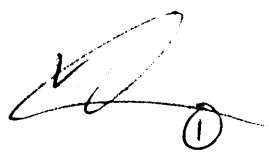
TEAC

SERVICE MANUAL

MV-1010

2 HEAD VCR



24/9/97

ACTION ELECTRONICS CO., LTD.

VIDEO CASSETTE ELECTRICAL SPECIFICATION

REVISION	1

MODEL NO:VCR-450 B/BF

TEST DATE:83/08/05

SUPPLY VOLTAGE:13.5V

TESTER:

A. POWER SYSTEM	SPECIFICATION			SERIAL NO.			REMARK
DESCRIPTION	UNIT	NORMAL	LIMIT				
DC CONSUMPTION PLAY MODE MAIN UNIT	W	10	10± 3				DC 13.5V INPUT
AC CONSUMPTION PLAY MODE AC ADAPTOR	W	20	25				AC ADAPTOR 230V/50HZ INPUT
B.AUDIO SIGNAL PROCESSING SYSTEM							
IMPEDANCE OUTPUT	KOHM		<<10				
PLAY BACK OUTPUT LEVEL	dBm	-5	-5 ± 3.0				1khz 0dBm COLOR
FREQUENCY RESP. 150Hz	dB	-5	-5 ± 3.0				400Hz,-20dBm 150Hz,-20dBm 8KHz,-20dBm
(400 Hz -> 0dB) 8KHz	dB	-3	-5 ± 3.0				
AUDIO S/N	dB	45	38				1 KHz,-10dBm
DISTORTION	%	5	2				1 KHz,-10dBm
POP NOISE LEVEL	dBm	-20	-10				ALL FUNCTION KNOB
C.VIDEO SIGNAL PROCESSING SYSTEM							
IMPEDANCE OUTPUT	OHM	75	75 ± 10%				UNBLANCED
VIDEO SIGNAL LEVEL	Vp-p	0.7	0.7 ± 0.1				MVN2-01 COLOR BAR
SYNC. LEVEL	Vp-p	0.3	0.3 ± 0.1				MVN2-01 COLOR BAR
TOTAL VIDEO OUTPUT LEVEL	Vp-p	1.0	1.0 ± 0.2				MVN2-01 COLOR BAR
Y-FREQUENCY CHARACTER	dB	-4.5	-4.5±3.0				PLAY 1.8MHz
Y- S/N (50% WHITE,UNWEIGHTED)	dB	45	40				HPF-10K,LPF-5MHZ SC TRAP ON
COLOR NOISE (100% CHROMA) C-AM	dB	38	36				HPF-100Hz LPF-0.5M
COLOR NOISE (100% CHROMA) C-PM	dB	35	34				
Y-DISTORTION OVER SHOOT	%	10	20				WINDOW SIGNAL
SMEAR	%	5	10				WINDOW SIGNAL
RINGING	%	5	10				WINDOW SIGNAL
SAG	%	5	10				WINDOW SIGNAL

REVISION	0

C.VIDEO SIGNAL PROCESSING SYSTEM		SPECIFICATION		SERIAL NO.			REMARK
PESCRIPTION	UNIT	NORMAL	LIMIT				
HORIZONTAL RESOLUTION	LINE	240	220				MVN2-06 MONOSCOPE
APPEARANCE TIME OF VIDEO	SEC	5.5	<<6.5				MVN2-01 COLOR BAR
COLOR & STABLE PICTURE	SEC	0.3	<<2				MVN2-01 COLOR BAR
D.SERVO-SYSCON PROCESSING SYSTEM							
WOW FLUTTER	%	0.25	<<0.35				SP 3KHz CCIR.WTD
JITTER NORMAL	uSEC	0.3	0.4				MVN2-01 COLOR BAR
LOW	uSEC	0.15	0.2				MVN2-01 COLOR BAR
SKEW	uSEC	±4	<<±6				MVN2-04 CROSS HATCH
HORIZONTAL SWITCHING POINT	H	6.5	6.5 ±1.5				MVN2-01 COLOR BAR
TAPE WINDING TIME FF TIME	SEC	360	420				T-120 CASSETTE TAPE
REW TIME	SEC	360	420				
CASSETTE LOADING TIME SLOT IN	SEC	4	6				EJECT-->STOP
SLOT OUT	SEC	4	6				STOP-->EJECT
PLAY TORQUE	g.cm	120	120 ± 60				KT-300NV
FF/REW TORQUE	g.cm	500	400				KT-2400NV
SEARCH TORQUE	g.cm	150	150 ± 70				KT-300NV
E.RECORD AUDIO SIGNAL PROCESSING SYSTEM							
R/P OUTPUT LEVEL	dBm	-5	-5 ± 3.0				1khz 0dBm COLOR
R/P FREQ. RESP. 150Hz	dB	-5	-5 ± 3.0				400Hz,-20dBm 150Hz,-20dBm 8KHz,-20dBm
(400 Hz -> 0dB) 8KHz	dB	-3	-5 ± 3.0				
R/P AUDIO S/N	dB	45	38				1 KHz,-10dBm
R/P DISTORTION	%	5	2				1 KHz,-10dBm
F.RECORD VIDEO SIGNAL PROCESSING SYSTEM							
R/P VIDEO SIGNAL LEVEL	Vp-p	0.7	0.7 ± 0.1				MVN2-01 COLOR BAR
R/P SYNC. LEVEL	Vp-p	0.3	0.3 ± 0.1				MVN2-01 COLOR BAR
TOTAL VIDEO OUTPUT LEVEL	Vp-p	1.0	1.0 ± 0.2				MVN2-01 COLOR BAR
R/P Y-FREQUENCY CHARACTER	dB	-4.5	-4.5±3.0				PLAY 1.8MHz
R/P Y- S/N (50% WHITE,UNWEIGHTED)	dB	45	40				HPF-10K,LPF-5MHZ SC TRAP ON
R/P COLOR NOISE (100% CHROMA) C-AM	dB	38	36				HPF-100Hz LPF-0.5M
C-PM	dB	35	34				
R/P Y DISTORTION	%	10	20				WINDOW SIGNAL

1-2. SERVO-LOGIC CIRCUIT ADJUSTMENT METHOD

1. VIDEO HEAD SWITCHING POSITION

Adj.Location	Checking Point	Measuring Equipment	Mode	Test Tape
. RV11	PT01 3PIN TP54	Oscilloscope	Play	DP-1

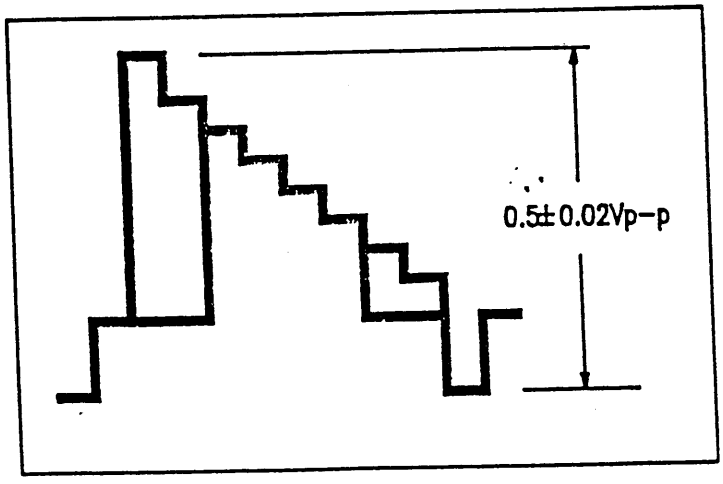
1) Play back the test tape.
2) Set the oscilloscope in the CHOP mode connect the CH1 to SW pulse PT01 2 PIN the CH2 to TP54 (v.out) with CH1 triggering.
3) Adjust RV11 for the positive trigger until 6.5H±0.5H cycles before the vertical SYNC pulse.

1-3. VIDEO CIRCUIT ADJUSTMENT METHOD

1. E E VIDEO LEVEL

Adj.Location	Checking Point	Measuring Equipment	Mode	Test Tape
RV55	TP55	Oscilloscope	EE	—

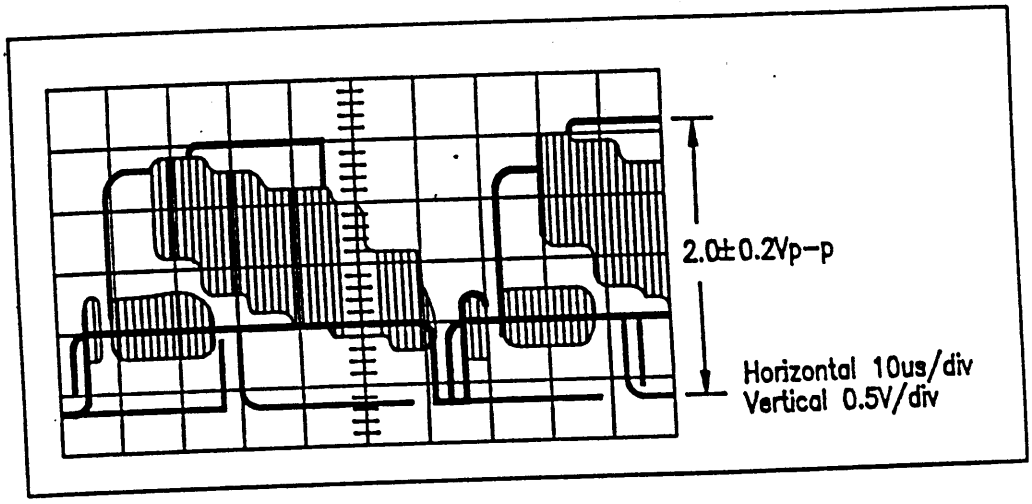
1) Feed the color bar signal to the line input terminal. And set for the stop (EE) mode.
2) Connect the oscilloscope to TP55 and trigger the scope with a composite SYNC signal at TP53. (COMP.SYNC.)
3) Adjust the oscilloscope so that it can display a waveform of approx.2H.
4) Adjust RV55 to obtain 0.5±0.02Vp-p between SYNC TIP and 100% white level.



2. PLAYBACK Y-SINGAL OUTPUT LEVEL

Adj.Location	Checking Point	Measuring Equipment	Mode	Test Tape
RV56	TP54	Oscilloscope	PB	DP-1

1) Playback the test tape (Color Bar Singal).
2) Connect the oscilloscope to TP54 and trigger the scope will a composite SYNC signal at TP53. Adjust the scope so that it can display a waveform of approx.2H.
3) Adjust RV56 to optain 2.0±0.2 Vp-p between the SYNC TIP and 100% white level.



3. SYNC TIP FREQUENCY

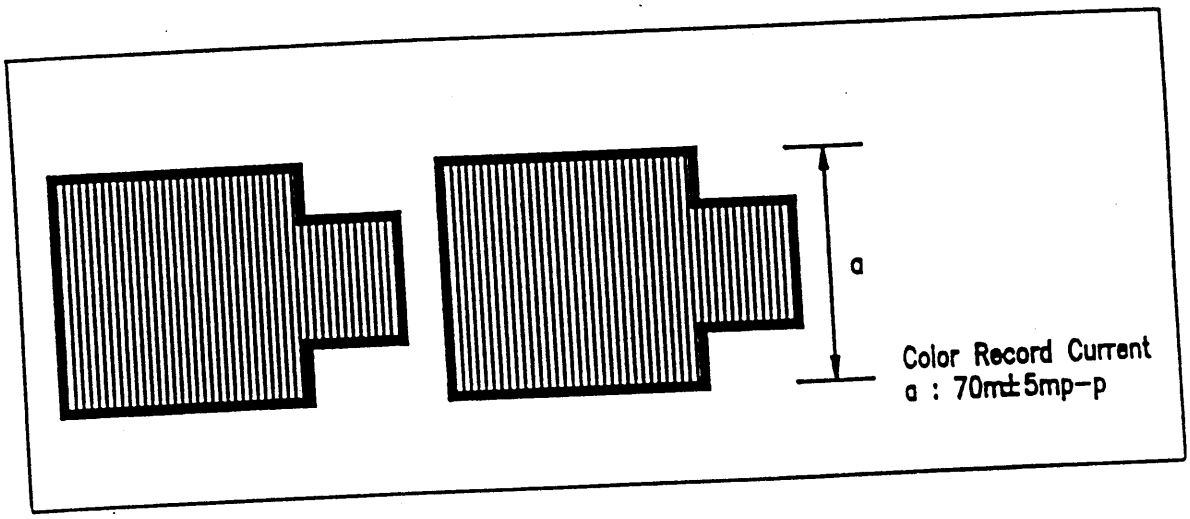
Adj.Location	Checking Point	Measuring Equipment	Mode	Test Tape
RV54, RV53	TP52	Freq. Counter	REC.	—

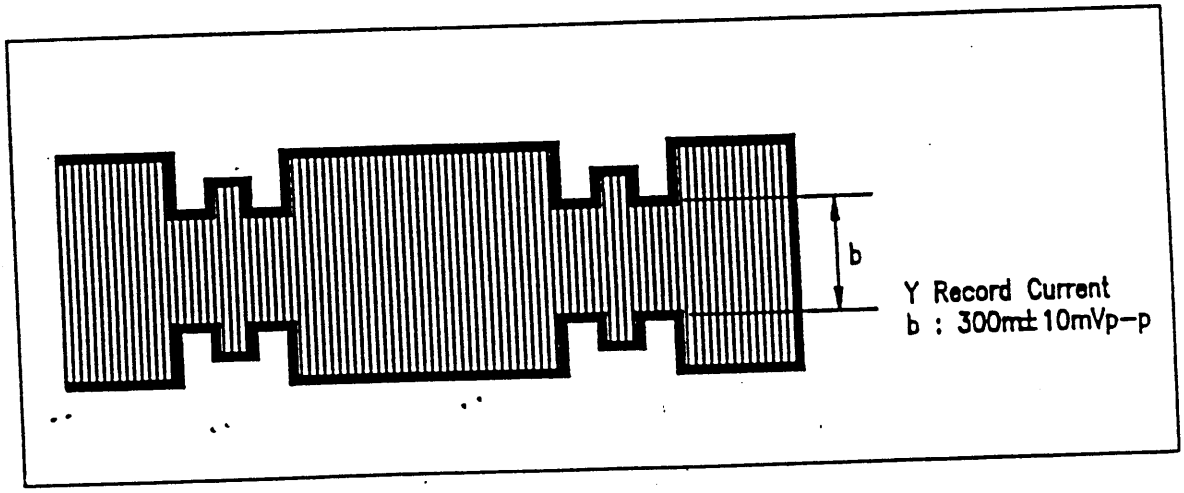
1) Set the unit to NTSC mode without video signal. (Jack of video line input is shorted with ground).
2) Connect the frequency counter to TP52.
3) Adjust RV54 until the SYNC TIP frequency becomes 3.4MHz±0.1MHz.
4) Set the unit to N-PAL mode.
5) Adjust RV53 until the SYNC TIP frequency becomes 3.8MH±Z0.1MHZ.

4. LUMINANCE AND COLOR RECORD CURRENT

Adj.Location	Checking Point	Measuring Equipment	Mode	Test Tape
RV51, RV52	TP51	Oscilloscope	REC.	Blank Tape

1) Input Color bar signal in video line in.
2) Make every adjustment in REC mode.
3) Connect CH.1 of oscilloscope to TP51 and TP GND and CH.2 TP53 (C.SYNC), and then trigger the scope with an external signal.
4) Adjust RV52 Until the color record current level (RED REFERENCE) becomes 70±5mVp-p.
5) Connect CH.1 of oscilloscope to TP51 and TP GND and CH.2 TP53 (C.SYNC), and then trigger the scope with an external signal.
6) Adjust RV51 Until the Sync. Luminance level becomes 300±10mVp-p.

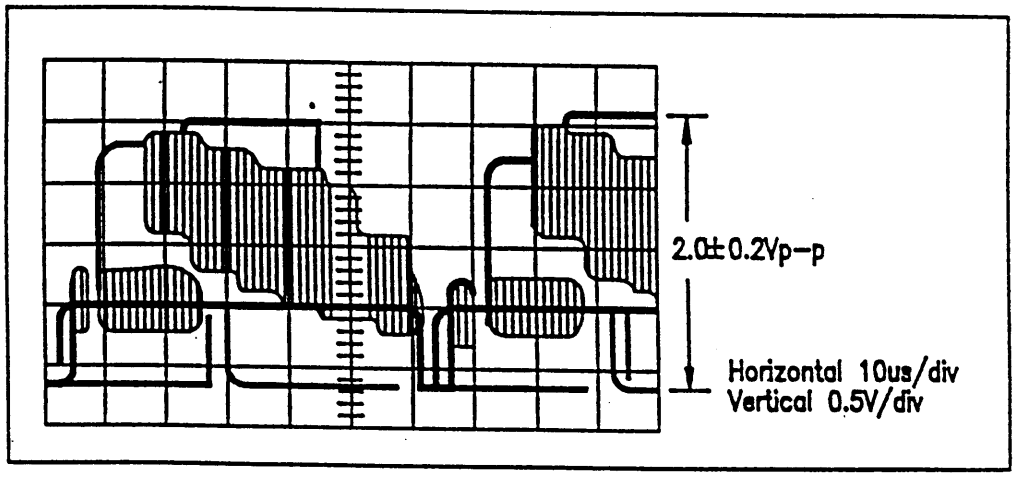




5. FM DEVIATION

Adj.Location	Checking Point	Measuring Equipment	Mode	Test Tape
RV57	TP54	Oscilloscope	PB & REC	Blank Tape

1) Confirm that the adjustment for the playback Y-Singal output level fas been made corretly.
2) Feed the color bar signal to the line terminal, and set the VCR to the record mode.
3) Connect the oscilloscope to TP54 and trigger the scope with a composite sync signal (TP51).
4) Record the color bar signal for a few minute and playback it. Then confirm that the playback Y-signal output level is 2.0±0.2Vp-p.
5) If the playback Y signal output level is not 2.0±0.2 Vp-p, the adjust as follows.
   5-1) Set the VCR in the record mode.
   5-2) Turn the variable RV57 a little.
   5-3) Record the color bar signal for a few minute and playback it.
   5-4) Confirm the playback Y signal output is 2.0±0.2 Vp-p.
   5-5) Repeat from step 5-1) until the playback Y-signal oytput level become 2.0±0.2 Vp-p between the Sync. TIP and 100% white level.



ELECTRICAL ADJUSTMENT

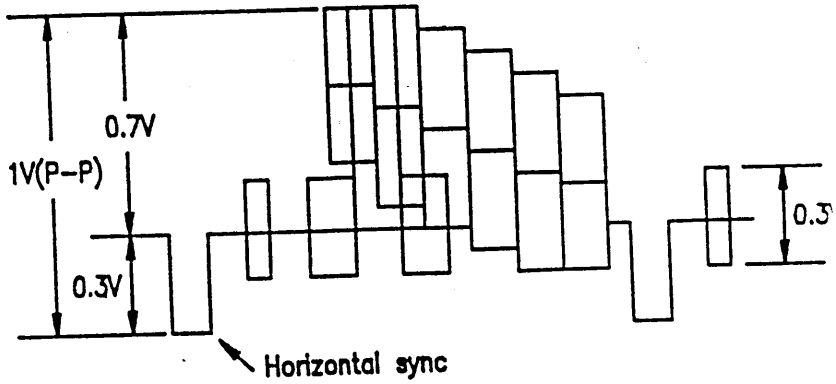
1-1. ALIGNMENT AND ELECTRICAL ADJUSTMENT

For these adjustment, use the equipment mentioned below and proceed by using the alignment tape and video signal.

Instrument and Tools Required.

1. Color TV receiver.
2. Oscilloscope having 10MHz or more bandwiddh.
3. Color-bar generator.
4. Frequency counter.
5. VTVM
6. VOM
7. Audio oscillator.
8. Audio attenuator.

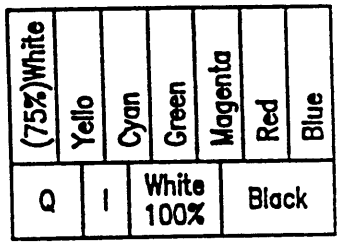
The suitable waveform of the color-bar signal generator is shown below.



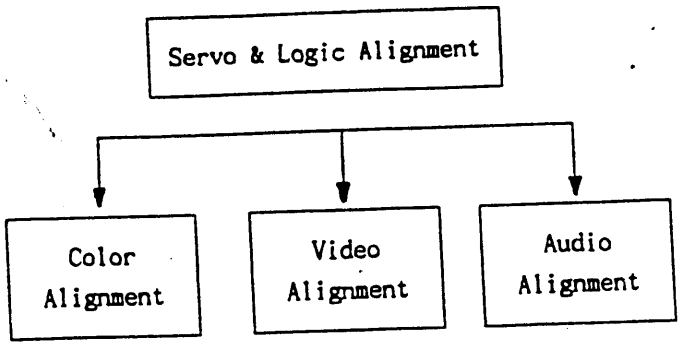
Color bar signal waveform

Signal Level and Input and Output Impedance Requirement.

1. Video input: Negative sync., 1Vp-p standard composite video signal, 75Ω.
2. Video output: Same as above.
3. Audio input: Line - 10dBs, 47KΩ.
4. Audio output: -50dBs, 10KΩ or less.



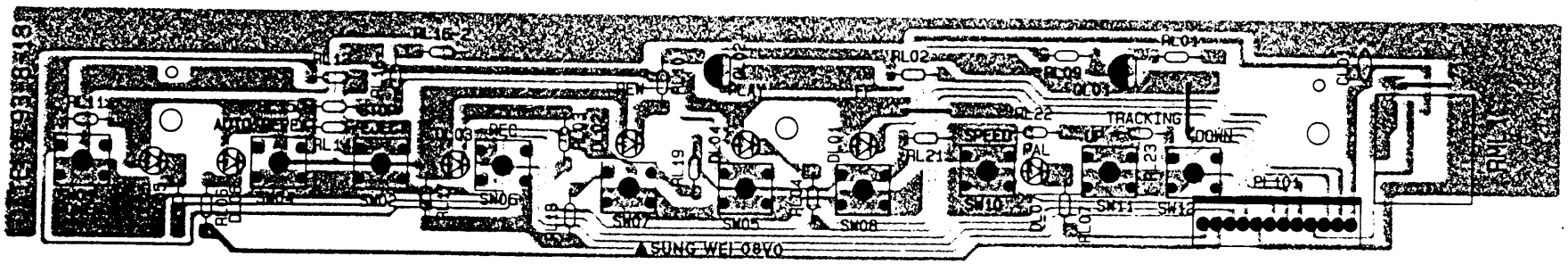
Color bar pattern



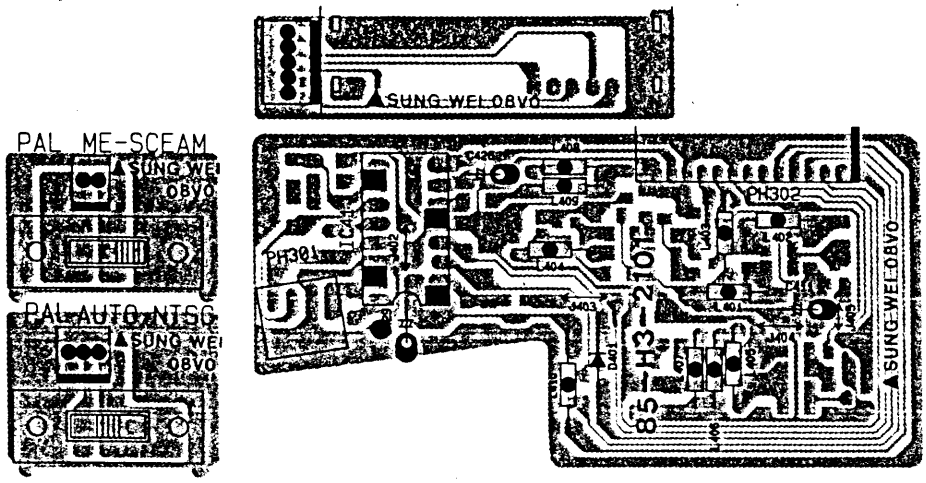
Adjustment Sequence

The VCR should be adjusted in the sequence shown below.

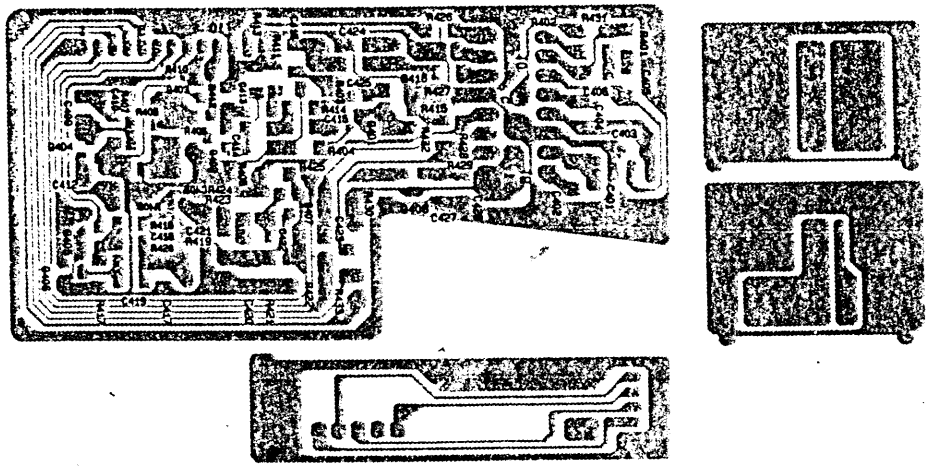
KEY-BOARD P.C.B



HEAD AMP P.C.B TOP VIEW



HEAD AMP P.C.B BOTTOM VIEW



5. RECORD-PLAYBACK OUTPUT LEVEL

Adj.Location	Measuring Point	Measuring Equipment	Condition of Adj.	Test Tape
Checking	Audio Line Out	Audio Level Meter Audio Signal Generator	REC. Play	Blank Tape

1) Connect the audio signal generator to the audio line input jack.
2) Record and playback the input of the audio reference signal 1KHz, -10dBm.
3) Connect that play output level is -5±3dBm as referenced to the playback output level.

