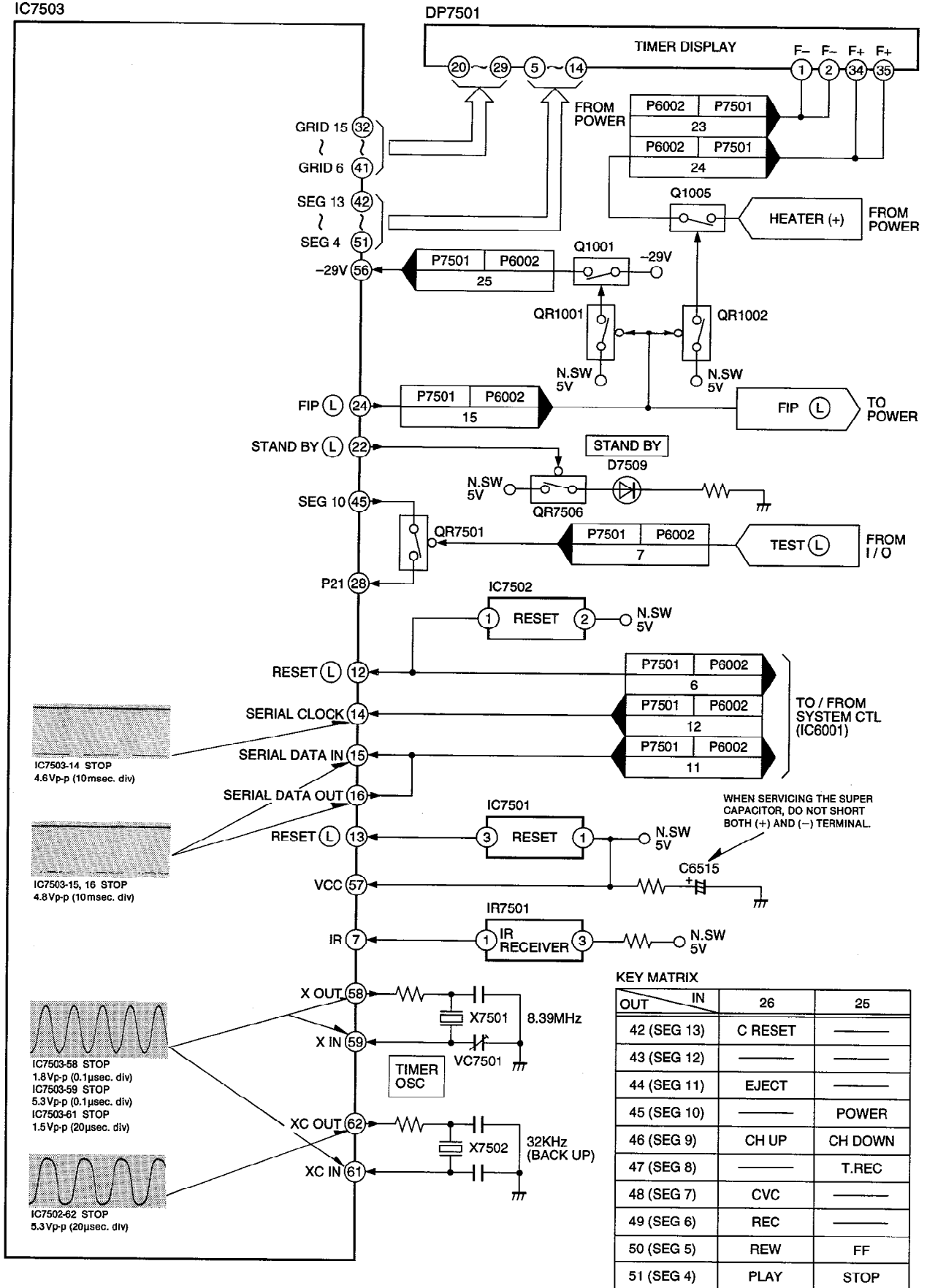
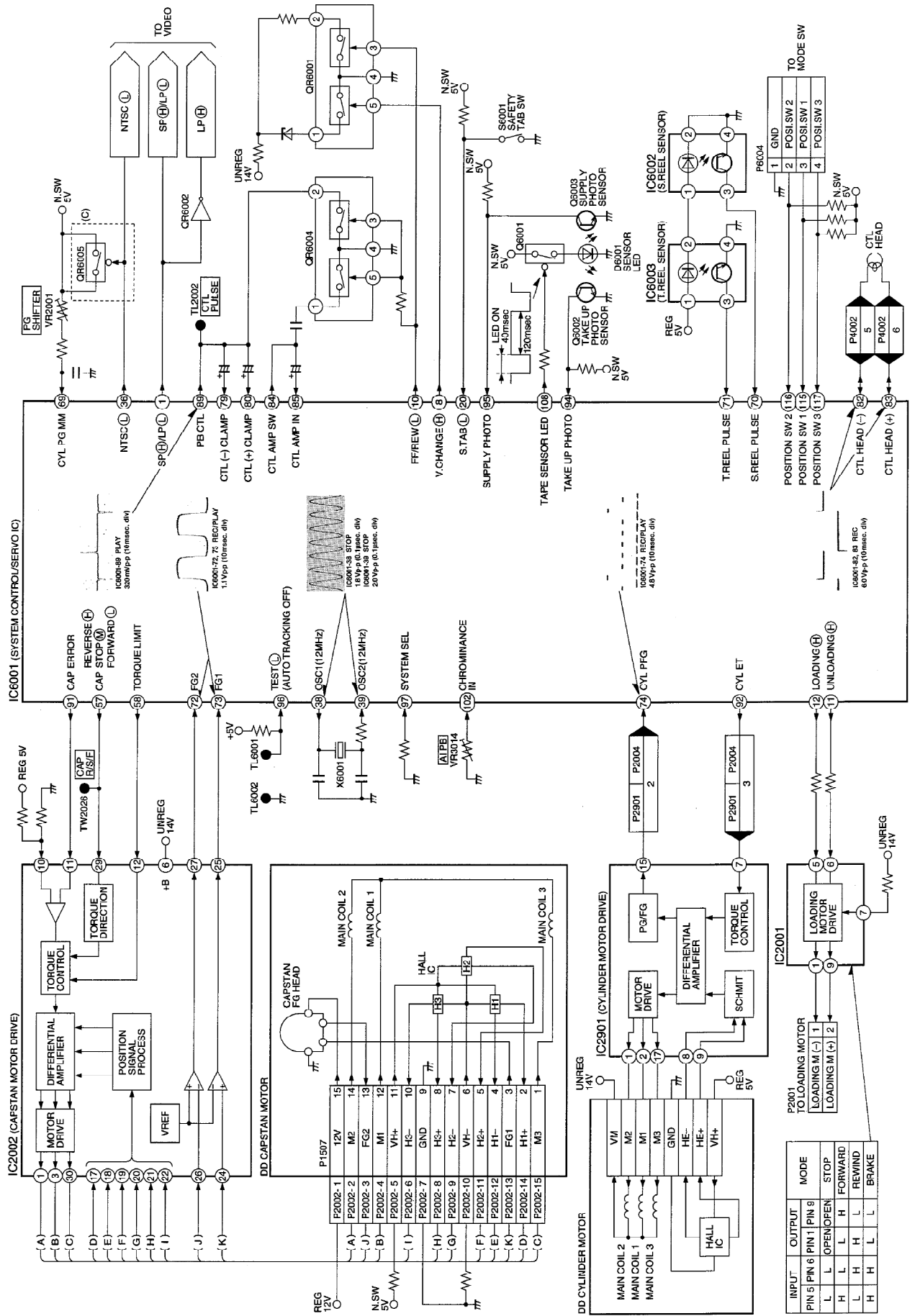


