

SECTION 1 SUMMARY KEY TO ABBREVIATIONS

A	AC	:Alternating Current	M	LPF	:Low Pass Filter
	ACC	:Automatic Color Control		MAX	:Maximum
	ACSS	:Automatic Channel Setting System		MD	:Modulator
	ADJ	:Adjust		MECHA.CTL	:Mechanism Control
	A/E	:Audio Erase		MIC	:Microphone
	AFC	:Automatic Frequency Control		MIN	:Minimum
	AFT	:Automatic Fine Tuning		MIX	:Mixer, Mixing
	AGC	:Automatic Gain Control		M.M.	:Mono Multi Vibrator
	A.H.SW	:Audio Head Switch		MMV	:Monostable Multivibrator
	ALC	:Automatic Level Control		MCD	:Modulation, Modulator
	AM	:Amplitude Modulation		MODEN	:Modulation-Demodulator
	AMP	:Amplifier		MPX	:Multiplex
	ANT	:Antenna	N	NR	:Noise Reduction
	APC	:Automatic Phase Control		OSC	:Oscillator
	ASSY	:Assembly	O	OSD	:On Screen Display
	AUX	:Auxiliary	P	PB	:Playback
B	B	:Base		PCB	:Printed Circuit Board
	BGP	:Burst Gate Pulse		P.CTL	:Power Control
	BPF	:Bandpass Filter		PER-AMP	:Preamplifier
	BS	:Broadcasting Satellite		P.F	:Power Failure
	BW or BW	:Black and White		PG	:Pulse Generator
C	C	:Capacitor, Chroma, Collector		P.L	:Phase Locked Loop
	CAN	:Cancel		PREM.DET	:Premie Detect
	CAP	:Capstan		P.P	:Peak to Peak
	CAP.BRK	:Capstan Brake		PS	:Phase Shift
	CAP.RVS	:Capstan Reverse		PWM	:Pulse Width Modulation
	CATV	:Cable Television		PWR CTL	:Power Control
	CBA	:Circuit Board Assembly	Q	Q	:Transistor
	COD	:Charge Coupled Device		QH	:Quasi Horizontal
	C.CTL	:Chro Control, Capstan Control		QSR	:Quick Set Record
	CFG	:Capstan Frequency Generator		QTR	:Quick Timer Record
	CHROMA	:Chrominance		QV	:Quasi Vertical
	CNR	:Chroma Noise Reduction	R	R	:Resistor, Right
	COMB	:Combination		RE(or RC)	:Remocon, Receiver
	COMP	:Comparator		REC	:Recording
		:Composite		REC S.H	:Record Start 'High'
		:Compensation		REF	:Reference
	CONV	:Converter		REG	:Regulated, Regulator
	C.ROT SW	:Color Rotary Switch		REMOCON	:Remote Control(unit)
	CS	:Chip Select		RF	:Radio Frequency
	C.SYNC	:Composite Synchronization		R/P	:Record/Playback
	CTL DIV	:Control Divide		RTC	:Real Time Counter
	CUR	:Current	S	S	:Serial
	CYL	:Cylinder		S	:Slow Acel
D	D	:Drum, Digital, Diode, Drain		S.ACCEL	:Second Audio Program
	D.ADJ	:Drum Adjust		SAOP	:Scart, Simulcast
	DC	:Direct Current		SC	:Scart, Simulcast
	D.CTL	:Drum Control		S.DET	:Secam Detect
	DEMOM	:Demodulator		SH	:Shift
	DET	:Detect		SHARP	:Sharpness
	DEV	:Deviation		SIF	:Sound Intermediate Frequency
	DHP	:Double High Pass		SID	:Side Looking
	DIGITRON	:Digital Display Tube		S/N	:Signal to Noise Ratio
	DL	:Delay Line		SP	:Standard Play
	DOC	:Drop Out Compensator		ST	:Stereo
	DUB	:Dubbing		SUB	:Subtract, Subcarrier
	D.V SYNC	:Dummy Vertical Synchronization		SW or SW	:Switch
E	E	:Emitter		SYNC	:Synchronization
	EE	:Electric to Electric		SYSCON	:System Control
	EMPH	:Emphasis	T	T	:Coil
	ENA	:Enable		TP	:Test Point
	ENV	:Envelope		TR	:Transistor
	EP	:Extended Play		TRK	:Tracking
	EQ	:Equalizer		TRANS	:Transformer
	EXP	:Expander		TU	:Tuner, Take-Up
F	F	:Fuse	U	UHF	:Ultra High Frequency
	FB	:Feed Back		UNREG	:Unregulated
	FBC	:Feed Back Clamp	V	V	:Volts, Vertical, Video
	FE	:Full Erase		VA	:Voltage Alive
	FG	:Frequency Generator		VCO	:Voltage Controlled Oscillator
	FL	:Filter		VGC	:Voltage Gain Control
	FM	:Frequency Modulation		VHF	:Very High Frequency
	F/R	:Forward/Reverse		V.H.SW	:Video Head Switch
	FS	:Frequency Synthesizer		VISS	:VHS Index Search System
	FSC	:Subcarrier Frequency		VPS	:Video Program System
	F/V	:Frequency Voltage		VR	:Variable Resistor or Volume
				V-SYNC	:Vertical Synchronization
				VTG	:Voltage
G	GEN	:Generator		VW	:Video to Video
	H	:High, Horizontal		VXO	:Voltage X-tal Oscillator
I	IC	:Integrated Circuit	W	W	:Watt
	IF	:Intermediate Frequency		WHT	:White
	INS	:Insert		W/O	:With Out
L	L	:Low, Left, Coil	X	X-TAL	:Crystal
	LD	:Loading	Y	Y/C	:Luminance/Chrominance
	LD VTG CTL	:Loading Voltage Control		YNR	:Luminance Noise Reduction
	LECHA	:Letter Character	Z	ZD	:Zener Diode
	LM	:Level Meter			
	LP	:Long Play			

IMPORTANT SAFETY PRECAUTIONS

Prior to shipment from the factory, the products are strictly inspected to conform with the recognized product safety and electrical codes of the countries in which they are to be sold. However, in order to maintain such compliance, it is equally important to implement the following precautions when a set is being serviced.

• Precautions during Servicing

1. Locations requiring special caution are denoted by labels and inscriptions on the cabinet, chassis and certain parts of the product. When performing service, be sure to read and comply with these and other cautionary notices appearing in the operation and service manuals.