1-4. AUDIO CIRCUIT ADJUSTMENT METHOD

1. PLAYBACK OUTPUT LEVEL

Adj.Location	Measuring Point	Measuring Equipment	Condition of Adj.	Test Tape
RV61	Audio Line Out	Audio Level Meter	PLAY Mode	DP -1

1) Connect the audio level meter to the audio line output jack.
2) Play back the test tape.
3) Adjust RV61 until the audio level meter reads -6.0±1.5dBm play back output.

2. PLAYBACK OUTPUT FREQUENCY CHARACTERISTIC

Adj.Location	Measuring Point	Measuring Equipment	Condition of Adj.	Test Tape
Checking	Audio Line Out	Audio Level Meter	PLAY Mode	1KHz, 0dBm 6KHz, 0dBm

1) Playback the Test tape, and confirm that the playback output level at 6KHz is within 0±3dB as referenced to the 1KHz Playback output level.

3. BIAS CURRENT ADJUSTMENT AND OSCILLATION FREQUENCY CHECKING

Adj.Location	Measuring Point	Measuring Equipment	Condition of Adj.	Test Tape
RV62	TP61 1.2pin	Frequency Counter	REC. Mode	Blank Tape

1) Supply the signal in the OPEN mode.
2) connect the positive lead of the VTVM to TP61 1pin and negative lead to TP61 2pin.
3) Set the VCR in recording mode.
4) Confirm the frequency counter display is 70KHz±10% and adjust RV62 until VTVM reads 2.3 mVrms.

4. RECORD-PLAYBACK FREQUENCY RESPONSE

Adj.Location	Measuring Point	Measuring Equipment	Condition of Adj.	Test Tape
Checking	Audio Line Out	Audio Level Meter Audio Signal Generator	REC. Play	Blank Tape

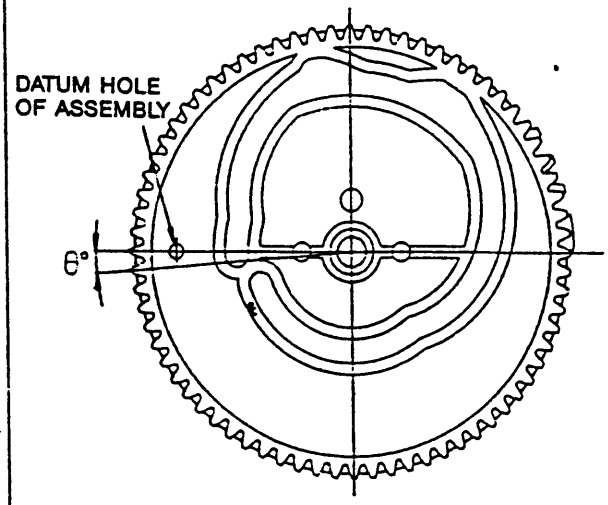
1) Connect the audio signal generator to the audio line input jack, and the audio level meter to the audio line output jack.
2) Record reference audio signal to the 400Hz and 8KHz (SP) audio signal at-20 dBs.
3) Check to insure that 8KHz and playback output level is within -1±3 dB as referenced to the 400 Hz playback output level. (SP)
4) If the difference between 8KHz and 400Hz playback output level is more than +1 dB, increase the bias current more than 2.3mVms, and if the difference is less than -3dB, reduce the bias current less than 2.3mVms.

1. MECHANICAL ADJUSTMENT

1-1. CHECK FOR THE MECHANICAL POSITION

Check for the following matters before disassembly, replacement and reassembly.

1) Make sure of the assembly base of the Deck Mechanism in the EJECT MODE.
2) Make sure of the assembly position among the Cam Gear and several parts before assembling the L/C Bracket Total Ass'y (refer to Fig. 1-1,2,3,4).
3) Make sure of the assembly position between the Loading Rack and the R & L-Loading Ass'y (refer to Fig. 1-5).
4) Make sure of the position of the Cam Switch when assembling the L/C BRKT Total Ass'y (refer to Fig. 1-6).
5) Make sure of the assembly state of the Front Loading Ass'y (refer to Fig. 1-7).
6) Make sure of the other's assembly state (refer to Fig. 1-8).



*Note: Datum hole of assembly should be located in $\theta = 0 \sim 5°$.

Fig. 1-1 Reference of assembly for the Cam Gear

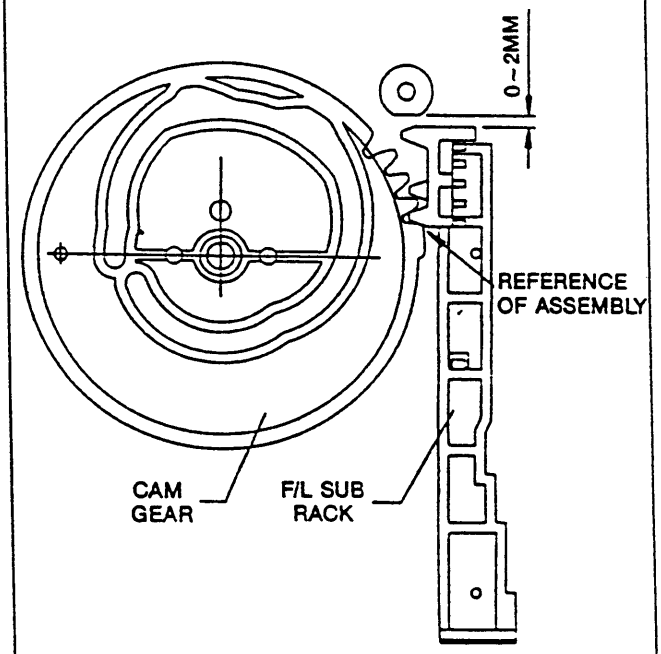


Fig. 1-2 Reference of assembly for the F/L Sub Rack and Cam Gear

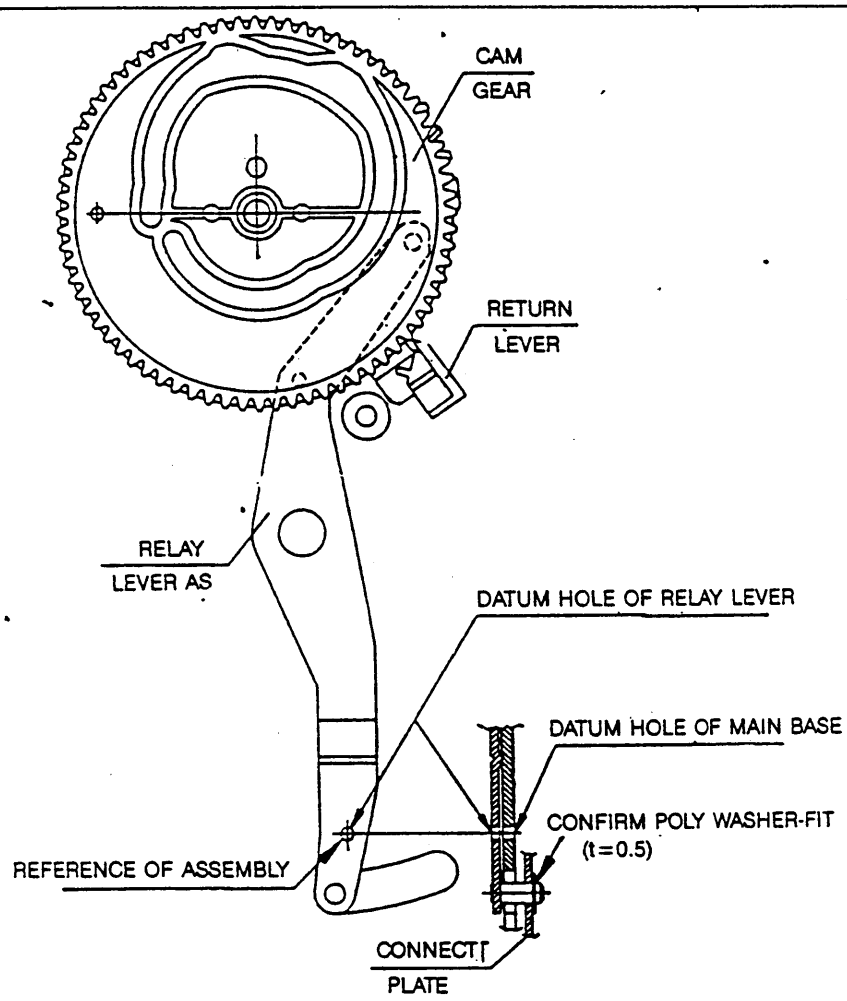


Fig. 1-3 Reference of assembly for the Cam Gear and Relay Lever

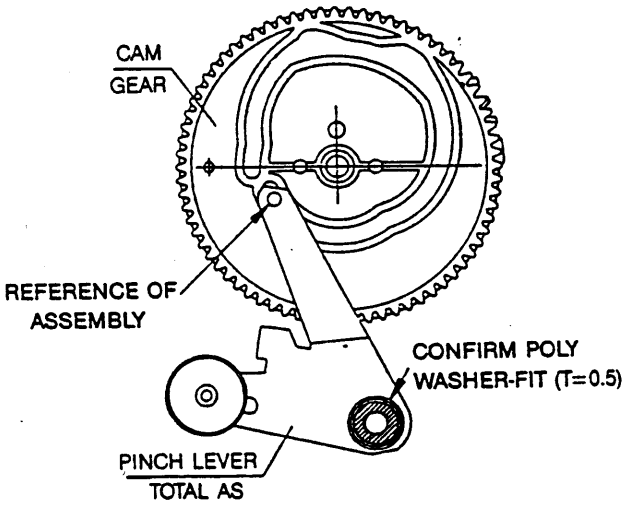


Fig. 1-4 Reference of assembly for the Cam Gear and Pinch Lever

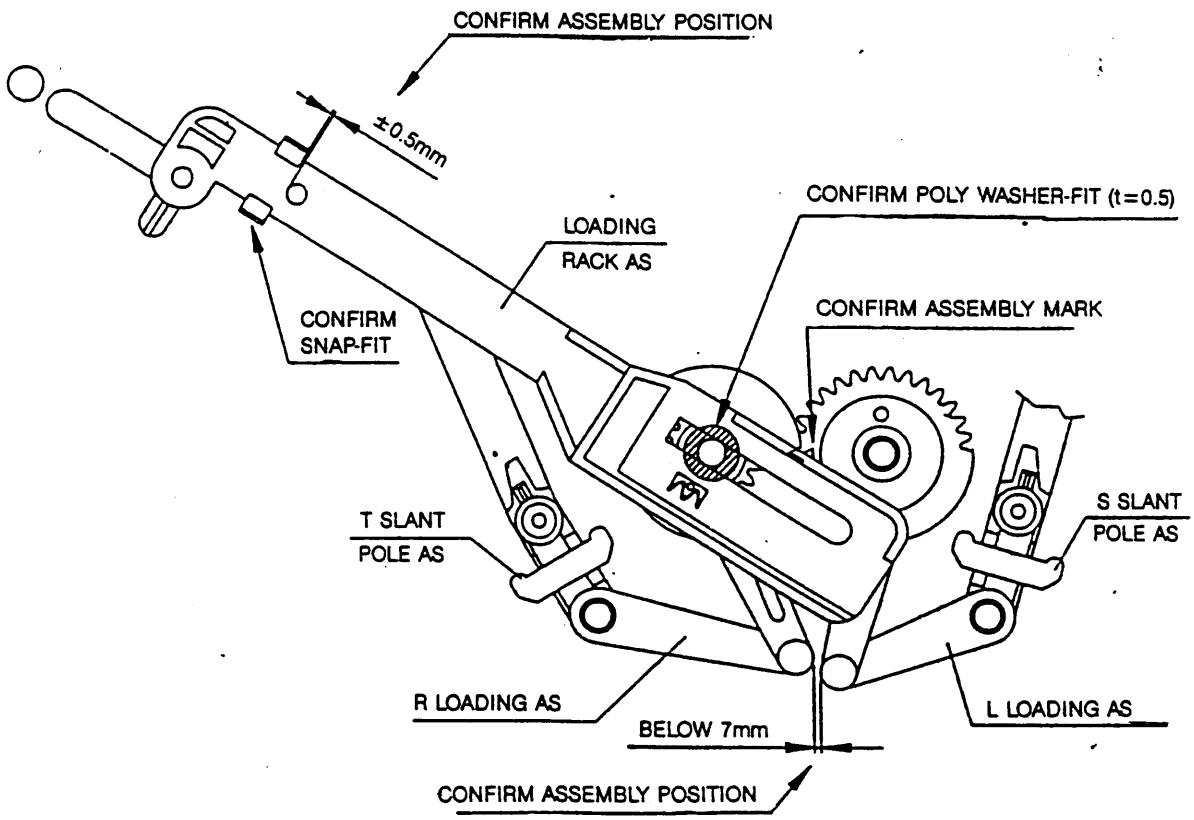


Fig. 1-5 Reference of assembly for the Loading Rack and R/L Loading AS

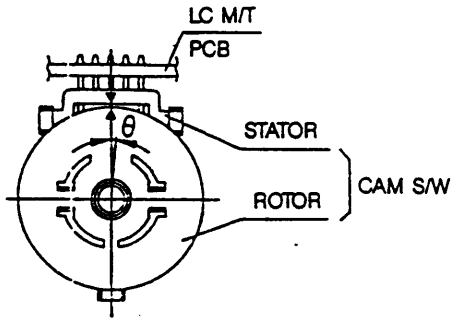


Fig. 1-6 Reference of assembly for the Cam Switch

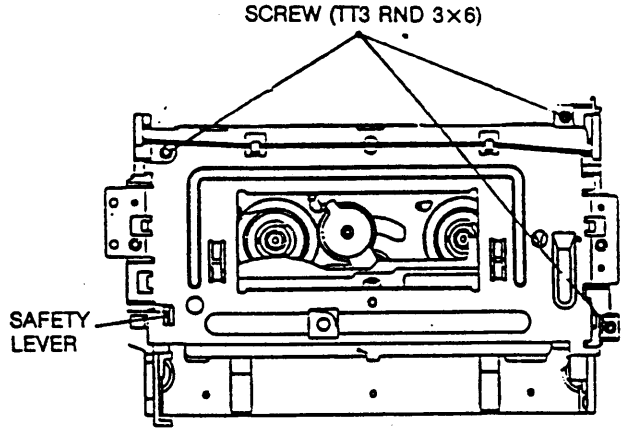


Fig. 1-7 Reference of assembly for the Front Loading As

***Note:** 1. The △ Shape of Rotor should be located in $\theta = 0 \sim 5°$.
2. The above figure is a reference bottom view for the L/C bracket Total AS.

***Note:** 1. It should be returned to its original state when the safety lever was pushed by hand.
2. On fastening screw, that above 6mm should not be used (In the case of using non-specification screw, the Capstan PCB is deformed.)

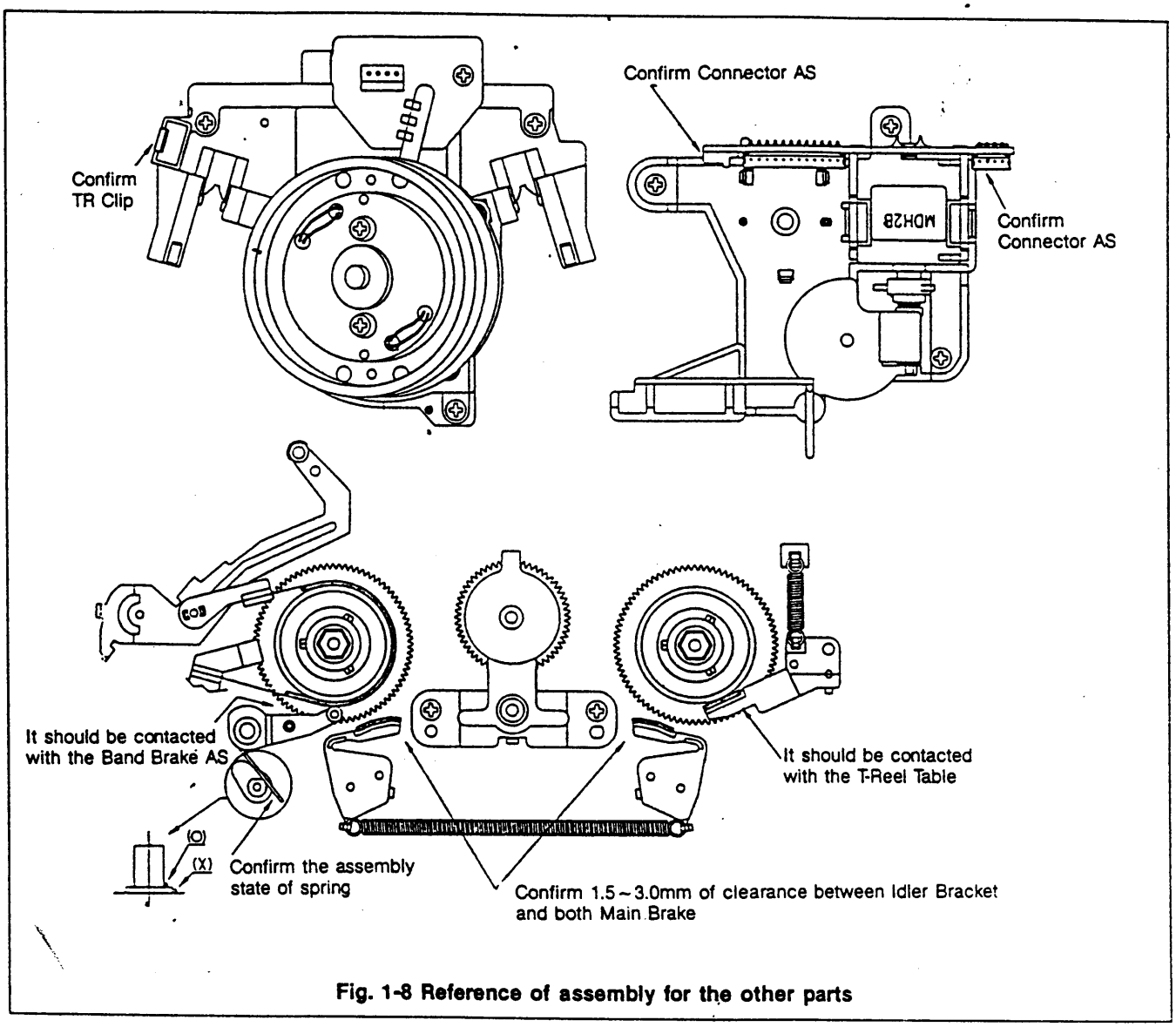


Fig. 1-8 Reference of assembly for the other parts

1-2. HOW TO SET MECHANICAL MODE

1) On removing the Front Loading Ass'y, Syscon executes the INITIAL MODE and then power off.
2) If the power is on in the INITIAL MODE, it executes the STOP MODE.
3) Push the button you want.
4) On executing the required mode, pull out the power plug if necessary.
5) If the STOP/EJECT button is pushed in the STOP MODE or EJECT MODE, it returns to the INITIAL MODE via the EJECT mode and then power off.
6) Reassemble the Front Loading Ass'y in the only EJECT MODE.

1-3. Measurement of Pressing Force for Pinch Roller

1) In a state of removing th Front Loading Ass'y, pull out the power plug after playing back without cassette.
2) Remove the L/C Bracket Total Ass'y and the Worm Wheel.
3) Pull the push-pull gauge to the direction 'A' indicated by the arrow as shown in Fig. 1-9.
4) Confirm that the scale of push-pull gauge is 1.2±0.2 Kg at the moemnt of the Pinch Roller separating from the Capstan Shaft.
5) If it is out of specification, replace the Pinch Roller Spring or the Pinch Lever Total Ass'y.

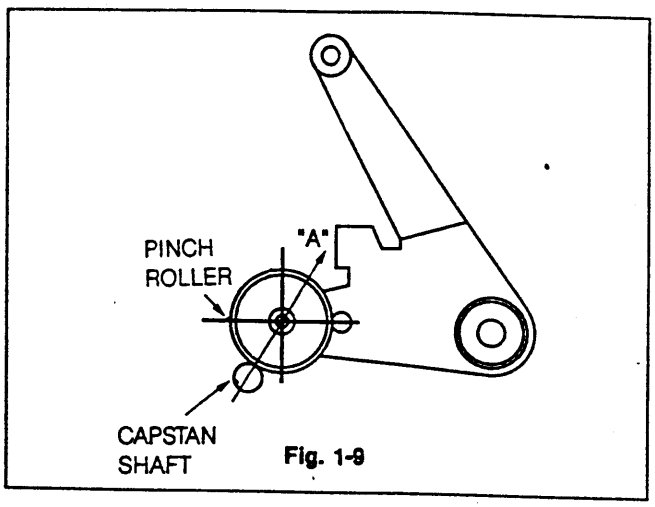


Fig. 1-9

1-4. The Measurement and Adjustment of Back Tension

1) Play back T-120 tape at its center position without F/L Ass'y, wait until the driving of tape is stabilized (about 10~20 seconds).
2) Set the Tentelometer as shown in Fig. 1-10 and confirm the scale (SPEC: 22~30g).
3) If it is out of specification, change the position of Tension Spring in order to adjust the tension value.

NOTE:
1. Make sure that the three probes of the Tentelometer are all in good contact with tape.
2. It is recommended to be measured three times as Tentelometer is very sensitive.

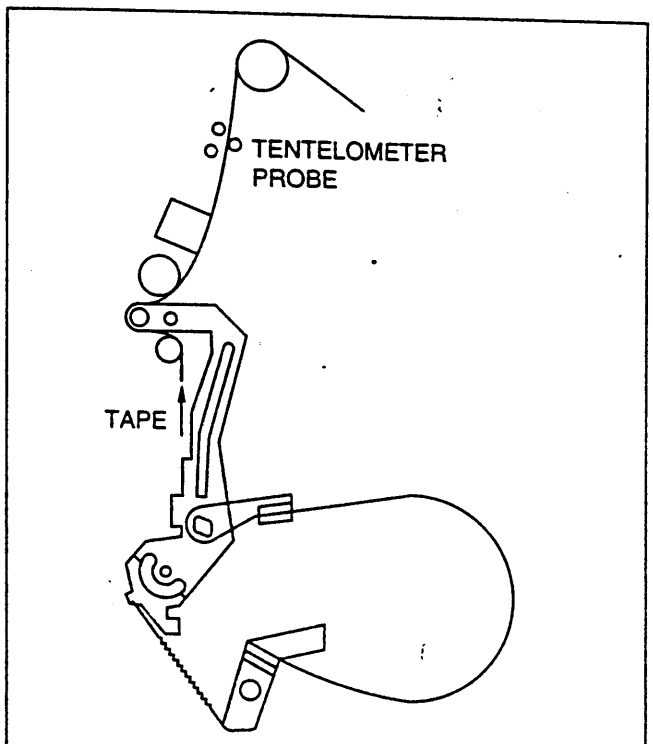


Fig. 1-10

1-5. The Height Adjustment of Reel-Table

1) Put the master into the Hole S and the Hole T in the Jig (TSH-V4) and set the Dial Gauge to zero.
2) Set the Jig (TSH-V4) on the Deck Ass'y as shown in Fig. 4-11 and check the height of Reel Table (S: 0±0.1 T: $0^{-0.05}_{-0.20}$)
3) If it is out of range, it is necessary to adjust the height of Reel Table by adding or subtracting the Poly Slider as shown in Table 1-1.

THICKNESS	PART NUMBER
0.13 mm	97S3903700
0.25 mm	97S3904000
0.5 mm	97S3903600

Table 1-1 Poly Slider for Adjustment

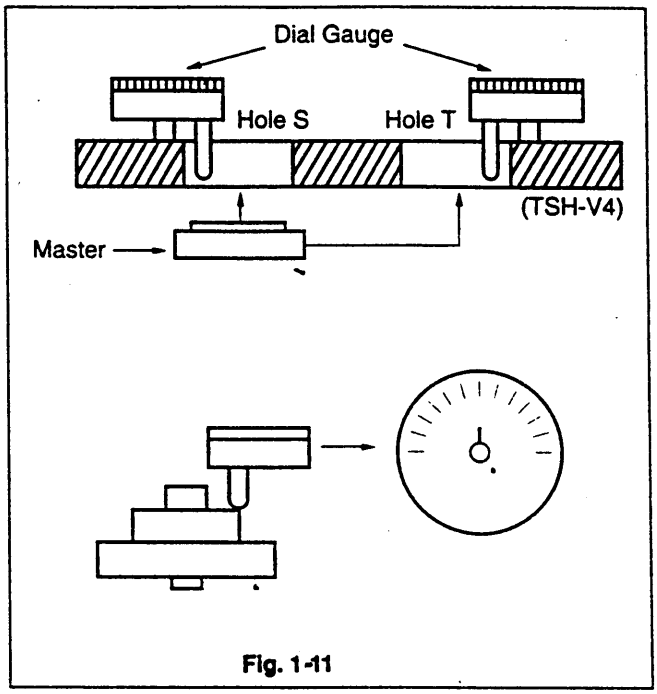


Fig. 1-11

1-6. The Measurement of Reel Torque

1) Play back the Cassette Type Torque Meter.
2) Measure the Take-up Reel Torque after the tape running is stabilized (SPEC: 90~170 cm).
3) If it is out of range, replace the Reel Gear Total Ass'y.

2. THE ADJUSTMENT OF TAPE TRANSPORTING SYSTEM

The tape transporting system has been precisely adjusted at the factory and does not ordinary require readjustment. But when the noise and tape damage takes place and parts that compose the tape transporting system are replaced due to troubles by long usage or unexpected accidents, check and readjust the tape transpoting system.

