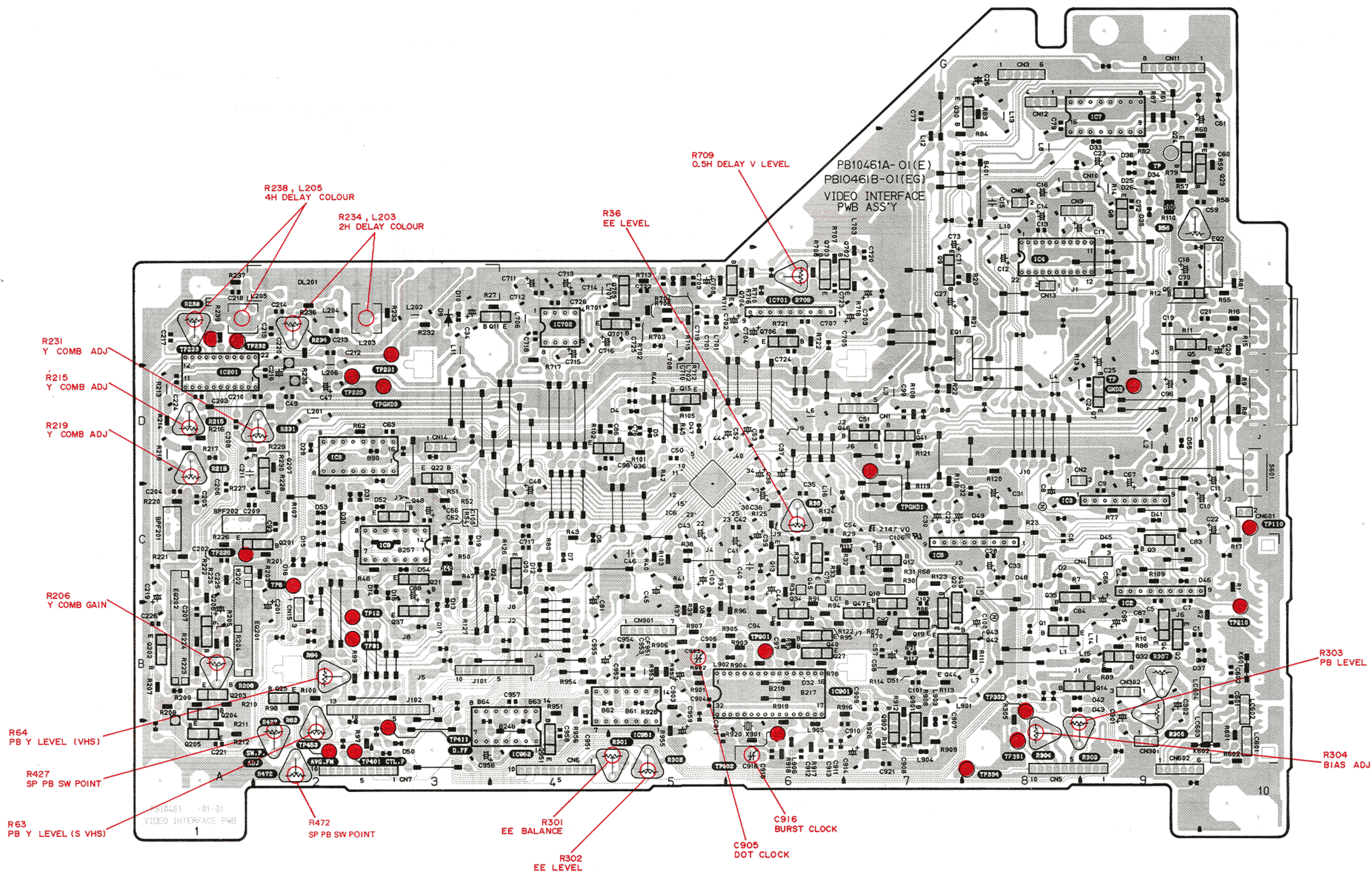


3.23 TERMINAL SCHEMATIC DIAGRAM

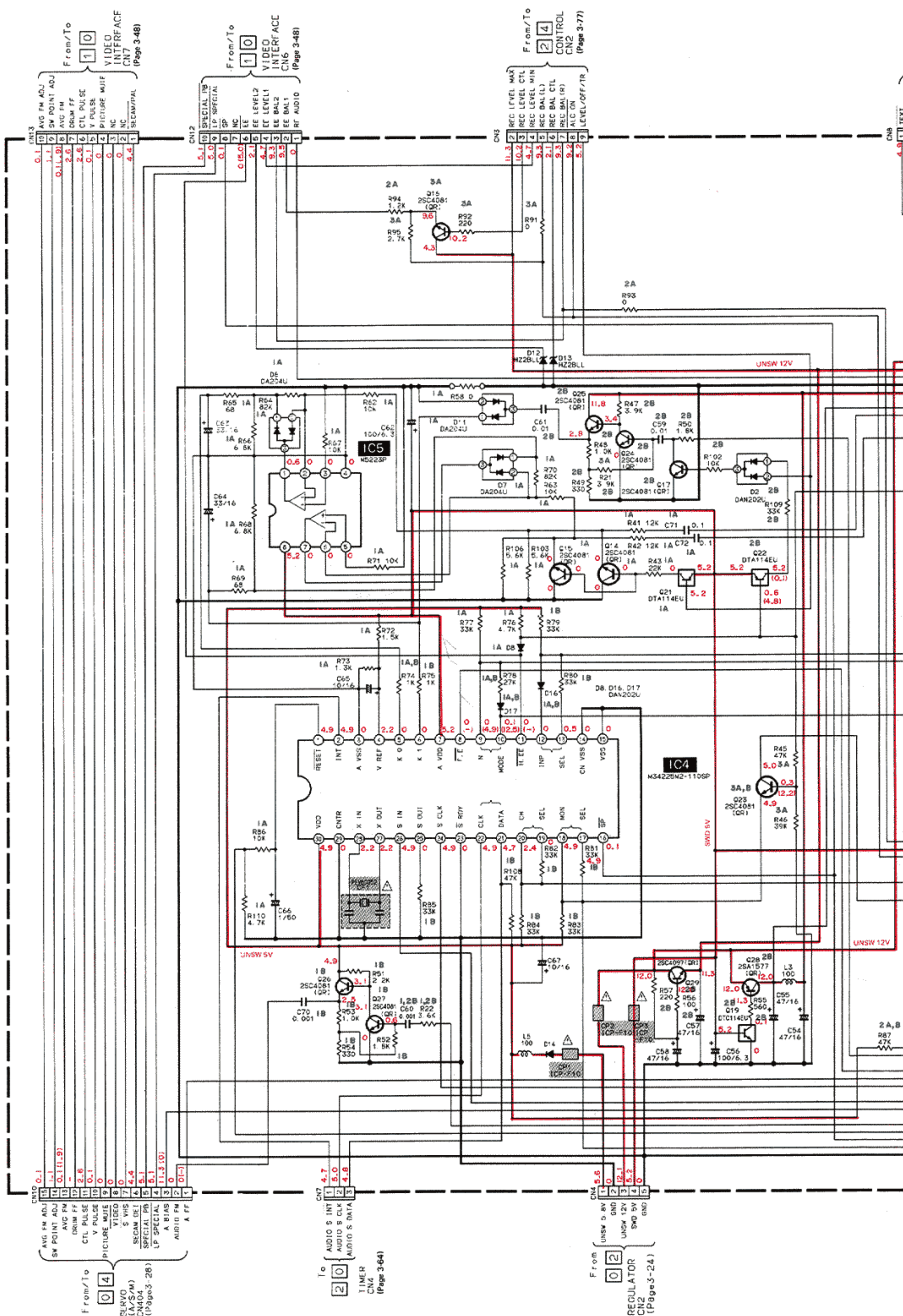


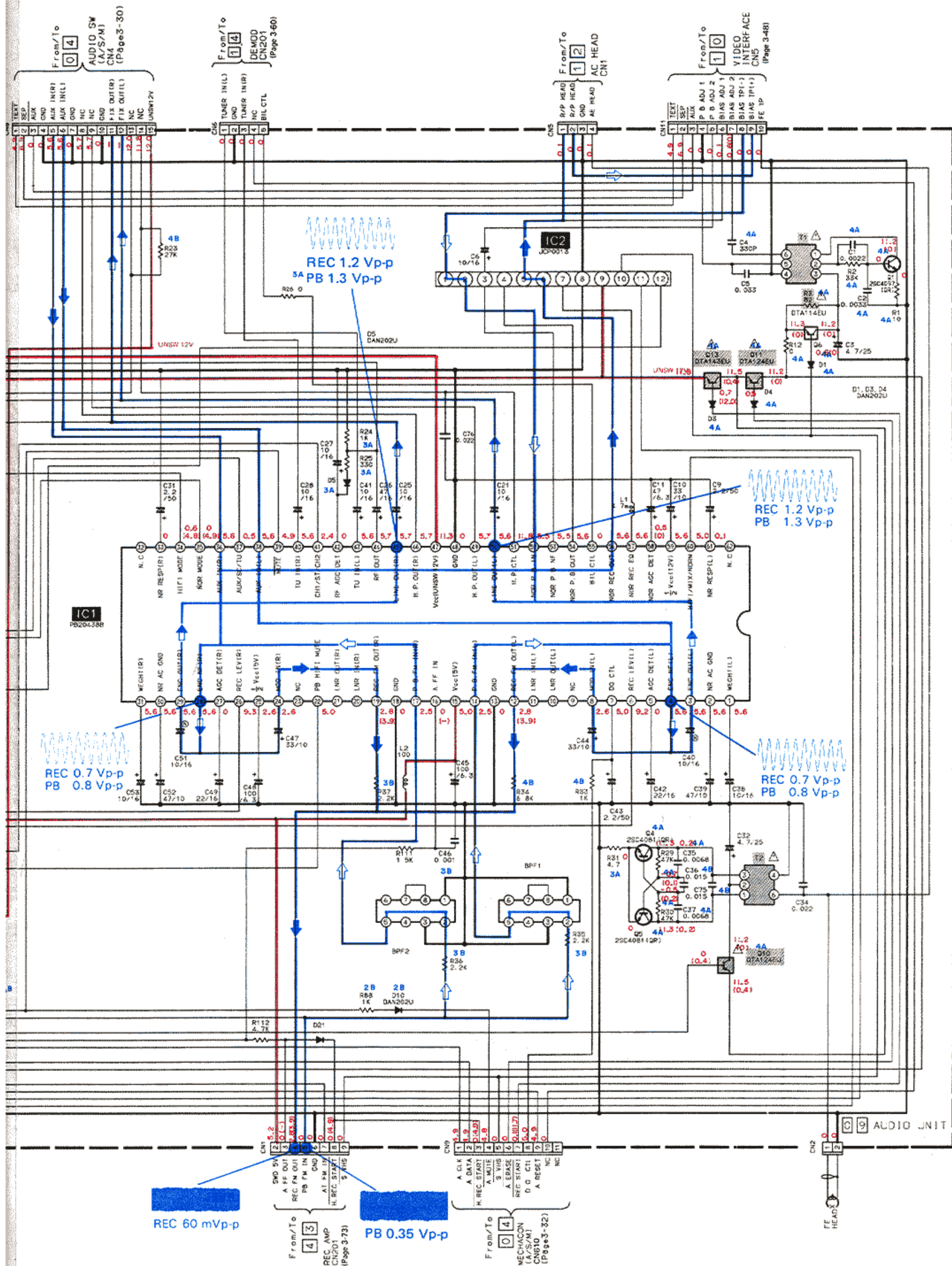


3.25 VIDEO INTERFACE CIRCUIT BOARD



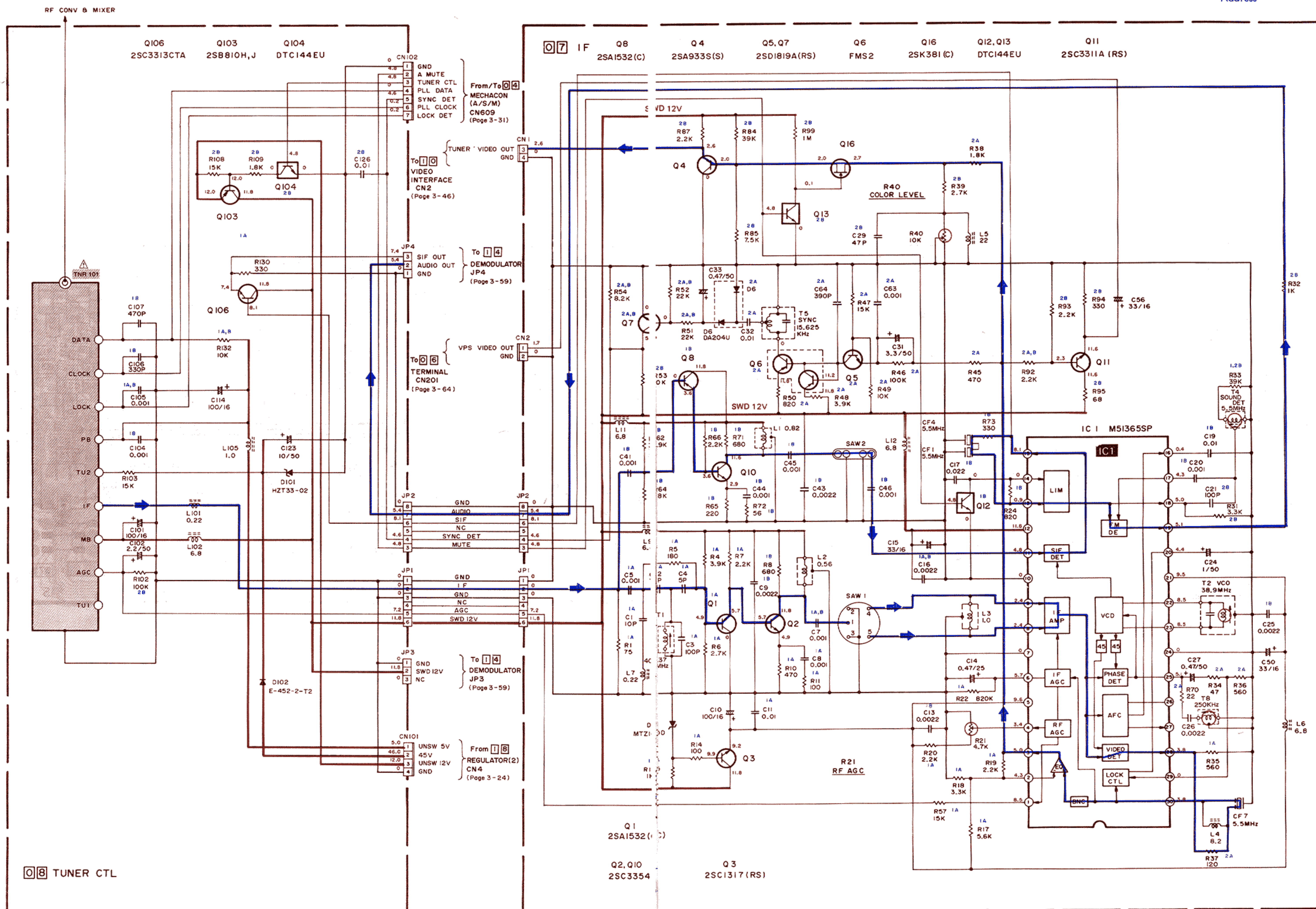
