ORDER NO. VRD8911M154

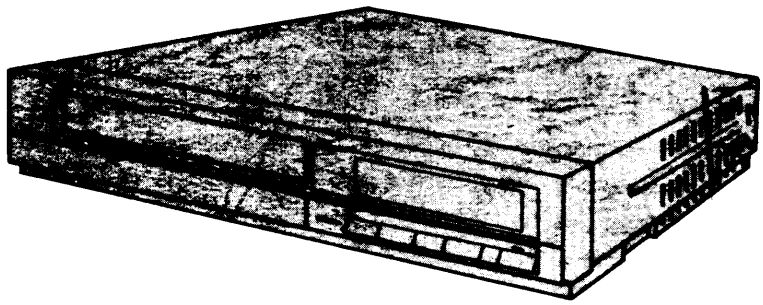
Service Manual

General Description
Adjustment Procedures
Block / Schematic Diagrams
Exploded Views / Parts List

Video Cassette Recorder

National VHS PAL HQ

NV-J1 EN MC
NV-J101EM



SPECIFICATIONS

ITEM	SPECIFICATION		ITEM	SPECIFICATION
POWER	SOURCE: 110~240V AC 50/60Hz		VIDEO	INPUT: VIDEO IN CONNECTOR (Phono type) 1.0Vp-p, 75Ω terminated
	CONSUMPTION: 23 watts			OUTPUT: VIDEO OUT CONNECTOR (Phono type) 1.0Vp-p, 75Ω terminated
RECORDING SYSTEM	2 rotary heads, helical scanning system		AUDIO	HEAD: 1 Stationary head
	PAL			INPUT: AUDIO IN CONNECTOR (Phono type) More than −10dBV (316mV), 50kΩ
TV TUNER SYSTEM	NV-J1EN	VHF I: CH2~CH4 (PAL B) VHF III: CH5~CH12 (PAL B) UHF: CH21~CH69 (PAL G) 75Ω unbalanced		OUTPUT: AUDIO OUT CONNECTOR (Phono type) −6dBV (500mV), less than 1kΩ
	NV-J101EM	VHF I: CHE2~CHE4 (PAL B) VHF III: CHE5~CHE12 (PAL B) UHF: CHE21~CHE69 (PAL G) 75Ω unbalanced	TAPE FORMAT	VHS Cassette tape (Tape width 12.7mm)
	NV-J1MC	VHF I: CHC1~CHC5 (PAL D) VHF III: CHC6~CHC12 (PAL D) UHF: CHC13~CHC57 (PAL D) CHC21~CHC69 (PAL I) 75Ω unbalanced	TAPE SPEED	23.39mm/s Record/Playback Time: 4 hours with 240min. type tape FF/REW Time: 5.5min. with 180min. type tape
RF OUT SYSTEM	NV-J1EN	VHF: CH3/,4, 76±3dBμ (PAL B) 75Ω terminated	DIMENSIONS	380(W) × 89(H) × 344.5(D)mm
	NV-J101EM	UHF: CHE36±4, 73±3dBμ (PAL G) 75Ω terminated	WEIGHT	4.9kg
	NV-J1MC	UHF: CHC25 $^{+2}_{-1}$ (PAL D), CHE38 $^{+2}_{-6}$ (PAL I), 73±3dBμ, 75Ω terminated	STANDARD ACCESSORIES	1 pc. DIN-RF Cable 1 pc. Infra-red remote controller 1 pc. AC Mains Lead 1 pc. Separational Adaptor (NV-J1EN/MC) 1 pc. AC Plug Adaptor (NV-J101EM/NV-J1MC) 1 pc. Matching Adaptor (NV-J1MC)
VIDEO	HEADS: 3 rotary heads 1 pair for recording and play back (L-R heads) 1 pc. of head for video trick play with L´ head (field still and field slow)			

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

National

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INTRODUCTION

This service manual contains technical information which will allow service personnels to understand and service this model.

Section 1 presents you with some general information of features and controls, enabling you to become familiar with each function.

Section 2 contributes to your mechanical and electrical adjustment as well disassembly and replacement procedures.

In the case of very common information relating to other models like mechanical adjustments, please refer to each service manual.

Section 3 contains block diagrams which offers you information for checking and understanding each circuit. Schematic diagrams which give you detailed information such as waveforms, voltage data, function e.t.c...

Section 4 contains exploded views and parts list.

Please place orders using the parts list and not the drawing reference numbers.

If the circuit is changed or modified, this information will be followed by supplementary service manual to be filed with original service manual.

CONTENTS

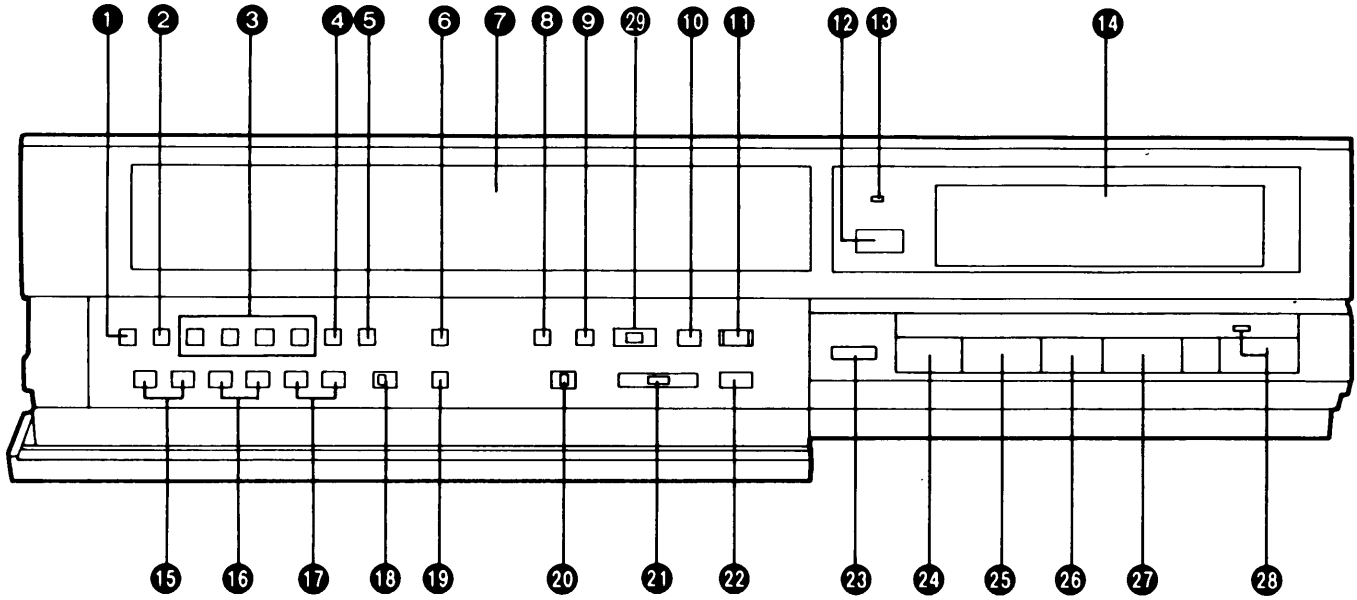
SECTION 4 EXPLODED VIEWS & PARTS LIST

REMARKS (NV-J101EM/NV-J1MC):
When receiving a SECAM broadcast, this VTR will record the programme in the MESECAM system.
If a video cassette recorded in the SECAM system on SECAM VHS recorder is played back in the MESECAM system or if a video recorded on this VTR in the MESECAM system is played back on another VTR in SECAM system , the playback picture will be black and white.

SECTION 1
GENERAL DESCRIPTIONS

1-1. CONTROLS AND COMPONENTS

FRONT



❶ Clock Button

- In case of a power failure, the timer back-up system maintains the clock operation and timer content for at least 60 seconds. However, depending on the charging time and the memory content, the back-up time may be considerably longer. However, it takes more than 60 minutes for the back-up circuit to become operational, after the VTR is connected to the mains.

❷ Preset/Fine/Normal Button

❸ Timer Controls

- The clock/timer of the VTR is programmed with the calendar up to the end of the year 2087.
  The indications 88-99 are for the years 1988–1999.
  The indications 00-87 are for the years 2000–2087.

❹ Band/AFC Button

❺ Clear Button

❻ Timer Record Button

❼ Cassette Compartment

❽ Memory/Repeat/Search Button

Repeatedly pressing this button will change the indication in the following order: "M" (Memory)→ "R" (Repeat)→ "S" (Search)→ both indications are off→ "M"...

❾ Reset Button

❿ Pause/Still Button (❚❚)

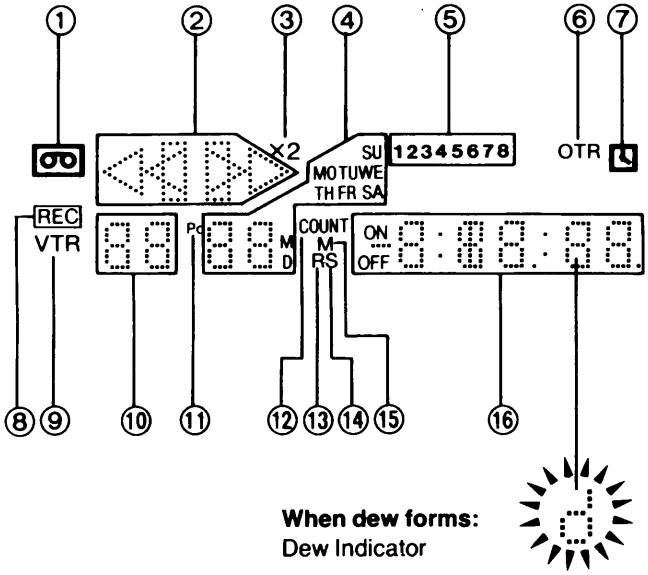
⓫ Record Button (●)

⓬ Infra-red Remote Control Receiver

⓭ Digital Tracking Indicator

⑭ Multi-Function Display

Multi-Function Display



When dew forms:
Dew Indicator

① Cassette-in Indicator

② Tape Running Display

③ Double Speed Indicator

④ Date Display

⑤ Timer Programme Number

⑥ OTR Indicator

⑦ Timer Recording Indicator

⑧ Recording Indicator

⑨ VTR Mode Indicator (NV-J1EN)

⑩ Channel Display

⑪ Position Indicator

⑫ Counter Mode Indicator

⑬ Repeat Indicator

⑭ Search Indicator

⑮ Memory Indicator

⑯ Clock/Counter Display

⑮ Channel Selection Up and Down Buttons

⑯ OTR On Buttons

⑰ OTR Off Buttons

⑱ Digital Tracking Selector

Digital Tracking
ON: Select this position for digital tracking.
When playback is started after inserting a cassette, and the VTR is turned on, the Digital Tracking function will be activated automatically, the Digital Tracking Indicator will flash for several seconds, and the tracking will be adjusted automatically (after the adjustment, the Digital Tracking Indicator will remain lit).
- During playback, the Digital Tracking function will be activated whenever the playback changes over from an unrecorded part to a recorded part, provided the recorded part is longer than 4 seconds.

Manual Tracking
OFF: Select this position for manual tracking.
- When the playback picture is distorted by noise bars, adjust by pressing the Tracking "+" or "−" Button.
- To return the Tracking Control to the former setting, press the Tracking "+" and "−" Buttons simultaneously.

⑲ Clock/Counter Selector

⑳ Noise Filter Switch

ON: For playback of tapes with inferior picture quality caused, for example, by repeated dubbing.
OFF: For ordinary use of the VTR.

㉑ Picture Sharpness Control

㉒ VTR/TV Selector (NV-J1EN)

㉓ Eject Button (⏏)

㉔ Rewind ◀◀ /Review ⏪ Button

㉕ Play/×2 Button (▶)

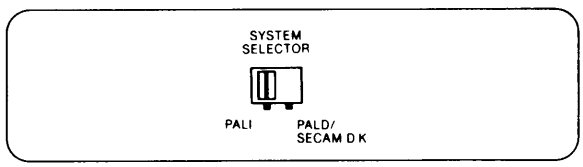
㉖ Fast Forward ▶▶ /Cue ⏩ Button

㉗ Stop Button (■)

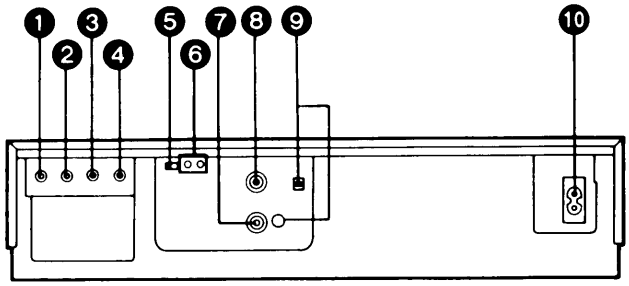
㉘ VTR On/Off Switch with Indicator

㉙ TV System Selector (NV-J1MC)

Select the TV system of the TV station which is desired to be tuned.



REAR



❶ Audio Input Socket

❷ Video Input Socket

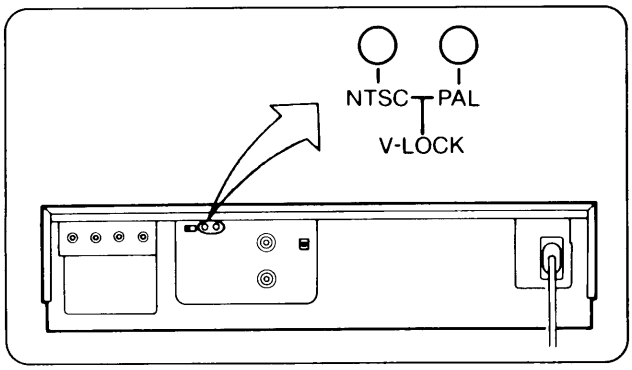
❸ Audio Output Socket

❹ Video Output Socket

❺ Test Signal Switch

❻ Vertical Lock Controls

If vertical jitter occurs during Still playback, adjust the V-Lock Control (on the rear of the VTR) for the corresponding recording system (NTSC or PAL) with the screw driver. A one-time adjustment should be all that is necessary.



❼ RF Input Socket

❽ RF Output Socket

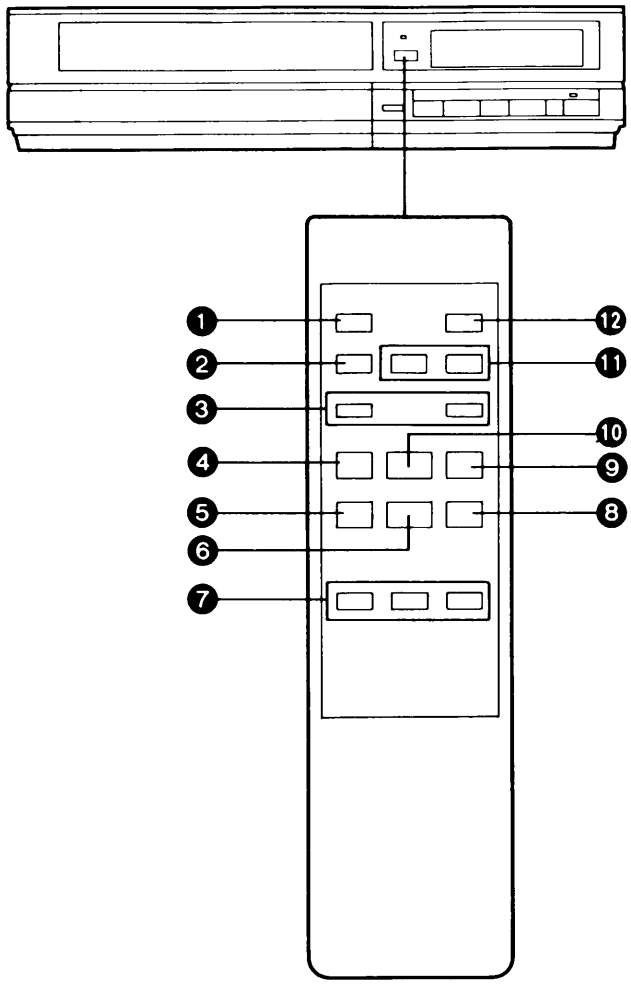
❾ RF Converter Channel Selector (NV-J1EN)

Video Playback Channel Selector (NV-J1MC/NV-J101EM)

❿ AC Mains Lead Socket

1-2. INFRA-RED REMOTE CONTROLLER

Parts No.: VEQ1044 (NV-J1EN)
VEQ1086 (NV-J1MC/NV-J101EM)



❶ **VTR On/Off Switch**

❷ **Clock/Counter Selector**

❸ **Record Buttons (●)**

❹ **Pause/Still Button (❚❚)**

❺ **Rewind ◀◀ /Review ⏪ Button**

❻ **Play/×2 Button (▶)**

❼ **Slow Buttons**

❽ **Fast Forward ▶▶ /Cue ⏩ Button**

❾ **Still Advance Button (⏭)**

❿ **Stop Button (■)**

⓫ **Channel Selection Up and Down Buttons**

⓬ **VTR/TV Selector (NV-J1EN)**

1-3. POWER SOURCE FOR THE REMOTE CONTROLLER

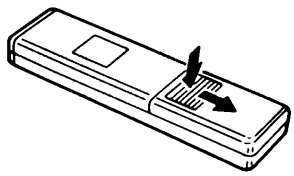
■ The Remote Controller is powered by 2IEC "R6" size batteries. The life of the batteries is about one year, however, it depends on the frequency of use. Inspect and if necessary, replace the batteries once a year.

CAUTION FOR BATTERY REPLACEMENT

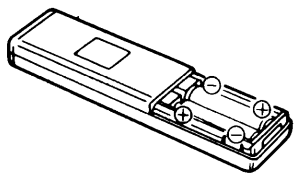
- Load the new batteries with their polarities (⊕ and ⊖) aligned correctly.
- Do not apply heat to batteries, or internal short-circuit may occur.
- If you do not intend to use the Remote Controller for a long period of time, remove the batteries and store them in a cool and dry place.
- Remove spent batteries immediately and dispose of them.
- Do not use an old and a new batteries together. (Also never use an alkaline battery with a manganese battery.)

Load the batteries as follows:

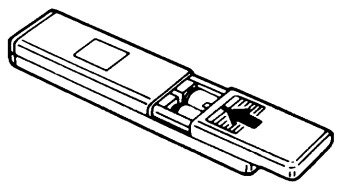
❶ Remove the battery compartment lid.



❷ Place the batteries in the battery compartment as indicated inside the battery compartment.



❸ Replace the lid.



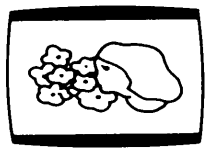
Note:

- The infra-red beam should be transmitted directly at the Infra-red Remote Control Receiver on the front of the VTR.
- Direct sunlight may interfere with the beam.
- The lightsensing angle of the Infra-red Remote Control Receiver in the VTR is about 30° for each side from the centre.
- The unit should be used within a range of about 7 meters from the front of the VTR.

1-4. NTSC PLAYBACK

NTSC Playback

Tapes recorded in the NTSC system can be played back with this VTR via a PAL system TV set.



- Depending on the TV set used, the picture may shrink vertically and black bars may appear both at the top and bottom of the screen.
  This is not an indication of a malfunction.
- And the playback picture may roll up or down, if the TV set is equipped with a V-HOLD control, it may be possible to stop the picture movement by adjusting this control.
- The special playback functions (except normal playback) cannot be used for NTSC recordings. This is not an indication of a malfunction.
- Recording in the NTSC system is not possible with this VTR.

SECTION 2
ADJUSTMENT PROCEDURES

2-1. DISASSEMBLY METHOD

2-1-1.DISASSEMBLY FLOW CHART

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

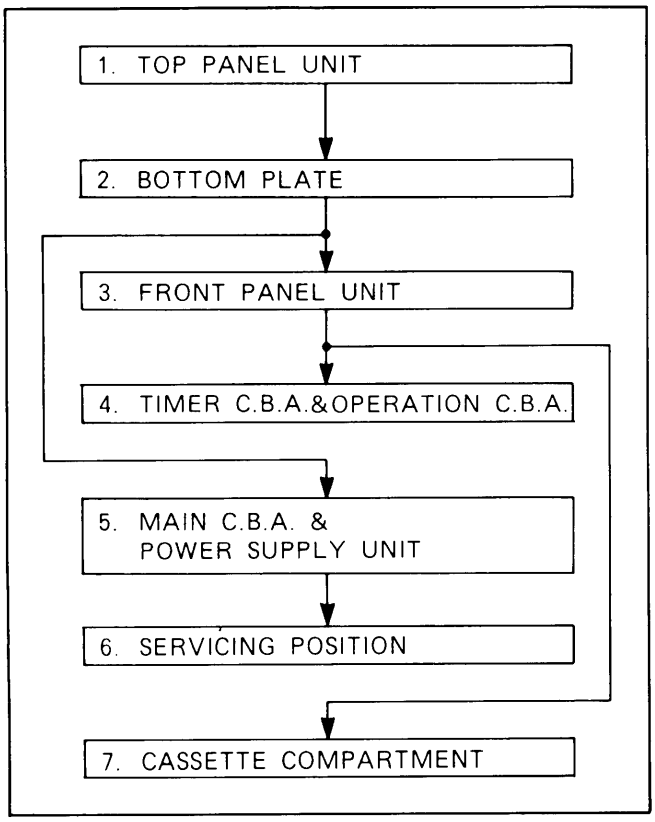


Fig.D1

2-1-2.DETAIL OF DISASSEMBLY METHOD

1. REMOVAL OF THE TOP PANEL UNIT

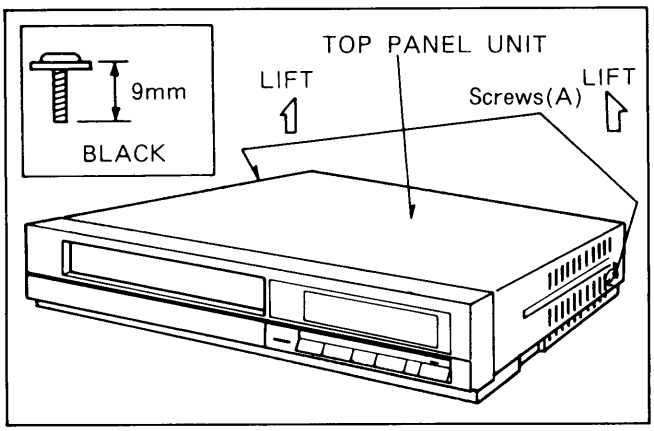


Fig.D2

Remove.....2 Screws(A)

2.REMOVAL OF THE BOTTOM PLATE

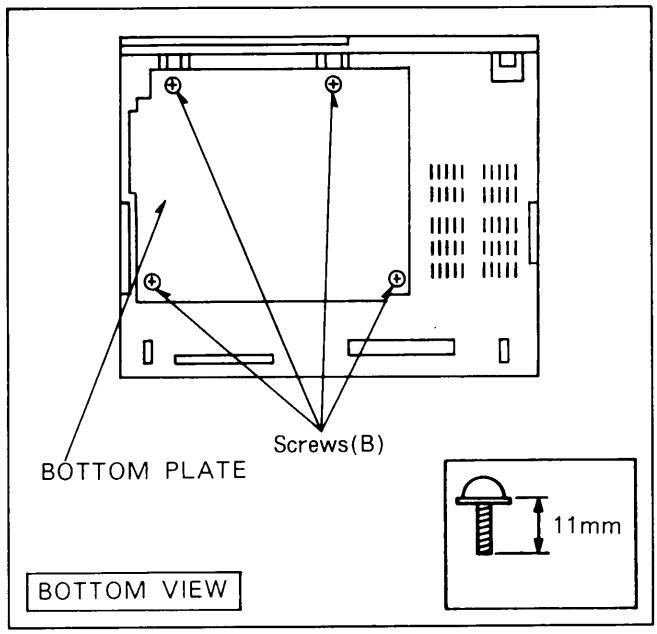


Fig.D3

Remove.....4 Screws(B)

3.REMOVAL OF THE FRONT PANEL UNIT

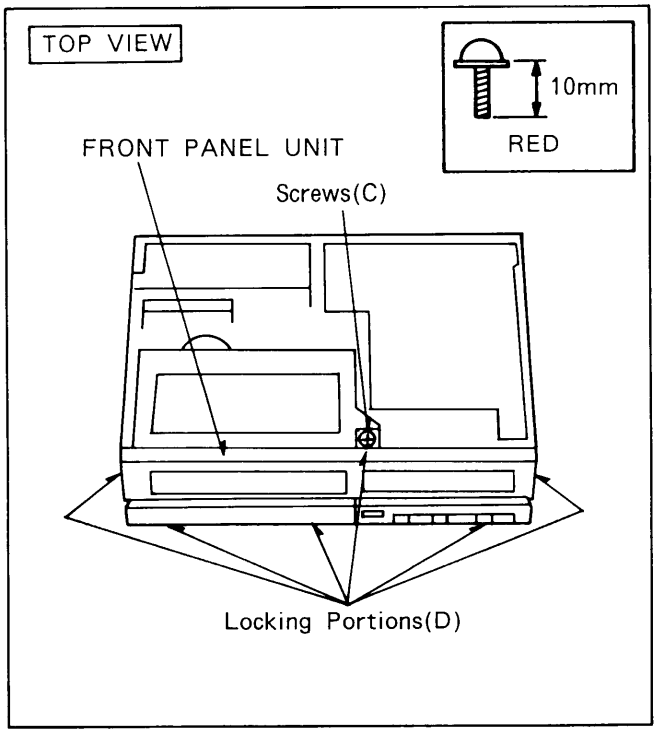


Fig.D4

Remove..... Screw(C)
Unlock..... 6 Locking Portions(D)

4. REMOVAL OF THE TIMER C.B.A. AND OPERATION C.B.A.

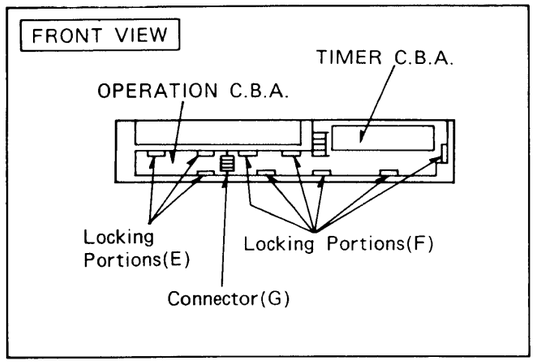


Fig.D5

REMOVAL OF THE OPERATION C.B.A.

Unlock.....3 Locking Portions(E)
Disconnect.....Connector(G)

REMOVAL OF THE TIMER C.B.A.

Unlock.....6 Locking Portions(F)

NOTE: HOW TO REMOVE THE CONNECTOR (G).

When removing the connector(G), carefully lift the top portions(H) of connector to remove.

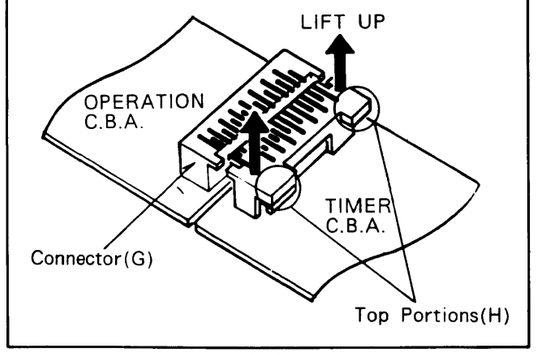


Fig.D6

NOTE:
If the connector is turned for checking the operatrion C.B.A. and Timer C.B.A.,the short circuit could be made between reed wires.
Be sure there is no short circuit between reed wires and check the both Operation & Timer C.B.As.

5. REMOVAL OF THE MAIN C.B.A. AND POWER SUPPLY UNIT

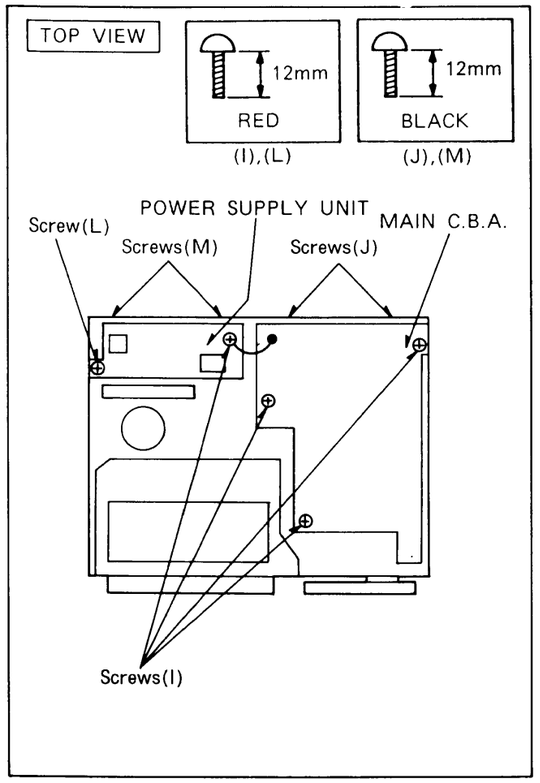


Fig.D7

REMOVAL OF THE MAIN C.B.A.

Remove.....4 Screws(I) and 2 Screws(J)

REMOVAL OF THE POWER SUPPLY UNIT

Remove.....Screw(L) and 2 Screws(M)

6.SEVICING

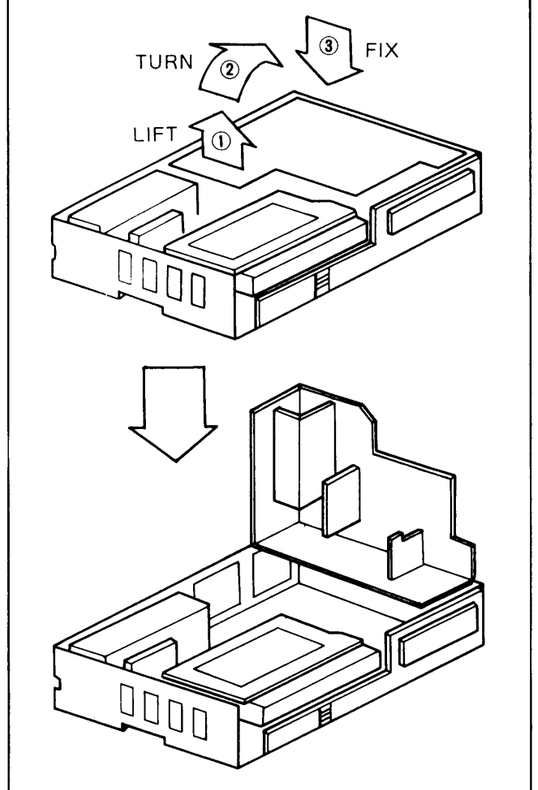


Fig.D8

7. REMOVAL OF THE CASSETTE COMPARTMENT

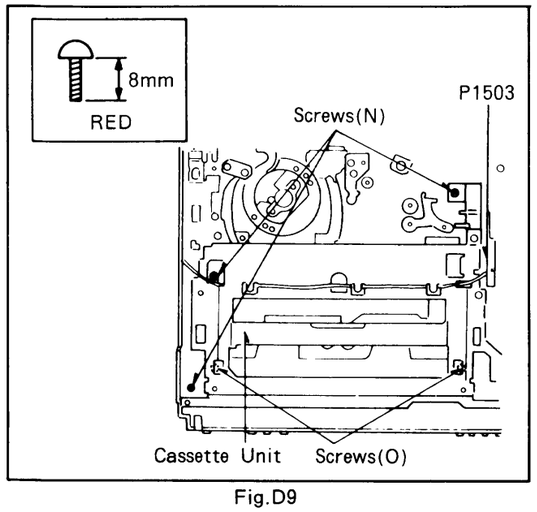


Fig.D9

Remove the 3 screws(N).
Slide the cassette holder until appearing 2 screws(O) by turning (clockwise) the Capstan Rotor Unit (located in the bottom side as shown in Fig.D10) and remove the 2 screws(O).
Remove the wire cable from connector P1503 mounted on Take-up Photo Tr. C.B.A. , then carefully pull out the Cassette Compartment.

