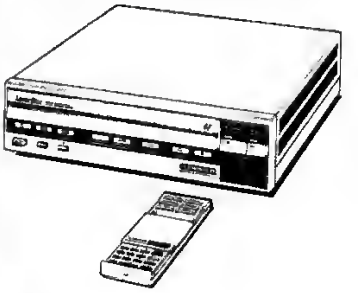
Service Manual

PIONEER



VIDEO DISC PLAYER

LD-700 KU

CONTENTS

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1. DISASSEMBLY

1.1 REMOVING THE EXTERNAL PARTS AND CIRCUIT BOARDS

Bottom cover

- Remove the 9 screws ①
- Remove the 2 screws ②

Bonnet

- Remove the 4 screws ③
- Remove the 6 screws ④
- Slide toward the back to remove.

Disc tray

- Turn the power on and depress the REJECT button.
- Or, after removing the SRVB and DEMB panel, adjust the position of the FL rack shown in right figure.
- Release the latch.
- Remove the 2 screws ⑤

Front panel

- Remove the 6 screws ④

SRVB, DEMB circuit boards

- Remove the 6 screws ⑥

Mechanism chassis

- Remove the 3 screws ⑦

1.2 REMOVING THE PICKUP

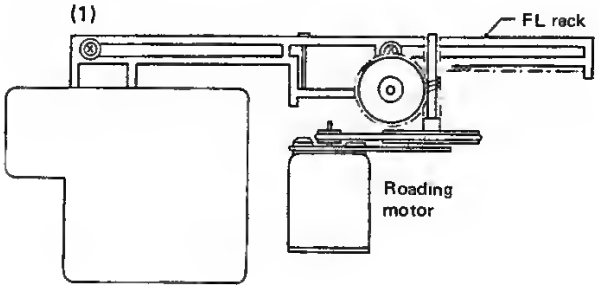
Slider

- Remove the 2 screws ⑧
- Remove the 2 screws ⑨

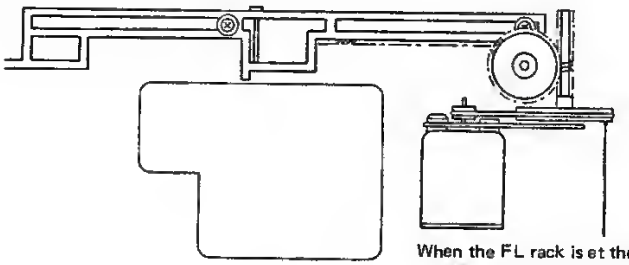
Pickup

- Remove the E type wesher ⑩
- Remove the 4 screws ①

(1)

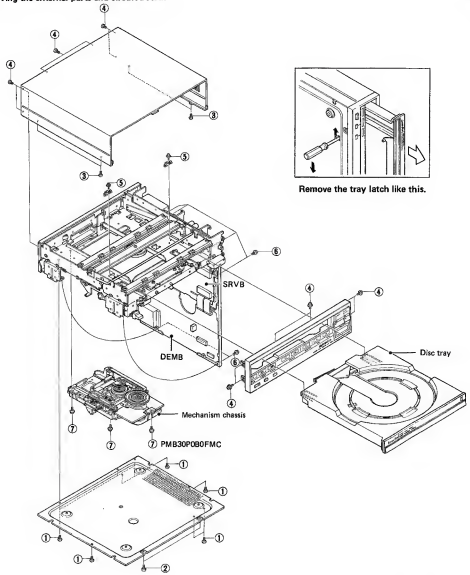


(2)



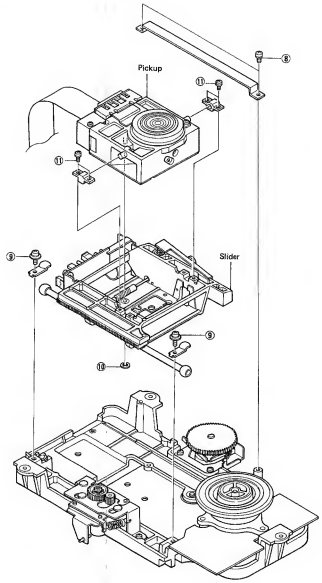
When the FL rack is et the position illustreted in (1), rotete this pulley to locete the FL lack illustreted in (2).

Removing the external parts and circuit boards



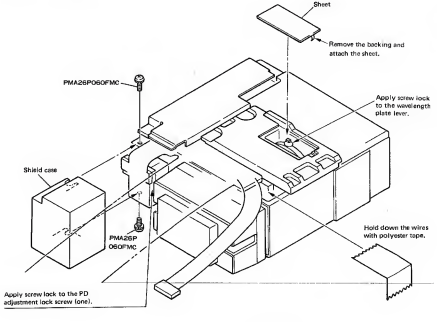
Remove the tray latch like this.

Removing the pickup



2. MECHANISM ASSEMBLY AND ADJUSTMENTS

2.1 PICKUP ASSEMBLY



2.2 PICKUP AND SLIDER ASSEMBLY

Assembly procedure:

1) Screw the tilt adjustment shaft into the pickup.
2) Place the pickup in the slider and attach the holder.

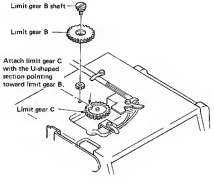
Note: Be careful not to apply pressure to the area around the objective lens or magnetic circuitry when doing this.