3.26 AUDIO UNIT SCHEMATIC DIAGRAM

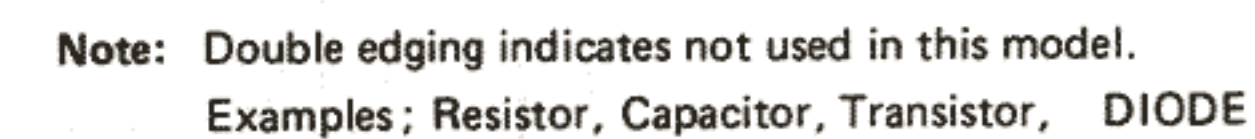




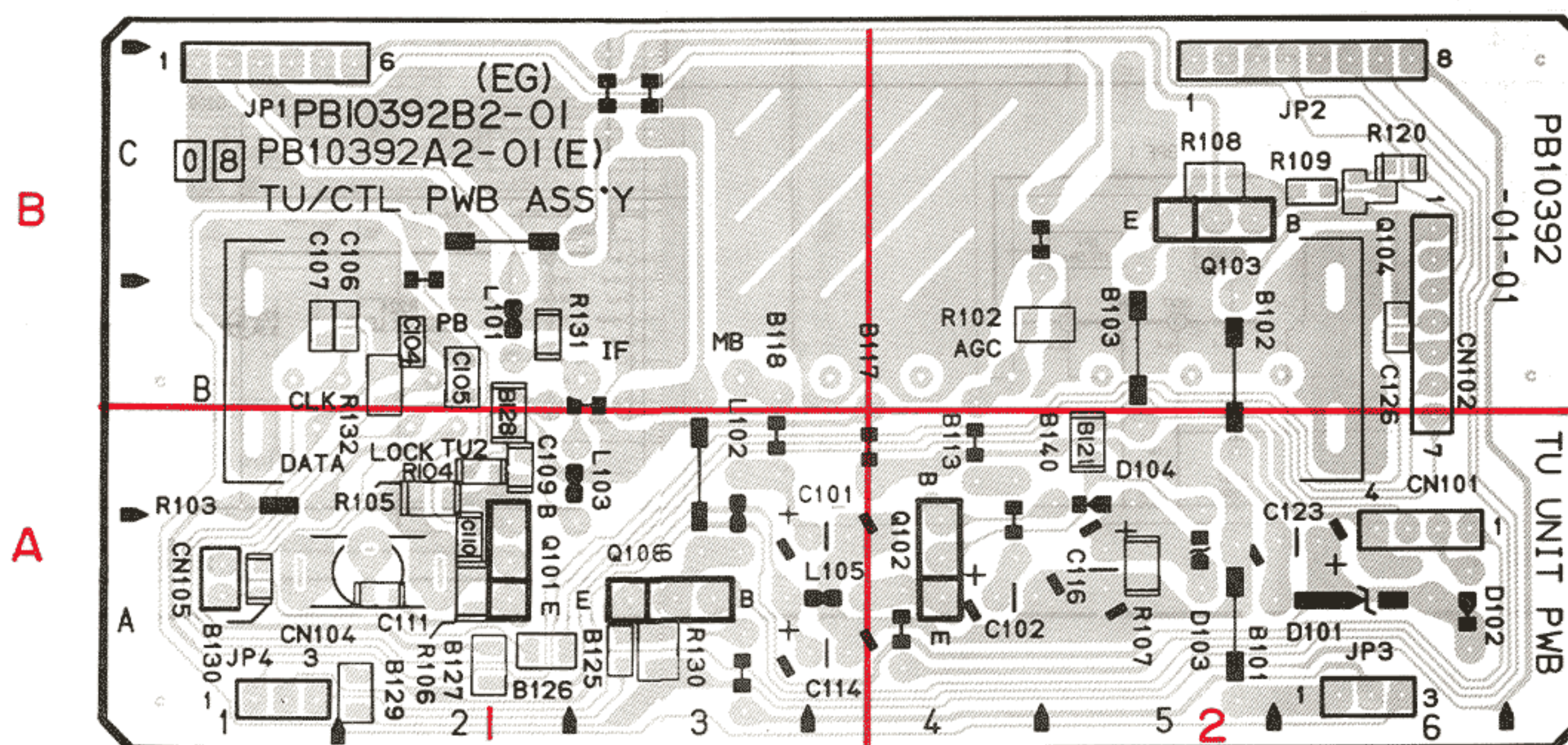
Note: Voltages are DC-measured with a digital voltmeter during stop and tuner mode. (3 ch)