2-1. THE SCHEMATIC DIAGRAM OF TAPE TANSPORTING SYSTEM

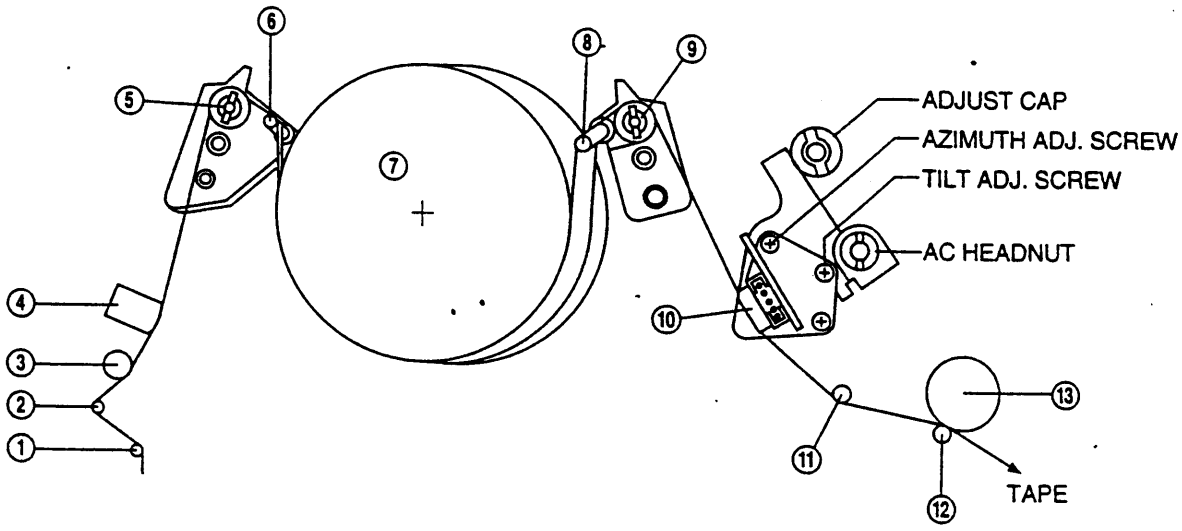
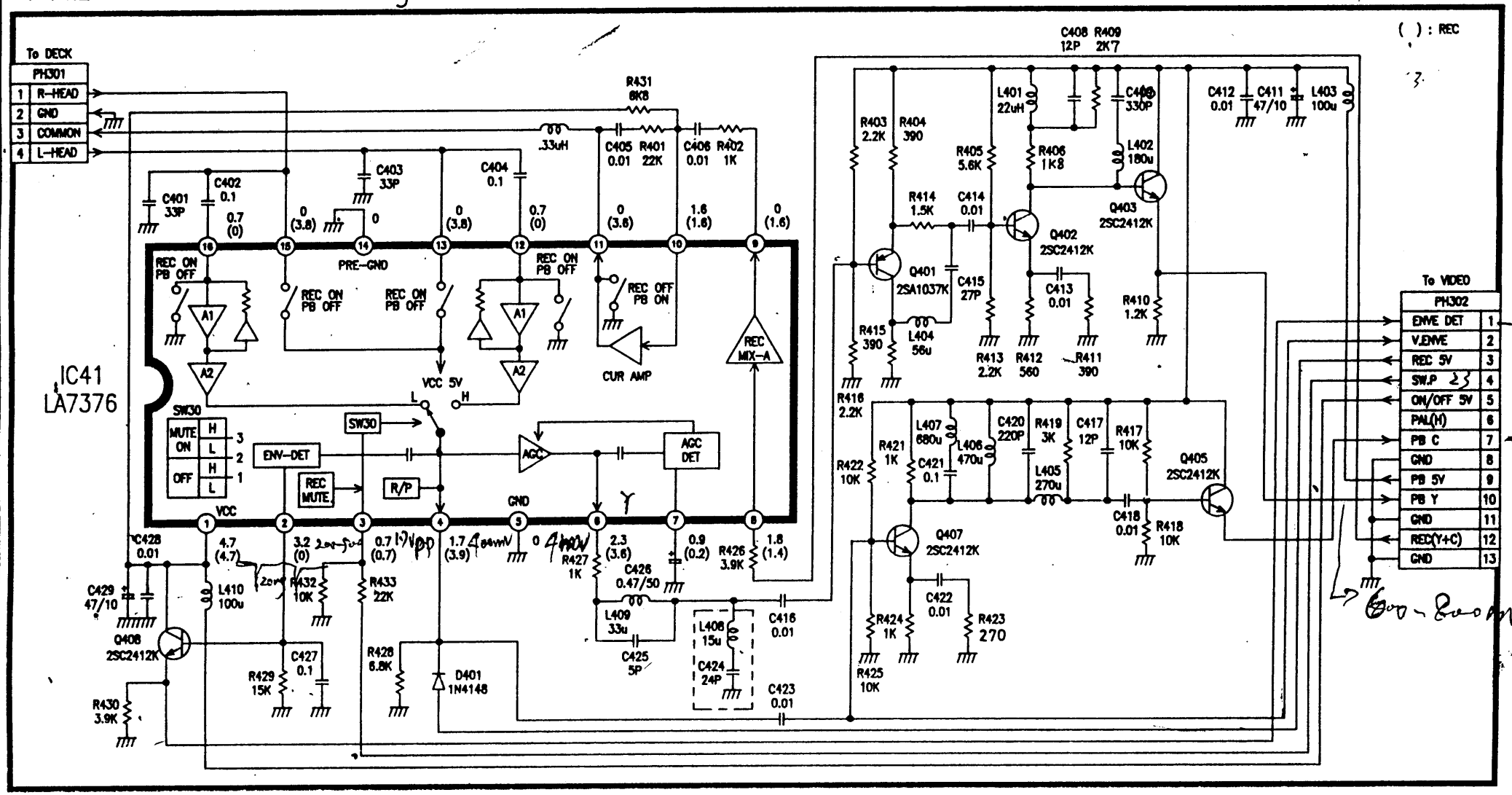


Fig. 2-1

① VERTICAL POST
② TENSION POLE
③ S-GUIDE POST
④ FE HEAD
⑤ S-GUIDE ROLLER
⑥ S-SLANT POLE
⑦ CYLINDER
⑧ T-SLANT POLE
⑨ T-GUIDE ROLLER
⑩ AC HEAD
⑪ T-GUIDE POST
⑫ CAPSTAN SHAFT
⑬ PINCH ROLLER

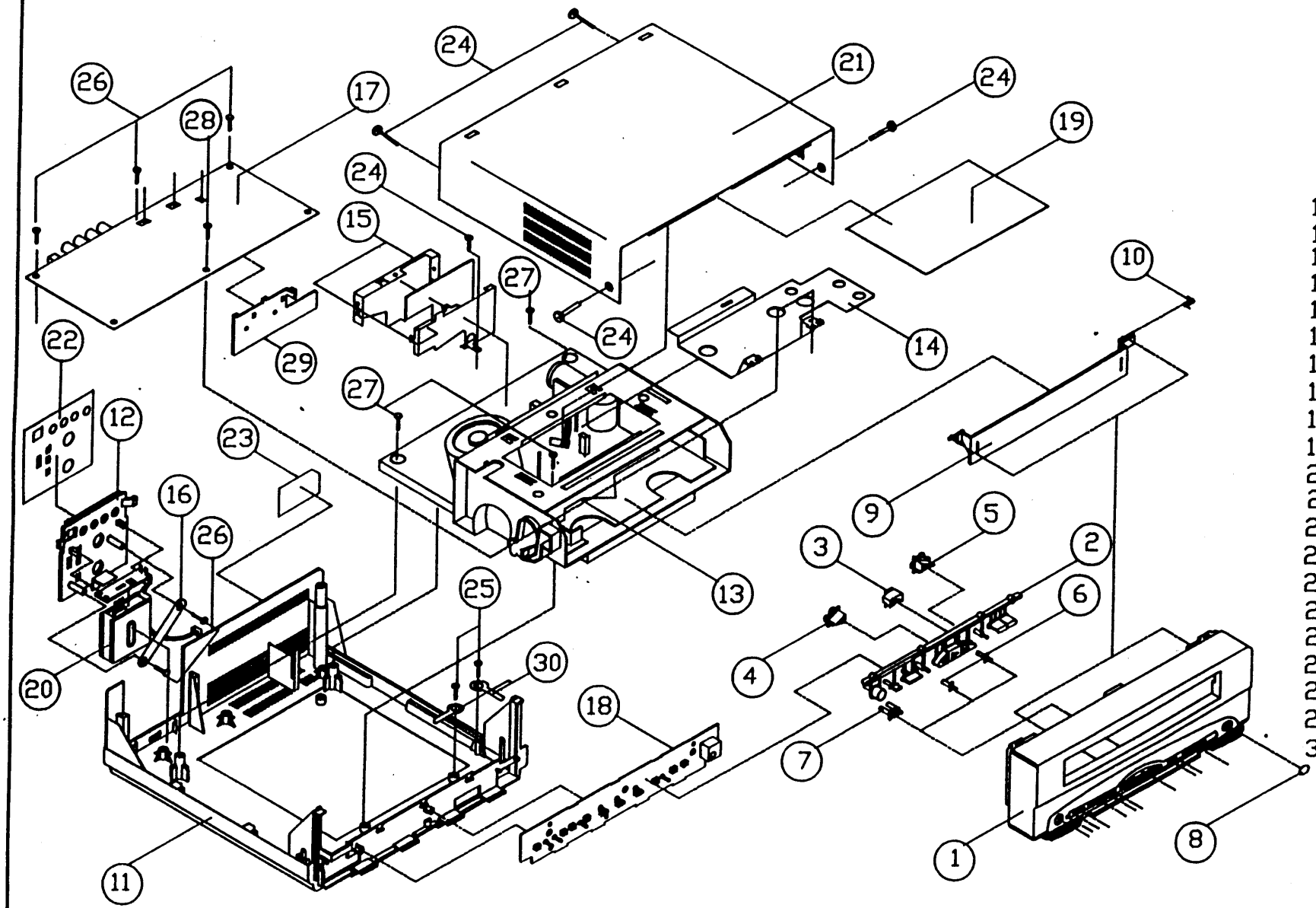
PRE-AMP circuit-diagram



DATE : 1994/7/29				NAME	PRE-AMP PCB
REV	DRAWING	CHECKED	APPROVED		FULL SECTION
1	曾美華		楊文王	MODEL	VCR-450 N /VCP-450N
				SYSTEM	NTSC
ACTION ELECTRONICS CO.,LTD.				DWG.NO	05-H3-1101

(SH4) DE

VCR 450 EXPLODED VIEW



1. FRONT CAB.
2. FUNCTION KNOB
3. REFLECTOR(A)
4. REFLECTOR(B)
5. REFLECTOR(C)
6. REFLECTOR(D)x2
7. REFLECTOR(E)
8. SENSOR COVER
9. LOADING DOOR
10. SPRING
11. BOTTOM CAB.
12. JACK PANEL
13. DECK
14. SHIELD PLT.
15. HEAD AMP ASS'Y
16. RF MOD. BKT.
17. MAIN PCB
18. FUNCTION PCB
19. ISOLATE PLT
20. MODULATOR
21. TOP CAB.
22. JACK PLT.
23. MODEL PLT.
24. MISO 3.0x6.0 BK(x5)
25. TP 3.0x6.0(x2)
26. TP 3.0x10.0(x5)
27. TPW 4.0x10.0(x3)
28. MISO 3.0x6.0(x1)
29. HEAT SINK
30. CABLE CLIPS(x2)

5) The fine adjustment of AC head

A. Tilt Adjustment (refer to Fig. 2-2)

Tape wrinkle check at the lower Flange of T-Guide Post Ass'y in Fig. 2-1.

a. If tape wrinkle is observed at the lower Flange of ⑪ adjust the Tilt Adjust Screw CCW until the wrinkle disappears.

b. If a gap observed between the lower Flange of ⑪ and the lower edge of tape, adjust the Tilt Adjusting Screw CW until the tape travels along the lower Flange.

B. Azimuth Adjustment (refer to section 2-3-2)

C. The X Position Adjustment for Interchangeability

a. Play back the Alignment Tape (SP mode) with stairstep (or monoscope) signal.

b. Place the Tracking Volume at its center click.

c. Trigger an oscilloscope with switching pulse and observe the envelope waveform of CH-2.

d. Turn the Adjust Cap CCW or CW within taper section and fix the Adjust Cap at the position where the envelope reaches a peak level.

e. Play back the Alignment Tape (EP or LP mode) with stairstep (or monoscope) signal.

f. Make sure the envelope is maximum at the center click position of Tracking Volume. If maximum envelope is not observed, perform the envelope adjustment to obtain maximum envelope output again.

g. Play back the Alignment Tape with stairstep (or monoscope) signal and make sure audio output is maximum.

• NTSC: 7 KHz • PAL: 6 Khz

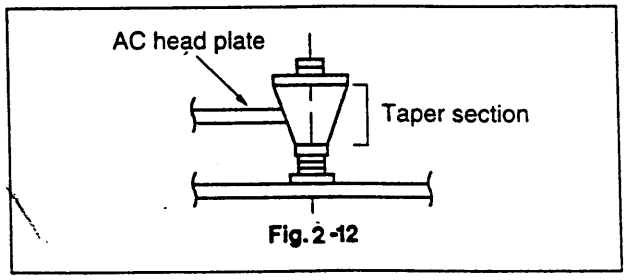


Fig. 2-12

6) Check for transitional operation from Review to Playback

A. Playback the Alignment Tape (SP mode) in the REVIEW mode and observe the envelope with an oscilloscope.

B. Switch the REVIEW mode to the PLAY mode. Make sure state within 3 seconds as shown in Fig. 2-13. If it does not rise within 3 seconds after servo locking adjust as follows.

a. Play back the Alignment Tape which has the stairstep (or monoscope) signal, looking Envelope Waveform, make sure that S & T-Guide Roller's height is adjusted correctly.

b. Change operation mode from Review mode to Play mode again and then make sure that the entrance envelope rises within 3 seconds after servo locking.

c. If not, perform the adjustment according to the section 2-3-4.

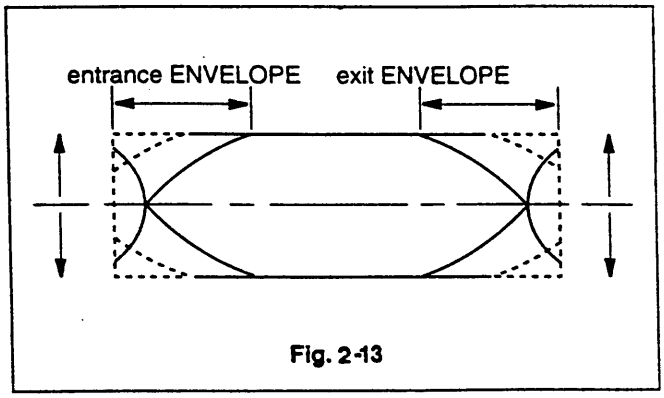


Fig. 2-13

7) Envelope Check

A. Record video signals (color bar or monoscope on T-120 Tape) and make sure the playback envelope output meets the specification as shown in Fig. 2-13.

B. In playing the same Video Deck used for the recording using the T-120, the envelope should meet the specification as shown in Fig. 2-14.

C. If the performance does not meet both specification, replace the Drum Total Ass'y.

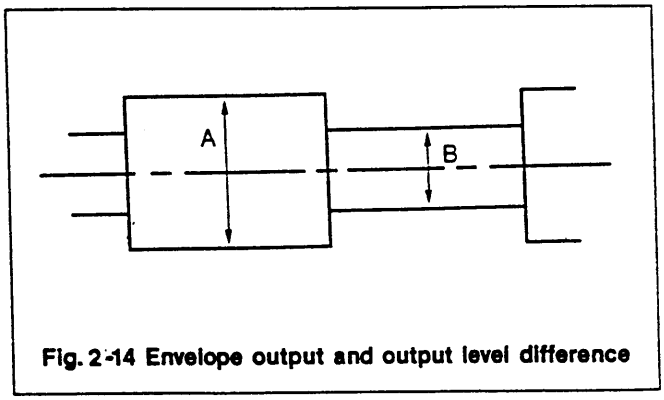


Fig. 2-14 Envelope output and output level difference

8) Final Check

Make sure no Tape wrinkle is caused at each guide.

2-3. ADJUSTMENT PROCEDURES

1) Pre-adjustment

When the parts as shown in Fig. 2-1 is replaced, the Tape Path may be changed and alignment tape may be damaged. To prevent this, first, playback a T-120 Tape and make sure excessive tape wrinkle does not occur at each tape guide.

If tape wrinkle is observed at the S & T-Guide Rollers (⑤, ⑨) in Fig. 5-1, turn the S & T-Guide Rollers for no wrinkle.

2) The Pre-adjustment of AC Head Ass'y

A. Tilt Adjustment
   a. Play back a T-120 Tape and observe running condition of the Tape at the upper and lower Flanges of the T-Guide Post Ass'y ⑪ in Fig. 2-1.
   b. Adjust the Tilt Adjusting Screw until tape runs stable as shown in Fig. 5-2.

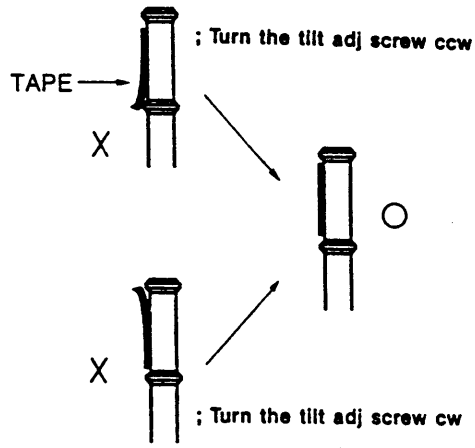


Fig. 2-2 T-Guide Post

B. Audio Azimuth Adjustment
   a. Play back the Alignment Tape (SP mode) with audio singal.
      • NTSC: 7 KHz • PAL: 6 KHz
   b. Observe audio signals on an oscilloscope.
   c. Turn the Azimuth Adjusting Screw to obtain maximum audio output.

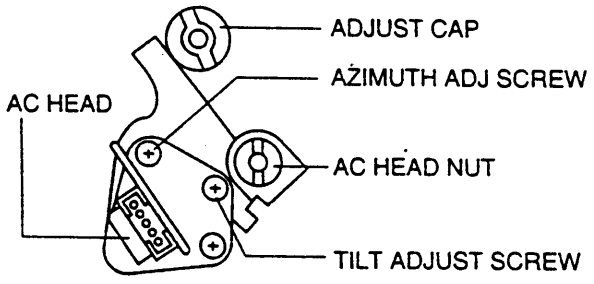


Fig. 2-3

C. The height Adjustment of AC Head
   a. Play back the Alignment Tape (SP mode) with 1 KHz audio singal.
   b. Turn the Ac Head Nut to obtain maximum audio output.

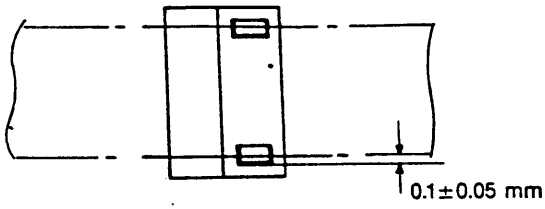


Fig. 2-4 The Height Adjustment of AC Head

D. The X-position Pre-adjustment of AC Head
   a. Play back the Alignment Tape with SP stairstep (or monoscope) singal.
   b. Adjust the Adjust Cap for maximum envelope output, after Tracking Volume is set at its center click position.

NOTE:
Before proceeding with this adjustment, remove locking paint applied on the Adjust Cap.

3) Playback Phase Adjustment (PG Adjustment)

A. Play back the Alignment Tape (SP mode).
B. Observe a video signal on an oscilloscope display triggered with the switching pulse.
C. Adjust the PG volume for time interval of 6.5 H±0.5 H between switching pulse and V sync signal.

NOTE:
In this adjustment, adjust the Tracking Volume the best video signal.

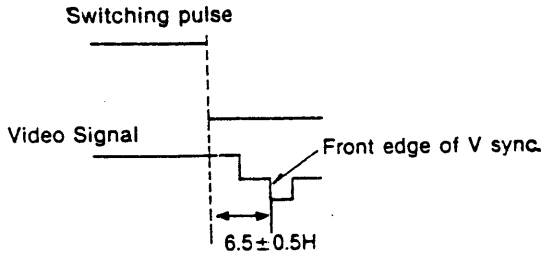


Fig. 2-5 Playback Phase Adjustment

4) Linearity Adjustment

A. Play back the Alignment Tape with SP stairstep (or monoscope) signal.
B. Observe the singal envelope on an oscilloscope display triggered by the switching pulse.
C. Make sure the envelope waveform (in its maximum) output meets the specifications shown in Fig. 2-6.
   a. Maximum output of envelope.
   b. Minimum output of envelope at the Drum entrance
   c. Minimum output of envelope at the Drum center.
   d. Maximum output of envelope at the Drum exit in Fig. 5-6.

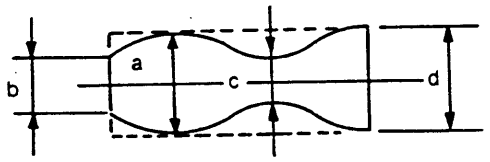


Fig. 2-6 Envelope Wareform Specification

D. If the section A in Fig. 5-7 does not meet the specification, adjust the S-Guide Roller up or down.
E. If the section B in Fig. 2-7 does not meet the specification, adjust the T-Guide Roller up or down.

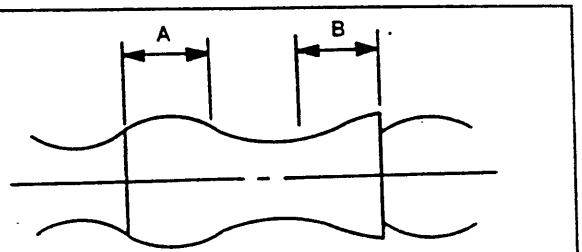


Fig. 2-7 Adjustment Point

F. After completing adjustment, turn the tracking Volume and make sure the envelope varies almost flat.
G. If the envelope varies as shown in Fig. 2-8, adjustment of the S-Guide Roller and the T-Guide Roller may be upset and then perform the adjustment again.

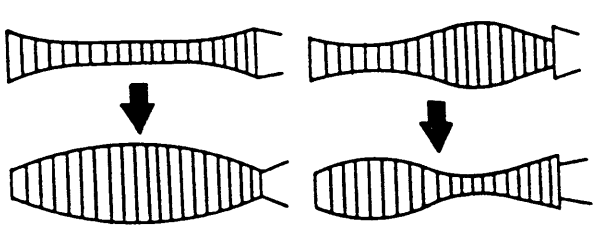


Fig. 2-8 Abnormal Waveform Variation

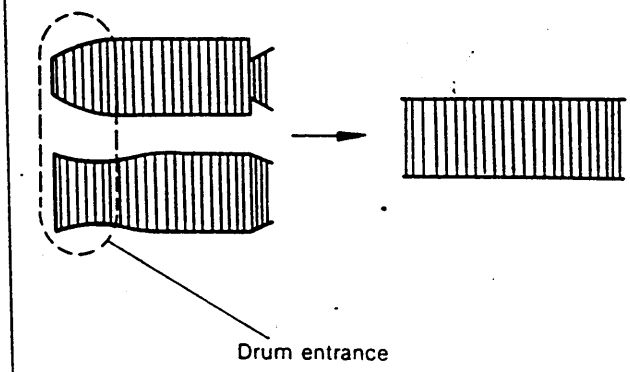


Fig. 2-9 Waveform Adjustment at the Drum Entrance

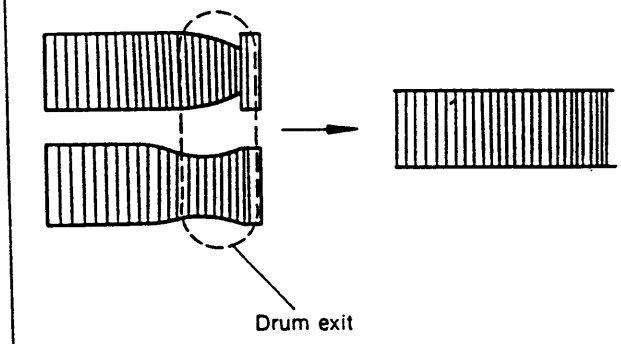


Fig 2-10 Waveform Adjustment at the Drum Exit

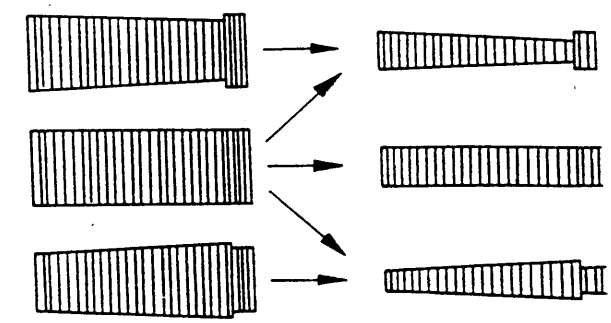
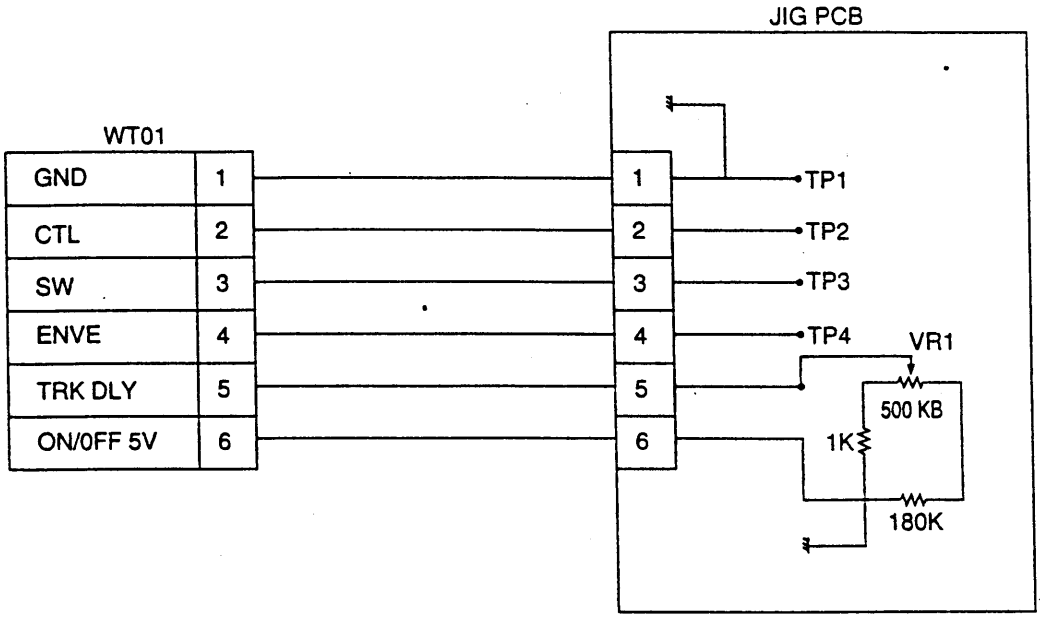
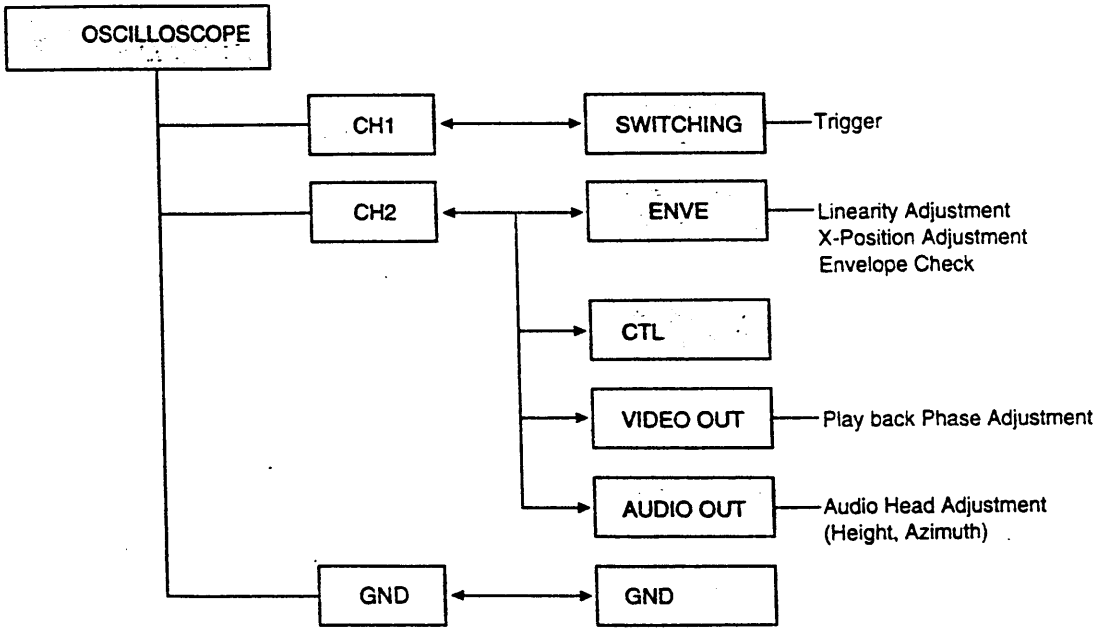