3-2. TIMER BLOCK DIAGRAM

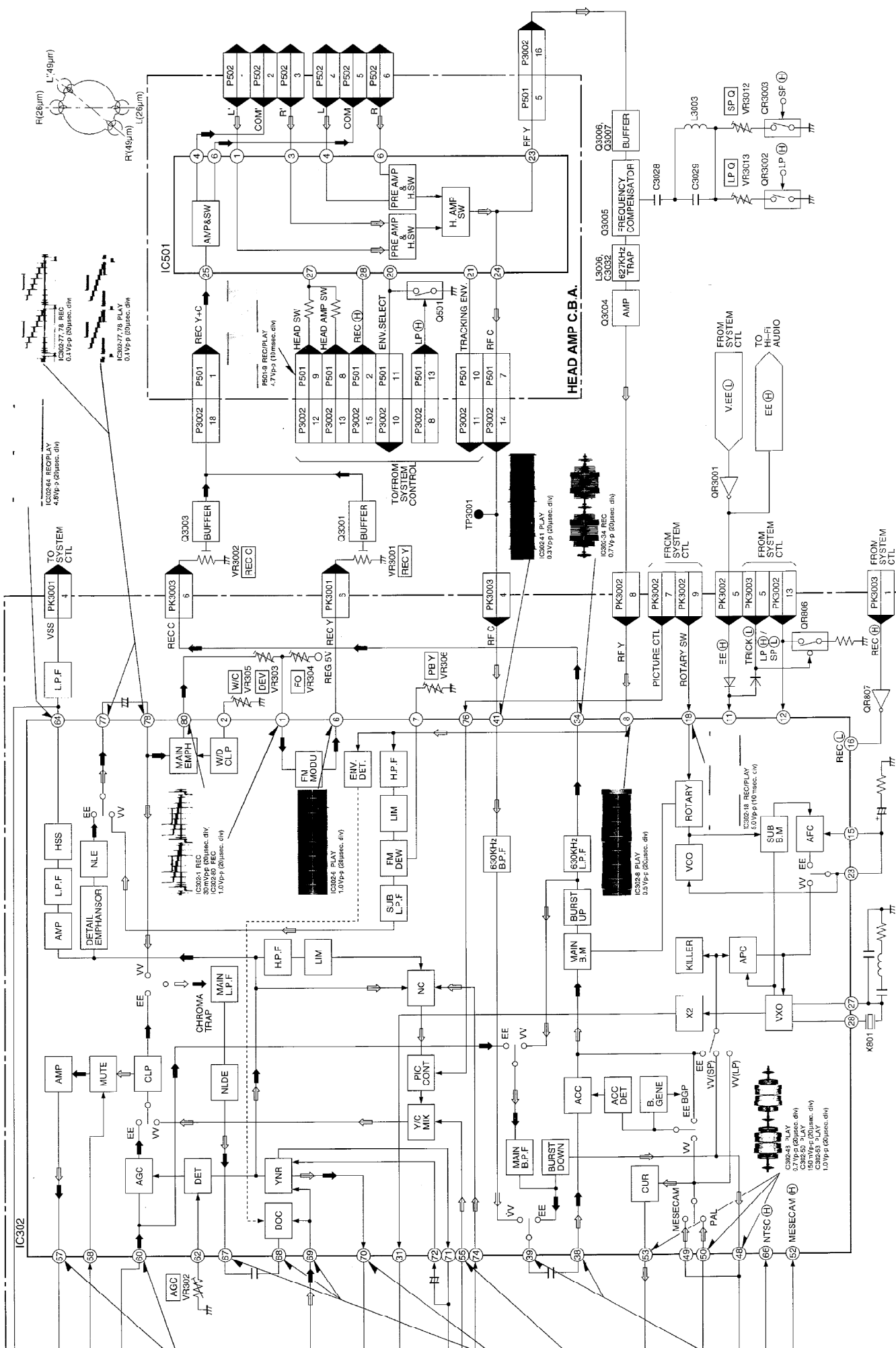
IC7503



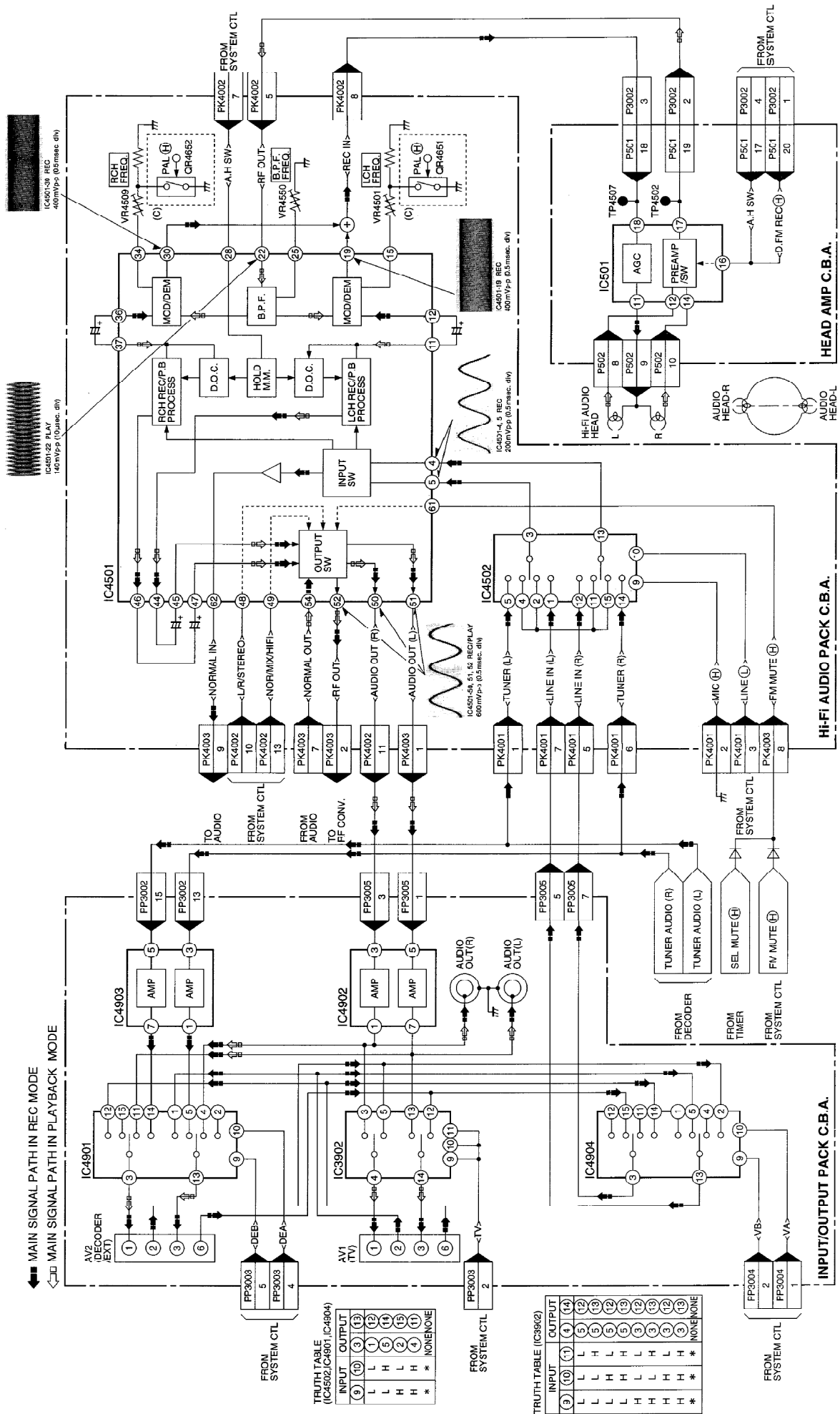
3-3. SYSTEM CONTROL & SERVO BLOCK DIAGRAM



[illegible]

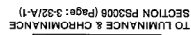


3-5. HI-FI AUDIO BLOCK DIAGRAM



CAUTION

TOP



NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE.

NOTE 1. WHEN MEASURING THE VOLTAGE OR WAVEFORM ON THE POWER TRANSFORMER CIRCUIT, SET THE GND TERMINAL OF MEASURING POINT AS FOLLOWS.

SECONDARY SIDE...

NOTE 2. THE DC VOLTAGE INDICATED IN PRIMARY SIDE IS SHOWN THE VOLTAGE WHEN INPUT AC IS 220V.

CAPSTAN SERVO SPEED LOOP
CYLINDER SERVO SPEED LOOP
CYLINDER SERVO PHASE LOOP



MOTOR DRIVE ICs DC VOLTAGE CHART (SP MODE)

REF. NO.	IC2001										IC2002									
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
STOP	0.5	14.4	14.4	0	0	0	7.3	9.2	0.5	0										
PLAY	0.2	0	14.0	0	0	0	7.3	8.9	0.2	0										
REC	0.6	14.0	14.0	0	0	0	7.3	9.0	0.7	0										
F.F	0.4	14.0	14.0	0	0	0	14.0	8.9	0.4	0										
REW	0.4	14.0	14.0	0	0	0	14.0	8.9	0.4	0										

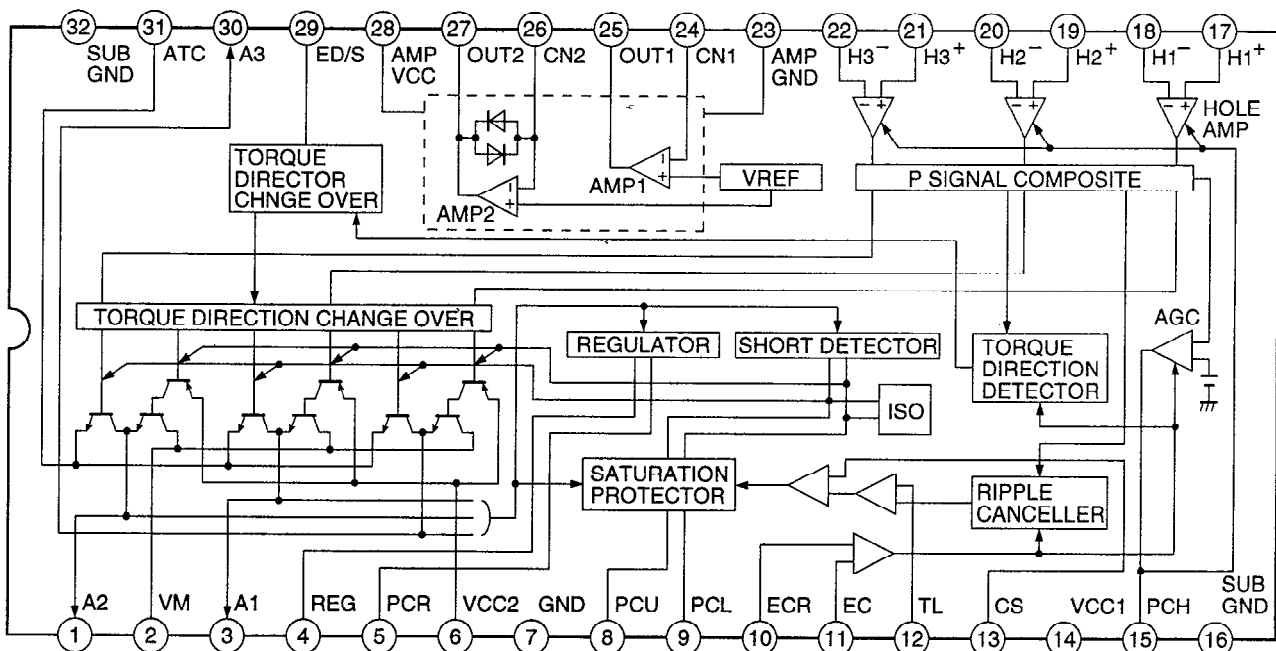
REF. NO.	IC2001										IC2002									
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
STOP	1.8	4.3	1.8	13.7	1.1	14.3	0	0	0.8	2.7	1.3	0	0	4.9	1.4	0	2.2	2.1	2.1	2.2
PLAY	1.6	4.2	1.5	12.7	1.7	14.0	0	0.6	0.6	2.7	2.4	0.3	0	4.9	1.4	0	2.2	2.2	2.2	2.2
REC	1.5	4.2	1.5	12.7	1.7	14.0	0	0.6	0.6	2.7	2.4	0.3	0	4.9	1.4	0	2.2	2.2	2.2	2.1
F.F	6.7	13.8	6.6	5.9	11.9	13.9	0	0.8	0.6	2.7	2.0	0.4	0.1	4.9	1.4	0	2.2	2.2	2.2	2.2
REW	6.7	13.9	6.7	7.1	12.0	13.9	0	0.7	0.6	2.7	2.2	0.4	0	4.9	1.4	0	2.2	2.2	2.2	2.2

REF. NO.	IC2001										IC2002									
MODE	21	22	23	24	25	26	27	28	29	30	31	32								
STOP	2.2	2.2	0	6.3	6.2	6.3	6.2	12.2	1.9	1.8	0	0								
PLAY	2.2	2.2	0	6.3	6.2	6.2	6.2	12.2	0	1.5	0	0								
REC	2.2	2.2	0	6.3	6.2	6.2	6.2	12.2	0	1.4	0	0								
F.F	2.2	2.2	0	6.2	6.2	6.2	6.2	12.2	0	4.6	0	0								
REW	2.2	2.2	0	6.2	6.2	6.2	6.2	12.2	4.8	6.7	0	0								

MOTOR DRIVE TR.s DC VOLTAGE CHART (SP MODE)

REF. NO.	QR6001																	
MODE	1	2	3	4	5													
STOP	0	0	4.7	0	4.7													
PLAY	0	0	4.7	0	4.7													
REC	0	0	4.7	0	4.7													
F.F	7.3	7.3	0	0	0													
REW	7.3	7.3	0	0	0													

IC2002 (BA6871S)



SYSTEM CONTROL & SERVO ICs DC VOLTAGE CHART (SP MODE)

REF. NO.	IC6001																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
STOP	4.8	0	0	0	0.1	4.8	0	4.8	0	4.7	0	0	0	0	4.8	0	0	4.8	0	0
PLAY	4.8	0	0	0	4.8	4.8	0	4.7	0	4.7	0	0	0	0	4.8	0	0	0	4.7	0
REC	4.8	0	0	0	0.1	4.8	0	4.8	0	4.7	0	0	4.7	4.8	4.8	4.2	0	4.7	0	0
F.F	4.8	0	0	0	0.1	4.8	0	0	0	0	0	0	0	0	4.8	0	0	4.8	0	0
REW	4.8	0	0	0	0.1	4.8	0	0	0	0	0	0	0	0	4.8	0	0	4.8	0	0
REF. NO.	IC6001																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
STOP	5.0	0	0	4.8	4.8	0	0	4.8	0	4.8	0.1	0	0	4.8	4.8	4.8	4.8	2.1	2.3	4.5
PLAY	5.0	0	0	4.8	4.8	0	0	4.8	0	4.8	0.1	0	0	4.8	4.8	4.8	4.8	2.0	2.1	4.5
REC	5.0	0	0	4.8	4.8	0	0	4.8	0	0	4.8	0	0	4.8	4.8	4.8	4.8	2.0	2.3	4.5
F.F	5.0	0	0	4.8	4.8	0	0	4.8	0	4.8	0.1	0	0	4.8	4.8	4.8	3.6	2.0	2.3	4.5
REW	5.0	0	0	4.8	4.8	0	0	4.8	0	4.8	0.1	0	0	4.8	4.8	4.8	4.8	2.1	2.3	4.5
REF. NO.	IC6001																			
MODE	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
STOP	0	0	0	0	0	0	0	0	0	0	4.5	4.5	4.4	0	0	0	1.9	0	4.8	3.7
PLAY	0	0	0	0	0	0	0	0	0	2.4	4.5	4.5	4.4	0	0	0	0	4.8	2.4	2.3
REC	0	0	4.8	4.8	4.8	0	4.8	4.8	0	0	4.5	4.5	4.4	0	0	0	0	4.8	4.4	3.6
F.F	0	0	0	0	0	0	0	0	0	0	4.5	4.5	4.4	0	0	0	0	4.8	4.8	3.6
REW	0	0	0	0	0	0	0	0	0	0	4.5	4.5	4.4	0	0	0	4.8	4.8	4.8	3.6
REF. NO.	IC6001																			
MODE	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
STOP	0	4.8	0	0	4.9	0	2.3	0	4.9	0	5.1	2.4	2.4	4.8	0	0	2.4	2.4	2.3	2.5
PLAY	0	2.4	2.4	0	4.9	0	2.3	0	3.1	5.0	3.8	2.3	2.4	1.1	0	0	2.4	2.4	2.4	2.3
REC	0	2.4	2.4	0	4.8	0	2.3	0	3.1	5.0	4.0	2.3	2.4	1.1	0	0	2.4	2.4	2.2	2.5
F.F	0	2.4	0	0	2.8	0	2.3	0	2.8	2.3	2.3	2.3	2.3	1.1	0	0	2.4	2.4	2.6	2.2
REW	0	2.4	0	0	4.8	0	2.3	0	3.1	2.3	2.3	2.3	2.4	1.1	0	0	2.4	2.4	2.2	2.5
REF. NO.	IC6001																			
MODE	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
STOP	4.8	0	0	0	2.4	2.4	0	0	2.4	4.8	1.3	4.5	4.8	4.8	4.9	4.8	0	5.0	0	0
PLAY	4.8	0	0	0	2.4	2.4	0	0	2.4	4.8	2.4	2.4	4.8	4.5	4.9	4.8	0	5.0	0	0
REC	4.7	2.3	2.8	0	2.4	2.3	0	0	2.4	4.8	2.3	2.3	4.8	4.5	4.9	4.8	0	5.0	0	0
F.F	4.8	0	0	0	2.4	2.4	0	0	2.3	4.8	2.1	2.4	4.8	4.7	4.9	4.8	0	5.0	0	0
REW	4.8	0	0	0	2.4	2.4	0	0	2.3	4.8	2.1	2.3	4.8	4.8	4.8	4.8	0	5.0	0	0
REF. NO.	IC6001																			
MODE	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120
STOP	2.5	2.6	4.9	2.4	1.5	4.9	0	4.8	0	0	0	4.8	0	4.8	4.9	0	4.9	0	0	4.8
PLAY	2.5	2.6	4.9	2.4	2.6	4.9	4.8	0.1	0	0	0	4.8	0	4.8	0	0	4.8	4.8	0	4.8
REC	2.5	2.6	4.9	2.4	0.7	4.9	0	0.1	0	0	0	4.8	0	4.8	0	0	4.9	0	0	4.8
F.F	2.5	2.6	4.9	2.4	1.9	4.9	0	0.1	0	0	0	4.8	0	4.8	0	4.9	4.9	0	0	4.8
REW	2.5	2.6	4.8	2.4	1.5	4.9	0	0.1	0	0	0	4.8	0	4.8	0	4.9	4.9	0	0	4.8
REF. NO.	IC6001																			
MODE	121	122	123	124																
STOP	4.8	0	0	4.8																
PLAY	4.8	0	0	4.8																
REC	4.8	0	0	4.8																
F.F	4.8	0	0	4.8																
REW	4.8	0	0	4.8																
REF. NO.	IC6002										IC6003									
MODE	1	2	3	4							1	2	3	4						
STOP	1.1	0	0	0							2.3	1.1	0	0						
PLAY	1.1	0	5.0	0							2.3	1.1	3.4	0						
REC	1.1	0	5.0	0							2.3	1.1	4.0	0						
F.F	1.1	0	2.3	0							2.3	1.1	2.3	0						
REW	1.1	0	2.3	0							2.3	1.1	2.3	0						