1D
└─ Address





— TUNER CONTROL —

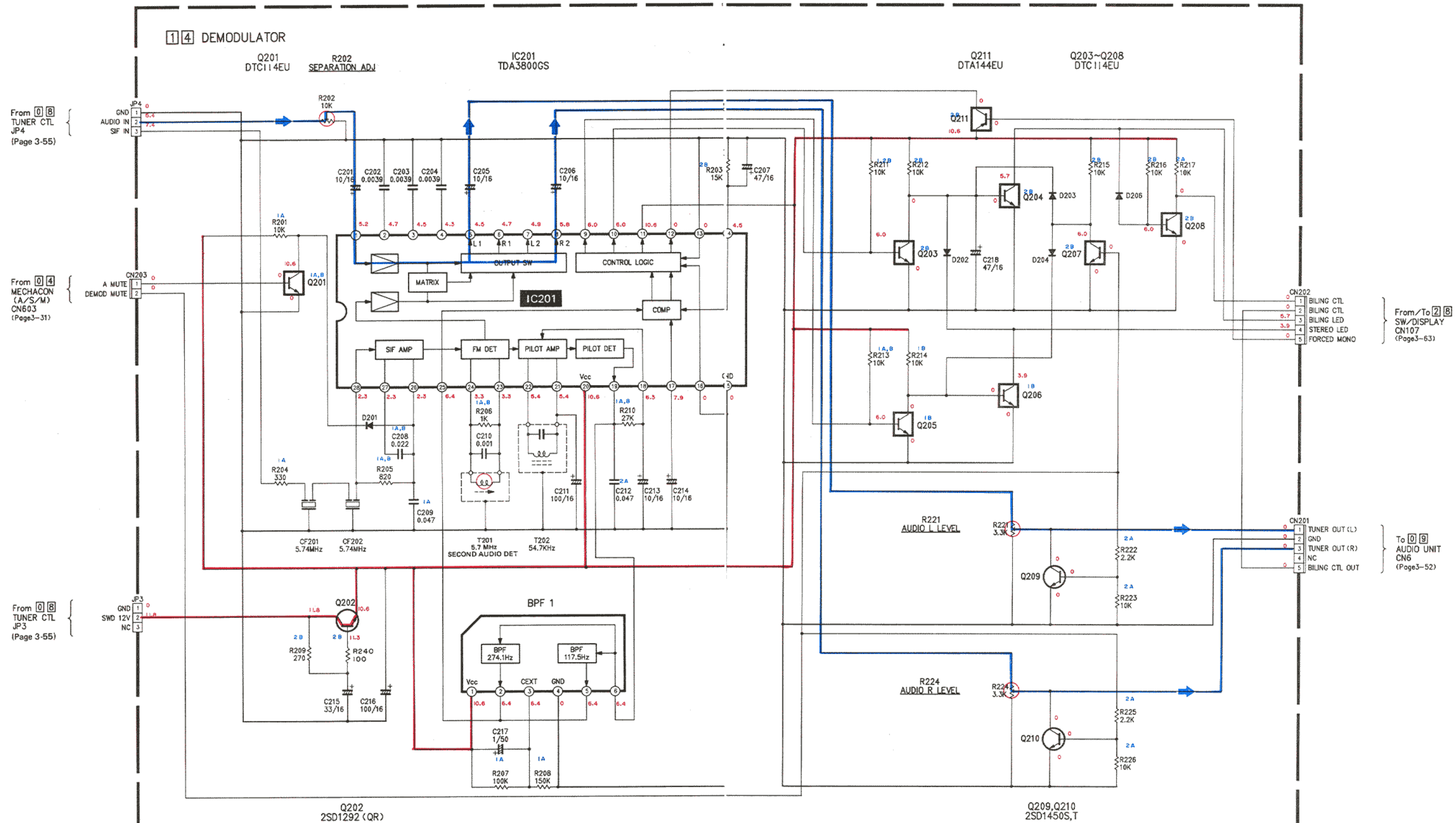


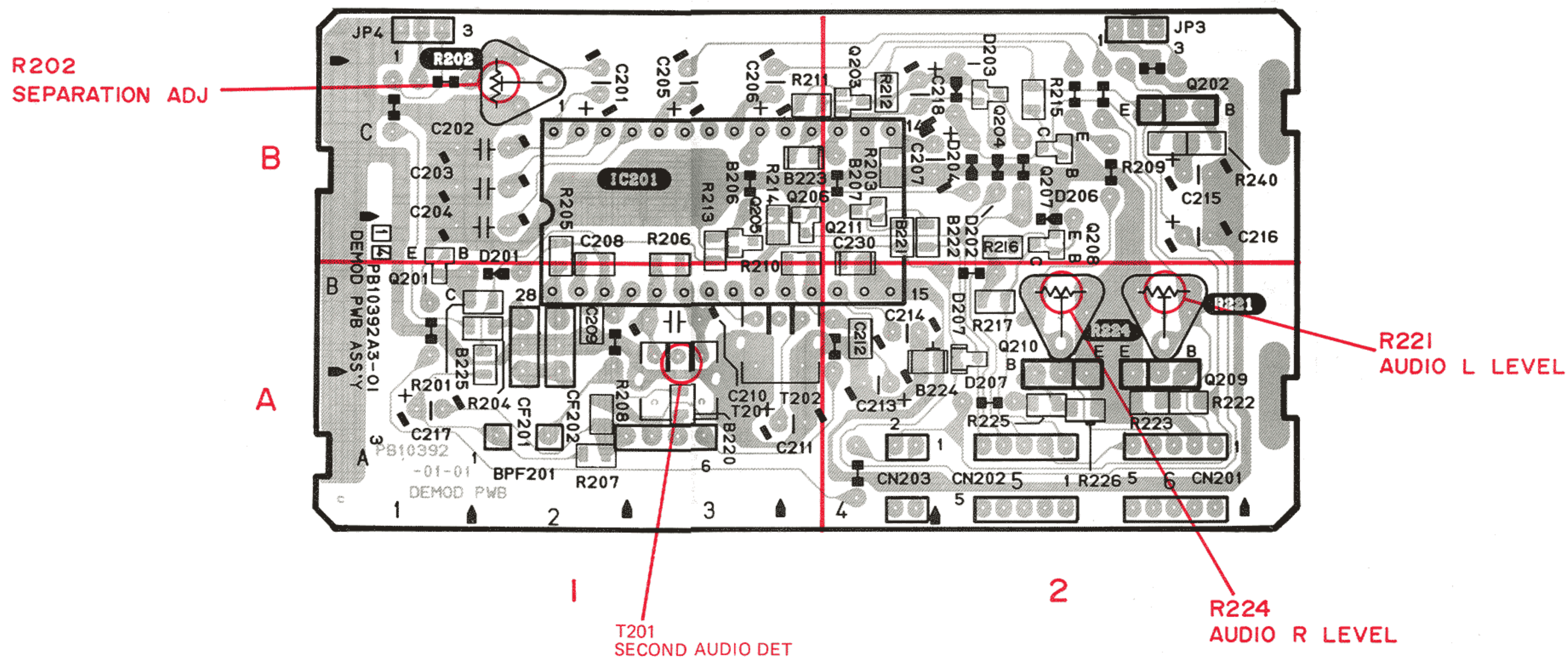
3.30 DEMODULATOR SCHEMATIC DIAGRAM

Note: Voltages are DC-measured with a digital voltmeter during stop and tuner mode. (3 ch)