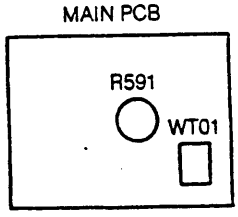
Fig. 2-11 Normal Waveform Variation

CONNECTION

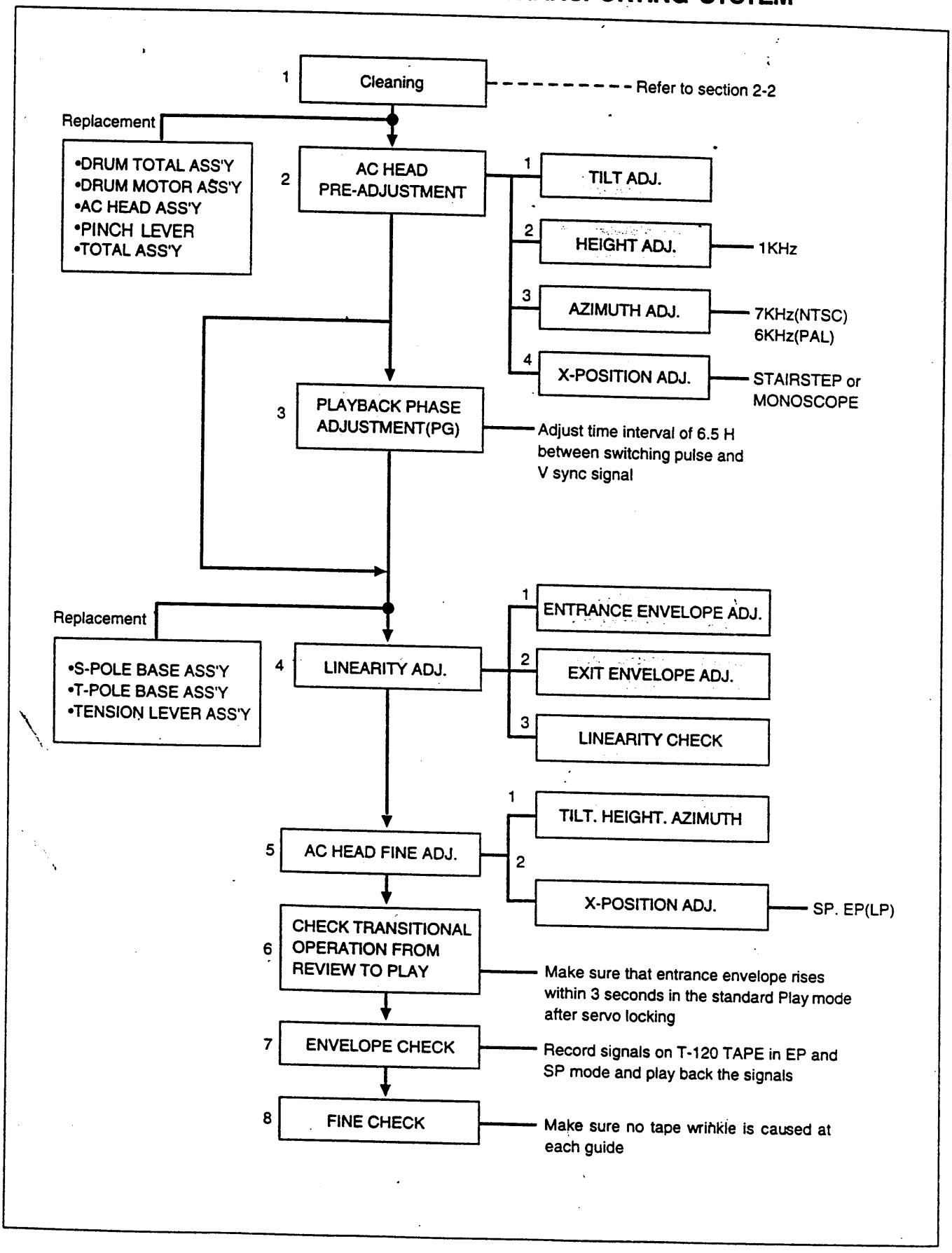




ADJUSTMENT VR	REMARK
MAIN TRACKING VR	VR1 (JIG PCB)
PG VR	R591 (MAIN PCB)



2-2. ADJUSTMENT FLOW FOR THE TAPE TRANSPORTING SYSTEM



ACTION ELECTRONICS CO.,LTD.

VIDEO CASSETTE ELECTRICAL SPECIFICATION

REVISION	0

MODEL NO:VCR-450 NISC/420

TEST DATE:

SUPPLY VOLTAGE:13.5V

TESTER:

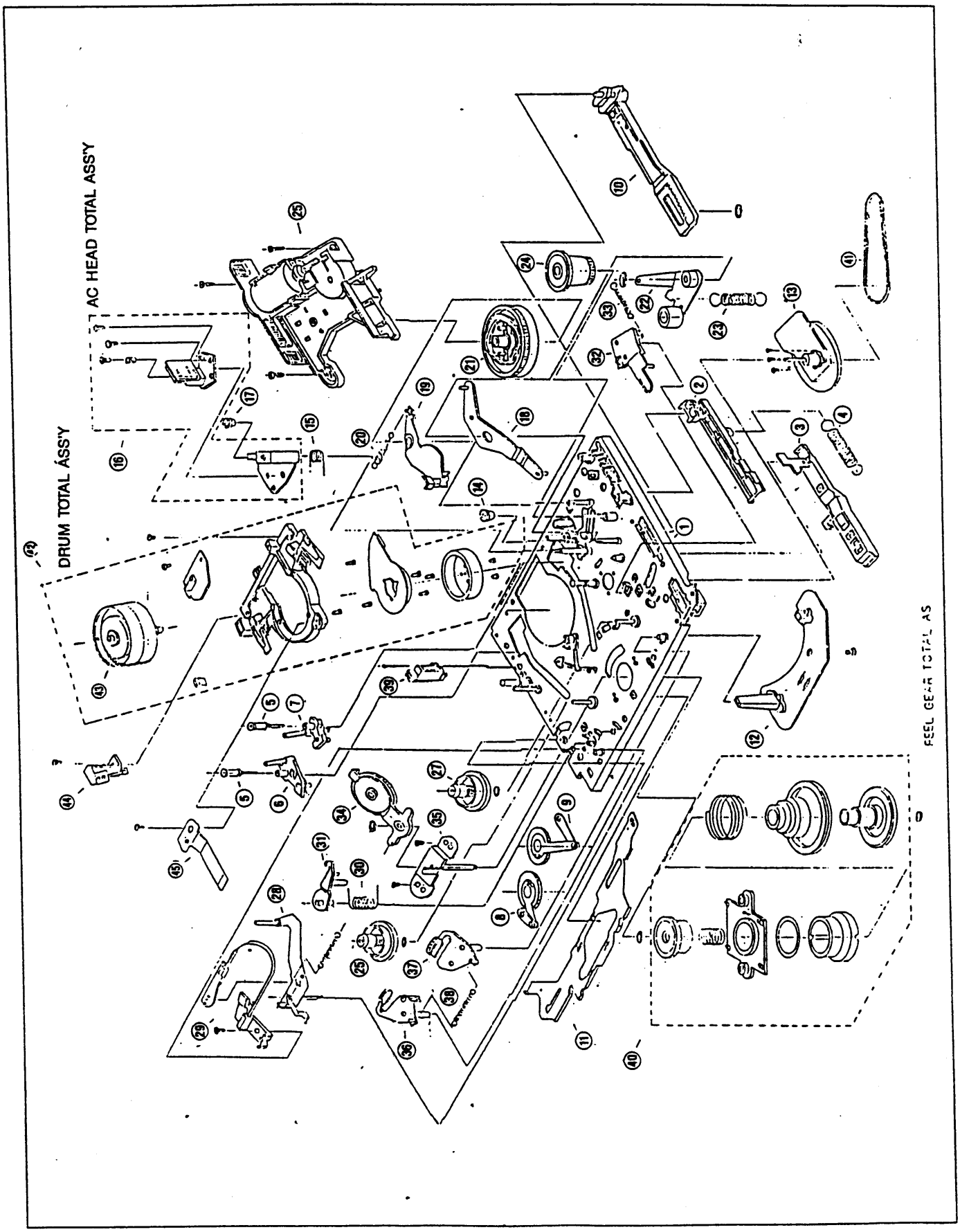
A. POWER SYSTEM	SPECIFICATION			SERIAL NO.			REMARK
DESCRIPTION	UNIT	NORMAL	LIMIT				
DC CONSUMPTION PLAY MODE MAIN UNIT	W	10	10± 3				DC 13.5V INPUT
AC CONSUMPTION PLAY MODE AC ADAPTOR	W	16	20				AC ADAPTOR 110V/60HZ . INPUT
B.AUDIO SIGNAL PROCESSING SYSTEM							
IMPEDANCE OUTPUT	KOHM		<<10				
PLAY BACK OUTPUT LEVEL	dBm	-5	-5 ± 3.0				1khz 0dBm COLOR
FREQUENCY RESP. 150Hz	dB	-5	-5 ± 3.0				400Hz,-20dBm 150Hz,-20dBm 8KHz,-20dBm
(400 Hz -> 0dB) 8KHz	dB	-3	-5 ± 3.0				
AUDIO S/N	dB	45	38				1 KHz,-10dBm
DISTORTION	%	5	2				1 KHz,-10dBm
POP NOISE LEVEL	dBm	-20	-10				ALL FUNCTION KNOB
C.VIDEO SIGNAL PROCESSING SYSTEM							
IMPEDANCE OUTPUT	OHM	75	75 ± 10%				UNBLANCED
VIDEO SIGNAL LEVEL	Vp-p	0.7	0.7 ± 0.1				MVN2-01 COLOR BAR
SYNC. LEVEL	Vp-p	0.3	0.3 ± 0.1				MVN2-01 COLOR BAR
TOTAL VIDEO OUTPUT LEVEL	Vp-p	1.0	1.0 ± 0.2				MVN2-01 COLOR BAR
Y-FREQUENCY CHARACTER	dB	-4.5	-4.5±3.0				PLAY 1.8MHz
Y- S/N (50% WHITE,UNWEIGHTED)	dB	45	40				HPF-10K,LPF-5MHZ SC TRAP ON
COLOR NOISE (100% CHROMA) C-AM	dB	38	36				HPF-100Hz LPF-0.5M
COLOR NOISE (100% CHROMA) C-PM	dB	35	34				
Y-DISTORTION OVER SHOOT	%	10	20				WINDOW SIGNAL
SMEAR	%	5	10				WINDOW SIGNAL
RINGING	%	5	10				WINDOW SIGNAL
SAG	%	5	10				WINDOW SIGNAL

REVISION	0

C.VIDEO SIGNAL PROCESSING SYSTEM		SPECIFICATION			SERIAL NO.			REMARK
PESCRIPTION		UNIT	NORMAL	LIMIT				
HORIZONTAL RESOLUTION		LINE	240	220				MVN2-06 MONOSCOPE
APPEARANCE TIME OF VIDEO		SEC	5.5	<<6.5				MVN2-01 COLOR BAR
COLOR & STABLE PICTURE		SEC	0.3	<<2				MVN2-01 COLOR BAR
D.SERVO-SYSCON PROCESSING SYSTEM								
WOW FLUTTER		%	0.25	<<0.35				SP 3KHz CCIR,WTD
JITTER	NORMAL	uSEC	0.3	0.4				MVN2-01 COLOR BAR
	LOW	uSEC	0.15	0.2				MVN2-01 COLOR BAR
SKEW		uSEC	±4	<<±6				MVN2-04 CROSS HATCH
HORIZONTAL SWITCHING POINT		H	6.5	6.5 ±1.5				MVN2-01 COLOR BAR
TAPE WINDING TIME	FF TIME	SEC	360	420				T-120 CASSETTE TAPE
	REW TIME	SEC	360	420				
CASSETTE LOADING TIME	SLOT IN	SEC	4	6				EJECT-->STOP
	SLOT OUT	SEC	4	6				STOP-->EJECT
PLAY TORQUE		g.cm	120	120 ± 60				KT-300NV
FF/REW TORQUE		g.cm	500	400				KT-2400NV
SEARCH TORQUE		g.cm	150	150 ± 70				KT-300NV
E.RECORD AUDIO SIGNAL PROCESSING SYSTEM								
R/P OUTPUT LEVEL		dBm	-5	-5 ± 3.0				1khz 0dBm COLOR
R/P FREQ. RESP.	150Hz	dB	-5	-5 ± 3.0				400Hz,-20dBm 150Hz,-20dBm 8KHz,-20dBm
(400 Hz -> 0dB)	8KHz	dB	-3	-5 ± 3.0				
R/P AUDIO S/N		dB	45	38				1 KHz,-10dBm
R/P DISTORTION		%	5	2				1 KHz,-10dBm
F.RECORD VIDEO SIGNAL PROCESSING SYSTEM								
R/P VIDEO SIGNAL LEVEL		Vp-p	0.7	0.7 ± 0.1				MVN2-01 COLOR BAR
R/P SYNC. LEVEL		Vp-p	0.3	0.3 ± 0.1				MVN2-01 COLOR BAR
TOTAL VIDEO OUTPUT LEVEL		Vp-p	1.0	1.0 ± 0.2				MVN2-01 COLOR BAR
R/P Y-FREQUENCY CHARACTER		dB	-4.5	-4.5±3.0				PLAY 1.8MHz
R/P Y- S/N (50% WHITE,UNWEIGHTED)		dB	45	40				HPF-10K,LPF-5MHZ SC TRAP ON
R/P COLOR NOISE (100% CHROMA)	C-AM	dB	38	36				HPF-100Hz LPF-0.5M
	C-PM	dB	35	34				
R/P Y DISTORTION		%	10	20				WINDOW SIGNAL

3. EXPLODED VIEW AND PARTS LIST

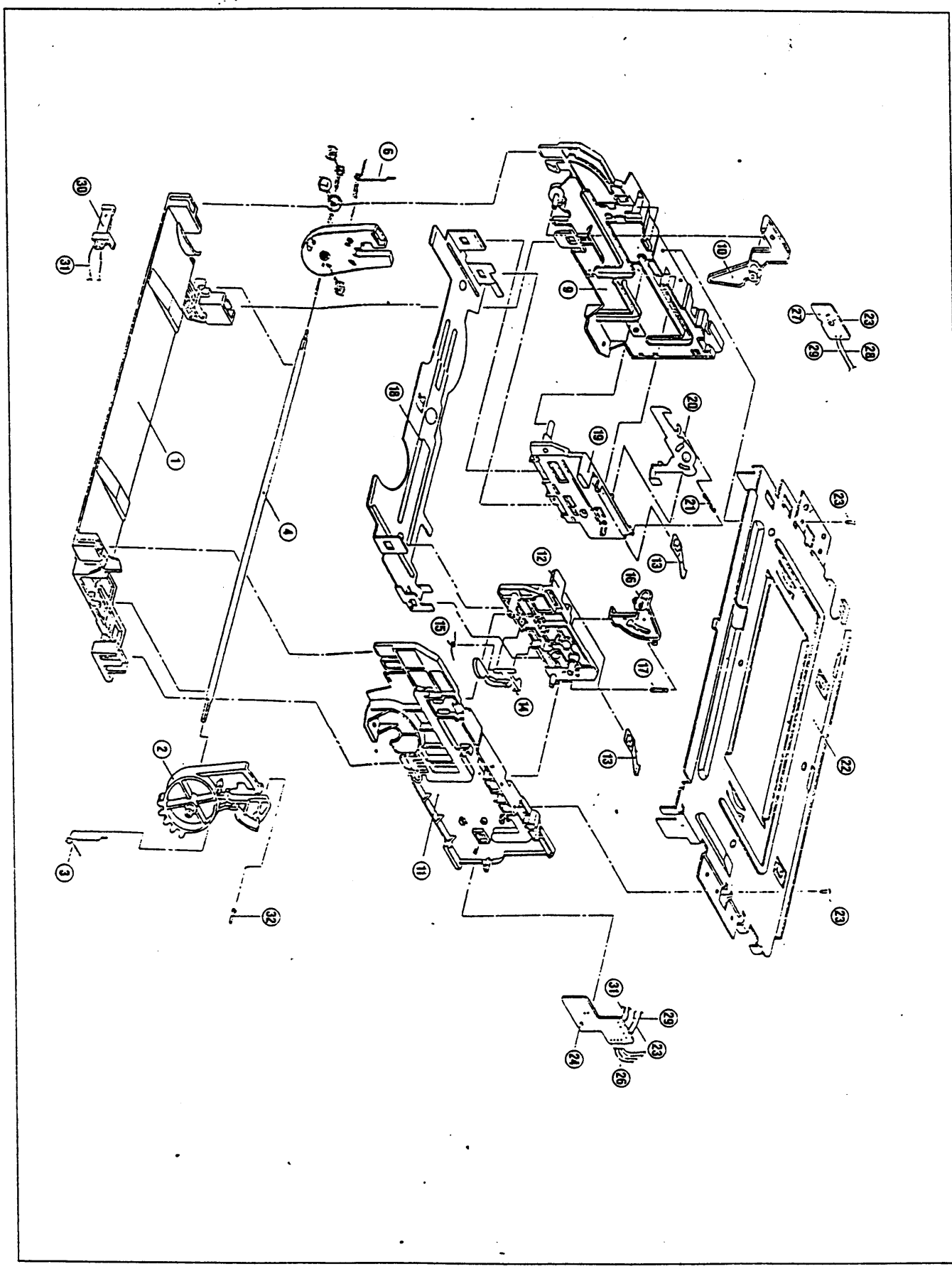
3-1. EXPLODED VIEW OF DECK ASS'Y



3-2. PARTS LIST OF DECK ASS'Y

NO	STOCK NO.	PART NAME	Q'TY	REMARKS
1	97SB379500	MAIN BASE AS	1 EA	
2	97S2714800	F/L SUB RACK	1 EA	
3	97S2714700	F/L DRIVE RACK	1 EA	
4	97S3035000	F/L RACK SPG	1 EA	
5	97SA511700	GUIDE ROLLER AS	2 EA	
6	97SA481400	S POLE BASE AS	1 EA	
7	97SA481300	T POLE BASE AS	1 EA	
8	97SB379800	L LOADING AS	1 EA	
9	97SB379700	R LOADING AS	1 EA	
10	97SB381600	LOADING RACK AS	1 EA	
11	97S0938000	CONNECT PLATE	1 EA	
12	97SB382800	DECK PCB AS	1 EA	
13	97S8103700	CAPSTAN MOTOR	1 EA	
14	97S0427710	CAP ADJUST	1 EA	
15	97S3031300	AC HEAD GUIDE SPG	1 EA	
16	97SB381000	AC HEAD PLATE TOTAL AS	1 EA	RECORD MODEL
	97SB38700	AC HEAD PLATE TOTAL AS	1 EA	PLAY ONLY MODEL
17	97S4001500	AC HEAD UNT	1 EA	
18	97SB381700	RELAY LEVER AS	1 EA	
19	97S2623500	RETURN LEVER	1 EA	
20	97S3031700	RETURN SPG	1 EA	
21	97S2713900	CAM GEAR	1 EA	
22	97SB381800	PINCH LEVER TOTAL AS	1 EA	
23	97S3032000	PINCH ROLLER SPG	1 EA	
24	97S2906800	WORM WHEEL	1 EA	
25	97SB381900	LC BRACKET TOTAL AS	1 EA	
26	97SB382000	S REEL TABLE AS	1 EA	
27	97SB382100	T REEL TABLE AS	1 EA	
28	97SB379600	TENSION LEVER AS	1 EA	
29	97SB382900	BAND BRAKE AS	1 EA	
30	97S3032700	S SUB BRAKE SPG	1 EA	
31	97S2623000	S SUB BRAKE LEVER	1 EA	
32	97SB382700	T SUB BRAKE AS	1 EA	
33	97S3032800	T SUB BRAKE SPG	1 EA	
34	97SB382300	IDLER PLATE TOTAL AS	1 EA	
35	97SB382200	IDLER BRACKET AS	1 EA	
36	97SB382500	S MAIN BRAKE AS	1 EA	
37	97SB382600	T MAIN BRAKE AS	1 EA	
38	97S3032600	MAIN BRAKE SPG	1 EA	
39	97S8010700	FE HEAD	1 EA	
40	97SB382400	REEL GEAR TOTAL AS	1 EA	
41	97S5502300	REEL BELT	1 EA	
42	97SA26500	DRUM TOTAL AS	1 EA	NTSC SP/EP
	97SA289200	DRUM TOTAL AS	1 EA	NTSC SP ONLY
	97SA286400	DRUM TOTAL AS	1 EA	PAL SP/LP
	97SA289400	DRUM TOTAL AS	1 EA	PAL SP ONLY
43	97SB335900	DRUM AS	1 EA	NTSC SP/EP
	97SB374000	DRUM AS	1 EA	NTSC SP ONLY
	97SB367000	DRUM AS	1 EA	PAL SP/LP
	97SB362400	DRUM AS	1 EA	PAL SP ONLY
44	97SB381100	EARTH BRACKET AS	1 EA	
45	97S3030200	EARTH SPG	1 EA	