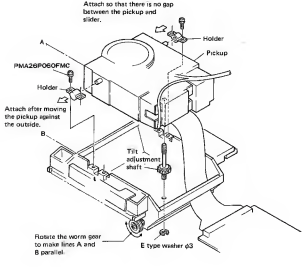
3) Attach the tilt adjustment shaft to the optical body using the E type washer.
4) Turn the slider upside down and attach limit gear.

Note: Be careful not to apply pressure to the area around the objective lens or magnetic circuitry when doing this.

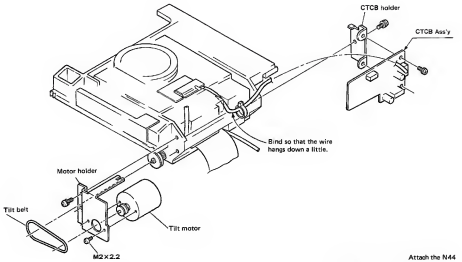
5) Rotate the worm gear until the pickup and slider are parallel to each other (lines A and B, A and B).
6) Attach the tilt motor and CTCB panel.
7) Properly route the wires around CTCB.

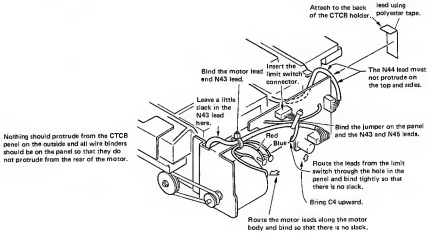
Attachment of limit gear B





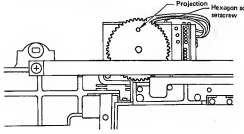
Tilt motor and CTCB panel attachment



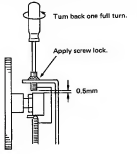


2.3 POSITIONING OF POTENTIOMETER PINION GEAR

- Adjust the projection of the pinion gear to the upper portion shown in the figure by idling the pinion gear when the pickup is moved to the innermost position.

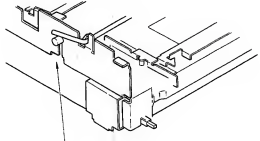


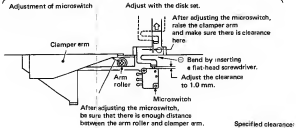
- After positioning the pinion, turn the hexagon socket setscrew clockwise until the end of the screw lightly touches the potentiometer holder. Then, turn back one full turn and apply screw lock around the screw.



2.4 ADJUSTMENT OF CLAMP SWITCH

Adjustment should always be done after replacing the clamp switch.





3. ELECTRICAL ADJUSTMENTS

Instruments and tools used:

- Color monitor TV
- Stereo system
- Dual trace oscilloscope (with time delay sweep, DC-35MHz)
- Audio SG
- Frequency counter
- Shorting clips
- Test disc B1 (or F1)
- CLT-700

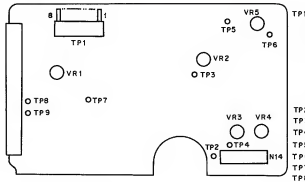
Precautions:

- Confirm that all power supply voltages are correct.
- Confirm that there are no mechanical problems.
- Pinion adjustment of the slider potentiometer must be completed.
- All parts of the pickup except the grating must be correctly adjusted. Use F1 test disc for the grating adjustment.
- The oscilloscope range figures here assume the use of a 1:1 probe.
- Do not insert and remove discs when the player is on its side up. (Do not press the □/△ button on the player.)

Preparations:

- Connect a monitor TV and stereo amp to the player.
- Remove the top and bottom panels.
- Insert a test disc.
- Perform PREB, SRVB and DEMB adjustments with the player standing on its right side.
- Perform the PREB adjustment with the SRVB and DEMB boards open (remove the SRVB and DEMB board screws).

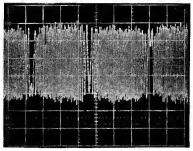
PREB adjustment points

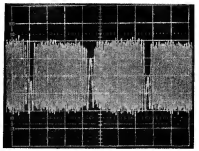


VR1	RF LEVEL
VR2	FOCS OFFSET
VR3	FOCS GAIN
VR4	TRKG BAL
VR5	TRKG GAIN

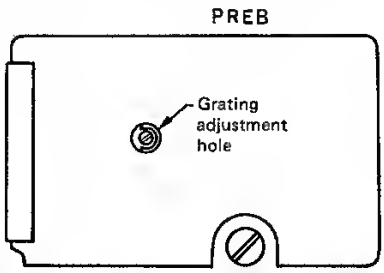
TP1-1	−11V
2	+11V
3	GND
4	B1
5	B4
6	B2
7	B3
8	B1+B3
TP2	RF
TP3	FOCS A−B
TP4	FOCS ERROR
TP5	TRKG GAIN MON.
TP6	TRKG OSC IN
TP7	+11V
TP8	APC VCC
TP9	GND