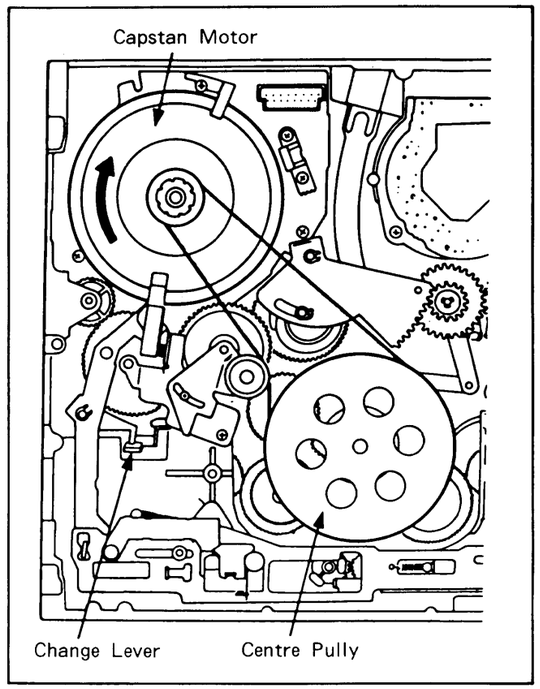


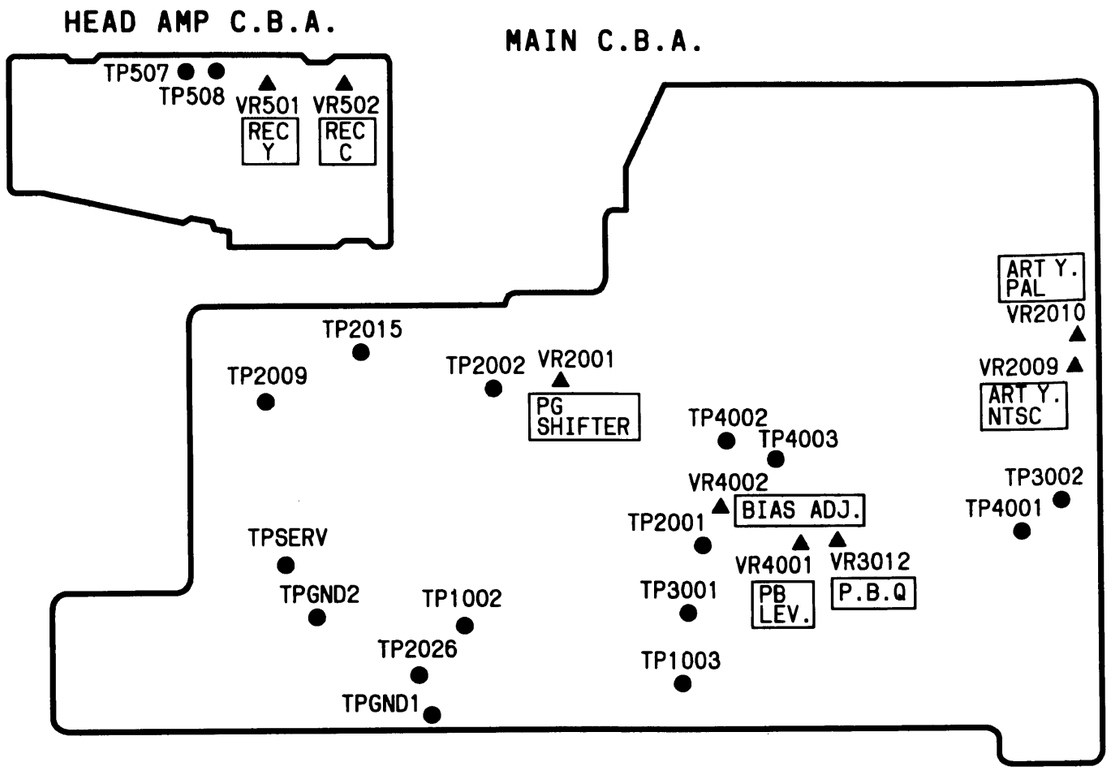
Fig.D10

NOTE:
When reinstalling the Cassette Compartment, mechanical adjustment(alignment) must be performed for correct working refer to Service Manual No.GII/G-REV. Mechanical Chassis (Order No.VRD8901M101).

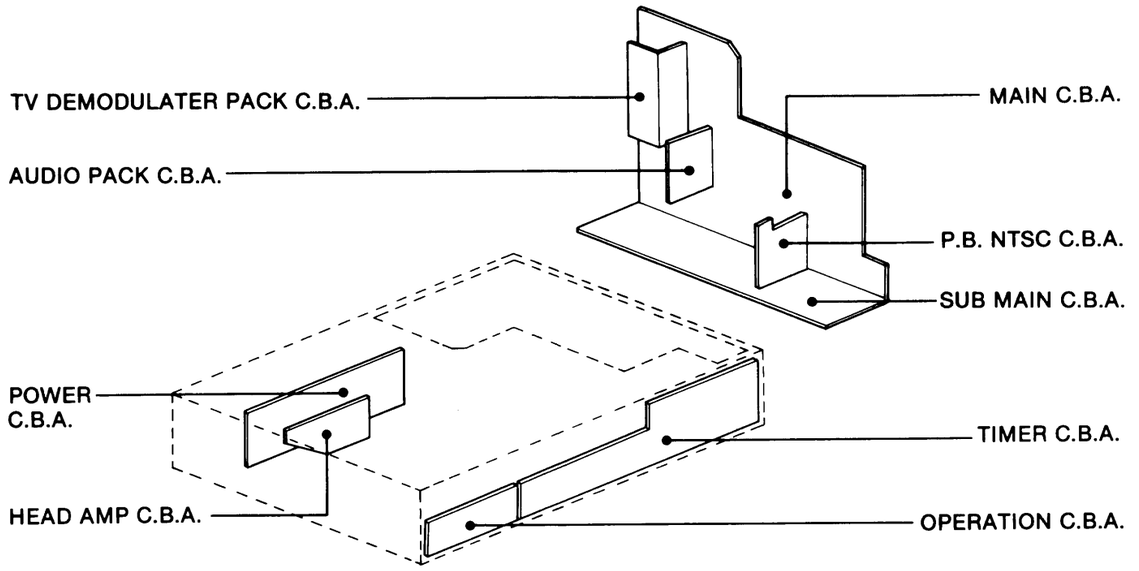
2-2. MECHANICAL ADJUSTMENT PROCEDURES

This mechanical chassis of these models NV-J101EM, NV-J1EN/MC are the same as G Mechanical Chassis. Therefore please refer to the Service Manual No.GII/G-REV.
Mechanical Chassis (Order No.VRD8901M101).

LOCATION OF TEST POINTS & CONTROLS



CIRCUIT BOARD LAYOUT



2-3. ELECTRICAL ADJUSTMENT PROCEDURES

This section provides complete electrical adjustment procedures which may be required for electronic circuits of VHS Video Cassette Recorder NV-J1EN/MC, NV-J101EM.

2-3-1. TEST EQUIPMENTS

To perform the electrical adjustments completely, following equipments are required.

1. VTVM (Vacuum Tube Volt Meter) or DVM (Digital Volt Meter)
   Voltage Range: 0.001~50V
2. Dual-Trace Oscilloscope
   Voltage Range: 0.005~50V/div.
   Frequency Range: DC~30MHz
   Probes: 10:1 or 1:1
3. Frequency Counter
   Frequency Range: 0~10MHz
4. Signal Generator (Sinewave)
   Frequency Range: 0~500KHz
5. Video Sweep Generator
   Frequency Range: 0~10MHz
6. Colour Monitor TV
7. Plastic Tip Driver
8. VHS Alignment Tape (VFJ8125H3F)

2-3-2. HOW TO READ THE ADJUSTMENT PROCEDURES

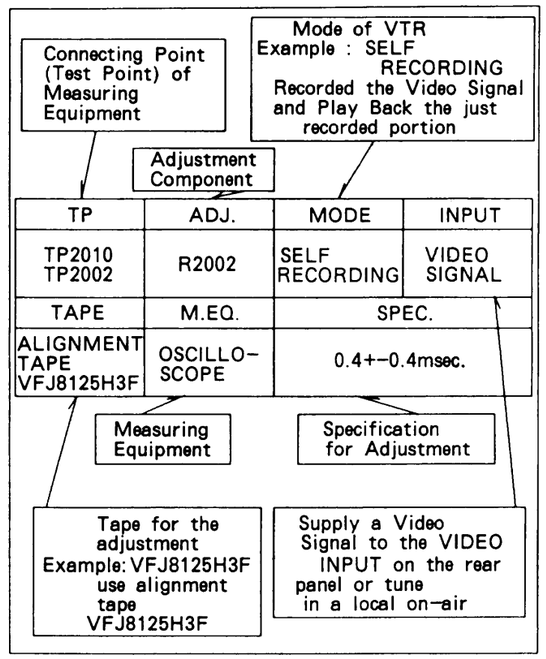


Fig.E1

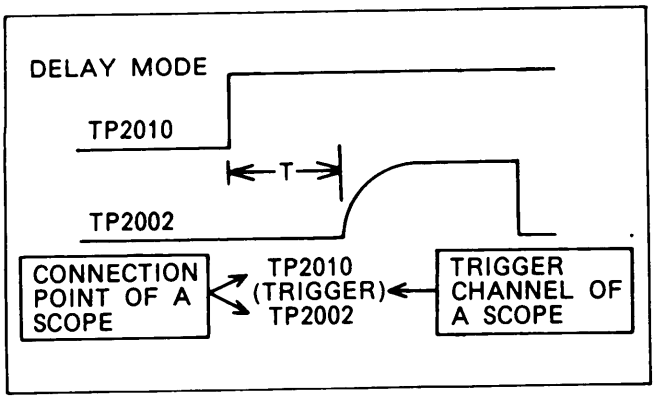


Fig.E2

NOTE:
Before the electrical adjustment, set the VHS VTR as following conditions except for especial instructions in each adjustment item.

1) Picture Sharpness Control...Centre Fix Position
2) Test Signal Switch...OFF Position
3) Noise Filter/Edit Selector...OFF Position
4) Digital Tracking On/Off Switch...ON Position

SERVO SECTION

2-3-3. PG SHIFTER ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP2001 TP3002	VR2001	PLAY	
TAPE	M.EQ.	SPEC.	
ALIGNMENT TAPE VFJ8125H3F	OSCILLO-SCOPE	6.5+−0.5H	

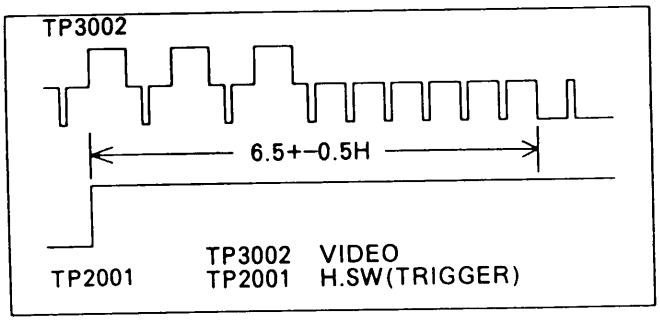


Fig.E3

2-3-4. ARTIFICIAL V-SYNC ADJUSTMENT

TP	ADJ.	MODE	INPUT
	VR2010	SELF RECORDING	VIDEO SIGNAL
TAPE	M.EQ.	SPEC.	
BLANK TAPE	TV MONITOR		

1. Playback the just recorded portion and place the deck in STILL mode.
2. Adjust the VR2010 so that the V−dancing does not appear on the TV monitor screen.

2-3-5. ARTIFICIAL V-SYNC FOR ARTIFICIAL NTSC ADJUSTMENT

TP	ADJ.	MODE	INPUT
	VR2009	STILL	
TAPE	M.EQ.	SPEC.	
NTSC RECORDED TAPE	TV MONITOR		

1. Playback the NTSC recorded tape and place the deck in STILL mode.
2. Adjust the VR2009 so that the V−dancing does not appear on the TV monitor screen.

LUMINANCE, CHROMINANCE & HEAD AMP SECTION

2-3-6. CHROMINANCE RECORDING CURRENT ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP507(HOT) TP508(GND)	VR502	RECORDING	VIDEO SIGNAL
TAPE	M.EQ.	SPEC.	
BLANK TAPE	OSCILLO-SCOPE	32+−2mVp−p	

1. Connect the oscilloscope to TP507(HOT) and TP508(GND).
2. Connect a jumper wire between P3001−1 and GND. And then place the unit to Recording mode.
3. Adjust VR502 so that chroma level becomes 32+−2mVp−p.

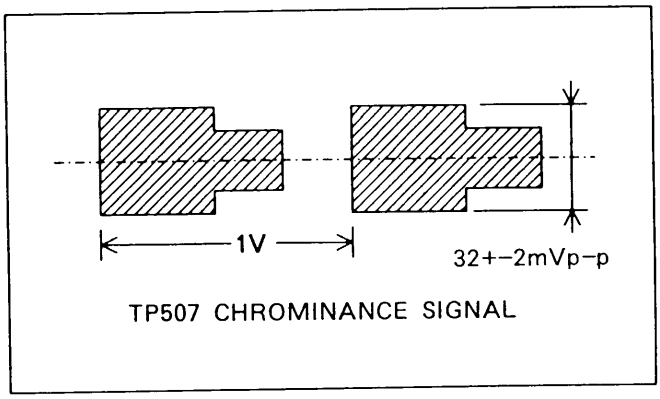


Fig.E4

2-3-7. LUMINANCE RECORDING CURRENT ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP507(HOT) TP508(GND)	VR501	RECORDING	VIDEO SIGNAL
TAPE	M.EQ.	SPEC.	
BLANK TAPE	OSCILLO-SCOPE	130+−5mVp−p	

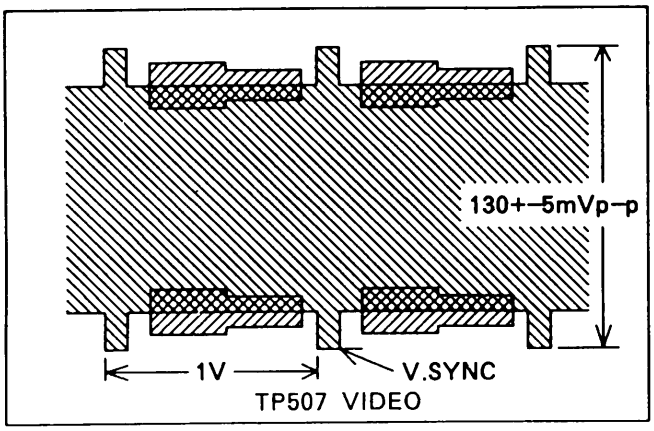


Fig.E5

2-3-8. PLAYBACK CHROMA CYAN LEVEL ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP3002 (VIDEO OUT)	VR803	SELF RECORDING	VIDEO SIGNAL
TAPE	M.EQ.	SPEC.	
BLANK TAPE	OSCILLO-SCOPE	0.55+−0.05Vp−p	

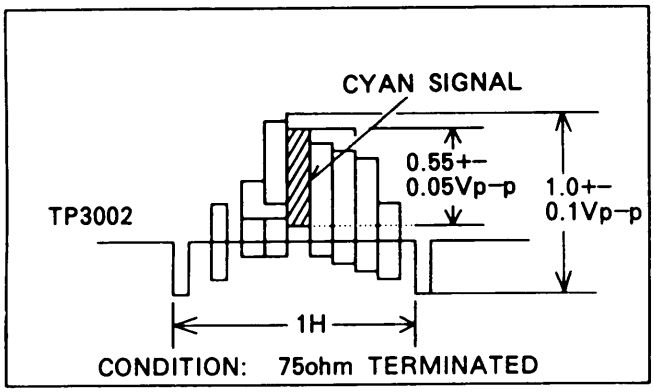


Fig.E6

2-3-9. HEAD AMP FREQUENCY RESPONSE ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP3002 (VIDEO OUT)	VR3012	SELF RECORDING	VIDEO SWEEP
TAPE	M.EQ.	SPEC.	
BLANK TAPE	VIDEO SWEEP/ OSCILLO-SCOPE		

1. Set the sweep generator output as shown in below.

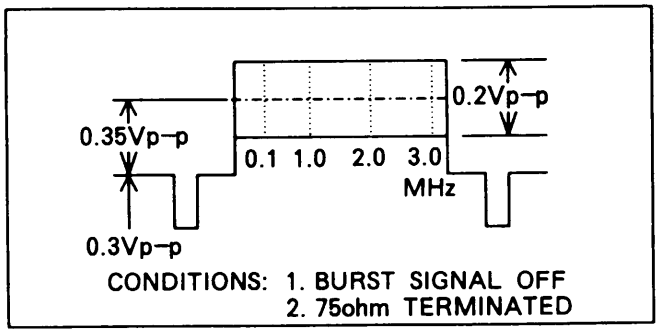


Fig.E7

2. Picture Sharpness Control is centre fix position.
3. Adjust the VR3012 so that the waveform becomes as shown in below.

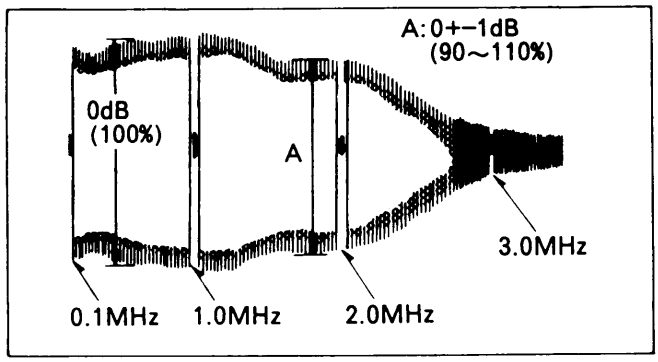


Fig.E8

2-3-10. SECAM KILLER ADJUSTMENT. (NV-J1MC/NV-J101EM)

TP	ADJ.	MODE	INPUT
IC851−11	T851	RECORDING	SECAM VIDEO SIGNAL
TAPE	M.EQ.	SPEC.	
BLANK TAPE	OSCILLO-SCOPE	Portion A is peak to negative direction.	

1. Record the SECAM Colour Bar.
2. Connect the Oscilloscope to IC851-11.
3. Adjust T851 so that portion "A" is peak to negative direction as shown in Fig.E9.

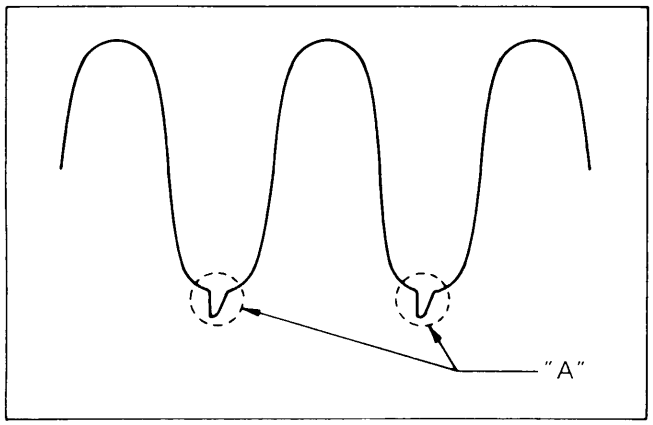


Fig.E9

2-3-11. Y-NR BALANCE ADJUSTMENT

TP	ADJ.	MODE	INPUT
C306-(+)	VR302	SELF RECORDING	VIDEO SIGNAL (COLOUR BAR)
TAPE	M.EQ.	SPEC.	
BLANK TAPE	OSCILLO-SCOPE	WAVEFORM IS MINIMIZED	

1. Connect the oscilloscope to (+)side of C306 on Sub Main C.B.A..
2. Adjust VR302 so that the waveform is minimized as shown below.

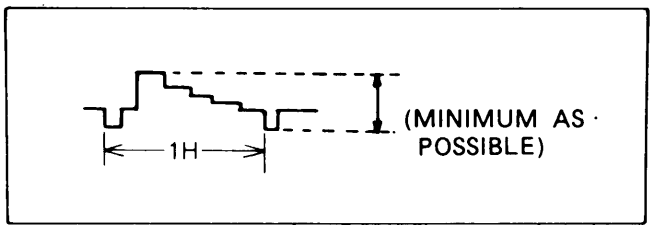


Fig.E10

2-3-12. ARTIFICIAL NTSC AFC FREE RUN ADJUSTMENT

TP	ADJ.	MODE	INPUT
IC3801-9	VR3801	STOP	VIDEO SIGNAL (COLOUR BAR)
TAPE	M.EQ.	SPEC.	
	FREQUENCY COUNTER	15735+-100Hz	

1. Connect the frequency counter to Pin9 of IC3801.
2. Adjust VR3801 so that the reading of the frequency counter is 15735+-100Hz.

AUDIO SECTION

2-3-13. AUDIO BIAS CURRENT ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP4002 (+) TP4003(-)	VR4002	RECORDING	
TAPE	M.EQ.	SPEC.	
BLANK TAPE	V.T.V.M.	2.2+-0.1mVrms	

2-3-14. AUDIO PLAYBACK LEVEL ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP4001 (AUDIO OUT)	VR4001	SELF RECORDING	1KHz,-10dB AUDIO SIGNAL
TAPE	M.EQ.	SPEC.	
BLANK TAPE	SIGNAL GENERA-TOR/ V.T.V.M	E-E Level=-6+-2dB P.B Level= E-E Level+-0.5dB	

NOTE: Before this adjustment, "Tape Interchangeability Adjustment" and "Audio Bias Current Adjustment" must be completed.

TIMER SECTION

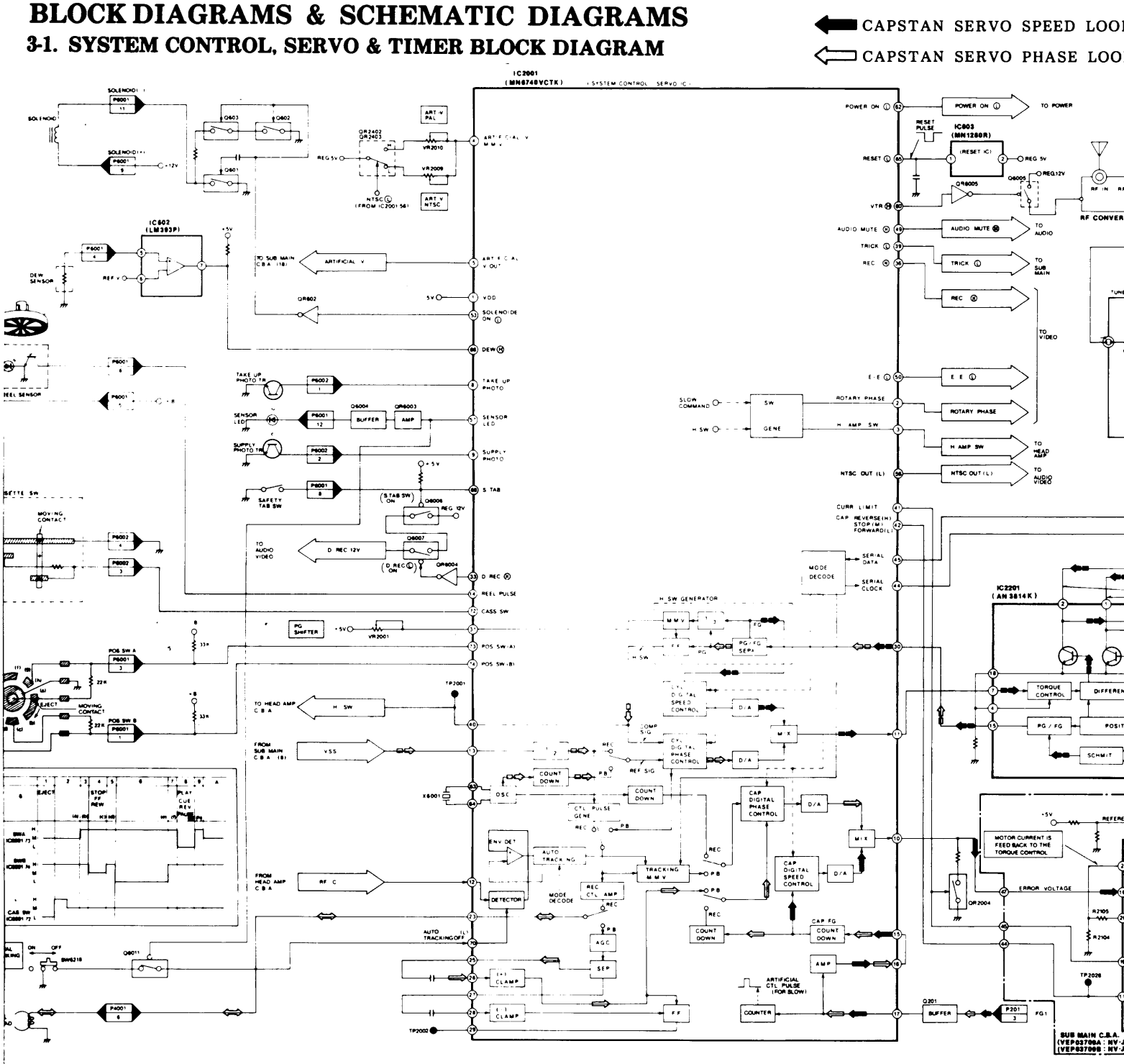
NOTE: Do not connect the AC power plug.

2-3-15. TIMER REFERENCE CLOCK ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP7501	C7501		
TAPE	M.EQ.	SPEC.	
	UNIVERSAL COUNTER	488.2812+-0.001us	

1. Connect a jumper wire between P7501-4 and 5.
2. Connect a jumper wire between P7501-7 and GND.
3. Connect a diode(MA165) between IC7501-36 and 56.