- Address of chip parts

1D
└─ Address

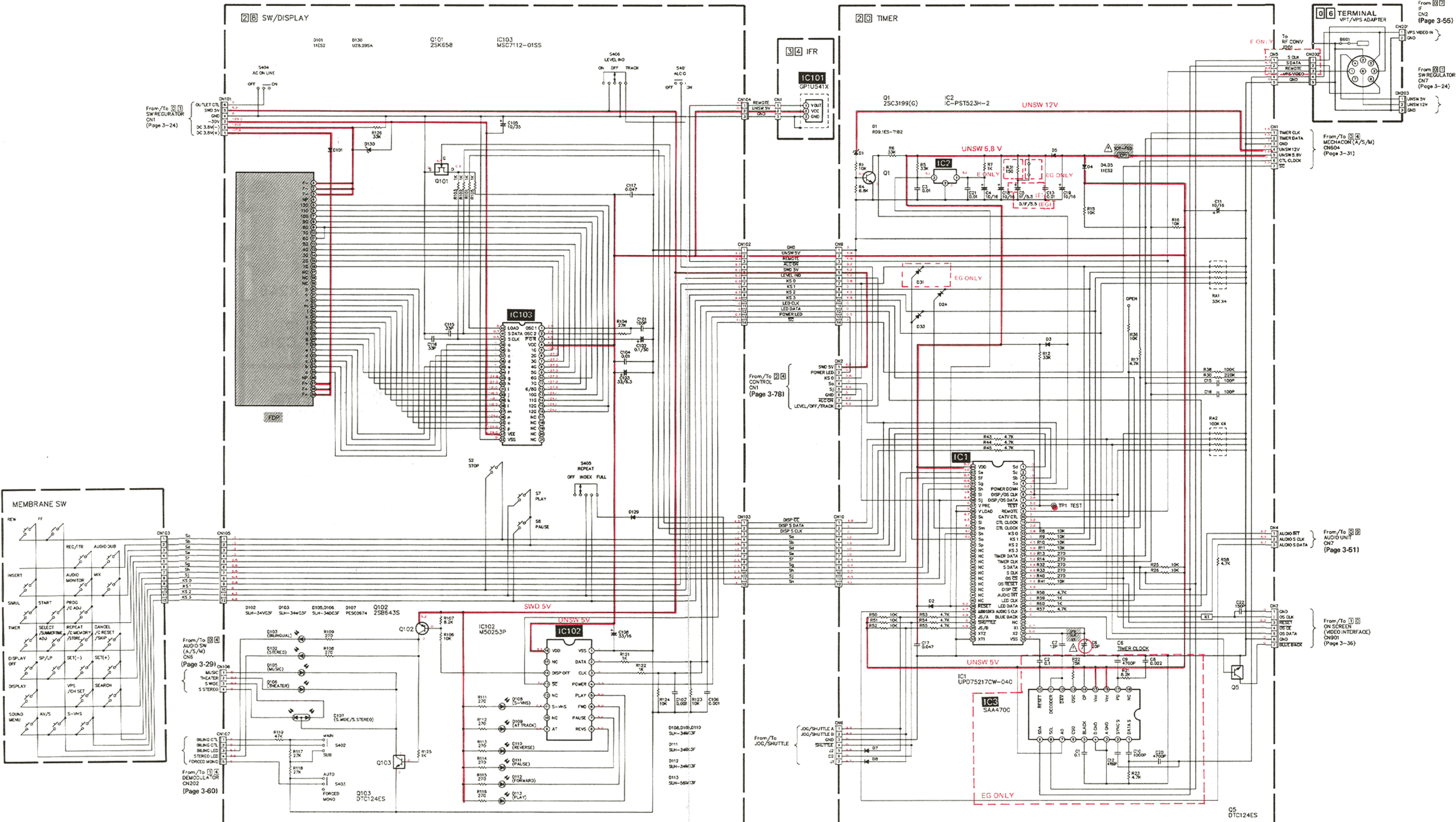




Note: Double edging indicates not used in this model.
Examples; Resistor, Capacitor, Transistor, DIODE

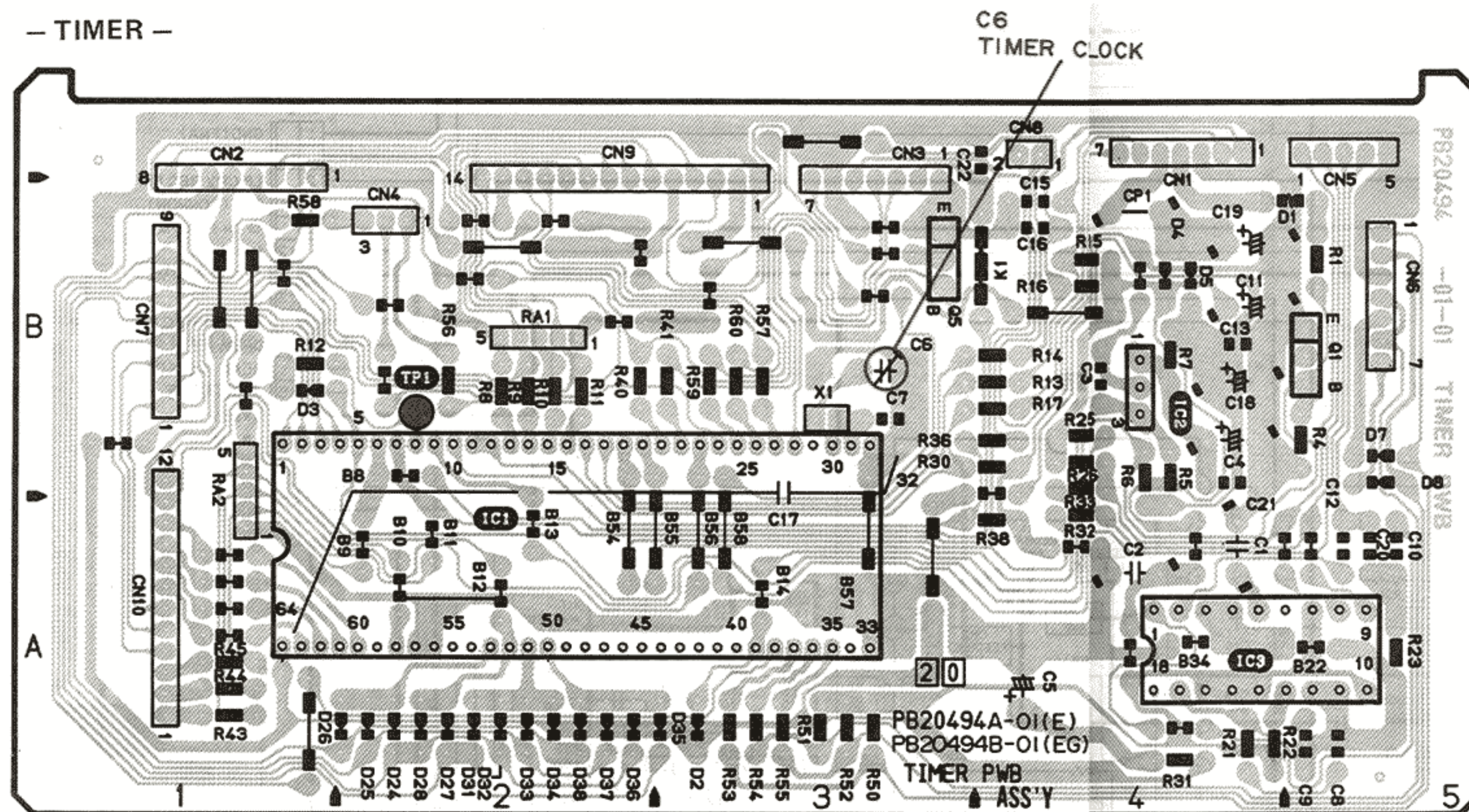
3.32 TIMER, SW/DISPLAY, IFR AND MEMBRANE SCHEMATIC DIAGRAMS

Note: Voltages are DC-measured with a digital voltmeter during stop and tuner mode.