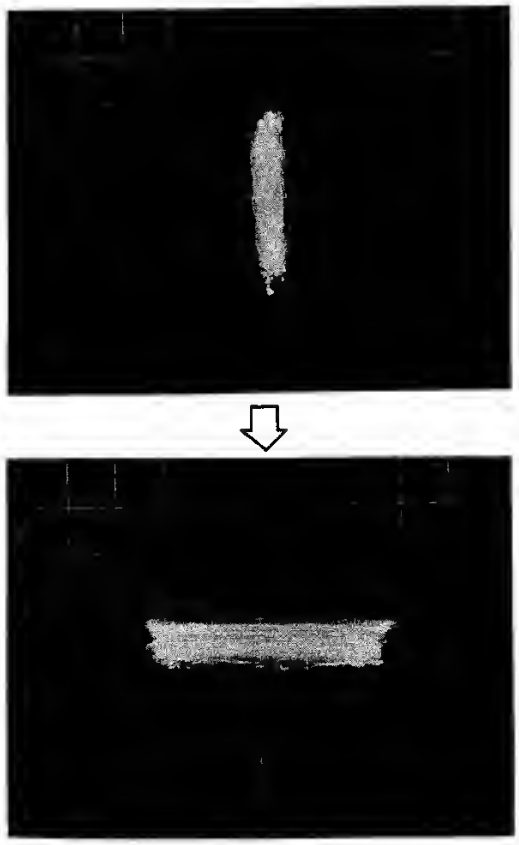
NO.	OSCILLOSCOPE V	OSCILLOSCOPE H	TEST POINT	ADJUSTMENT POINT	CHECK POINT/ ADJUSTMENT STANDARD	ADJUSTMENT PROCEDURE
			On PREB unless otherwise specified.	On PREB unless otherwise specified.		**PREB ADJUSTMENT** • Always perform the following adjustments after replacing, repairing or adjusting the pickup or replacing PREB.
			TP7 TP8		0.25V ~ 0.5V	**CONFIRMATION OF THE LD POWER** • Measure the voltage between TP7 and TP8. • Verify the voltage is in the range of 0.25V to 0.5V. If not, replace the pickup.
	5mV/div	0.1mS/div.	TP3	VR2		**FOCS OFFSET ADJUSTMENT** • Adjust the DC voltage of TP3 so that it is 0V±5mV when the player is in the standby mode.
	0.2V/div	5mS/div	TP5	VR4	Positive amplitude = Negative amplitude	**TRKG BALANCE ADJUSTMENT** • Use search to locate frame #20,000. • Open the TRKG loop. (Connect pins 20 and 22 of SRVB Z401 PM4001 using the shorting clips.) • Adjust so that the positive and negative sides of the tracking error wave are equal.

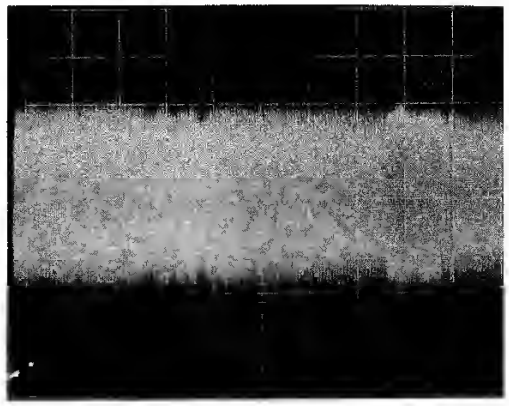




NO.	OSCILLOSCOPE V	OSCILLOSCOPE H	TEST POINT	ADJUSTMENT POINT	CHECK POINT/ ADJUSTMENT STANDARD	ADJUSTMENT PROCEDURE
	X: 0.2V/div Y: 0.2V/div		SRVB TP-11 TP-12	Grating	Min. on X axis Max. on Y axis Max. on X axis MIN. on Y axis	**TRKG LEVEL CHECK AND GRATING ADJUSTMENT** • Use testdisc F_1 for grating adjustment. • Use search to locate frame #15,000. • Open the TRKG loop. • Set the oscilloscope to the X-Y mode and observe the tracking error (TP-11:X) and tracking A+B (TP-12:Y) lissajous waveforms. • Insert a screwdriver in the PREB hole and slowly rotate the grating until the amplitude of the lissajous waveform is at its lowest point on the X axis and its highest point on the Y axis. The waveform should also be smooth. • Now rotate the screwdriver counterclockwise to adjust the grating to the point where the amplitude of the lissajous waveform is at its highest point on the X axis and its lowest point on the Y axis. Note: If the lissajous waveform does not become horizontal but remains slanted, the position of the shaft holder may not be correct.



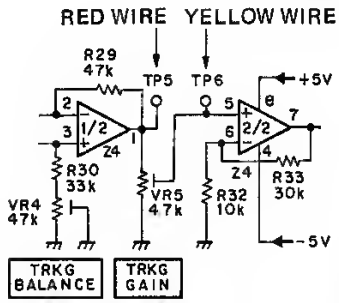


NO.	OSCILLOSCOPE		TEST POINT	ADJUST-MENT POINT	CHECK POINT/ ADJUST-MENT STANDARD	ADJUSTMENT PROCEDURE
	V	H				
	0.1V/div	1mS/div	TP2	VR1	400mVp-p	**RF LEVEL ADJUSTMENT** ● Close the TRKG loop. ● At about frame #18,000 adjust so that the TP2 output is 400mV p-p. 