SECTION 3
BLOCK DIAGRAMS & SCHEMATIC DIAGRAMS
3-1. SYSTEM CONTROL, SERVO & TIMER BLOCK DIAGRAM

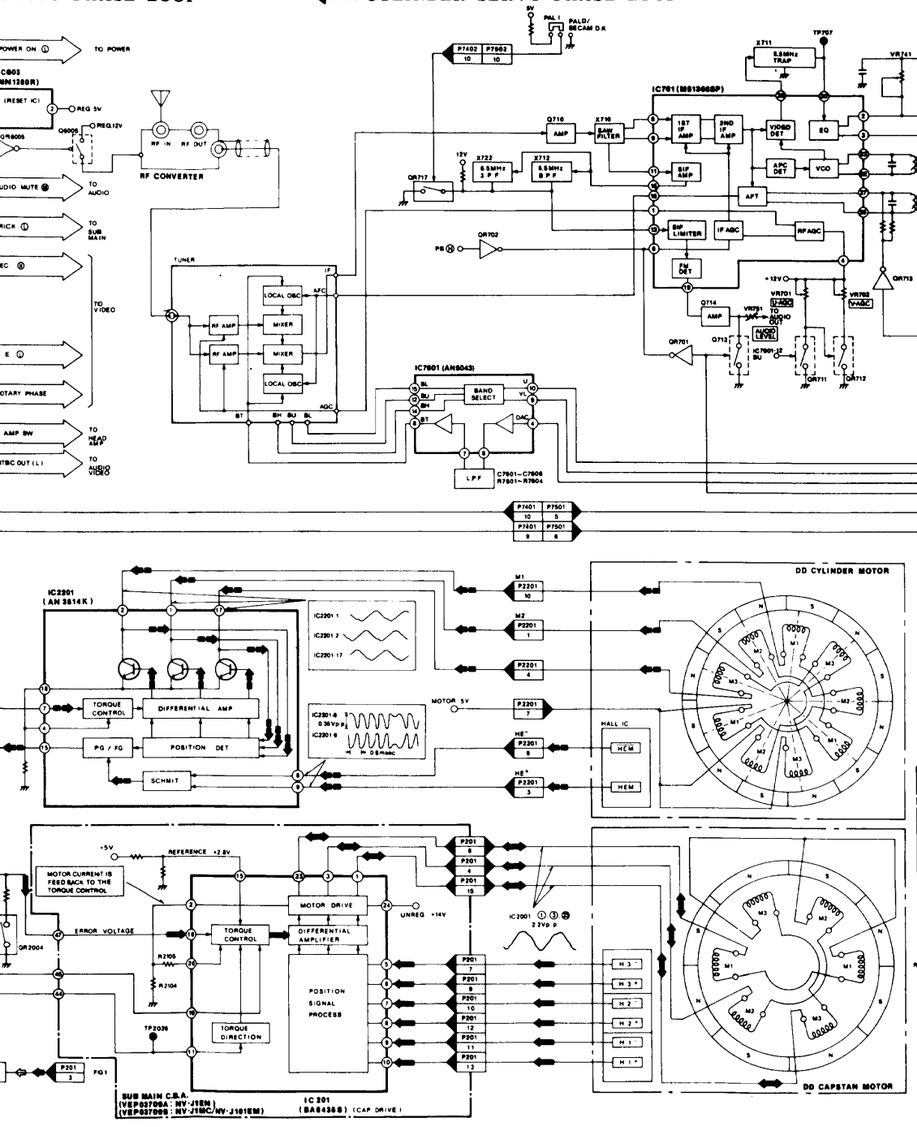


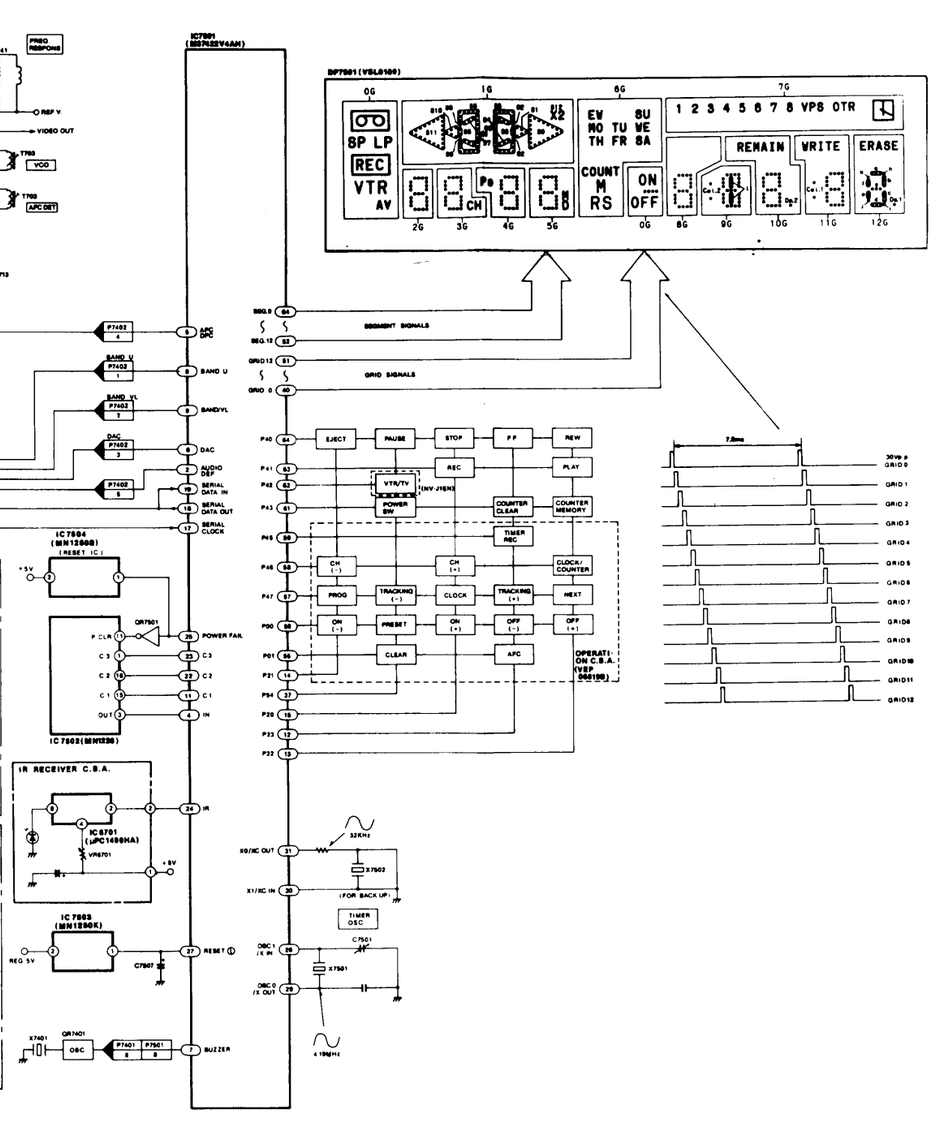
SERVO SPEED LOOP

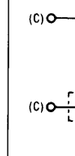
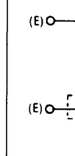
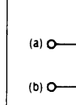
SERVO PHASE LOOP

CYLINDER SERVO SPEED LOOP

CYLINDER SERVO PHASE LOOP

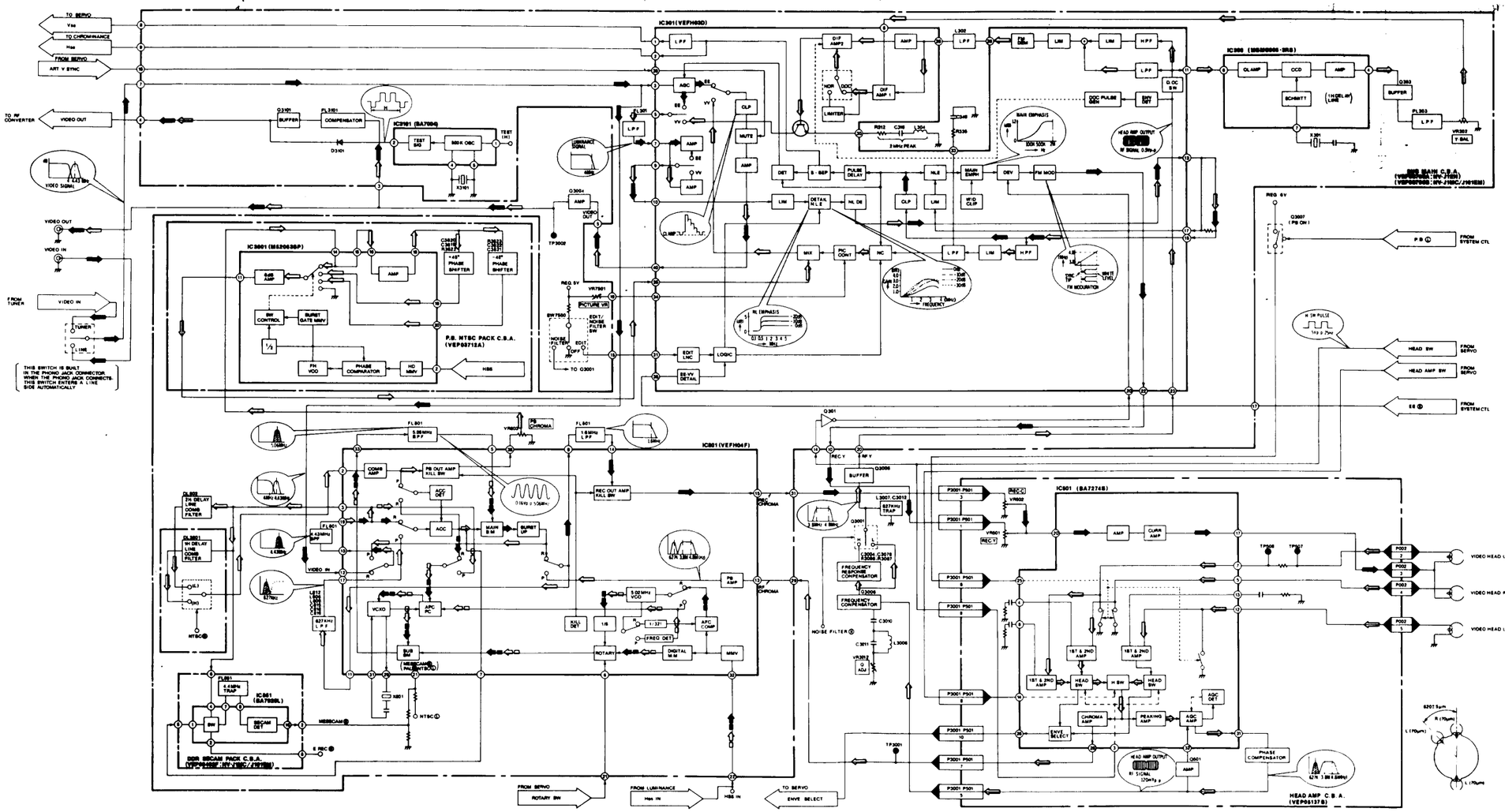




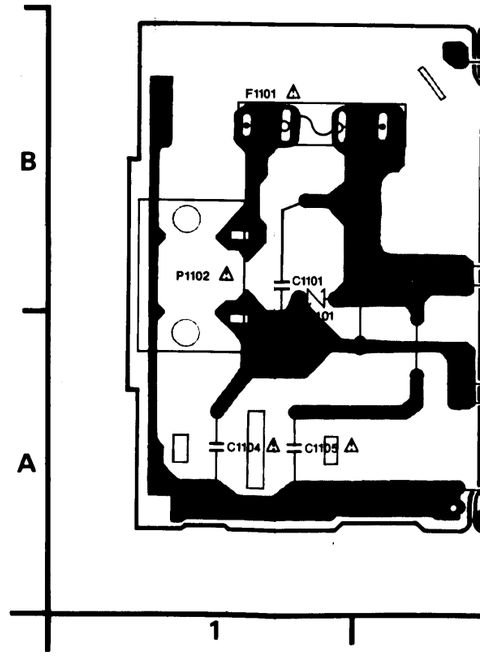
SYMBOL	TRUTH VALUE TABLE
INVERTER 	IN (a) H L OUT (b) L H
COMPARTOR 	IN (a) (b) (a)>(b) (a)<(b) OUT (c) H L
AND CIRCUIT 	IN (a) L L H H (b) L H L H OUT (c) L L L H
OR CIRCUIT 	IN (a) L L H H (b) L H L H OUT (c) L H H H
THREE STATES BUFFER 	IN (a) H L H or L (b) L L H OUT (c) H L ※ ※ High Impedance
TR. SW (NPN TYPE) 	BASE H L TR. SW ON OFF
TR. SW (PNP TYPE) 	BASE H L TR. SW OFF ON
R·S TYPE FLIP-FLOP 	IN (a) L L ⎍ (b) L ⎍ L OUT (c) ※ L H (d) ◆ H L ※ Initial condition is maintained ◆ Initial condition is reverced

3-2. LUMINANCE & CHROMINANCE BLOCK DIAGRAM

MAIN SIGNAL PATH IN REC MODE
MAIN SIGNAL PATH IN PLAYBACK MODE
5.06MHz PHASE ROTATIONAL SIGNAL IN REC MODE
5.06MHz PHASE ROTATIONAL SIGNAL IN PLAYBACK MODE



3-3. POWER C.B.A. (VEP01427A)

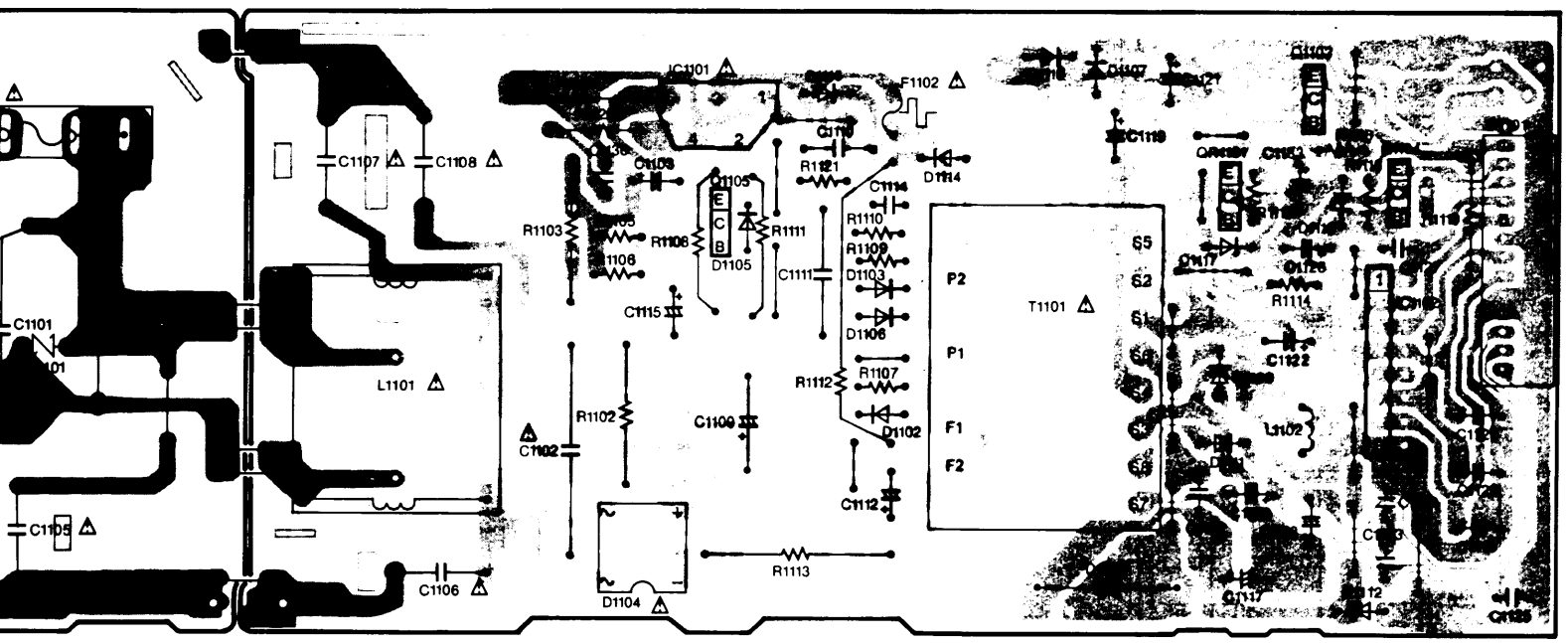


Back Page:
SYSTEM CONTROL & SERVO Section

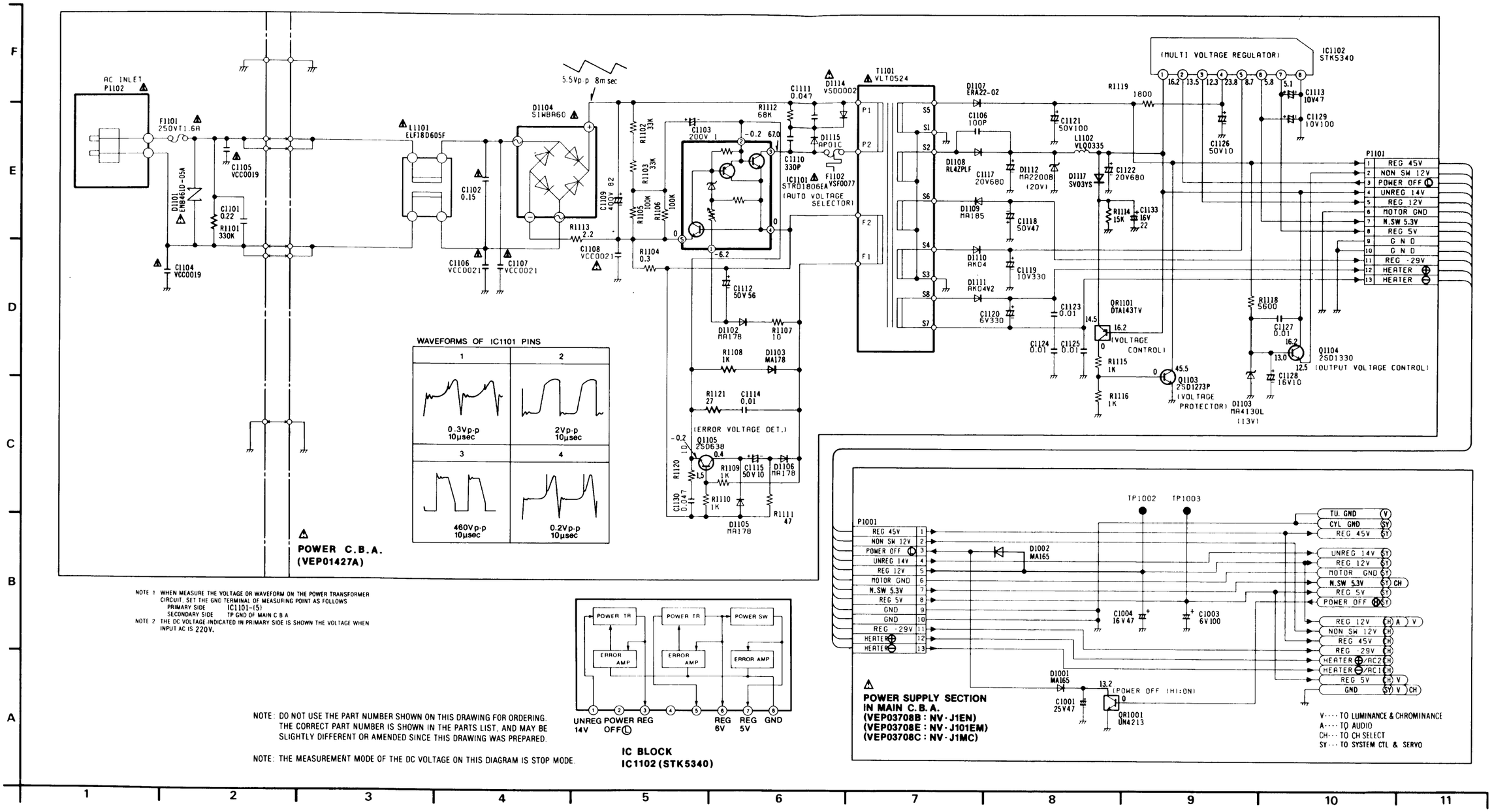
VEP01427A)

POWER C.B.A.	
Transistor	
Q1103 Q1104 Q1105	B-5 B-5 B-3
Transistor & Resistor	
QR1101	B-5
Integrated Circuit	
IC1101 IC1102	B-3 B-5
Connector	
P1101 P1102	B-5 B-1

ADDRESS INFORMATION



3-4. POWER SCHEMATIC DIAGRAM



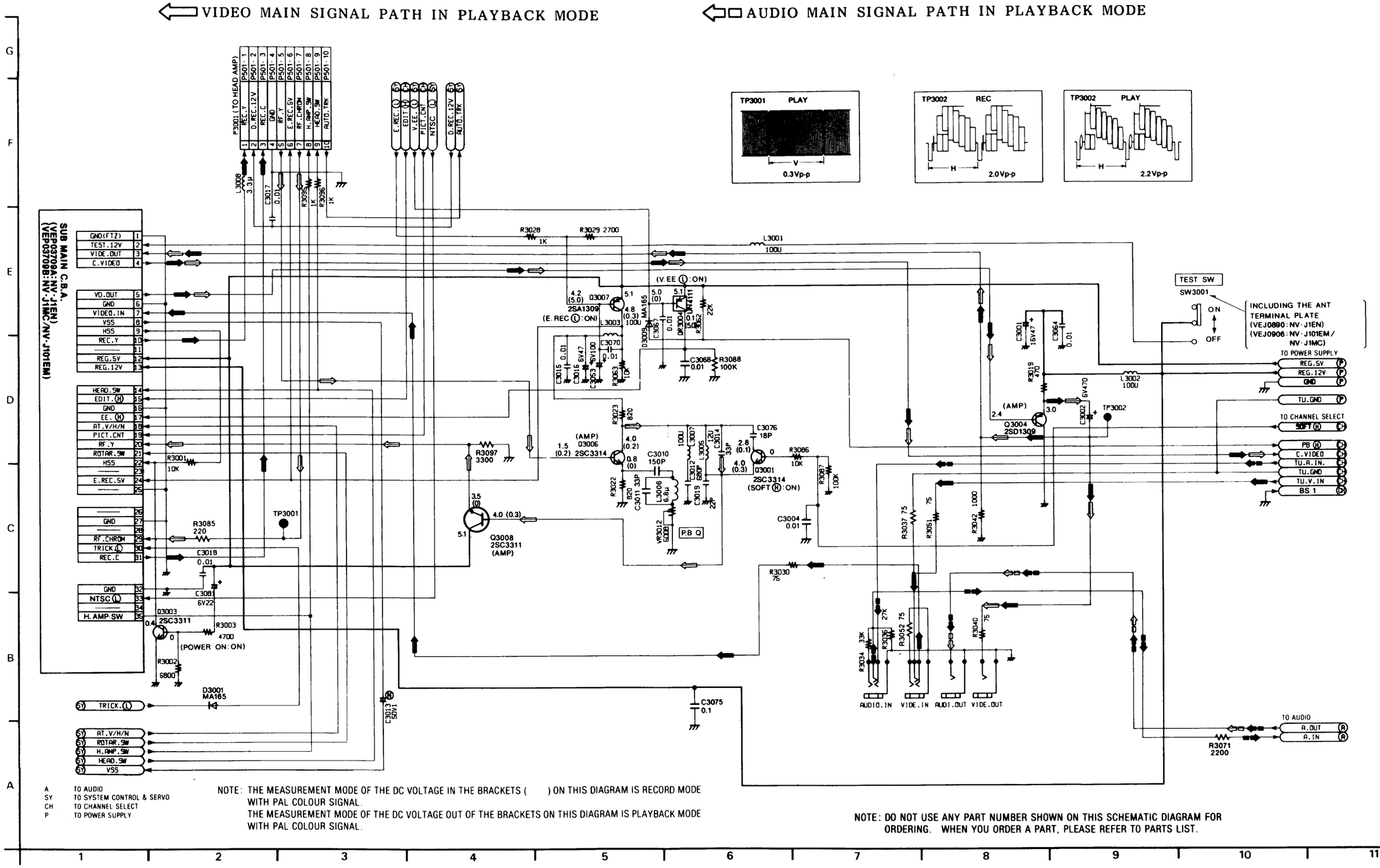
3-5. LUMINANCE & CHROMINANCE SCHEMATIC DIAGRAM

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



A TO AUDIO
SY TO SYSTEM CONTROL & SERVO
CH TO CHANNEL SELECT
P TO POWER SUPPLY

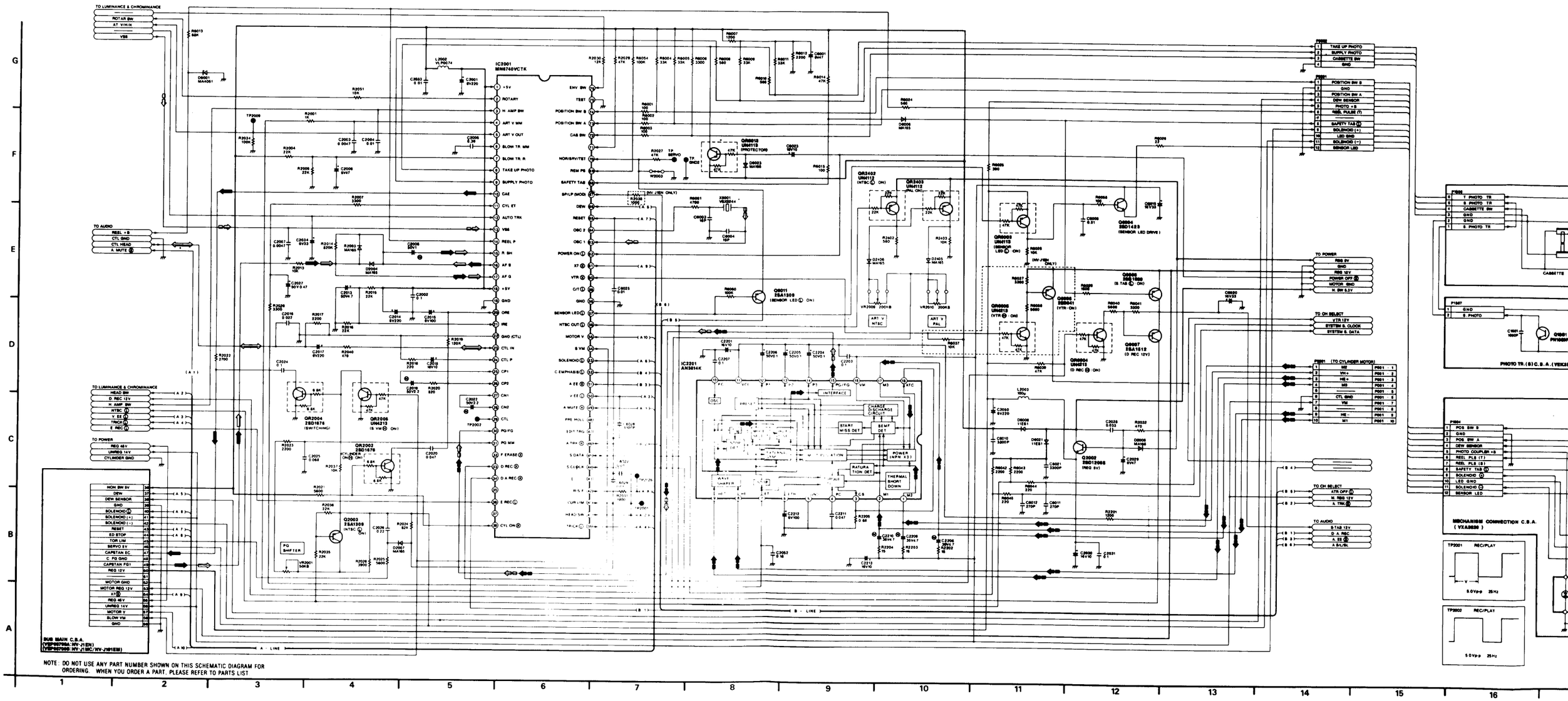
NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ( ) ON THIS DIAGRAM IS RECORD MODE WITH PAL COLOUR SIGNAL.
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE WITH PAL COLOUR SIGNAL.

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

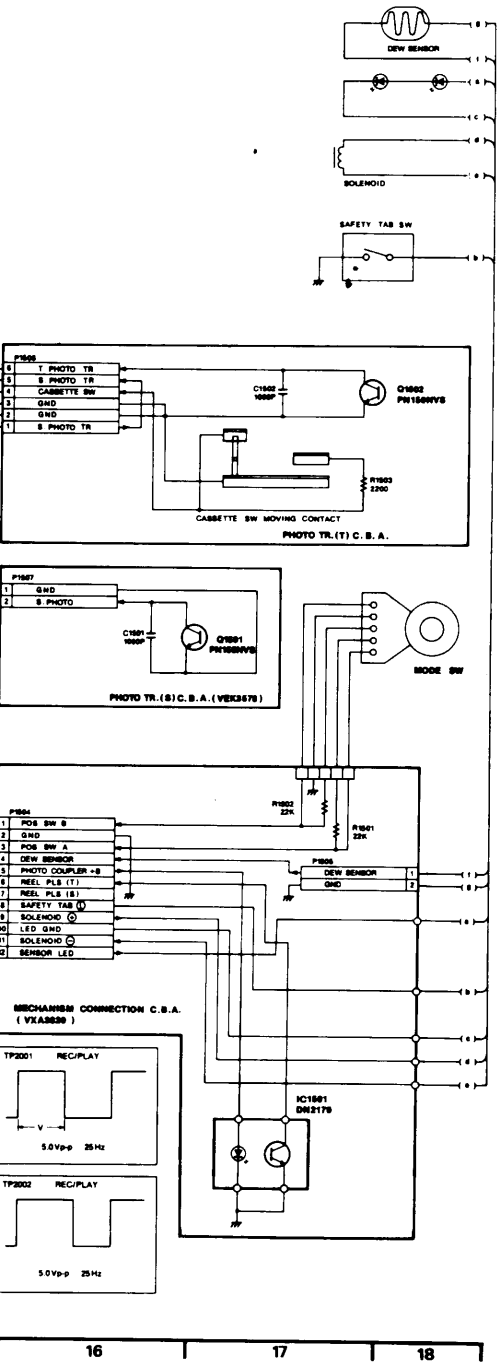
Back Page: POWER Section

3-6. SYSTEM CONTROL & SERVO SCHEMATIC DIAGRAM

CAPSTAN SERVO SPEED 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



SYSTEM CONTROL & SERVO ICs DC VOLTAGE CHART

REF. NO.	IC2001																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
STOP	5.1	0	0	0	0	0	2.5	3.3	3.3	2.5	4.3	1.6	2.5	0.3	2.5	2.5	2.5	5.1	0	2.5
PLAY	5.1	3.2	0	0	0	0	2.6	3.3	3.3	2.4	2.5	2.0	2.5	4.0	2.5	2.5	2.5	5.1	0	2.5
F.F.	5.1	0	0	0	0	0	2.6	3.3	3.3	2.5	4.3	1.6	2.5	2.9	2.5	2.5	2.5	5.1	0	2.5
REF. NO.	IC2001																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
STOP	2.5	0	2.5	2.5	1.1	2.9	3.9	2.1	0	5.2	0	0	0	0	3.1	0.2	5.1	0	5.1	0
PLAY	2.5	0	2.5	2.5	1.2	2.6	4.0	3.1	4.3	1.3	3.5	0	0	0	3.4	0.2	5.1	5.0	5.1	5.1
F.F.	2.5	0	2.5	2.5	1.6	1.6	3.5	3.3	2.9	5.2	0	0	0	0	3.4	0.2	5.1	0	5.1	0
REF. NO.	IC2001																			
MODE	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
STOP	5.0	2.1	0	5.0	4.7	0	0	5.1	0	0	5.0	0	5.1	0	0	5.1	4.8	0	0	5.1
PLAY	5.0	0	0	5.2	5.3	0	0	5.1	0	5.1	0	5.1	5.1	0	5.1	5.1	4.8	0	0	5.1
F.F.	5.0	0	0	5.1	5.2	0	0	5.1	0	0	5.0	0	5.1	0	0	5.1	4.8	0	0	5.1
REF. NO.	IC2001																			
MODE	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76				
STOP	0	0	—	—	5.1	0	0	0.5	5.0	4.6	5.1	2.0	5.1	2.1	0	1.1				
PLAY	0	0	—	—	5.1	0	0	0.5	5.0	4.8	5.1	2.0	0	5.1	0	0				
F.F.	0	0	—	—	5.1	0	0	0.5	5.0	4.6	5.1	2.0	5.1	2.1	0	0				
REF. NO.	IC2201																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18		
STOP	14.3	14.3	0	0.1	0	2.6	4.3	0.6	0.5	1.2	5.2	4.3	4.3	4.0	5.2	14.3	14.3	0		
PLAY	10.9	10.9	0	0.6	0	2.6	2.5	0.6	0.5	2.6	5.2	3.6	3.6	3.9	1.3	10.5	9.6	0		
F.F.	14.3	14.3	0	0	0	2.6	4.3	0.6	0.5	1.2	5.2	4.3	4.3	4.0	5.2	14.3	14.3	0		

