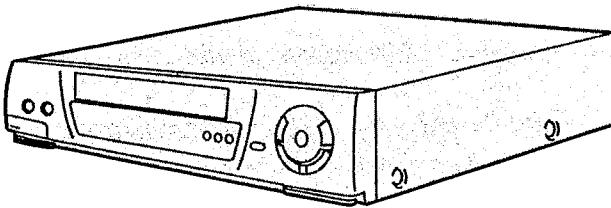


Service Manual

Video Cassette Recorder

General Description**Adjustment Procedures****Block / Schematic Diagrams****Exploded Views / Parts List**
Panasonic **VHS** **HQ**
PAL/NTSC
NV-SD435EE
NV-SD235EE
Z-MECHANISM


SPECIFICATIONS

ITEM	SPECIFICATION	ITEM	SPECIFICATION		
POWER	SOURCE: 110-240 V AC 50/60 Hz	AUDIO	HEAD: 1 Stationary head (Normal-mono only)		
	CONSUMPTION: 17 watts		INPUT: AUDIO IN (AV1) Connector (21 pin) -6 dBV (500 mV), more than 10 k Ω AUDIO IN (AV2: NV-SD435EE) Connector (Phono type) -6 dBV (500 mV), more than 47 k Ω		
RECORDING SYSTEM	2 rotary heads, helical scanning system		OUTPUT: AUDIO OUT Connector (21 pin) -6 dBV (500 mV), Less than 1 k Ω		
	PAL/NTSC		TAPE SPEED	SP: 23.39 mm/s (PAL), 33.35 mm/s (NTSC) LP: 11.695 mm/s (PAL), 11.12 mm/s (NTSC) Record/Playback Time: SP: 4 hours with 240 min. type tape LP: 8 hours with 240 min. type tape FF/REW Time: 60 sec. with 180 min. type tape	
TV TUNER SYSTEM	VHF: CHE2-CHE12 (PAL/SECAM B) CHR1-CHR12 (SECAM D) UHF: CHE21-CHE69 (PAL/SECAM G, SECAM K, PAL I) CATV: CHS01-CHS41 (PAL/SECAM B) 44 MHz-470 MHz (SECAM D) 75 Ω terminated			OPERATING TEMPERATURE	5°C-40°C
	RF OUT SYSTEM				UHF: CHE21-CHE69 (PAL/SECAM G, SECAM K, PAL I) 71 \pm 3 dB μ , 75 Ω terminated
VIDEO	HEADS: 4 rotary heads (NV-SD435EE) 2 rotary heads (NV-SD235EE) 1 pair for recording and playback (L-R heads) 1 pair for trick paly (L-R' heads: NV-SD435EE)		DIMENSIONS	430 (W) \times 87 (H) \times 297 (D) mm	
	INPUT: VIDEO IN (AV1) Connector (21 pin) 1.0 Vp-p, 75 Ω terminated VIDEO IN (AV2: NV-SD435EE) Connector (Phono type) 1.0 Vp-p, 75 Ω terminated		WEIGHT	3.9 kg	
	OUTPUT: VIDEO OUT Connector (21 pin) 1.0 Vp-p, 75 Ω terminated		STANDARD ACCESSORIES	1 pc. DIN-RF Cable 1 pc. AC Mains Lead 1 pc. Infra-red Remote Controller	

Weight and dimensions shown are approximate.
Specifications are subject to change without notice.

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Panasonic

B. UPPER CYLINDER REPLACEMENT

[DISASSEMBLY PROCEDURE]

- 1) Remove 2 screws (A).
- 2) Remove the Cylinder Stator Unit.
- 3) Remove 2 screws (B).
- 4) Remove the Cylinder Rotor Unit.
- 5) Loosen hex screw (C) (1.5mm) and remove the Cylinder Retainer.
- 6) Remove the Upper Cylinder.

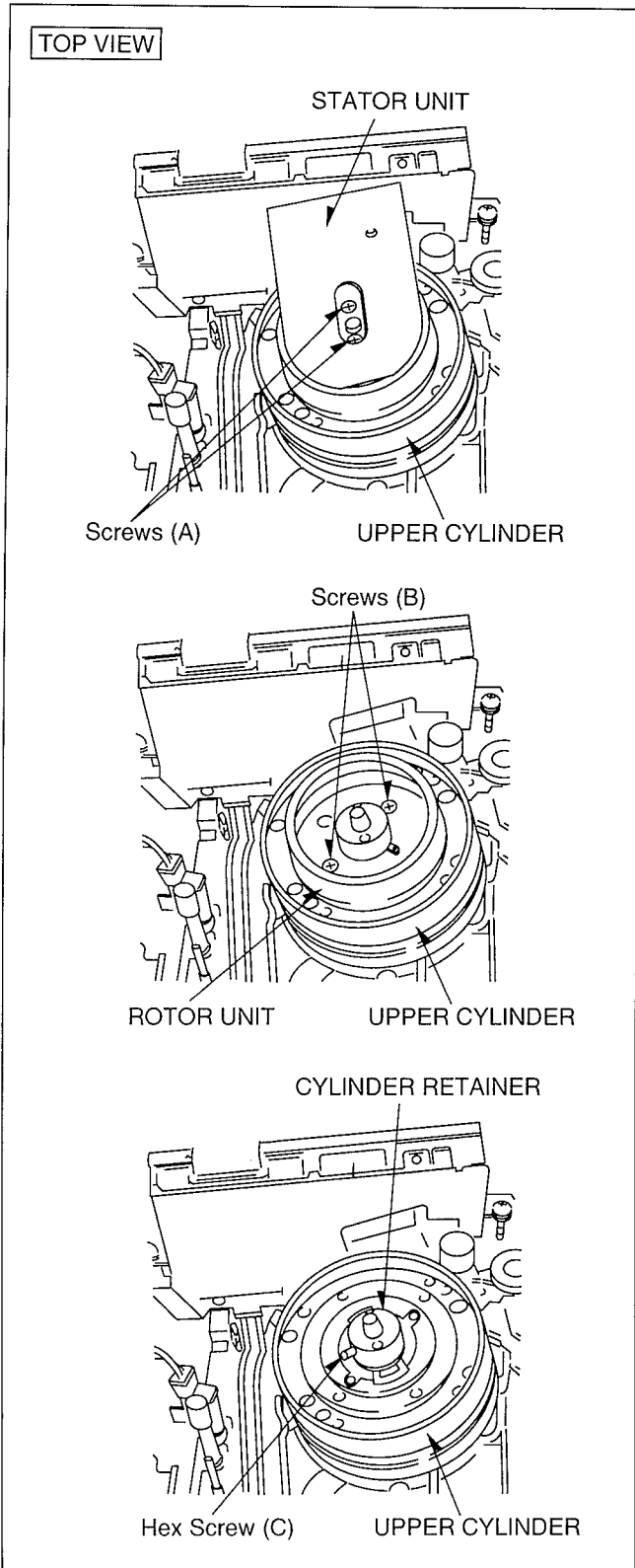


Fig. S4

[ASSEMBLY PROCEDURE]

When reassembling, perform the steps in the reverse order.

- 1) Install the Cylinder Retainer so that the 2 holes on top of the Cylinder Retainer are at right angles with the Head Amp Shield.
- 2) Tighten the hex screw (C) (1.5mm) while pressing down on top of the Cylinder Retainer.

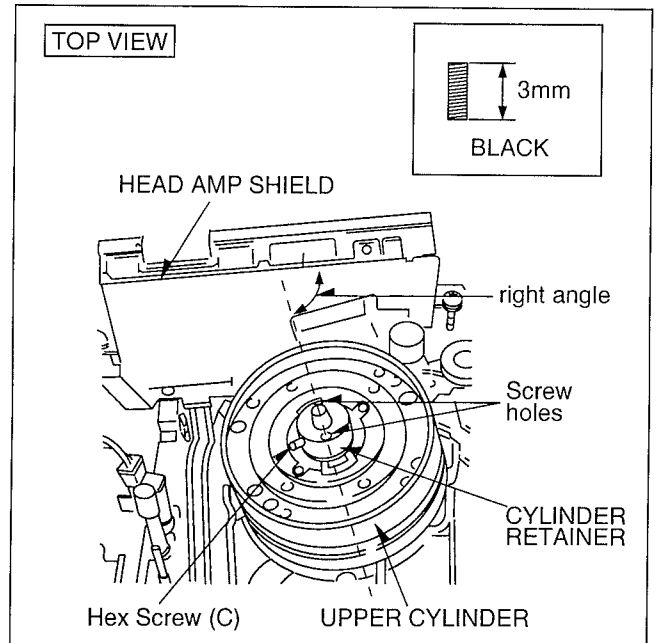


Fig. S5

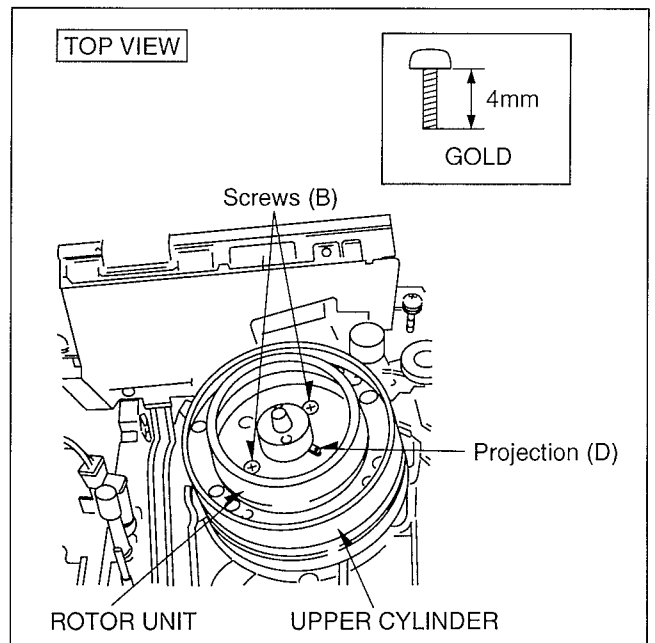


Fig. S6

- 3) Install the Cylinder Rotor Unit so that the inner hole of the Cylinder Rotor Unit fits to the small projection (D) on top of the Upper Cylinder.
- 4) Tighten 2 screws (B).
- 5) Install the Cylinder Stator Unit so that the rear side of the Cylinder Stator C.B.A. becomes parallel with the Head Amp Shield.
- 6) Tighten 2 screws (A).
- 7) Perform the PG SHIFTER ADJUSTMENT (Refer to Page 2-3).

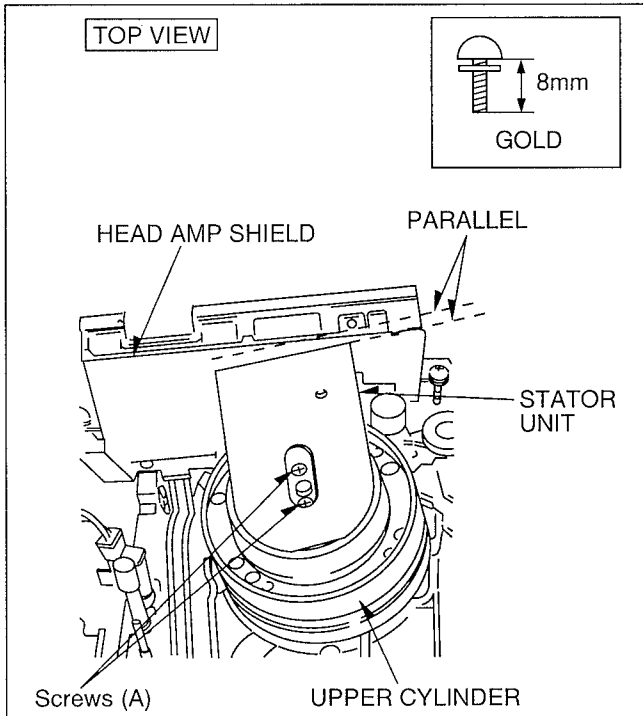


Fig. S7

1-1-4. FLAT CARD CABLE INSTLLATION

When installing the Flat Card Cable on the connector, install the Flat Card Cable with the cable contacts facing the connector contacts.

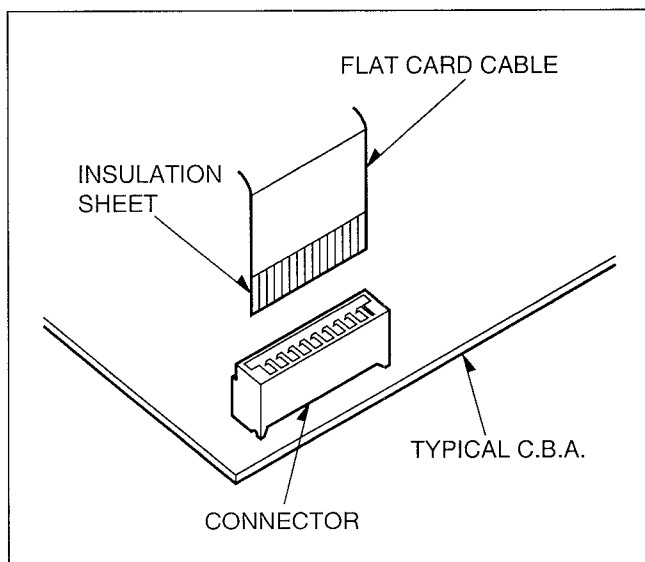


Fig. S8

1-2. SELF-TEST & SERVICE INFORMATION DISPLAY

Refer to the Service Manual for Z Mechanism Chassis. (Order No.: VRD9802005C2)

1-3. REMOVAL OF CASSETTE TAPE

There are 2 ways to remove a cassette tape.

1. Service Information Display Operation

- 1) Press FF and EJECT keys simultaneously for 3 seconds and set the Service Mode 7.
- 2) Press STOP key in order to rotate the Loading Motor in unloading direction. (Pay attention to the slack of tape.)