2. Parts identified by the  symbol and shaded () parts are critical for safety.

Replace only with specified part numbers.

Note: Parts in this category also include those specified to comply with X-ray emission standards for products using cathode ray tubes and those specified for compliance with various regulations regarding spurious radiation emission.

3. Use Specified internal wiring. Note especially:

- 1) Wires covered with PVC tubing
- 2) Double insulated wires
- 3) High voltage leads

4. Use specified insulating materials for hazardous live parts. Note especially:

- 1) Insulation Tape
- 2) PVC tubing
- 3) Spacers
- 4) Insulation sheets for transistor

5. When replacing AC primary side components (transformers, power cords, noise blocking capacitors, etc.) wrap ends of wires securely about the terminals before soldering.(Fig. 1)

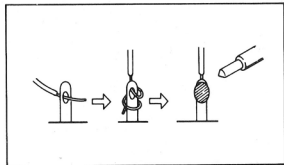


Fig. 1

6. Observe that wires do not contact heat producing parts (heatsinks, oxide metal film resistors, fusible resistors, etc.)

7. Check that replaced wires do not contact sharp edged or pointed parts.

8. When a power cord has been replaced, check that 10-15Kg of force in any direction will not loosen it.(Fig. 2)

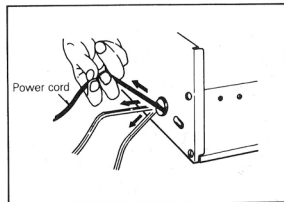


Fig. 2

9. Also check areas surrounding repaired locations.

10. Products using cathode ray tubes (CRTs)

In regard to such products, the cathode ray tubes themselves, the high voltage circuits, and related circuits are specified for compliance with recognized codes pertaining to X-ray emission. Consequently, when servicing these products, replace the cathode ray tubes and other parts with only the parts specified. Under no circumstances attempt to modify these circuits. Unauthorized modification can increase the high voltage value and cause X-ray emission from the cathode ray tube.

SAFETY CHECK AFTER SERVICING

Examine the area surrounding the repaired location for damage or deterioration. Observe that screws, parts and wires have been returned to original positions. Afterwards, perform the following tests and confirm the specified values in order to verify compliance with safety standards.

• Insulation resistance test

Confirm the specified insulation resistance or greater between power cord plug prongs and externally exposed parts of the set (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.). See table below.

• Dielectric strength test

Confirm specified dielectric strength or greater between power cord plug prongs and exposed accessible parts of the set (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.). See table below.

• Clearance distance

When replacing primary circuit components, confirm specified clearance distance (d), (d') between soldered terminals, and between terminals and surrounding metallic parts. See table below.

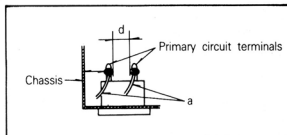


Fig. 3

Table 1: Ratings for selected areas

AC Line Voltage	Region	Insulation Resistance	Dielectric Strength	Clearance Distance(d),(d')
*110 to 130 V 200 to 240 V	Europe Australia	$\geq 10 \text{ M}\Omega / 500 \text{ V DC}$	4kV 1 minute	$\geq 6\text{mm}(d)$ $\geq 8\text{mm}(d')$ (a Power cord)

*Class II model only.

Note. This table is unofficial and for reference only. Be sure to confirm the precise values for your particular country and locality.

• Leakage Current test

Confirm specified or lower leakage current between B(earth ground, power cord plug prongs) and externally exposed accessible parts (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.)

Measuring Method: (Power ON)

Insert load Z between B(earth ground, power cord plug prongs) and exposed accessible parts. Use an AC voltmeter to measure across both terminals of load Z. See figure and following table.