SYSTEM CONTROL & SERVO TR.s DC VOLTAGE CHART (SP MODE)

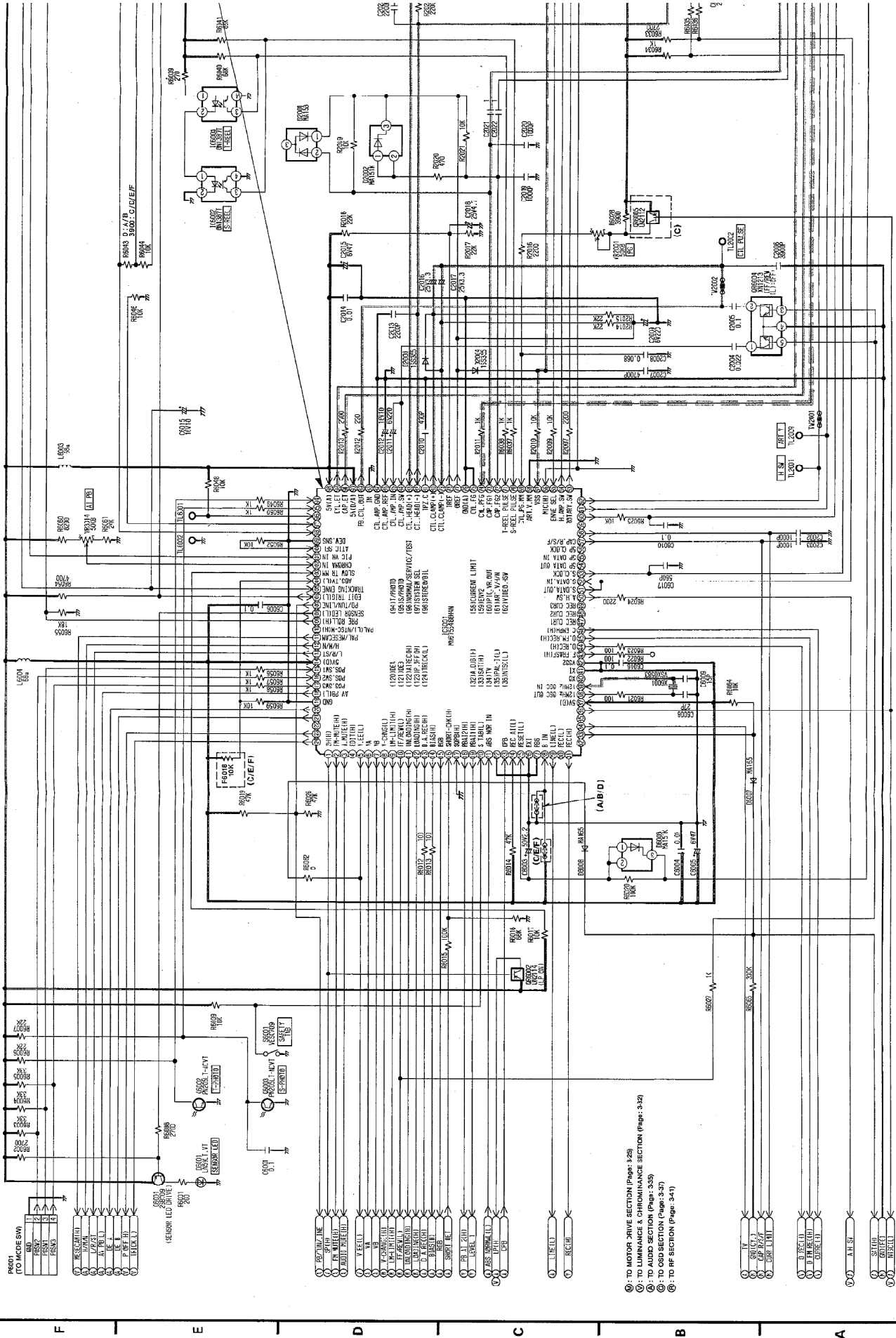
REF. NO.	Q6001			Q6002			Q6003													
MODE	E	C	B	E	C		E	C												
STOP	4.9	-0.8	4.9	0	4.6		0	4.9												
PLAY	4.9	4.8	4.1	0	4.6		0	4.9												
REC	4.9	4.8	4.1	0	4.6		0	4.9												
F.F	4.9	4.8	4.1	0	4.6		0	4.8												
REW	4.9	4.8	4.1	0	4.6		0	4.8												

3-8. SYSTEM CONTROL & SERVO SECTION IN MAIN SCHEMATIC DIAGRAM

CAPSTAN SERVO PHASE LOOP

CAPSTAN SERVO SPEED LOOP

CYLINDER SE



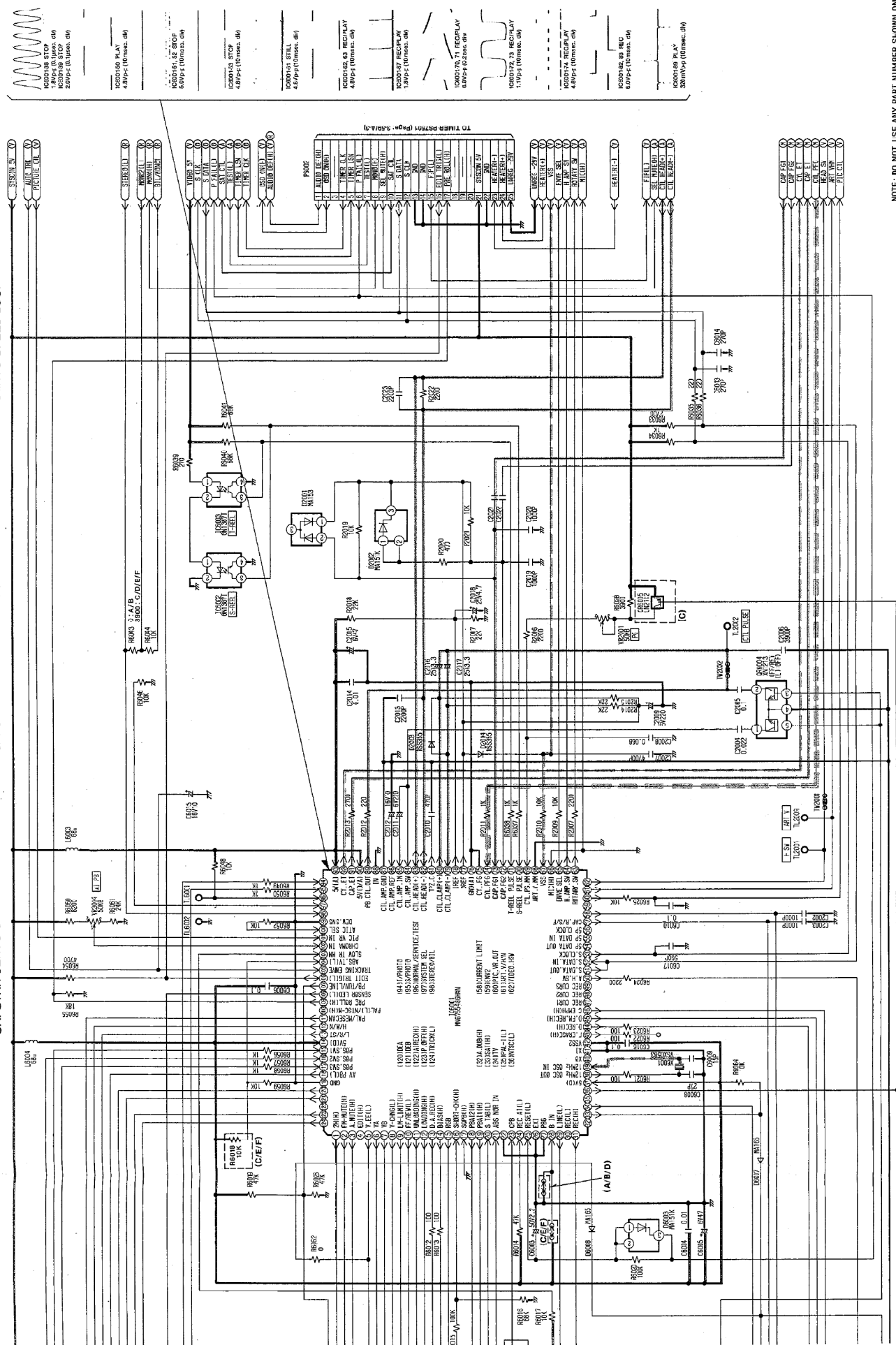
(A) TO MOTOR DRIVE SECTION (Page 3-29)
 (B) TO INTERFERENCE AND GROUNDING SECTION (Page 3-29)
 (C) TO GROUND SECTION (Page 3-29)
 (D) TO RF SECTION (Page 3-41)