2. Manual Operation

- 1) Disconnect the AC Mains Lead and remove the Top Panel.
- 2) Rotate the Main Cam Gear clockwise until the Loading Posts move to fully unloaded position as shown in Fig. S9. (Tape is remaining)

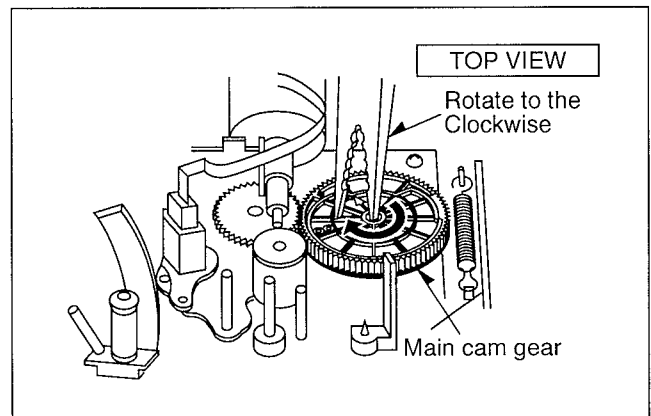


Fig. S9

- 3) Rotate the Capstan Motor clockwise from the bottom side to take up the slack of the tape.

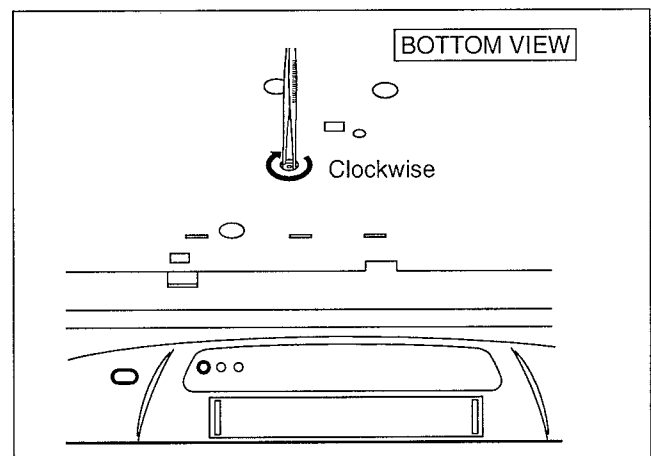


Fig. S10

- 4) Rotate the Main Cam Gear clockwise until the cassette tape is ejected.

- 3) Install the Cylinder Rotor Unit so that the inner hole of the Cylinder Rotor Unit fits to the small projection (D) on top of the Upper Cylinder.
- 4) Tighten 2 screws (B).
- 5) Install the Cylinder Stator Unit so that the rear side of the Cylinder Stator C.B.A. becomes parallel with the Head Amp Shield.
- 6) Tighten 2 screws (A).
- 7) Perform the PG SHIFTER ADJUSTMENT (Refer to Page 2-3).

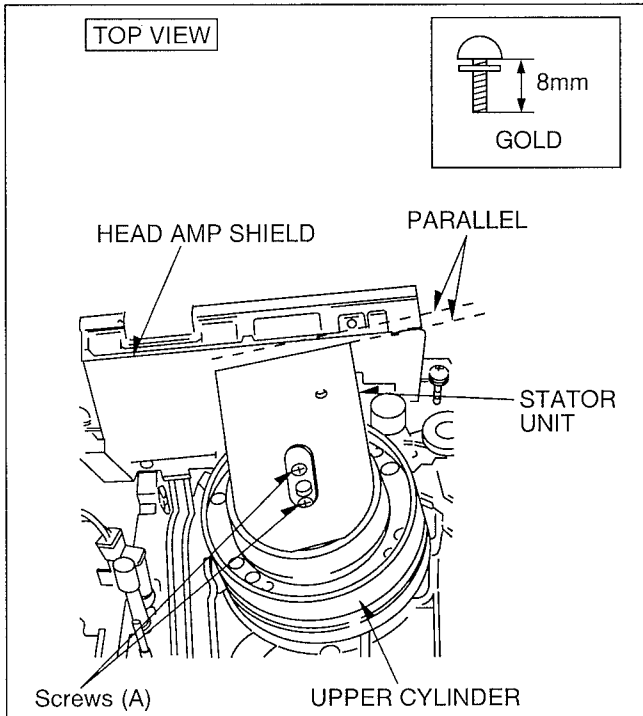


Fig. S7

1-1-4. FLAT CARD CABLE INSTLLATION

When installing the Flat Card Cable on the connector, install the Flat Card Cable with the cable contacts facing the connector contacts.

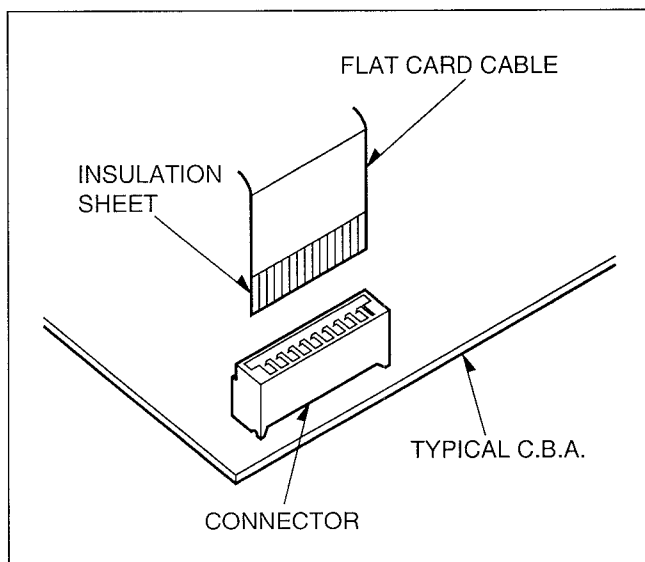


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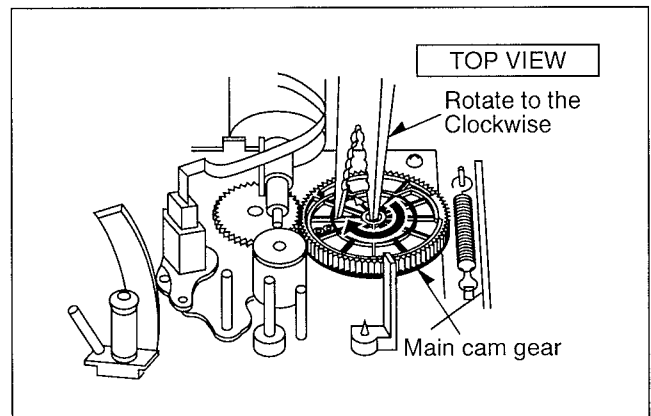


Fig. S9

- 3) Rotate the Capstan Motor clockwise from the bottom side to take up the slack of the tape.

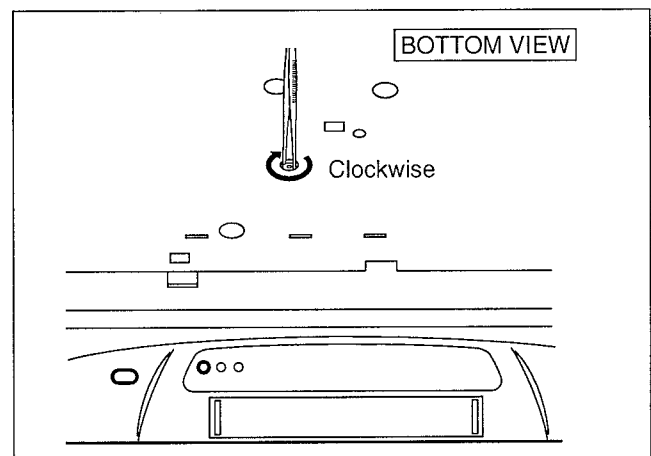
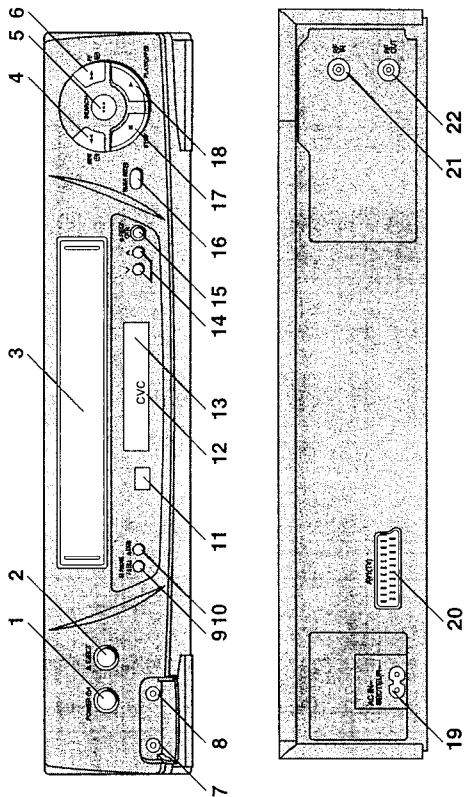


Fig. S10

- 4) Rotate the Main Cam Gear clockwise until the cassette tape is ejected.

Controls and Connection Sockets

This section describes in detail the function of each button, switch and connection socket.



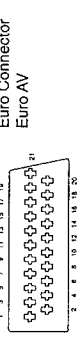
Set VCR/TV switch to VCR for using POWER ψ and the ∇ and \wedge buttons.

FRONT

- 1 **POWER ψ / (POWER ψ)**
Press to switch the VCR from on to standby mode or vice versa. In standby mode, the VCR is still connected to the mains.
- 2 **EJECT**
Ejects a video cassette.
- 3 **Cassette Compartment**
Insert a video cassette here.
- 4 **REW (REWIND) \blacktriangleleft**
In the stop mode:
Rewinds the tape.
In the playback mode:
Searches back.
In the rewind mode:
Obtains high speed picture.
" \blacktriangleleft " is lit.
- 5 **SEARCH**
Searches a recorded programme using the programme list search after timer recording and using the intro-jet scan functions.
- 6 **FF (FAST FORWARD) \blacktriangleright**
In the stop mode:
Fast forwards the tape.
In the playback mode:
Searches forward.
In the fast forward mode:
Obtains high speed picture.
" \blacktriangleright " is lit.

1-4. OPERATING INSTRUCTIONS

- 7 **VIDEO IN (AV2)**
Connects a video cable from a movie camera or another unit.
- 8 **AUDIO IN (AV2)**
Connects an audio cable from a movie camera or another unit.
- 9 **II PAUSE/STILL**
In the stop mode: Still picture.
During playback:
• By pressing: Still picture. " \square " is lit.
• By pressing for 2 seconds or more: Slow playback. " \square " is lit.
During recording: Interrupts recording.
- 10 **A.DUB**
Sets up the VCR for audio dubbing.
A.DUB is appeared on screen display.
- 11 **Infrared Remote Control Receiver Window**
- 12 **CVC (Crystal View Control) Indicator**
This indicator is lit when the VCR is on.
- 13 **Display**
- 14 **∇ / \wedge**
Selects the required programme position (TV station) of the VCR.
For tracking adjustment and vertical locking adjustment:
• For manual tracking adjustment
The ∇ and \wedge buttons are used to adjust the tracking when, for example, noise bars on the picture during normal playback are better removed manually than by automatic digital tracking control. To return to automatic digital tracking control, press both buttons together.
• For slow tracking adjustment
When noise bars appear during still or slow playback, switch over to slow playback and adjust with the ∇ or \wedge button to reduce the noise bars.
• For vertical locking adjustment
Use the ∇ and \wedge buttons to minimize any vertical jitter during still picture playback.
- 15 **● REC/OTR**
Starts recording.
For One-Touch Recording (OTR).
- 16 **TIMER REC \square**
Turns the timer recording function on and off.
 \square is lit or not lit.
Once you operate the timer recording function, normal VCR operation is not possible unless you press this button again and release the VCR from the timer recording standby mode.
- 17 **STOP \blacksquare (C)**
Stops playback or recording.
Ejects the video cassette.
Starts playback. " \blacktriangleright " is lit.
For the repeat playback function.
For the Play-Off Timer function.
- 18 **PLAY/OFF \square \blacktriangleright**
Starts playback. " \blacktriangleright " is lit.
For the repeat playback function.
For the Play-Off Timer function.
- 19 **AC IN-**
Connects the main power supply.
- 20 **AV1**
This 21-pin scart terminal carries input and output signals for both picture and sound. TV sets equipped with a similar socket can be connected here. The scart terminal is also called Peritel Euro Connector Euro AV
- 21 **RF IN**
Connects the external aerial.
- 22 **RF OUT**
Connects the aerial terminal on a TV.



- 1 AUDIO OUTPUT
- 2 AUDIO INPUT
- 3 AUDIO OUTPUT
- 4 AUDIO GROUND
- 5 No connection
- 6 AUDIO INPUT
- 7 No connection
- 8 SWITCHING VOLTAGE
- 9 No connection
- 10 No connection
- 11 No connection
- 12 No connection
- 13 No connection
- 14 BLANKING GROUND
- 15 No connection
- 16 BLANKING GROUND
- 17 VIDEO OUTPUT
- 18 VIDEO INPUT
- 19 VIDEO OUTPUT
- 20 VIDEO INPUT
- 21 GROUND

Cautior: RGB reservation for only E/e operation when connecting the Pay TV decoder.

SECTION 2 ADJUSTMENT PROCEDURES

2-1. DISASSEMBLY METHOD

2-1-1. DISASSEMBLY FLOW CHART

This flow chart indicates disassembly steps of the cabinet parts and the circuit boards in order to find the necessary items for servicing.
When reassembling, perform the steps in the reverse order.