NO.	OSCILLOSCOPE V	OSCILLOSCOPE H	TEST POINT	ADJUSTMENT POINT	CHECK POINT/ ADJUSTMENT STANDARD	ADJUSTMENT PROCEDURE
	X: 0.5V/div Y: 0.2V/div		X: TP6 Y: TP5	VR5	J-LED on	**TRKG LOOP GAIN ADJUSTMENT** • Set the frequency of the FTG adjuster at 4kHz (B1 disc) with Frequency-VR2. (3.7kHz: F1 disc) • Set the gain of the FTG adjuster at 4Vp-p with Gain-VR2. Oscillator's output is available from Yellow wire by turning the Switch to 2. • Connect the Yellow wire of the FTG adjuster as shown in the diagram. • Connect red wire of the FTG adjuster as shown in the diagram. • Use search to locate frame #18,000. • Adjust VR5 to turn J-LED on.

TRKG loop gain

(3.7kHz/4Vp-p: F1)
(4.0kHz/4Vp-p: B1)



NO.	OSCILLOSCOPE V	OSCILLOSCOPE H	TEST POINT	ADJUSTMENT POINT	CHECK POINT/ ADJUSTMENT STANDARD	ADJUSTMENT PROCEDURE
	X: 0.2V/div Y: 1V/div		X: TP4 Y: TP3	VR3	J-LED on	FOCS LOOP GAIN ADJUSTMENT • Set frequency of the FTG adjuster at 1.8kHz (B1 disc) with Frequency-VR1. (2.1kHz: F1 disc) • Set the gain of the FTG adjuster at 1.2Vp-p with Gain-VR1. Oscilator's output is available from Orange wire by turning the Switch to 1. • Connect the Orange wire of the FTG adjuster as shown in the diagram. • Connect the brown wire of the FTG adjuster as shown in the diagram. • Use search to locate frame #20,000. • Adjust VR3 to turn on the green j (JUST) LED. • Disconnect the FTG adjuster.

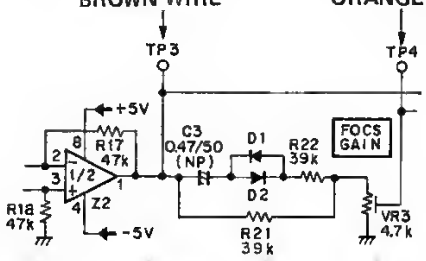
FOCS loop gain

Oscilloscope

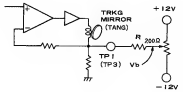
(2.1kHz/1.2Vp-p: F1)
(1.8kHz/1.2Vp-p: B1)

BROWN WIRE

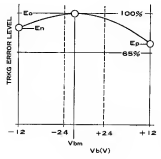
ORANGE WIRE



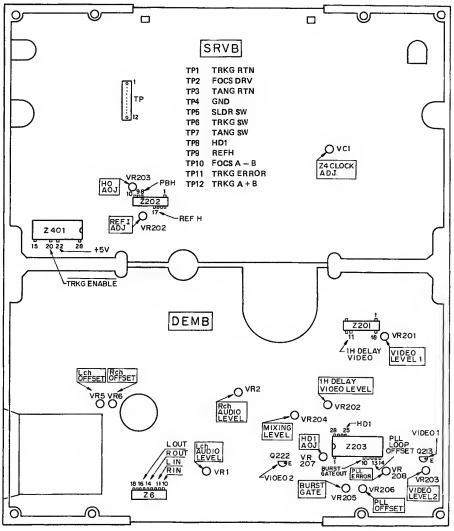
STEP NO.	OSCILLOSCOPE RANGE V	OSCILLOSCOPE RANGE H	TEST POINT	ADJUSTMENT POINT	CHECK ITEM/ ADJUSTMENT SPECIFICATION	ADJUSTMENT PROCEDURE
						PICKUP OPTICAL AXIS CHECK Always perform this procedure after replacing the pickup and when it is suspected that the pickup is maladjusted. • Play a disc at about track number 15,000. • Open the TRKG loop. (Connect SRVB, 2401, PM4001 pins 20 and 22 with shorting clips.) • Open the TANG loop. (Connect SRVB TP7 to ground.) **CONFIRMATION OF OPTICAL AXIS IN TRACKING DIRECTION** • Connect the bias voltage output terminal of the optical axis checking jig (the current setting resistor should be set to 200 ohms) to TP1 (TRKG RTN) of SRVB. • Measure the TRKG error level at TP5 of PREB. Adjust the mirror bias VR of the jig so that the error level is maximized and then record the peak-to-peak value E0 and the voltage Vbm being applied. • Next, rotate the mirror bias VR all the way to the +12V side and record the TRKG error p-p value Ep. Then rotate the mirror bias VR all the way to the −12V side and record the TRKG error p-p value En. • If Vbm is within the range of ±2.4V: Ep>0.63E0 and En>0.63E0 • If Vbm is outside the range of ±2.4V: Ep>0.70 E0 and En>0.70 E0 • If the above conditions are not met, replace the pickup.
			SRVB TP1 PREB TP5	Jig mirror bias VR Jig mirror bias VR	Max. TRKG error	