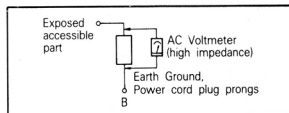


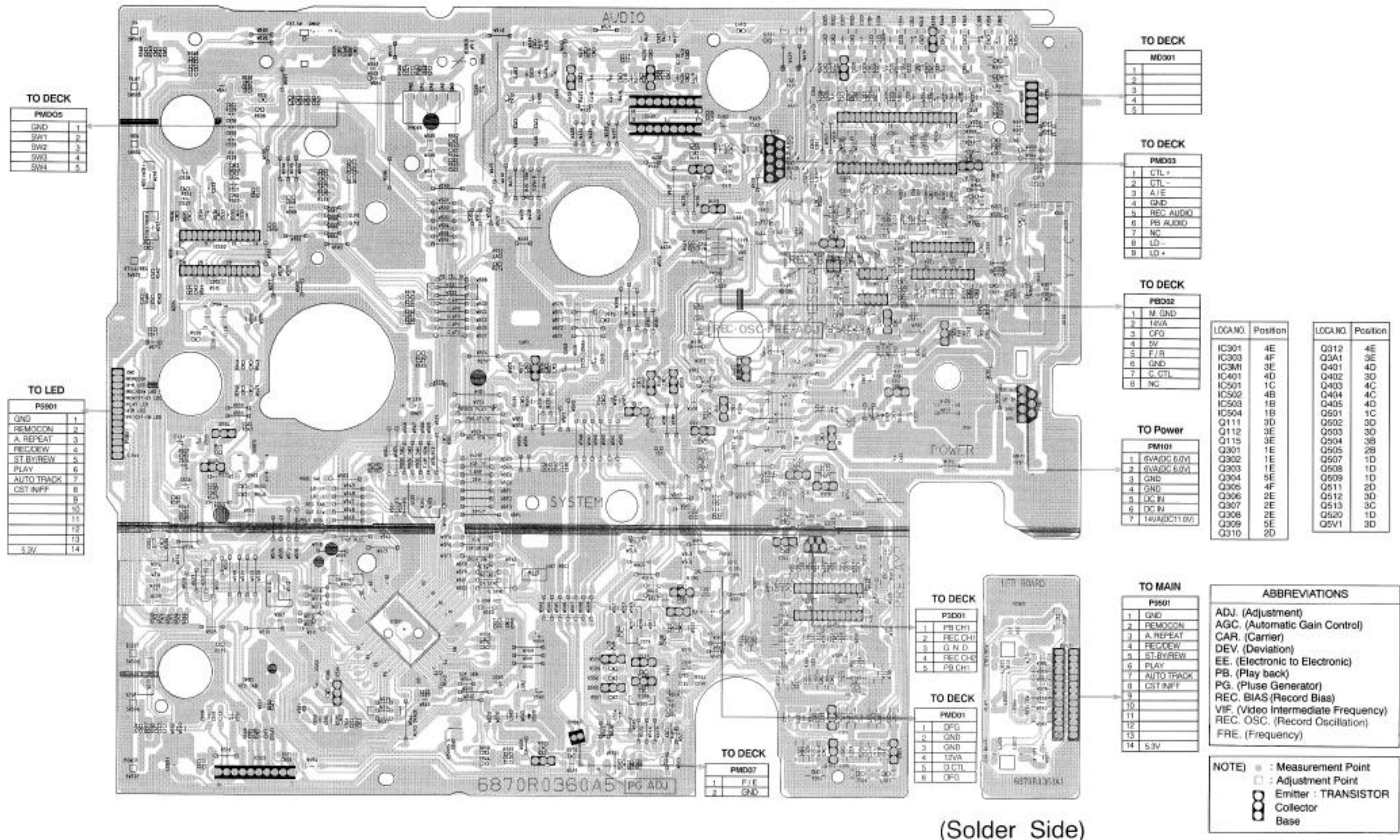
Fig. 4

Table 2: Leakage current ratings for selected areas

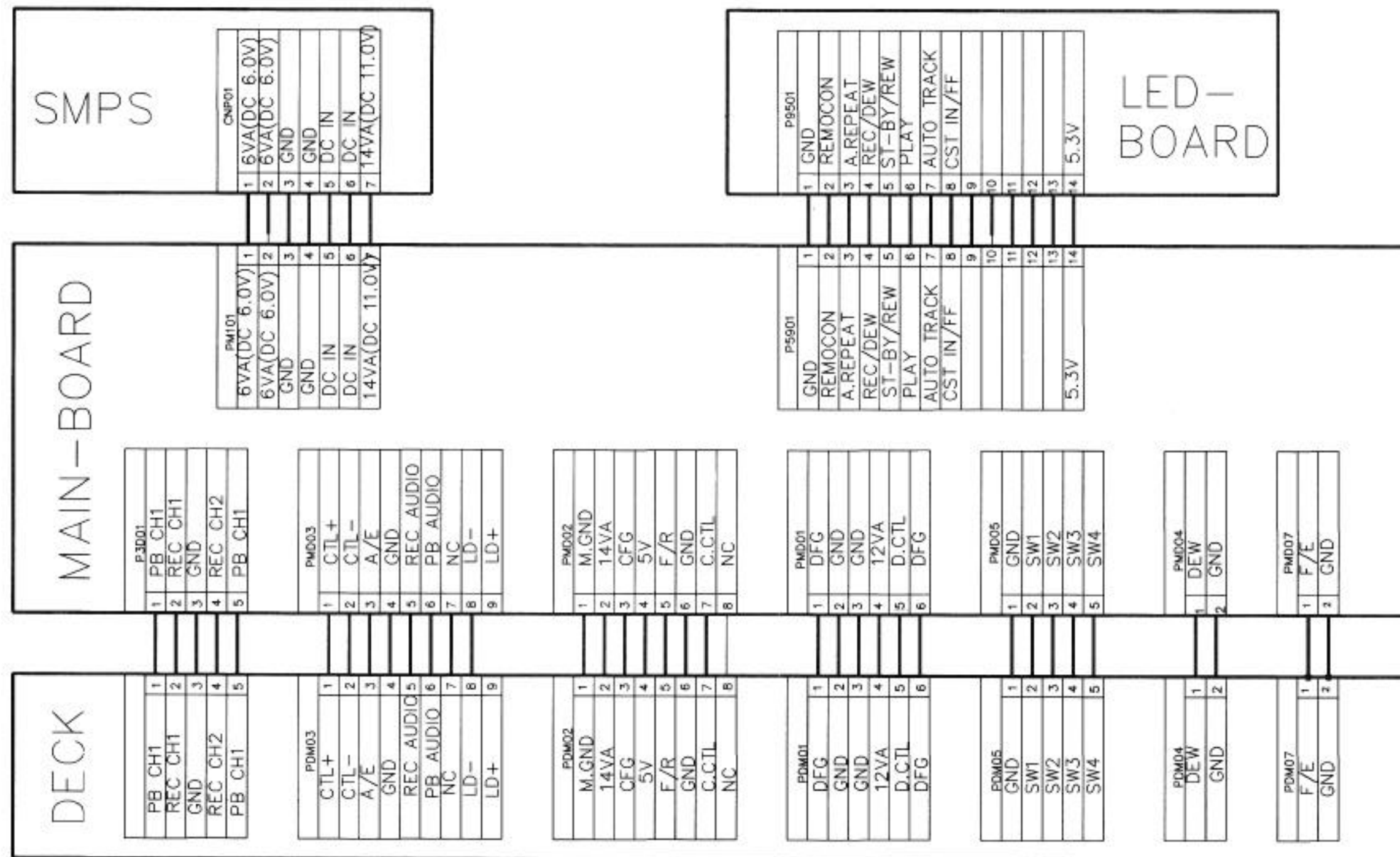
AC Line Voltage	Region	Load Z	Leakage Current(i)	Earth Ground (B) to:
100 to 130 V	Europe	2k Ω	$i \leq 0.7\text{m A peak}$ $i \leq 2\text{m A dc}$	Antenna earth terminals
200 to 240 V	Australia	50k Ω	$i \leq 0.7\text{m A peak}$ $i \leq 2\text{m A dc}$	Other terminals

Note. This table is unofficial and for reference only. Be sure to confirm the precise values for your particular country and locality.