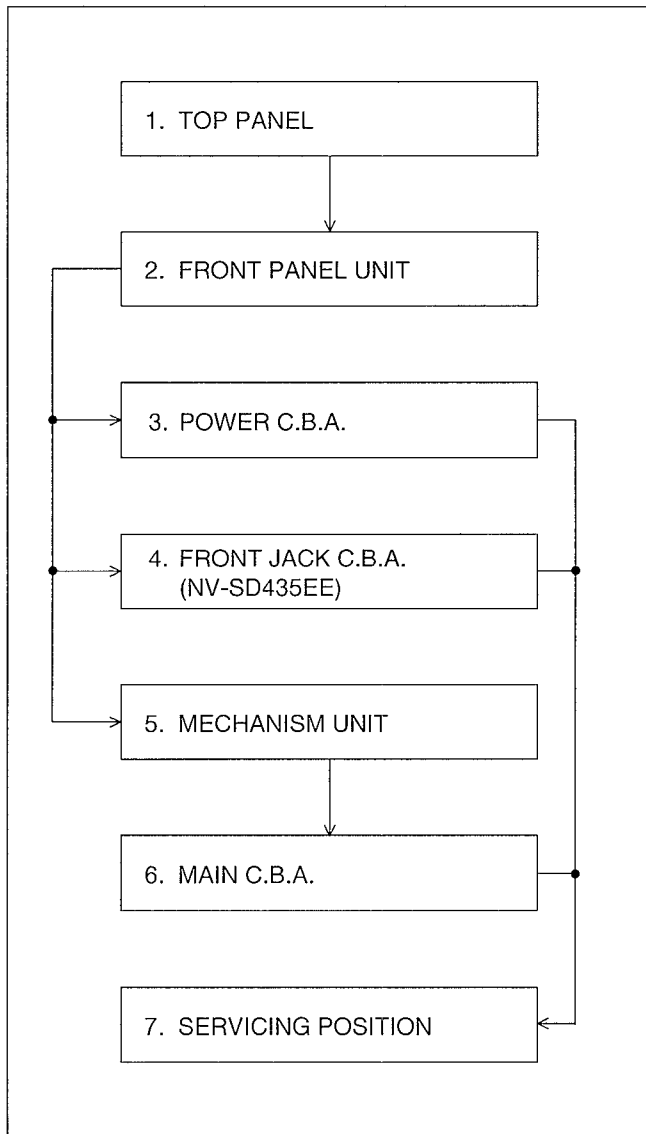


Fig. D1

2-1-2. DETAIL OF DISASSEMBLY METHOD

1. REMOVAL OF THE TOP PANEL

Remove..... 4 Screws (A)

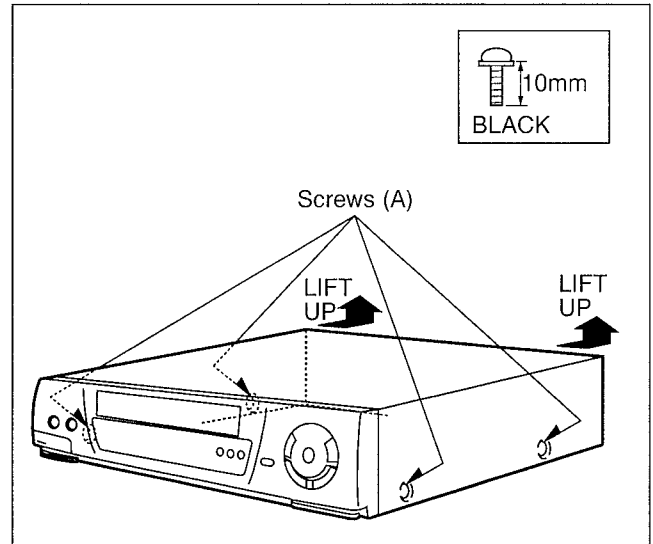


Fig. D2

2. REMOVAL OF THE FRONT PANEL UNIT

Unlock 7 Tabs (B)

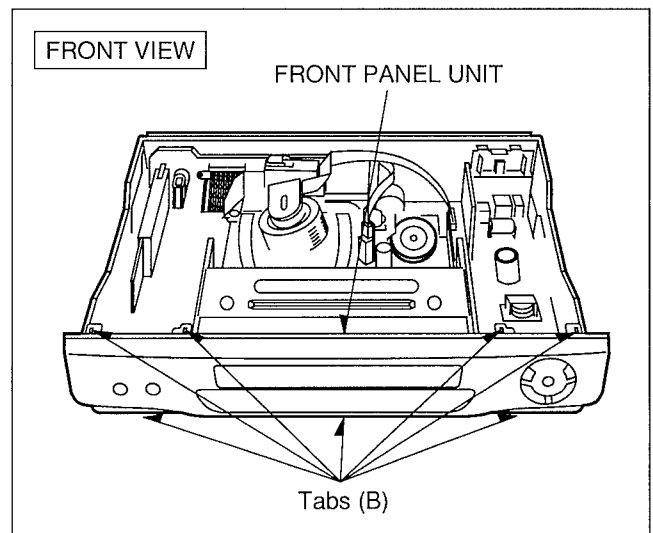


Fig. D3

3. REMOVAL OF THE POWER C.B.A.

Disconnect.....Bridge Connector (C)
 Unlock..... 6 Tabs (D)

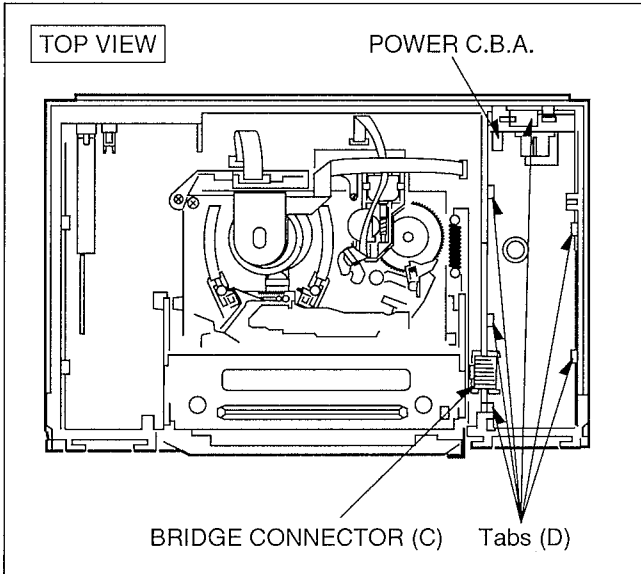


Fig. D4

4. REMOVAL OF THE FRONT JACK C.B.A. (NV-SD435EE)

Unlock..... Tab (E)

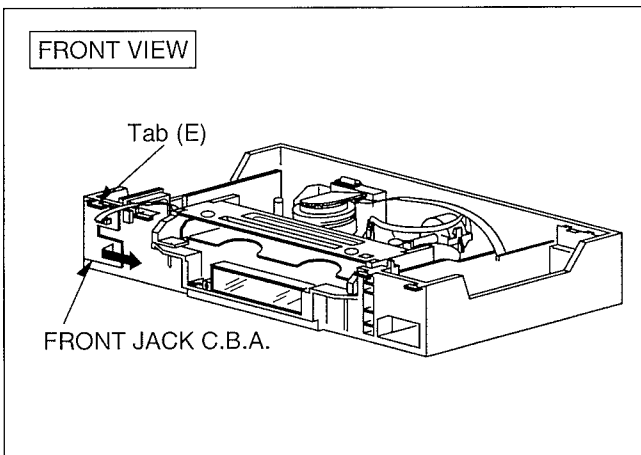


Fig. D5

5. REMOVAL OF THE MECHANISM UNIT

Remove 3 Screws (F)
 Remove 2 Screws (G)

Note: Keep pressing 2 stoppers on Cassette Holder Plate and Press Cassette Holder Plate to the rear.

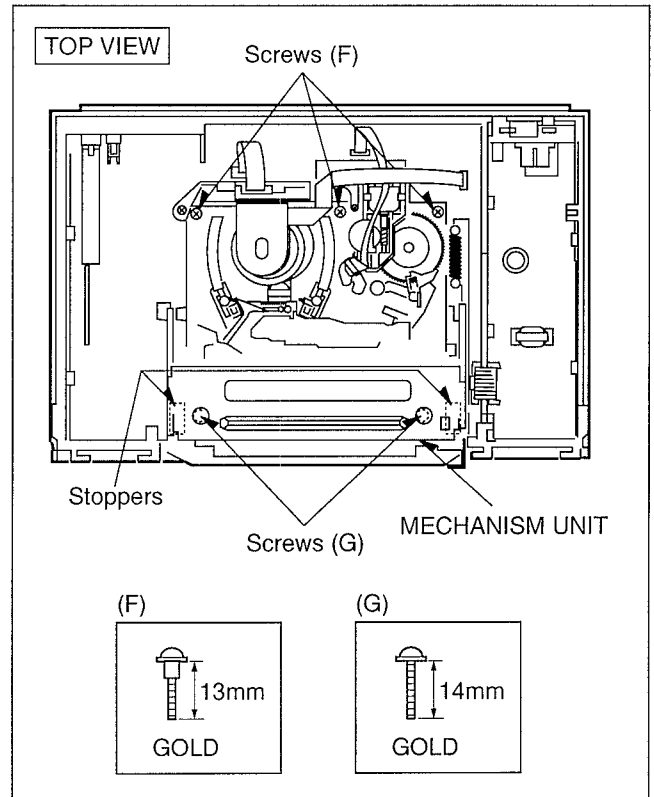


Fig. D6

6. REMOVAL OF THE MAIN C.B.A.

Disconnect.... Bridge Connector (C)
 Remove Screw (H)
 Unlock..... 9 Tabs (I)

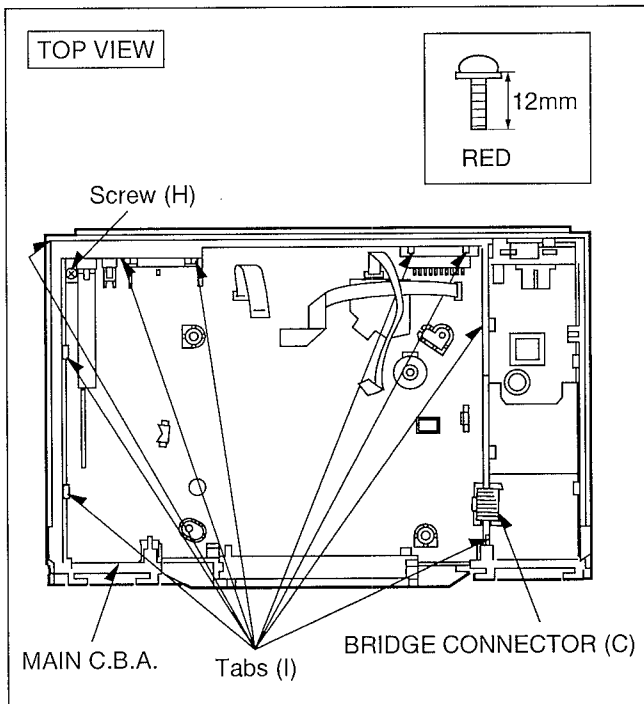


Fig. D7

7. SERVICING POSITION

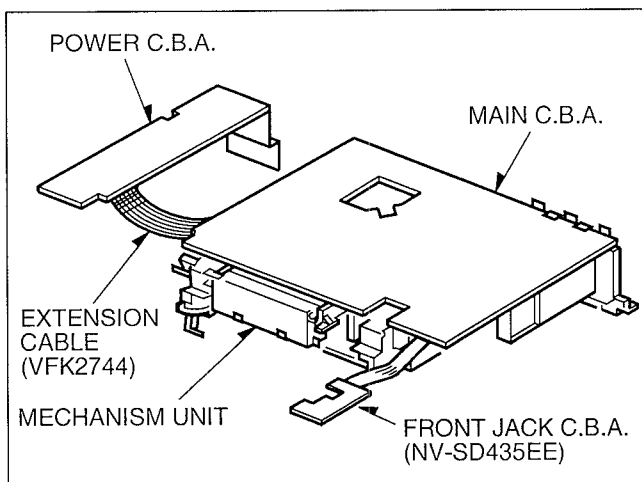


Fig. D8

2-2. MECHANICAL ADJUSTMENT PROCEDURES

Refer to the Service Manual for Z Mechanical Chassis.
 (Order No. VRD9802005C2)

2-3. ELECTRICAL ADJUSTMENT PROCEDURES

PG SHIFTER ADJUSTMENT (AUTOMATIC)

PROCEDURES	FIP Display
Press the FF and EJECT keys simultaneously for 3 seconds.	0 00 00
Press the FF and EJECT keys simultaneously twice.	2 00 00
Press the EJECT key for 3 seconds.	2 01 00
Insert the Alignment Tape. (PAL: VFJ8125H3F) (NTSC: VFM8080HQFP)	2 01 00
This adjustment is automatically started. (During the adjustment, the picture will be appeared on the monitor.)	2 01 00
When this Adjustment is terminated, the following operation will be activated.	
<ul style="list-style-type: none"> ● Adjustment completed : The tape will be ejected. ● Adjustment incompleted : "F2*" is indicated on the FIP. Check the Servo/System Control circuit and Cylinder Unit. 	
To release Service Mode, press FF and EJECT keys simultaneously 6 times until the normal indication on the FIP.	