3-3. EXPLODED VIEW OF FRONT LOADING ASS'Y



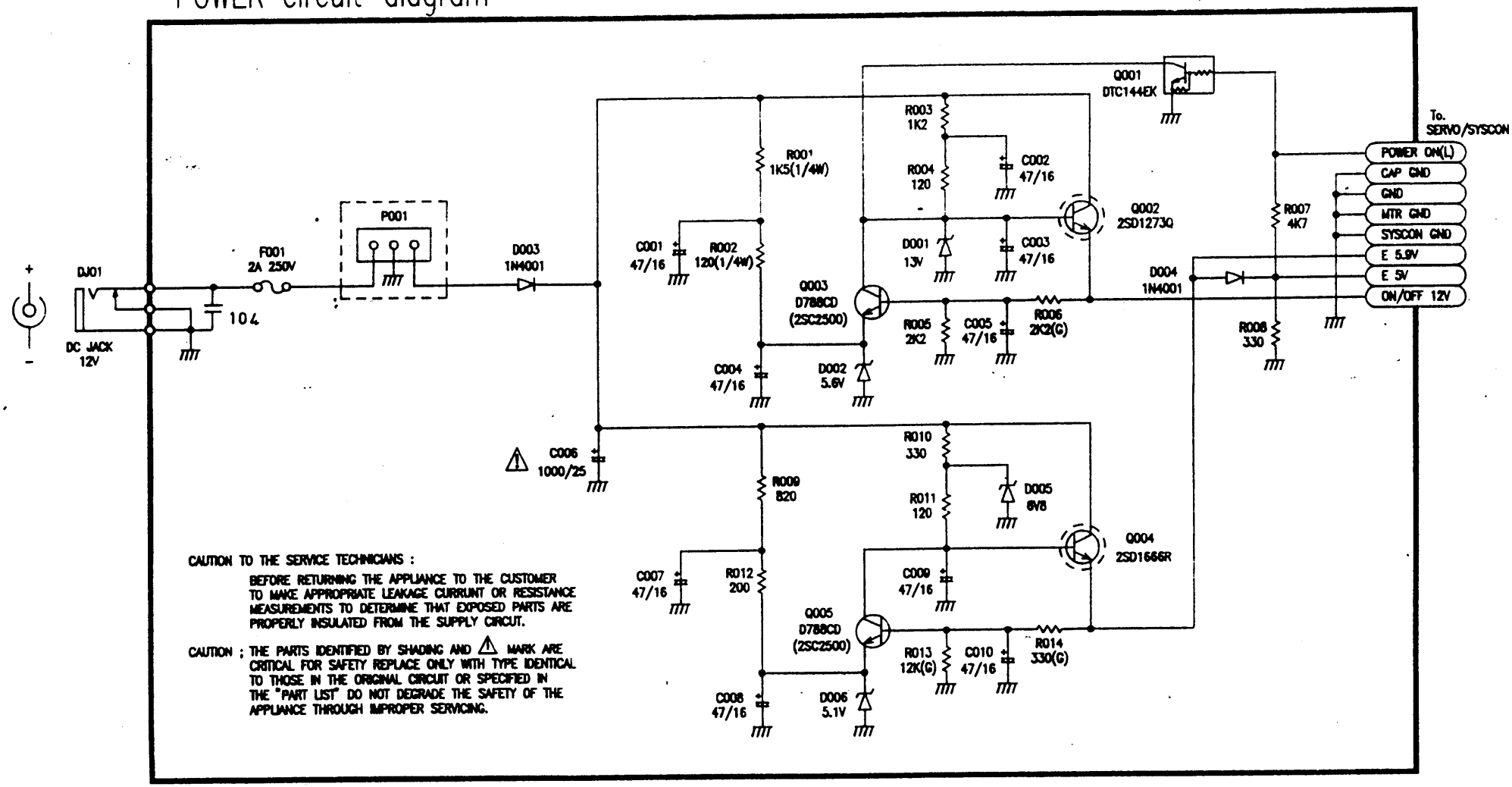
3-4. PARTS LIST OF FRONT LOADING ASS'Y

NO	STOCK NO.	PART NAME	Q'TY	DESCRIPTION	REMARKS
1	97S0938100	CST GUIDE PLATE	1 EA	ABS	
2	97S2624900	LOADING LEVER-R	1 EA	DURACON M90-02	
3	97S3030500	LEVER-R SPG	1 EA	SWPB	
4	97S3606800	LOADING SHAFT	1 EA	SUM32 MFZN	
5	97S2622100	LOADING LEVER-L	1 EA	DURANEX 3300	
6	97S3030600	LEVER-L SPG	1 EA	SWPB	
7	97S5702600	LEVER STOPPER	1 EA	SECC	
8	97S3116400	POLY WASHER	1 EA		
9	97S2430600	F/F BRKT-L	1 EA	ABS GLASS 10%	
10	97S2622500	F/L DOOR OPENER	1 EA	DURANEX 3300	
11	97S2433600	F/L BRKT-R	1 EA	ABS GLASS 10%	
12	97S5201700	HOLDER SLIDER-R	1 EA	DURACON M90-02	
13	97S3030100	CST UPPER SPG	2 EA	SUS304CSP	
14	97S2622400	RELEASE LEVER	1 EA	DURACON M90-02	
15	97S3030700	RELEASE SPG	1 EA	SUS304WPB	
16	97S2622600	PRE OPENER	1 EA	DURACON M90-02	
17	97S3030900	OPENER SPG	1 EA	SUS304WPB	
18	97S0935800	CST HOLDER PLATE	1 EA	SECC	
19	97S5201600	HOLDER SLIDER-L	1 EA	DURACON M90-02	
20	97S2622300	SAFETY LEVER	1 EA	SECC	
21	97S3030800	SAFETY SPG	1 EA	SUS304WPB	
22	97S0935700	TOP PLATE	1 EA	SECC	
23	7121300811	TAPPING SCREW	2 EA		
24	97P6538202	START PCB	1 EA	BAKELITE	
25	TPT304R2-	PHOTO TR	2 EA		
26	97P8805803	CONN AS	1 EA		
27	97P6538203	END PCB	1 EA	BAKELITE	
28	WP-9RD3213	LEAD WIRE	1 EA		
29	WP-9WH3213	LEAD WIRE	1 EA		
30	5SD0101052	RECORD SAFETY S/W	1 EA		RECORD MODEL
31	WP-9YW3113	LEAD WIRE		2 EA	RECORD MODEL
32	97S3538900	LEVER-R POST	1 EA	SUM32	

3-5. MAIN SPARE PARTS LIST OF DECK ASS'Y

NO	PART NAME	PART S/N	DESCRIPTION	Q'TY	REMARKS
1	CONNECT PLATE	97S0938000	SECC T1.0	1 EA	
2	F/L SUB RACK	97S2714800	DURANEX 3300	3 EA	
3	F/L DRIVE RACK	97S2714700	DURANEX 3300	3 EA	
4	F/L RACK SPG	97S3035000	SWPB	1 EA	
5	S SLANT POLE AS	97SB387200	G-MECHA	1 EA	
6	T SLANT POLE AS	97SB387100	G-MECHA	1 EA	
7	L LOADING AS	97SB379800	G-MECHA	1 EA	
8	R LOADING AS	97SB379700	G-MECHA	1 EA	
9	LOADING RACK AS	97SB381600	G-MECHA	1 EA	
10	DECK PCB AS	97SB382800	G-MECHA	3 EA	
11	ADJUST CAP	97S0427710	ZAMAK 3	1 EA	
12	CAPSTAN MOTOR	97S8103700	F2QKB47	3 EA	
13	AC HEAD PLATE TOTAL AS	97SB381000	G-MECHA	3 EA	RECORD MODEL
	AC HEAD PLATE TOTAL AS	97SB387100	G-MECHA	3 EA	PLAY ONLY MODEL
14	RELAY LEVER AS	97SB381700	G-MECHA	1 EA	
15	RETURN LEVER	97S2623500	DURACON M90	1 EA	
16	RETURN SPG	97S3031700	SUS304WPB	1 EA	
17	CAM GEAR	97S2713900	DURACON AW-01	1 EA	
18	PINCH LEVER TOTAL AS	97SB381800	G-MECHA	3 EA	
19	WORM WHEEL	97S2906800	DURACON M90	1 EA	
20	LC BRACKET TOTAL AS	97SB381900	G-MECHA	3 EA	
21	IDLER PLATE TOTAL AS	97SB382300	G-MECHA	3 EA	
22	S REEL TABLE AS	97SB382000	G-MECHA	3 EA	
23	T REEL TABLE AS	97SB382100	G-MECHA	3 EA	
24	TENSION LEVER AS	97SB379600	G-MECHA	3 EA	
25	BAND BRAKE AS	97SB382900	G-MECHA	1 EA	
26	TENSION SPG	97S3031200	SUS304WPB	1 EA	
27	S SUB BRAKE LEVER	97S2623000	DURACON M90	1 EA	
28	S SUB BRAKE SPG	97S3032700	SUS304WPB	1 EA	
29	T SUB BRAKE AS	97SB382700	G-MECHA	3 EA	
30	T SUB BRAKE SPG	97S3032800	SUS304WPB	1 EA	
31	S MAIN BRAKE AS	97SB382500	G-MECHA	3 EA	
32	T MAIN BRAKE AS	97SB382600	G-MECHA	3 EA	
33	MAIN BRAKE SPG	97S3032600	SUS304WPB	1 EA	RECORD MODEL
34	FE HEAD	97S8010700	HVFMF0016AK	3EA	
35	REEL GEAR TOTAL AS	97SB382400	G-MECHA	1EA	
36	CONNECTOR AS	97P8806203	MAIN-DECK (MOTOR) 14P-6/9P	3 EA	
37	TR CLIP	97S4602800	SUS301 CSP T0.2	3 EA	
38	DRUM TOTAL AS	97SA265000	G-MECHA	3 EA	NTSC SP/EP
	DRUM TOTAL AS	97SA289200	G-MECHA	3 EA	NTSC SP ONLY
	DRUM TOTAL AS	97SA286400	G-MECHA	3 EA	PAL SP/LP
	DRUM TOTAL AS	97SA289400	G-MECHA	3 EA	PAL SP ONLY
39	FLAT TYPE F/L AS	97SB125900	G-MECHA	3 EA	RECORD MODEL
	FLAT TYPE F/L AS	97SB177600	G-MECHA	3 EA	PLAY ONLY MODEL
40	POLY WASHER	97S3117300	D3.6×D8×T0.5	5 EA	
41	POLY WASHER	97S3108200	D2.6×D6×T0.5	5 EA	
42	POLY SLIDER	97S3903600	D3.1×D6×T0.5	5 EA	
43	TAPPING SCREW	7121300611	T2S PAN 3×6 MFZN	5 EA	
44	TAPTITE SCREW	7278260611	TT3 WAS 2.6×6 MFZN	10 EA	
45	TAPPING SCREW	7124301211	T2S RND 3×12 MFZN	5 EA	
46	TAPTITE SCREW	7274300611	TT3 RND 3×6 MFZN	5 EA	
47	TAPTITE SCREW	7278300511	TT3 WAS 3×5 MFZN	5 EA	
48	TAPTITE SCREW	7274261011	TT3 RND 2.6×10 MFZN	5 EA	
49	TAPTITE SCREW	7274301011	TT3 RND 3×10 MFZN	5 EA	
50	TAPTITE SCREW	7274301211	TT3 RND 3×12 MFZN	5 EA	

POWER circuit-diagram



CAUTION TO THE SERVICE TECHNICIANS :

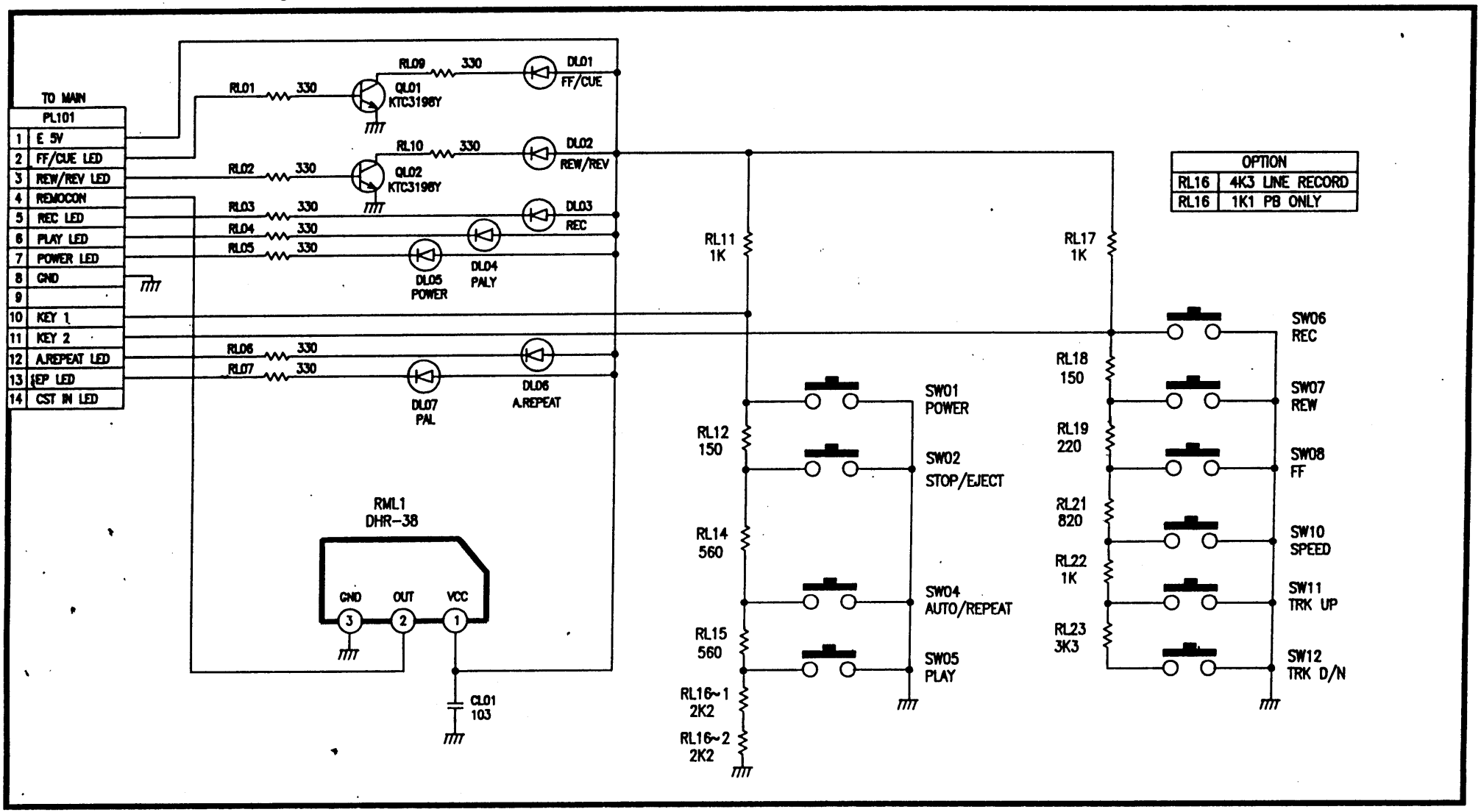
BEFORE RETURNING THE APPLIANCE TO THE CUSTOMER TO MAKE APPROPRIATE LEAKAGE CURRUNT OR RESISTANCE MEASUREMENTS TO DETERMINE THAT EXPOSED PARTS ARE PROPERLY INSULATED FROM THE SUPPLY CIRCUIT.

CAUTION : THE PARTS IDENTIFIED BY SHADING AND ⚠ MARK ARE CRITICAL FOR SAFETY REPLACE ONLY WITH TYPE IDENTICAL TO THOSE IN THE ORIGINAL CIRCUIT OR SPECIFIED IN THE "PART LIST" DO NOT DEGRADE THE SAFETY OF THE APPLIANCE THROUGH IMPROPER SERVICING.

DATE : 1994/9/16				NAME	POWER PCB
REV	DRAWING	CHECKED	APPROVED		FULL SECTION
2	曾美華	沈	楊文王	MODEL	VCR-450/VCP-450/VDR-302
ACTION ELECTRONICS CO.,LTD.				SYSTEM	N-PAL/NTSC
				DWG.NO	05-H3-1301

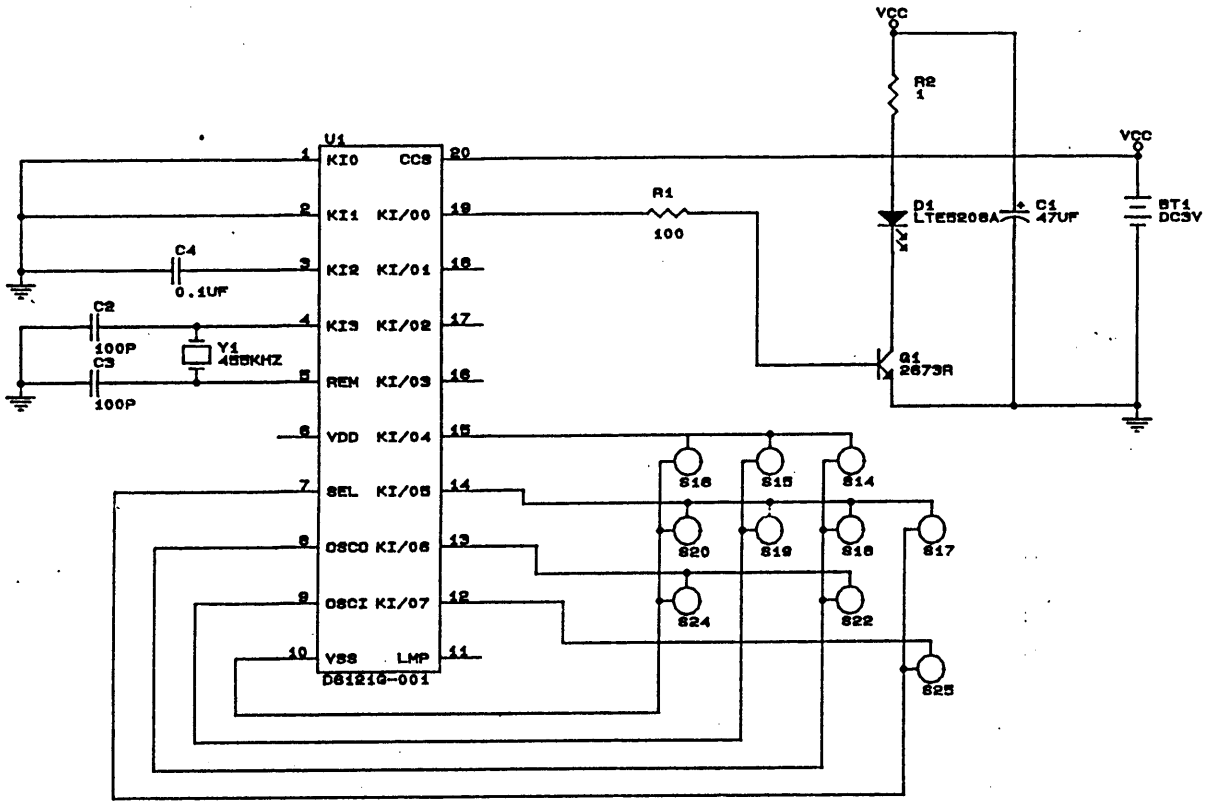
(SH7) DP

LOGIC SW circuit-diagram



DATE : 1993/12/2				NAME	LOGIC SW PCB
REV	DRAWING	CHECKED	APPROVED		FULL SECTION
0	曾美華	洪金為	楊文王	MODEL	VCR-450 N
ACTION ELECTRONICS CO.,LTD.				SYSTEM	NTSC
				DWG.NO	05-H3-1101

(SH5) DL



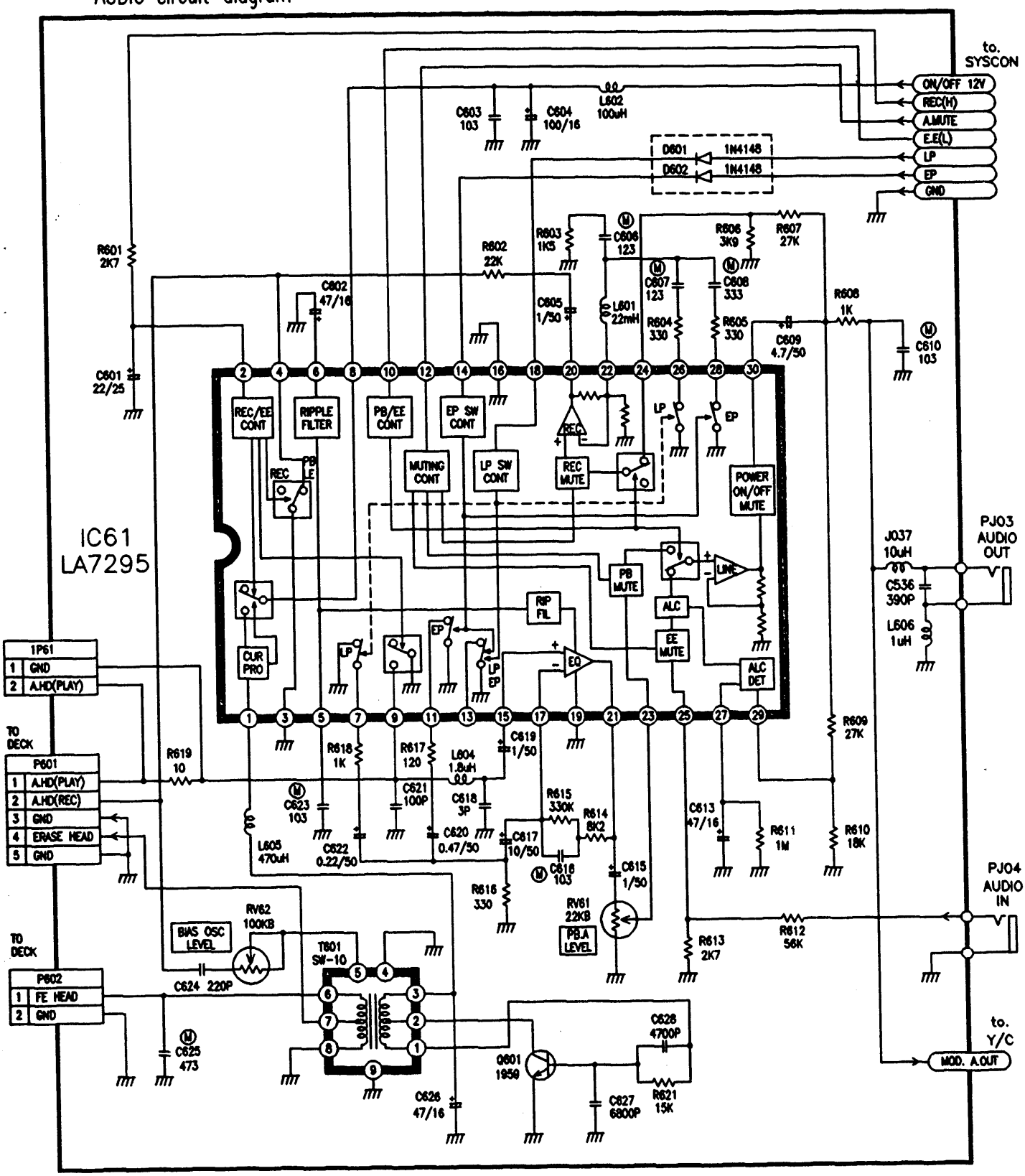
NO	FUNCTION
14	STOP
15	PLAY
16	FF
17	REW
18	PAUSE/STILL
19	REC
20	POWER
22	[illegible]
24	IRK UP
25	IRK DOWN

零件號碼	名稱	材料	規格	處理	數量
	三角法	單位 mm	比例 /		
記號	年月日	承認	校對	設計	
	82.8.24		82.8.24	82.8.23	
	陳水來		黃文邦	林敬紅	

圖名 回路圖

圖號 CR10MC0004-AC

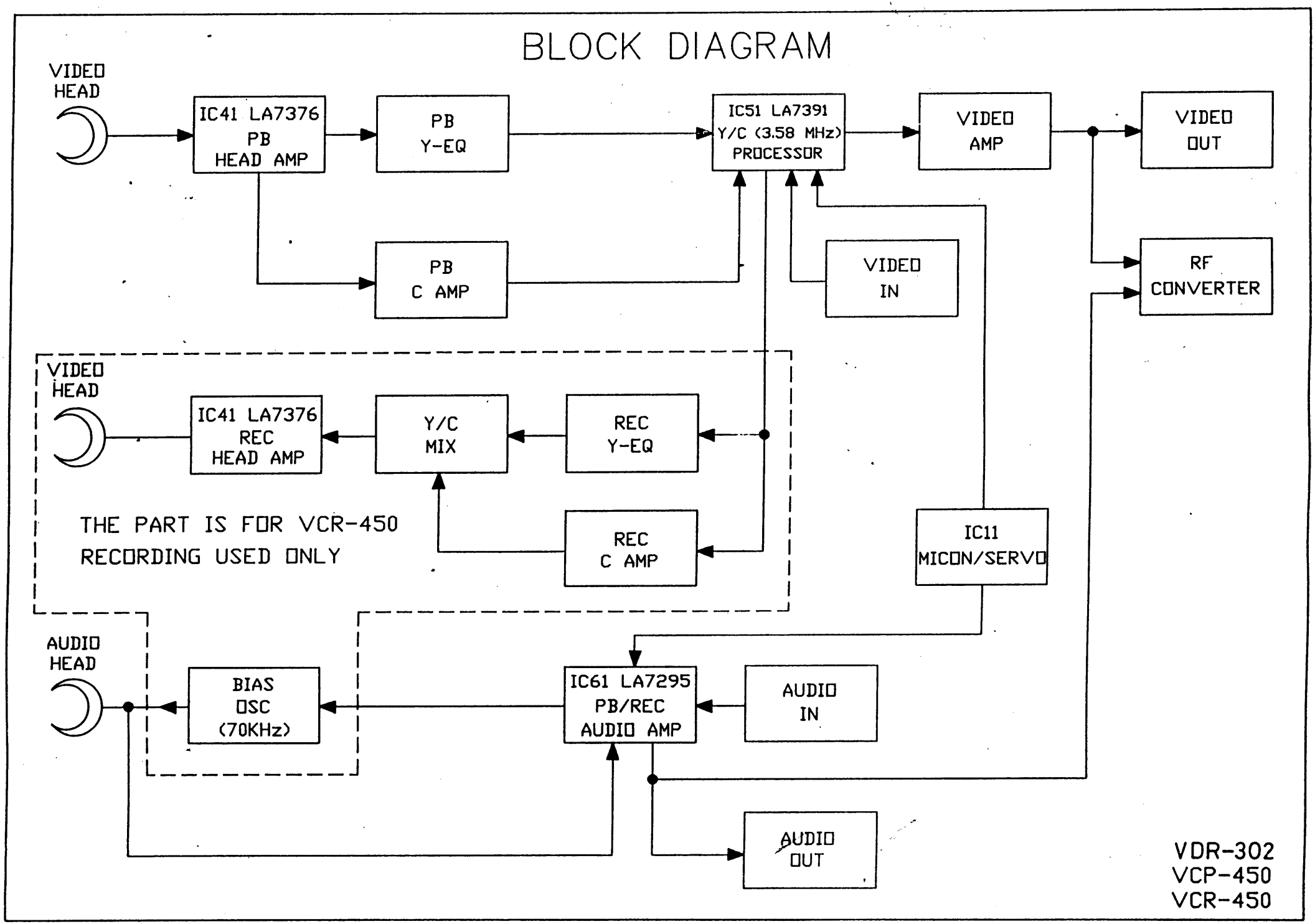
AUDIO circuit-diagram



DATE : 1994/9/16				NAME	MAIN PCB
REV	DESIGN	CHECKED	APPROVED		AUDIO SECTION
A	曾美華			MODEL	VCR-450 B
				SYSTEM	PAL
ACTION ELECTRONICS CO.,LTD.				DWG.NO	05-H3-1303

(SH6) DA

BLOCK DIAGRAM



VDR-302
VCP-450
VCR-450

SHEN ZHEN ACTION ELECTRONICS CO., LTD.