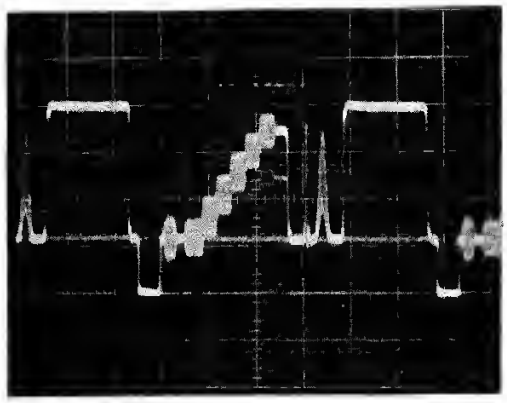
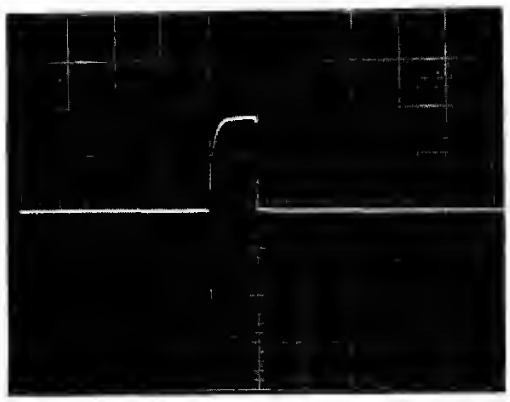
STEP NO.	OSCILLOSCOPE RANGE V	OSCILLOSCOPE RANGE H	TEST POINT	ADJUSTMENT POINT	CHECK ITEM/ ADJUSTMENT SPECIFICATION	ADJUSTMENT PROCEDURE
						CONFIRMATION OF OPTICAL AXIS IN TANG DIRECTION • Connect the bias voltage output terminal of the optical axis checking jig to TP3 (TANG RTN) of SRVB. • Measure the TRKG error level at TP5 of PREB. Adjust the mirror bias VR of the jig so that the error level is maximized and then record the peak-to-peak value E0 and the voltage Vbm being applied. • Rotate the mirror bias VR all the way to the +12V side and record the TRKG error p-p value Ep. Then rotate the mirror bias VR all the way to the −12V side and record the TRKG error p-p value En. • If Vbm is within the range of ±2.4V: Ep>0.70E0 and En>0.70E0 • If Vbm is outside the range of ±2.4V: Ep>0.63E0 and En>0.63E0 • If the above conditions are not met, replace the pickup.
			SRVB TP3 PREB TP5	Jig mirror bias VR Jig mirror bias VR	Max. TRKG error	

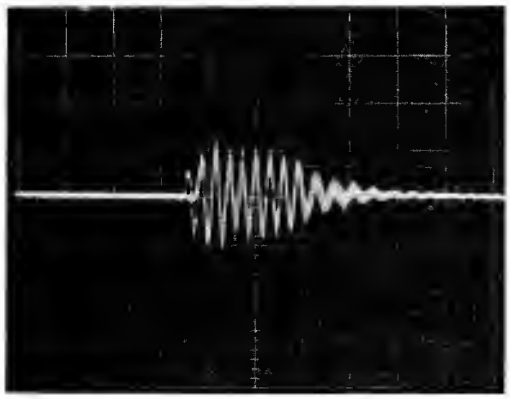


SRVB, DEMB ADJUSTMENT POINTS

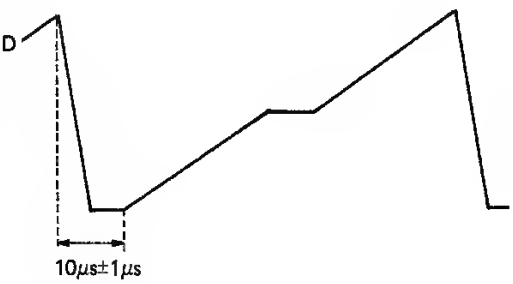
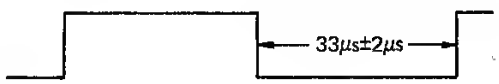


NO.	OSCILLOSCOPE V	OSCILLOSCOPE H	TEST POINT	ADJUSTMENT POINT	CHECK POINT/ ADJUSTMENT STANDARD	ADJUSTMENT PROCEDURE
			On DEMB unless otherwise specified.	On DEMB unless otherwise specified.		DEMB
	0.5V/div	10μs/div	Q213 emitter	VR201	2Vp-p	**MAIN LINE VIDEO LEVEL 1 ADJUSTMENT** • Use search to locate the composite test pattern of chapter 15. • Observe the video signal from the Q213 emitter and confirm that the level between the white peak and synch tip is 2V. If the voltage is not correct, adjust VR201.
	0.5V/div	10μs/div	Z201 (11)	VR202	2Vp-p	**1H DELAY VIDEO LEVEL ADJUSTMENT** • Play back the same test pattern in the still mode. • Observe the video signal at pin 11 of PA3018 (Z201) and confirm that the level between the white peak and synch tip is 2V. If the voltage is not correct, adjust VR202.

NO.	DSCILLDSCDPE V	DSCILLDSCDPE H	TEST PDINT	ADJUST-MENT POINT	CHECK POINT/ ADJUST-MENT STANDARD	ADJUSTMENT PRDCEDURE
	0.5V/div	10μs/div	Q222 emitter	VR203	2Vp-p	**VIDEO LEVEL 2 ADJUSTMENT** • Observe the video signal from the Q222 emitter and confirm that the level between the white peak and synch tip is 2V. If the voltage is not correct, adjust VR203. 
	0.5V/div 0.5V/div	10μs/div	Q213(E) Q222(E)	VR204	Same chroma level	**MIXING LEVEL ADJUSTMENT** • Use search to locate the magenta pattern of chapter 20. • Adjust VR204 so that the Q213 emitter and Q222 chroma levels are the same.
	1V/div	5μs/div	Z203 (25)	VR207	5μs	**HD 1 PULSE WIDTH ADJUSTMENT** • While playing a disc (with SPDL lock on), adjust so that the HD1 signal pulse width at pin 25 of PA9001 is 5μs. 