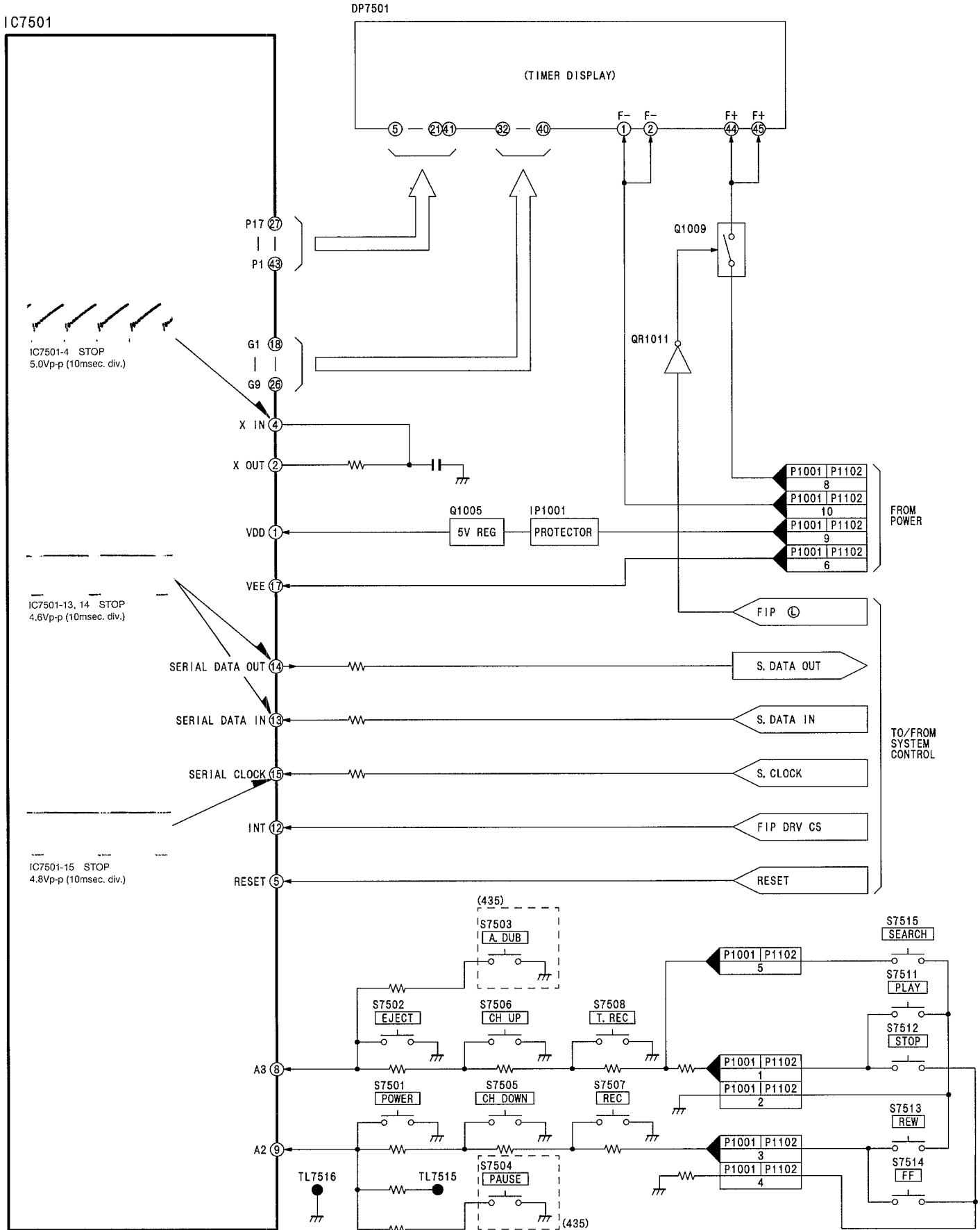
Fig. E1

Note:

Perform this adjustment after proceeding the following services:

- * Replacing the MICROPROCESSOR and/or Back-up Battery.
- * Replacing the CYLINDER UNIT or UPPER CYLINDER.
- * Adjusting or replacing which is related with the Interchangeabilities.

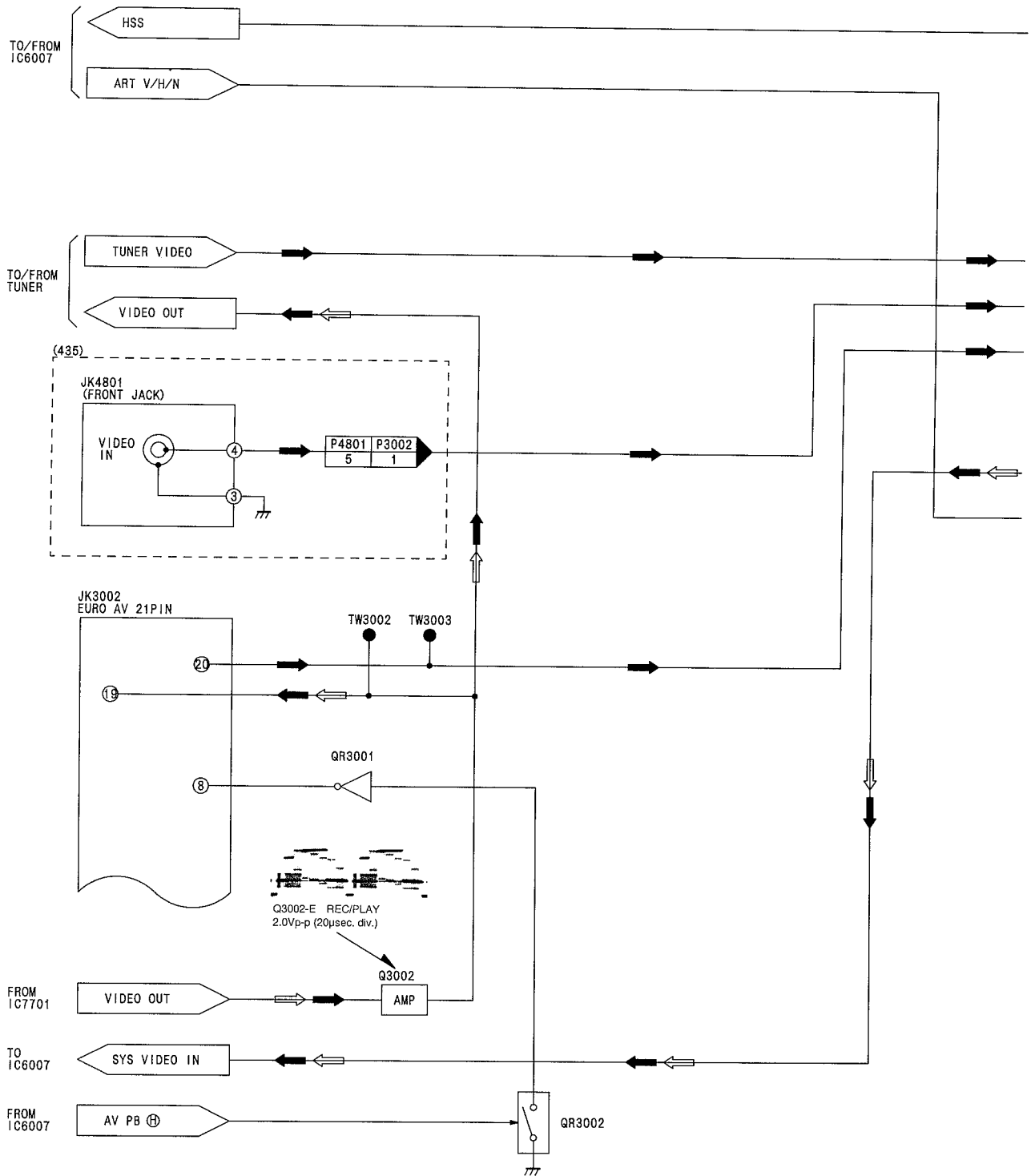
3-2. TIMER BLOCK DIAGRAM

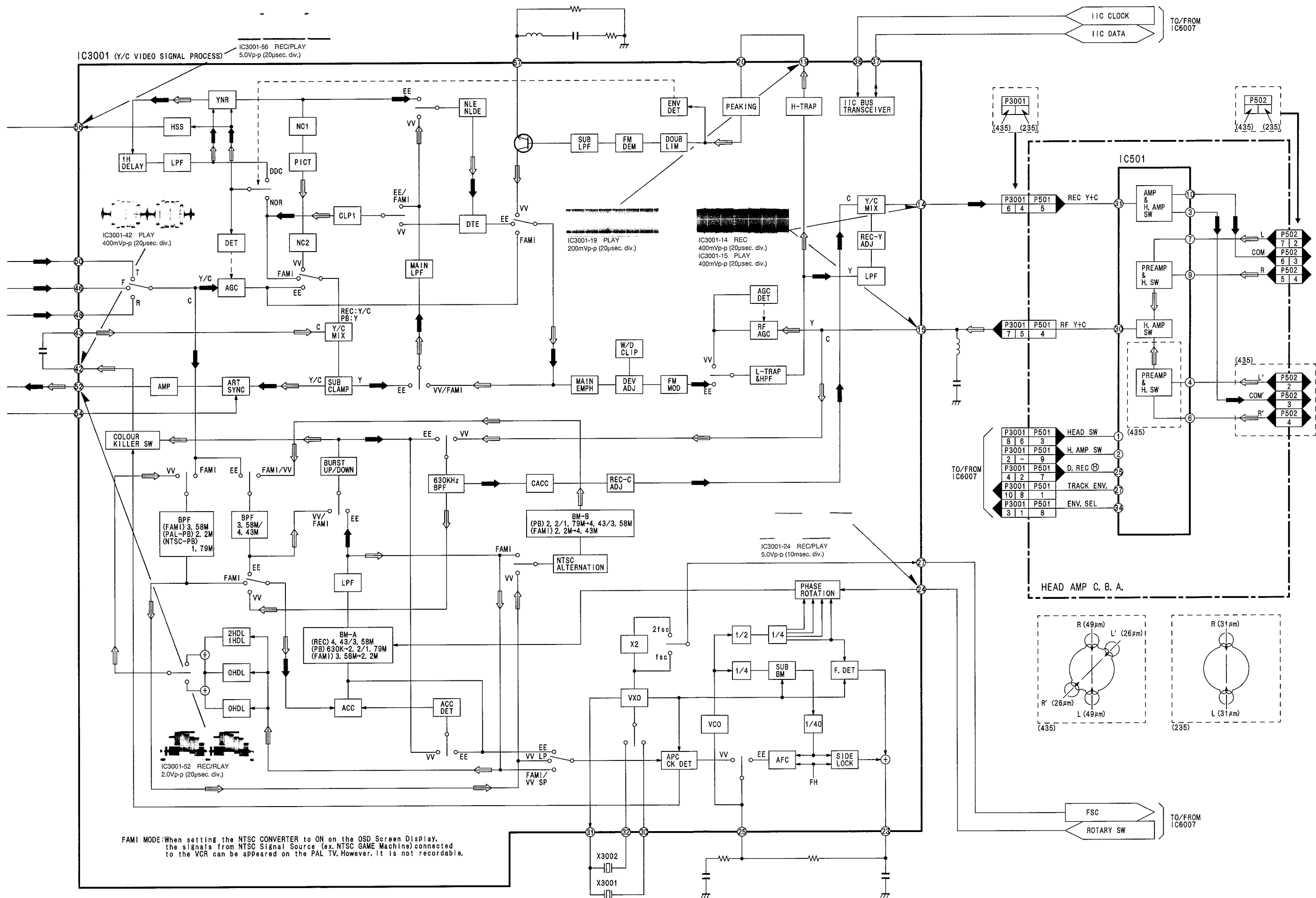


3-3. LUMINANCE & CHROMINANCE BLOCK DIAGRAM

← MAIN SIGNAL PATH IN REC MODE

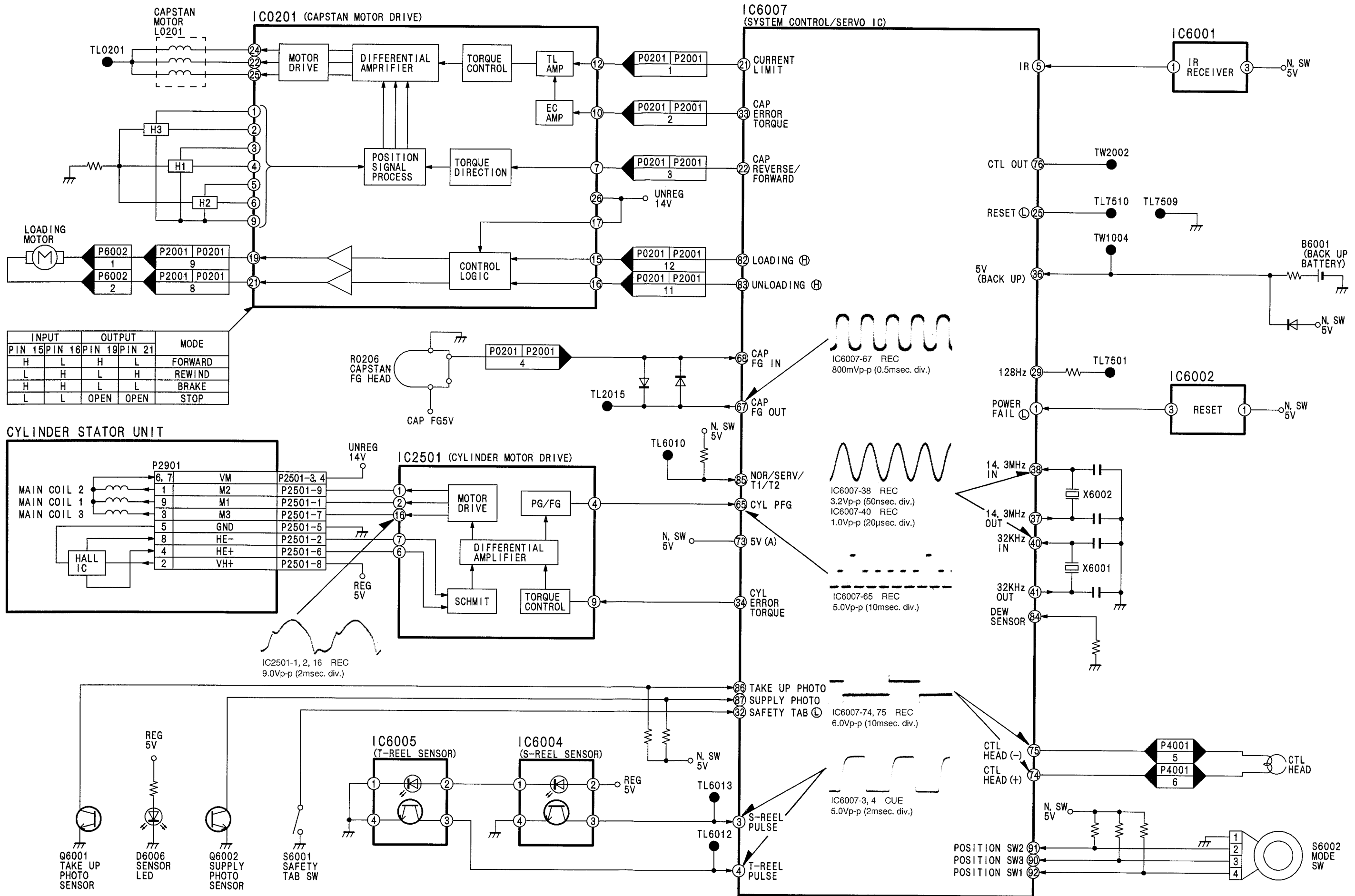
⇐ MAIN SIGNAL PATH IN PLAYBACK MODE





FAMI MODE: When setting the NTSC CONVERTER to ON on the OSD Screen Display, the signals from NTSC Signal Source (ex. NTSC GAME Machine) connected to the VCR can be appeared on the PAL TV. However, it is not recordable.