CYLINDER SERVO PHASE LOOP

CAPSTAN SERVO PHASE LOOP

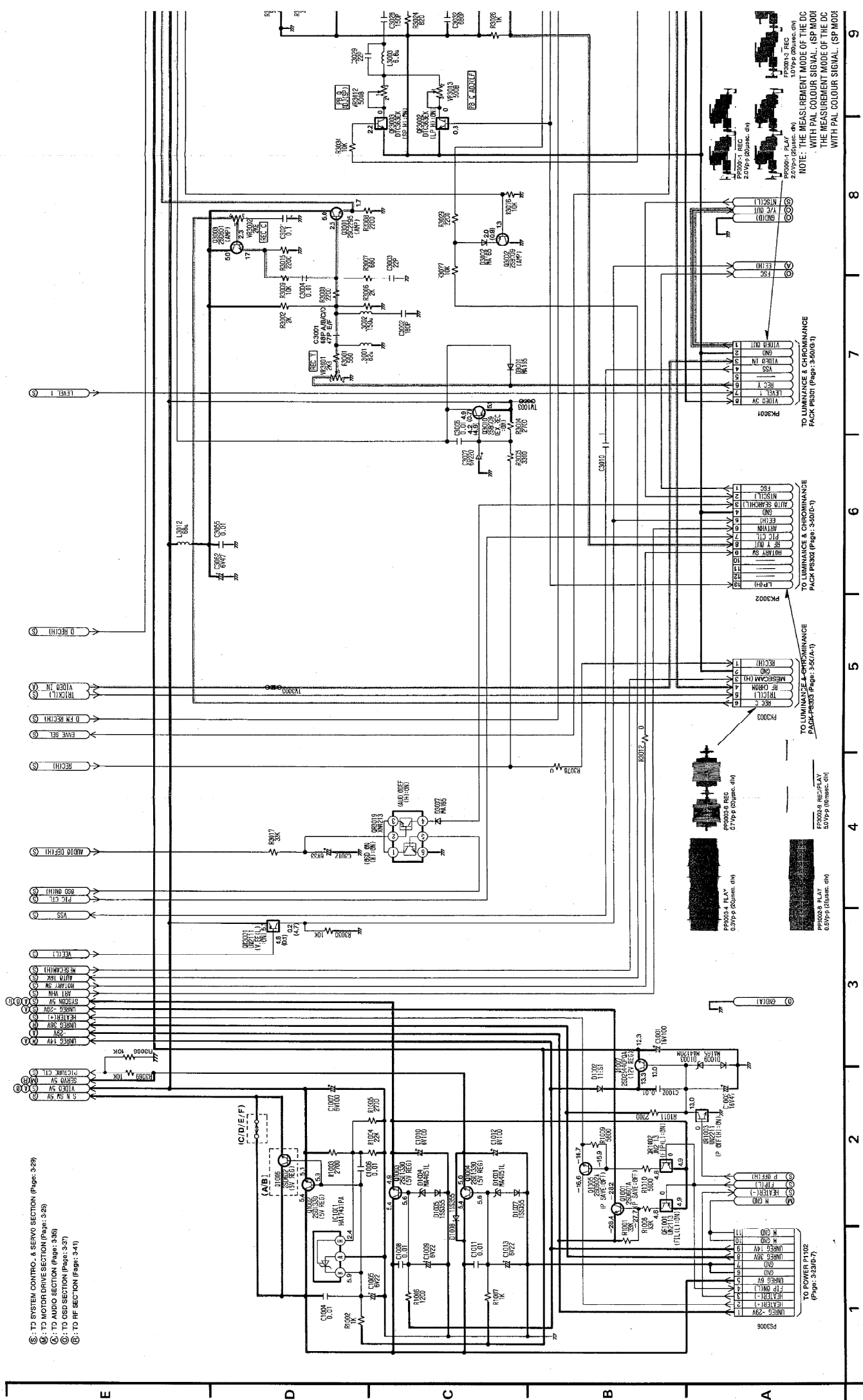
CYLINDER SERVO SPEED LOOP

CYLINDER SERVO PHASE LOOP



NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

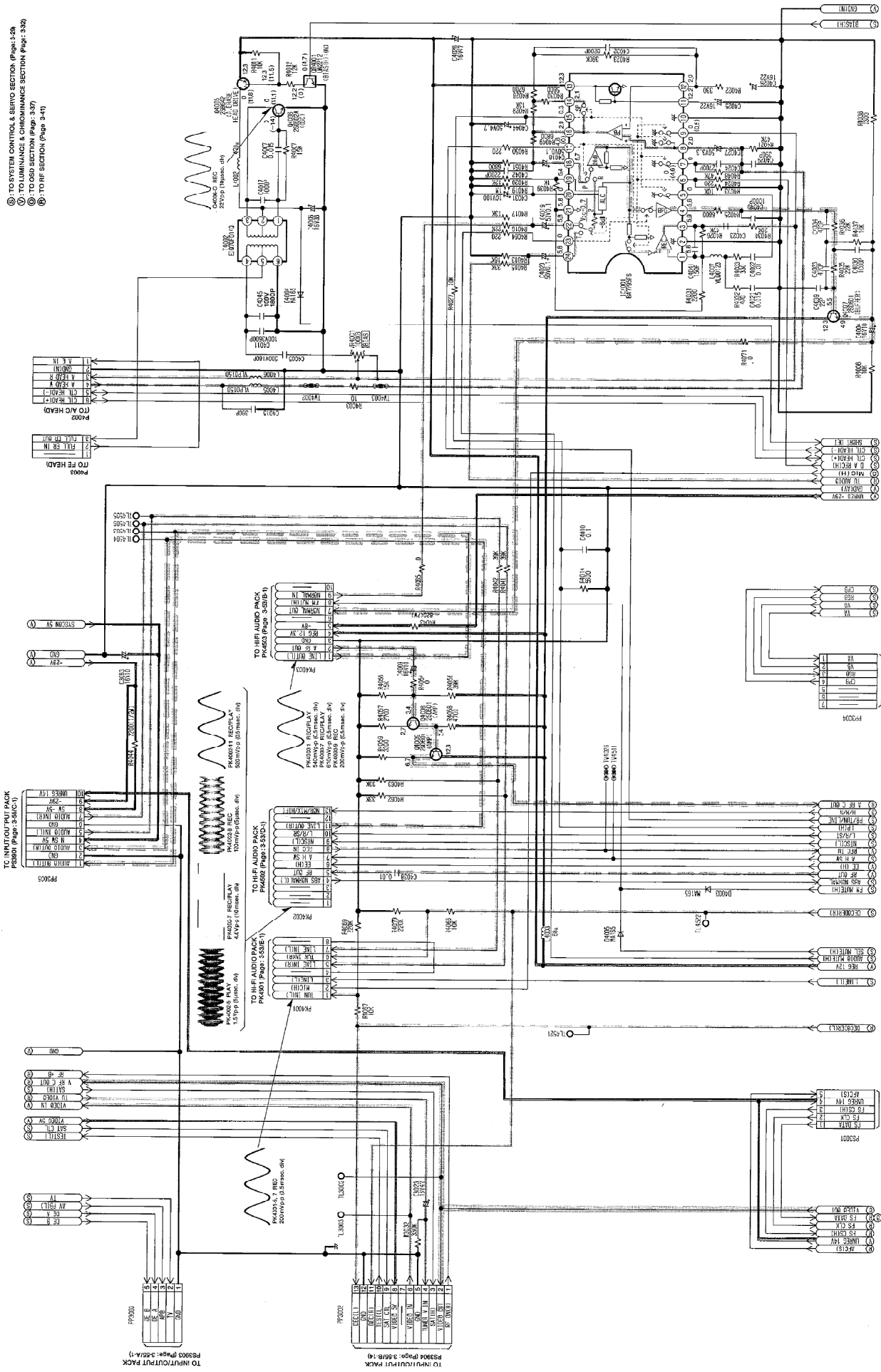
3-9. LUMINANCE & CHROMINANCE SECTION IN MAIN SCHEMATIC DIAGRAM



3-10. AUDIO SECTION IN MAIN SCHEMATIC DIAGRAM

VIDEO MAIN SIGNAL PATH IN REC MODE

AUDIO MAIN SIGNAL PATH IN REC MODE
AUDIO MAIN SIGNAL PATH IN PLAYBACK MODE



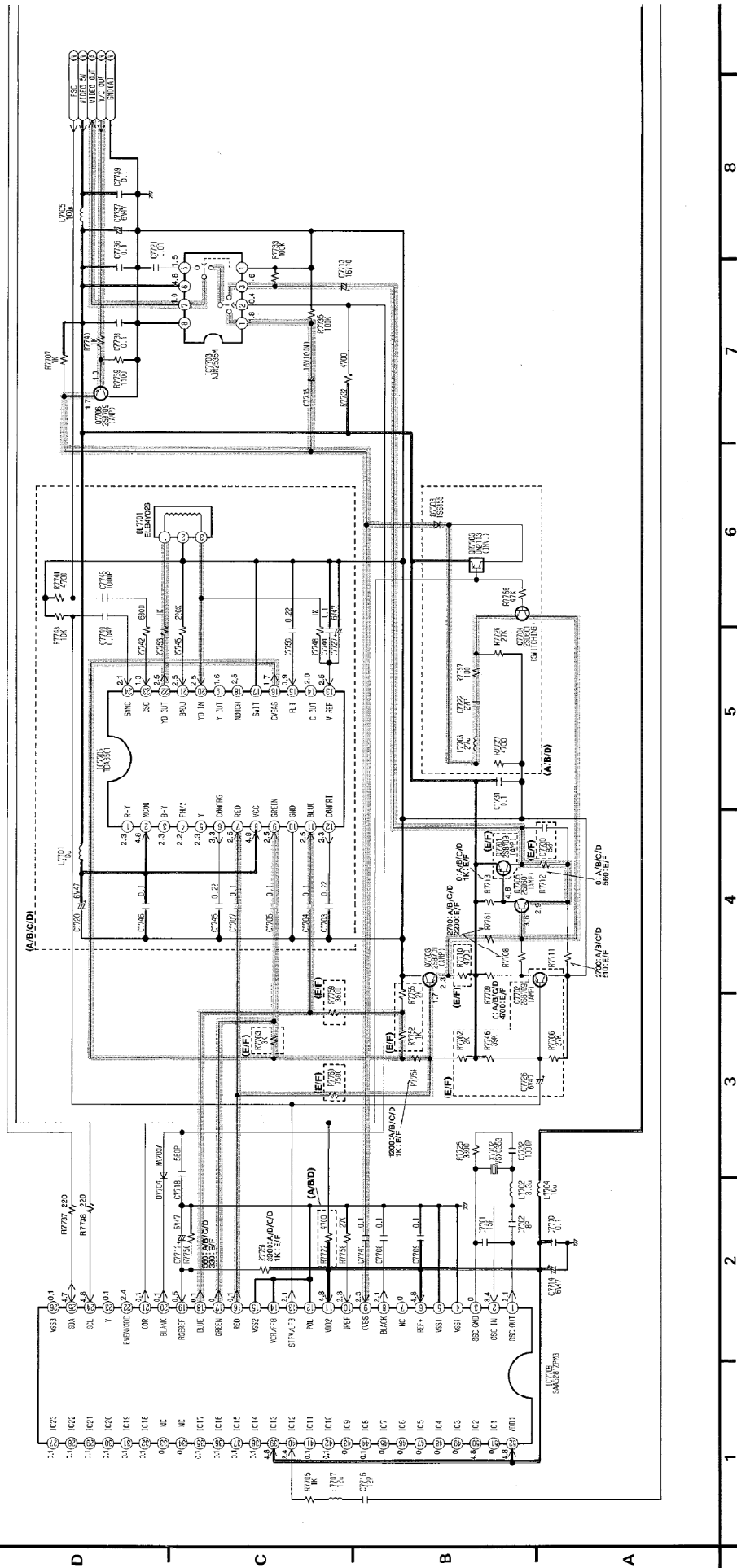
NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS () ON THIS DIAGRAM IS RECORD MODE WITH PAL COLOUR SIGNAL. (SP MODE)

PS3902 (Page 3-55/B-1)

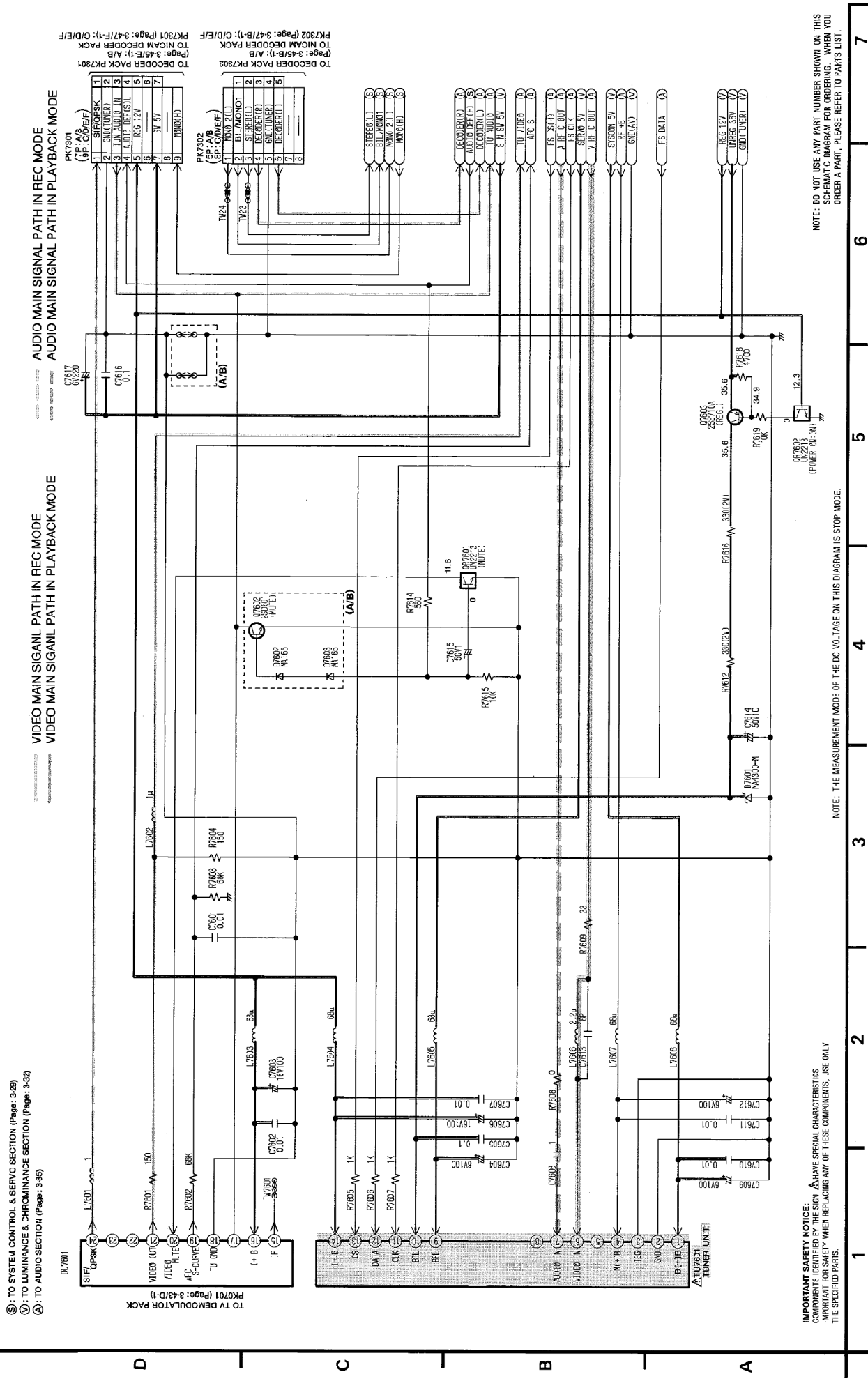
NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