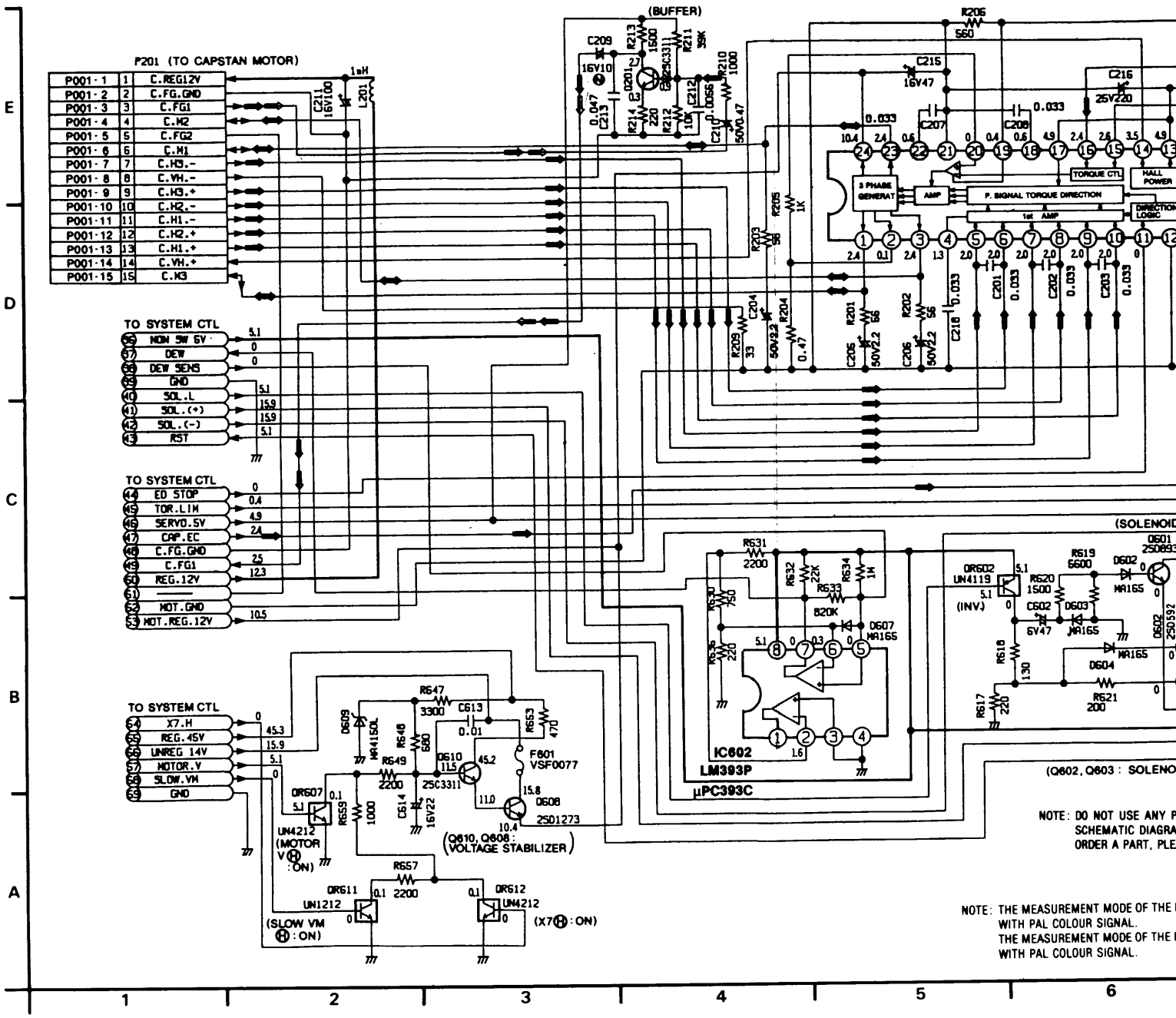
SYSTEM CONTROL & SERVO TRs DC VOLTAGE CHART

REF. NO.	Q2002			Q2003			Q6004			Q6005			Q6006			Q6007		
MODE	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
STOP	5.2	5.4	5.9	4.9	4.1	5.0	0.6	14.3	0.5	12.2	12.1	11.4	12.2	12.2	11.5	12.0	−0.2	12.2
PLAY	5.2	5.4	5.9	4.9	4.6	5.0	0.8	10.5	0.6	12.2	12.1	11.4	12.2	12.2	11.5	12.2	0.1	12.2
F.F.	5.2	5.4	5.9	4.9	4.1	5.0	0.8	14.2	0.6	12.3	0	12.3	12.3	12.2	11.5	12.2	−0.2	12.2
REF. NO.	Q6011																	
MODE	E	C	B															
STOP	4.6	0	4.5															
PLAY	4.5	0	4.7															
F.F.	4.5	0	4.7															
REF. NO.	QR2002			QR2004			QR2005			QR2402			QR2403			QR6003		
MODE	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
STOP	0	0.1	0	0	0	2.4	0	2.4	0	5.1	0.1	5.1	5.1	5.0	0.1	4.9	0.5	4.6
PLAY	0	0	5.0	0	0	2.4	0	2.4	0	5.1	0.1	5.1	5.1	5.0	0.1	4.9	0.6	4.7
F.F.	0	1.4	0	0	0	2.4	0	2.4	0	5.1	0.1	5.1	5.1	5.0	0.1	4.9	0.7	4.7
REF. NO.	QR6004			QR6005			QR6013											
MODE	E	C	B	E	C	B	E	C	B									
STOP	0	12.2	0	0	0	5.1	5.1	3.3	5.1									
PLAY	0	12.2	0	0	0	5.1	5.1	3.3	5.1									
F.F.	0	12.2	0	0	12.2	0	5.1	3.3	5.1									

3-7. SUB MAIN (SUB SERVO) SCHEMATIC DIAGRAM

CAPSTAN SERVO SPEED LOOP

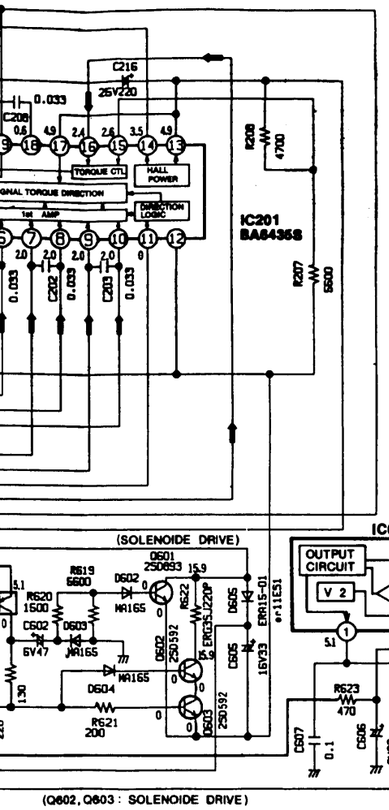
CAPSTAN SERVO PHASE LOOP



Back Page:
SYSTEM CONTROL & SERVO Section

LOOP

LOOP



(Q602, Q603 : SOLENOIDE DRIVE)

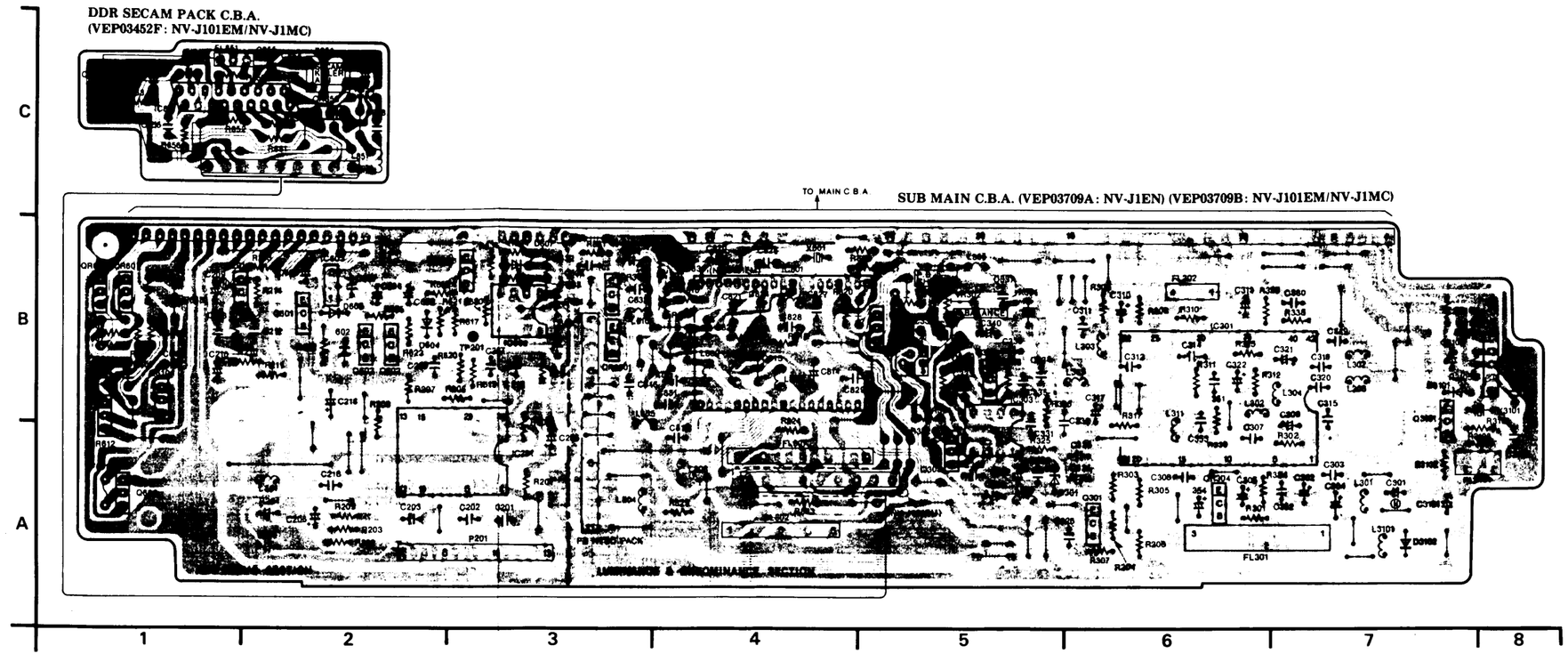
NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

HE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ( ) ON THIS DIAGRAM IS RECORD MODE ITH PAL COLOUR SIGNAL.

HE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE ITH PAL COLOUR SIGNAL.

6 7 8

3-8. SUB MAIN C.B.A. (VEP03709A: NV-J1EN) (VEP03709B: NV-J101EM/NV-J1MC)

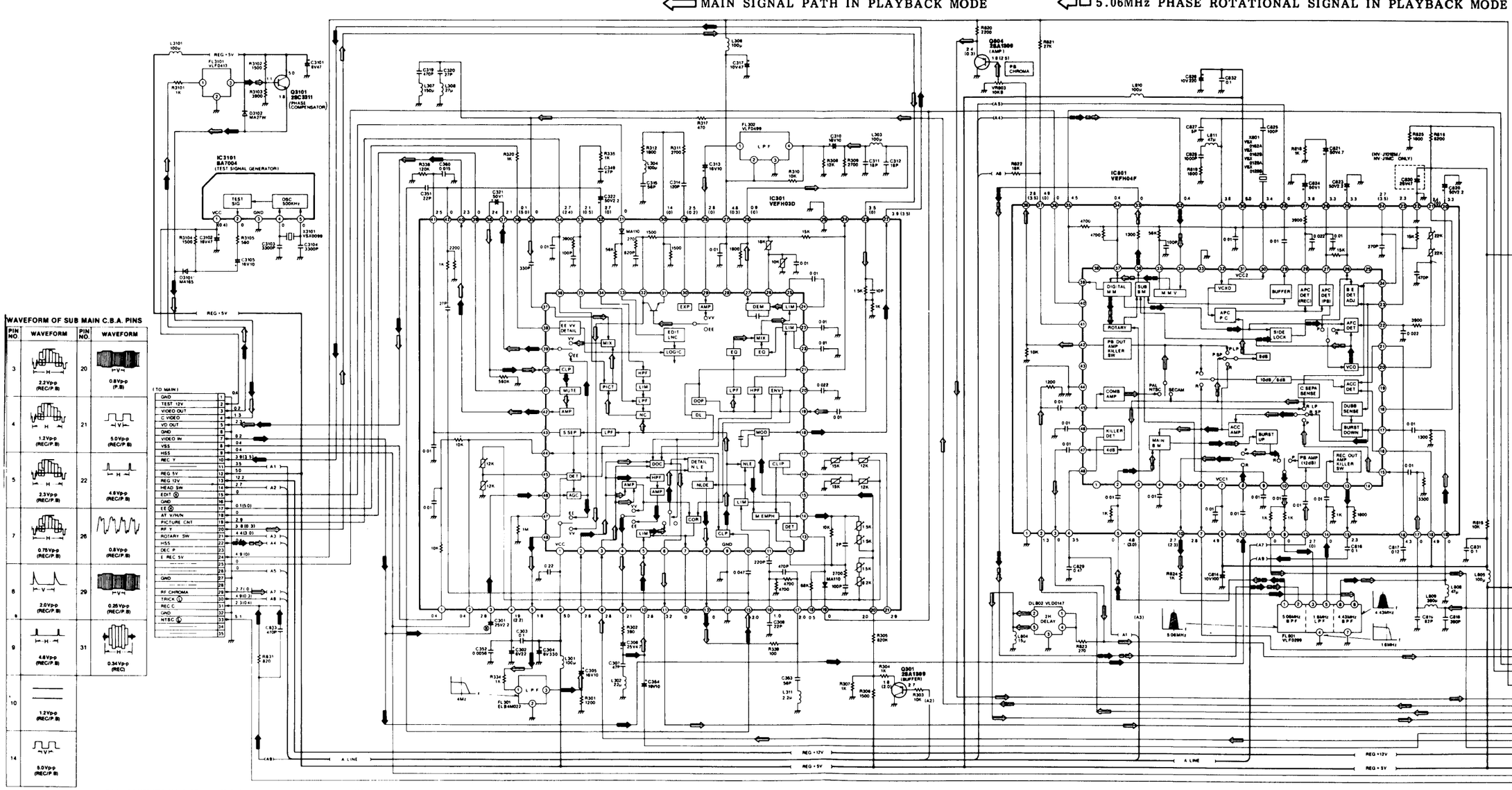


SUB MAIN C.B.A.					
Transistor		QR602	B-2	IC851	C-1
Q201	B-1	QR607	B-1	IC3101	B-8
Q301	A-6	QR611	B-1	**Test Point**	
Q302	B-5	QR612	A-1	TP201	B-3
Q303	A-5	QR853	C-2	**Adjustment**	
Q601	B-2	QR3801	B-3	VR302	B-5
Q602	B-2	QR3802	B-3	VR803	B-5
Q603	B-2	**Integrated Circuit**		**Connecter**	
Q606	A-1	IC201	A-3	P201	A-3
Q610	B-1	IC301	B-6		
Q804	B-5	IC303	B-5		
Q3101	A-7	IC602	B-3		
Transistor & Resistor		IC603	B-2		
QR304	A-6	IC801	B-4		

ADDRESS INFORMATION

3-9. SUB MAIN (LUMINANCE & CHROMINANCE) SCHEMATIC DIAGRAM

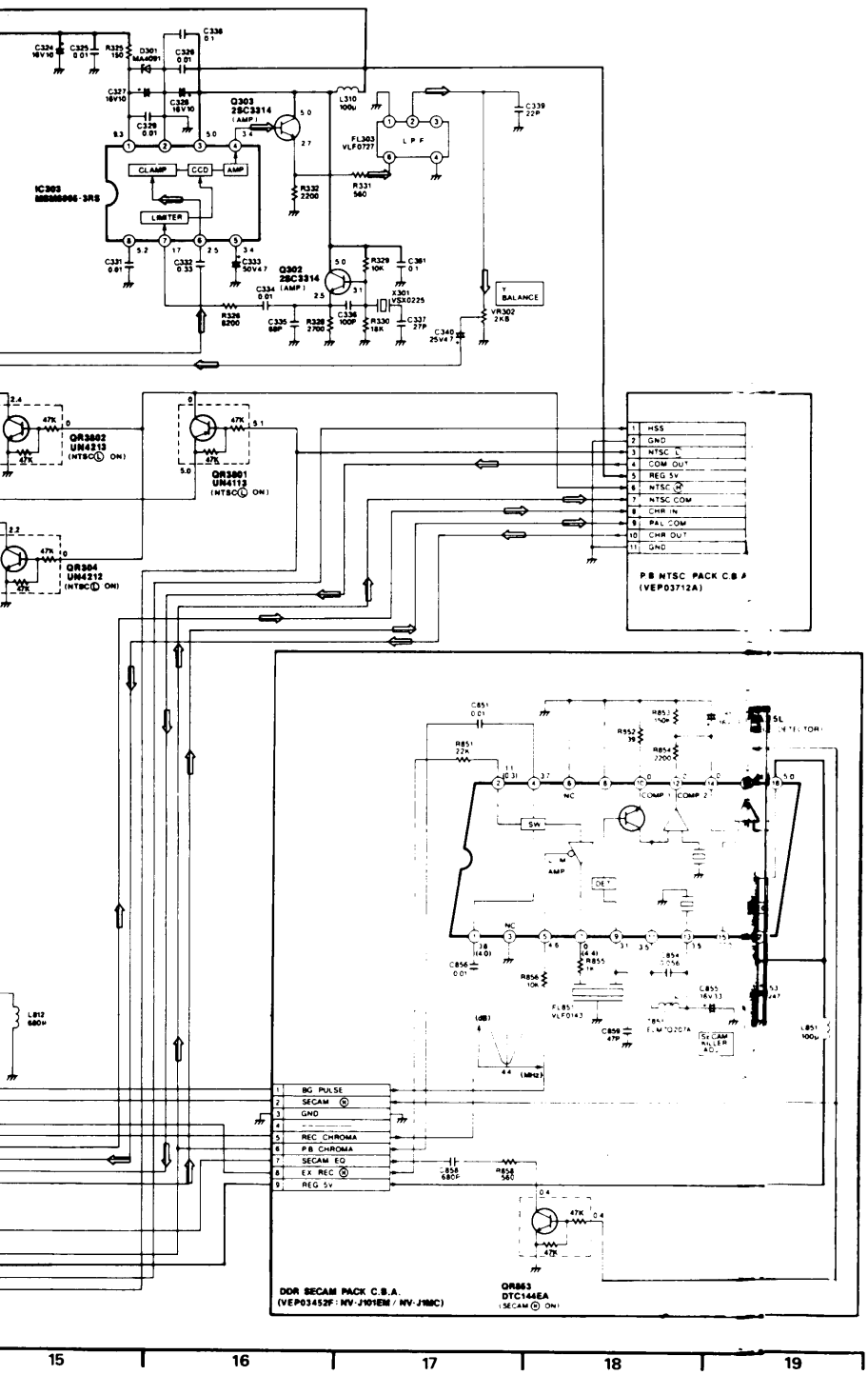
MAIN SIGNAL PATH IN REC MODE
MAIN SIGNAL PATH IN PLAYBACK MODE
5.06MHz PHASE ROTATIONAL SIGNAL IN REC MODE
5.06MHz PHASE ROTATIONAL SIGNAL IN PLAYBACK MODE



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

THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE WITH PAL COLOUR SIGNAL



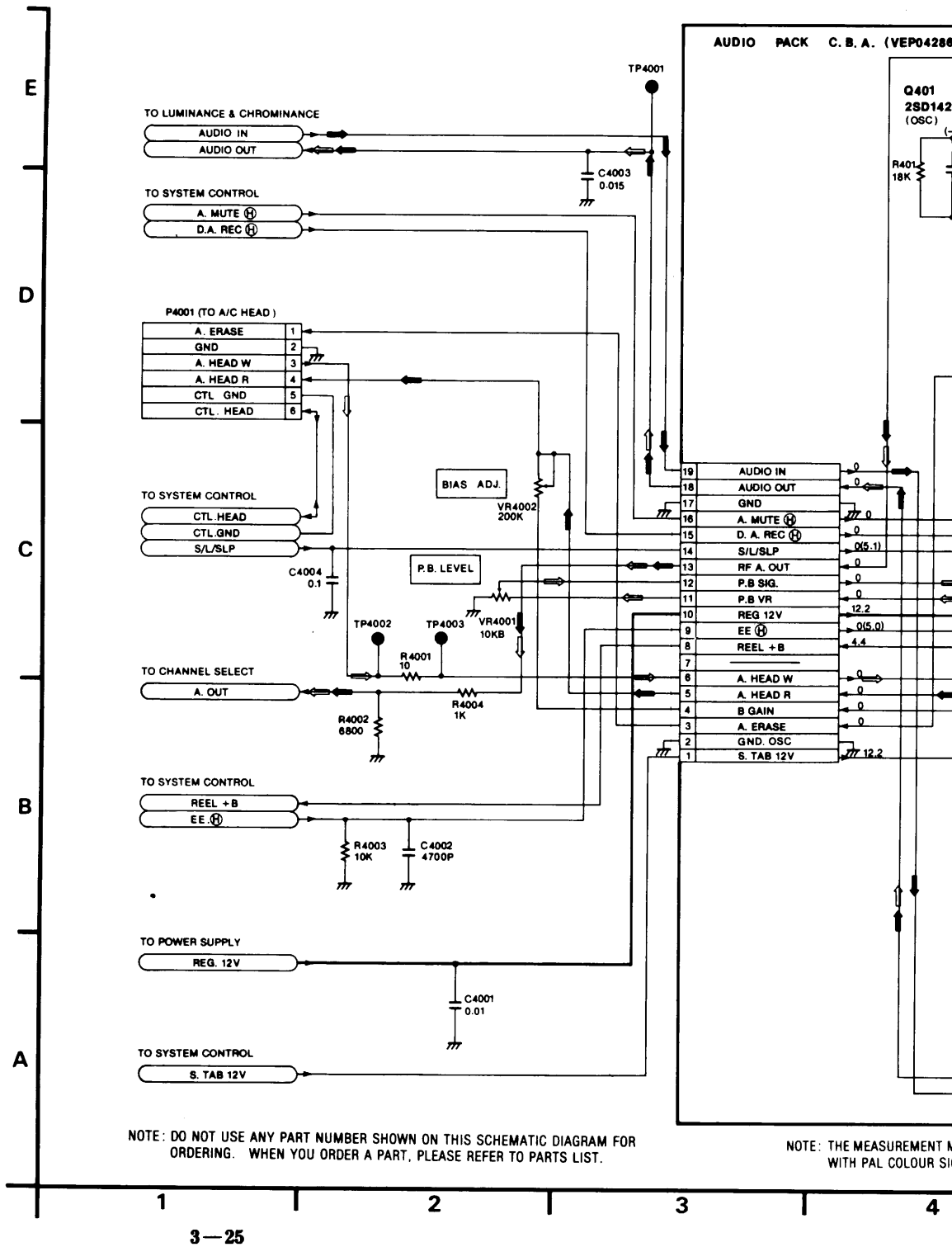
IC301 (VEFH03D)

PIN NO.	WAVEFORM	PIN NO.	WAVEFORM
1	2.0Vp-p (REC/P.B)	17	0.9Vp-p (REC/P.B)
2	4.8Vp-p (REC/P.B)	22	1.2Vp-p (REC)
3	0.8Vp-p (REC/P.B)	23	0.9Vp-p (P.B)
5	0.8Vp-p (REC)	26	0.9Vp-p (P.B)
5	1.2Vp-p (P.B)	28	0.5Vp-p (P.B)
7, 8	0.4Vp-p (REC) 0.5Vp-p (P.B)	30	1.3Vp-p (P.B)
9	0.62Vp-p (REC)	33	0.26Vp-p (P.B)
10	0.6Vp-p (REC)	35	0.44Vp-p (P.B)
11	0.3Vp-p (REC) 0.34Vp-p (P.B)	37, 38	0.8Vp-p (REC) 0.9Vp-p (P.B)
13	1.1Vp-p (REC) 0.9Vp-p (P.B)	40	2.2Vp-p (REC/P.B)
15	1.1Vp-p (REC) 0.9Vp-p (P.B)	41	0.5Vp-p (REC/P.B)
16	0.7Vp-p (REC/P.B)		

IC801 (VEFH04F)

PIN NO.	WAVEFORM	PIN NO.	WAVEFORM
2	0.15Vp-p (REC) 0.12Vp-p (P.B)	15	0.48Vp-p (REC)
3	0.8Vp-p (REC/P.B)	17	0.2Vp-p (REC/P.B)
5	0.2Vp-p (REC) 0.25Vp-p (P.B)	19	0.25Vp-p (REC) 0.2Vp-p (P.B)
6	5.0Vp-p (REC/P.B)	28	0.8Vp-p (REC/P.B)
7	0.6Vp-p (REC) 0.38Vp-p (P.B)	29	1.0Vp-p (REC/P.B)
9	0.38Vp-p (REC) 0.2Vp-p (P.B)	31	0.8Vp-p (REC/P.B)
10	0.95Vp-p (REC)	32	4.8Vp-p (REC/P.B)
10	0.74Vp-p (P.B)	33	0.8Vp-p (REC/P.B)
11	0.4Vp-p (REC) 0.2Vp-p (P.B)	34	5.0Vp-p (REC/P.B)
12	0.9Vp-p (REC/P.B)	35	5.0Vp-p (REC/P.B)
13	0.2Vp-p (P.B)	37	0.15Vp-p (P.B)
14	0.3Vp-p (REC) 0.2Vp-p (P.B)	38	1.0Vp-p (P.B)

3-10. AUDIO & AUDIO PACK SCHEMATIC DIAGRAM



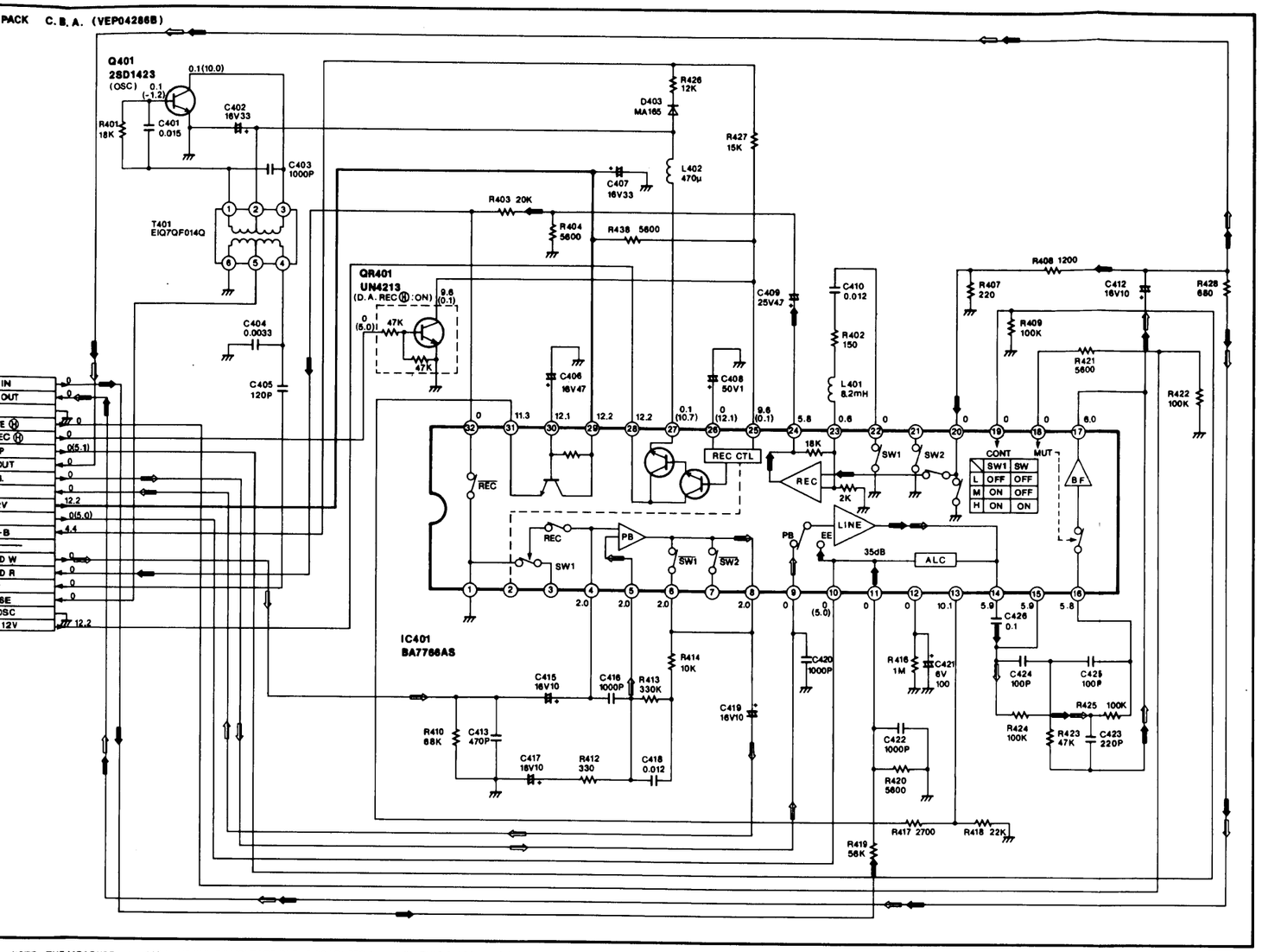
NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

NOTE: THE MEASUREMENT M
WITH PAL COLOUR SI

Back Page:
SUB MAIN Section

MAIN SIGNAL PATH IN REC MODE

MAIN SIGNAL PATH IN PLAYBACK MODE

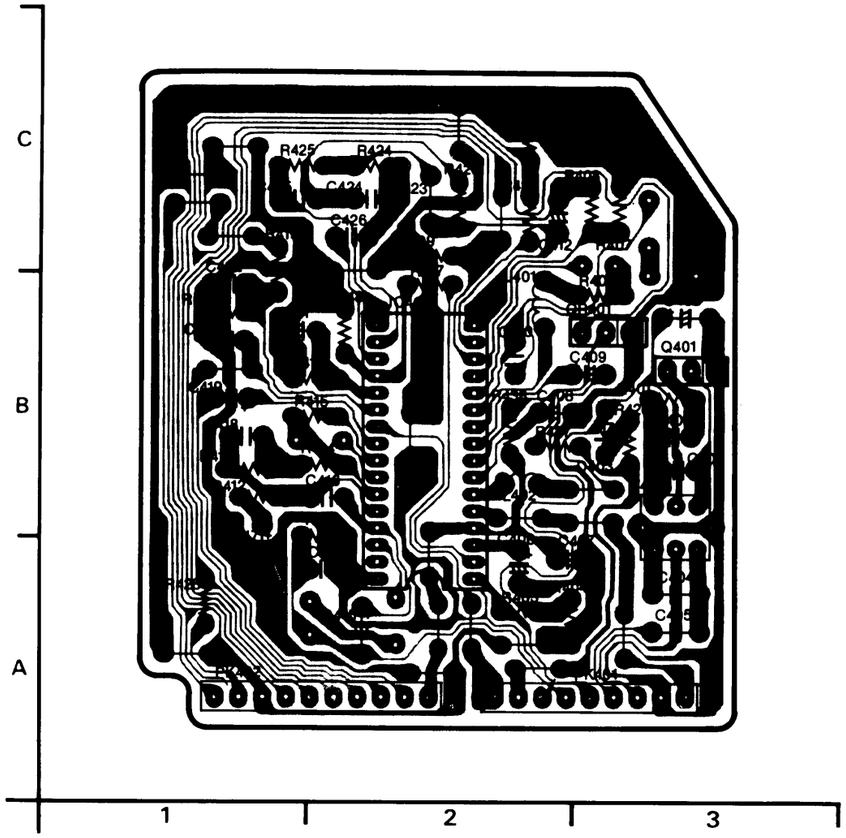


NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ( ) ON THIS DIAGRAM IS RECORD MODE WITH PAL COLOUR SIGNAL.

THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE WITH PAL COLOUR SIGNAL.

4 5 6 7 8 9

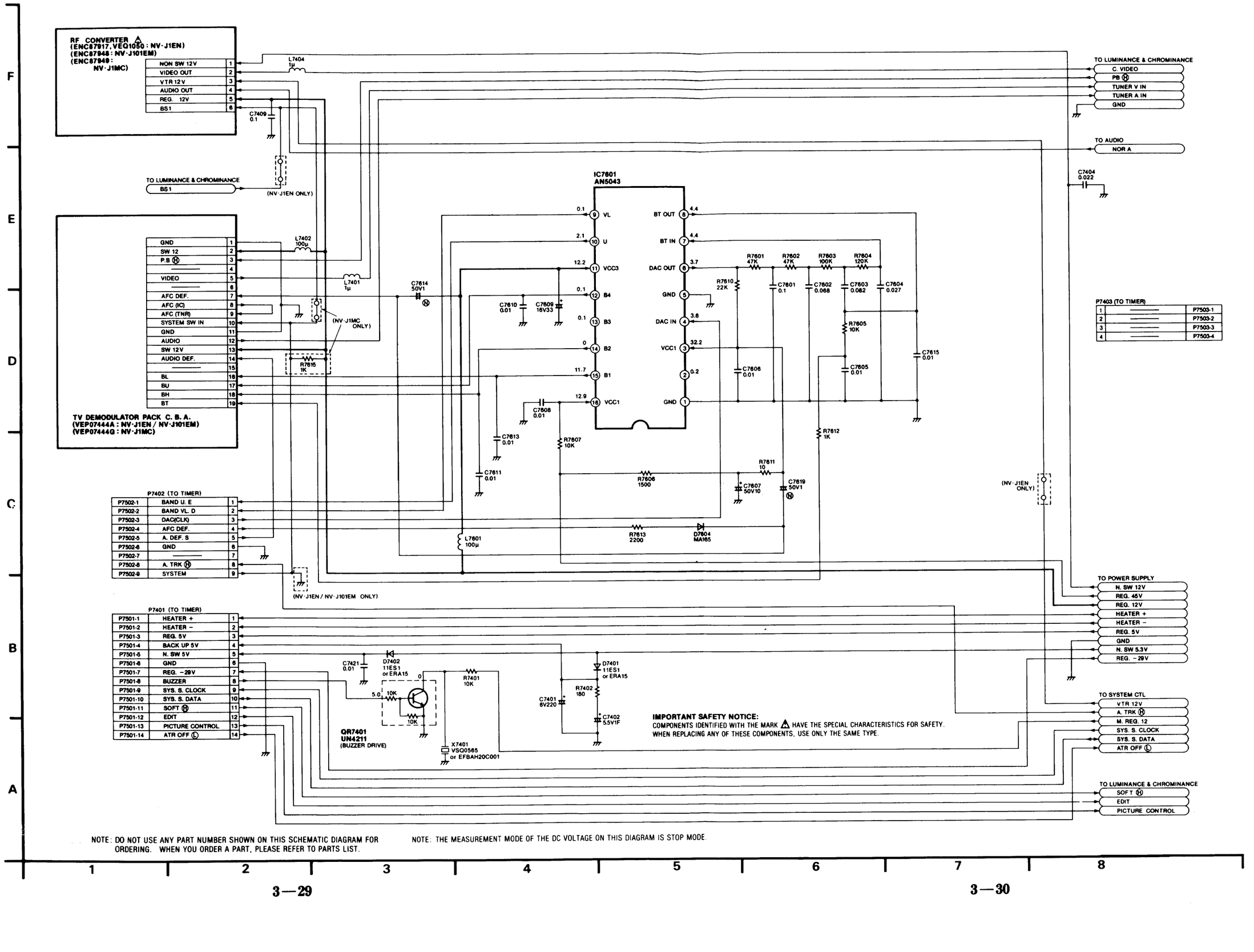
3-11. AUDIO PACK C.B.A. (VEP04286B)



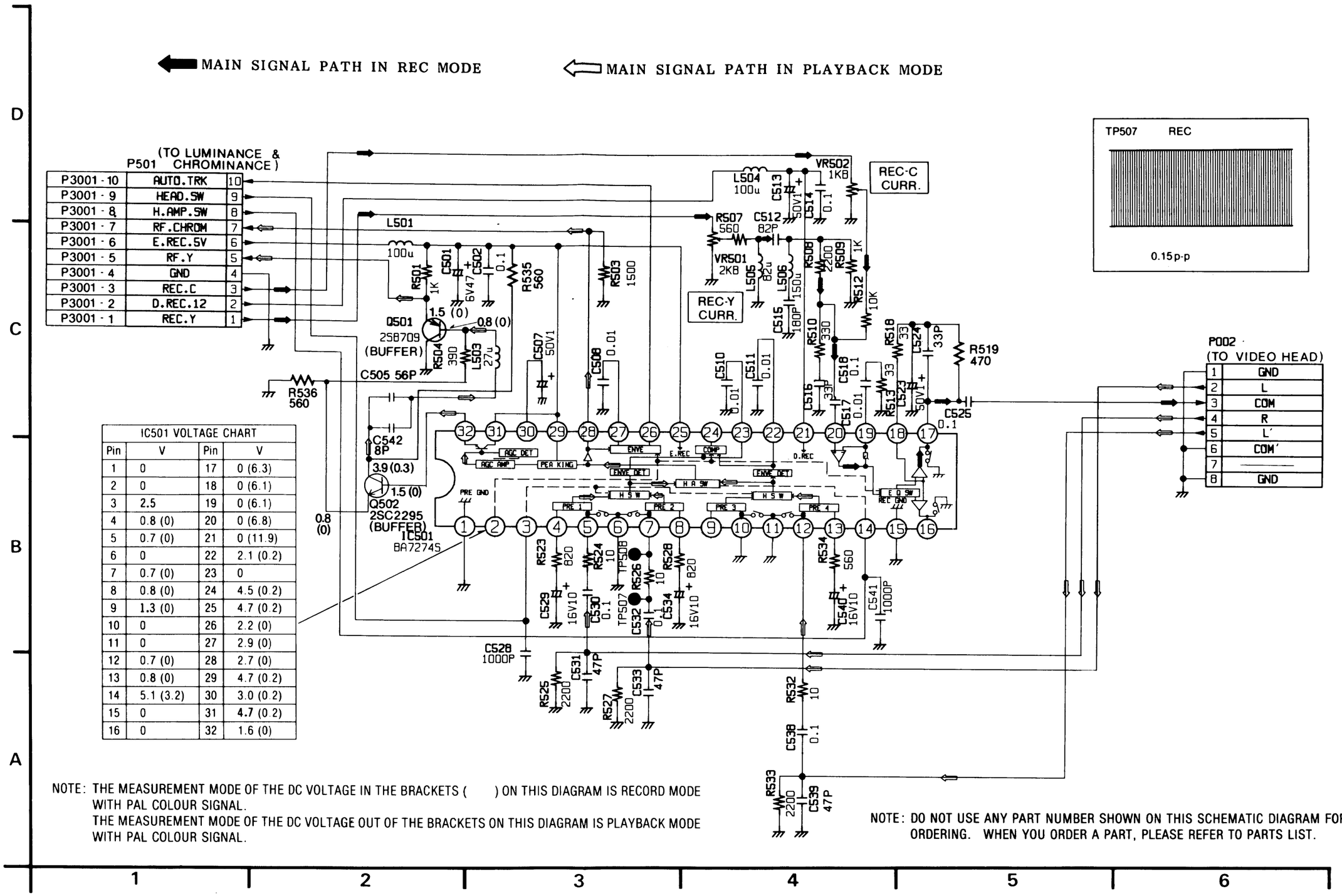
AUDIO PACK C.B.A.	
Transistor	
Q401	B-3
Transistor & Resistor	
QR401	B-3
Integrated Circuit	
IC401	B-2
Connector	
PK401 PK402	A-3 A-1

ADDRESS INFORMATION

3-12. CHANNEL SELECT SCHEMATIC DIAGRAM



3-13. HEAD AMP SCHEMATIC DIAGRAM



IC501 VOLTAGE CHART			
Pin	V	Pin	V
1	0	17	0 (6.3)
2	0	18	0 (6.1)
3	2.5	19	0 (6.1)
4	0.8 (0)	20	0 (6.8)
5	0.7 (0)	21	0 (11.9)
6	0	22	2.1 (0.2)
7	0.7 (0)	23	0
8	0.8 (0)	24	4.5 (0.2)
9	1.3 (0)	25	4.7 (0.2)
10	0	26	2.2 (0)
11	0	27	2.9 (0)
12	0.7 (0)	28	2.7 (0)
13	0.8 (0)	29	4.7 (0.2)
14	5.1 (3.2)	30	3.0 (0.2)
15	0	31	4.7 (0.2)
16	0	32	1.6 (0)

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

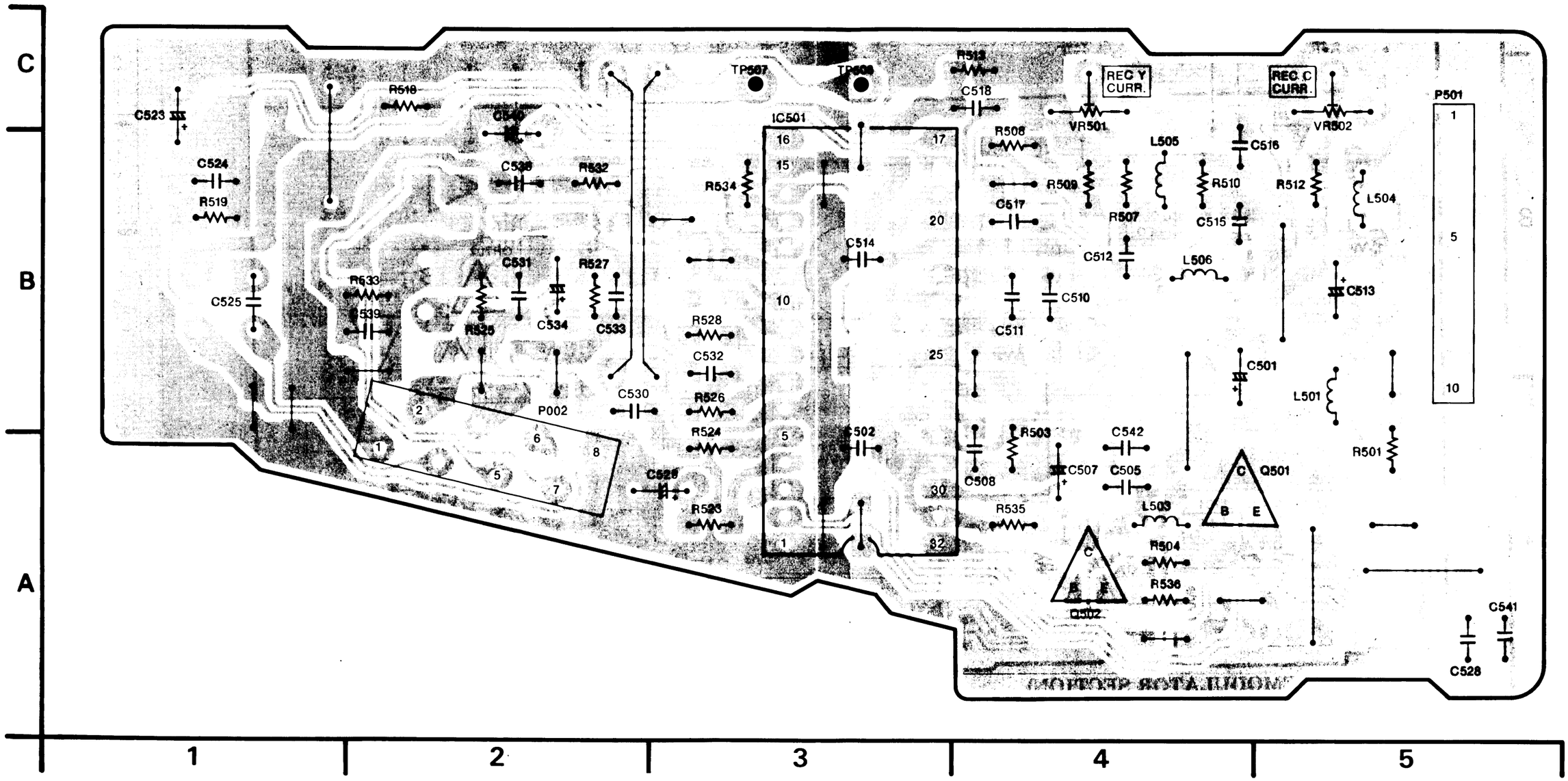
NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

Back Page:
CHANNEL SELECT Section

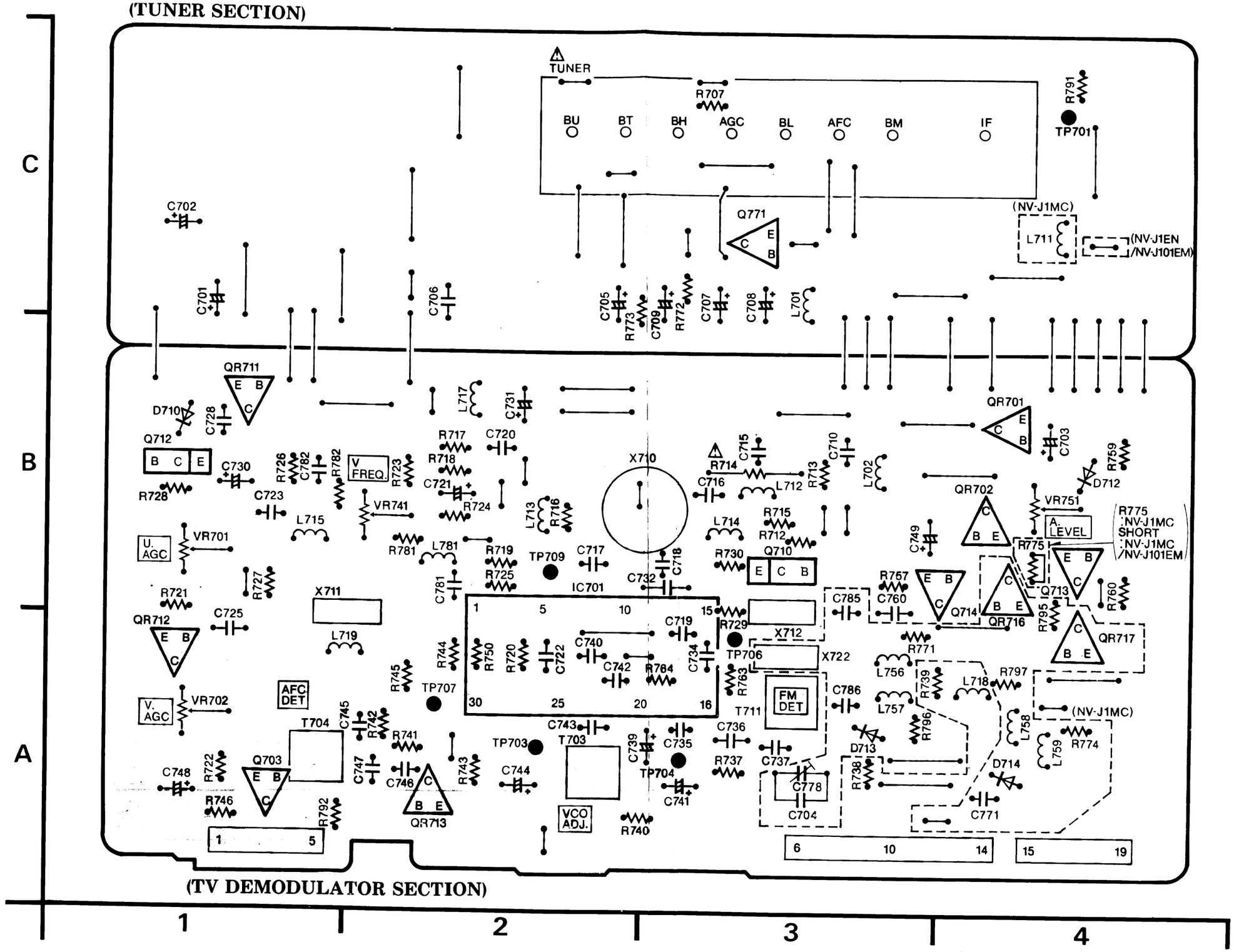
3-14. HEAD AMP C.B.A. (VEP05137B)

HEAD AMP C.B.A.	
Transistor	
Q501 Q502	A-5 A-4
Integrated Circuit	
IC501	C-3
Test Point	
TP507 TP508	C-3 C-3
Adjustment	
VR501 VR502	C-4 C-5
Connector	
P002 P501	B-2 C-5

ADDRESS INFORMATION



3-15. TV DEMODULATOR PACK C.B.A. (VEP07444A: NV-J1EN/NV-J101EM) (VEP07444G: NV-J1MC) (TUNER SECTION)



(TV DEMODULATOR SECTION)

TV DEMODULATOR PACK C.B.A.	
Transistor	
Q703	A-1
Q710	B-3
Q712	B-1
Q713	B-4
Q714	B-4
Q771	C-3
Transistor & Resistor	
QR701	B-4
QR702	B-4
QR711	B-1
QR712	A-1
QR713	A-2
Integrated Circuit	
IC701	B-2
Test Point	
TP701	C-4
TP703	A-2
TP704	A-3
TP706	A-3
TP707	A-2
TP709	B-2
Adjustment	
T703	A-2
T704	A-1
T711	A-3
VR701	B-1
VR702	A-1
VR741	B-2
VR751	B-4

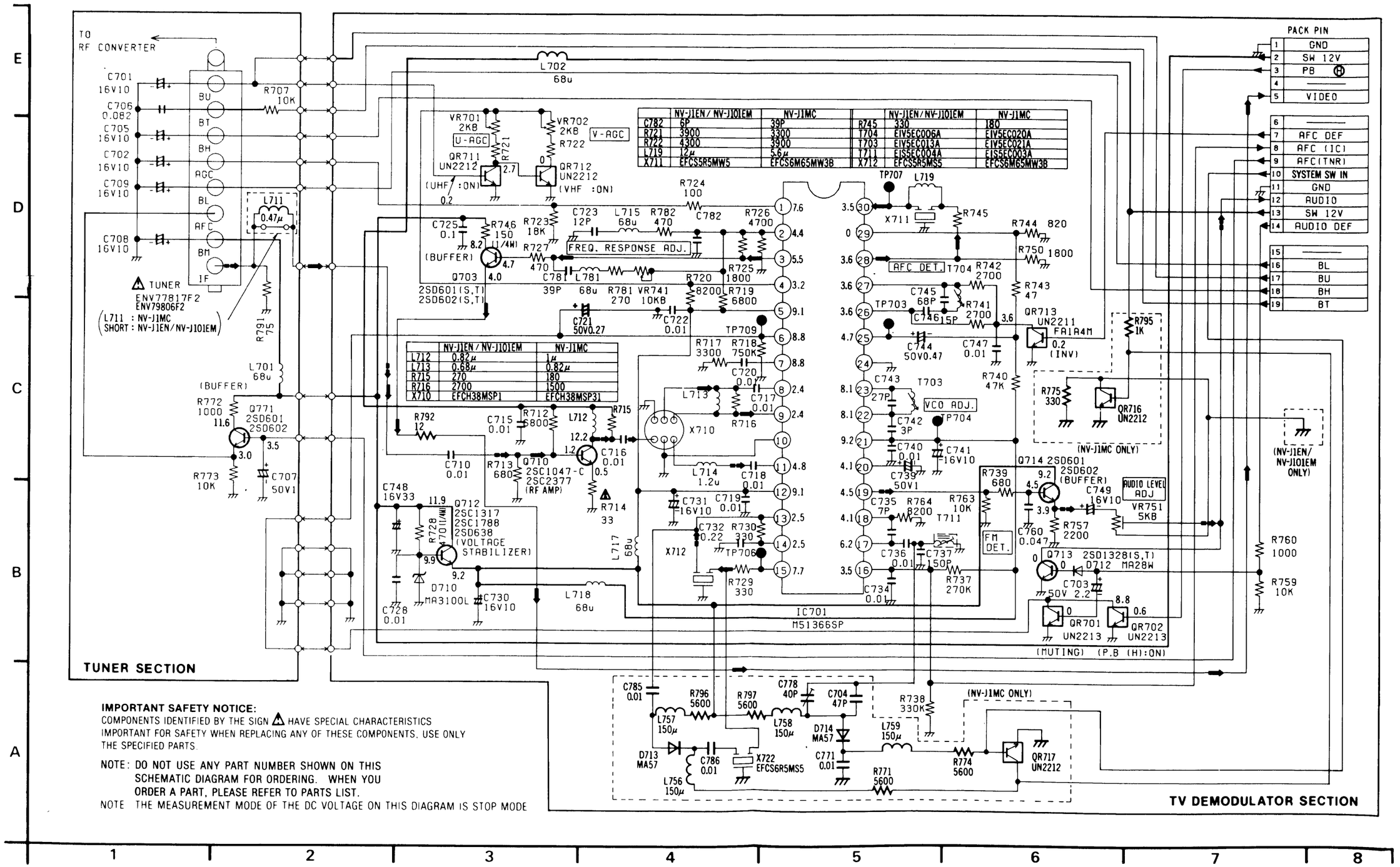
ADDRESS INFORMATION

Back Page: HEAD AMP Section

3-16. TV DEMODULATOR PACK SCHEMATIC DIAGRAM

VIDEO SIGNAL PATH

AUDIO SIGNAL PATH



	NV-J1EN/ NV-J101EM	NV-J1MC
C782	6P	39P
R721	3900	3300
R722	4300	3900
L719	12μ	5.6μ
X711	EFCS5R5MW5	EFCS6M65MW3B

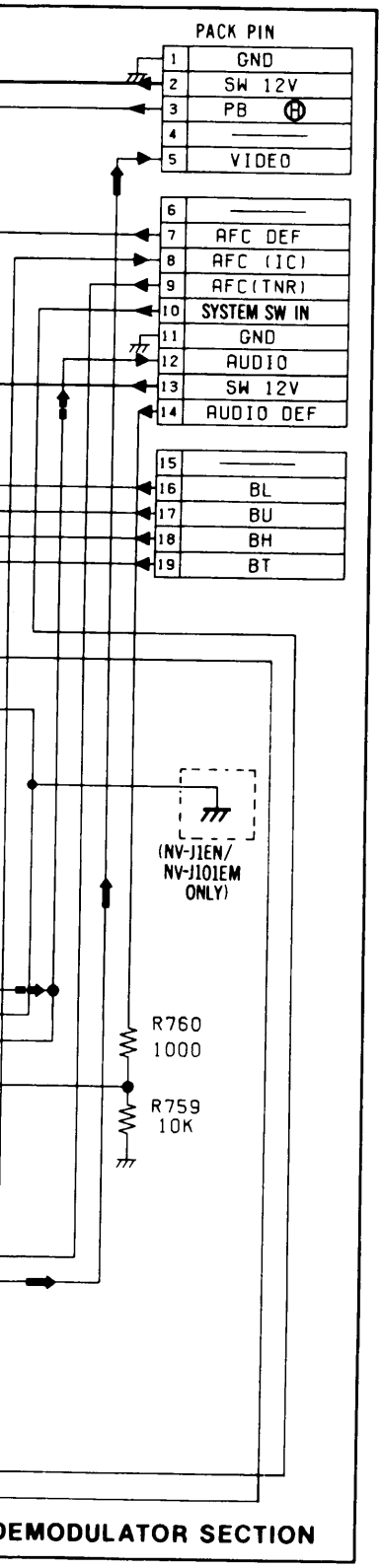
	NV-J1EN/NV-J101EM	NV-J1MC
R745	330	180
T704	EIV5EC006A	EIV5EC020A
T703	EIV5EC013A	EIV5EC021A
T711	EIS5EC004A	EIS5EC003A
X712	EFCS5R5MS5	EFCS6M65MW3B

	NV-J1EN/NV-J101EM	NV-J1MC
L712	0.82μ	1μ
L713	0.68μ	0.82μ
R715	270	180
R716	2700	1500
X710	EFCH38MSP1	EFCH38MSP31

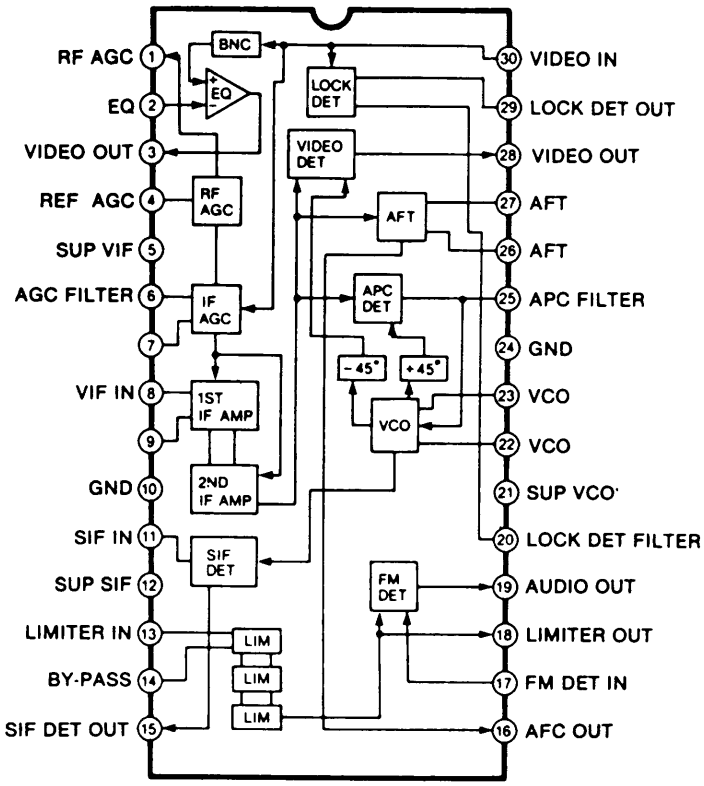
IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED BY THE SIGN ⚠ HAVE SPECIAL CHARACTERISTICS IMPORTANT FOR SAFETY WHEN REPLACING ANY OF THESE COMPONENTS. USE ONLY THE SPECIFIED PARTS.

NOTE: 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



IC BLOCK
IC701 (M51366SP)

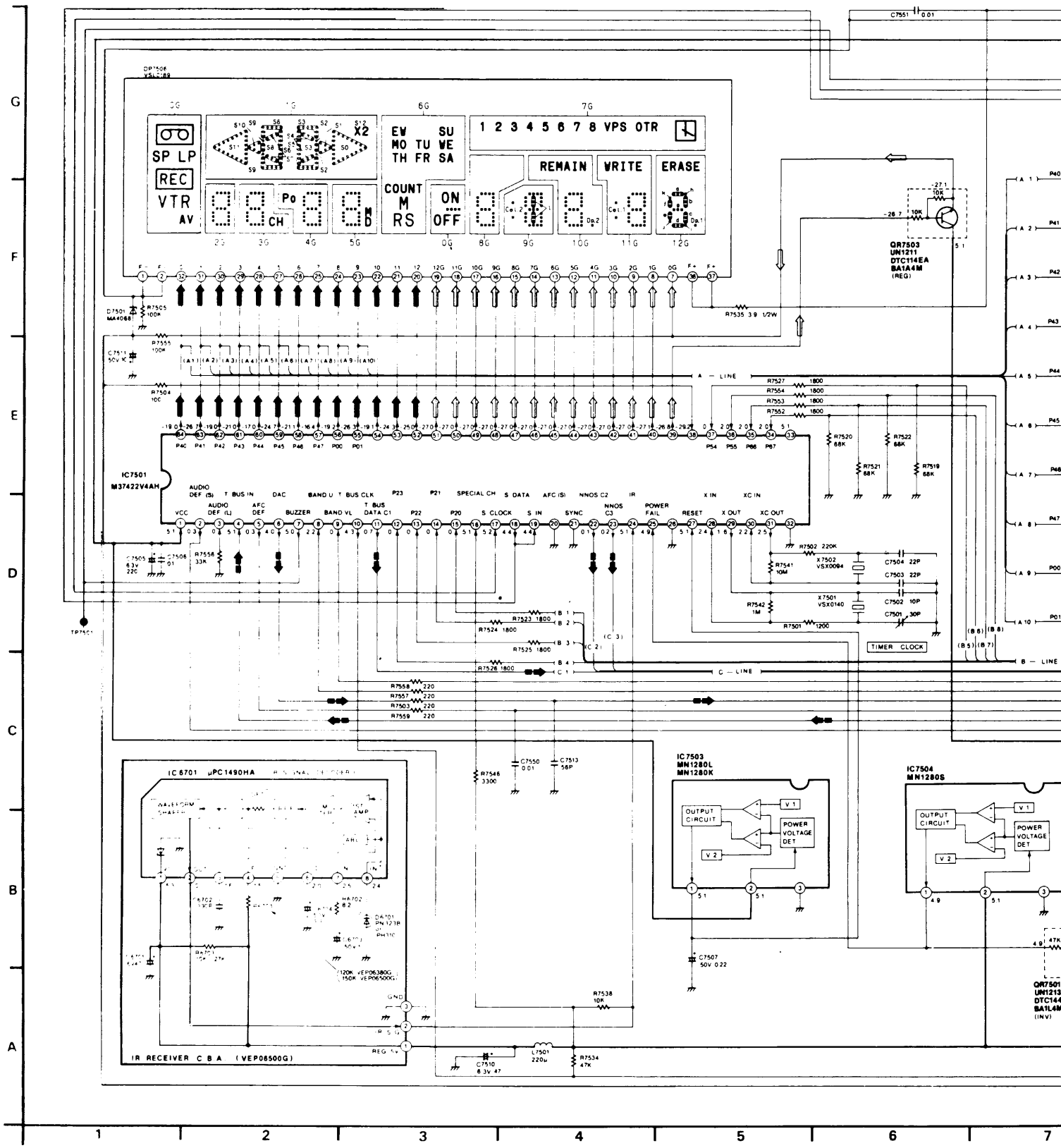


IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED BY THE SIGN ⚠ HAVE SPECIAL CHARACTERISTICS IMPORTANT FOR SAFETY WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SPECIFIED PARTS.