2. Main/LED P.C.Board



5. Connection Diagram



'95.07.06 DWI-530A

BLOCK DIAGRAMS

1. Power (SMPS) Block Diagram

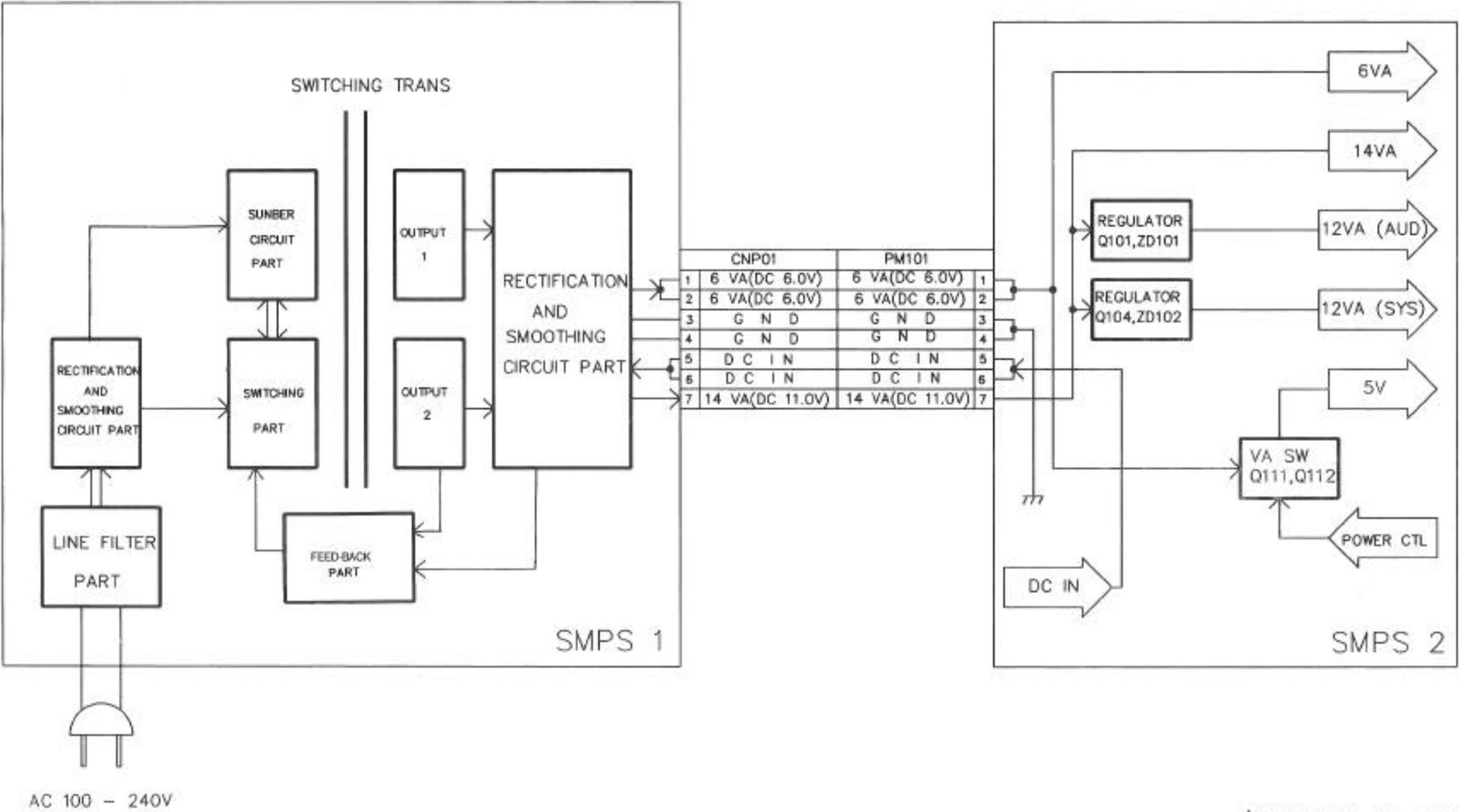
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4

3

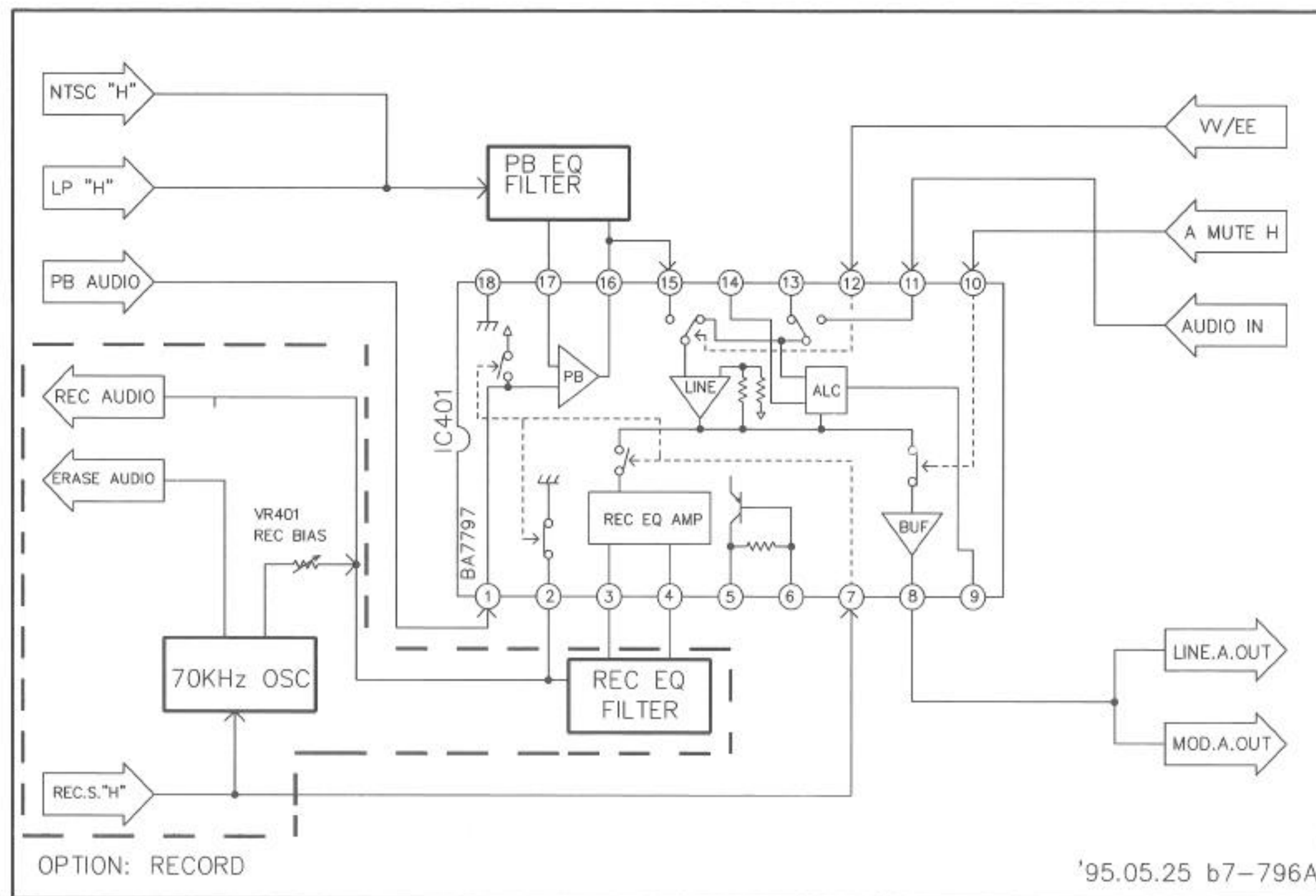
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1