PRICE FOR SPARE PARTS LIST

MODEL NO.:VCR-450A (TEAC) CURRENCY:US$

NO.	PARTS CODE	DESCRIPTION	UNIT	STD Q'TY	U/PRICE	COST	NOTE
1	10-03-1021	IC LA7295 30PIN	PCS	1.0000	0.8006	0.8006	
2	10-03-1022	IC LA7376 DIP16	PCS	1.0000	0.4682	0.4682	
3	10-07-1014	IC LC8992 DIP8	PCS	1.0000	0.4682	0.4682	
4	10-09-1015	IC HA17358 DTP8	PCS	1.0000	0.1221	0.1221	
5	10-09-1019	IC MC4558 DIP 8 MOTOROLA	PCS	1.0000	0.1240	0.1240	
6	10-10-1031	IC 13GK 18B8SS CPU/SERVO	PCS	1.0000	4.0539	4.0539	
7	10-20-1024	IC LA7391A DIP 42 SANYO	PCS	1.0000	3.0633	3.0633	
8	10-21-1007	IC KA8306 DIP 10 SAMSUNG	PCS	1.0000	0.9204	0.9204	
9	10-23-1017	IC M51943 3P	PCS	1.0000	0.3433	0.3433	
10	12-02-1003	TR 2SC945K TO-92 NPN	PCS	2.0000	0.0236	0.0472	
11	12-02-1016	TR C1959 TO-92 NPN	PCS	1.0000	0.0351	0.0351	
12	12-02-2021	TR 2SA733P TO-92 PNP	PCS	1.0000	0.0240	0.0240	
13	12-03-1052	TR 2SD1666R TO-220 NPN	PCS	1.0000	0.2326	0.2326	
14	12-03-1062	TR 2SD1273Q PANASONIC	PCS	1.0000	0.2489	0.2489	
15	12-03-2031	TR HIT8550 TO-92 PNP	PCS	1.0000	0.0352	0.0352	
16	12-04-1002	TR D788CD/2SC2500 TO-92	PCS	4.0000	0.1027	0.4108	
17	12-05-5006A	H.ELE X'TAL 4.433619	PCS	1.0000	0.2351	0.2351	
18	12-05-5009A	H.ELE X'TAL 8.867238	PCS	1.0000	0.3501	0.3501	
19	12-05-5028	X'TAL 10MHZ	PCS	1.0000	0.2342	0.2342	
20	12-62-1002	TR 2SC2412K(B) T146	PCS	14.0000	0.0249	0.3486	
21	12-62-2001	TR 2SA1037K(R) T146	PCS	5.0000	0.0361	0.1805	
22	12-64-1002	TR DTC144EK T146	PCS	6.0000	0.3406	2.0436	
23	12-64-2001	XSTR DTA144ID SMT PNP	PCS	3.0000	0.0461	0.1383	
24	13-05-1000	D IN4001	PCS	2.0000	0.0135	0.0270	
25	13-06-1130	DZ 13V	PCS	1.0000	0.0335	0.0335	
26	13-06-1519	D HZ5C-2/1 5.1V	PCS	1.0000	0.0345	0.0345	
27	13-06-1569	D HZ6B-1 5.6V	PCS	1.0000	0.0345	0.0345	
28	13-06-1689	D HZ7A3 6.8V	PCS	2.0000	0.0345	0.0690	
29	13-06-1909	D HZ9C1 9V DO-35	PCS	2.0000	0.0345	0.0690	
30	13-23-1000	DIODE 1N4148	PCS	16.0000	0.0112	0.1792	
31	14-01-0001	RECEIVER 38KHZ	PCS	1.0000	0.8046	0.8046	
32	16-01-1122	RESISTOR 1K2 1/2W	PCS	1.0000	0.0046	0.0046	
33	16-06-1339	RESISTOR 3.3 OHM 1W S	PCS	1.0000	0.0132	0.0132	
34	16-23-1102	R 1K 1/8W	PCS	4.0000	0.0036	0.0144	
35	16-23-1121	RESISTOR 120 OHM 1/8W T	PCS	3.0000	0.0036	0.0108	
36	16-23-1123	RESISTOR 12K 1/8W T	PCS	1.0000	0.0036	0.0036	
37	16-23-1151	R 150 OHM 1/8W	PCS	2.0000	0.0036	0.0072	
38	16-23-1152	RESISTOR 1K5 1/8W T	PCS	1.0000	0.0036	0.0036	
39	16-23-1221	RESISTOR 220 OHM 1/8W T	PCS	2.0000	0.0036	0.0072	
40	16-23-1222	R 2.2K 1/8W	PCS	4.0000	0.0036	0.0144	
41	16-23-1331	R 330 OHM 1/8W	PCS	11.0000	0.0036	0.0396	
42	16-23-1332	R 3K3 1/8W	PCS	1.0000	0.0036	0.0036	
43	16-23-1472	R 4K7 1/8W	PCS	1.0000	0.0036	0.0036	
44	16-23-1561	R 560 OHM 1/8W	PCS	2.0000	0.0036	0.0072	
45	16-23-1821	R 820 OHM 1/8W	PCS	2.0000	0.0036	0.0072	
46	16-63-1000	RESISTOR 0 OHM 1/8W CP	PCS	24.0000	0.0068	0.1632	
47	16-63-1100	RESISTOR 10 OHM 1/8W CP	PCS	1.0000	0.0068	0.0068	
48	16-63-1102	R 1K 1/8W CP	PCS	21.0000	0.0068	0.1428	
49	16-63-1103	RESISTOR 10K 1/8W CP	PCS	22.0000	0.0068	0.1496	
50	16-63-1104	RESISTOR 100K 1/8W CP	PCS	2.0000	0.0068	0.0136	
51	16-63-1105	RESISTOR 1M 1/8W CP	PCS	3.0000	0.0068	0.0204	
52	16-63-1121	RESISTOR 120 OHM 1/4W CP	PCS	1.0000	0.0068	0.0068	
53	16-63-1122	RESISTOR 1K2 1/4WCP	PCS	2.0000	0.0068	0.0136	
54	16-63-1123	RESISTOR 12K 1/8W CP	PCS	4.0000	0.0068	0.0272	
55	16-63-1152	RESISTOR 1K5 1/8W CP	PCS	4.0000	0.0068	0.0272	
56	16-63-1153	R 15K 1/4W CP	PCS	2.0000	0.0068	0.0136	
57	16-63-1181	R 180 OHM 1/8W CP	PCS	1.0000	0.0068	0.0068	
58	16-63-1182	RESISTOR 1K8 1/4W CP	PCS	2.0000	0.0068	0.0136	
59	16-63-1183	R 18K 1/4W CP	PCS	3.0000	0.0068	0.0204	
60	16-63-1202	RESISTOR 2K 1/4W CP	PCS	4.0000	0.0068	0.0272	
		T O T A L				16.9725	

PRINT DATE:09/04/97 APPROVED: CHECKED: EDITOR:

SHEN ZHEN ACTION ELECTRONICS CO., LTD.

PRICE FOR SPARE PARTS LIST

MODEL NO.:VCR-450A (TEAC) CURRENCY:US$

NO.	PARTS CODE	DESCRIPTION	UNIT	STD Q'TY	U/PRICE	COST	NOTE
61	16-63-1221	RESISTOR 220 OHM 1/4W CP	PCS	1.0000	0.0068	0.0068	
62	16-63-1222	RESISTOR 2K2 1/8W CP	PCS	10.0000	0.0068	0.0680	
63	16-63-1223	R 22K 1/4W CP	PCS	8.0000	0.0068	0.0544	
64	16-63-1271	RESISTOR 270 OHM 1/4W CP	PCS	3.0000	0.0068	0.0204	
65	16-63-1272	RESISTOR 2K7 1/4W CP	PCS	5.0000	0.0068	0.0340	
66	16-63-1273	RESISTOR 27K 1/8W CP	PCS	2.0000	0.0068	0.0136	
67	16-63-1302	RESISTOR 3K 1/4W CP	PCS	1.0000	0.0068	0.0068	
68	16-63-1331	RESISTOR 330 OHM 1/8W CP	PCS	3.0000	0.0068	0.0204	
69	16-63-1332	R 3K3 1/4W CP	PCS	3.0000	0.0068	0.0204	
70	16-63-1333	RESISTOR 33K 1/8W CP	PCS	3.0000	0.0068	0.0204	
71	16-63-1334	TESISTOR 330K 1/4W CP	PCS	1.0000	0.0068	0.0068	
72	16-63-1391	RESISTOR 390 OHM 1/4W CP	PCS	4.0000	0.0068	0.0272	
73	16-63-1392	RESISTOR 3K9 1/4W CP	PCS	7.0000	0.0068	0.0476	
74	16-63-1472	RESISITOR 4K7 1/8W CP	PCS	10.0000	0.0068	0.0680	
75	16-63-1473	RESISTOR 47K 1/4W CP	PCS	6.0000	0.0068	0.0408	
76	16-63-1474	RESISTOR 470K 1/4W CP	PCS	2.0000	0.0068	0.0136	
77	16-63-1512	RESISTOR 5K1 1/4W CP	PCS	1.0000	0.0068	0.0068	
78	16-63-1561	RESISTOR 560 OHM 1/4W CP	PCS	4.0000	0.0068	0.0272	
79	16-63-1562	RESISTOR 5K6 1/8W CP	PCS	2.0000	0.0068	0.0136	
80	16-63-1563	RESISTOR 56K 1/8W CP	PCS	1.0000	0.0068	0.0068	
81	16-63-1681	RESISTOR 680 OHM 1/4W CP	PCS	2.0000	0.0068	0.0136	
82	16-63-1682	RESISTOR 6K8 1/8W CP	PCS	3.0000	0.0068	0.0204	
83	16-63-1750	RESISTOR 75 OHM 1/8W CP	PCS	3.0000	0.0068	0.0204	
84	16-63-1752	RESISTOR 7K5 1/4W CP	PCS	3.0000	0.0068	0.0204	
85	16-63-1821	R 820 OHM 1/4W CP	PCS	1.0000	0.0068	0.0068	
86	16-63-1822	RESISTOR 8K2 1/4W CP	PCS	2.0000	0.0068	0.0136	
87	16-63-1911	RESISTOR 910 OHM 1/4W CP	PCS	3.0000	0.0068	0.0204	
88	16-63-1912	RESISTOR 9K1 1/4W CP	PCS	2.0000	0.0068	0.0136	
89	17-15-2221	CERAMIC CAP 220P T	PCS	1.0000	0.0101	0.0101	
90	17-15-4103	CERAMIC CAP 0.01U/50V SL	PCS	1.0000	0.0086	0.0086	
91	17-15-4104	CC 0.1U/50V SL	PCS	1.0000	0.0211	0.0211	
92	17-22-3101	ELEC CAP 100U/16V M	PCS	4.0000	0.0234	0.0936	
93	17-22-3470	CAPACITOR CE 47UF M 16V	PCS	11.0000	0.0122	0.1342	
94	17-23-3100	ELEC CAP 10U 25V	PCS	5.0000	0.0122	0.0610	
95	17-23-3102	ELEC CAP 1000U/25V M	PCS	1.0000	0.1595	0.1595	
96	17-23-3220	ELEC CAP 22U/25V M	PCS	2.0000	0.0222	0.0444	
97	17-23-3228	EC 0.22U/25V	PCS	1.0000	0.0159	0.0159	
98	17-23-4101	EC:100U 25V	PCS	1.0000	0.0337	0.0337	
99	17-25-3109	EC 1U/50V	PCS	10.0000	0.0121	0.1210	
100	17-25-3478	CAPACITOR CE .47U M 50V	PCS	2.0000	0.0122	0.0244	
101	17-25-3479	ELEC CAP 4.7U/50V T	PCS	5.0000	0.0121	0.0605	
102	17-35-2103	POLYESTER CAP 0.01U/50V K	PCS	4.0000	0.0120	0.0480	
103	17-35-2123	MC 0.012U/50V	PCS	2.0000	0.0120	0.0240	
104	17-35-2223	PEI CAP 0.022U/50V K	PCS	3.0000	0.0120	0.0360	
105	17-35-2333	MC 0.033U 50V K	PCS	1.0000	0.0237	0.0237	
106	17-35-2472	POLYESTER CAP 0.0047U/50V	PCS	1.0000	0.0138	0.0138	
107	17-35-2473	MC 0.047U 50V K	PCS	3.0000	0.0238	0.0714	
108	17-35-2683	MC 0.068V/50V K	PCS	1.0000	0.0336	0.0336	
109	17-35-2822	PET 0.0082U/50V K	PCS	1.0000	0.0138	0.0138	
110	17-52-2109	TAN CAP 1U/16V K	PCS	1.0000	0.0964	0.0964	
111	17-91-3471	EC 470P 10V	PCS	1.0000	0.0547	0.0547	
112	17-92-3470	EC 47U 16V	PCS	10.0000	0.0442	0.4420	
113	18-50-1008	IFT BIAS COIL	PCS	1.0000	0.6819	0.6819	
114	19-40-2010	CHOKE 1UH	PCS	1.0000	0.0390	0.0390	
115	19-40-2100	CHOKE 10UH	PCS	1.0000	0.0390	0.0390	
116	19-40-2150	CHOKE 15UH	PCS	1.0000	0.0390	0.0390	
117	19-40-2181	CHOKE 180UH	PCS	1.0000	0.0390	0.0390	
118	19-40-2189	CHOKE 1.8UU	PCS	1.0000	0.0390	0.0390	
119	19-40-2220	CHOKE EL0606SKI-220K	PCS	1.0000	0.0684	0.0684	
120	19-40-2223	CHOKE 22mH	PCS	1.0000	0.1795	0.1795	
		T O T A L				20.3955	

PRINT DATE:09/04/97 APPROVED: CHECKED: EDITOR:

SHEN ZHEN ACTION ELECTRONICS CO., LTD.

PRICE FOR SPARE PARTS LIST

MODEL NO.:VCR-450A (TEAC) CURRENCY:US$

NO.	PARTS CODE	DESCRIPTION	UNIT	STD Q'TY	U/PRICE	COST	NOTE
121	19-40-2270	CHOKE 27UH	PCS	1.0000	0.0359	0.0359	
122	19-40-2271	CHOKE 270UH	PCS	2.0000	0.0398	0.0796	
123	19-40-2330	CHOKE 33UH	PCS	4.0000	0.0390	0.1560	
124	19-40-2471	CHOKE 470UH	PCS	2.0000	0.0390	0.0780	
125	19-40-2560	CHOKE 56UH	PCS	1.0000	0.0000	0.0000	
126	19-40-2680	CHOKE 68UH	PCS	2.0000	0.0390	0.0780	
127	19-40-2681	CHOKE 680UH	PCS	1.0000	0.0390	0.0390	
128	19-40-2820	CHOKE 82UH	PCS	1.0000	0.0390	0.0390	
129	19-40-3101	CHOKE 100UH	PCS	5.0000	0.0390	0.1950	
130	19-45-1283	DELAY LINE 2H/PAL 4.43MHZ	PCS	1.0000	1.6961	1.6961	
131	21-92-1021	CHIP SEMI VR 1KB	PCS	1.0000	0.0651	0.0651	
132	21-92-1041	CHIP SEMI VR 100KB	PCS	1.0000	0.0651	0.0651	
133	21-92-2231	CHIP SEMI VR 22KB	PCS	3.0000	0.0781	0.2343	
134	21-92-3021	CHIP SEMI VR 3KB VER	PCS	1.0000	0.0781	0.0781	
135	21-92-5021	CHIP SEMI VR 5KB	PCS	2.0000	0.0781	0.1562	
136	21-92-5031	CHIP SEMI VR 50KB	PCS	1.0000	0.0781	0.0781	
137	22-82-0214	SWITCH TACT	PCS	9.0000	0.0651	0.5859	
138	23-01-0004	FUSE HOLDER	PCS	2.0000	0.0154	0.0308	
139	23-05-4501	ACK DC 4.5D	PCS	1.0000	0.0651	0.0651	
140	23-06-0018	JACK RCA	PCS	2.0000	0.1561	0.3122	
141	23-06-0033	RCA JACK/SW (WHITE)	PCS	2.0000	0.1561	0.3122	
142	24-10-0105	1007# 22AWG	PCS	2.0000	0.0494	0.0988	
143	24-10-0223	1007# 22AWG	PCS	1.0000	0.0989	0.0989	
144	24-10-0236	AV CORD PAL/NTSC	PCS	1.0000	0.6766	0.6766	
145	24-51-1002	PIN 1P 1.5D STRAIGHT	PCS	9.0000	0.0072	0.0648	
146	24-51-1301	WAFER 13P	PCS	2.0000	0.1561	0.3122	
147	24-51-2001	WAFER 2P 2mm STRAIGHT	PCS	1.0000	0.0416	0.0416	
148	24-53-4001	WAFER 4P G.S	PCS	1.0000	0.1811	0.1811	
149	24-56-5001	WAFER 5P	PCS	1.0000	0.0604	0.0604	
150	24-56-6001	STRAIGHT 6P 2MM (MOLEX)	PCS	1.0000	0.0604	0.0604	
151	24-AA-1421	WAFER 14PIN 2MM (ELCO)	PCS	1.0000	0.1944	0.1944	
152	24-H3-1201	HOUSING 12P VCP-450	PCS	1.0000	0.5804	0.5804	
153	24-H3-1301	HOUSING 13P VCP-450	PCS	1.0000	0.5805	0.5805	
154	24-H3-1302	HOUSING 13P VCP-450	PCS	1.0000	0.3574	0.3574	
155	24-H3-2001	HOUSING 2P VCP-450	PCS	1.0000	0.1286	0.1286	
156	24-H3-6001	HOUSING 6P VCP-450	PCS	1.0000	0.5298	0.5298	
157	25-03-2021	FUSE T2A/250V 5.2*20 VDE	PCS	1.0000	0.1067	0.1067	
158	28-13-1030	CHIP CERAMIC CAP 3P/25V	PCS	1.0000	0.0221	0.0221	
159	28-13-1050	CHIP CERAMIC CAP 5P/25V	PCS	3.0000	0.0221	0.0663	
160	28-13-1101	CHIP CERAMIC CAP 100P/25V	PCS	3.0000	0.0221	0.0663	
161	28-13-1120	CHIP CERAMIC CAP 12P/25V	PCS	2.0000	0.0221	0.0442	
162	28-13-1121	CHIP CERAMIC CAP 120P/25V	PCS	1.0000	0.0227	0.0227	
163	28-13-1151	CHIP CERAMIC CAP 150P/25V	PCS	1.0000	0.0273	0.0273	
164	28-13-1180	CHIP CERANIC CAP 18P/25V	PCS	1.0000	0.0221	0.0221	
165	28-13-1181	CHIP CERAMIC CAP 180P/25V	PCS	2.0000	0.0273	0.0546	
166	28-13-1200	CHIP CERAMIC CAP 20P/25V	PCS	1.0000	0.0221	0.0221	
167	28-13-1220	CHIP CERAMIC CAP 22P/25V	PCS	1.0000	0.0221	0.0221	
168	28-13-1221	CHIP CERAMIC CAP 220P/25V	PCS	2.0000	0.0247	0.0494	
169	28-13-1270	CHIP CERAMIC CAP 27P/25V	PCS	1.0000	0.0221	0.0221	
170	28-13-1330	CHIP CERAMIC CAP 33P/25V	PCS	2.0000	0.0221	0.0442	
171	28-13-1391	CHIP CERAMIC CAP 390P/25V	PCS	2.0000	0.0338	0.0676	
172	28-13-1470	CHIP CERAMIC CAP 47P/25V	PCS	1.0000	0.0221	0.0221	
173	28-13-1471	CHIP CERAMIC CAP 470P/25V	PCS	1.0000	0.0291	0.0291	
174	28-13-1680	CHIP CERAMIC CAP 68P/25V	PCS	2.0000	0.0221	0.0442	
175	28-13-1682	CHIP CERAMIC CAP6800P/25V	PCS	1.0000	0.0273	0.0273	
176	28-13-1820	CHIP CERAMIC CAP 82P/25V	PCS	4.0000	0.0221	0.0884	
177	28-13-2331	CHIP CERAMIC CAP 330P/25V	PCS	1.0000	0.0325	0.0325	
178	28-13-4102	CHIP CERAMIC CAP .001U/25V	PCS	3.0000	0.0260	0.0780	
179	28-13-4103	CHIP CERAMIC CAP .01U/25V	PCS	33.0000	0.0312	1.0296	
180	28-13-4104	CHIP CERAMIC CAP 0.1U/25V	PCS	11.0000	0.0390	0.4290	
		T O T A L				31.1811	

PRINT DATE:09/04/97 APPROVED: CHECKED: EDITOR:

SHEN ZHEN ACTION ELECTRONICS CO., LTD.

PRICE FOR SPARE PARTS LIST

MODEL NO.:VCR-450A (TEAC) CURRENCY:US$

NO.	PARTS CODE	DESCRIPTION	UNIT	STD Q'TY	U/PRICE	COST	NOTE
181	28-13-4223	CHIP CERAMIC CAP.022U/25V	PCS	1.0000	0.0416	0.0416	
182	28-15-1510	CHIP CERAMIC CAP 51P/50V	PCS	1.0000	0.0221	0.0221	
183	29-32-5001	LED 5D RED	PCS	5.0000	0.0520	0.2600	
184	29-35-5001	LED 5D GREEN	PCS	1.0000	0.0547	0.0547	
185	30-01-0043	UL#26 4/3 BK	PCS	2.0000	0.0039	0.0078	
186	30-01-1106	WIRE UL#26 10/6 BR	PCS	2.0000	0.0062	0.0124	
187	30-01-3046	WIRE UL#26 4/6 OR	PCS	1.0000	0.0039	0.0039	
188	30-01-3176	WIRE UL # 26 17/6 OR	PCS	1.0000	0.0078	0.0078	
189	30-10-0010	BARE WIRE 10MM	PCS	26.0000	0.0011	0.0286	
190	31-01-0350	UL TUBE 3X50CM	PCS	1.0000	0.0130	0.0130	
191	31-04-0010	NYLON TIE 10CM	PCS	6.0000	0.0042	0.0252	
192	33-14-1592	BATTERY SUM-4 NO MERCURY	PCS	2.0000	0.0747	0.1494	
193	34-B8-0304	DECK SVD-5088P PAL	PCS	1.0000	52.5060	52.5060	
194	38-93-0204	CAR CORD 2A	PCS	1.0000	0.9108	0.9108	
195	39-48-9400	AC ADAPTOR "SAA"	PCS	1.0000	3.8465	3.8465	
196	42-02-0010	REM CON 10KEYS VCR-450	PCS	1.0000	3.3718	3.3718	
197	51-19-0218	REM PLT VCR-450	PCS	1.0000	0.1692	0.1692	
198	51-B8-0280	JACK PLATE	PCS	1.0000	0.1692	0.1692	
199	51-H3-0101	SENSOR COVER	PCS	1.0000	0.0390	0.0390	
200	55-02-2013	SPRTNG (FOR DOOR) 450	PCS	1.0000	0.0443	0.0443	
201	58-02-1010	铝泊纸 220*195 VCP-050BF	PCS	1.0000	0.1386	0.1386	
202	58-21-1044	FTBER VCR	PCS	1.0000	0.0973	0.0973	
203	58-21-4006	FIBER WASHER 3*8*0.5T	PCS	1.0000	0.0053	0.0053	
204	64-01-5006	STANDER 91	PCS	2.0000	0.0289	0.0578	
205	64-04-6012	LED SLEEVE VCP-450	PCS	6.0000	0.0145	0.0870	
206	69-21-3010	SCREW TP 3*10 RD+	PCS	3.0000	0.0034	0.0102	
207	69-41-3008	SCREW MTP 3*8 RD+	PCS	2.0000	0.0049	0.0098	
208	69-42-3006	SCREW MTP 3*6 RD+ BK	PCS	7.0000	0.0053	0.0371	
209	69-70-3006	SCREW TPW3*6 RD+	PCS	1.0000	0.0038	0.0038	
210	69-70-4010	SCREW TPW 4*10 RD+	PCS	3.0000	0.0062	0.0186	
211	85-H3-1301	MAIN PCB 248*123*1.6MM	PCS	1.0000	0.5827	0.5827	
212	85-H3-2101A	H/A PCB 141*66*1.6mm	PCS	1.0000	0.2342	0.2342	
213	85-H3-2201	KEY PCB 248*40*1.6mm	PCS	1.0000	0.3438	0.3438	
214	87-A8-0901	WIRE CLAMP (003)	PCS	1.0000	0.0233	0.0233	
215	87-B8-0106	TOP CAB (BLACK)	PCS	1.0000	1.5148	1.5148	
216	87-B8-0801	INSERT A	PCS	2.0000	0.0341	0.0682	
217	87-B8-0901	INSERT B	PCS	2.0000	0.0341	0.0682	
218	87-B8-1401	GROUND PLATE (TOP) 050	PCS	1.0000	0.0278	0.0278	
219	87-H3-0101	SHTELD PLT	PCS	1.0000	0.1232	0.1232	
220	87-H3-0201	HEAT SINK VCP-450	PCS	1.0000	0.1237	0.1237	
221	87-H3-0301	SHTELD BOX-BODY 隔离罩本体	PCS	1.0000	0.1025	0.1025	
222	87-H3-0401	SHTELD BOX COVER 隔离罩盖	PCS	1.0000	0.1253	0.1253	
223	88-B8-0212	BOTTOM CAB "FTZ" 450	PCS	1.0000	1.9036	1.9036	
224	88-H3-0101	F-PANEL VCR450"PAL/PN"CM	PCS	1.0000	1.0055	1.0055	
225	88-H3-0201	REFLECTOR KNOB A	PCS	1.0000	0.0234	0.0234	
226	88-H3-0301	REFLECTOR KNOB B VCR-450	PCS	1.0000	0.0344	0.0344	
227	88-H3-0401	REFLECTOR KNOB C	PCS	1.0000	0.0344	0.0344	
228	88-H3-0501	REFLECTOR KNOB D	PCS	1.0000	0.0344	0.0344	
229	88-H3-0601	REFLECTOR KNOB E	PCS	1.0000	0.0344	0.0344	
230	88-H3-0801	FUNCTION KNOB	PCS	1.0000	0.1228	0.1228	
231	88-H3-0901	JACK PANEL	PCS	1.0000	0.1020	0.1020	
232	90-E9-0002	TV PCB PLT	PCS	1.0000	0.0078	0.0078	
		T O T A L				99.9703	

PRINT DATE:09/04/97 APPROVED: CHECKED: EDITOR:

VIDEO circuit-diagram

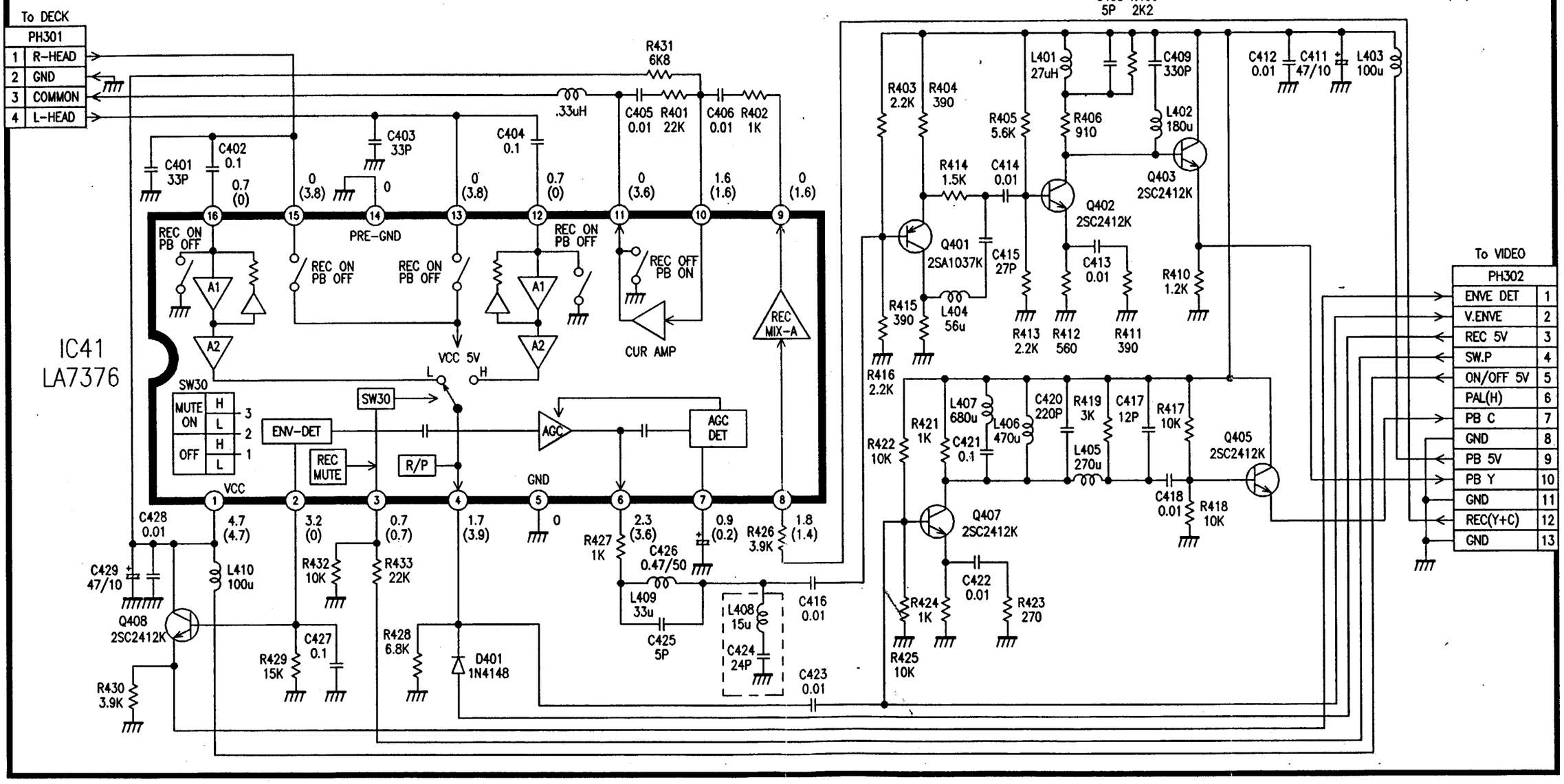
IC51
LA7391A

IC52
MSM7400RS

DATE : 1993/11/23				NAME	MAIN PCB
REV	DRAWING	CHECKED	APPROVED		VIDEO SECTION
A	최 초 제 작			MODEL	VCR-450B
ACTION ELECTRONICS CO.,LTD.				SYSTEM	PAL
				DWG.NO	05-H3-1303

VCR-420 (SH2) DV

PRE-AMP circuit-diagram



DATE : 1995/7/29				NAME	PRE-AMP PCB
REV	DRAWING	CHECKED	APPROVED		FULL SECTION
A	毛艳英			MODEL	VCR-450 N /VCP-450N
ACTION ELECTRONICS CO.,LTD.				SYSTEM	NTSC
				DWG.NO.	05-H3-1101

(SH4) DE

SERVO/SYSCON circuit-diagram

IC31
DBL2018-C
KA8306

IC11
13GK1899SS

IC12
HA17358

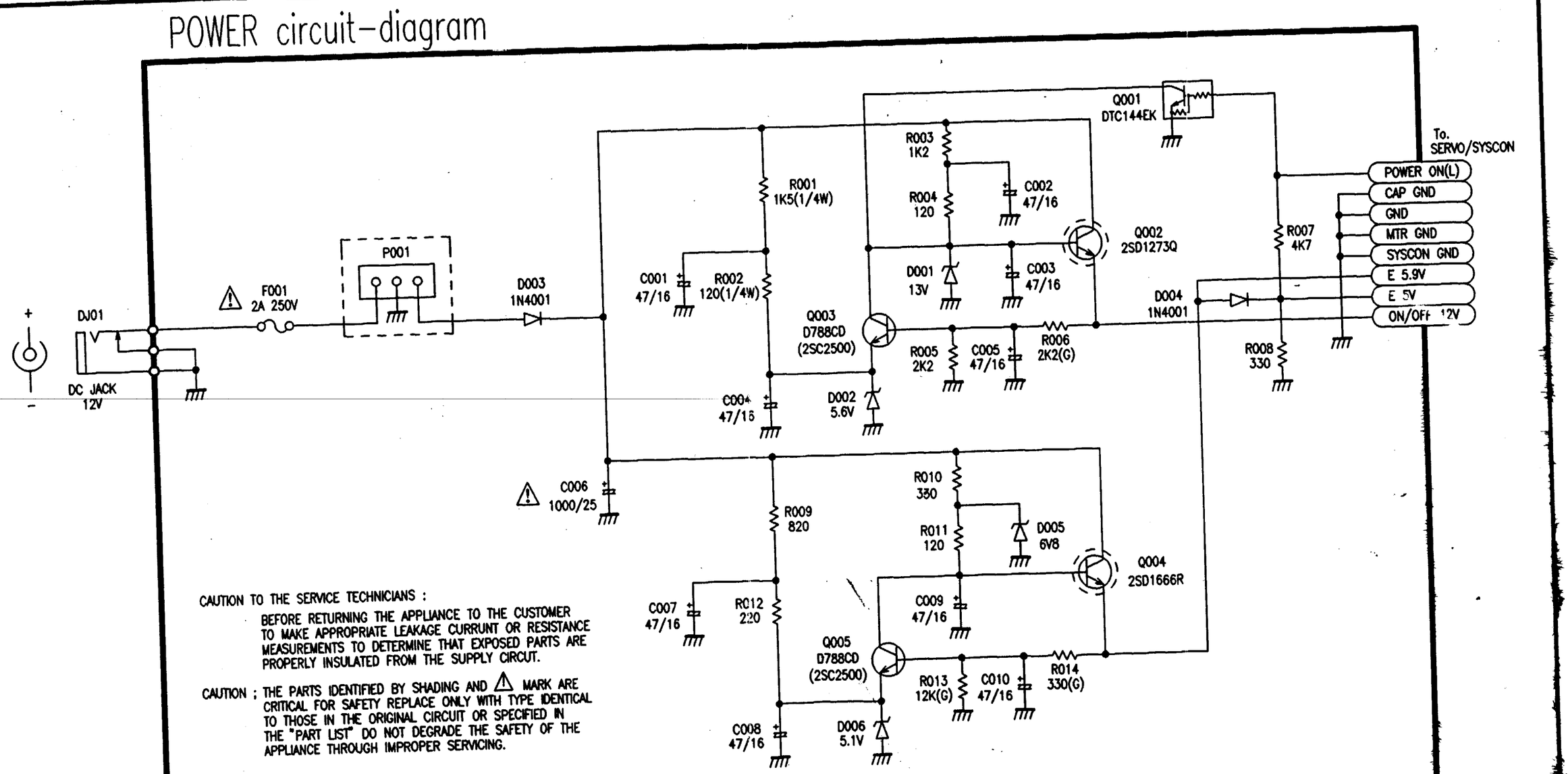
IC32
M51943B

IC13
MC4558C(CTL)

DATE : 1994/1/20				NAME	MAIN PCB
REV	DRAWING	CHECKED	APPROVED		SERVO-SYSCON SECTION
A	曾美華			MODEL	VCR-450 B
ACTION ELECTRONICS CO.,LTD.				SYSTEM	M-PAL/NTSC
				DWG.NO	05-M3-1303

(SH3) 05

POWER circuit-diagram



CAUTION TO THE SERVICE TECHNICIANS :

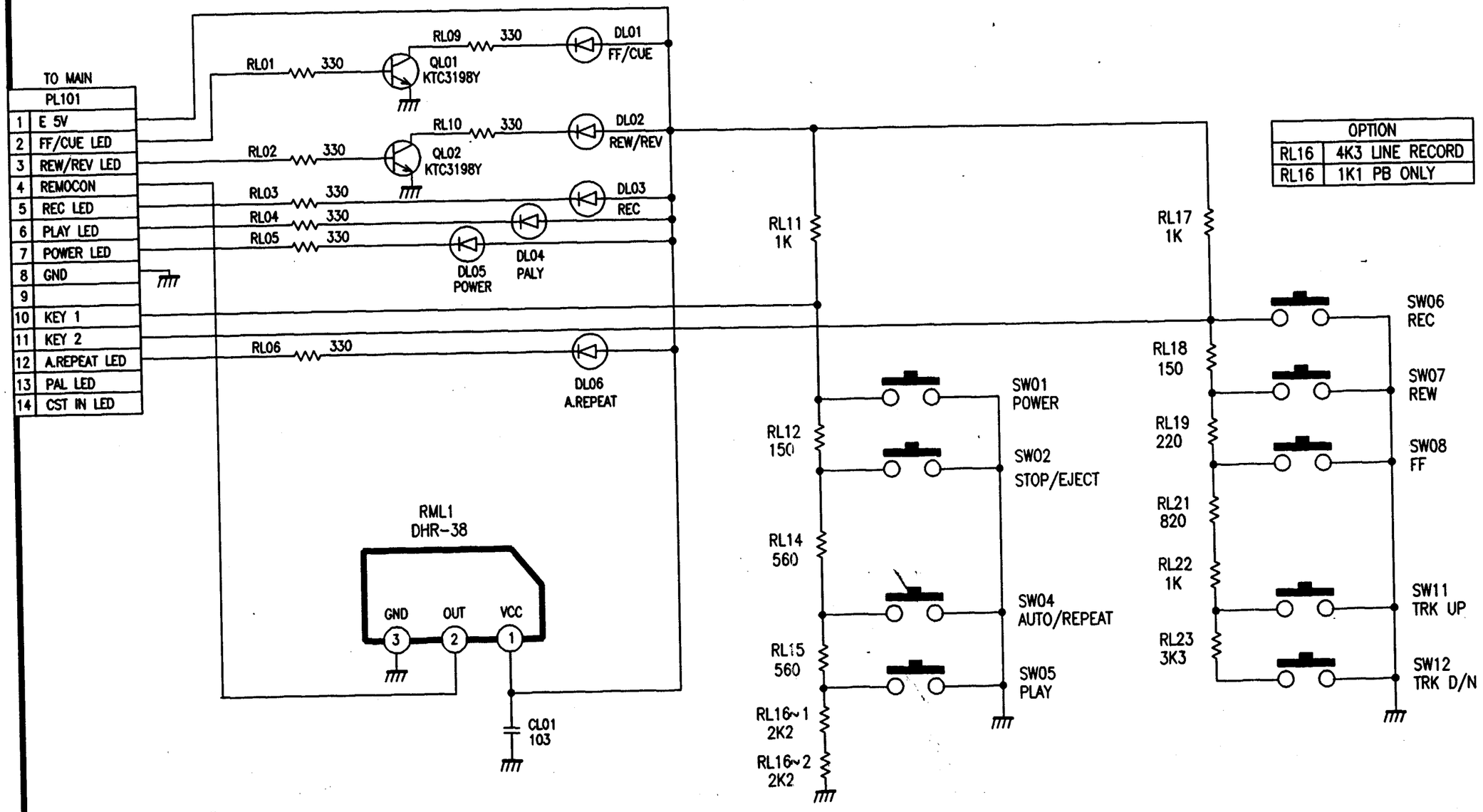
BEFORE RETURNING THE APPLIANCE TO THE CUSTOMER TO MAKE APPROPRIATE LEAKAGE CURRUNT OR RESISTANCE MEASUREMENTS TO DETERMINE THAT EXPOSED PARTS ARE PROPERLY INSULATED FROM THE SUPPLY CIRCUT.

CAUTION ; THE PARTS IDENTIFIED BY SHADING AND ⚠ MARK ARE CRITICAL FOR SAFETY REPLACE ONLY WITH TYPE IDENTICAL TO THOSE IN THE ORIGINAL CIRCUIT OR SPECIFIED IN THE "PART LIST" DO NOT DEGRADE THE SAFETY OF THE APPLIANCE THROUGH IMPROPER SERVICING.

DATE : 1993/7/9				NAME	POWER PCB
REV	DRAWING	CHECKED	APPROVED		FULL SECTION
A	曾美華			MODEL	VCR-450/VCP-450/VDR-302
ACTION ELECTRONICS CO.,LTD.				SYSTEM	N-PAL/NTSC
				DWG.NO	05-H3-1301

(SH7) DP

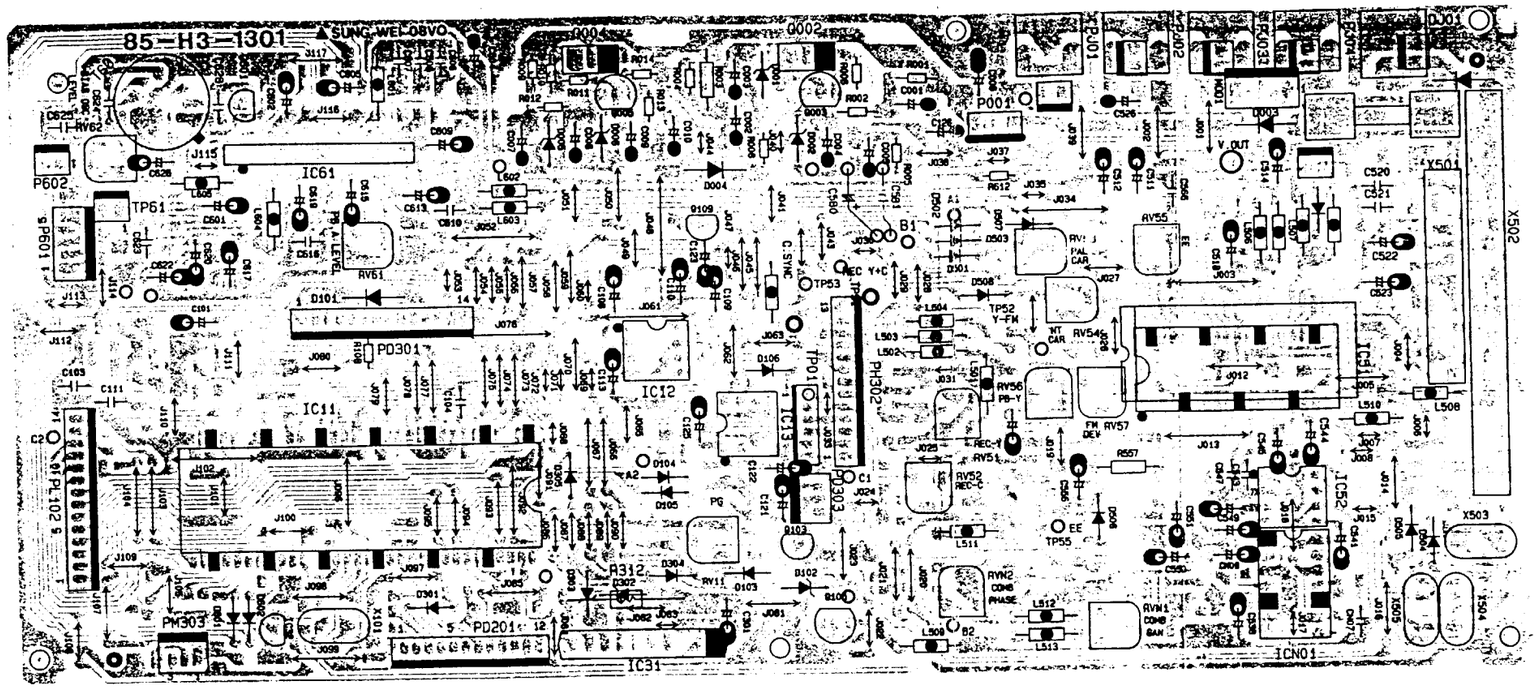
LOGIC SW circuit-diagram.



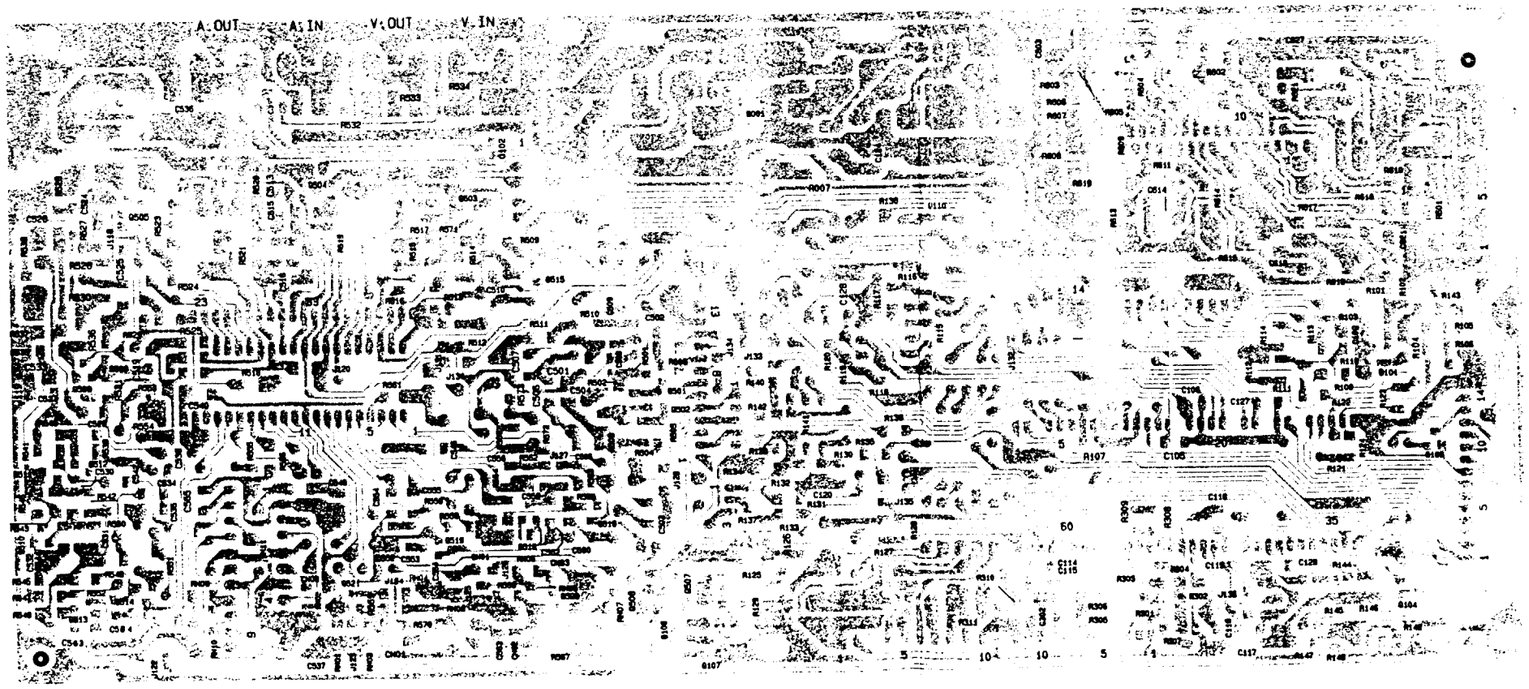
DATE : 1993/11/24				NAME	LOGIC SW PCB
REV	DRAWING	CHECKED	APPROVED		FULL SECTION
A	曾美華			MODEL	VCR-450
				SYSTEM	N-PAL/NTSC
ACTION ELECTRONICS CO.,LTD.				DWG.NO	05-H3-1303

DL

MAIN P.C.B TOP VIEW



MAIN P.C.B BOTTOM VIEW



报表名称:　　深圳亿声电子有限公司　　核准:

报表日期:11/02/98　　**** B.O.M.报 表 ***

客户机种:TEAC<VCR-450A (TEAC)>　　装配料号:02-H3-2102　　品名规格:H/A PCB ASS'Y W/O RF.450B　　页次:　1/1

项	材料编号	品名规格	单位	用量	参考配置	供应商
1	04-H3-2102	H/A PCB ASS'Y W/O RF-450B	PCS	1		
2	10-03-1022	IC LA7376 DIP16	PCS	1	IC41	
3	17-22-3470	CAPACITOR CE 47UF M 16V	PCS	2	C411,429	
4	17-25-3478	CAPACITOR CE .47U M 50V	PCS	1	C426	
5	19-40-2181	CHOKE 180UH	PCS	1	L402	
6	19-40-2270	CHOKE 27UH	PCS	1	L401	
7	19-40-2271	CHOKE 270UH	PCS	1	L405	
8	19-40-2330	CHOKE 33UH	PCS	1	L409	
9	19-40-2471	CHOKE 470UH	PCS	1	L406	
10	19-40-2560	CHOKE 56UH	PCS	1	L404	
11	19-40-2681	CHOKE 680UH	PCS	1	L407	
12	19-40-3101	CHOKE 100UH	PCS	2	L403,410	
13	24-10-0105	1007# 22AWG	PCS	1		
14	24-53-4001	WAFTR 4P G.S	PCS	1	PH301	
15	24-H3-1301	HOUSING 13P VCP-450	PCS	1	PH302	
16	30-01-0043	UL#26 4/3 BK	PCS	1		
17	80-01-0002	SOLDER 60%-40%	KG	0.0042		
18	87-H3-0301	SHIELD BOX-BODY 隔离罩本体	PCS	1		
19	87-H3-0401	SHIELD BOX COVER 隔离罩盖	PCS	1		

*** END ***

报表名称:　　深圳松声电子有限公司　　核准:

报表日期:11/02/98　　**** B.O.M.报 表 ***

客户机种:TEAC<VCR-450A (TEAC)>　　装配料号:03-H3-2102　　品名规格:H/A PCB ASS'Y W/O RF-450B　　页次:　1/1

项	材料编号	品名规格	单位	用量	参考配置	供应商
1	13-23-1000	DIODE 1N4148	PCS	1		
2	30-10-0050	BARE WIRE 5mm	PCS	2	J404 ,JX	
3	30-10-0070	BARE WIRE 7.0mm	PCS	3	J401,402,403	
4	85-H3-2101A	H/A PCB 141*66*1.6mm	PCS	1		

*** END ***

报表名称:　　深圳忆声电子有限公司　　核准:

报表日期:11/02/08　　**** B.O.M.报 表 ***

客户机种:TEAC<VCR-450A (TEAC)>　　装配料号:04-H3-2102　　品名规格:H/A PCB ASS'Y W/O RF-450B　　页次:　　1/1

项	材料编号	品名规格	单位	用量	参考配置	供应商
1	03-H3-2102	H/A PCB ASS'Y W/O RF-450B	PCS	1		
2	12-62-1002	TR 2SC2412K(R) T146	PCS	5	Q402.403.405.407.408	
3	12-62-2001	TR 2SA1037K(R) T146	PCS	1	Q401	
4	16-63-1102	R 1K 1/8W CP	PCS	4	R402.421.424.427	
5	16-63-1103	RESISTOR 10K 1/4W CP	PCS	5	R417.418.422.425.432	
6	16-63-1122	RESISTOR 1K2 1/4WCP	PCS	1	R410	
7	16-63-1123	RESISTOR 12K 1/4W CP	PCS	1	R429	
8	16-63-1152	RESISTOR 1K5 1/4W CP	PCS	1	R414	
9	16-63-1222	RESISTOR 2K2 1/4W CP	PCS	4	R403.409.413.416	
10	16-63-1223	R 22K 1/4W CP	PCS	2	R401.433	
11	16-63-1271	RESISTOR 270 OHM 1/4W CP	PCS	1	R423	
12	16-63-1302	RESISTOR 3K 1/4W CP	PCS	1	R419	
13	16-63-1391	RESISTOR 390 OHM 1/4W CP	PCS	3	R411.404.415	
14	16-63-1302	RESISTOR 3K9 1/4W CP	PCS	2	R426.430	
15	16-63-1561	RESISTOR 560 OHM 1/4W CP	PCS	1	R412	
16	16-63-1562	RESISTOR 5K6 1/4W CP	PCS	1	R405	
17	16-63-1682	RESISTOR 6K8 1/4W CP	PCS	2	R428.431	
18	16-63-1911	RESISTOR 910 OHM 1/4W CP	PCS	1	R406	
19	28-13-1050	CHIP CERAMIC CAP 5P/25V	PCS	2	C408.425	
20	28-13-1121	CHIP CERAMIC CAP 120P/25V	PCS	1	C417	
21	28-13-1221	CHIP CERAMIC CAP 220P/25V	PCS	1	C420	
22	28-13-1270	CHIP CERAMIC CAP 27P/25V	PCS	1	C415	
23	28-13-1330	CHIP CERAMIC CAP 33P/25V	PCS	2	C401.403	
24	28-13-2331	CHIP CERAMIC CAP 330P/25V	PCS	1	C410	
25	28-13-4103	CHIP CERAMIC CAP .01U/25V	PCS	10	C405.406.412.413.414.416.418.422.423.428	
26	28-13-4104	CHIP CERAMIC CAP 0.1U/25V	PCS	4	C402.404.421.427	