3-11. OSD SECTION IN MAIN SCHEMATIC DIAGRAM

- ③. TO SYSTEM CONTROL & SERVO SECTION (Page 3-29)
- ④. TO LUNAR/L & ORIGINANCE SECTION (Page 3-32)
- ⑤. TO AUDIO SECTION (Page 3-38)



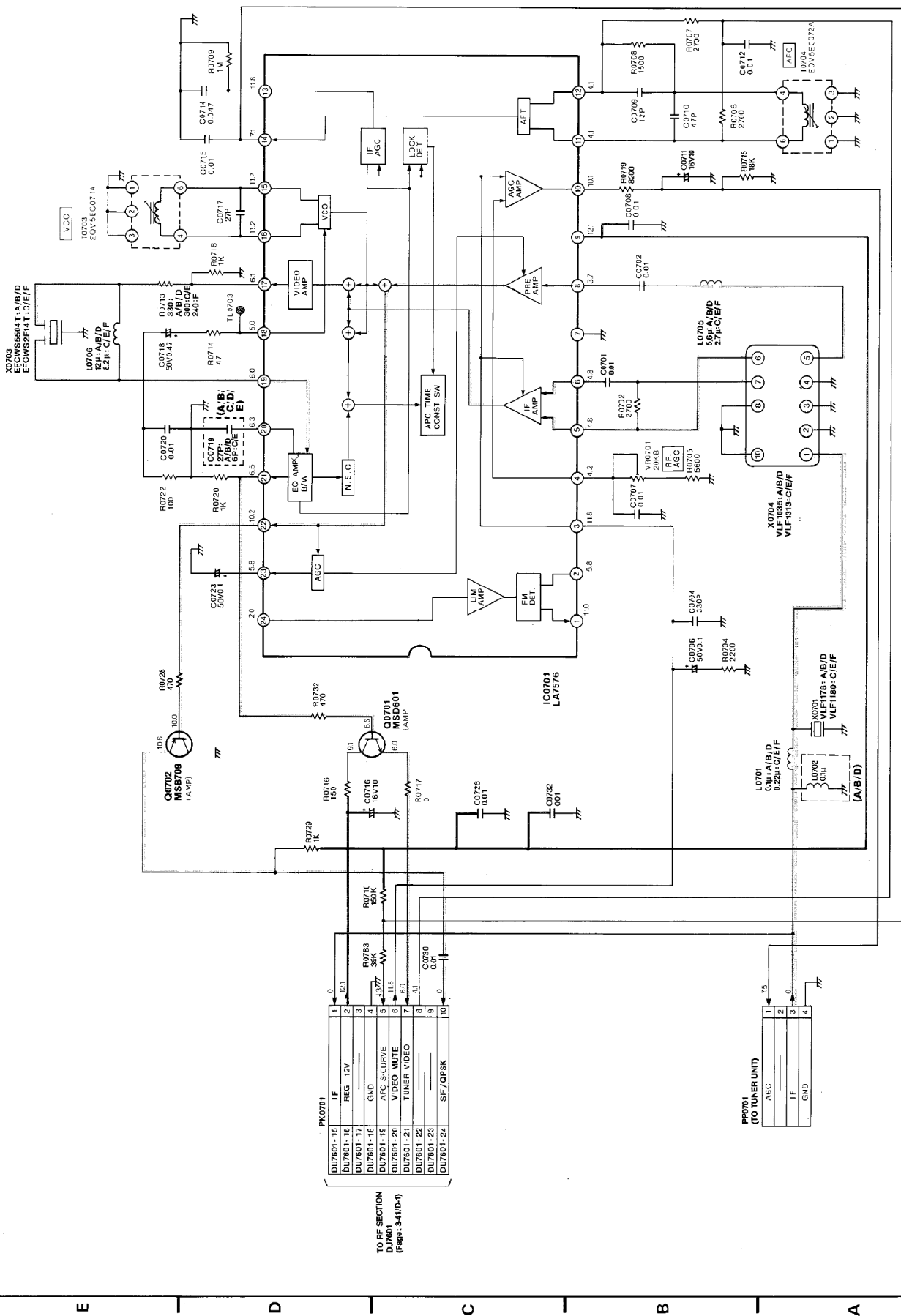
3-12. RF SECTION IN MAIN SCHEMATIC DIAGRAM



IMPORTANT SAFETY NOTICE: COMPONENTS IDENTIFIED BY THE SIGN  HAVE SPECIAL CHARACTERISTICS IMPORTANT FOR SAFETY WHEN REPLACING ANY OF THESE COMPONENTS. USE ONLY THE SPECIFIED PARTS.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE.

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.



NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

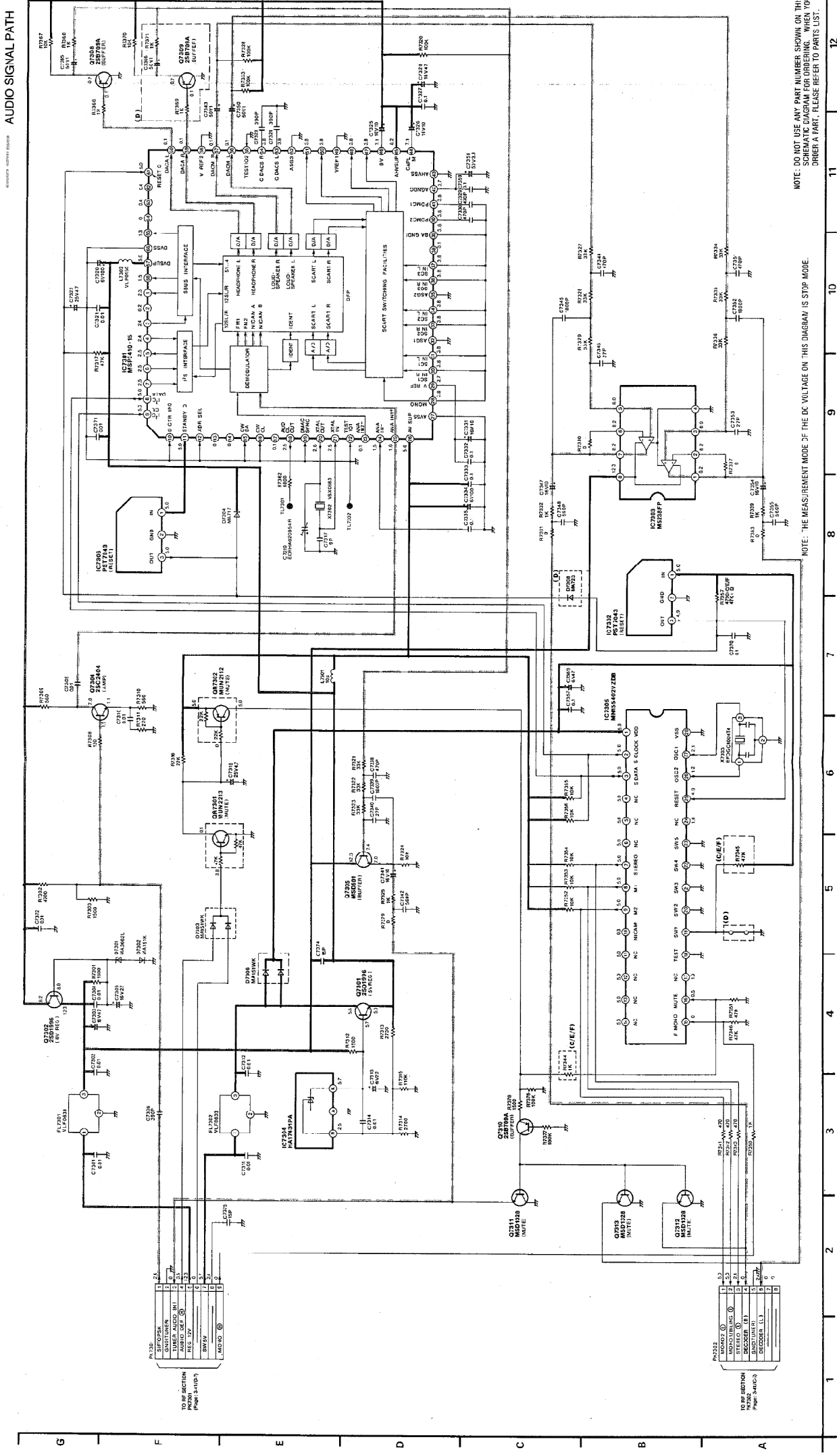
NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE.

AUDIO SUBSIGNAL PATH

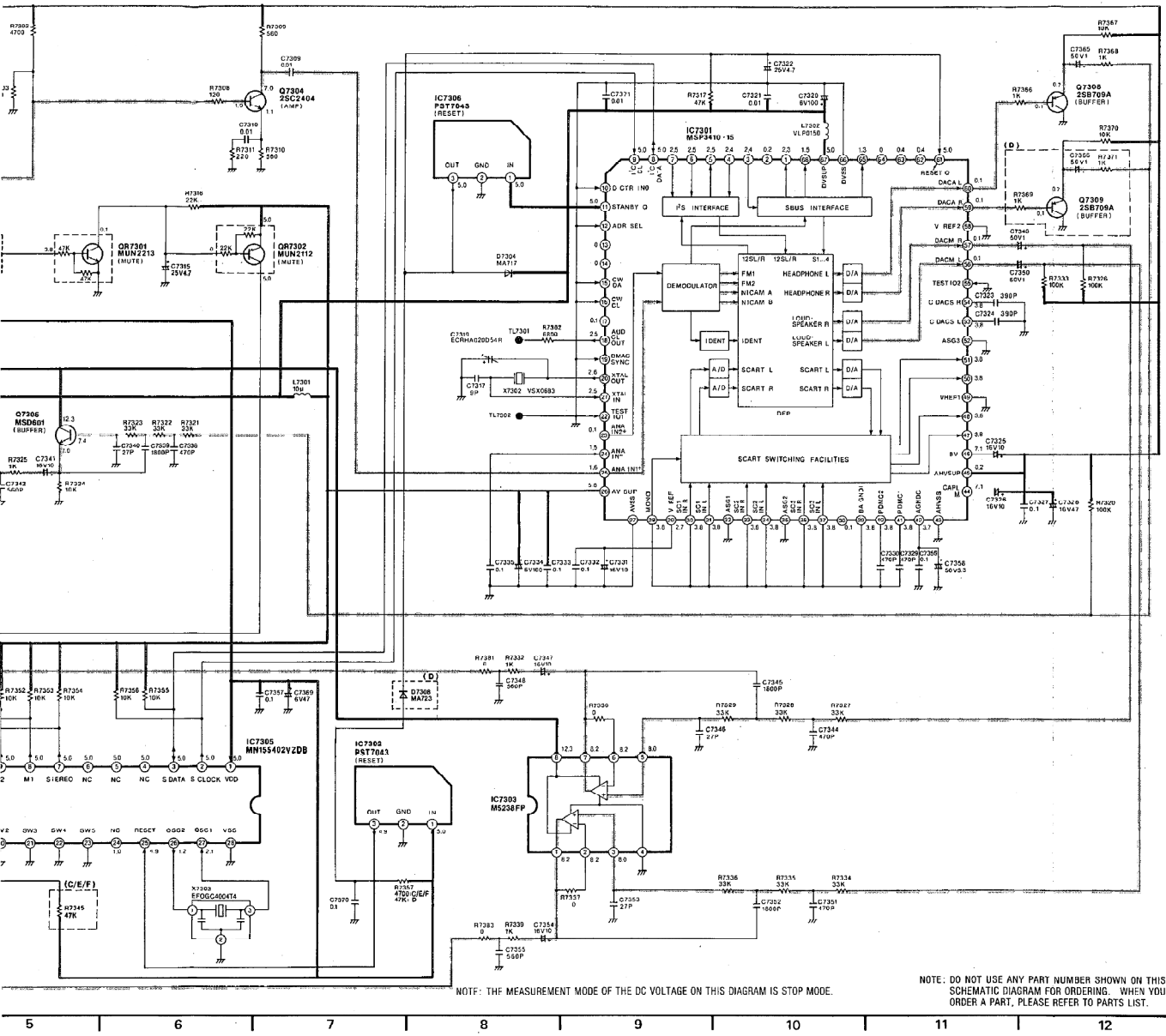


NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE.