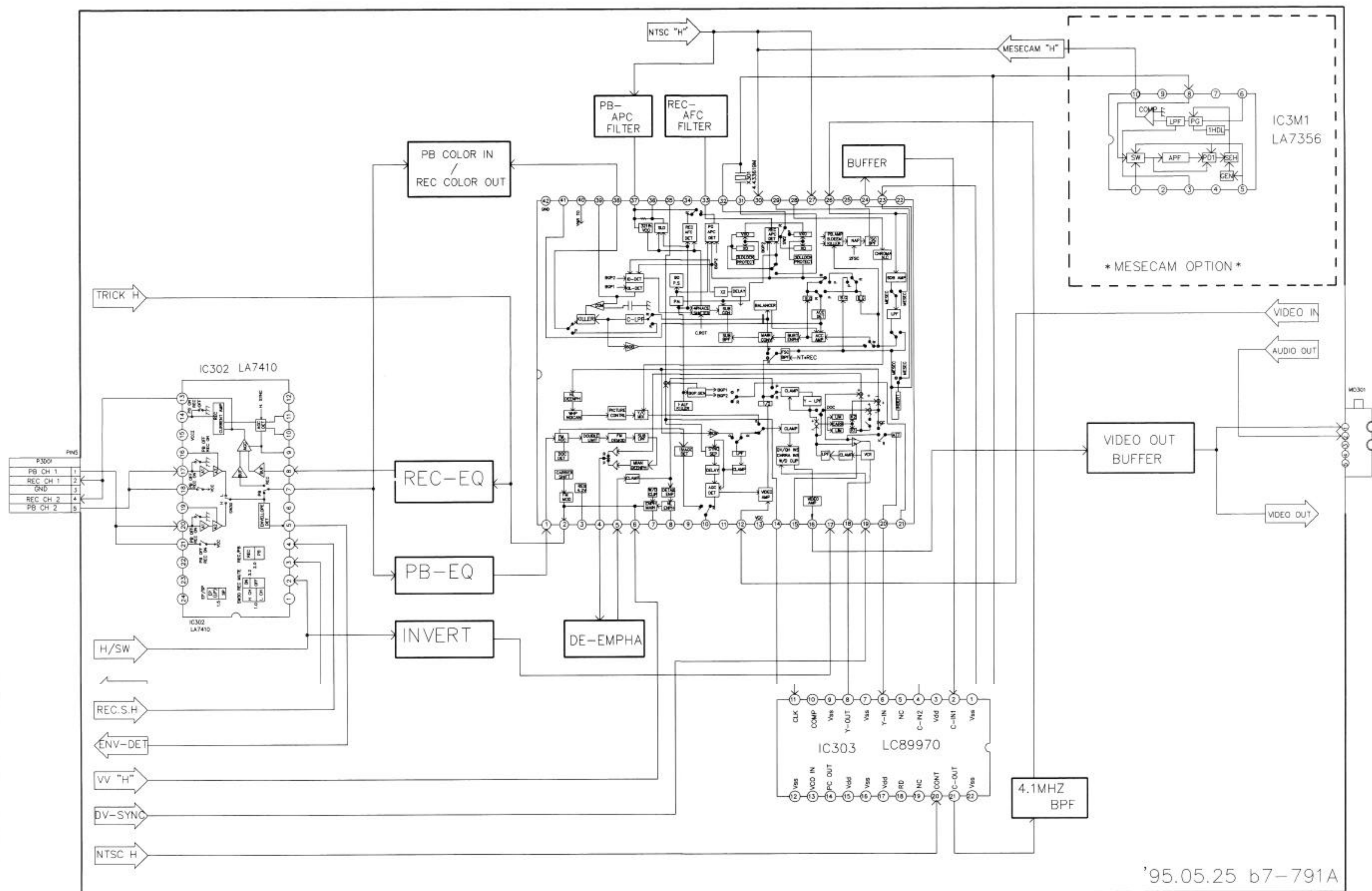


'95.07.06 B7-790A

2. Audio Block Diagram

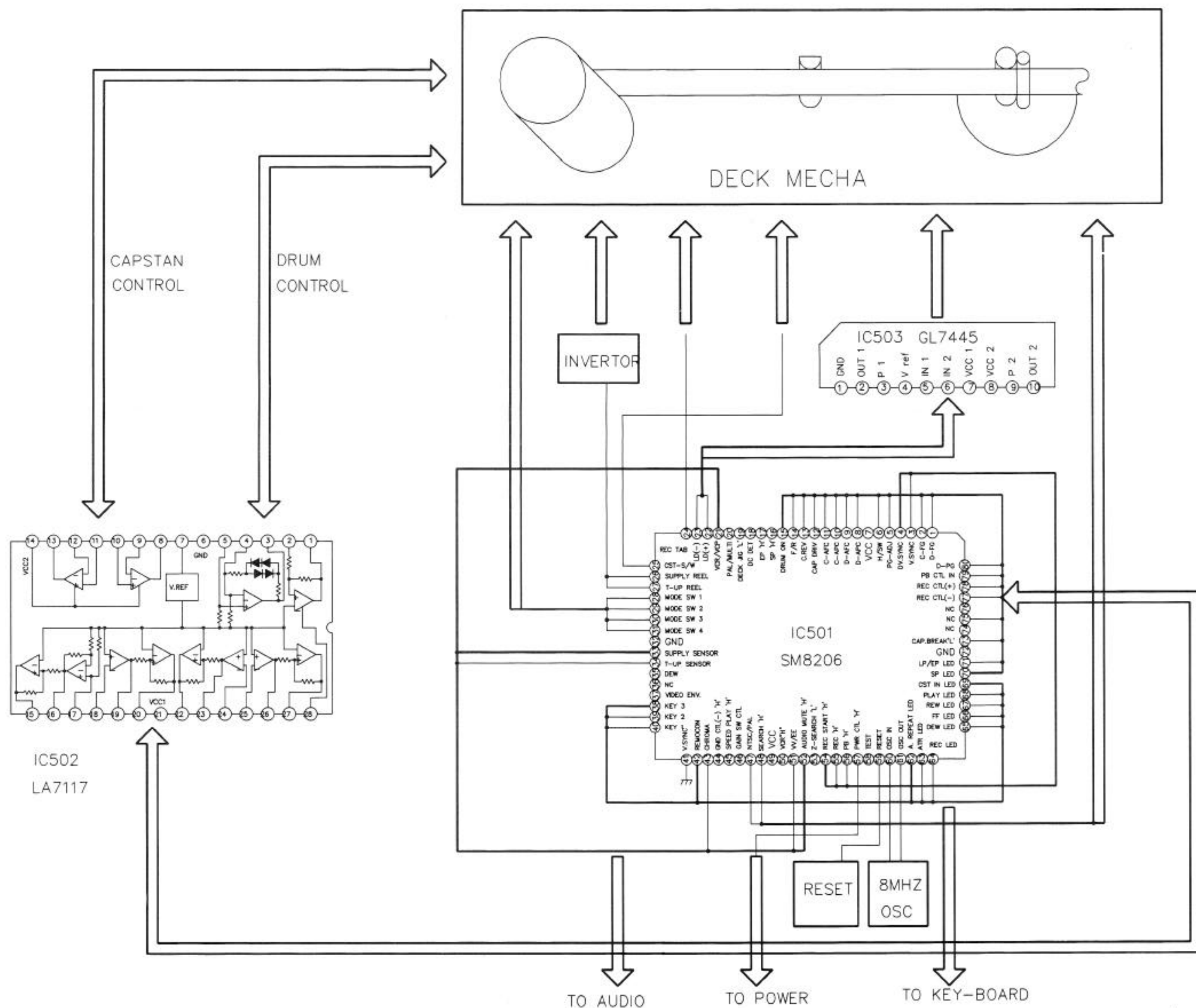


4. Y/C Block Diagram



'95.05.25 b7-791A

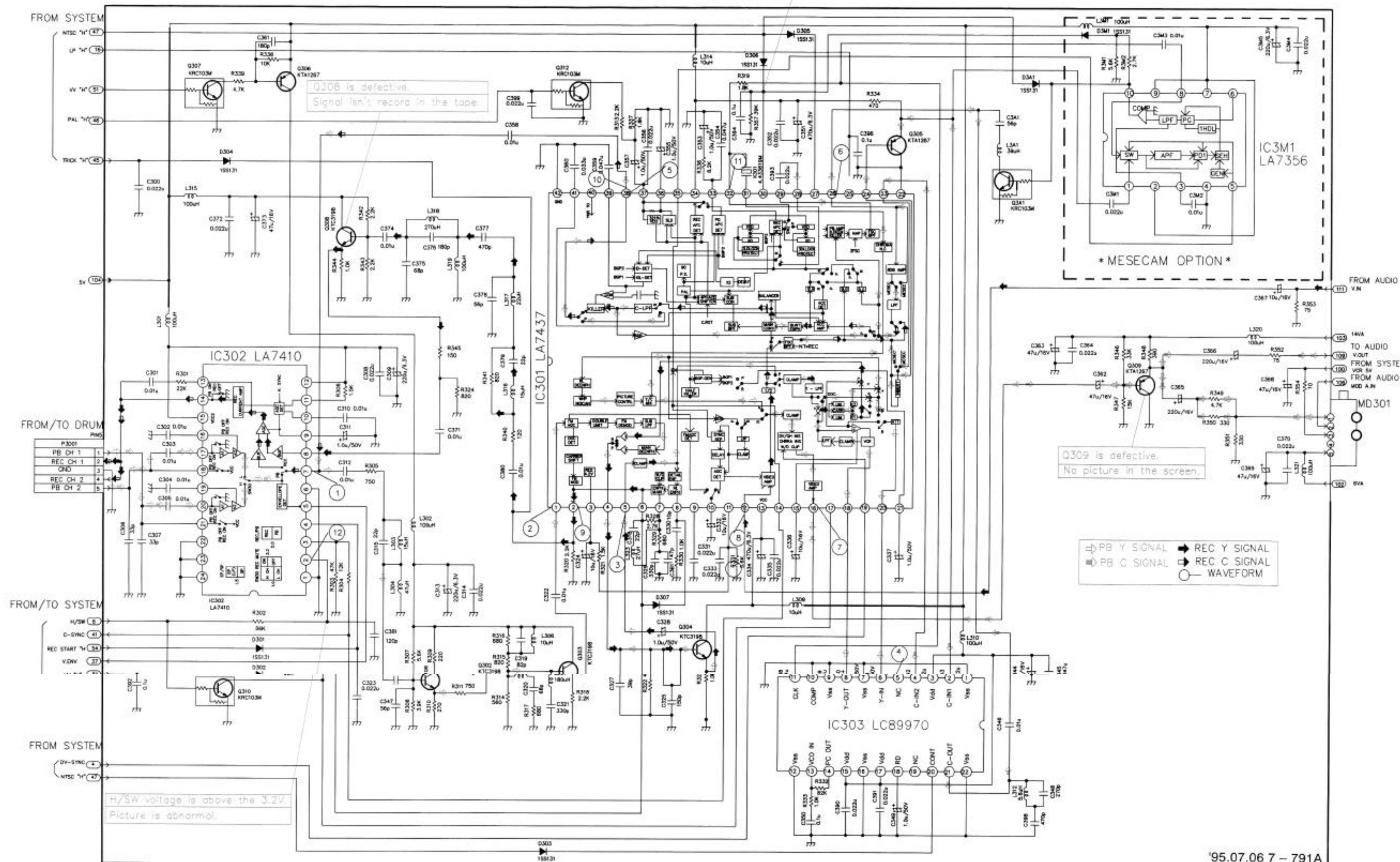
3. Servo/Syscon Block Diagram



'95.07.06 b7-792A

A vertical scale with horizontal tick marks at each integer from 1 to 11. The numbers 1, 2, 3, 5, 6, 7, 8, 9, 10, and 11 are printed to the left of the corresponding tick marks. There is no tick mark or label for the value 4.