Next Page:
TIMER & OPERATION Section

3-17. TIMER & OPERATION SCHEMATIC DIAGRAM

SEGMENT CONTROL SIGNAL

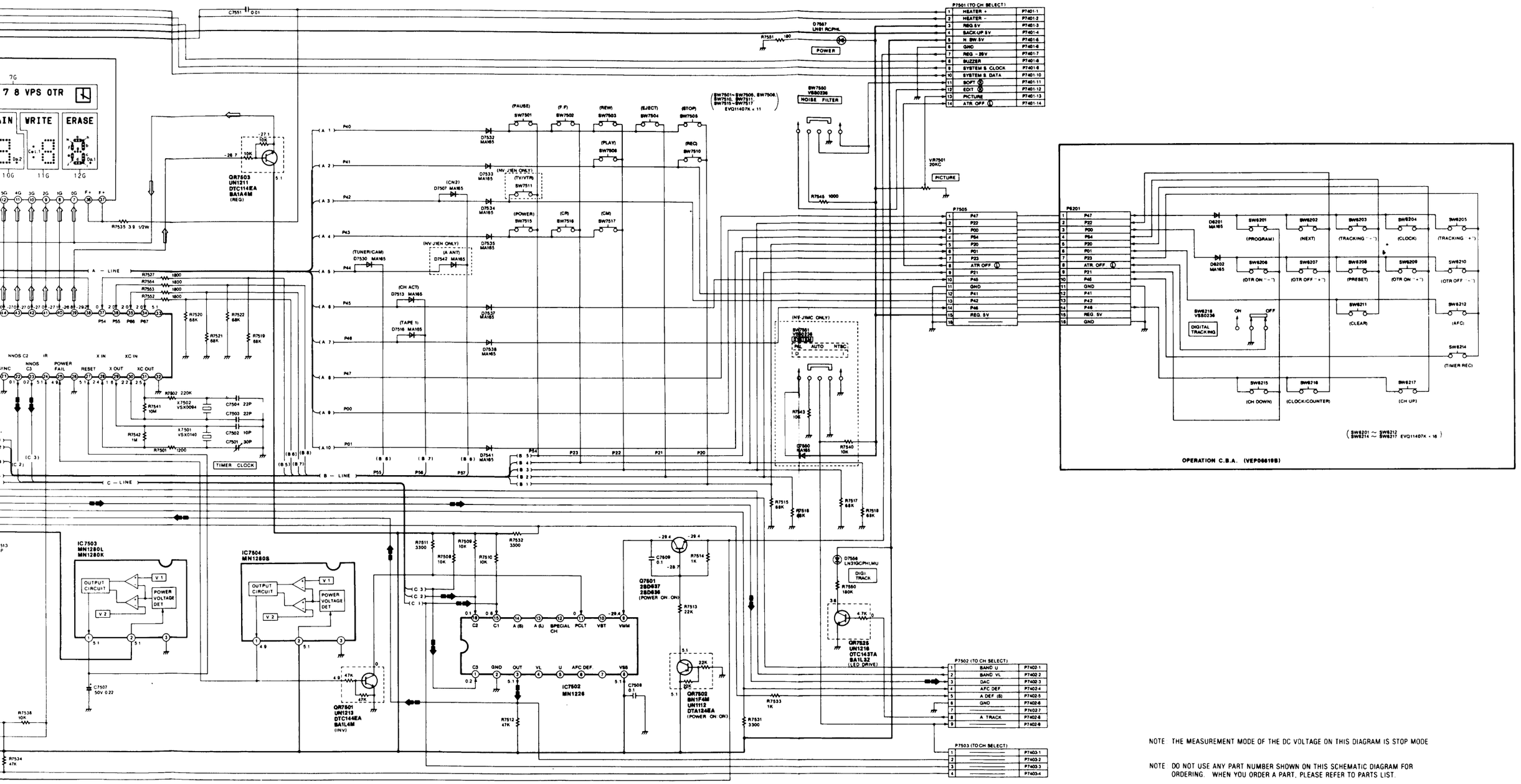


AGRAM

SEGMENT CONTROL SIGNAL

GRID CONTROL SIGNAL

TUNE CONTROL SIGNAL



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.

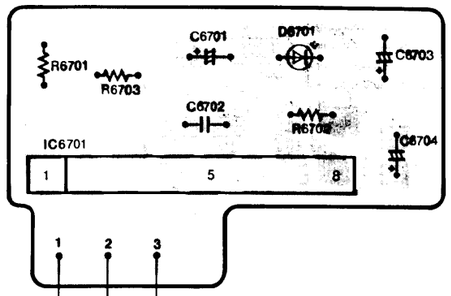
4 5 6 7 8 9 10 11 12 13 14 15 16 17

3-18. TIMER C.B.A. (VEP07574B: NV-J1EN) (VEP07574E: NV-J101EM) (VEP07574C: NV-J1MC) & OPERATION C.B.A. (VEP06619B)

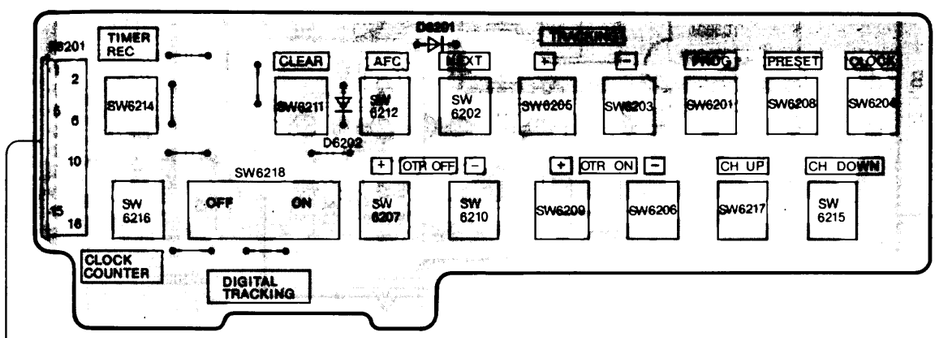
TIMER C.B.A.					
Transistor		IC7501	B-3	**Connector**	
Q7501	A-2	IC7502	A-3	P6201	D-4
Transistor & Resistor		IC7503	B-1	P7501	A-2
QR7501	B-4	IC7504	B-4	P7502	C-2
QR7502	A-3	**Test Point**		P7503	C-1
QR7503	B-3	TP7501	B-2	P7505	B-6
QR7525	C-4	**Adjustment**			
Integrated Circuit		VR7501	A-5		
IC6701	D-1				

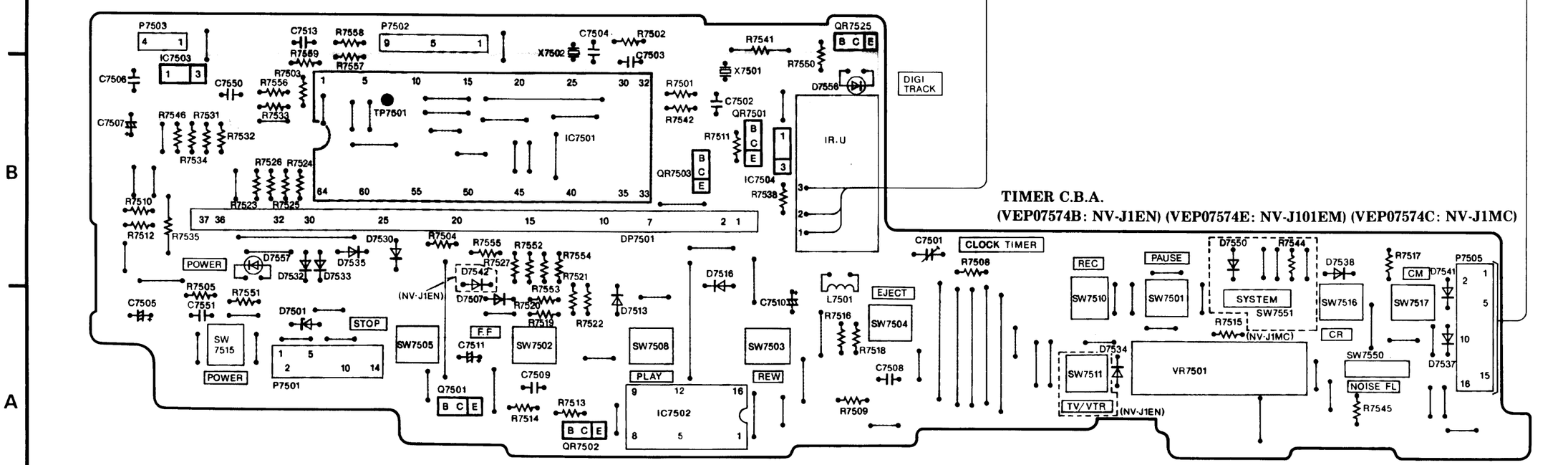
ADDRESS INFORMATION

IR RECEIVER C.B.A. (VEP06500G)



OPERATION C.B.A. (VEP06619B)

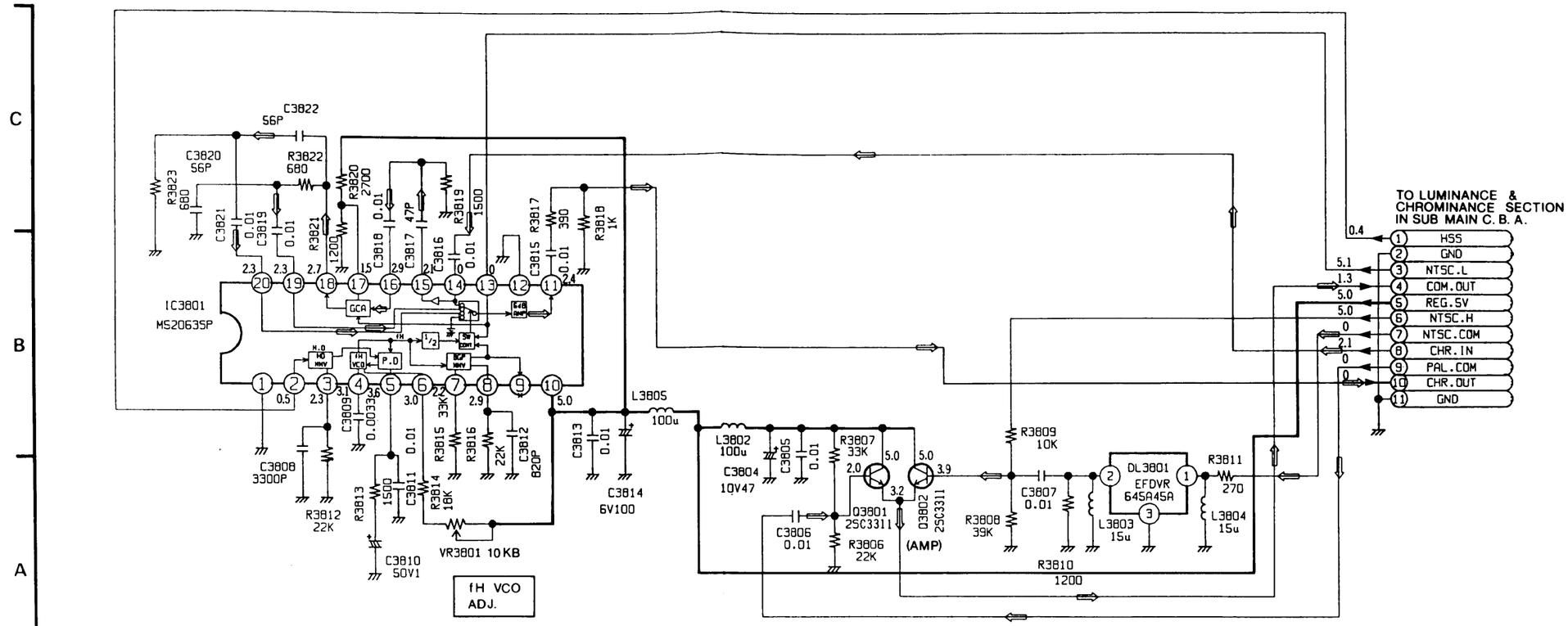




TIMER C.B.A.
(VEP07574B: NV-J1EN) (VEP07574E: NV-J101EM) (VEP07574C: NV-J1MC)

3-19. P.B. NTSC PACK SCHEMATIC DIAGRAM

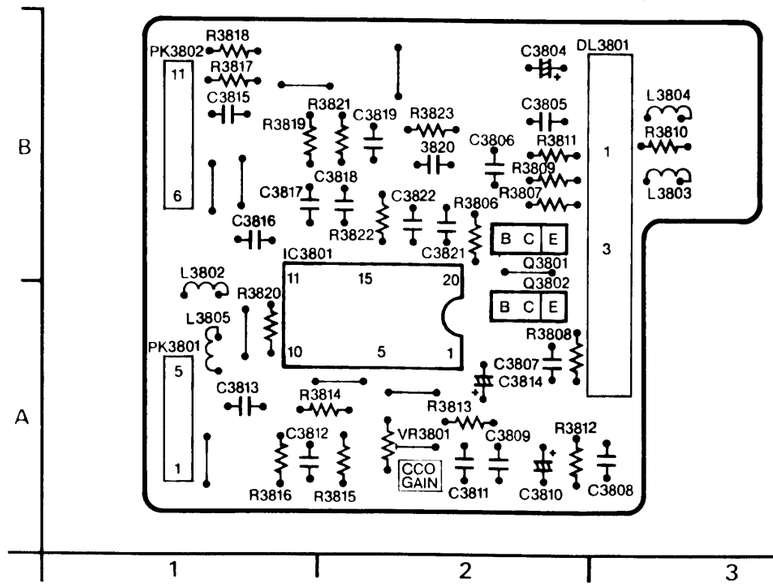
⇦ MAIN SIGNAL PATH IN PLAYBACK MODE



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: THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE WITH NTSC COLOR SIGNAL

3-20. P.B. NTSC PACK C.B.A. (VEP03712A)

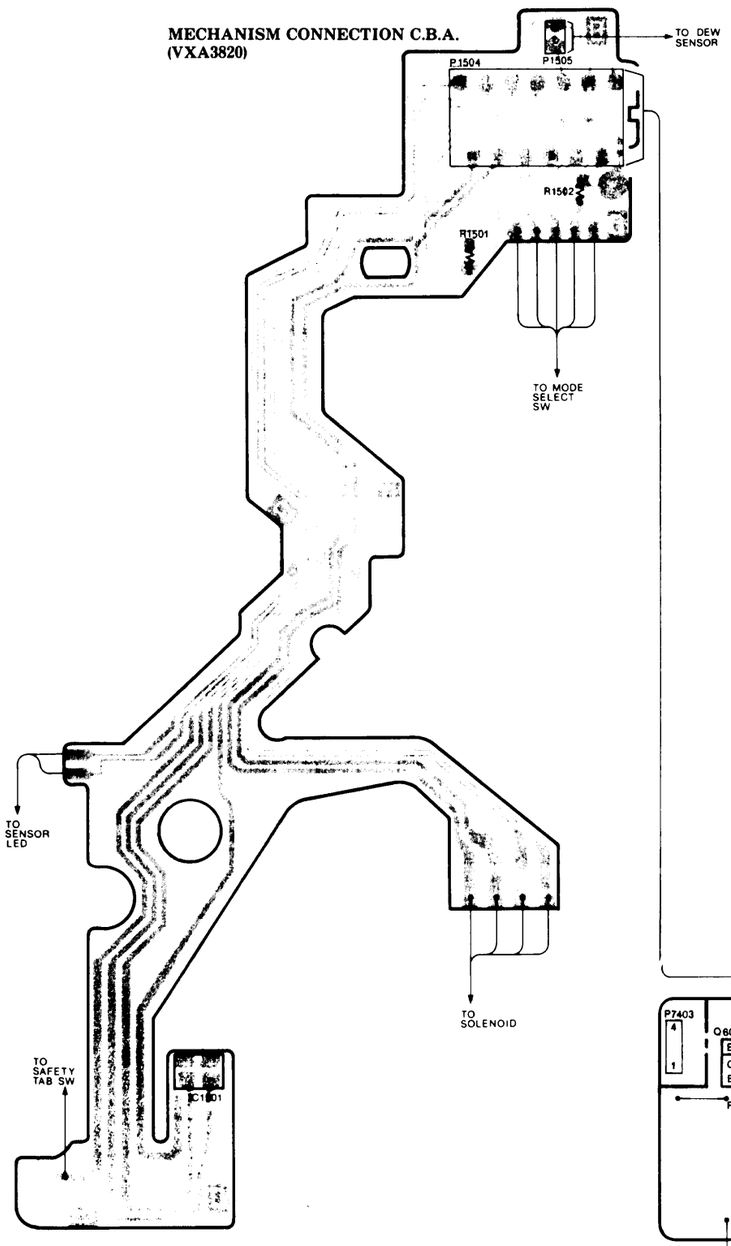


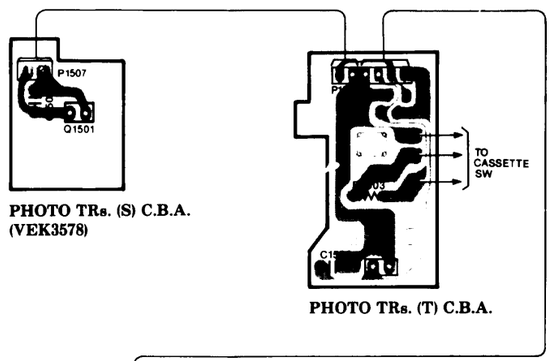
PB NTSC PACK C.B.A.	
Transistor	
Q3801 Q3802	B-2 A-2
Integrated Circuit	
IC3801	B-1
Adjustment	
VR3801	A-2
Connector	
PK3801 PK3802	A-1 B-1

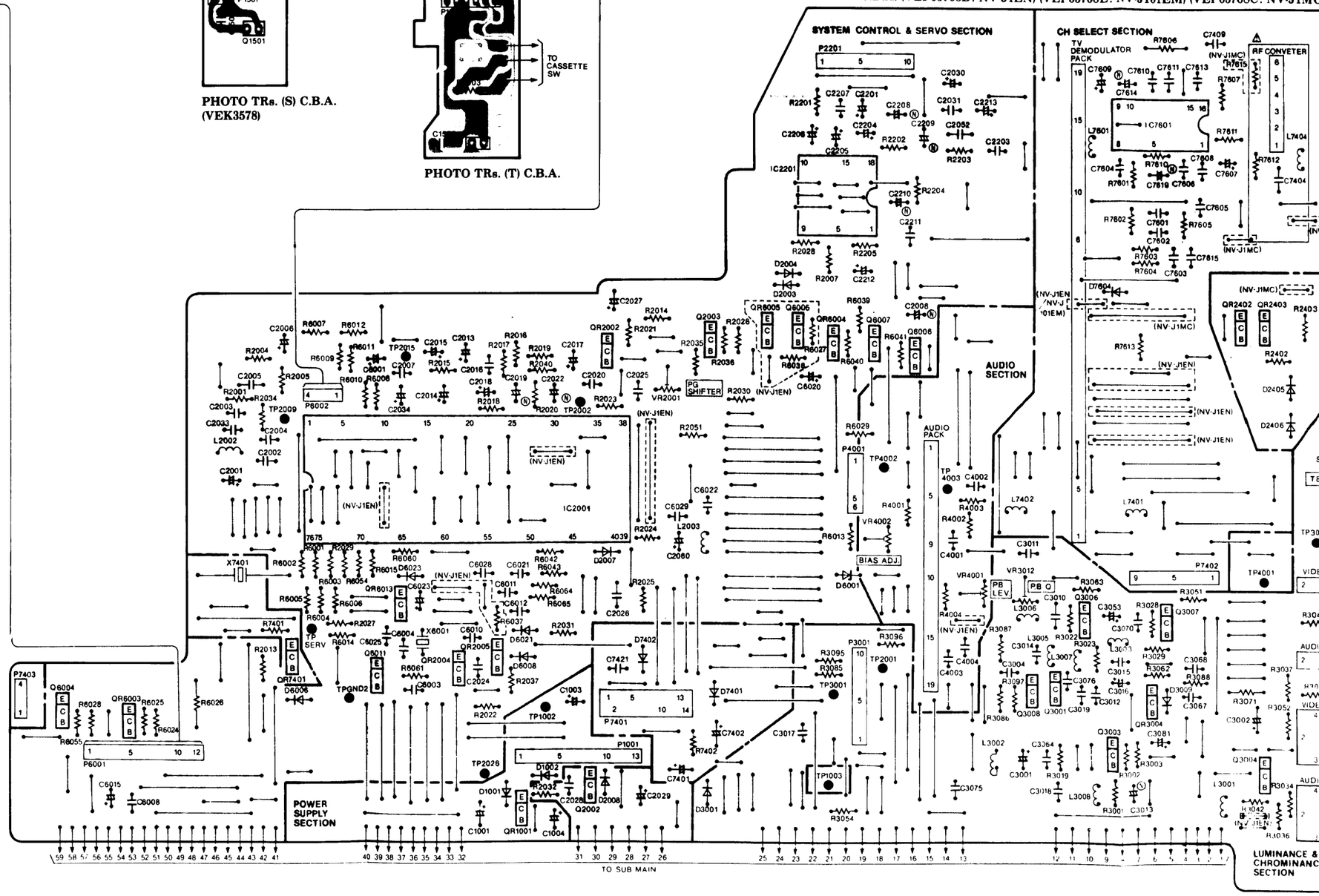
ADDRESS INFORMATION

Back Page:
TIMER & OPERATION Section

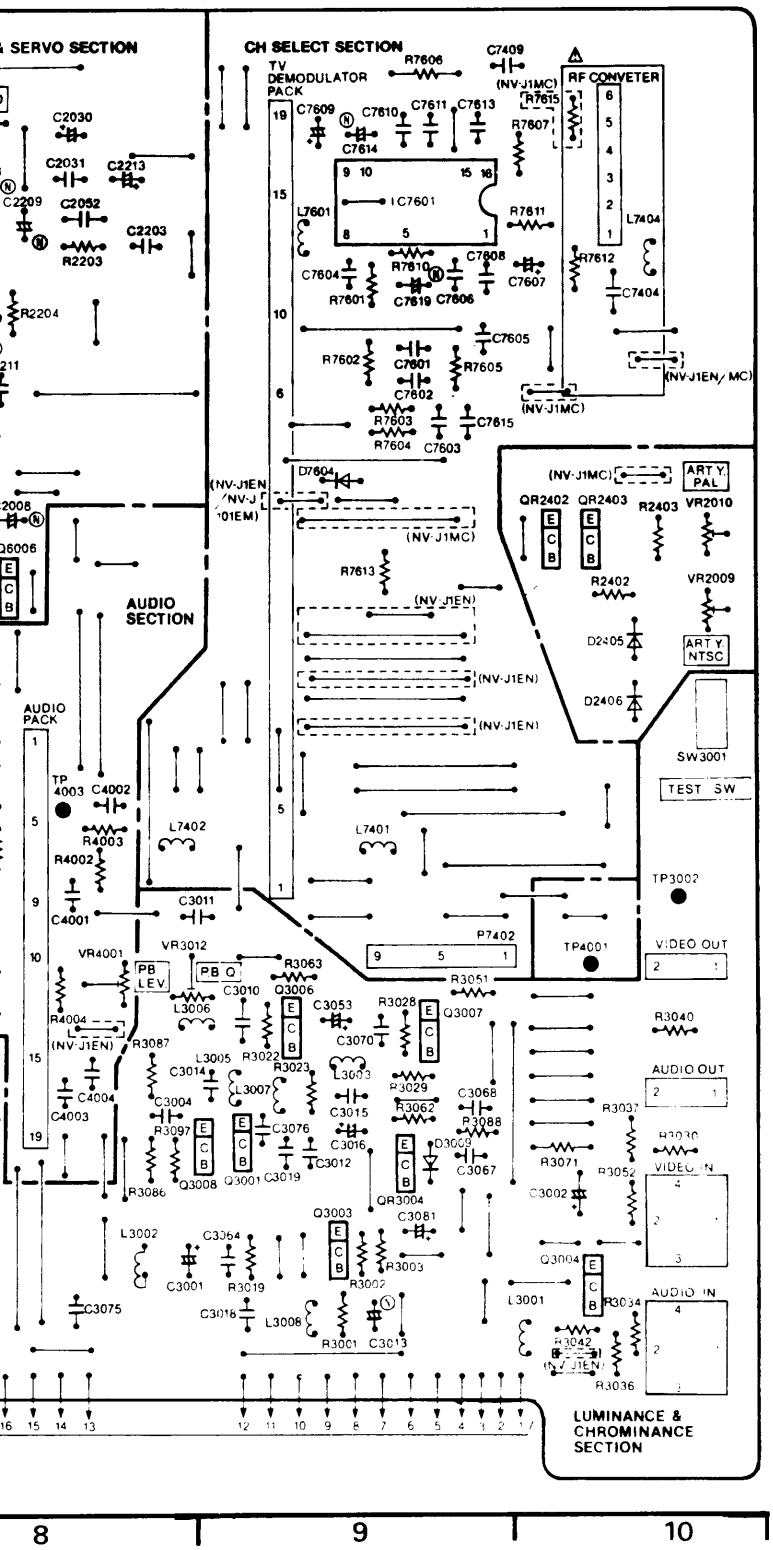
3-21. MAIN C.B.A. (VEP03708B: NV-J1EN) (VEP03708E: NV-J101EM) (VEP03708C: NV-J1MC)







VEP03708B: NV-J1EN) (VEP03708E: NV-J101EM) (VEP03708C: NV-J1MC)



SYSTEM CONTROL & SERVO Section	
Transistor	
Q1501	E-4
Q1502	E-6
Q2002	A-6
Q2003	D-7
Q6004	B-3
Q6005	D-7
Q6006	D-8
Q6007	D-8
Q6011	B-5
Transistor & Resistor	
QR2002	D-6
QR2004	B-5
QR2005	B-6
QR2402	D-10
QR2403	D-10
QR6003	B-4
QR6004	D-7
QR6005	D-7
QR6013	B-5
Integrated Circuit	
IC1501	A-1
IC2001	C-6
IC2201	D-7
Test Point	
TP2001	B-8
TP2002	C-6
TP2009	C-5
TP2015	C-5
TP2026	A-6
TPSERV	B-5
TPGND2	B-5
Adjustment	
VR2001	C-7
VR2009	D-10
VR2010	D-10
Connector	
P1504	E-2
P1505	E-3
P1507	E-4
P1508	E-5
P2201	E-7
P6001	A-4
P6002	C-5

ADDRESS INFORMATION

POWER Section	
Transistor & Resistor	
QR1001	A-6
Test Point	
TP1002	B-6
TP1003	A-7
Connector	
P1001	A-6

ADDRESS INFORMATION

LUMINANCE & CHROMINANCE Section	
Transistor	
Q3001	B-9
Q3003	A-9
Q3004	A-10
Q3006	B-9
Q3007	B-9
Q3008	B-9
Transistor & Resistor	
QR3004	B-9
Test Point	
TP3001	B-7
TP3002	C-10
Adjustment	
VR3012	B-8
Connector	
P3001	B-8

ADDRESS INFORMATION

AUDIO Section	
Test Point	
TP4001	B-10
TP4002	C-8
TP4003	C-8
Adjustment	
VR4001	B-8
VR4002	C-8
Connector	
P4001	C-8

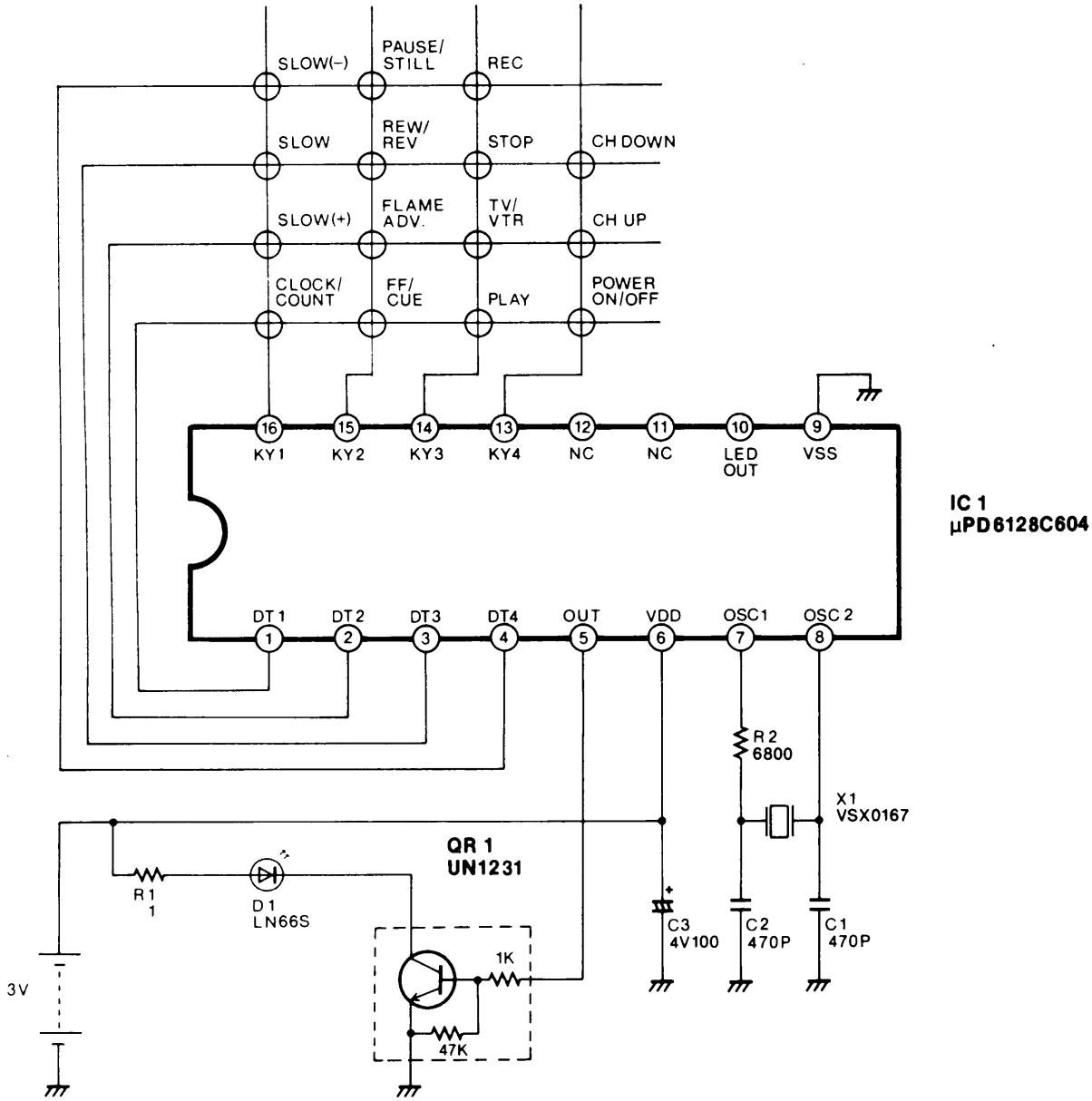
ADDRESS INFORMATION

CHANNEL SELECT Section	
Transistor & Resistor	
QR7401	B-5
Integrated Circuit	
IC7601	E-9
Connector	
P7401	B-6
P7402	B-9
P7403	B-3

ADDRESS INFORMATION

Next Page:
REMOTE CONTROLLER & RF CONVERTER Section

3-22. REMOTE CONTROLLER SCHEMATIC DIAGRAM — UNIT NO.: VEQ1044 (NV-J1EN), VEQ1086 (NV-J101EM/NV-J1MC) —



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

AGRAM

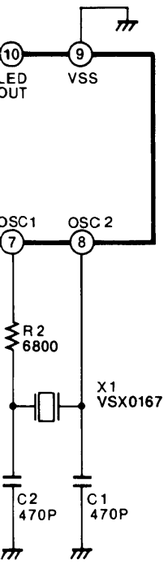
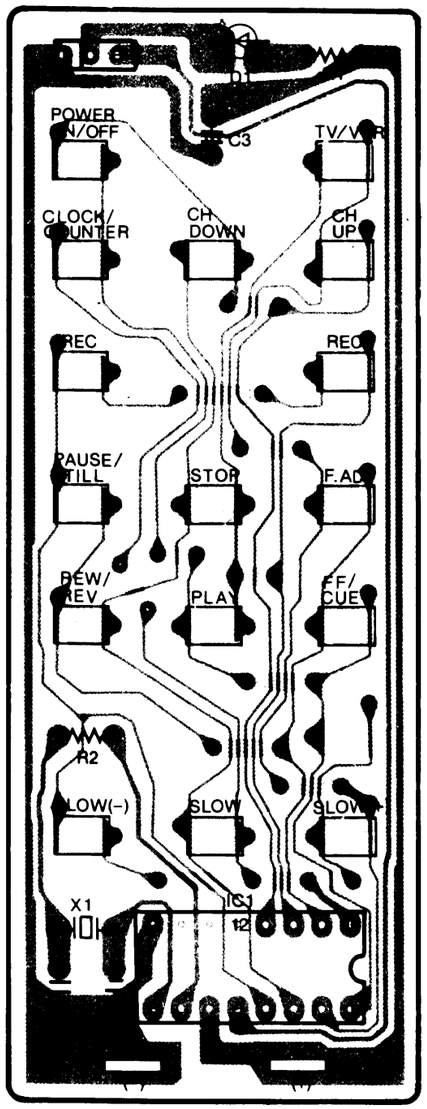
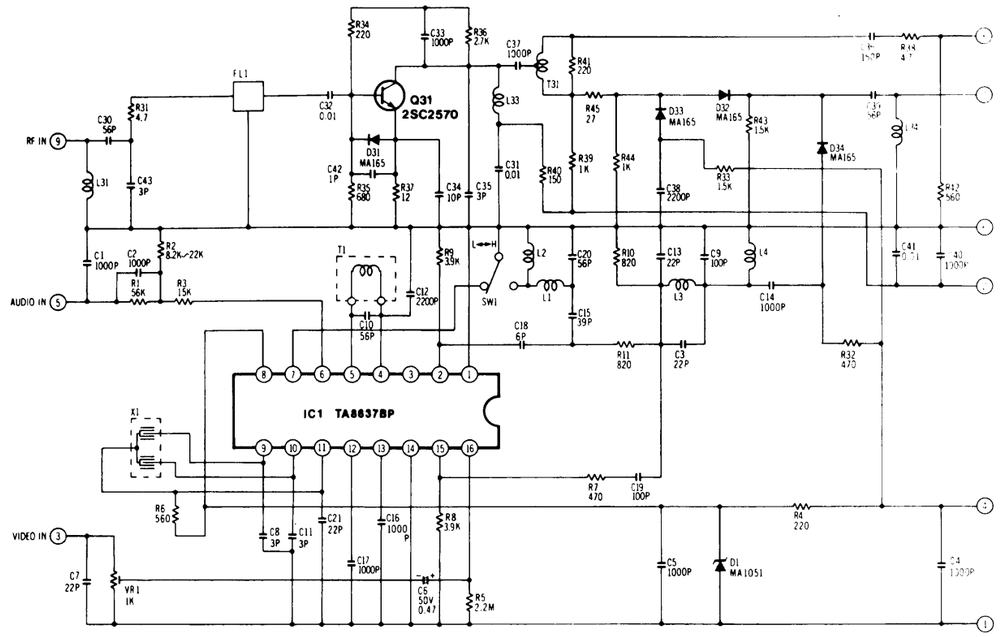


DIAGRAM FOR
TS LIST.