3-15. NICAM DECODER PACK SCHEMATIC DIAGRAM (NV-HD610B/EC, HD605B/BL)



AUDIO SIGNAL PATH



TV SYSTEM SELECT

IC7305		TV SYSTEM	SOUND MODULATION
SW1	SW2	B/G	
L	L	B/G	FM-MONO/NICAM GERMAN MULTIPLEX
H	L	I	FM-MONO/NICAM
*	H	M	FM-MONO

*: DO NOT CARE

FM-MONO MODE SELECT

IC7305	FM-MONO MODE	FM-MONO SOURCE
SW3		
L	INT	SIF (IF INPUT1, IF INPUT2)
H	EXT	AUDIO MULTI (MONO IN)

SIF INPUT SELECT

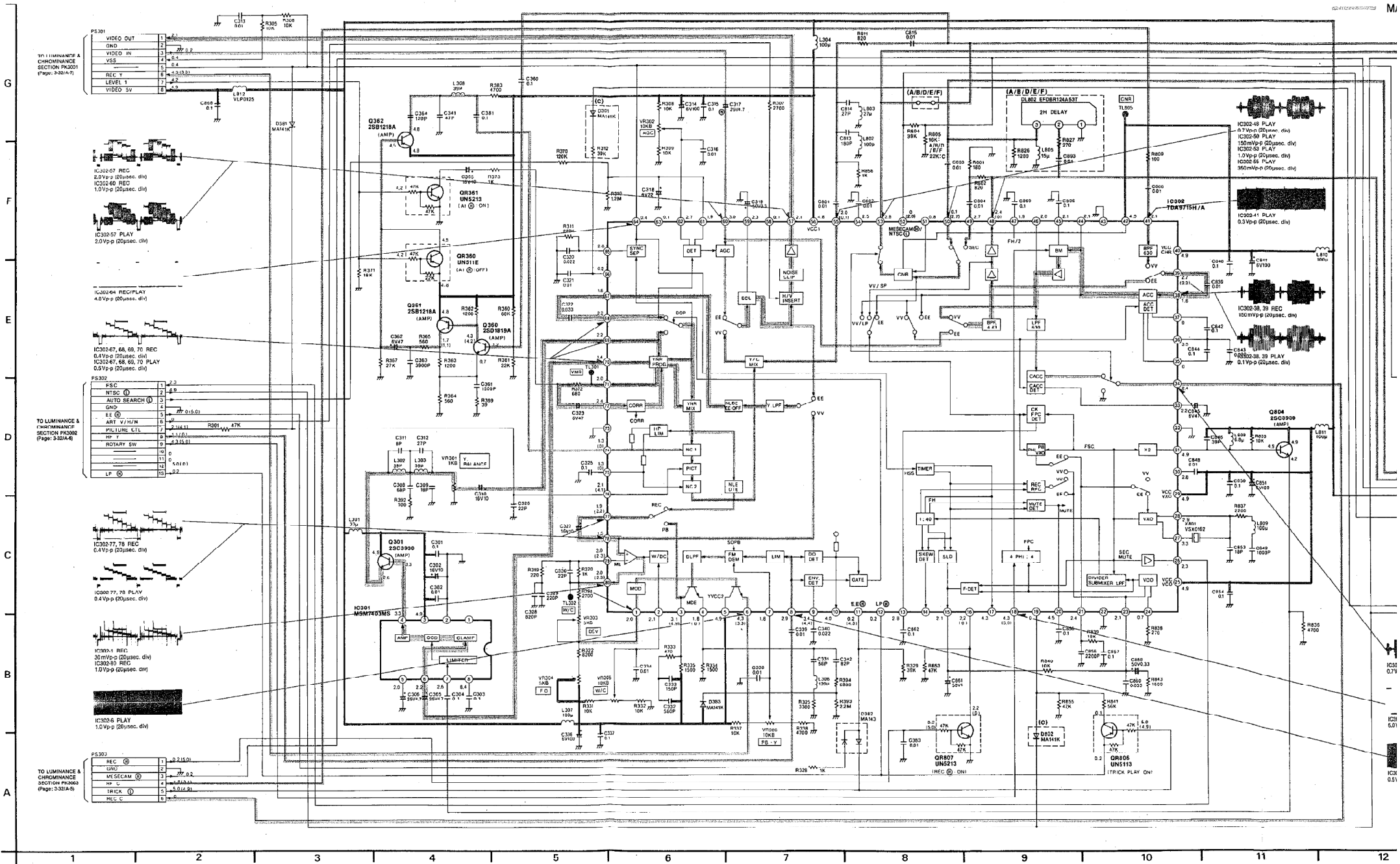
IC7305	SIF INPUT
SW4	
L	IF INPUT 1
H	IF INPUT 2

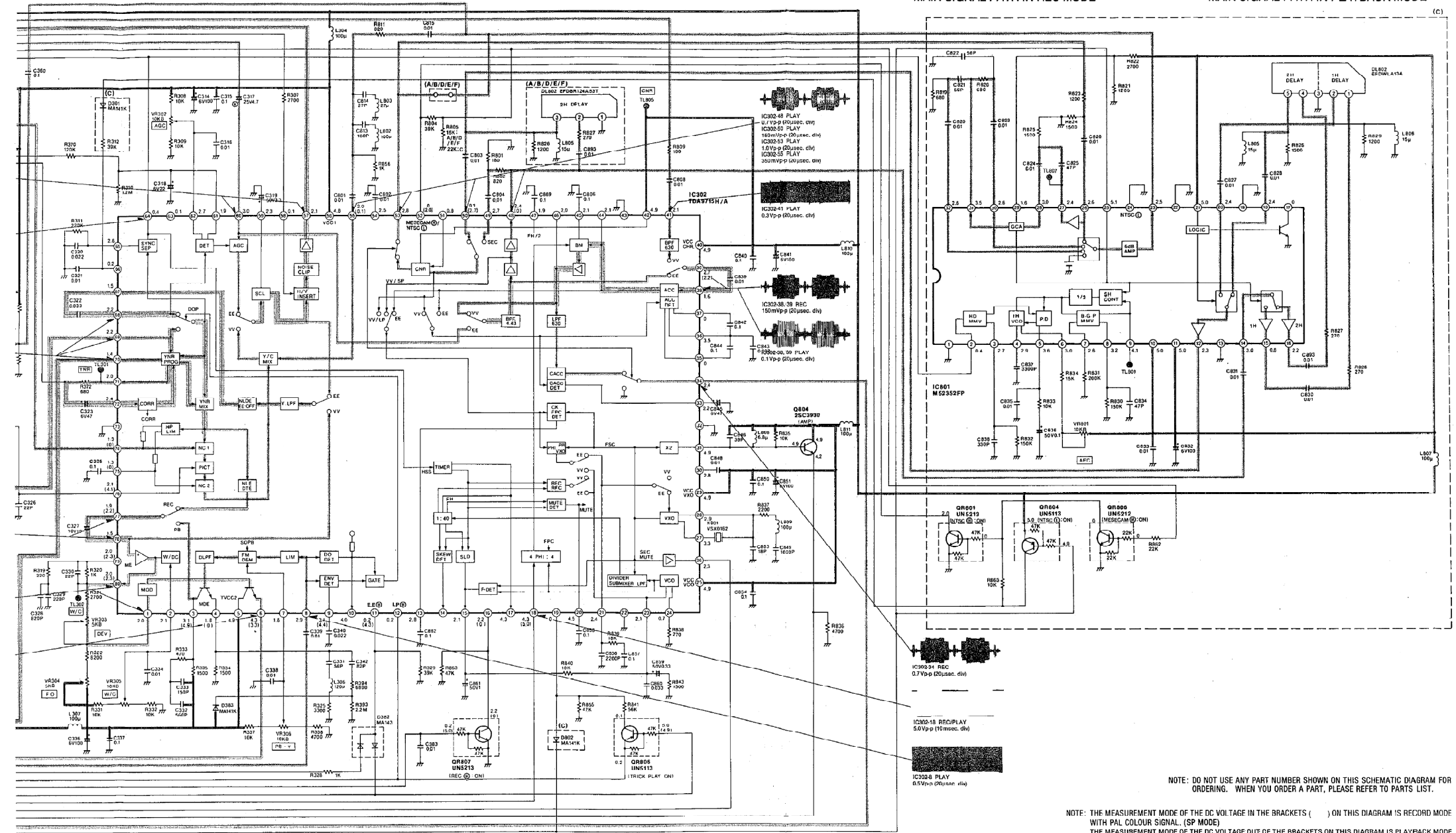
AUDIO OUTPUT SELECT

INPUT TV SYSTEM	SOUND MODULATION	FM-MONO MODE	MAIN OUTPUT INPUT SOURCE	MATRIX	SUB OUTPUT INPUT SOURCE	MATRIX
B/G	MONO	INT	IF INPUT 1/2 (FM)	MONAURAL	IF INPUT 1/2 (FM)	MONAURAL
	MONO	EXT	MONO IN	MONAURAL	MONO IN	MONAURAL
	NICAM	INT	IF INPUT 1/2 (NICAM)	STEREO	IF INPUT 1/2 (FM)	MONAURAL
	STEREO	EXT	IF INPUT 1/2 (NICAM)	STEREO	MONO IN	MONAURAL
	NICAM	INT	IF INPUT 1/2 (NICAM)	MONAURAL	IF INPUT 1/2 (FM)	MONAURAL
	M1/DATA	EXT	IF INPUT 1/2 (NICAM)	MONAURAL	MONO IN	MONAURAL
	NICAM	INT	IF INPUT 1/2 (NICAM)	STEREO	IF INPUT 1/2 (FM)	MONAURAL
	M1/M2	EXT	IF INPUT 1/2 (NICAM)	STEREO	MONO IN	MONAURAL
	NICAM	INT	IF INPUT 1/2 (FM)	MONAURAL	IF INPUT 1/2 (FM)	MONAURAL
	DATA	EXT	MONO IN	MONAURAL	MONO IN	MONAURAL
I	STEREO	INT	IF INPUT 1/2 (FM)	STEREO	IF INPUT 1/2 (FM)	MONAURAL
	BILINGUAL	INT	IF INPUT 1/2 (FM)	STEREO	IF INPUT 1/2 (FM)	MONAURAL
	MONO	INT	IF INPUT 1/2 (FM)	MONAURAL	IF INPUT 1/2 (FM)	MONAURAL
	MONO	EXT	MONO IN	MONAURAL	MONO IN	MONAURAL
	NICAM	INT	IF INPUT 1/2 (NICAM)	STEREO	IF INPUT 1/2 (FM)	MONAURAL
	STEREO	EXT	IF INPUT 1/2 (NICAM)	STEREO	MONO IN	MONAURAL
	NICAM	INT	IF INPUT 1/2 (NICAM)	MONAURAL	IF INPUT 1/2 (FM)	MONAURAL
	M1/DATA	EXT	IF INPUT 1/2 (NICAM)	MONAURAL	MONO IN	MONAURAL
	NICAM	INT	IF INPUT 1/2 (NICAM)	STEREO	IF INPUT 1/2 (FM)	MONAURAL
	M1/M2	EXT	IF INPUT 1/2 (NICAM)	STEREO	MONO IN	MONAURAL
M	NICAM	INT	IF INPUT 1/2 (FM)	MONAURAL	IF INPUT 1/2 (FM)	MONAURAL
	DATA	EXT	MONO IN	MONAURAL	MONO IN	MONAURAL

Note: When the IC7305-15 (F MONO) is high, both the MAIN OUTPUT and the SUB OUTPUT apply the FM-MONO audio.