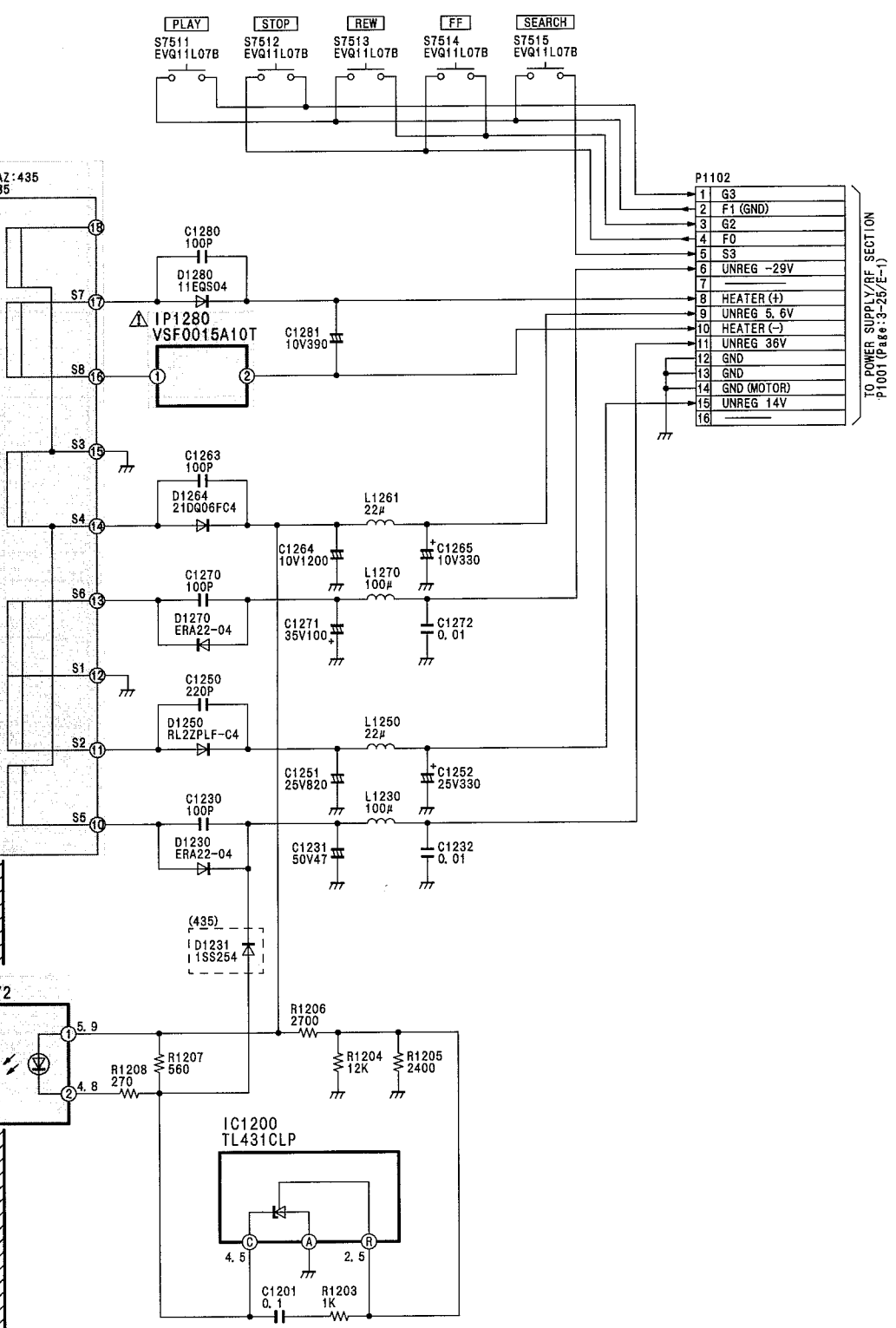
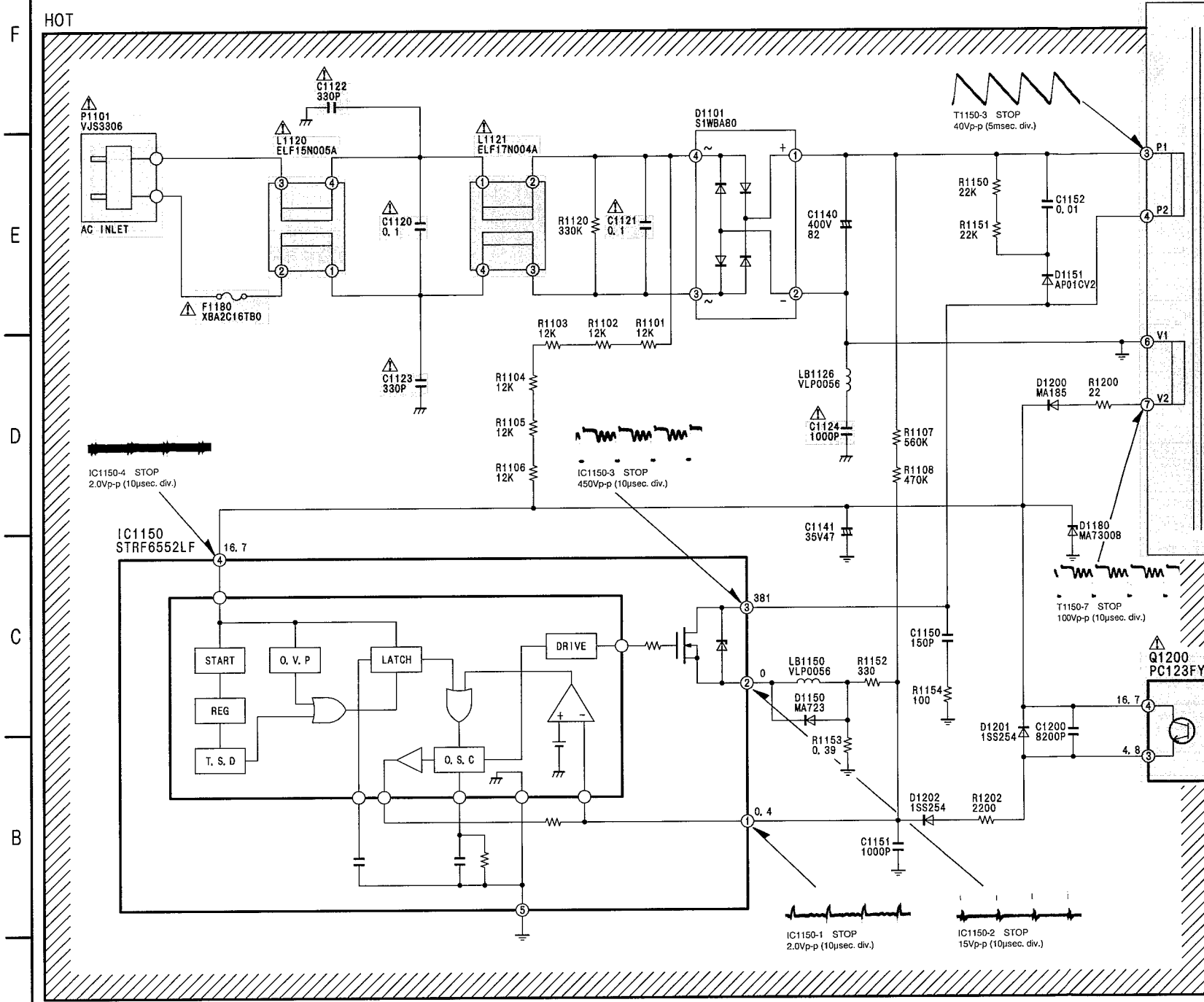
3-4 SYSTEM CONTROL & SERVO BLOCK DIAGRAM



3-5. POWER SCHEMATIC DIAGRAM



CAUTION THE STRIPED FRAME INDICATES THE PRIMARY CIRCUIT TO DISTINGUISH THE PRIMARY FROM THE SECONDARY CIRCUIT. PAY ATTENTION NOT TO RECEIVE AN ELECTRIC SHOCK DURING REPAIR AND SERVICE OF THE PRODUCTS.



TO POWER SUPPLY/RF SECTION P1102

1	G3
2	F1 (GND)
3	G2
4	F0
5	S3
6	UNREG -29V
7	
8	HEATER (+)
9	UNREG 5.6V
10	HEATER (-)
11	UNREG 36V
12	GND
13	GND
14	GND (MOTOR)
15	UNREG 14V
16	

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

NOTE1: WHEN MEASURE THE VOLTAGE OR WAVEFORM ON THE POWER TRANSFORMER CIRCUIT, SET THE GND TERMINAL OF MEASURING POINT AS FOLLOWS.
 PRIMARY SIDE... ⚡
 SECONDARY SIDE... ⚡

NOTE2: THE DC VOLTAGE INDICATED IN PRIMARY SIDE IS SHOWN THE VOLTAGE WHEN INPUT AC IS 240V.

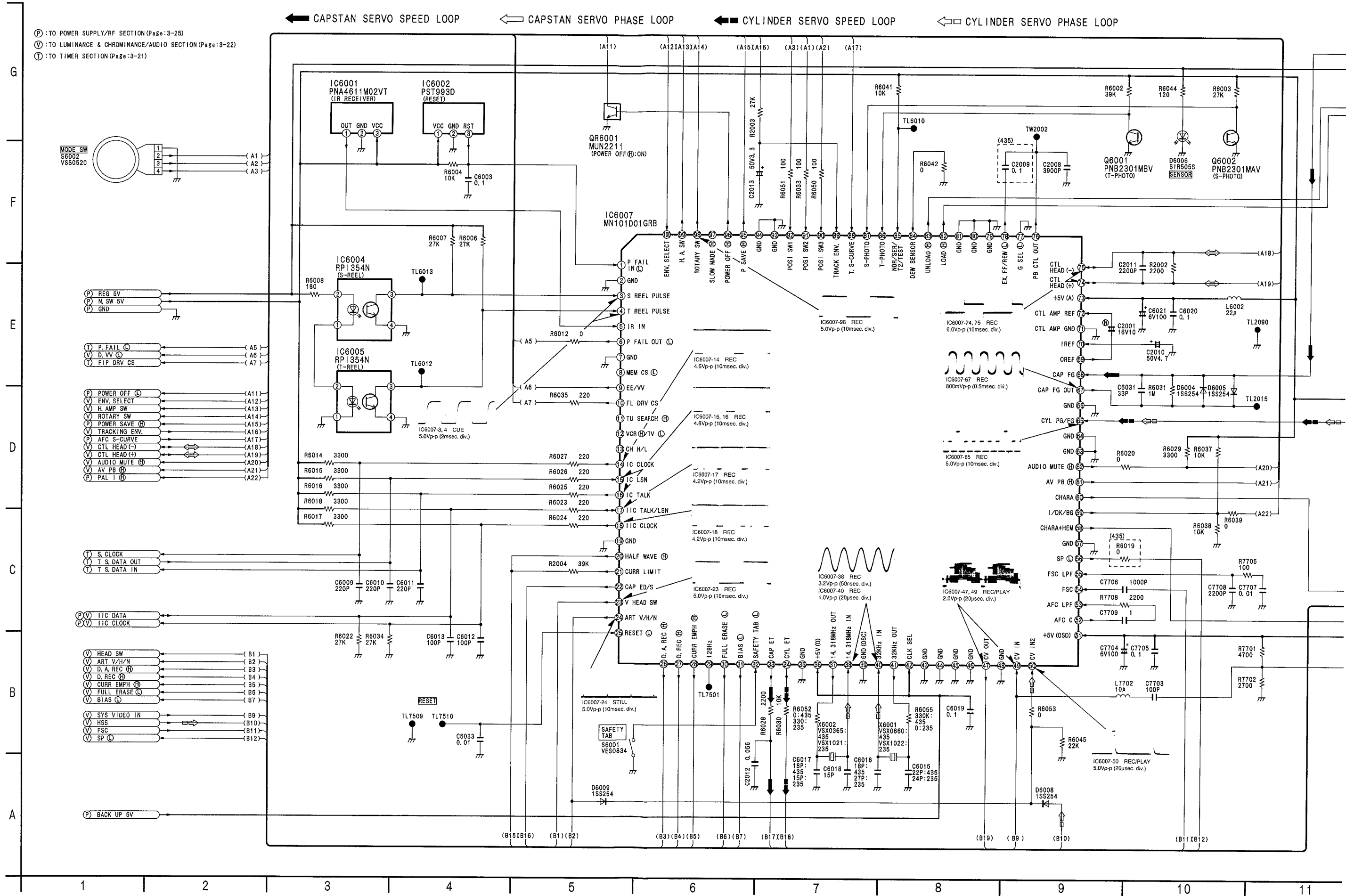
NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

IMPORTANT SAFETY NOTICE:
 COMPONENTS IDENTIFIED WITH THE MARK ⚡ HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY. WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SAME TYPE.