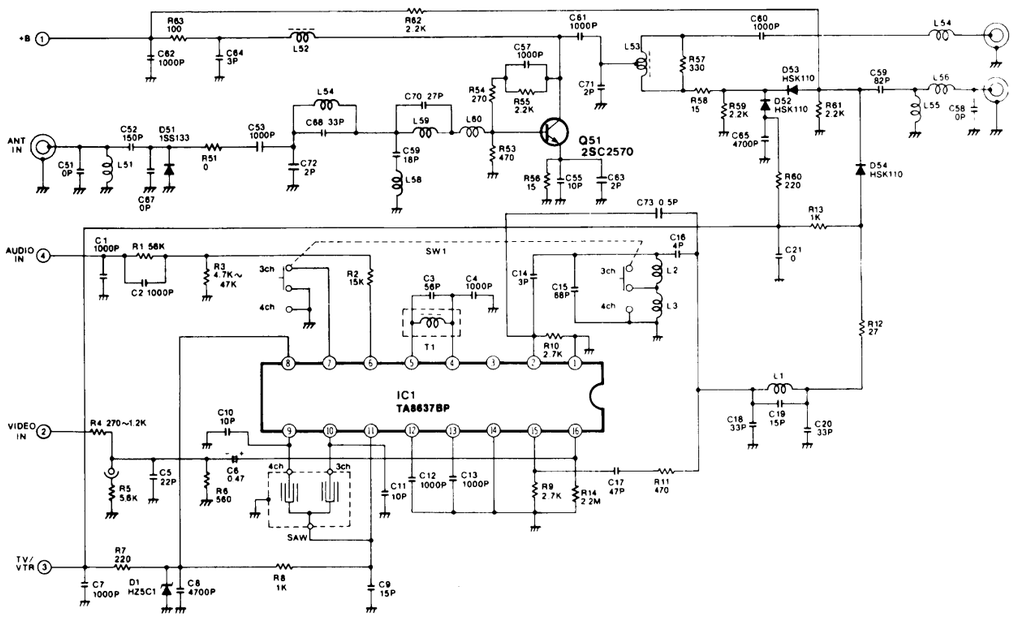
3-23. REMOTE CONTROLLER C.B.A. (VEP66042C)



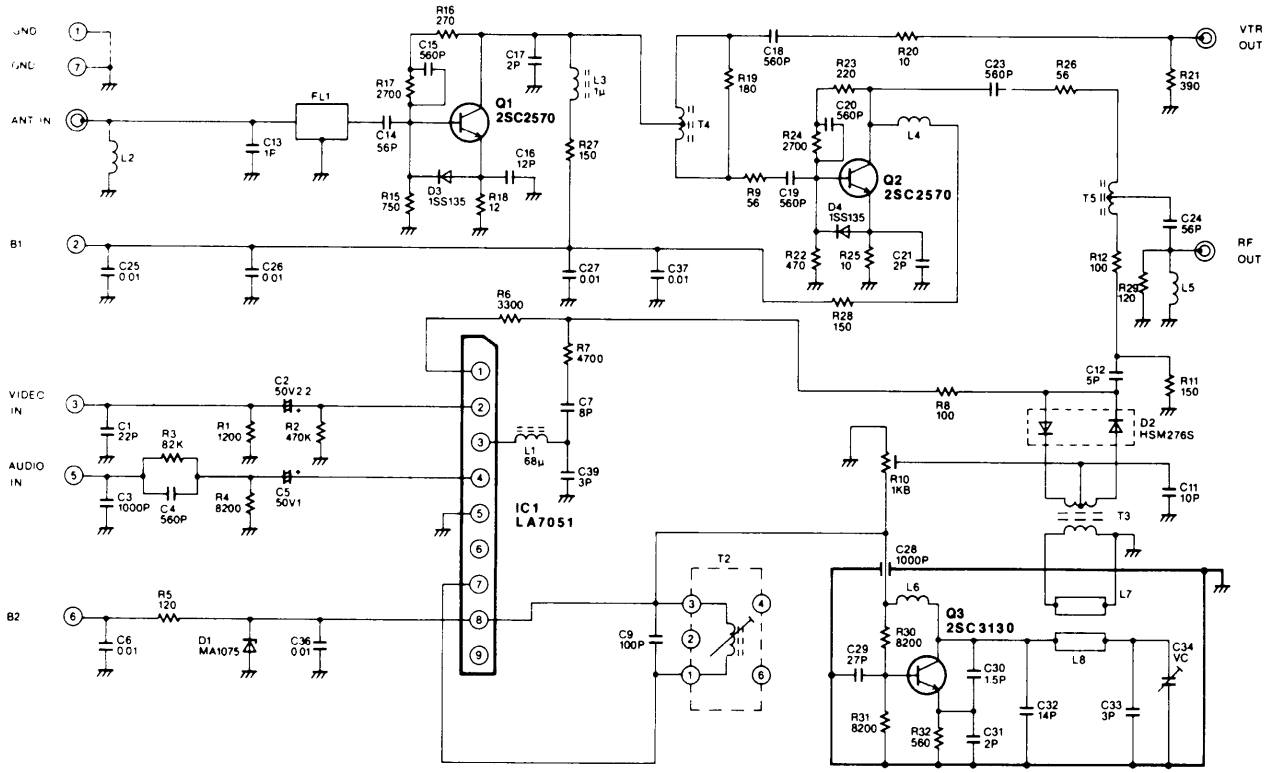
3-24. RF CONVERTER SCHEMATIC DIAGRAM (ENC87917: NV-J1EN)



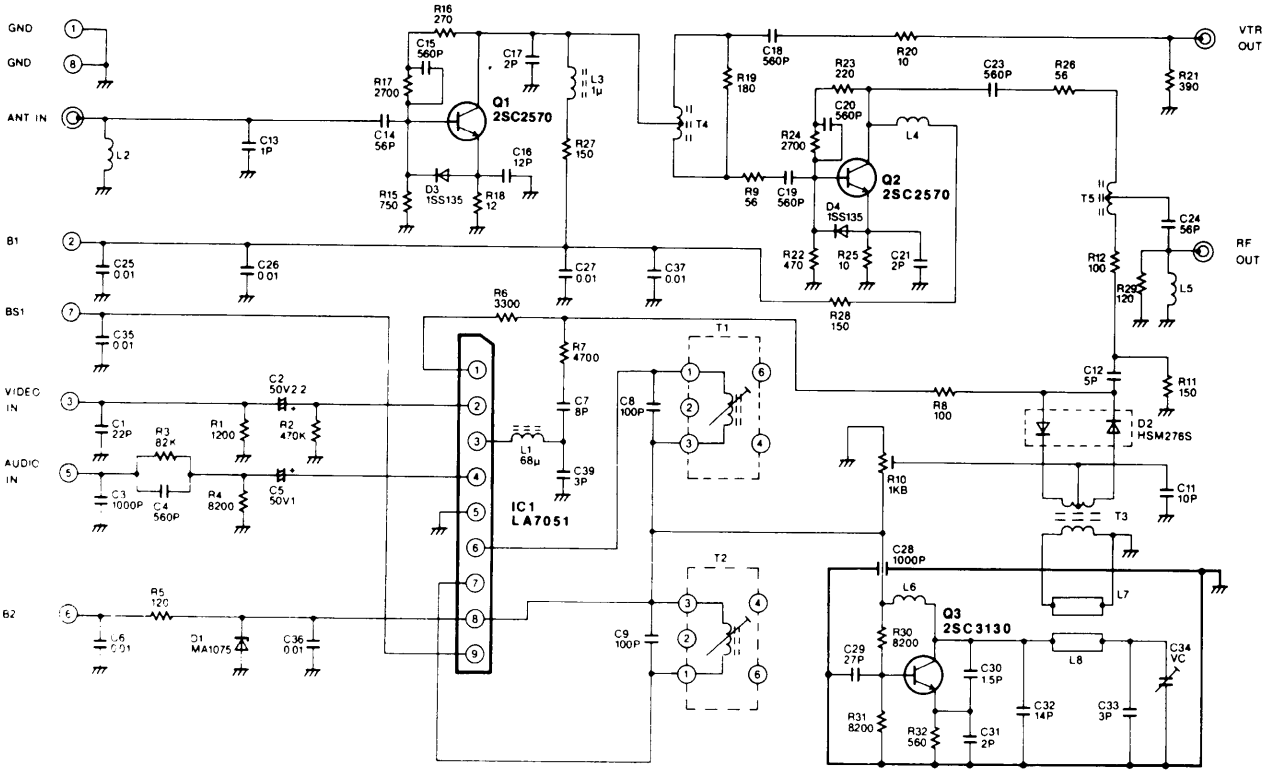
3-25. RF CONVERTER SCHEMATIC DIAGRAM (VEQ1050: NV-J1EN)



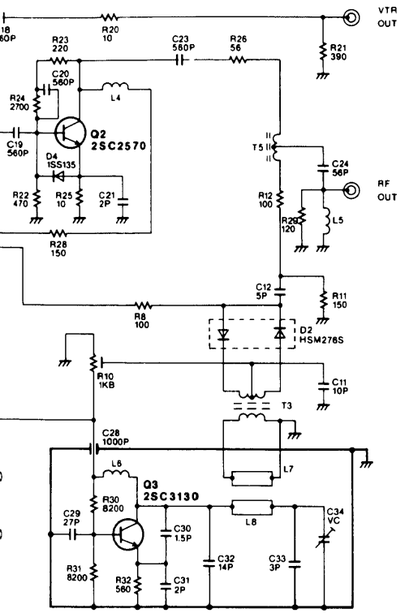
3-26. RF CONVERTER SCHEMATIC DIAGRAM (ENC87948: NV-J101EM)



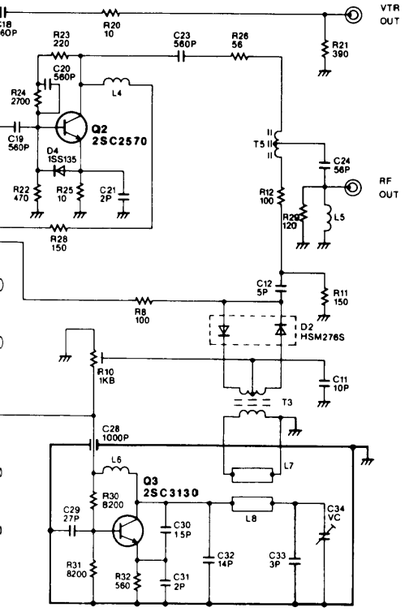
3-27. RF CONVERTER SCHEMATIC DIAGRAM (ENC87949: NV-J1MC)



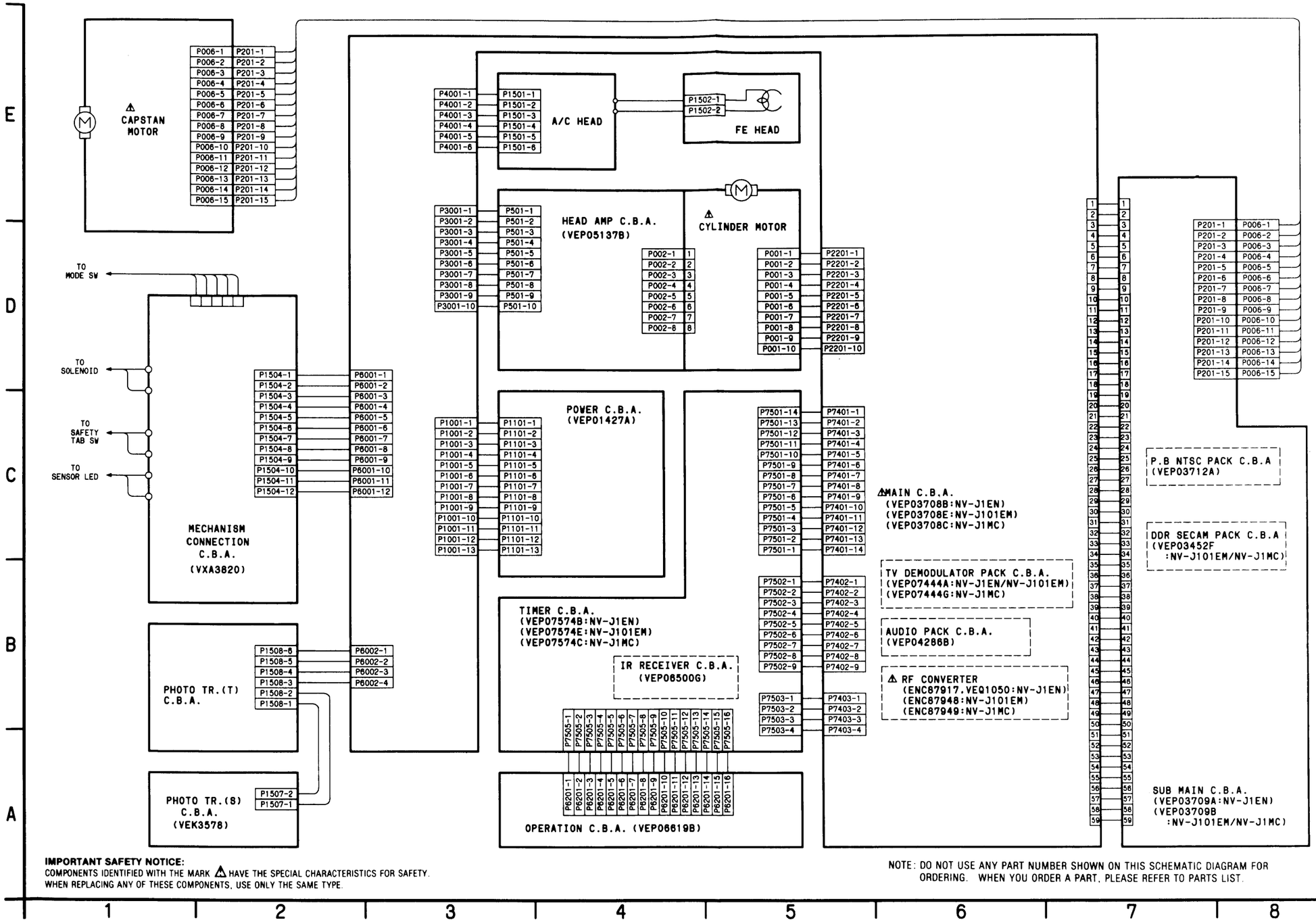
AM (ENC87948: NV-J101EM)



AM (ENC87949: NV-J1MC)



3-28. INTERCONNECTION SCHEMATIC DIAGRAM

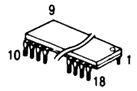


IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED WITH THE MARK ⚠ HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY.
WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SAME TYPE.

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

Next Page:
ICs & TRs INFORMATION Section

3-29. ICs & TRs INFORMATION



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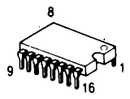

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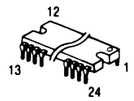

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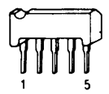

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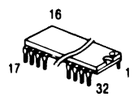

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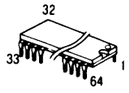

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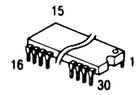

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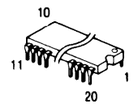

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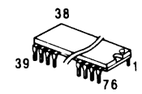

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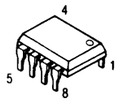

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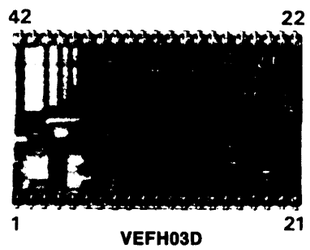

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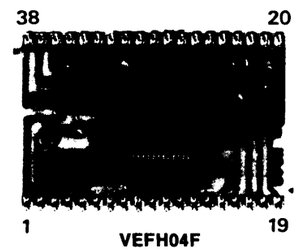

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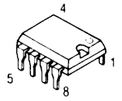

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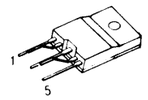

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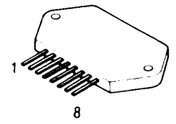

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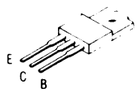

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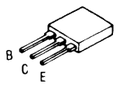

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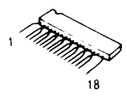

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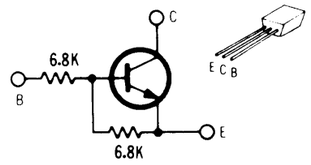

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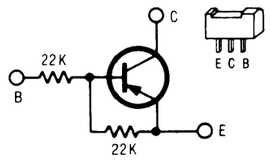

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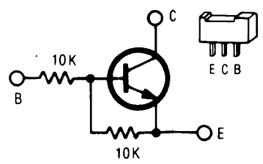

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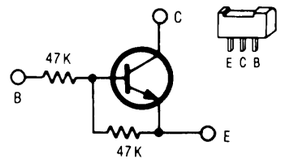

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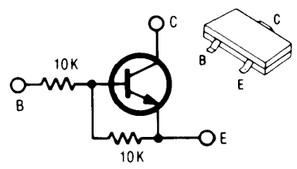

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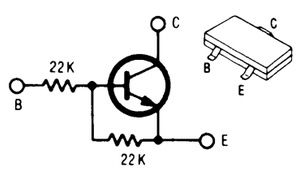

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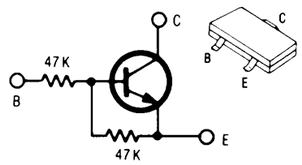

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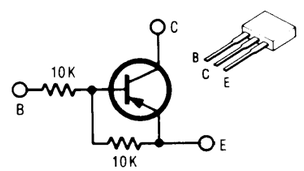

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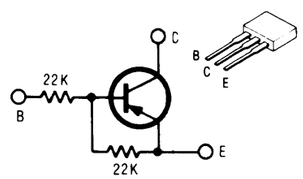

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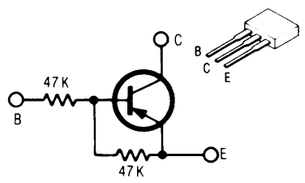

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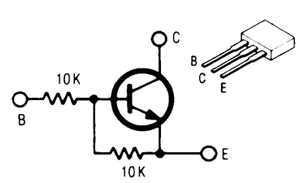

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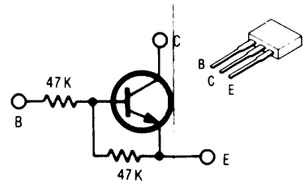

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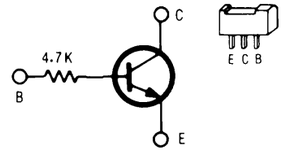

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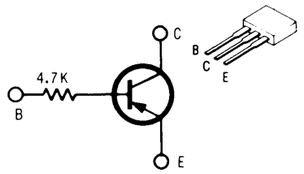
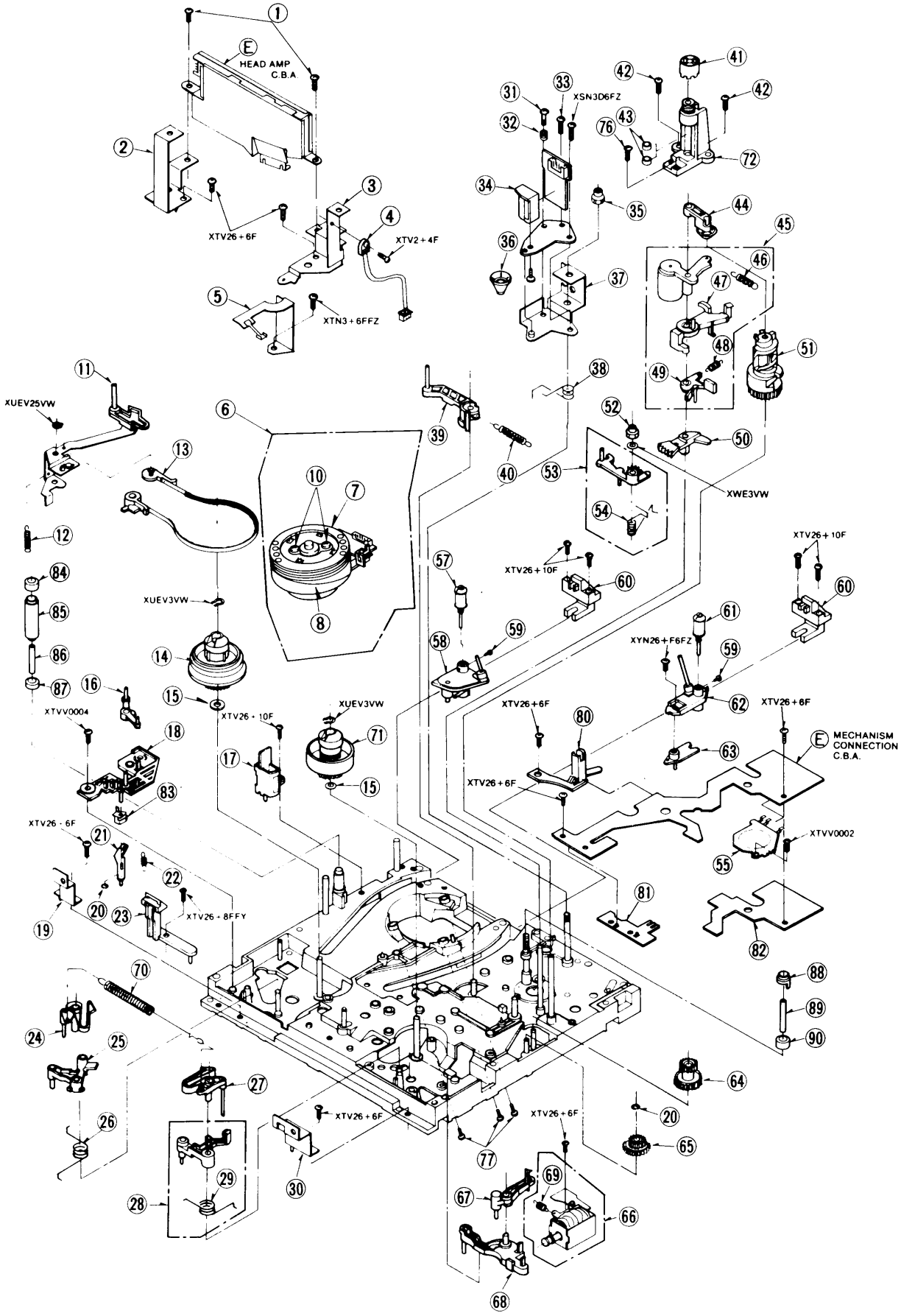


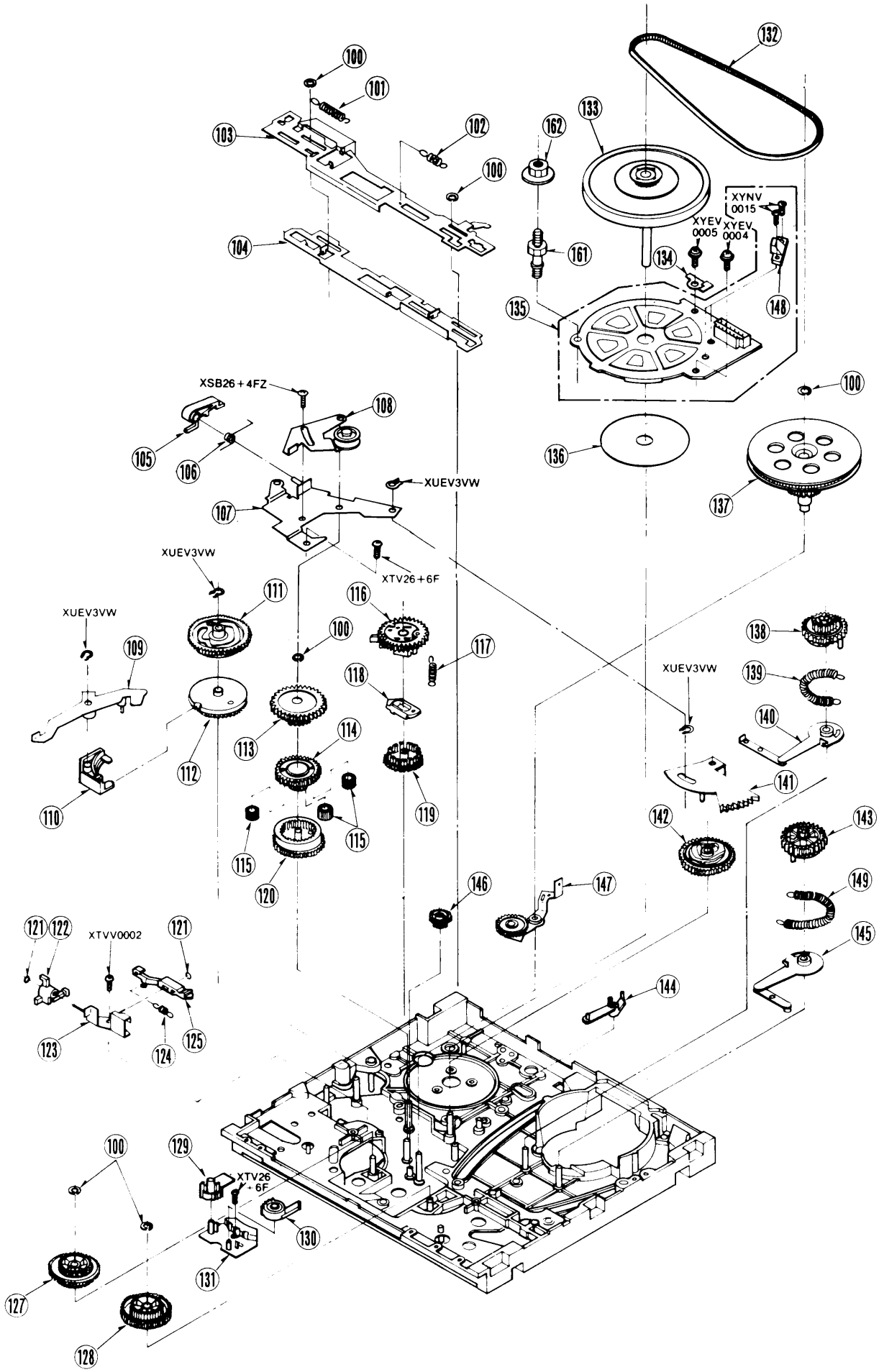
UN4116
DTA143TV

SECTION 4
EXPLODED VIEWS & PARTS LIST

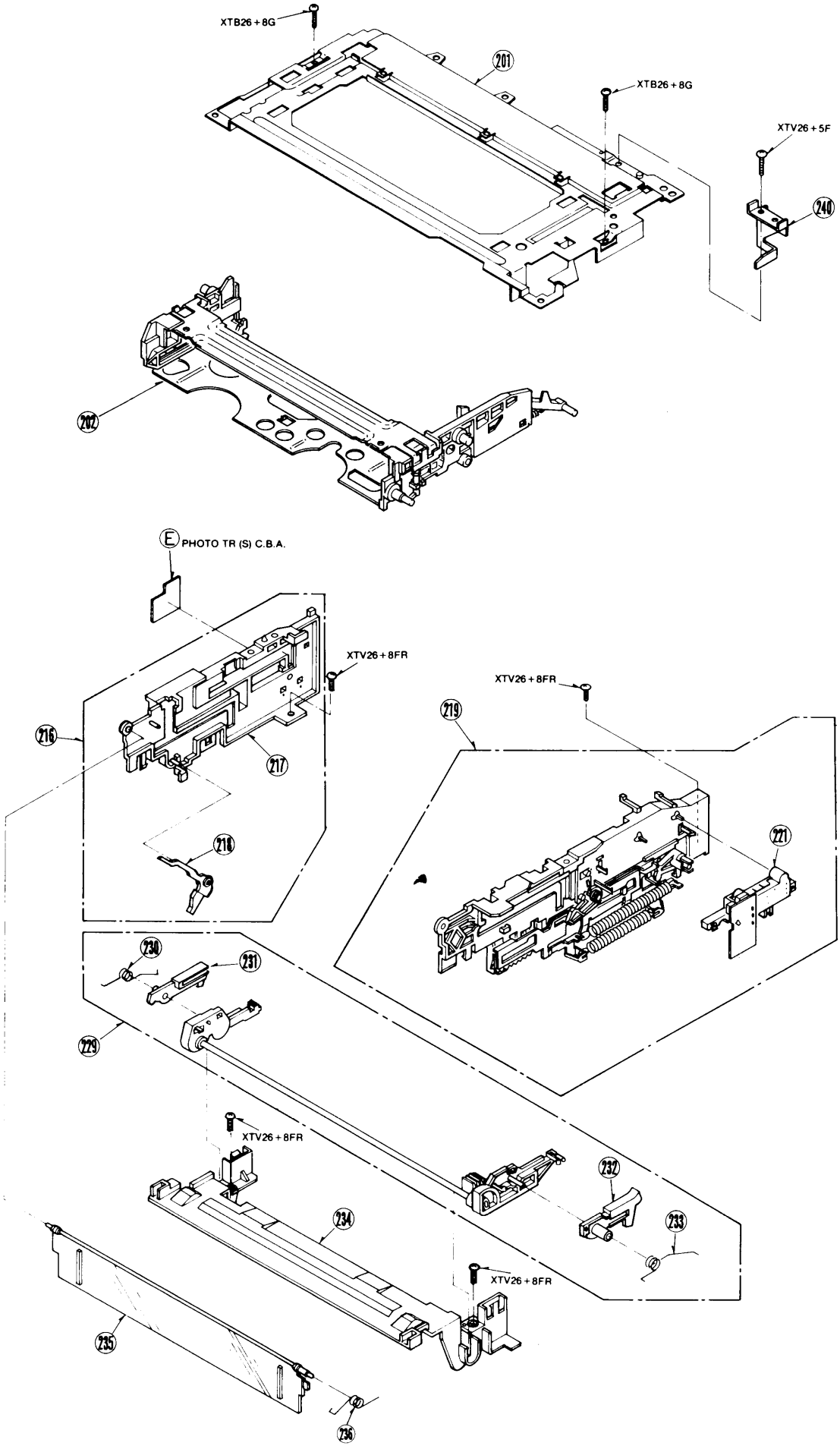
4-1. EXPLODED VIEWS ❶ CASSIS PARTS SECTION (1)