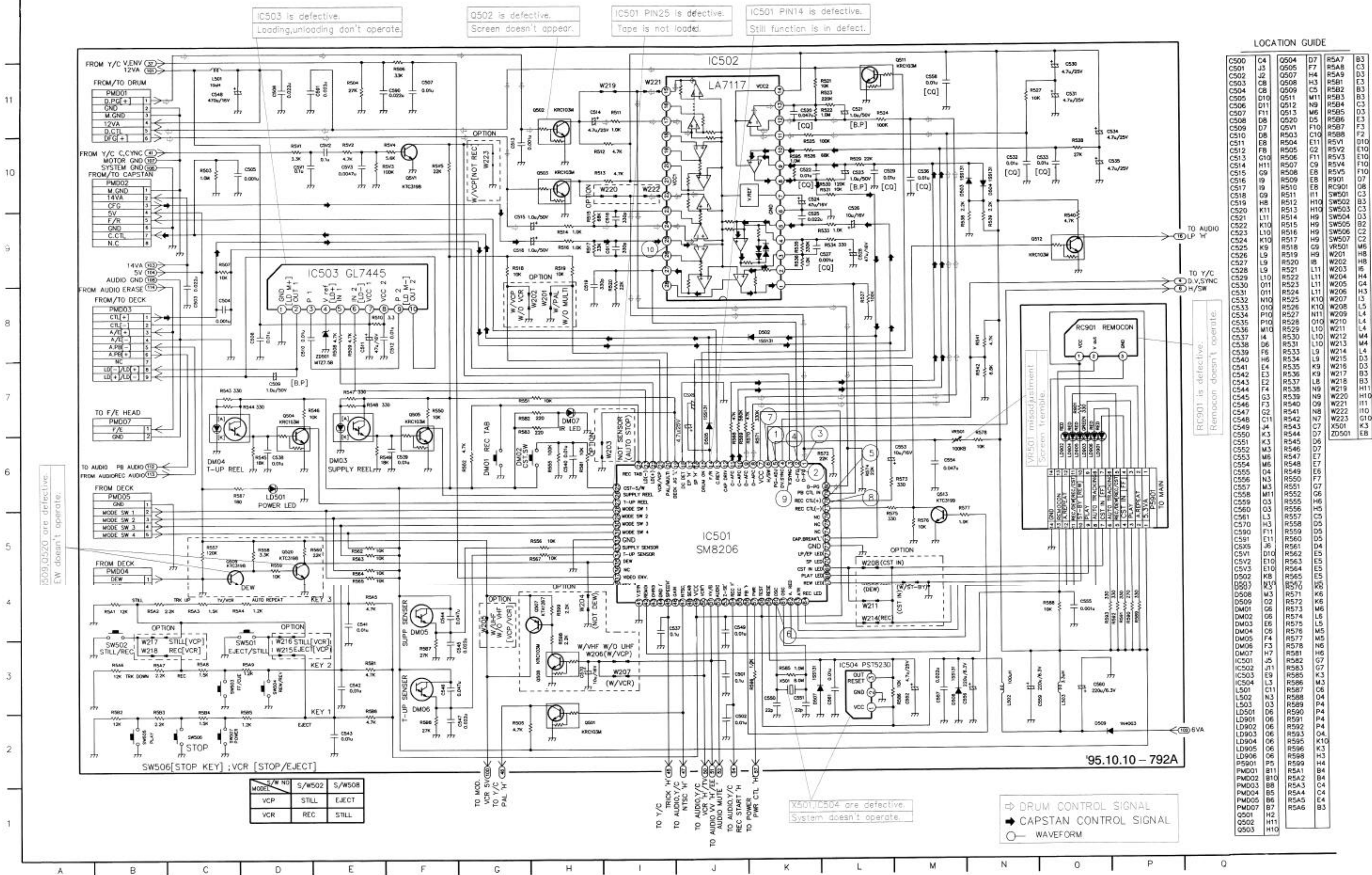
Reasonable voltage is below:
NTSC mode = more than 3.5V
MESECAM = 2.0 - 3.5V
PAL mode = 1.5V



LOCATION GUIDE			
C300	B10	D3A1	M11
C301	B8	D3M1	M11
C302	C7	IC301	F10
C303	C7	IC302	C5
C304	C6	IC303	J10
C305	C6	IC3M1	O3
C306	B6	L301	C8
C307	B6	L302	F6
C308	E8	L303	E6
C309	E8	L304	E5
C310	E7	L305	F4
C311	E7	L306	G5
C312	E7	L307	G4
C313	F5	L308	G4
C314	F5	L309	J5
C315	E6	L310	L5
C316	E4	L312	M3
C317	F4	L314	I11
C318	H6	L315	C10
C319	G4	L316	G7
C320	G4	L317	G8
C321	G4	L318	F9
C322	G5	L319	F8
C323	E4	L320	O8
C324	G5	L321	P7
C325	H4	L322	C4
C327	H4	L323	H6
C328	H5	L310	L10
C329	H5	L3M1	M12
C330	B6	MD301	Q7
C331	I5	P3D01	A7
C332	I6	Q301	F4
C333	I5	Q302	F4
C334	I5	Q303	H4
C335	J5	Q304	I5
C336	J6	Q306	K10
C337	K5	Q307	D11
C338	J4	Q307	C11
C339	J4	Q308	N9
C340	K4	Q309	E8
C341	K4	Q310	O4
C342	K4	Q312	G11
C343	L4	Q3A1	L10
C344	M4	R302	C8
C345	M4	R303	O5
C346	L3	R303	E5
C347	E4	R304	E5
C348	M3	R305	E7
C349	K2	R306	E7
C350	J2	R307	E4
C351	J10	R308	F4
C352	J10	R309	F4
C353	I10	R310	F4
C354	I10	R311	F4
C355	I10	R312	F4
C356	H10	R313	H10
C357	H10	R314	F4
C358	G10	R315	F4
C359	H10	R316	F5
C360	G10	R317	G3
C361	D11	R318	G4
C362	M8	R319	I11
C363	M8	R320	G5
C364	M8	R321	H5
C365	N7	R322	H4
C366	O8	R324	F7
C367	O8	R325	I4
C368	O8	R326	H4
C369	O7	R328	H6
C370	P7	R329	H6
C371	P7	R330	J2
C372	P7	R331	J2
C373	E9	R334	K11
C374	E9	R336	K11
C375	F9	R337	H10
C376	F9	R337	H10
C377	F9	R338	D11
C378	F8	R339	C11
C379	G8	R340	C7
C380	G6	R341	F7
C381	E5	R342	E9
C382	K2	R343	E9
C383	K2	R344	E9
C384	B4	R345	F8
C385	J0	R346	N8
C386	I10	R347	N7
C387	I10	R348	N8
C388	M2	R349	O7
C389	G1	R350	O7
C390	L11	R351	O7
C391	H5	R352	P8
C392	N10	R353	P8
C393	N11	R354	P7
C394	P11	R357	J10
C395	M5	R3M1	N11
C396	D5	R3M2	N11
C397	D4	X301	J10
C398	G2		
C399	C10		
C400	J11		
C401	I11		
C402	H5		