F
E
D
C
B
A

1 2 3 4 5 6 7 8 9 10

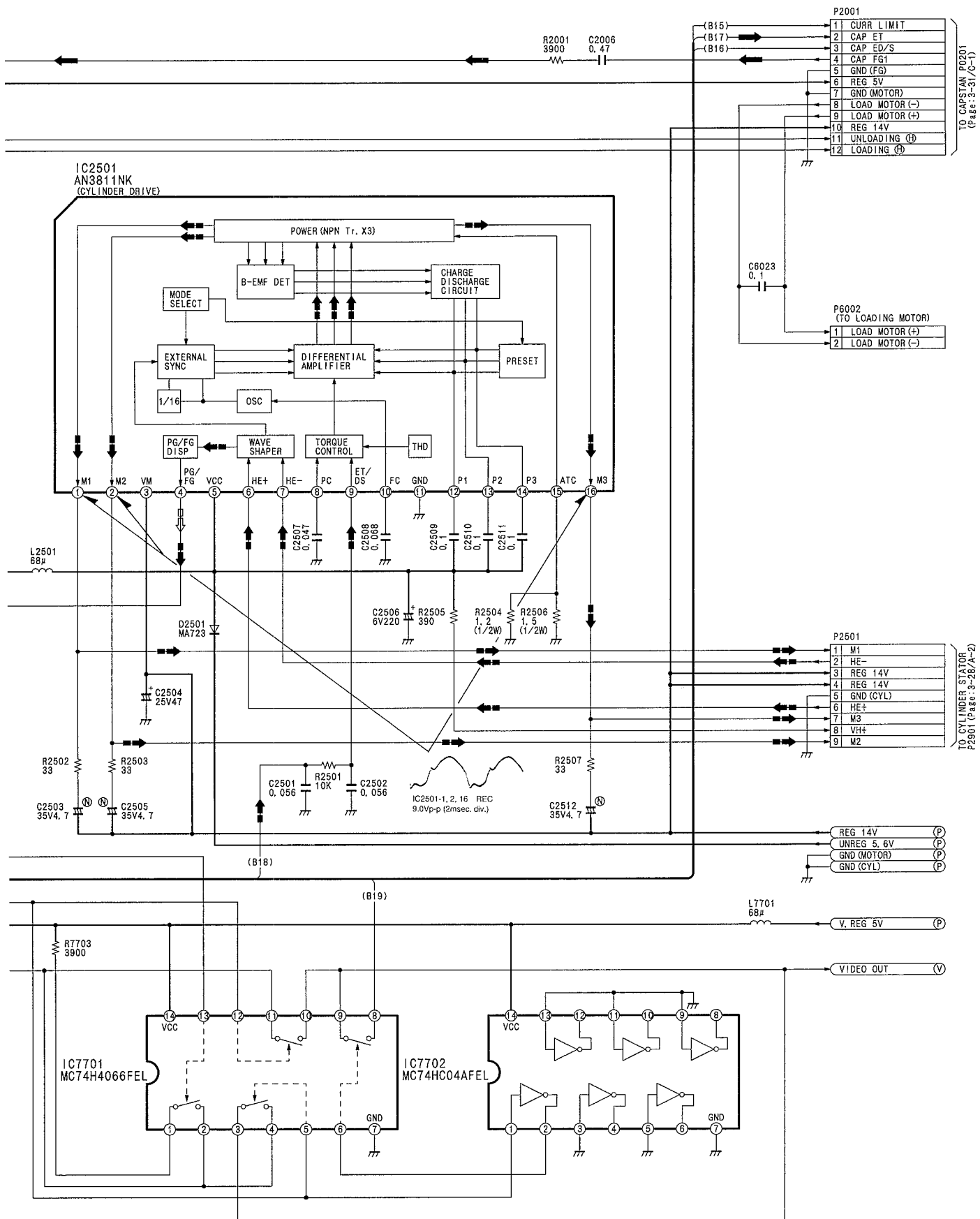
3-6. SYSTEM CONTROL & SERVO SECTION IN MAIN SCHEMATIC DIAGRAM



(P) : TO POWER SUPPLY/RF SECTION (Page:3-25)
 (V) : TO LUMINANCE & CHROMINANCE/AUDIO SECTION (Page:3-22)
 (T) : TO TIMER SECTION (Page:3-21)

G
F
E
D
C
B
A

1 2 3 4 5 6 7 8 9 10 11



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

12

13

14

15

16

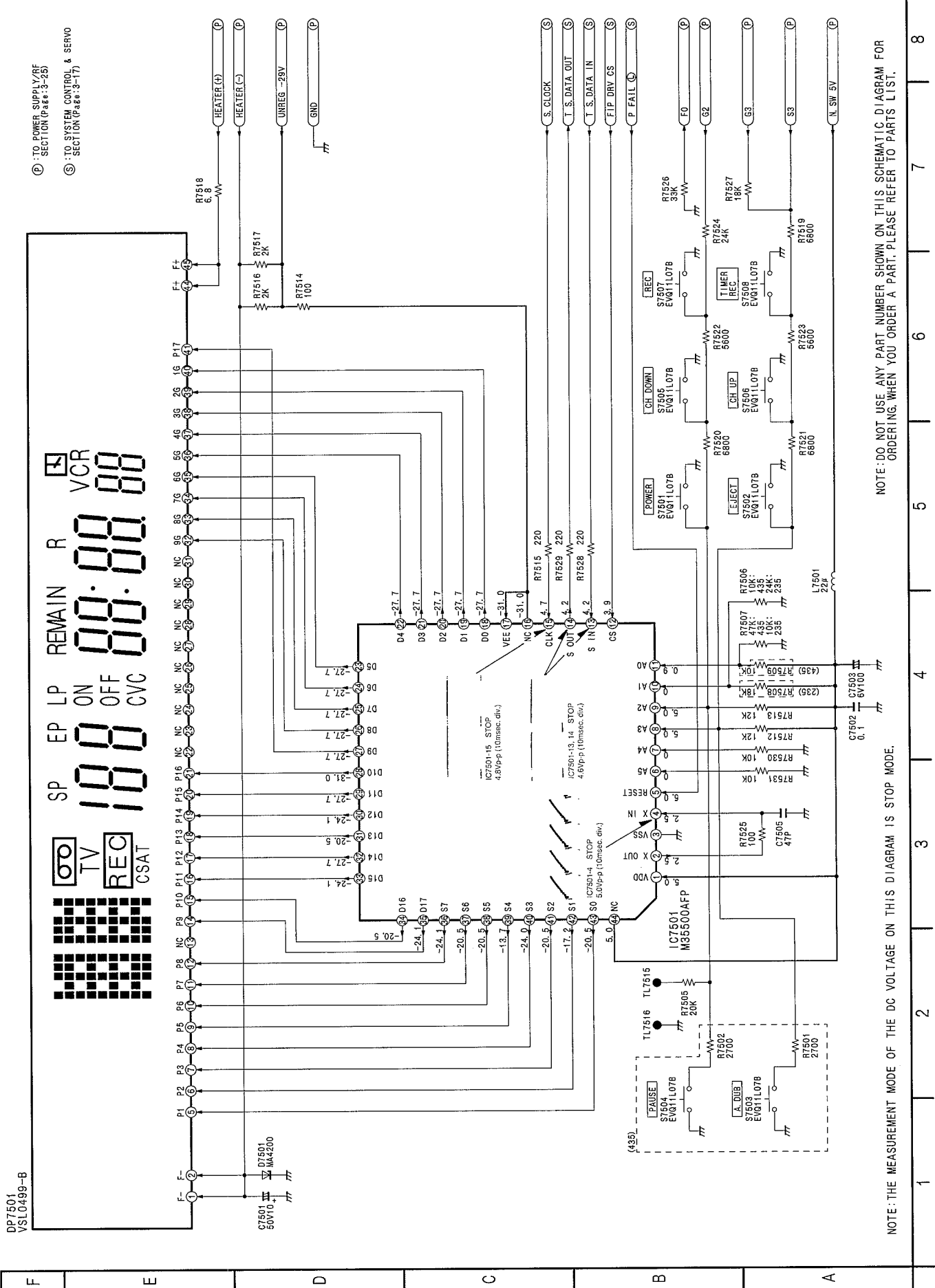
SYSTEM CONTROL & SERVO ICs DC VOLTAGE CHART (SP MODE)

REF. NO.	IC2501																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16				
STOP	15.1	15.1	15.3	1.0	5.0	1.1	1.1	0.5	2.5	1.4	0	3.8	3.8	3.8	0	15.1				
PLAY	15.0	15.0	15.3	1.0	5.0	1.1	1.1	0.5	2.4	1.4	0	3.8	3.8	3.8	0	15.0				
REC	15.0	15.0	15.3	1.0	5.0	1.1	1.1	0.5	2.4	1.4	0	3.8	3.8	3.8	0	15.0				
F.F	14.7	14.7	15.1	1.0	5.0	1.1	1.1	0.5	2.4	1.4	0	3.8	3.8	3.8	0	14.7				
REW	14.7	14.7	15.1	1.0	5.0	1.1	1.1	0.5	2.4	1.4	0	3.8	3.8	3.8	0	14.7				
REF. NO.	IC6001						IC6002													
MODE	1	2	3				1	2	3											
STOP	5.0	0	5.0				5.0	0	5.0											
PLAY	5.0	0	5.0				5.0	0	5.0											
REC	5.0	0	5.0				5.0	0	5.0											
F.F	5.0	0	5.0				5.0	0	5.0											
REW	5.0	0	5.0				5.0	0	5.0											
REF. NO.	IC6004				IC6005															
MODE	1	2	3	4	1	2	3	4												
STOP	1.1	2.3	5.2	0	0	1.1	3.9	0												
PLAY	1.1	2.3	2.5	0	0	1.1	2.5	0												
REC	1.1	2.3	2.5	0	0	1.1	2.5	0												
F.F	1.1	2.3	2.5	0	0	1.1	2.5	0												
REW	1.1	2.3	2.5	0	0	1.1	2.5	0												
REF. NO.	IC6007																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
STOP	5.0	0	5.2	3.9	5.0	5.0	0	0.8	0	3.9	0	0	0	4.7	4.5	4.2	3.9	3.9	0	0
PLAY	5.0	0	2.5	2.5	5.0	5.0	0	1.4	0	3.7	0	0	0	4.6	4.4	4.0	3.9	3.8	0	0.4
REC	5.0	0	2.5	2.5	5.0	5.0	0	1.5	4.9	3.7	0	0	0	4.6	4.4	4.1	3.8	3.8	0	0.4
F.F	5.0	0	2.5	2.5	5.0	5.0	0	0.1	0	3.4	0	0	0	4.6	4.2	3.9	3.7	3.6	0	4.8
REW	5.0	0	2.5	2.5	5.0	5.0	0	0.9	0	3.4	0	0	0	4.6	4.2	3.9	3.7	3.6	0	4.8
REF. NO.	IC6007																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
STOP	0	0	2.5	0	5.0	0	0	0	2.5	5.0	5.0	0	0	2.5	0	5.0	2.6	2.6	0	2.6
PLAY	4.0	0	2.5	0	5.0	0	0	0	2.5	5.0	5.0	0	2.5	2.4	0	5.0	2.6	2.6	0	2.6
REC	4.0	0	2.5	0	5.0	4.9	5.0	0	2.5	0.2	0.2	0	2.5	2.4	0	5.0	2.6	2.6	0	2.5
F.F	4.9	0	2.5	0	5.0	0	0	0	2.5	5.0	5.0	0	5.0	2.4	0	5.0	2.6	2.6	0	2.6
REW	4.9	5.0	2.5	0	5.0	0	0	0	2.5	5.0	5.0	0	5.0	2.4	0	5.0	2.6	2.6	0	2.5
REF. NO.	IC6007																			
MODE	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
STOP	2.7	5.0	0	0	0	0	1.9	0	1.9	0.5	5.1	2.5	2.6	0.7	0.1	0	0	0	0	0
PLAY	2.7	5.0	0	0	0	0	1.9	0	1.9	0.5	5.1	2.5	2.6	1.1	0.1	0	0	0	0	0
REC	2.7	5.0	0	0	0	0	1.9	0	1.9	0.5	5.1	2.5	2.6	1.2	0.1	0	0	0	0	0
F.F	2.7	5.0	0	0	0	0	1.9	0	1.9	0.5	5.1	2.5	2.6	0.9	0.3	0	0	0	0	0
REW	2.7	5.0	0	0	0	0	1.9	0	1.9	0.5	5.1	2.5	2.6	0.4	0.2	0	0	0	0	0
REF. NO.	IC6007																			
MODE	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
STOP	0	0.1	0	0	1.0	0	2.5	2.5	2.5	2.5	0	2.5	5.0	2.5	2.5	2.5	0	0	0	0
PLAY	5.0	0.1	0	0	1.0	0	2.5	2.5	2.5	2.5	0	2.5	5.0	2.5	2.5	2.5	0	0	0	0
REC	0	0.1	0	0	1.0	0	2.5	2.5	2.5	2.5	0	2.5	5.0	2.9	2.5	2.5	0	0	0	0
F.F	0	0.1	0	0	1.0	0	2.5	2.5	2.5	2.5	0	2.5	5.0	2.5	2.5	2.5	0	2.1	0	0
REW	0	0.1	0	0	1.0	0	2.5	2.5	2.5	2.5	0	2.5	5.0	2.5	2.5	2.5	0	2.1	0	0
REF. NO.	IC6007																			
MODE	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
STOP	0	0	0	0	5.0	4.8	5.0	2.4	1.6	5.0	0	0	0	0	0	0	5.0	0	0	1.7
PLAY	0	0	0	0	5.0	4.8	5.0	2.4	4.0	5.0	0	0	0	0	0	0	5.0	2.5	0	5.0
REC	0	0	0	0	5.0	4.7	5.0	2.4	2.2	5.0	0	0	0	0	0	0	5.0	2.5	0	0
F.F	0	0	0	0	5.0	4.8	5.0	2.4	1.0	5.0	5.0	0	0	0	0	0	5.0	0	0	2.6
REW	0	0	0	0	5.0	4.8	5.0	2.4	3.3	5.0	5.0	0	0	0	0	0	5.0	0	0	3.7
REF. NO.	IC7701																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14						
STOP	5.1	1.8	1.9	1.8	0	5.1	0	1.9	1.9	1.9	1.8	0	0	5.1						
PLAY	5.1	1.8	1.8	1.8	0	5.1	0	1.8	1.8	1.8	1.8	0	0	5.1						
REC	5.1	1.8	1.9	1.8	0	5.1	0	1.9	1.9	1.9	1.8	0	0	5.1						
F.F	5.1	1.8	1.9	1.8	0	5.1	0	1.9	1.9	1.9	1.8	0	0	5.1						
REW	5.1	1.8	1.9	1.8	0	5.1	0	1.9	1.9	1.9	1.8	0	0	5.1						
REF. NO.	IC7702																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14						
STOP	0	5.1	0	5.1	0	5.1	0	5.1	0	5.1	0	5.1	0	5.1						
PLAY	0	5.1	0	5.1	0	5.1	0	5.1	0	5.1	0	5.1	0	5.1						
REC	0	5.1	0	5.1	0	5.1	0	5.1	0	5.1	0	5.1	0	5.1						
F.F	0	5.1	0	5.1	0	5.1	0	5.1	0	5.1	0	5.1	0	5.1						
REW	0	5.1	0	5.1	0	5.1	0	5.1	0	5.1	0	5.1	0	5.1						