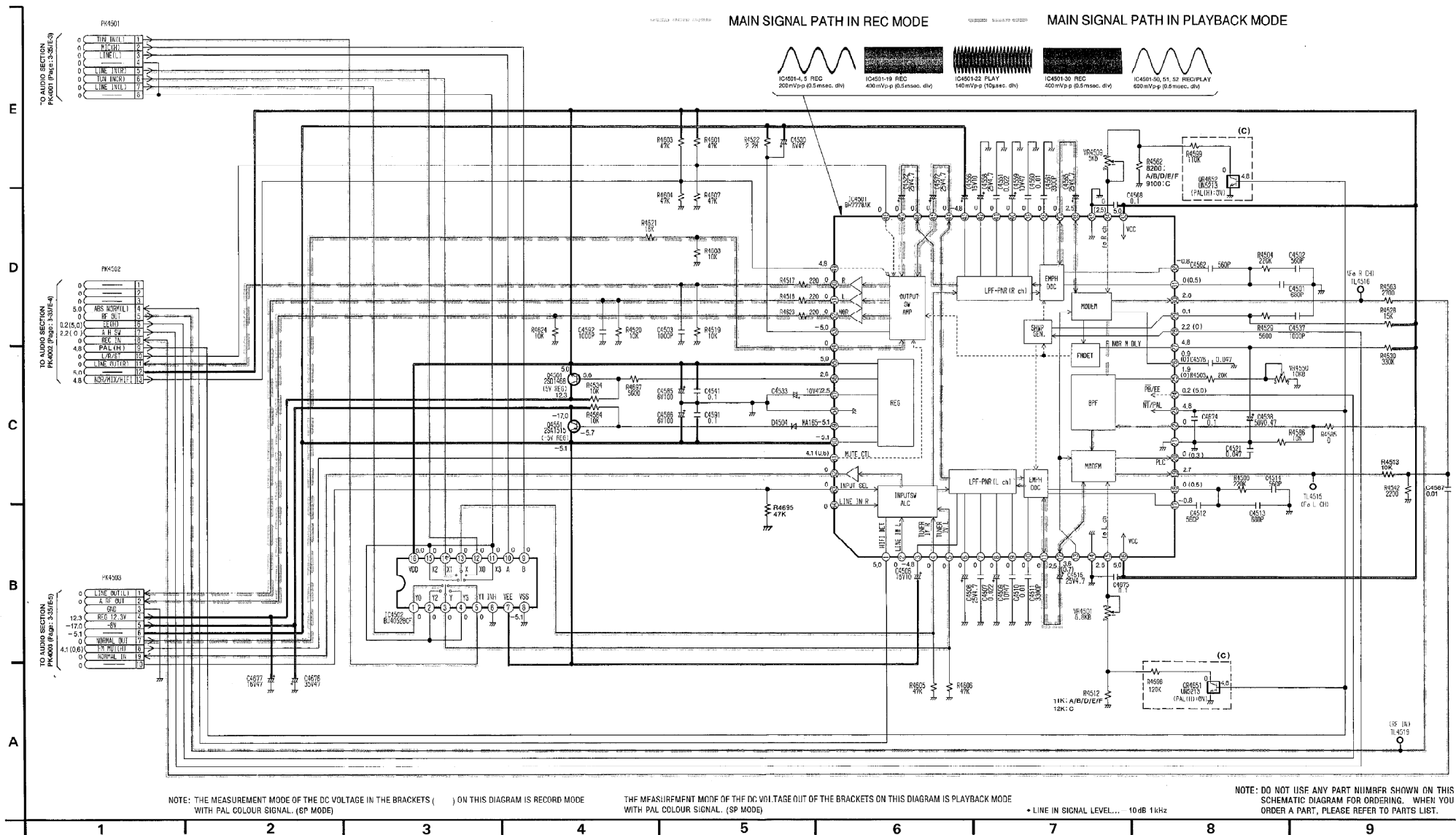
3-16. LUMINANCE & CHROMINANCE PACK SCHEMATIC DIAGRAM



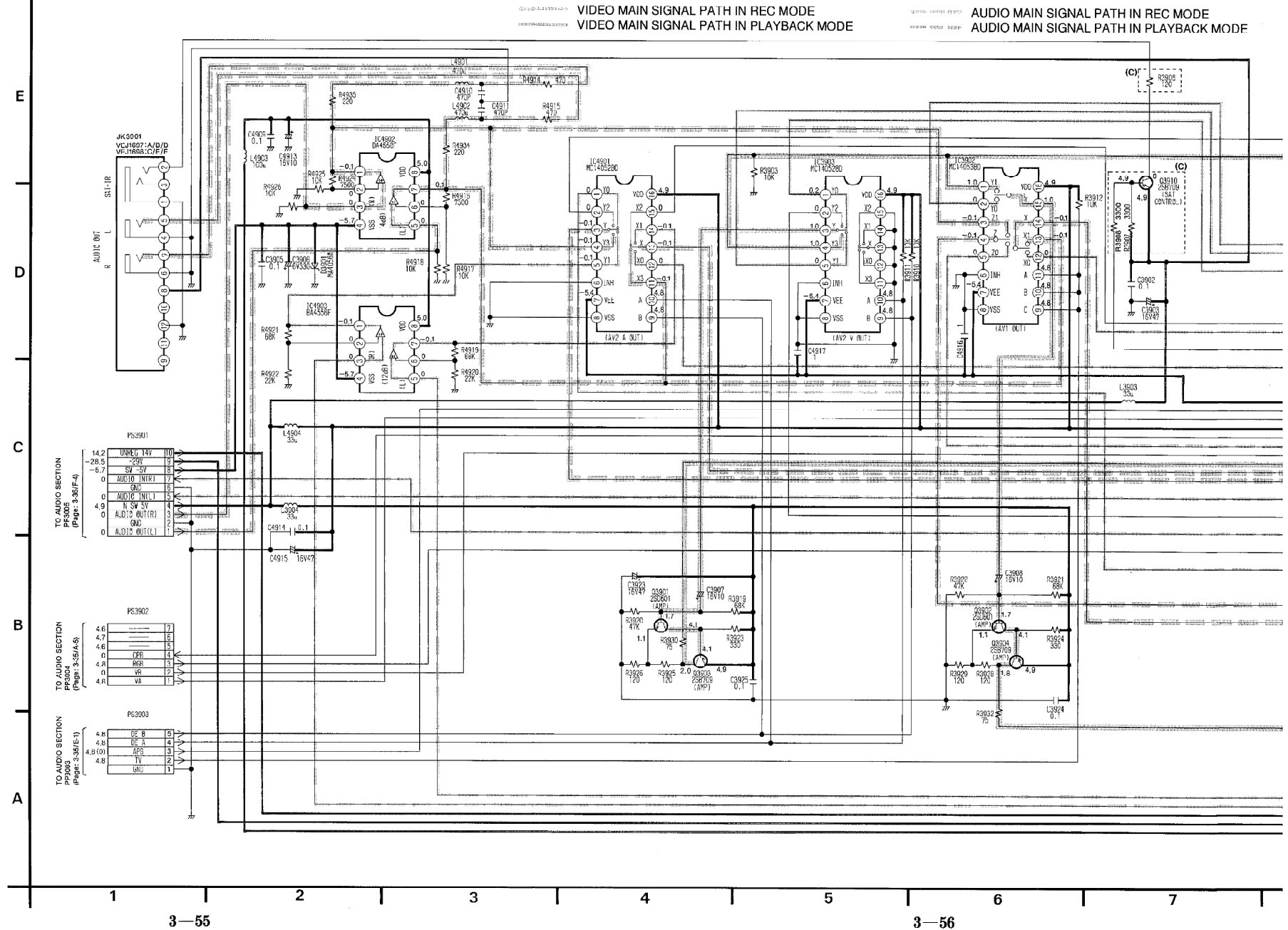


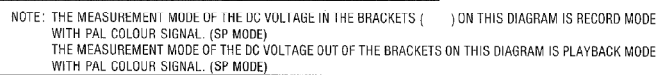
NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS () ON THIS DIAGRAM IS RECORD MODE WITH PAL COLOUR SIGNAL. (SP MODE)
 THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE WITH PAL COLOUR SIGNAL. (SP MODE)