*** END ***

报表名称:　　深圳忆声电子有限公司　　核准:

报表日期:11/02/98　　**** B.O.M.报 表 ***

客户机种:TEAC<VCR-450A (TEAC)>　　装配料号:02-H3-2281　　品名规格:VCR-450B KEY PCB ASS'Y　　页次:　1/1

项	材料编号	品名规格	单位	用量	参考配置	供应商
1	03-H3-2281	VCR-450 KEY PCB ASS'Y	PCS	1		
2	12-02-1003	TR 2SC945K TO-92 NPN	PCS	2	Q1.01.02	
3	14-01-0001	RECEIVER 38KHZ	PCS	1		
4	17-15-4103	CERAMIC CAP 0.01U/50V SL	PCS	1	C1.01	
5	22-82-0214	SWITCH TACT	PCS	9	SW01.02.04.05.06.07.08.11.12	
6	24-H3-1302	HOUSING 13P VCP-450	PCS	1	PL101	
7	29-32-5001	LED 5D RED	PCS	5	D1.01.02.03.05.06	
8	29-35-5001	LED 5D GREEN	PCS	1	D1.04	
9	31-04-0010	NYLON TIE 10CM	PCS	3		
10	64-04-6012	LED SLEEVE VCP-450	PCS	6		
11	80-01-0002	SOLDER 60%-40%	KG	0.0022		

*** END ***

报表名称:　　深圳亿声电子有限公司　　核准:

报表日期:11/02/98　　**** B.O.M.报 表 ***

客户机种:TEAC<VCR-450A (TEAC)>　　装配料号:03-H3-2281　　品名规格:VCR-450 KEY PCB ASS'Y　　页次:　1/1

项	材料编号	品名规格	单位	用量	参考配置	供应商
1	16-23-1102	R 1K 1/8W	PCS	3	RL11,17,22	
2	16-23-1151	R 150 OHM 1/8W	PCS	2	RL12,18	
3	16-23-1221	RESISTOR 220 OHM 1/8W T	PCS	1	RL19	
4	16-23-1222	R 2.2K 1/8W	PCS	2	RL16-1,16-2	
5	16-23-1331	R 330 OHM 1/8W	PCS	8	RL01,02,03,04,05,06,09,10	
6	16-23-1332	R 3K3 1/8W	PCS	1	RL23	
7	16-23-1561	R 560 OHM 1/8W	PCS	2	RL14,15	
8	16-23-1821	R 820 OHM 1/8W	PCS	1	RL21	
9	30-10-0075	JUMP 7.5MM	PCS	3		
10	85-H3-2201	KEY PCB 248*40*1.6mm		1		

*** END ***

报表名称: 深圳松声电子有限公司 核准:

报表日期:11/02/98 **** B.O.M.报 表 ****

客户机种:TEAC<VCR-450A (TEAC)> 装配料号:02-H3-0707 品名规格:VCR-450A (TEAC) FINAL ASS'Y 页次: 1/1

项	材料编号	品名规格	单位	用量	参考配置	供应商
1	02-H3-1801A	VCR-420I MAIN PCB ASS'Y	EA	1		
2	02-H3-2102	H/A PCB ASS'Y W/O RF.450B	EA	1		
3	02-H3-2281	VCR-450B KEY PCB ASS'Y	EA	1		
4	24-10-0105	1007# 22AWG	PCS	1		
5	24-10-0223	1007# 22AWG	PCS	1		
6	24-10-0236	AV CORD PAL/NTSC	PCS	1		
7	31-01-0350	UL TUBE 3X50CM	PCS	1		
8	31-04-0010	NYLON TIE 10CM	PCS	3		
9	33-14-1592	BATTERY SUM-4 NO MERCURY	PCS	2		
10	34-B8-0304	DECK SVD-5088P PAL	PCS	1		
11	38-93-0204	CAR CORD 2A	PCS	1		
12	39-48-0400	AC ADAPTOR "SAA"	PCS	1		
13	42-02-0010	REM CON 10KEYS VCR-450	PCS	1		
14	50-H3-0707	MODL PLT "TEAC"	PCS	1		
15	51-10-0240	REM PLT VCR-450A	PCS	1		
16	51-B8-0281A	JACK PLT VCR-450A TEAC	PCS	1		
17	51-H3-0101	SENSOR COVER	PCS	1		
18	55-02-2013	SPRING (FOR DOOR) 450	PCS	1		
19	58-02-1010	铝油纸 220*195 VCP-050BF	PCS	1		
20	58-21-1044	FIBER VCR	PCS	1		
21	58-21-4006	FIBER WASHER 3*8*0.5T	PCS	1		
22	64-01-5006	STANDER 91	PCS	2		
23	69-21-3010	SCREW TP 3*10 RD+	PCS	3		
24	69-42-3006	SCREW MTP 3*6 RD+ BK	PCS	3		
25	69-42-3006	SCREW MTP 3*6 RD+ BK	PCS	4		
26	69-70-3006	SCREW TPW3*6 RD+	PCS	1		
27	69-70-4010	SCREW TPW 4*10 RD+	PCS	3		
28	87-A8-0901	WIRE CLAMP (003)	PCS	1		
29	87-B8-0106	TOP CAB (BLACK)	PCS	1		
30	87-B8-0801	INSERT A	PCS	2		
31	87-B8-0901	INSERT B	PCS	2		
32	87-B8-1401	GROUND PLATE (TOP) 050	PCS	1		
33	87-H3-0101	SHIELD PLT	PCS	1		
34	88-B8-0212	BOTTOM CAB "FTZ" 450	PCS	1		
35	88-H3-0109	F-PANEL VCR-450A GM	PCS	1		
36	88-H3-0201	REFLECTOR KNOB A	PCS	1		
37	88-H3-0301	REFLECTOR KNOB B VCR-450	PCS	1		
38	88-H3-0401	REFLECTOR KNOB C	PCS	1		
39	88-H3-0501	REFLECTOR KNOB D	PCS	1		
40	88-H3-0601	REFLECTOR KNOB E	PCS	1		
41	88-H3-0721	DOOR "TEAC" GM	PCS	1		
42	88-H3-0801	FUNCTION KNOB	PCS	1		
43	88-H3-0901	JACK PANEL	PCS	1		
44	90-81-1706	CARTON "E.P" "LABEL""ICES"	PCS	1.2500		
45	90-G1-0407B	SERIAL LABEL (双维)	PCS	1		
46	90-H3-0101	BAR CODE LABEL (TEAC)	PCS	1		
47	90-H3-0707	AC ADAPTOR LABEL "SAA" 240V	PCS	1		
48	91-H3-0707	IB "TEAC" VCR-450A	PCS	1		
49	91-L1-2122	EA W/C 440A "TEAC"	PCS	1		
50	93-H3-0707	GB "TEAC" VCR-450A	PCS	1		
51	94-H3-0707	CTN "TEAC" VCR-450A	PCS	0.2500		
52	96-H3-0001	POLYFORM 保丽龙(前后乙组)	PCS	1		
53	97-06-1024	HDME POLYBAG	PCS	1		
54	97-06-1634	PE BAG ACCESSORY	PCS	1		
55	97-06-4047	PE BAG	PCS	1		
56	ST-00-1	封箱胶带 48m/m	EA	0.0900		
57	ST-04-3	玻璃胶带	EA	0.0067		
58	ST-04-7	干燥剂	PCS	1		

*** END) ***

报表名称:　　深圳忆声电子有限公司　　核准:

报表日期:11/02/98　　**** B.O.M.报 表 ****

客户机种:TEAC(VCR-450A (TEAC))　　装配料号:02-H3-1801A　　品名规格:VCR-420I MAIN PCB ASS'Y　　页次: 1/2

项	材料编号	品名规格	单位	用量	参考配置	供应商
1	04-H3-1801	MAIN PCB ASS'Y VCR-450B	PCS	1		
2	10-03-1021	IC LA7295 30PIN	PCS	1	IC61	
3	10-07-1014	IC LC8992 DIP8	PCS	1	IC52	
4	10-09-1015	IC HA17358 DIP8	PCS	1	IC12	
5	10-09-1019	IC MC4558 DIP 8 MOTOROLA	PCS	1	IC13	
6	10-10-1031	IC 13CK 18B8SS CPU/SERVO	PCS	1	IC11	
7	10-20-1024	IC LA7391A DIP 42 SANYO	PCS	1	IC51	
8	10-21-1007	IC KA8306 DIP 10 SAMSUNG	PCS	1	IC31	
9	10-23-1017	IC M51943 3P	PCS	1	IC32	
10	12-02-1016	TR C1959 TO-92 NPN	PCS	1	Q601	
11	12-02-2021	TR 2SA733P TO-92 PNP	PCS	1	Q103	
12	12-03-1052	TR 2SD1666R TO-220 NPN	PCS	1	Q004	
13	12-03-1062	TR 2SD1273Q PANASONIC	PCS	1	Q002	
14	12-03-2031	TR HTT8550 TO-92 PNP	PCS	1	Q102	
15	12-04-1002	TR D788CD/2SC2500 TO-92	PCS	4	Q003.005.105.109	
16	12-05-5006A	H.FLE X'TAL 4.433619	PCS	1	X504	
17	12-05-5009A	H.FLE X'TAL 8.867238	PCS	1	X503	
18	12-05-5028	X'TAL 10MHZ	PCS	1	X101	
19	13-05-1000	D IN4001	PCS	2	D003.004	
20	13-06-1130	DZ 12V	PCS	1	D001	
21	13-06-1519	D HZ5C-2/1 5.1V	PCS	1	D006	
22	13-06-1569	D HZ6B-1 5.6V	PCS	1	D002	
23	13-06-1689	D HZ7A3 6.8V	PCS	2	D005.303	
24	13-06-1909	D HZ9C1 9V DO-35	PCS	2	D102.302	
25	16-01-1122	RESISTOR 1K2 1/2W	PCS	1	R003	
26	16-06-1339	RESISTOR 3.3 OHM 1W S	PCS	1	R312	
27	17-15-1221	CAPACITOR CC 220P J 50V	PCS	1	C624	
28	17-15-4104	CC 0.1U/50V SL	PCS	1	C581	
29	17-23-3102	ELEC CAP 1000U/25V M	PCS	1	C006	
30	17-25-3109	PC 1U/50V	PCS	2	C108.549	
31	17-35-2223	PET CAP 0.022U/50V K	PCS	1	C547	
32	17-35-2472	POLYESTER CAP 0.0047U/50V	PCS	1	C628	
33	17-52-2109	TAN CAP 1U/16V K	PCS	1	C619	
34	17-91-3471	PC 470P 10V	PCS	1	C526	
35	17-92-3470	PC 47U 16V	PCS	10	C001.002.003.004.005.007.008.009.010.580	
36	18-50-1008	TFT BIAS COIL	PCS	1	T601	
37	19-40-2010	CHOKE 1UH	PCS	1	L606	
38	19-40-2100	CHOKE 10UH	PCS	1	L603	
39	19-40-2150	CHOKE 15UH	PCS	1	L508	
40	19-40-2189	CHOKE 1.8UH	PCS	1	L604	
41	19-40-2220	CHOKE EL0606SKT-220K	PCS	1	L503	
42	19-40-2223	CHOKE 22mH	PCS	1	L601	
43	19-40-2271	CHOKE 270UH	PCS	1	L501	
44	19-40-2330	CHOKE 33UH	PCS	3	L511.504.507	
45	19-40-2471	CHOKE 470UH	PCS	1	L605	
46	19-40-2680	CHOKE 68UH	PCS	2	L512.513	
47	19-40-2820	CHOKE 82UH	PCS	1	L502	
48	19-40-3101	CHOKE 100UH	PCS	3	L509.514.602	
49	19-45-1283	DELAY LINE 2U/PAL 4.43MHZ	PCS	1	X502	
50	21-76-1021	SEMI VR 1KB CARBON 6DH		1		
51	21-76-1041	SEMI VR 100KB CARBON 6DH		1	RV62	
52	21-76-2231	SEMI VR 22KB CARBON 6DH		3	RV61.55.56	
53	21-76-3021	SEMI VR 2KB CARBON 6DH		1	RV52	
54	21-76-5021	SEMI VR 5KB CARBON 6DH		2	RV54.57	
55	21-76-5031	SEMI VR 50KB CARBON 6DH		1	RV11	
56	23-01-0004	FUSE HOLDER	PCS	2		
57	23-05-4501	ACK DC 4.5D	PCS	1	DJ01	
58	23-06-0018	JACK RCA	PCS	2	AUDIO IN	
59	23-06-0033	RCA JACK/SW (WHITE)	PCS	2	VIDEO IN	
60	24-51-1002	PIN 1P 1.5D STRAIGHT	PCS	9	TP	

*** TO BE CONTINUED ***

报表名称:　　深圳忆声电子有限公司　　核准:

报表日期:11/02/08　　**** B.O.M.报 表 ***

客户机种:TEAC<VCR-450A (TEAC)>　　装配料号:02-H3-1801A　　品名规格:VCR-420I MAIN PCB ASS'Y　　页次: 2/2

项	材料编号	品名规格	单位	用量	参考配置	供应商
61	24-51-1301	WAFER 13P	PCS	2	PH302.PL	
62	24-51-2001	WAFER 2P 2mm STRAIGHT	PCS	1	TP61	
63	24-56-5001	WAFER 5P	PCS	1	M001	
64	24-56-6001	STRAIGHT 6P 2MM (MOLEX)	PCS	1	TP01	
65	24-AA-1421	WAFER 14PIN 2MM (DLCO)	PCS	1	AMP WAFR	
66	24-H3-1201	HOUSING 12P VCP-450	PCS	1	PD201	
67	24-H3-2001	HOUSING 2P VCP-450	PCS	1	P602	
68	24-H3-6001	HOUSING 6P VCP-450	PCS	1	P601-PD3	
69	25-03-2021	FUSE T2A/250V 5.2*20 VDE	PCS	1	F001	
70	30-01-0043	UL#26 4/3 BK	PCS	1		
71	30-01-1106	WIRE UL#26 10/6 BR	PCS	2	A1-A2.D1-D2	
72	30-01-3046	WIRE UL#26 4/6 OR	PCS	1	E1-E2	
73	30-01-3176	WIRE UL. # 26 17/6 OR	PCS	1	C1-C2	
74	69-41-3008	SCREW MTP 3*8 RD+	PCS	2		
75	80-01-0001	SOLDER 63%-37% 锡棒	KG	1	RV51	
76	80-01-0001	SOLDER 锡棒	KG	0.0360		
77	80-01-0002	SOLDER 锡丝	KG	0.0180		
78	87-H3-0201	HEAT SINK VCP-450	PCS	1		
79	90-E9-0002	TV PCB PLT	PCS	1		

*** END ***

报表名称:　　深圳忆声电子有限公司　　核准:

报表日期:11/02/98　　**** B.O.M.报 表 ***

客户机种:TEAC/VCR-450A (TEAC)>　　装配料号:03-H3-1801A　　品名规格:MAIN PCB ASS'Y　　页次:　1/1

项	材料编号	品名规格	单位	用量	参考配置	供应商
1	13-23-1000	DIODE IN4148	PCS	9	D103.104.105.106.301.304.305.502.503	
2	13-23-1000	DIODE IN4148	PCS	6	D504.506.507.508.601.602	
3	16-23-1102	R 1K 1/8W	PCS	1	R108	
4	16-23-1121	RESISTOR 120 OHM 1/8W T	PCS	3	R011.002.004	
5	16-23-1123	RESISTOR 12K 1/8W T	PCS	1	R013	
6	16-23-1152	RESISTOR 1K5 1/8W T	PCS	1	R001	
7	16-23-1221	RESISTOR 220 OHM 1/8W T	PCS	1	R012	
8	16-23-1222	R 2.2K 1/8W	PCS	2	R005.006	
9	16-23-1331	R 330 OHM 1/8W	PCS	3	R014.008.010	
10	16-23-1472	R 4K7 1/8W	PCS	1	R557	
11	16-23-1821	R 820 OHM 1/8W	PCS	1	R009	
12	27-22-3101	CAPACITOR CE 100UF M 16V	PCS	4	C514.518.602.604	
13	27-22-3470	CAPACITOR CE 47UF M 16V	PCS	9	C110.113.121.122.123.538.613.626.CX00	
14	27-23-3100	CAPACITOR CE 10UF M 25V	PCS	5	C512.557.550.551.617	
15	27-23-3220	CAPACITOR CE 220 M 25V	PCS	2	C301.601	
16	27-23-3228	CAPACITOR CE 0.22UF M 25V	PCS	1	C622	
17	27-23-4101	CAPACITOR CE 100UF T 25V	PCS	1	C126	
18	27-25-3109	CAPACITOR CE 1UF M 50V	PCS	8	C109.522.523.544.545.556.605.615	
19	27-25-3478	CAPACITOR CE 0.47UF M 50V	PCS	1	C620	
20	27-25-3479	CAPACITOR CE 4.7UF M 50V	PCS	2	C101.125	
21	27-25-3479	CAPACITOR CE 4.7UF M 50V	PCS	3	C511.541.609	
22	27-35-2103	CAPACITOR PE 0.01UF K 100V	PCS	4	C104.610.616.623	
23	27-35-2123	POLYESTER CAP .012U T	PCS	2	C606.607	
24	27-35-2223	CAPACITOR PE 0.022UF K 100V	PCS	2	C103.111	
25	27-35-2333	CAPACITOR PE 0.033UF K 100V	PCS	1	C608	
26	27-35-2473	CAPACITOR PE 0.047UF K 100V	PCS	3	C520.543.625	
27	27-35-2683	CAPACITOR PE 0.068UF N 50V	PCS	1	C566	
28	27-35-2822	MC .0082	PCS	1	C521	
29	30-10-0010	BARE WIRE 10MM	PCS	26		
30	30-10-0050	BARE WIRE 5mm	PCS	29		
31	30-10-0075	JUMP 7.5MM	PCS	43		
32	30-10-0125	BARE WIRE 12.5mm	PCS	6		
33	30-10-0150	BARE WIRE 15mm	PCS	7		
34	30-10-0175	BARE WIRE 17.5MM	PCS	1		
35	85-H3-1301	MAIN PCB 248*122*1.6MM	PCS	1		

*** END ***

报表名称:　　深圳忆声电子有限公司　　核准:

报表日期:11/02/98　　**** B.O.M.报 表 ***

客户机种:TEAC<VCR-450A (TEAC)>　　装配料号:04-H3-1801A　　品名规格:VCR-420T MAIN PCB ASS'Y　　页次:　1/2

项	材料编号	品名规格	单位	用量	参考配置	供应商
1	03-H3-1801	MAIN PCB ASS'Y VCR-450B	PCS	1		
2	12-62-1002	TR 2SC2412K(R) T146	PCS	9	Q101.501.502.505.509.510.511.513.521	
3	12-62-2001	TR 2SA1037K(R) T146	PCS	4	Q504.516.518.520	
4	12-64-1002	TR DTC144EK T146	PCS	6	Q001.107.110.503.515.519	
5	12-64-2001	XSTR DTA144ID SMT PNP	PCS	3	Q104.105.508	
6	16-63-1000	RESISTOR 0 OHM 1/8W CP	PCS	24		
7	16-63-1100	RESISTOR 10 OHM 1/8W CP	PCS	1	R619	
8	16-63-1102	R 1K 1/8W CP	PCS	9	R101.109.121.124.127.145.504.522.523	
9	16-63-1102	R 1K 1/8W CP	PCS	8	R531.532.541.565.569.570.608.618	
10	16-63-1103	RESISTOR 10K 1/8W CP	PCS	10	R104.106.111.117.119.123.128.139.142.311	
11	16-63-1103	RESISTOR 10K 1/4W CP	PCS	7	R512.525.536.543.546.571.580	
12	16-63-1104	RESISTOR 100K 1/8W CP	PCS	2	R310.509	
13	16-63-1105	RESISTOR 1M 1/8W CP	PCS	3	R130.556.611	
14	16-63-1121	RESISTOR 120 OHM 1/4W CP	PCS	1	R617	
15	16-63-1122	RESISTOR 1K2 1/4WCP	PCS	1	R537	
16	16-63-1123	RESISTOR 12K 1/8W CP	PCS	3	R506.515.607	
17	16-63-1152	RESISTOR 1K5 1/8W CP	PCS	3	R303.562.603	
18	16-63-1153	R 15K 1/4W CP	PCS	2	R114.621	
19	16-63-1181	R 180 OHM 1/8W CP	PCS	1	R511	
20	16-63-1182	RESISTOR 1K8 1/4W CP	PCS	2	R110.113	
21	16-63-1183	R 18K 1/4W CP	PCS	3	R545.610.620	
22	16-63-1202	RESISTOR 2K 1/4W CP	PCS	4	R301.306.307.516	
23	16-63-1221	RESISTOR 220 OHM 1/4W CP	PCS	1	R131	
24	16-63-1222	RESISTOR 2K2 1/8W CP	PCS	6	R501.503.549.564.566.567	
25	16-63-1223	R 22K 1/4W CP	PCS	6	R502.518.524.535.547.602	
26	16-63-1271	RESISTOR 270 OHM 1/4W CP	PCS	2	R538.616	
27	16-63-1272	RESISTOR 2K7 1/4W CP	PCS	5	R148.544.559.601.613	
28	16-63-1273	RESISTOR 27K 1/8W CP	PCS	2	R517.609	
29	16-63-1331	RESISTOR 330 OHM 1/8W CP	PCS	3	R143.604.605	
30	16-63-1332	R 3K3 1/4W CP	PCS	3	R116.521.560	
31	16-63-1333	RESISTOR 33K 1/8W CP	PCS	3	R514.542.548	
32	16-63-1334	TRSISTOR 330K 1/4W CP	PCS	1	R615	
33	16-63-1391	RESISTOR 390 OHM 1/4W CP	PCS	1	R133	
34	16-63-1392	RESISTOR 3K9 1/4W CP	PCS	5	R112.302.305.505.606	
35	16-63-1472	RESISTITOR 4K7 1/8W CP	PCS	10	R007.103.125.126.135.137.141.144.146.513	
36	16-63-1473	RESISTOR 47K 1/4W CP	PCS	6	R105.120.122.140.308.309	
37	16-63-1474	RESISTOR 470K 1/4W CP	PCS	2	R115.118	
38	16-63-1512	RESISTOR 5K1 1/4W CP	PCS	1	R563	
39	16-63-1561	RESISTOR 560 OHM 1/4W CP	PCS	3	R129.136.568	
40	16-63-1562	RESISTOR 5K6 1/8W CP	PCS	1	R107	
41	16-63-1563	RESISTOR 56K 1/8W CP	PCS	1	R612	
42	16-63-1681	RESISTOR 680 OHM 1/4W CP	PCS	2	R526.558	
43	16-63-1682	RESISTOR 6K8 1/8W CP	PCS	1	R561	
44	16-63-1750	RESISTOR 75 OHM 1/8W CP	PCS	3	R520.533.534	
45	16-63-1752	RESISTOR 7K5 1/4W CP	PCS	3	R102.132.134	
46	16-63-1821	R 820 OHM 1/4W CP	PCS	1	R149	
47	16-63-1822	RESISTOR 8K2 1/4W CP	PCS	2	R555.614	
48	16-63-1911	RESISTOR 910 OHM 1/4W CP	PCS	2	R147.510	
49	16-63-1912	RESISTOR 9K1 1/4W CP	PCS	2	R138.304	
50	28-13-1030	CHIP CERAMIC CAP 3P/25V	PCS	1	C618	
51	28-13-1050	CHIP CERAMIC CAP 5P/25V	PCS	1	C552	
52	28-13-1101	CHIP CERAMIC CAP 100P/25V	PCS	3	C116.120.532	
53	28-13-1120	CHIP CERAMIC CAP 12P/25V	PCS	2	C117.118	
54	28-13-1151	CHIP CERAMIC CAP 150P/25V	PCS	1	C507	
55	28-13-1180	CHIP CERAMIC CAP 18P/25V	PCS	1	C583	
56	28-13-1181	CHIP CERAMIC CAP 180P/25V	PCS	2	C506.559	
57	28-13-1200	CHIP CERAMIC CAP 20P/25V	PCS	1	C505	
58	28-13-1220	CHIP CERAMIC CAP 22P/25V	PCS	1	C509	
59	28-13-1221	CHIP CERAMIC CAP 220P/25V	PCS	1	C106	
60	28-13-1391	CHIP CERAMIC CAP 390P/25V	PCS	2	C536.555	

*** TO BE CONTINUED ***

报表名称:
报表日期:11/02/98
客户机种:TEAC<VCR-450A (TEAC)>

深圳亿声电子有限公司
**** B.O.M.报 表 ****

核准:

装配料号:04-H3-1801A　　品名规格:VCR-420I MAIN PCB ASS'Y

项	材料编号	品名规格	单位	用量	参考配置	供应商
61	28-13-1470	CHIP CERAMIC CAP 47P/25V	PCS	1	C558	
62	28-13-1471	CHIP CERAMIC CAP 470P/25V	PCS	1	C531	
63	28-13-1680	CHIP CERAMIC CAP 68P/25V	PCS	2	C534.560	
64	28-13-1820	CHIP CERAMIC CAP 82P/25V	PCS	4	C508.553.563.564	
65	28-13-2682	CHIP CERAMIC CAP 6800U/50V	PCS	1	C627	
66	28-13-4102	CHIP CERAMIC CAP .001U/25V	PCS	3	C105.129.621	
67	28-13-4103	CHIP CERAMIC CAP .01U/25V	PCS	10	C102.119.124.127.128.302.502.503.504.510	
68	28-13-4103	CHIP CERAMIC CAP .01U/25V	PCS	10	C513.516.517.519.527.528.530.537.542.546	
69	28-13-4103	CHIP CERAMIC CAP .01U/25V	PCS	3	C565.603.CX	
70	28-13-4104	CHIP CERAMIC CAP 0.1U/25V	PCS	7	C114.115.501.554.582.C533.CX	
71	28-13-4223	CHIP CERAMIC CAP.022U/25V	PCS	1	C548	
72	28-15-1510	CHIP CERAMIC CAP 51P/50V	PCS	1	C562	

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