SYSTEM CONTROL & SERVO TRs VOLTAGE CHART (SP MODE)

REF. NO.	Q6001		Q6002		QR6001	
MODE	E	C	E	C	E	C
STOP	4.6	0	5.0	0	0	12.9
PLAY	4.8	0	5.0	0	0	12.8
REC	4.6	0	5.0	0	0	12.8
F.F	4.7	0	5.0	0	0	12.8
REW	4.7	0	5.0	0	0	12.0

3-7. TIMER SECTION IN MAIN SCHEMATIC DIAGRAM

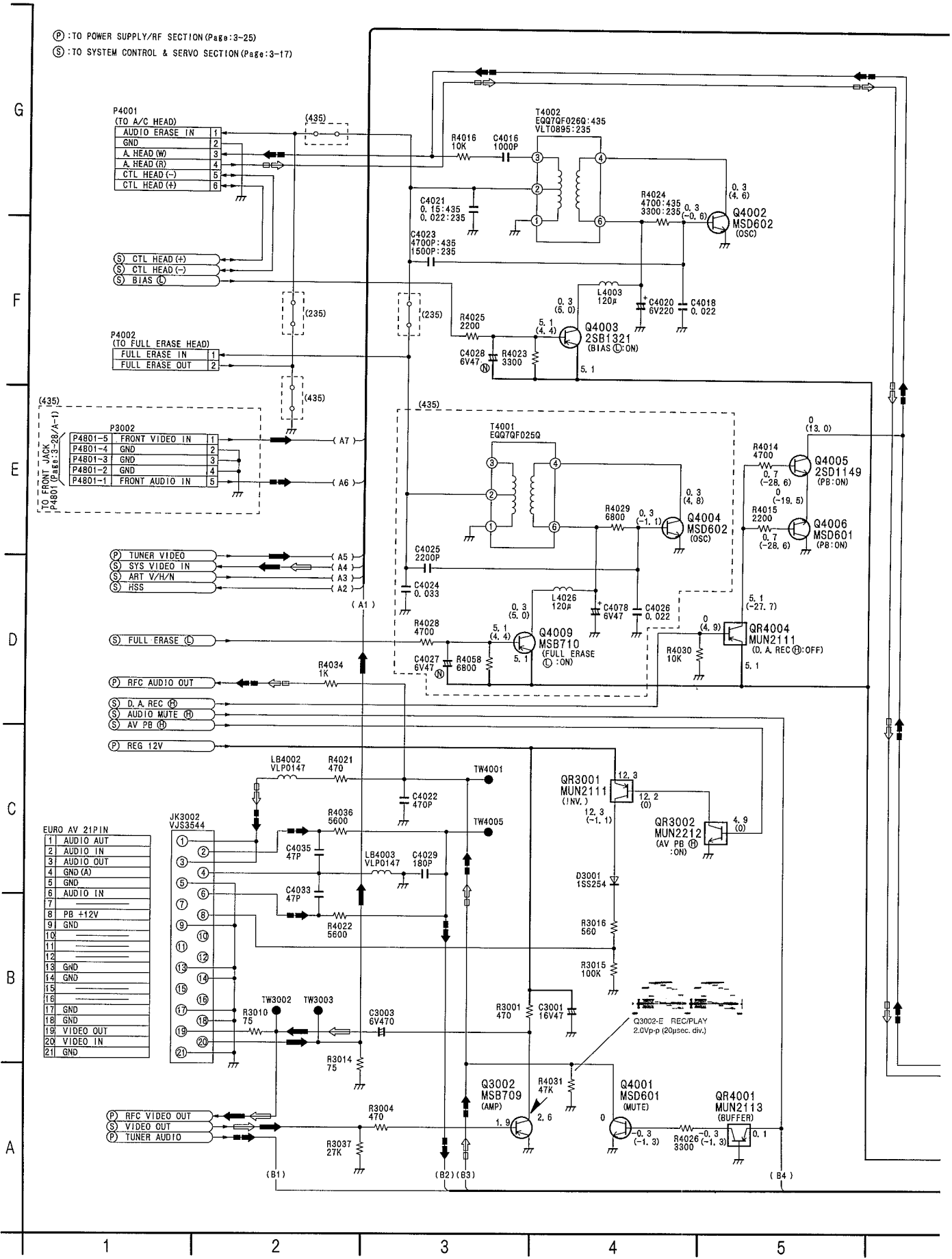


(P) : TO POWER SUPPLY, REF SECTION (PAGE: 3-25)
 (S) : TO SYSTEM CONTROL & SERVO SECTION (PAGE: 3-17)

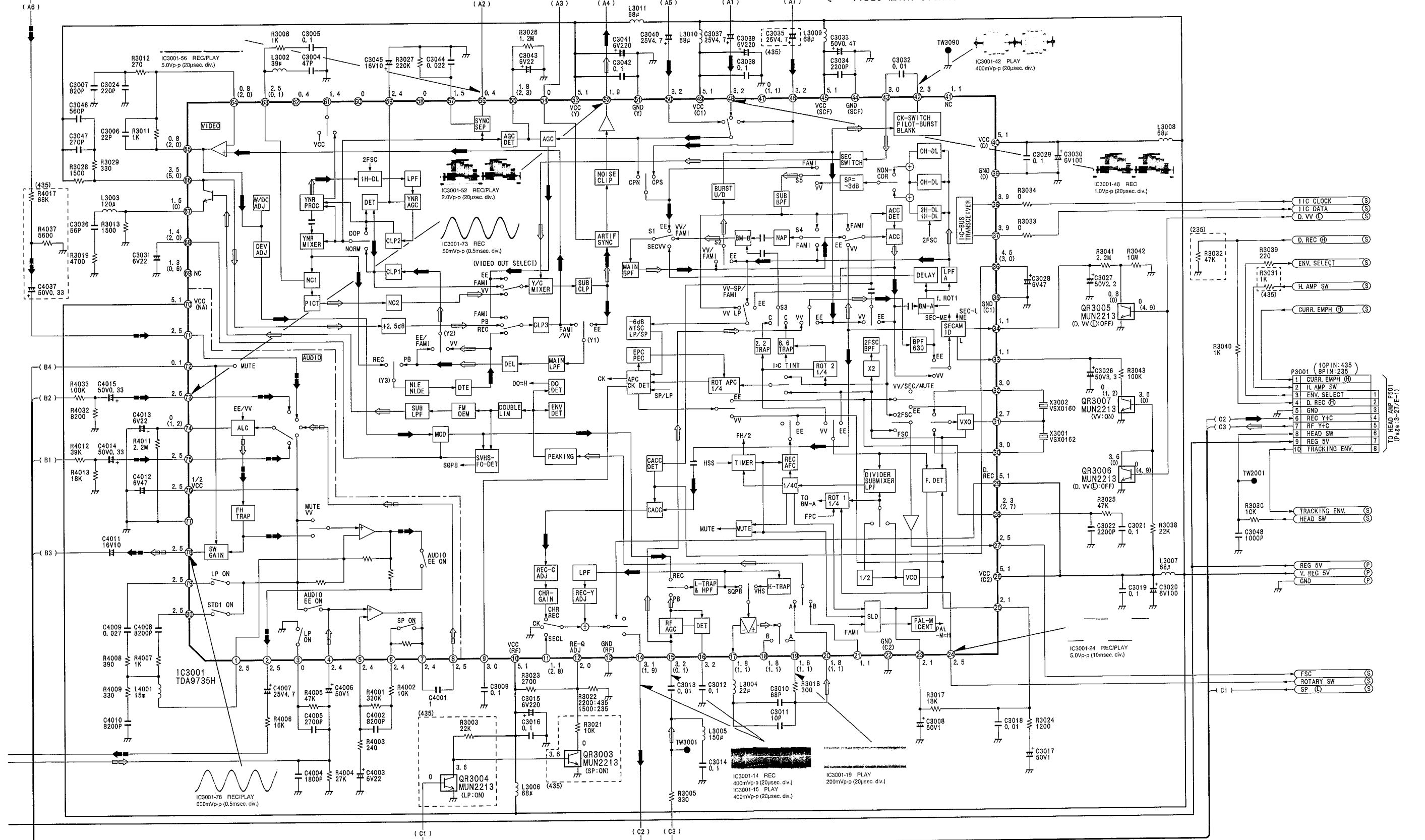
NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE.

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

3-8. LUMINANCE & CHROMINANCE/AUDIO SECTION IN MAIN SCHEMATIC DIAGRAM



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



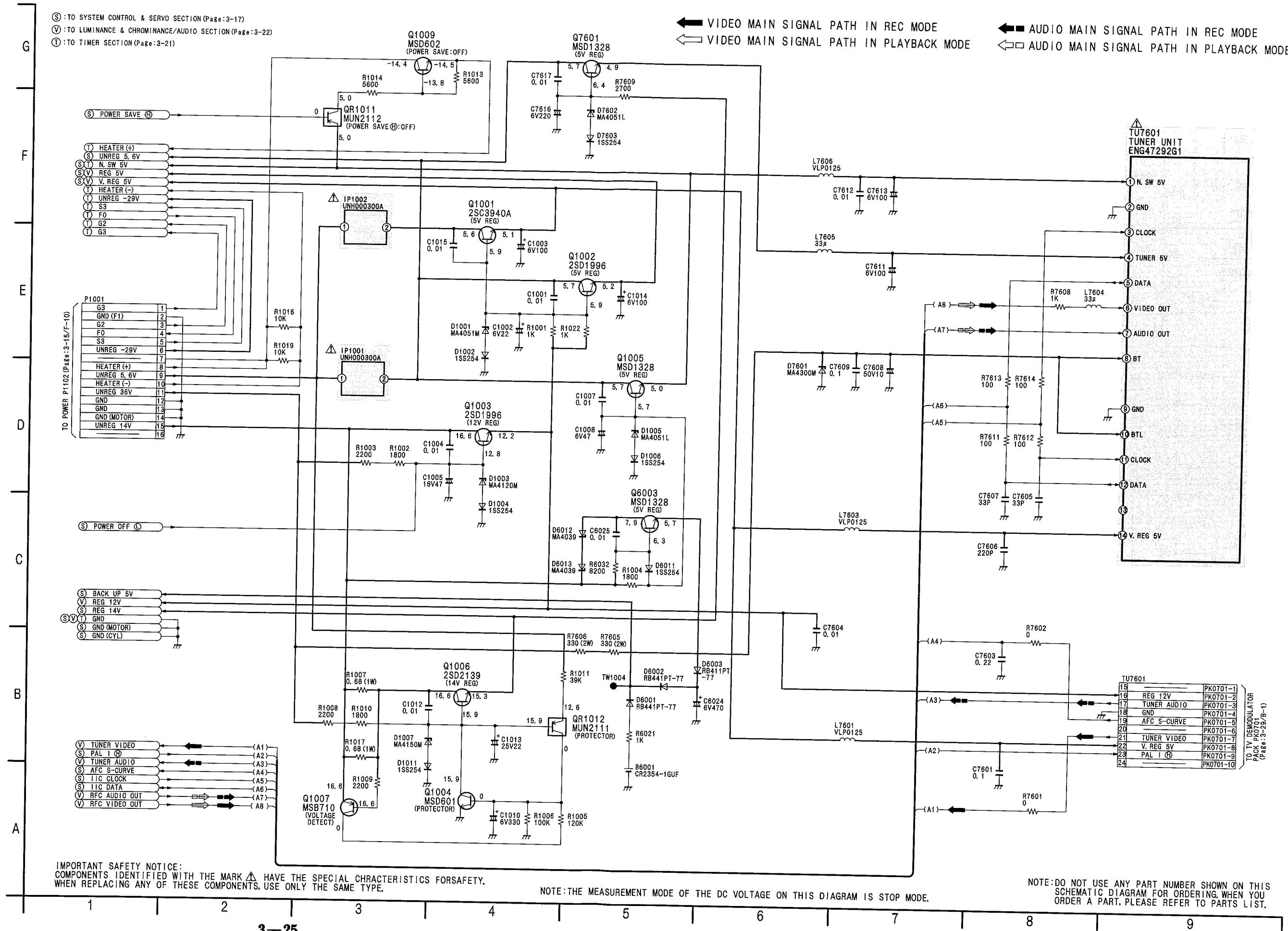
NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS () ON THIS DIAGRAM IS RECORD MODE WITH PAL COLOUR SIGNAL. (SP MODE)
 THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE WITH PAL COLOUR SIGNAL. (SP MODE)
 NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