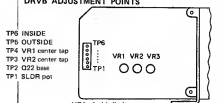
NO.	OSCILLOSCOPE V	OSCILLOSCOPE H	TEST POINT	ADJUSTMENT POINT	CHECK POINT/ ADJUSTMENT STANDARD	ADJUSTMENT PROCEDURE
	0.1V/div	1μs/div	Z203 (10)	VR205		**BURST GATE POSITION ADJUSTMENT** ● Use search to locate the composite test pattern of chapter 15. ● Adjust so that the color burst signal is clearly gated at pin 10 of PA9001. 
	1V/div	1mS/div	Z203(13)	VR206	V1 = V2	**PLL LOOP OFFSET ADJUSTMENT** ● Play the composite test pattern in the still mode. Observe the DC level V1 of pin 13 of PA9001 (Z203). ● Next, connect a capacitor of about 0.047μF between pin 9 of the same IC end ground and observe the DC level V2 of pin 13. V1 should equal V2. If not, adjust VR206.
			Screen	VR208	Min. color unevenness	**PLL ERROR LEVEL ADJUSTMENT** ● Use search to locate the magenta image of chapter 20 and adjust VR208 to the point where color unevenness is minimized.

NO.	OSCILLOSCOPE V	OSCILLOSCOPE H	TEST POINT	ADJUST-MENT POINT	CHECK POINT/ ADJUST-MENT STANDARD	ADJUSTMENT PROCEDURE
	50mV/div	1ms/div	Z6(11)	VR1	B1 65mVrms F1 70mVrms	**AUDIO OUTPUT LEVEL ADJUSTMENT** • Play chapter 9, the 40% modulated 1kHz signal (only in the left channel). • Measure the level of the 1kHz signal at pin 11 of Z6 (HA12043) and adjust VR1 so the level is 65mV rms (B1). • Play chapter 10, the 40% modulated 1kHz signal (only in the right channel). • Measure the level of the 1kHz signal at pin 10 of Z6 (HA12043) and adjust VR2 so the level is 65mV rms (B1). **OFFSET ADJUSTMENT** • Play the CX test signal in chapters 11 and 12. • Observe both audio outputs. • When playing chapter 11, adjust VR5 so that the level of the waveform appearing in the right channel each time the left channel output changes (at 8 second intervals) is as small as possible. • When playing chapter 12, adjust VR6 so that the level of the waveform appearing in the left channel each time the right channel output changes (at 8 second intervals) is as small as possible.
	50mV/div	1ms/div	Z6(10)	VR2	B1 65mVrms F1 72mVrms	
	0.5V/div 10mV/div	0.1sec/div	Z6(16) Z6(14)	VR5	Min. 2/R waveform level	
	10mV/div 0.5V/div	0.1sec/div	Z6(16) Z6(14)	VR6	Min. 1/L waveform level	

NO.	OSCILLOSCOPE V	OSCILLOSCOPE H	TEST POINT	ADJUSTMENT POINT	CHECK POINT/ ADJUSTMENT STANDARD	ADJUSTMENT PROCEDURE
			On SRVB unless otherwise specified.	On SRVB unless otherwise specified.		**SRVB ADJUSTMENTS** **REFI, HD 2 ADJUSTMENTS** ● Insert the disc and begin disc play. ● Verify the falling period of the trapezoid waveform is 10μs±1μs. If not, adjust VR202 to satisty the above. ● Verify the L period of the PBH is 33μs±2μs. If not, adjust VR203 to satisfy the above.
	5V/div	10μs/div				
	5V/div		Z202 ①	VR202	10μs±1μs	
			Z202 ⑧	VR203	33μs±2μs	
						TRAPEZOID Z202 ① 
						PBH Z202 ⑧ 
				VC1	CLV search – not more than 12 seconds	**Z4 CLOCK FREQUENCY CHECK** ● Perform 0:10→0:40 and 0:40→0:10 search on the CLV disc and confirm that in both cases search takes no more than 12 seconds. ● If search takes too long or does not function properly, adjust VC1.