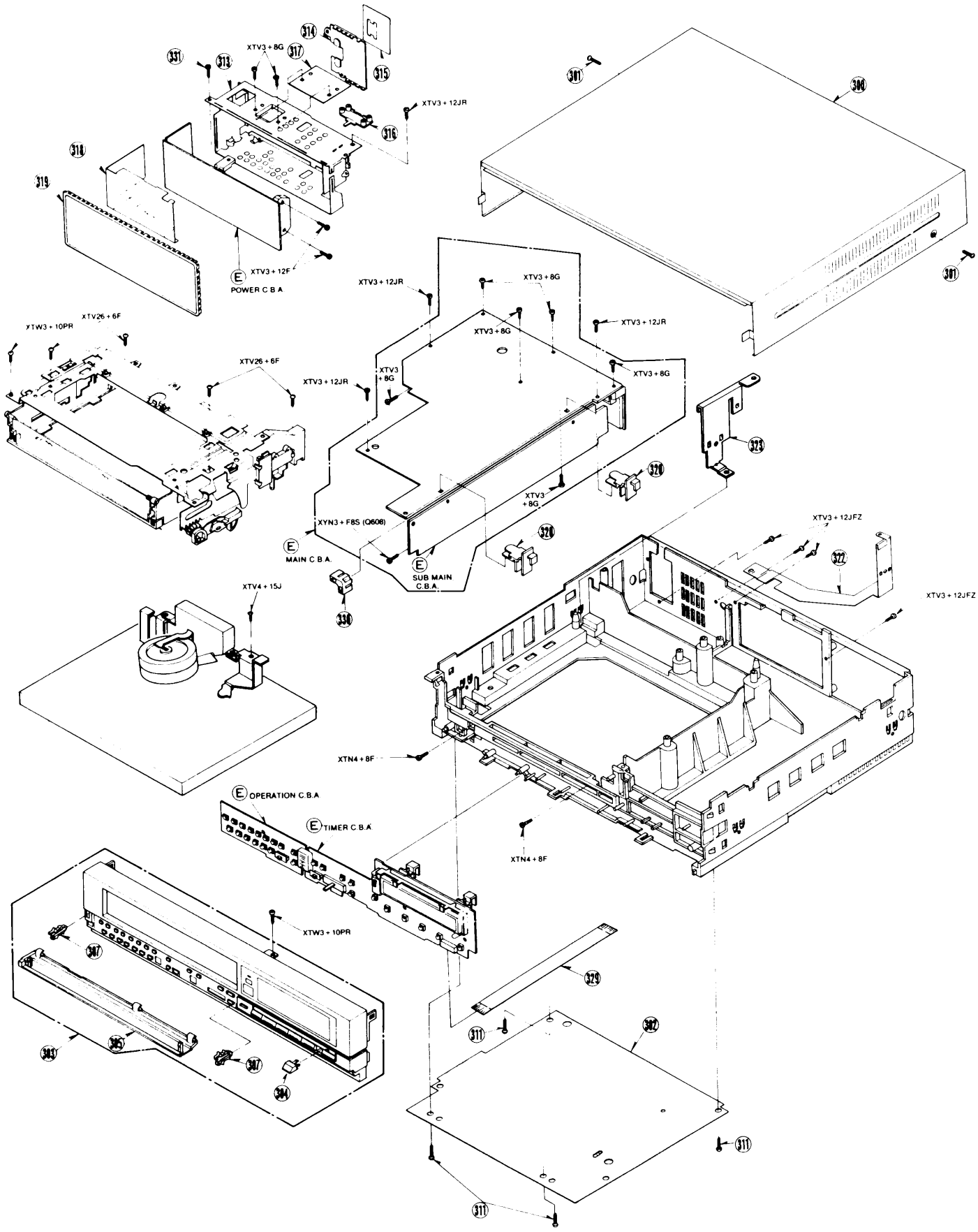
❷ CHASSIS PARTS SECTION (2)



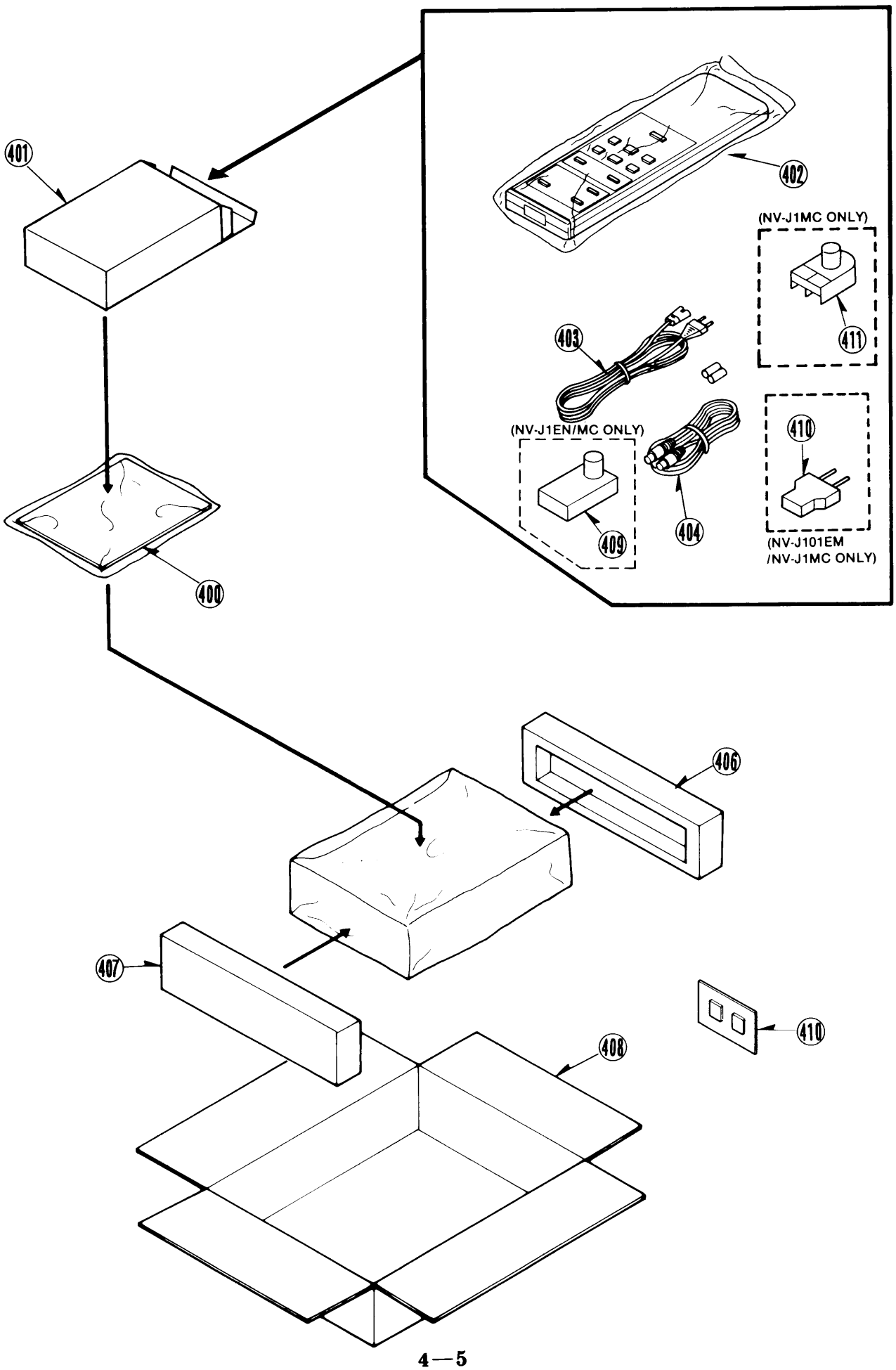
❸ CASSETTE UP MECHANISM SECTION



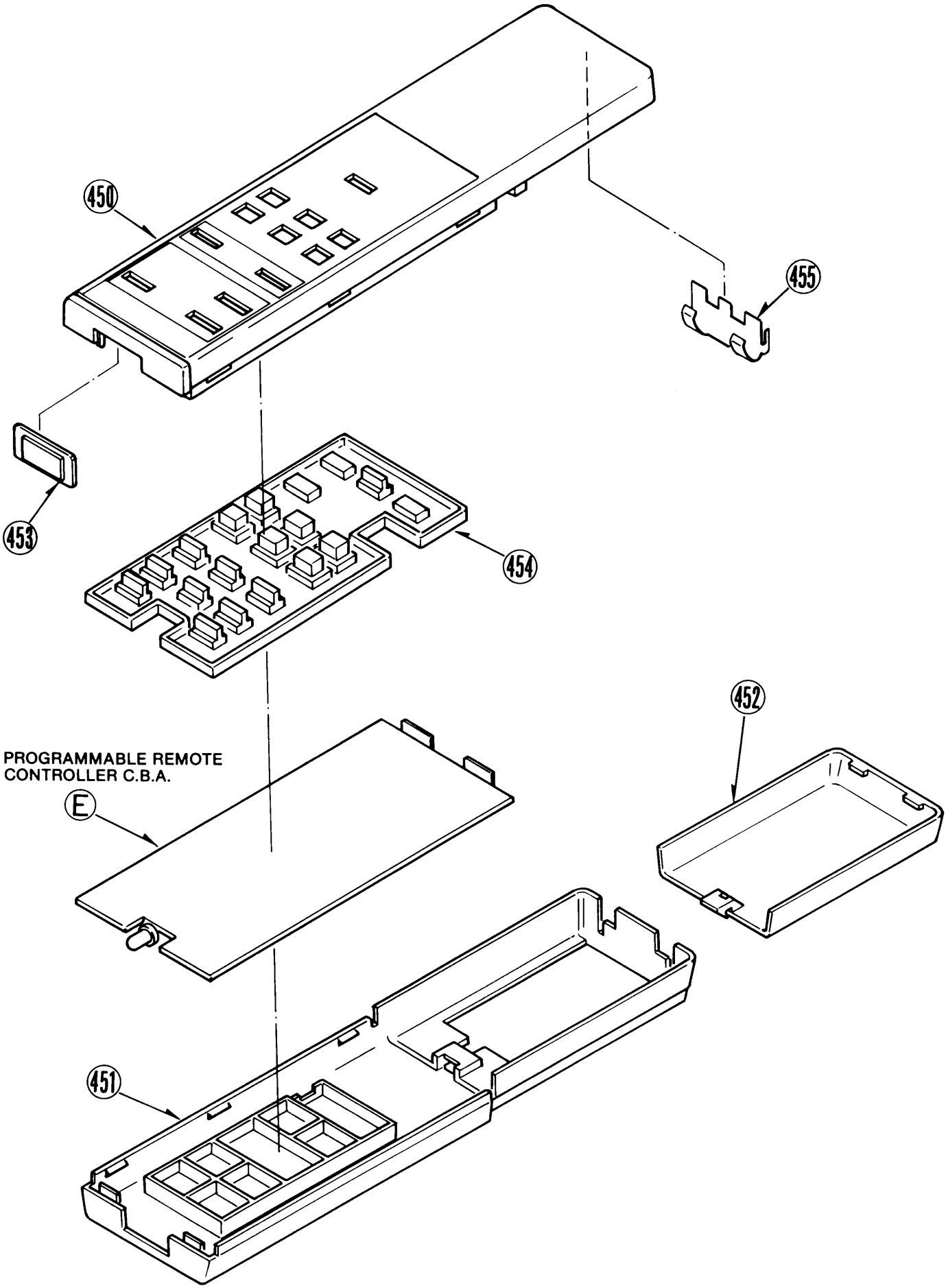
❹ CASING PARTS SECTION



❺ PACKING PARTS SECTION



❻ REMOTER CONTROLLER UNIT



4-2. MECHANICAL REPLACEMENT PARTS LIST

Note: 1.* Be sure to make your orders of replacement parts according to this list.
2. 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.

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
1(1)		VHD0141	HEAD AMP SET SCREW	2	
2(1)		VMA6897	HEAD AMP MOUNT ANGLE (L)	1	
3(1)		VMA6898	HEAD AMP MOUNT ANGLE (R)	1	
4(1)		VEK3185	DEW DETECTOR UNIT	1	
5(1)		VXS0082	EARTH PLATE UNIT	1	
6(1)		VEG0758	CYLINDER UNIT	1	<!>
7(1)		VEH0416	UPPER CYLINDER UNIT	1	<!>
8(1)		VJR0082	RT TERMINAL	1	
10(1)		VHD0425	UPPER CYLINDER SET SCREW	2	
11(1)		VXL1495	TENSION ARM (1) UNIT	1	
12(1)		VMB1563	TENSION SPRING	1	
13(1)		VXZ0267	TENSION BAND UNIT	1	
14(1)		VXR0185	SUPPLY REEL TABLE UNIT	1	
15(1)		VMX1171	REEL WASHER (0.5mm)	2	
15(1)		VMX1239	REEL WASHER (0.3mm)	2	
15(1)		VMX1238	REEL WASHER (0.2mm)	2	
16(1)		VXL1496	TENSION RELEASE ARM(A)UNIT	1	
17(1)		VBS0038	FE HEAD	1	
18(1)		VXA2705	TENSION ARM BASE (1) UNIT	1	
19(1)		VMA6895	MOUNT ANGLE (L)	1	
20(1)		VMX1079	CUT WASHER	2	
21(1)		VXL1497	TENSION RELEASE ARM(B)UNIT	1	
22(1)		VMB1582	TENSION RELEASE SPRING	1	
23(1)		VES0489	SAFETY SW	1	
24(1)		VXZ0259	SUPPLY MAIN BRAKE UNIT	1	
25(1)		VXZ0274	SUPPLY SOFT BRAKE(1)UNIT	1	
26(1)		VMB1564	SUPPLY SOFT BRAKE SPRING	1	
27(1)		VXZ0262	TAKE UP MAIN BRAKE UNIT	1	
28(1)		VXZ0221	TAKE UP SOFT BRAKE UNIT	1	
29(1)		VMB1561	TAKE UP SOFT BRAKE SPRING	1	
30(1)		VMA6896	MOUNT ANGLE (R)	1	
31(1)		VHD0322	ADJUST SCREW	1	
32(1)		VMB1251	ADJUST SPRING	1	
33(1)		VHD0089B	AZIMUTH ADJUST SCREW	1	
34(1)		VBR0132	A/C HEAD	1	
35(1)		VHN0063	M4 NYLON NUT	1	
36(1)		VHN0110	ADJUST NUT	1	
37(1)		VMA7831	HEAD BASE	1	
38(1)		VMB1567	A/C HEAD SPRING	1	
39(1)		VXL1857	SUB LOADING ARM (1) UNIT	1	
40(1)		VMB1566	SUB POST SPRING	1	
41(1)		VXQ0006	THRUST SCREW UNIT	1	
42(1)		VHD0317	HOUSING SCREW	2	
43(1)		VMX1033	OIL SEAL	2	
44(1)		VMX1353	PINCH CAM CAP	1	
45(1)		VXL1858	PRESSURE ROLLER UNIT	1	
46(1)		VMB1941	PIN PRESSURE SPRING	1	
47(1)		VML2232	PINCH PRESSURE ARM	1	
48(1)		VMB1569	PINCH PRESSURE ARM RELEASE SPRING	1	
49(1)		VML1874	PINCH LIFT ARM	1	
50(1)		VDG0597	P5 PULL OUT SECTOR GEAR	1	
51(1)		VDG0421	PINCH CAM	1	
52(1)		VHN0023	M3 NYLON NUT	1	
53(1)		VXL1485	P5 UNIT	1	
54(1)		VMB1554	P5 SPRING	1	
55(1)		VSS0175	MODE SW	1	
57(1)		VXP0863	ROLLER POST UNIT	1	
58(1)		VXA2729	INCLIND BASE (S)(1)UNIT	1	
59(1)		VHD0133	ROLLER POST SCREW	2	
60(1)		VMD0910	POST STOPPER	2	
61(1)		VXP0764A	ROLLER POST UNIT	1	
62(1)		VXA3876	INCLIND BASE(T)(1)UNIT	1	
63(1)		VXA2687	INCLIND ADJUST PLATE UNIT	1	
64(1)		VDG0483	PINCH SPEED DOWN GEAR	1	
65(1)		VDG0332	CONNECTION GEAR	1	
66(1)		VXA3735	SOLENOID UNIT	1	
67(1)		VXA2692	KICK ROD UNIT	1	
68(1)		VML1849	SOLENOID LEVER (1) UNIT	1	
69(1)		VMB1553	KICK ROD SPRING	1	
70(1)		VMB1958	MAIN BRAKE SPRING	1	
71(1)		VXR0188	TAKE UP REEL TABLE UNIT	1	
72(1)		VXD0101	HOUSING UNIT	1	
76(1)		VHD0374	HOUSING SCREW	1	
77(1)		VHD0342	CYLINDER SCREW	3	
80(1)		VXA3520	LED HOLDER UNIT	1	
81(1)		VMA7844	REINFORCEMENT PLATE (F)	1	
82(1)		VMA7845	REINFORCEMENT PLATE (R)	1	
83(1)		VMB1733	LEAF SPRING	1	
84(1)		VMX1088	SUPPLY UPPER LIMITER	1	
85(1)		VDP1072	SUPPLY ROLLER	1	
86(1)		VMX1581	P1 COLLAR	1	
87(1)		VMX1533	SUPPLY ROLLER LIMITER	1	
88(1)		VMX1544	P4 UPPER LIMITER	1	
89(1)		VMX1568	P4 SLEEVE	1	
90(1)		VMX1534	P4 LOWER LIMITER	1	
100(2)		VMX1079	CUT WASHER	6	
101(2)		VMB1583	TAKE UP SOFT BRAKE RELEASE ARM SPRING	1	
102(2)		VMB1560	MAIN LEVER SPRING	1	
103(2)		VXA3509	MAIN LEVER (1) UNIT	1	
104(2)		VMM0215	SUB LEVER	1	
105(2)		VXL1873	SS BRAKE ARM UNIT	1	
106(2)		VMB1588	SS BRAKE SPRING	1	
107(2)		VXA3512	SS BRAKE BASE (1) UNIT	1	
108(2)		VXA3516	TENSION ROLLER UNIT	1	
109(2)		VXL1632	CAM FOLLOWER ARM UNIT	1	
110(2)		VML1861	DETENT ARM	1	
111(2)		VDG0574	MAIN CAM GEAR	1	
112(2)		VDG0343	SUB CAM GEAR	1	
113(2)		VDG0348	CENTRE GEAR	1	
114(2)		VDG0422	RETAINER GEAR	1	
115(2)		VDG0345	PLANET GEAR	3	
116(2)		VDG0547	CLUTCH DISK	1	
117(2)		VMB1558	CLUTCH SPRING	1	
118(2)		VDG0350	LOCK SLIDE GEAR	1	
119(2)		VDG0335	DRIVE DISK	1	
120(2)		VDG0342	RING GEAR	1	
121(2)		VMX0967	CUT WASHER	2	
122(2)		VML1859	CHANGE LEVER	1	
123(2)		VXA2672	RELEASE LEVER (1) UNIT	1	
124(2)		VMB1557	RELEASE SPRING	1	
125(2)		VML1860	RELEASE LEVER	1	
127(2)		VXP1002	TAKE UP REEL GEAR UNIT	1	
128(2)		VDG0445	SUPPLY REEL GEAR	1	
129(2)		VML1858	RETURN LEVER (R)	1	
130(2)		VML1857	RETURN LEVER (L)	1	
131(2)		VMD0913	STOPPER BASE	1	
132(2)		VDV0169	TIMING BELT	1	
133(2)		VXP1113	ROTOR UNIT	1	
134(2)		VMA7941	ROTOR STOPPER	1	
135(2)		VEK4105	STATOR UNIT	1	<!>
136(2)		VMA6847	SUB PLATE	1	
137(2)		VXP0917	CENTRE PULLEY UNIT	1	
138(2)		VDG0564	LOADING GEAR (T)	1	
139(2)		VMB1555	LOADING SPRING (T)	1	
140(2)		VXL1489	LOADING ARM (T)(1) UNIT	1	
141(2)		VXA3515	SECTOR GEAR UNIT	1	
142(2)		VDG0448	LOADING CAM GEAR	1	
143(2)		VDG0419	LOADING GEAR (S)	1	
144(2)		VML1855	PLAY CONTROL ARM	1	
145(2)		VXL1487	LOADING ARM (S)(1) UNIT	1	
146(2)		VDG0546	INTERMEDIATE GEAR	1	
147(2)		VXL1861	PLAY ARM UNIT	1	
148(2)		VBK0048	FG HEAD	1	
149(2)		VMB1746	LOADING SPRING(S)	1	
161(2)		VHD0431	STATOR SPACER SCREW	1	
162(2)		VHN0102	STATOR NUT	1	
201(3)		VMA7223	TOP PLATE	1	
202(3)		VXA3832	CASSETTE HOLDER UNIT	1	
216(3)		VXA2676	SIDE PLATE (L) UNIT	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
217(3)		VMD0917	SIDE PLATE (L)	1	
218(3)		VML1880	OPENER LEVER	1	
219(3)		VXA3895	SIDE PLATE (R) UNIT	1	
221(3)		VXA4642	SLIDE SW UNIT	1	
229(3)		VXP0987	MAIN SHAFT UNIT	1	
230(3)		VMB1836	SUB WIPER SPRING (L)	1	
231(3)		VML1878	SUB WIPER ARM (L)	1	
232(3)		VML1879	SUB WIPER ARM (R)	1	
233(3)		VMB1837	SUB WIPER SPRING (R)	1	
234(3)		VMA6900	CASSETTE GUIDE	1	
235(3)		VKF1026	BLINDER PANEL	1	
236(3)		VMB1258	BLINDER SPRING	1	
240(3)		VMA7224	CASSETTE HOLDER ANGLE	1	
300(4)		VYP2180	TOP PANEL UNIT	1	(NV-J1EN/MC)
300(4)		VYP2380	TOP PANEL UNIT	1	(NV-J101EM)
301(4)		VHD0304	TOP PANEL SCREW	2	
302(4)		VKU0325	BOTTOM PLATE	1	
303(4)		VYP2180	FRONT PANEL UNIT	1	(NV-J1EN)
303(4)		VYP3015	FRONT PANEL UNIT	1	(NV-J1MC)
303(4)		VYP3014	FRONT PANEL UNIT	1	(NV-J101EM)
304(4)		VGK1881	DECORATION BUTTON	1	
305(4)		VYF1489	FRONT DOOR UNIT	1	(NV-J1EN/MC)
305(4)		VYF1485	FRONT DOOR UNIT	1	(NV-J101EM)
307(4)		VGQ0550	DOOR LOCK PIECE	2	
311(4)		VHD0059	BOTTOM PLATE SCREW	4	
313(4)		VXA3635	POWER SHIELD CASE(MAIN)UNIT	1	
314(4)		VSC3110	POWER SHIELD COVER (TOP)	1	
315(4)		VGH1476	NAME PLATE	1	
316(4)		VGQ2036	IC. HOLDER	1	
317(4)		VMZ1575	INSULATION SHEET	1	
318(4)		VMZ1140	SW BARRIER(A)	1	
319(4)		VSC2237	POWER SHIELD COVER(BOTTOM)	1	
320(4)		VKC0326	MAIN HINGE	2	
322(4)		VMP2455	TOP HOLDER ANGLE (RR)	1	
323(4)		VMP2456	TOP HOLDER ANGLE (RL)	1	
329(4)		VWJ0413	FLEXIBLE CABLE (14PIN)	1	(P7401-P7501)
330(4)		VJF0374	CORNER HINGE	1	
331(4)		VHD0141	MAIN SCREW	1	
400(5)		VQT3438	OPERATING INSTRUCTIONS	1	<!>(NV-J101EN)
			(ENGLISH/CHINESE)		
400(5)		VQT3439	OPERATING INSTRUCTIONS	1	<!>(NV-J1EN)
			(HINDI/URDU)		
400(5)		VQT3443	OPERATING INSTRUCTIONS	1	<!>(NV-J1MC)
			(ENGLISH/CHINENE		
400(5)		VQT3440	OPERATING INSTRUCTIONS	1	<!>(NV-J101EM)
			(ENGLISH/ARABIC)		
400(5)		VQT3441	OPERATING INSTRUCTIONS	1	<!>(NV-J101EM)
			(HINDI/URDU)		
401(5)		VPK0825	ACCESSORIES BOX	1	
402(5)		VEQ1044	REMOTE CONTROL UNIT	1	(NV-J1EN)
402(5)		VEQ1086	REMOTE CONTROL UNIT	1	(NV-J101EM/MC)
403(5)		VJA0449	AC POWER CORD	1	<!>(NV-J1EN)
403(5)		VJA0457	AC POWER CORD	1	(NV-J1MC)
403(5)		VJA0459	AC POWER CORD	1	<!>(NV-J101EM)
404(5)		VJA0376	DIN RF CABLE	1	
406(5)		VPN2624	CUSHION (R)	1	(NV-J1EN)
406(5)		VPN2626	CUSHION (R)	1	(NV-J101EM/MC)
407(5)		VPN2625	CUSHION (L)	1	(NV-J1EN)
407(5)		VPN2627	CUSHION (L)	1	(NV-J101EM/MC)
408(5)		VPG5250	PACKING	1	(NV-J1EN)
408(5)		VPG5018	PACKING	1	(NV-J101EM)
402		VPG5020	PACKING	1	(NV-J1MC)
409(5)		VSQ0662	SEPARATION ADAPTOR	1	(NV-J1EN/MC)
410(5)		VPQ0001	HANDLE	1	
411(5)		VJS1993	AC PLUG ADAPTOR	1	(NV-J101EM/J1MC)
412(5)		VFA0021	MATCHING ADAPTOR	1	(NV-J1MC)
450(6)		VYK2760	TOP COVER UNIT	1	
450(6)		VYK2944	TOP COVER UNIT	1	(NV-J101EM)
451(6)		VKM1313	BOTTOM COVER	1	
452(6)		VKF0958	BATTERY COVER	1	
453(6)		VKW0878	IR WINDOW	1	
454(6)		VSP0311	RUBBER CONTACT	1	(NV-J1EN)
454(6)		VSP0334	RUBBER CONTACT	1	(NV-J101EM)
455(6)		VJR0185	ELECTRODE (COM.)	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
			SERVICING FIXTURES & TOOLS		
		VFJ8125H3F	VHS ALIGNMENT TAPE	1	
		VFK0335	RETAINING RING REMOVER	1	(3mm/4mm)
		VFK0387	TENSION POST ADJUSTMENT	1	
			PLATE		
		VFK0191	POST ADJUSTMENT PLATE	1	
		VFK0190	REEL TABLE HEIGHT GAUGE	1	
		VFK0328	H-POSITION ADJUSTMENT	1	
			SCREWDRIVER		
		VFK0329	POST ADJUSTMENT SCREWDRIVER	1	
		VFK62	FAN TYPE TENSION GAUGE	1	
		VFK0326	HEX WRENCH SET	1	
		VFK0132	BACK TENSION METER	1	
		VFK0343	CHECK LIGHT	1	
		VFK0344	HEIGHT ADJUSTMENT JIG	1	
		VFK27	HEAD CLEANING STICK	1	
		MOR265	MORLYTONE GREASE	1	
		VFK0341	UPPER CYLINDER REMOVER	1	