3-9 POWER SUPPLY/RF SECTION IN MAIN SCHEMATIC DIAGRAM

- (S) : TO SYSTEM CONTROL & SERVO SECTION (Page:3-17)
- (V) : TO LUMINANCE & CHROMINANCE/AUDIO SECTION (Page:3-22)
- (T) : TO TIMER SECTION (Page:3-21)

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

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

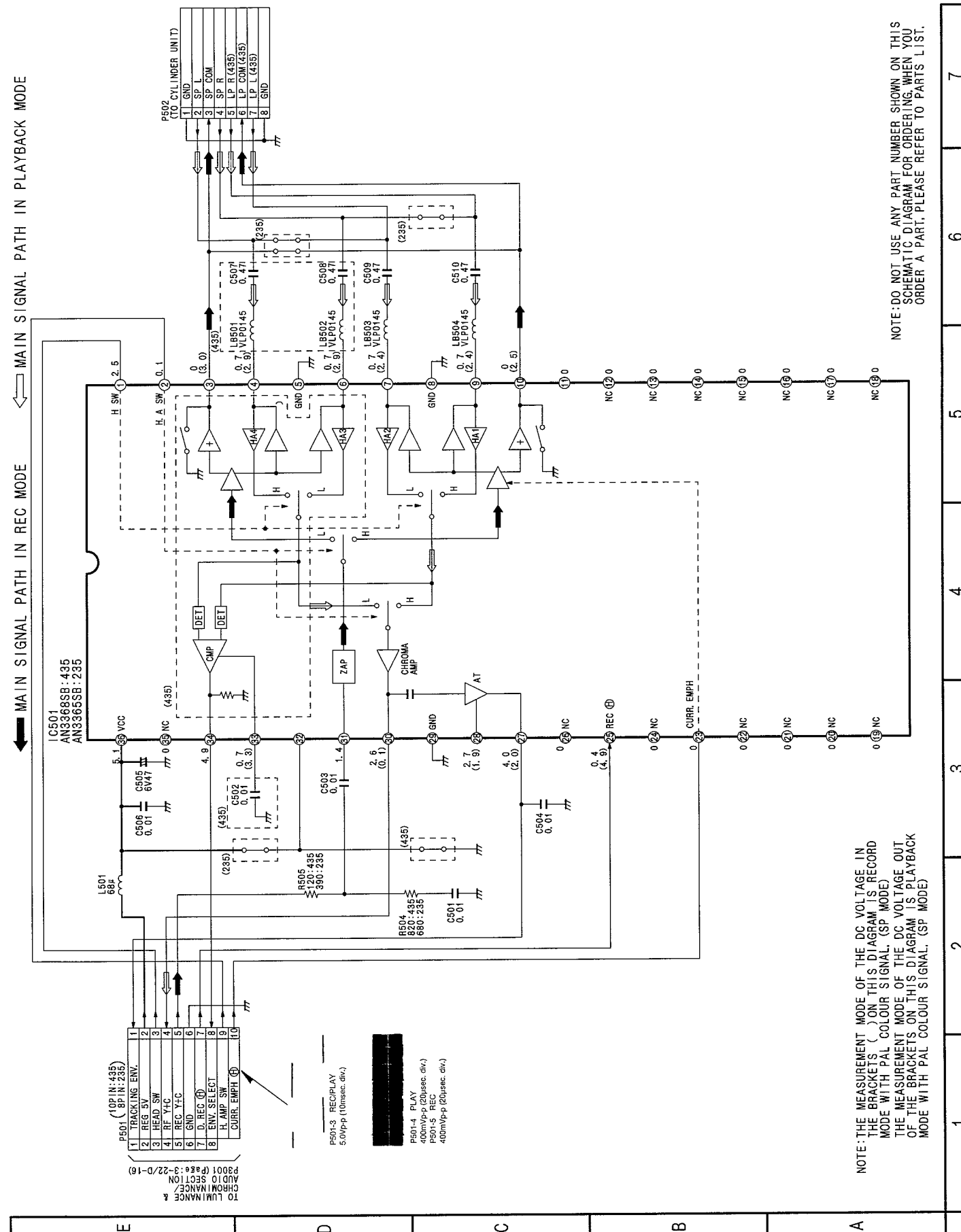


IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED WITH THE MARK Δ HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY. WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SAME TYPE.

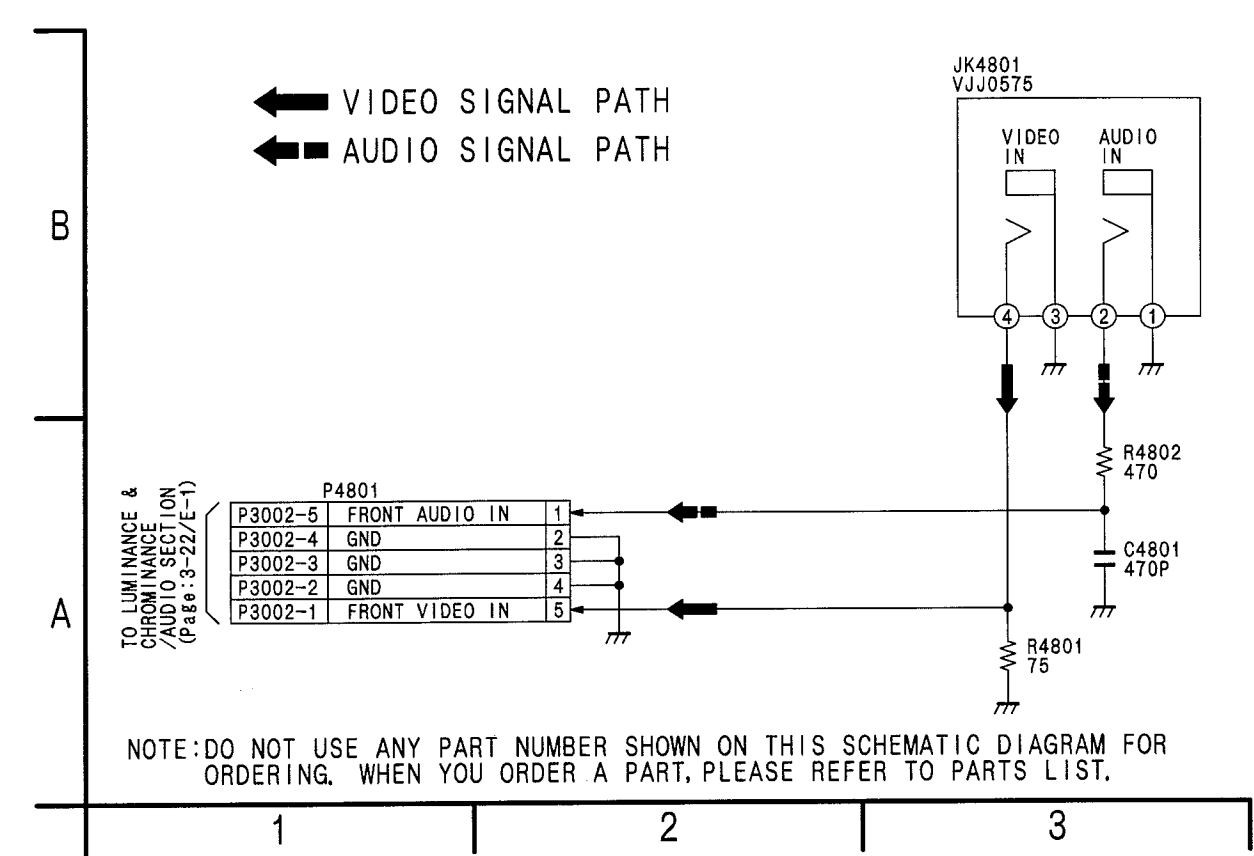
NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE.

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

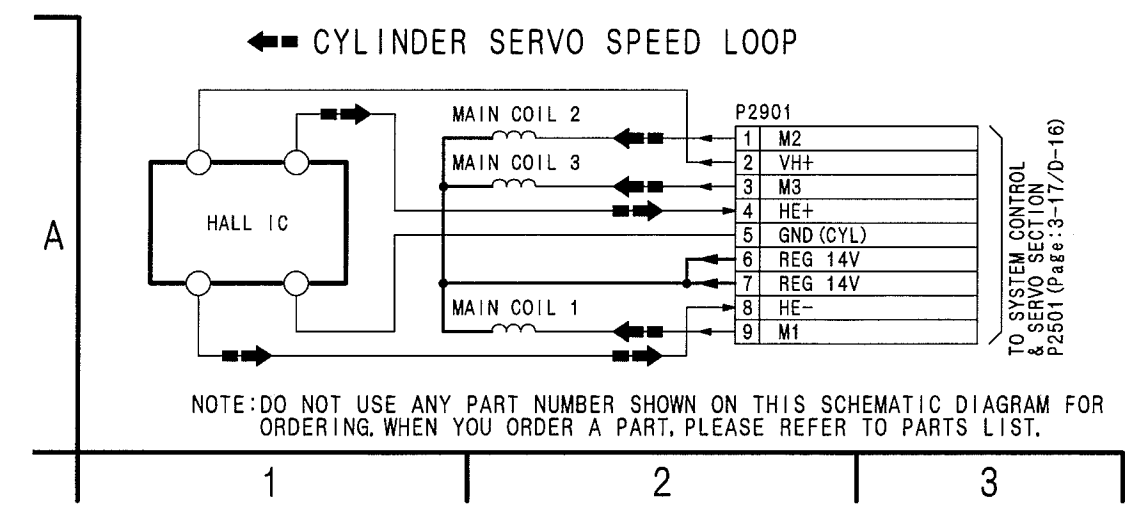
3-10. HEAD AMP SCHEMATIC DIAGRAM



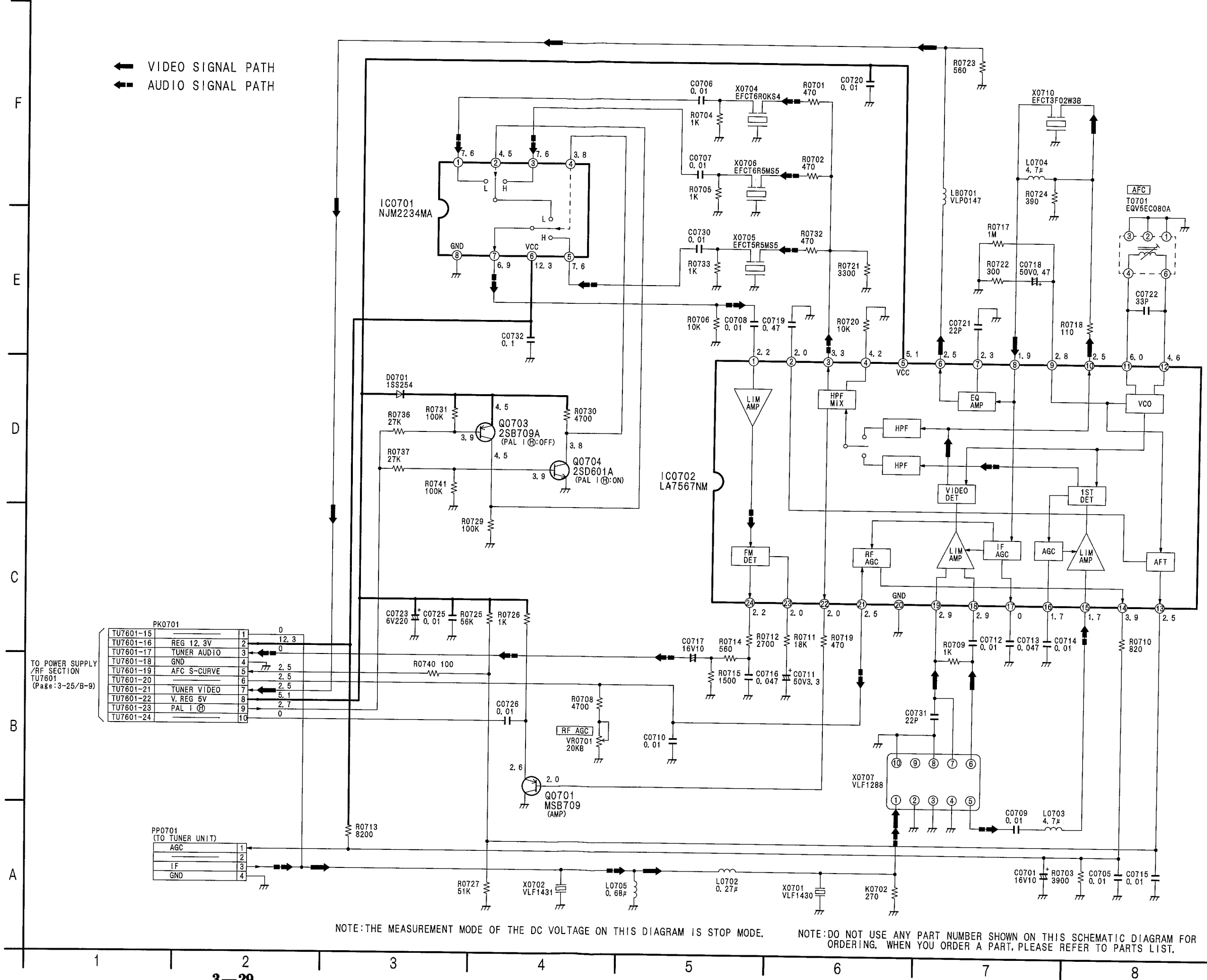
3-11. FRONT JACK SCHEMATIC DIAGRAM (NV-SD435EE)



3-12. CYLINDER STATOR UNIT SCHEMATIC DIAGRAM



3-13. TV DEMODULATOR PACK SCHEMATIC DIAGRAM



3-14. CAPSTAN UNIT SCHEMATIC DIAGRAM