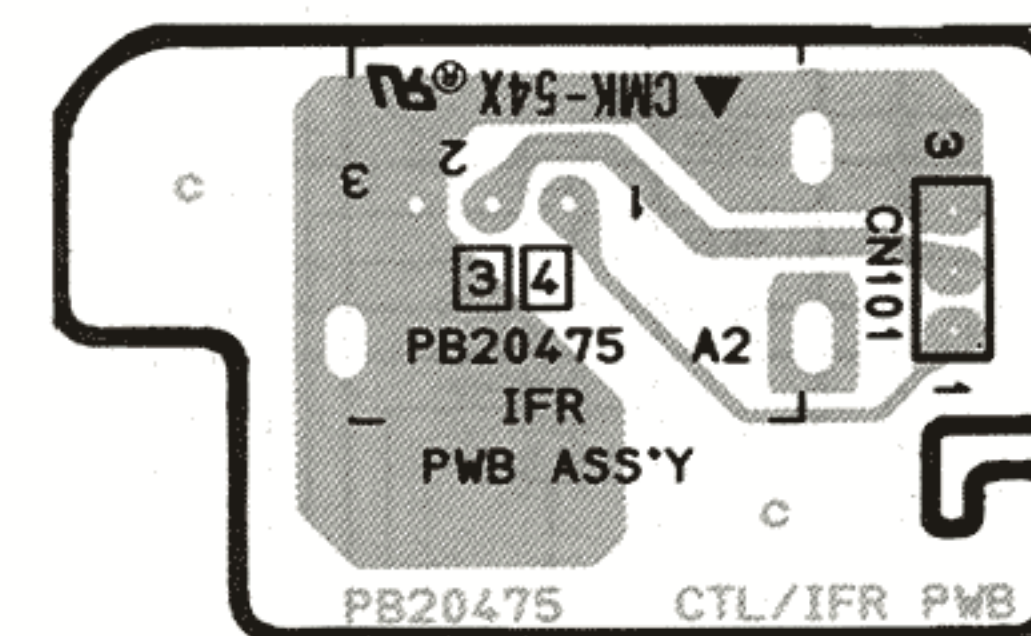


3.33 TIMER, SW/DISPLAY AND IFR CIRCUIT BOARDS

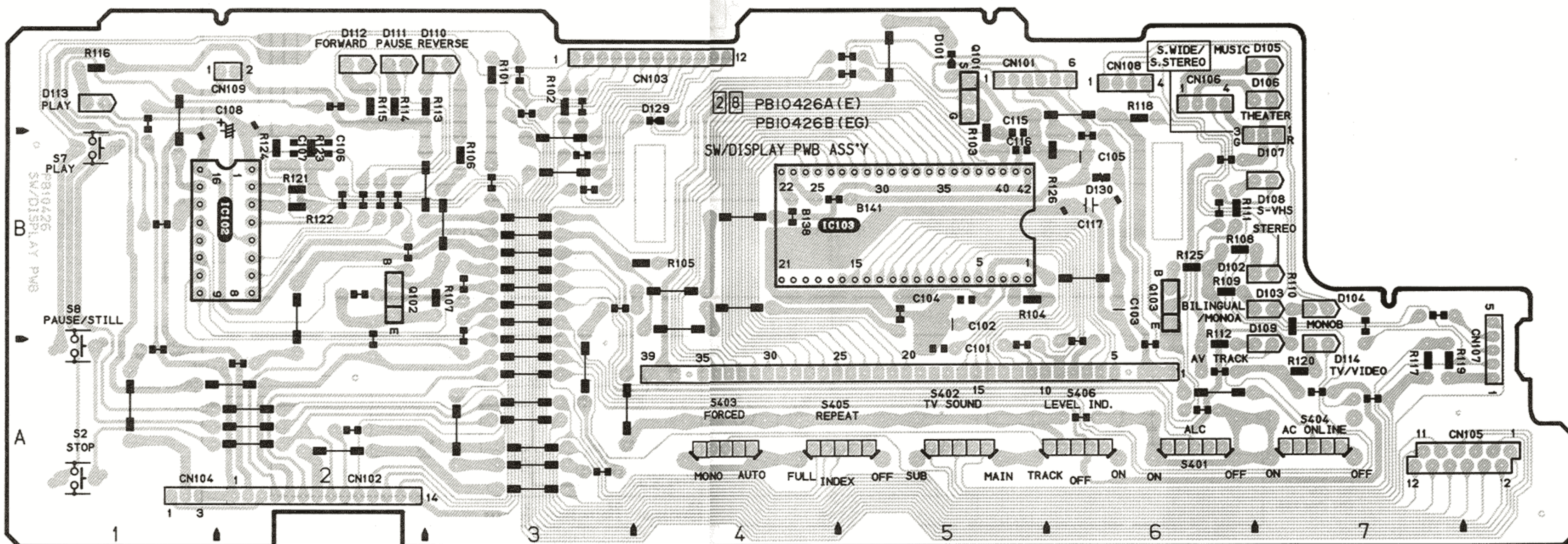
— TIMER —



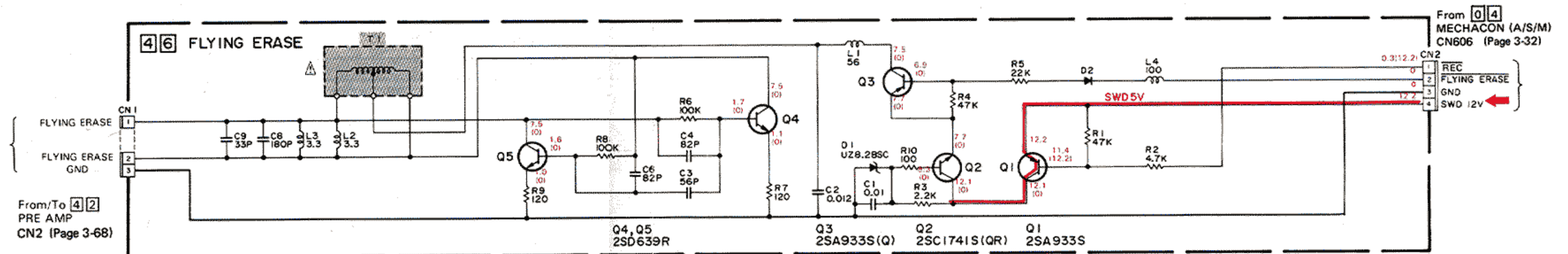
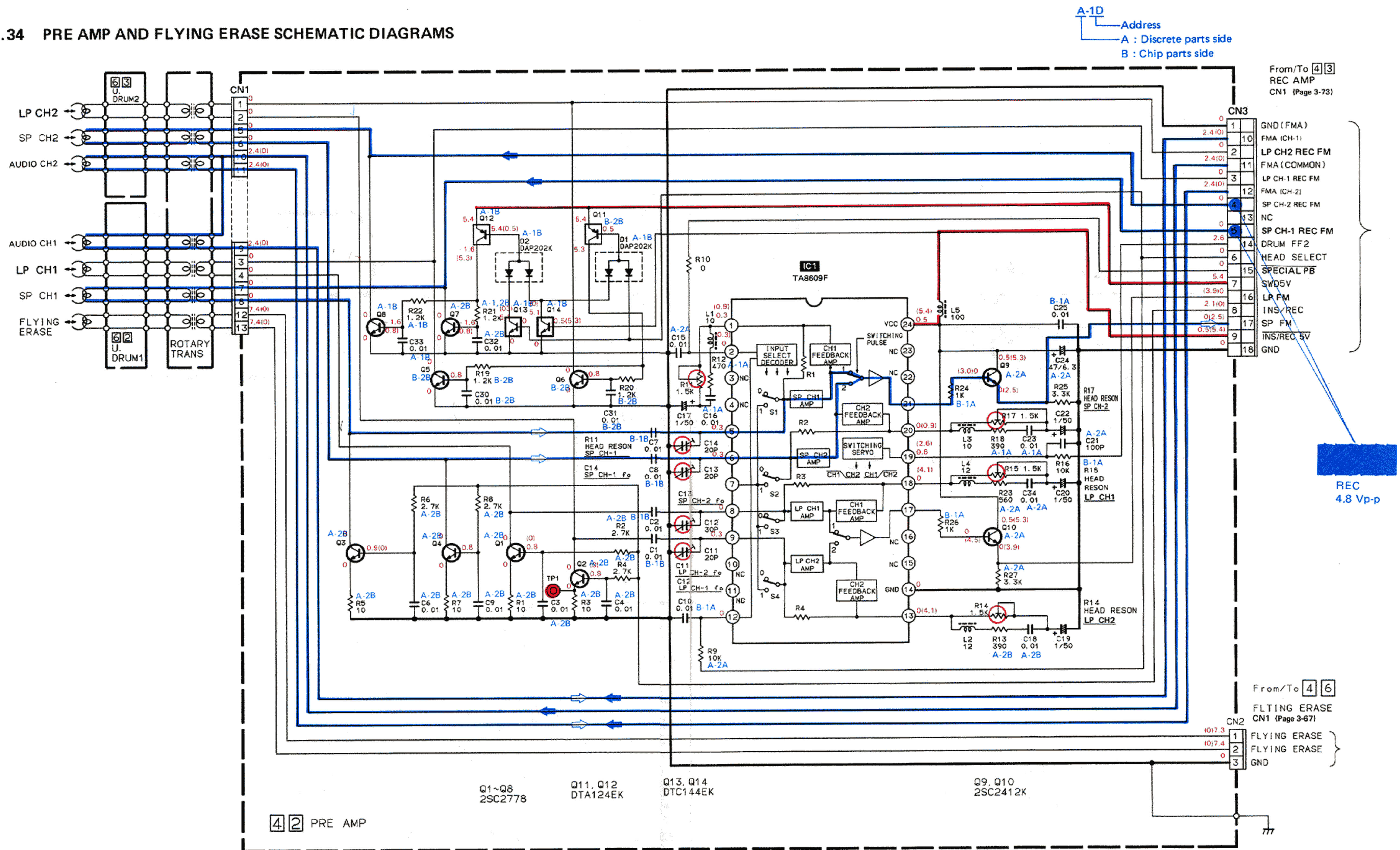
— IFR —