3-17. HI-FI AUDIO PACK SCHEMATIC DIAGRAM



3-18. INPUT/OUTPUT PACK SCHEMATIC DIAGRAM





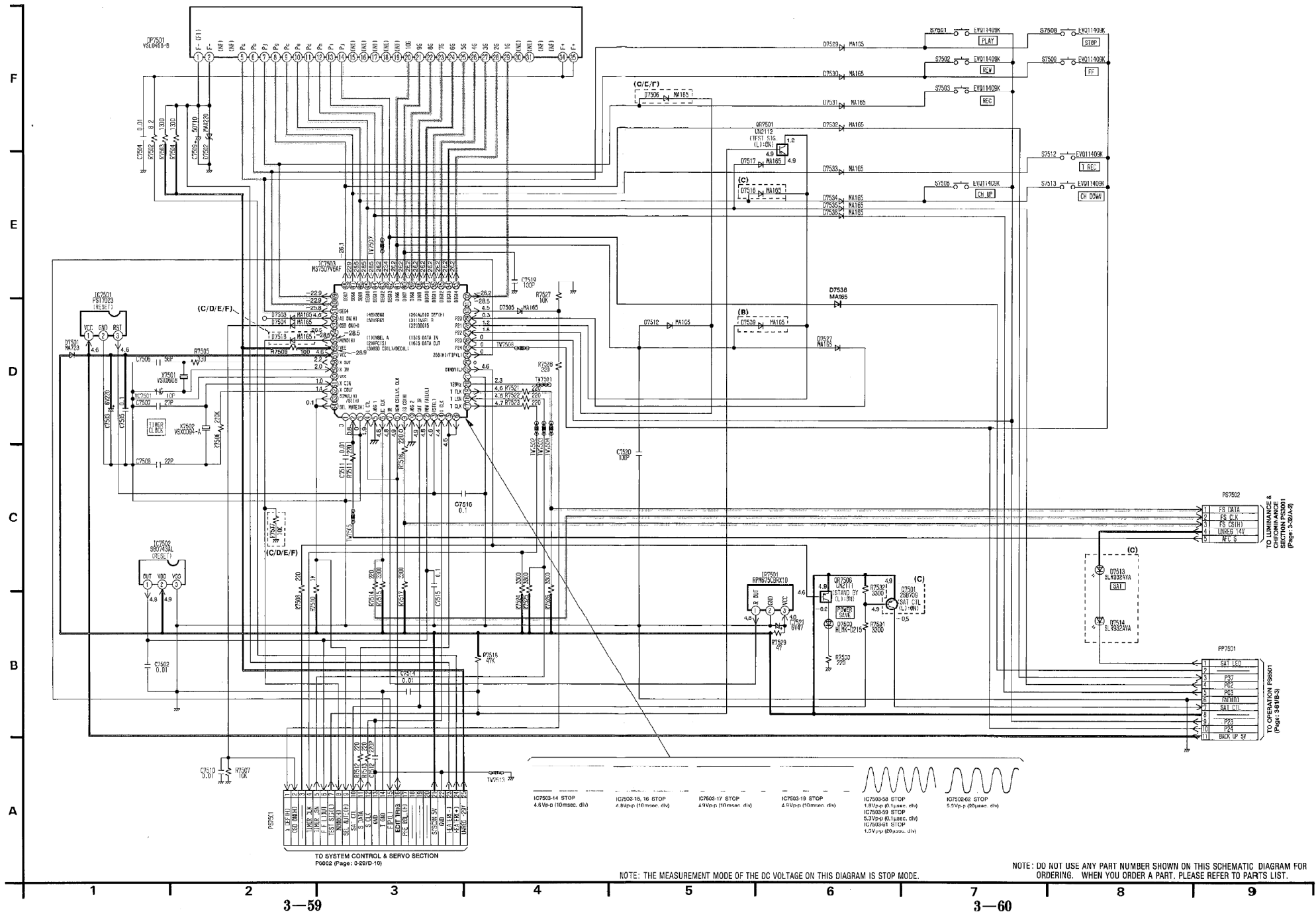
15

3-19. TIMER SCHEMATIC DIAGRAM

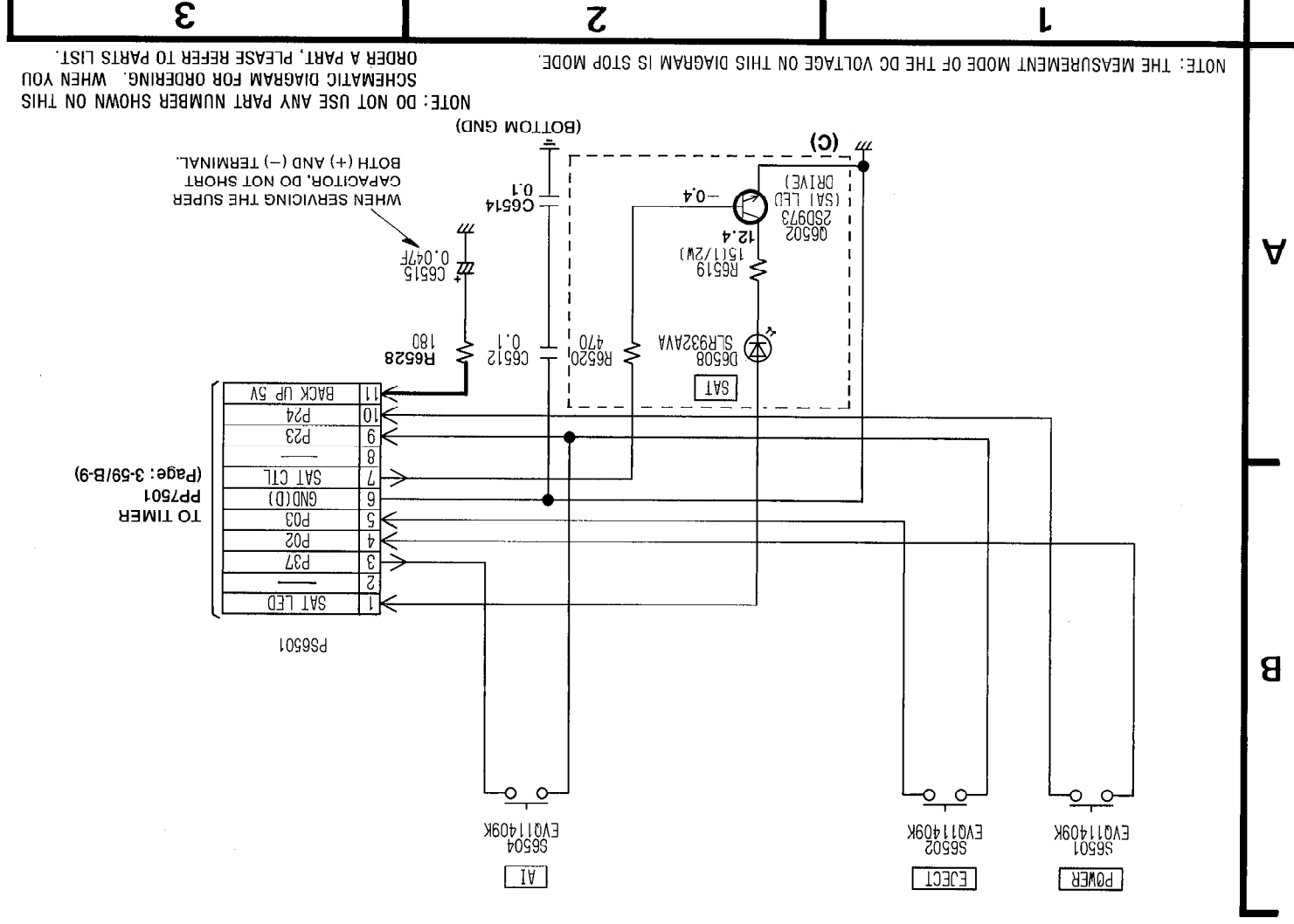
SEGMENT CONTROL SIGNAL

GRID CONTROL SIGNAL

TUNE CONTROL SIGNAL



3-20. OPERATION SCHEMATIC DIAGRAM



A

B

C

VIDEO MAIN SIGNAL PATH IN REC MODE
VIDEO MAIN SIGNAL PATH IN PLAYBACK MODE

HI-FI AUDIO MAIN SIGNAL PATH IN REC MODE
HI-FI AUDIO MAIN SIGNAL PATH IN PLAYBACK MODE

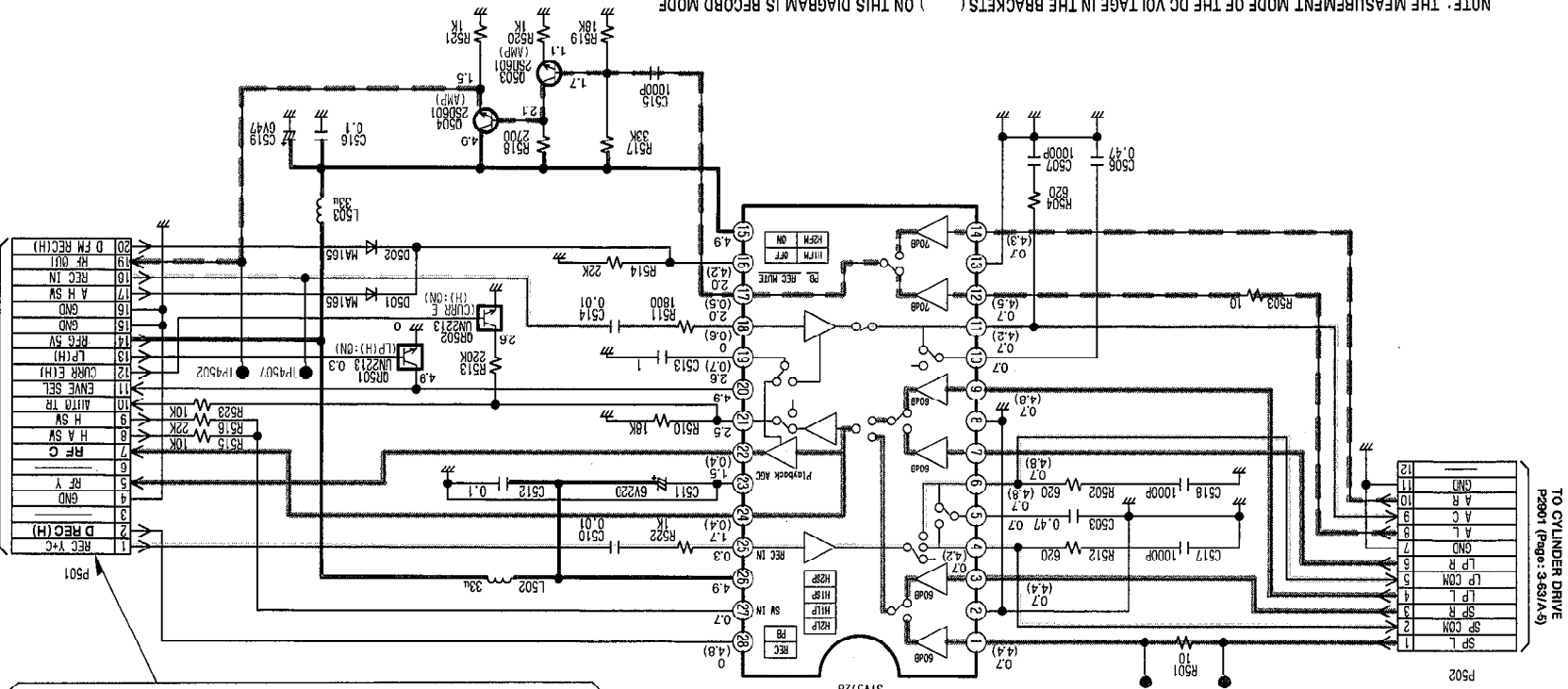


P501-1 REC
50mVp-p (20µsec. div)
4.7Vp-p (10msec. div)
P501-5 PLAY
50mVp-p (20µsec. div)
4.7Vp-p (10msec. div)
P501-17 PLAY
50mVp-p (20µsec. div)
1.5Vp-p (10µsec. div)
P501-18 REC



P501-9 REC/PLAY
50mVp-p (20µsec. div)
4.7Vp-p (10msec. div)
P501-16 REC
50mVp-p (20µsec. div)
1.5Vp-p (10µsec. div)

TO LUMINANCE & CHROMINANCE SECTION
P3002 (Page: 3-32/C-12)



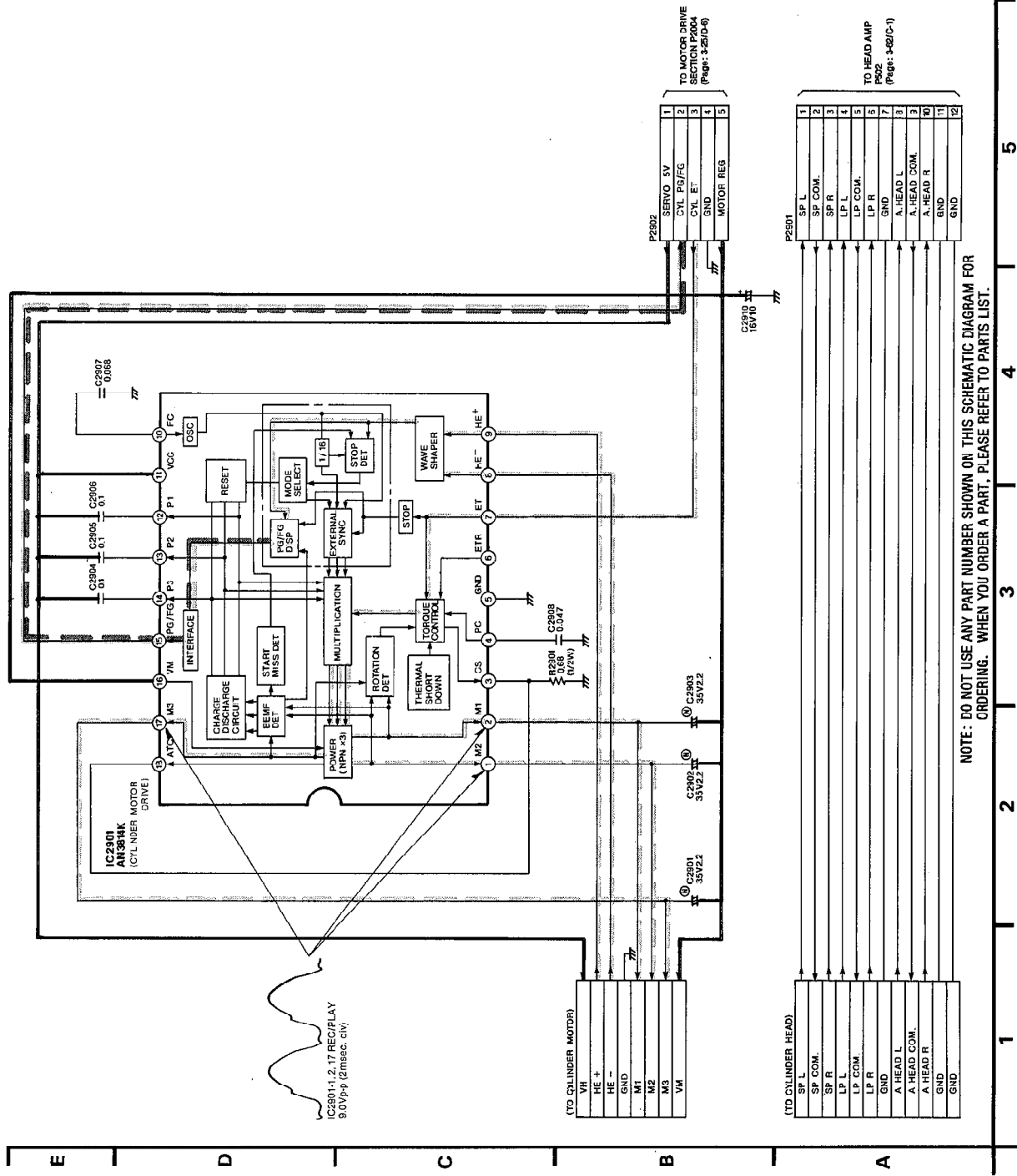
NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS () ON THIS DIAGRAM IS RECORD MODE
WITH PAL COLOUR SIGNAL, (SP MODE)
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE
WITH PAL COLOUR SIGNAL, (SP MODE)

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS
SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU
ORDER A PART, PLEASE REFER TO PARTS LIST.

3-21. HEAD AMP SCHEMATIC DIAGRAM

3-22. CYLINDER DRIVE SCHEMATIC DIAGRAM

CYLINDER SERVO SPEED LOOP
CYLINDER SERVO PHASE LOOP



CYLINDER DRIVE ICs DC VOLTAGE CHART (SP MODE)

REF. NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
MODE	13.1	13.1	0.1	0.6	0	2.5	2.4	2.6	2.5	2.5	4.9	3.7	3.6	3.7	1.3	13.8	13.3	0.1
STOP	13.8	13.8	0.2	0.6	0	2.5	2.4	2.6	2.5	2.7	4.9	3.7	3.7	3.7	1.5	13.5	13.7	0.2
PLAY	13.8	13.8	0.2	0.6	0	2.5	2.4	2.6	2.5	2.7	4.9	3.7	3.7	3.7	1.5	13.5	13.7	0.2
REC	13.8	13.8	0.2	0.6	0	2.5	2.4	2.6	2.5	2.7	4.9	3.7	3.7	3.7	1.5	13.5	13.7	0.2
F.F.	13.8	13.8	0.2	0.6	0	2.5	2.4	2.6	2.5	2.7	4.9	3.7	3.7	3.7	1.5	13.5	13.7	0.2
REW	13.8	13.8	0.2	0.6	0	2.5	2.4	2.6	2.5	2.7	4.9	3.7	3.7	3.7	1.5	13.5	13.7	0.2