NO.	OSCILLOSCOPE V	OSCILLOSCOPE H	TEST POINT	ADJUSTMENT POINT	CHECK POINT/ ADJUSTMENT STANDARD	ADJUSTMENT PROCEDURE
				On ORVB unless otherwise specified.		**DRVB AQJUSTMENTS**
				VR1	Lead-ins 19-21	**INSIDE LIMIT POSITION ADJUSTMENT** • Insert the test disc and bagin disc play. • Hold down X3 REV when the inside of the disc is being played and confirm that it switches to the inside limit at the lead-in sector 19-21 indication and returns to the outside of the disc. • If the player does not function properly, adjust VR1 and, after moving the pickup to within the program territory, check the limit position again in the same way. Repeat this process until the limit position is correct.
				VR2	Lead-outs 23-25	**12-INCH OUTSIDE LIMIT POSITION ADJUSTMENT** • Use search to locate frame #50,400, move the pickup to the outside of the disc using X3 FWD and confirm that it switches to the outside limit and returns to the inside of the disc at the lead-out sector 23-25 indication. • If the player does not function properly, adjust VR2 and, after moving the pickup a little bit toward the inside of the disc, check the limit position again in the same way. Repeat this process until the limit position is correct.
				VR3	81 #23,500 F1 #23,800	**8-INCH OUTSIDE ADJUSTMENT** • Connect a 15kΩ resistor between TP2 and TP6. • Adjust VR3 so that the player returns to frame #23,500 (B_1) when the pickup reaches the outside limit on an 8-inch disc when moved toward the outside of the disc using X3 FWD. Note: The inside limit and 12-inch outside limit are adjusted at the point where the direction first changes, but for 8-inch disc adjustments, the position where the limit position is reached and the pickup returned is adjusted.

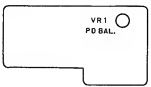
DRVB ADJUSTMENT POINTS



VR1: Inside limit
VR2: 12-inch outside limit
VR3: 8-inch outside

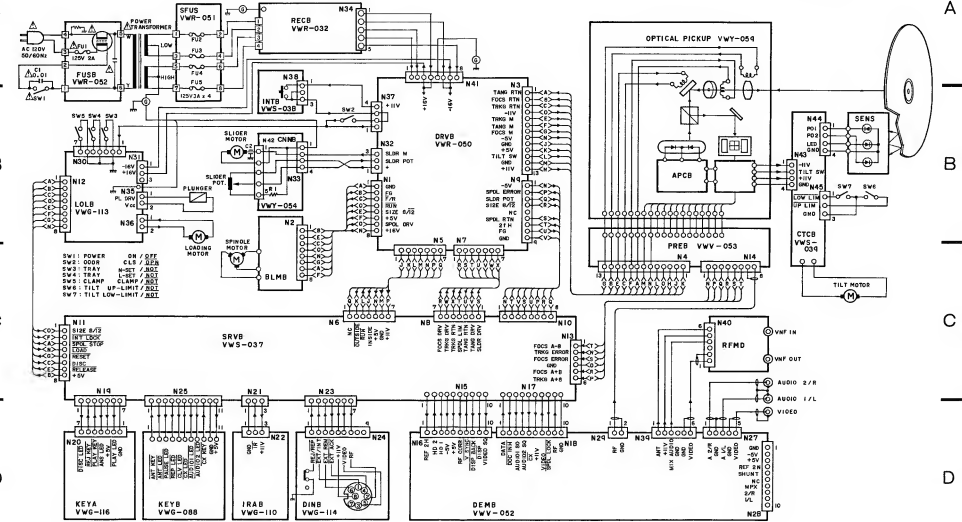
NO.	OSCILLOSCOPE V	OSCILLOSCOPE H	TEST POINT	AQJUSTMENT POINT	CHECK POINT/ ADJUSTMENT STANDARD	ADJUSTMENT PROCEDURE
						CTCB
						• If crosstalk is prominent with the CLV disc, perform the following adjustment procedure.
						PO BALANCE ADJUSTMENT
						• Insert the test disc. Use search to locate the vertical bar imaga (frame #18,914) and play it in the still mode.
				VR1	Minimum crosstalk	• Adjust VR1 so that the darkness of the vertical bars that appear on the left and right sides of the screen due to crosstalk is about the same and so that the bars are as weak as possible. • Replace the test disc with the CLV disc and confirm that there is no crosstalk.

CTCB ADJUSTMENT POINTS

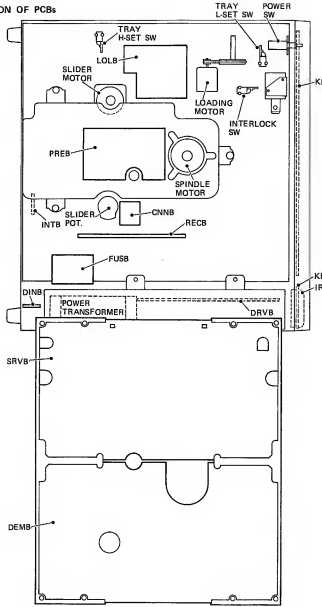


4. SCHEMATIC DIAGRAM, PCB PATTERN, & PARTS LIST

4.1 OVERALL CONNECTION DIAGRAM



4.2 LOCATION OF PCBs



NOTES:

- *Parts without part number cannot be supplied.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*