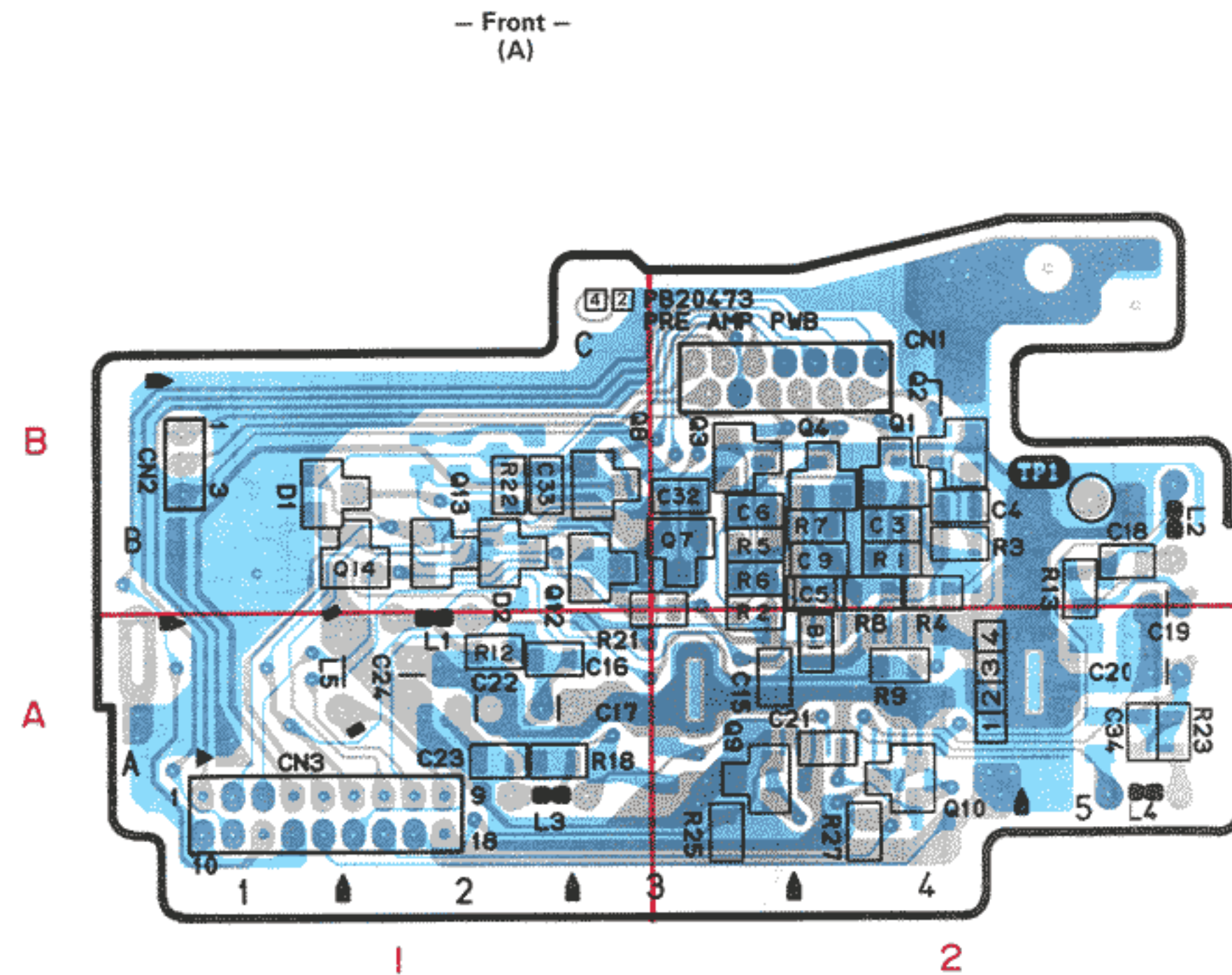
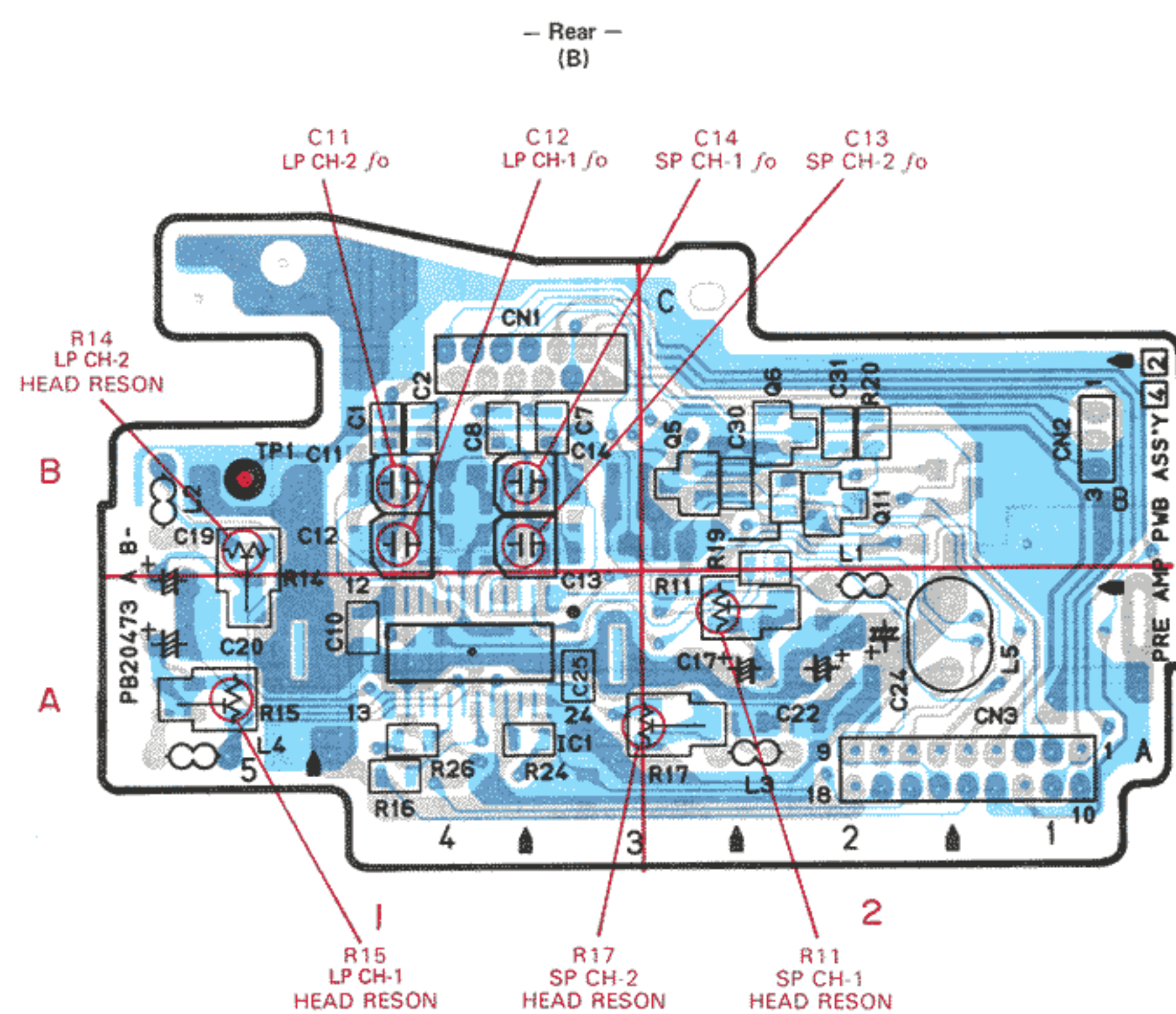