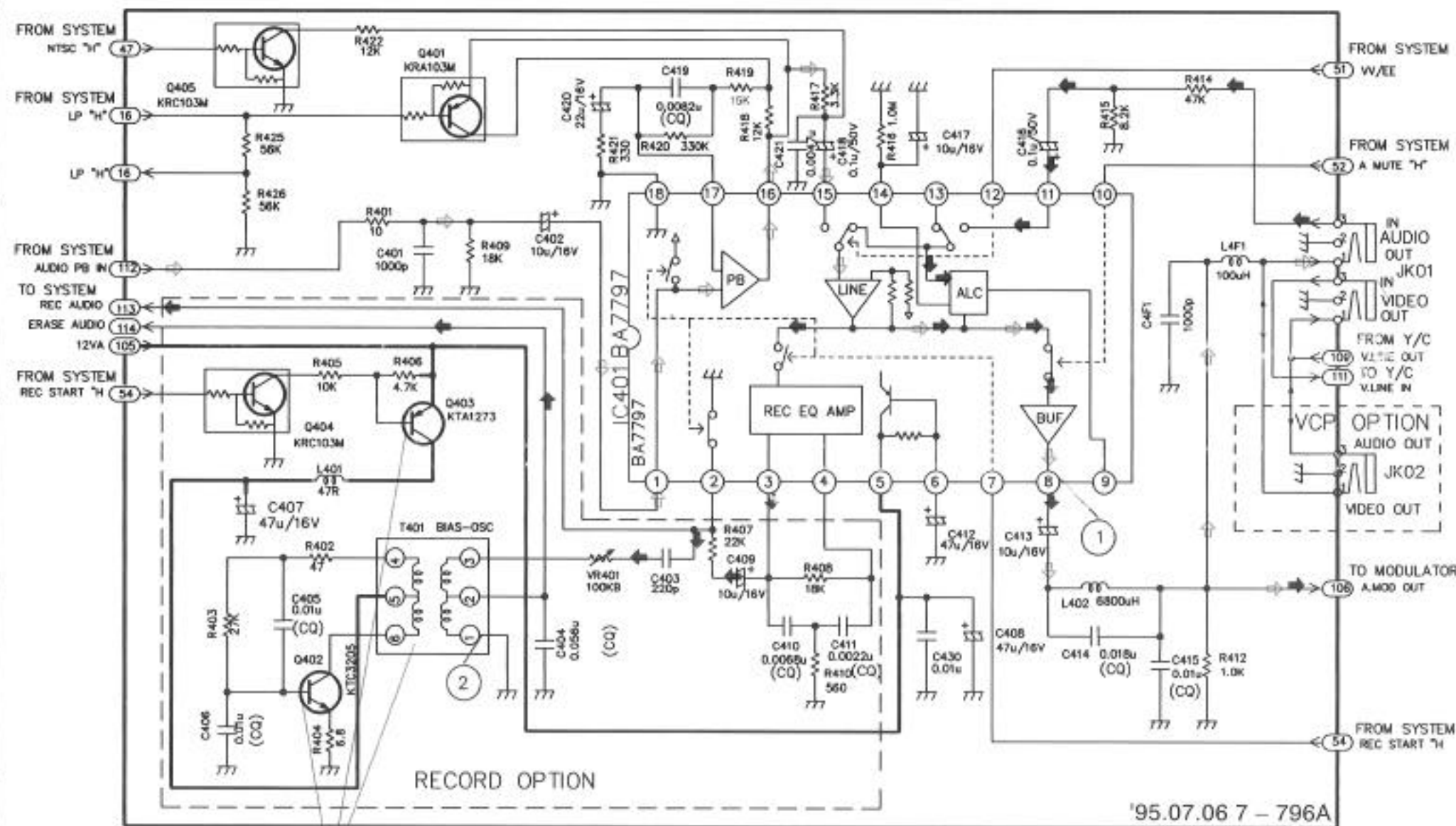
'95.07.06 7 - 791A

3. Servo/Syscon Circuit Diagram



2. Audio Circuit Diagram

LOCATION GUIDE



Q402, Q403, T401 are defective.
1) No recorded signal.

⇨ PLAYBACK AUDIO SIGNAL
⇨ RECORD AUDIO SIGNAL
○ WAVEFORM

R409	C4
R410	E2
R412	G2
R414	G5
R415	F5
R416	E5
R417	E5
R418	E5
R419	D5
R420	D5
R421	D5
R422	B5
R425	B5
R426	B5
T401	C3
VR401	D3
C401	C4
C402	C4
C403	D3
C404	D2
C405	B2
C406	B2
C407	B3
C408	F2
C409	D3
C410	E2
C411	E2
C412	F3
C413	F3
C414	F2
C415	G2
C416	F5
C417	F5
C418	E5
C419	D5
C420	D5
C421	E5
C430	F2
C4F1	G4
IC401	D4
JK01	H4
JK02	H3
L401	B3
L402	F2
L4F1	G4
Q401	C5
Q402	B2
Q403	C3
Q404	B3
Q405	A5
R401	B4
R402	B3
R403	B2
R404	B2
R405	B4
R406	C4
R407	D3
R408	E3