— SW/DISPLAY —

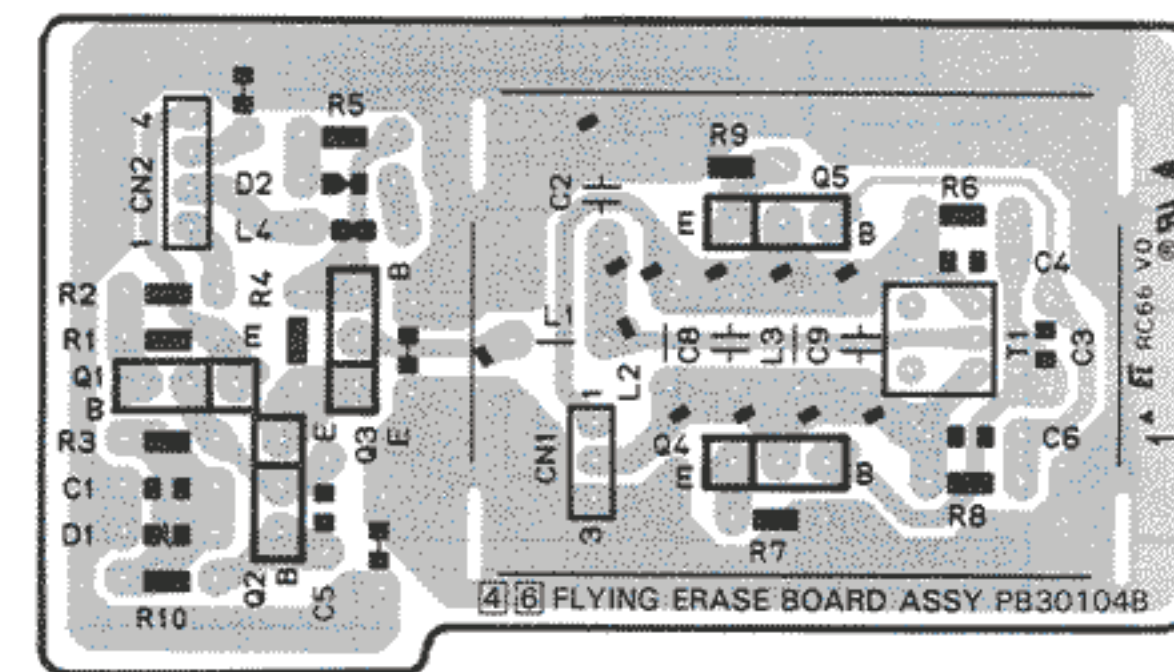


3.34 PRE AMP AND FLYING ERASE SCHEMATIC DIAGRAMS





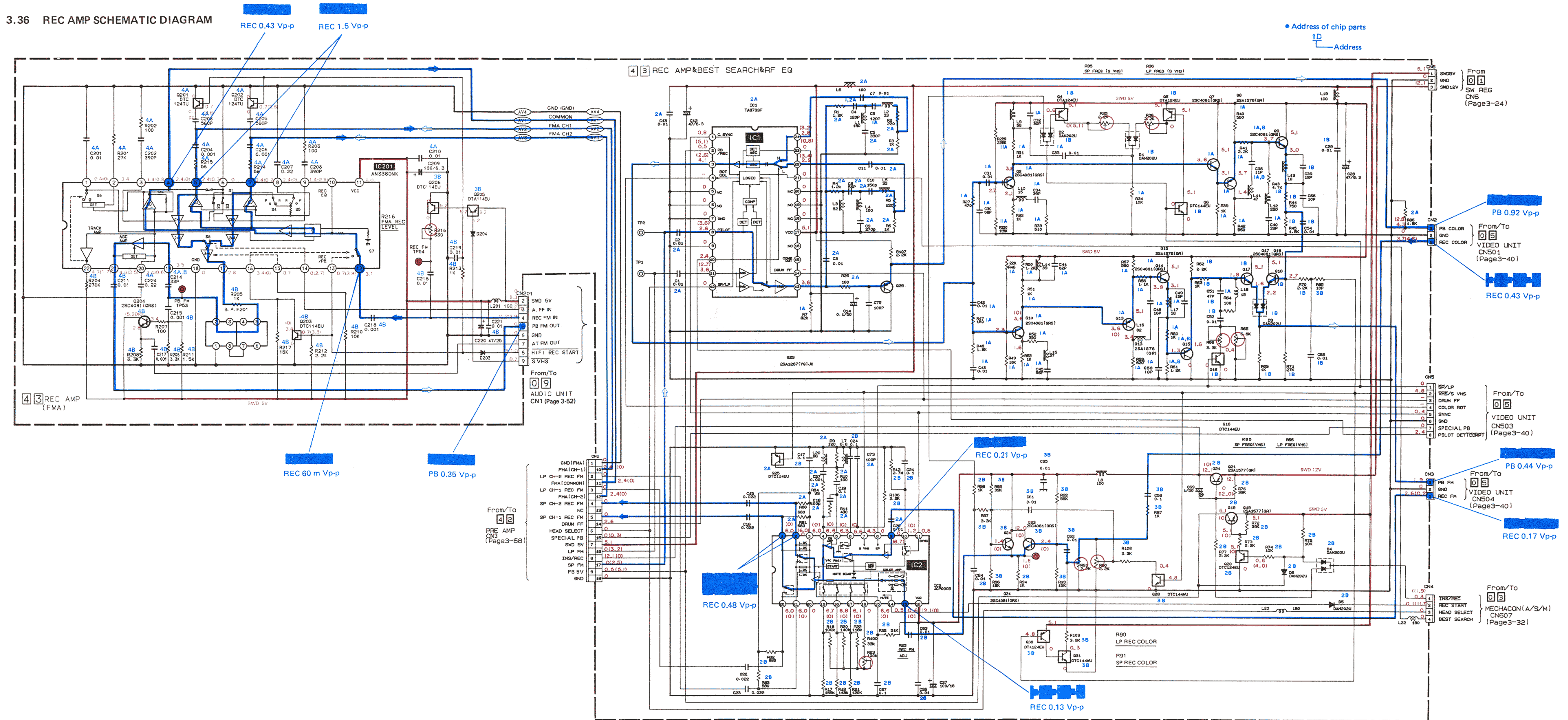
— FLYING ERASE —



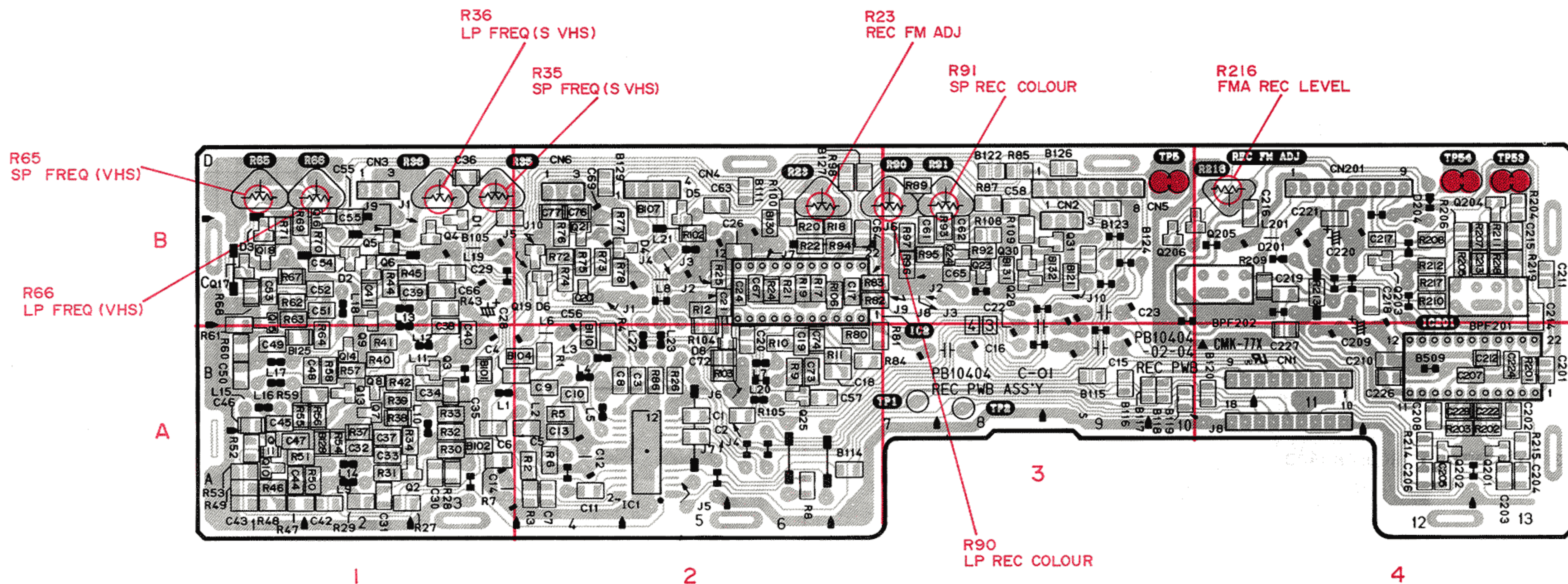
Note: Double edging indicates not used in this model.
Examples; Resistor, Capacitor, Transistor, DIODE



3.36 REC AMP SCHEMATIC DIAGRAM

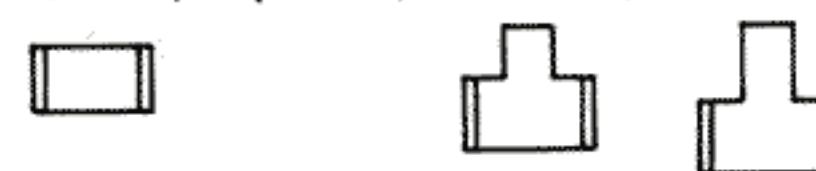


3.37 REC AMP CIRCUIT BOARD

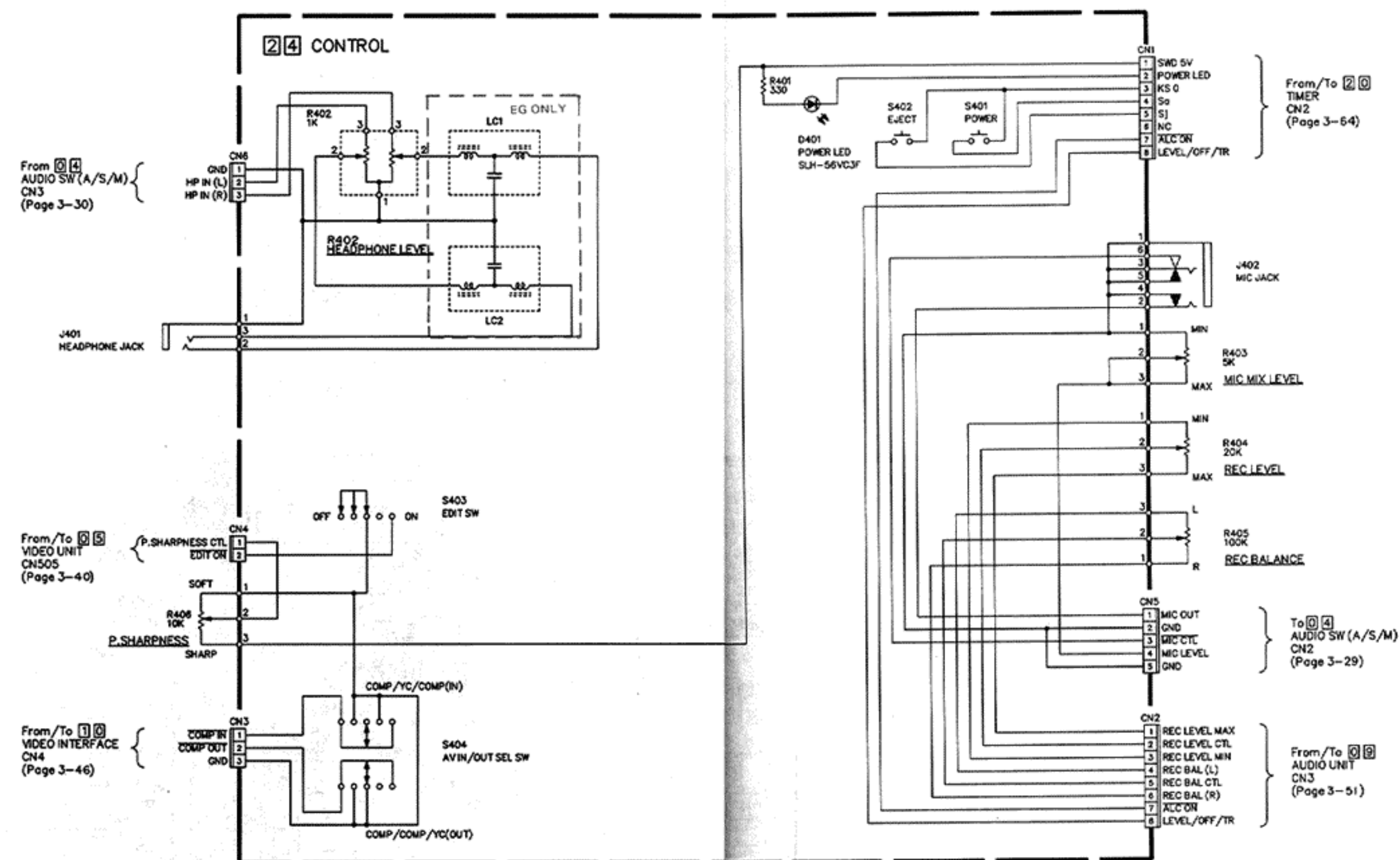


Note: Double edging indicates not used in this model.

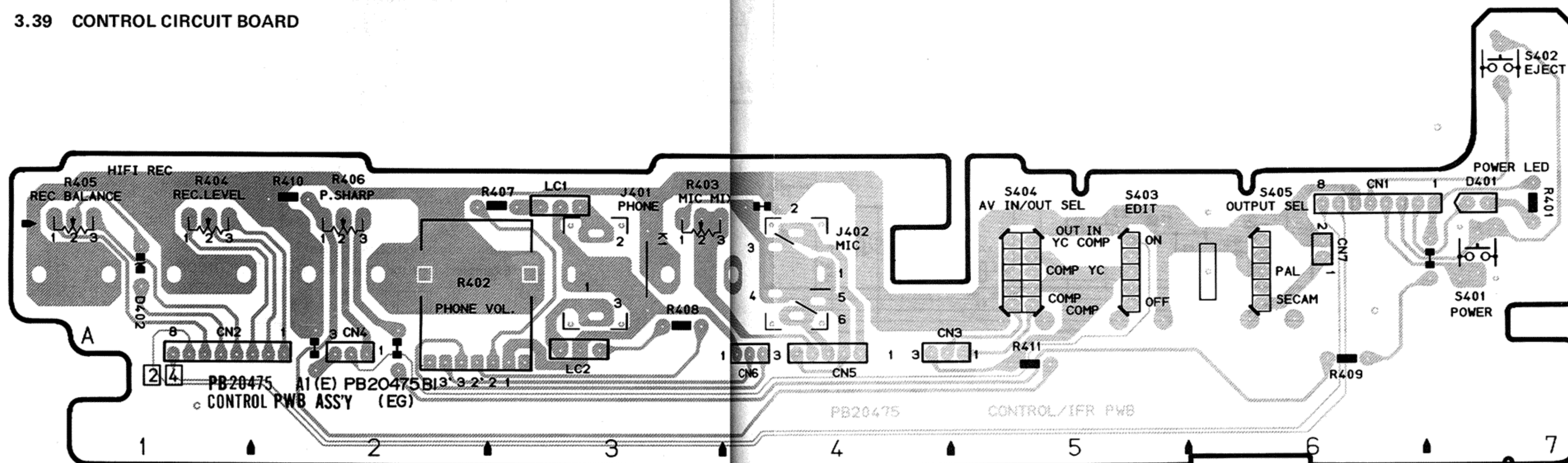
Examples; Resistor, Capacitor, Transistor, DIODE



3.38 CONTROL SCHEMATIC DIAGRAM



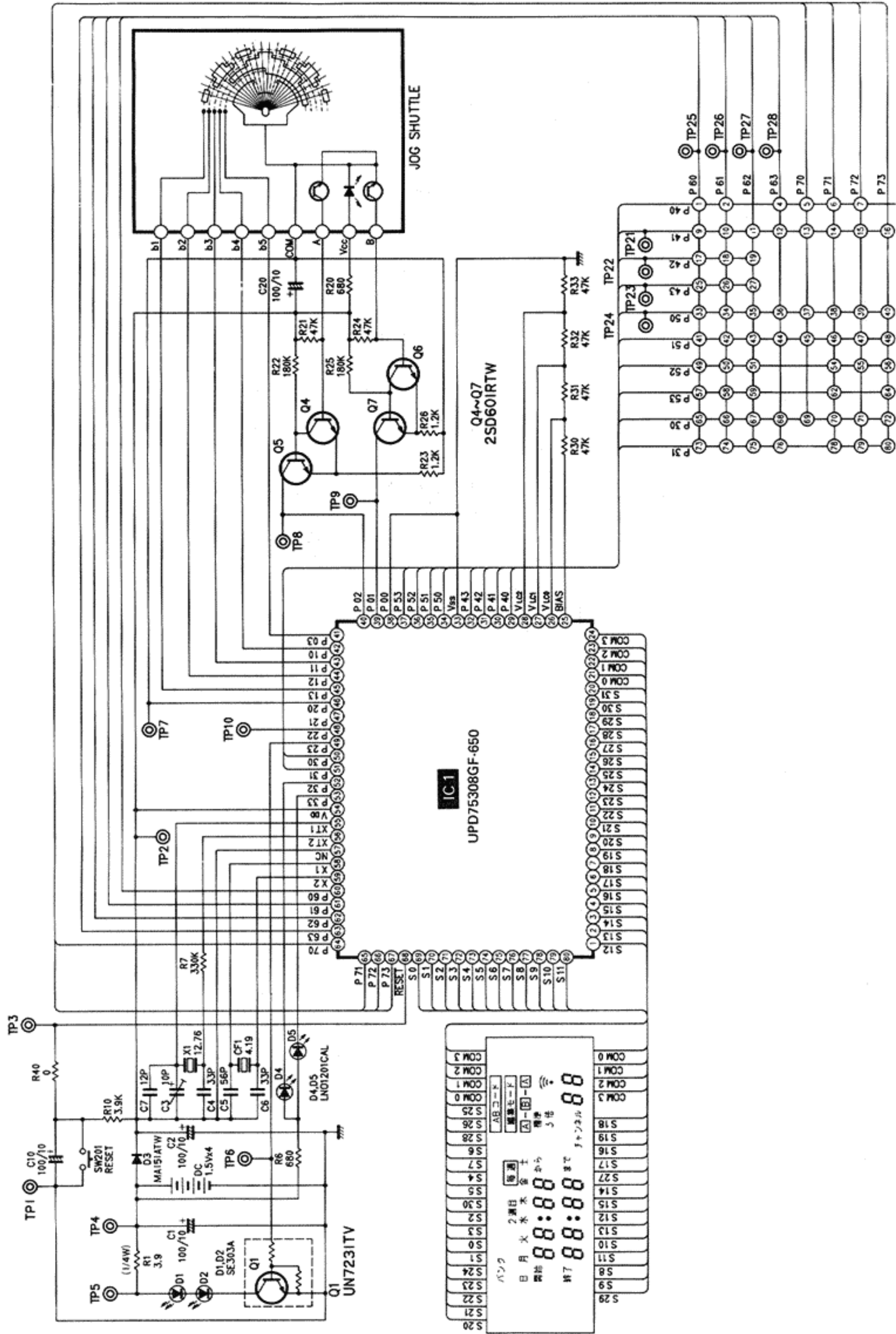
3.39 CONTROL CIRCUIT BOARD



3.40 REMOTE CONTROL SCHEMATIC DIAGRAM

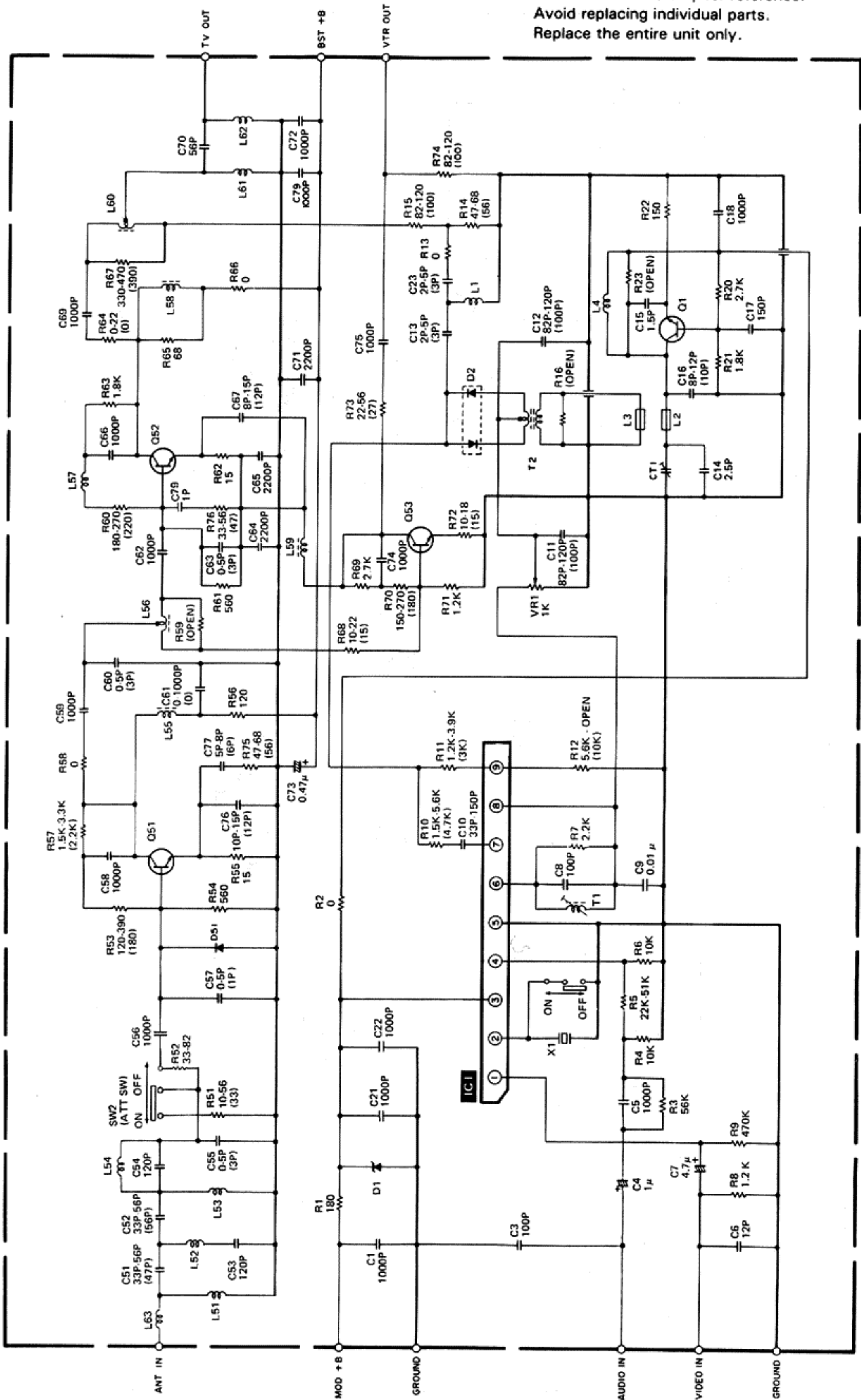
NOTES: 1. All parts shown in this schematic are critical for safety.
2. This schematic is only for reference.
Avoid replacing individual parts.
Replace the entire unit only.

RM REMOTE CONTROL



3.41 RF CONVERTER AND MIX BOOSTER SCHEMATIC DIAGRAM

- NOTES: 1. All parts shown in this schematic are critical for safety.
2. This schematic is only for reference.
Avoid replacing individual parts.
Replace the entire unit only.



JVC

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