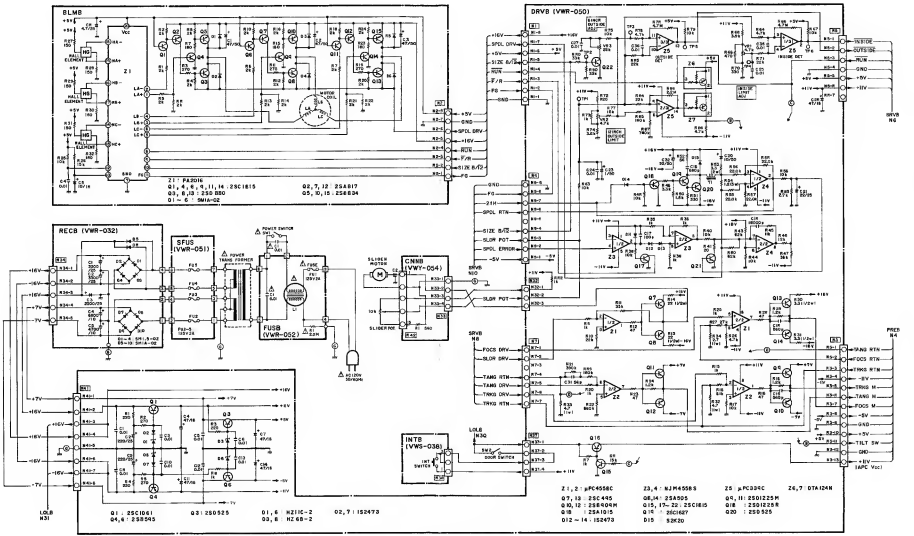
Part List

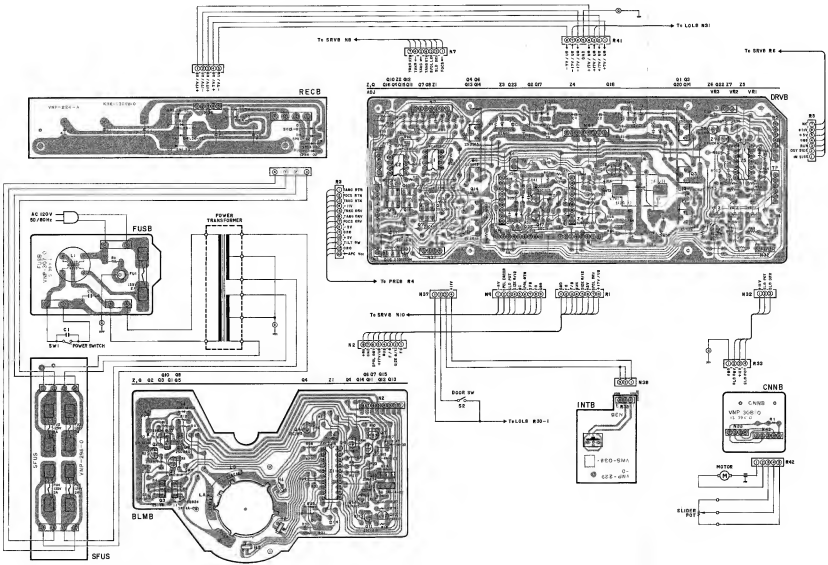
LD-700/KU	Parts list	1
(MK)(Part No.)	(IT)(REF Nos. & DESCRIPTIONS)	
VUR-052	FUSB	
VUR-032	RECB	
VUR-051	SFUS	
VUR-038	DRVB	
VWG-113	LOLB	
VUS-030	INTB	
VUY-054	CNNB	
VUJ-053	PREB	
VUS-037	SRVB	
VWG-116	KEYA	
VUS-000	KEYB	
VWG-115	IRAB	
VWG-114	DINB	
VWG-050	DEMB	
VUS-039	CTCB	
VUY-059	Pickup	
VNL-016	RF modulator	
⚠ VSA-007	SW1 Power switch	
⚠ (VSA-006)		
⚠ VCG-016	Power cord	
⚠ VCG-018	C1	
⚠ VTT-048	Power transformer	
⚠ VEK-005	FU1	
⚠ VEK-018	FU2- 5	
VXP-007	Plunger	
VXM-028	Loading motor	
VXM-027	Spindle motor	
VXM-030	Slider motor	
VXM-031	Tilt motor	
VCG-005	C2	
VCS-005	Potentiometer	
VSK-004	SW2- 4	
VSF-007	SW3	

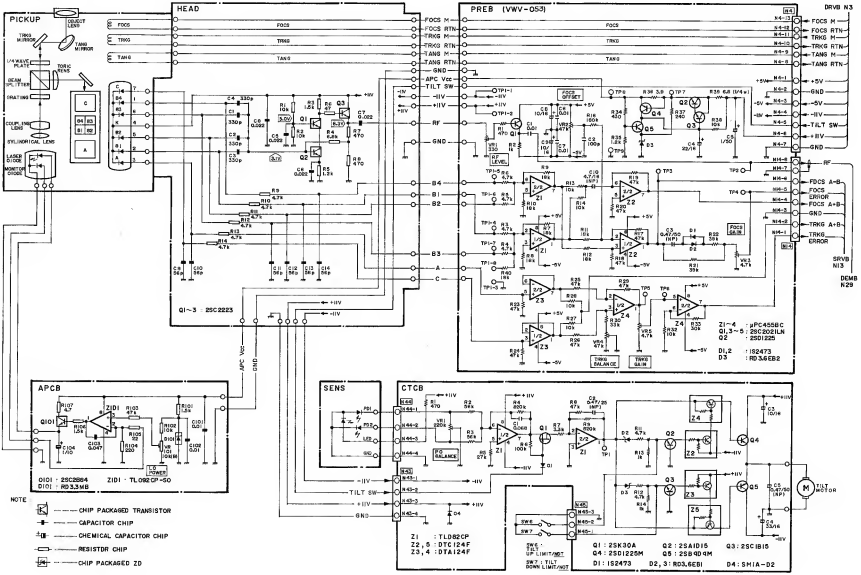
Abbreviation List of PCBs

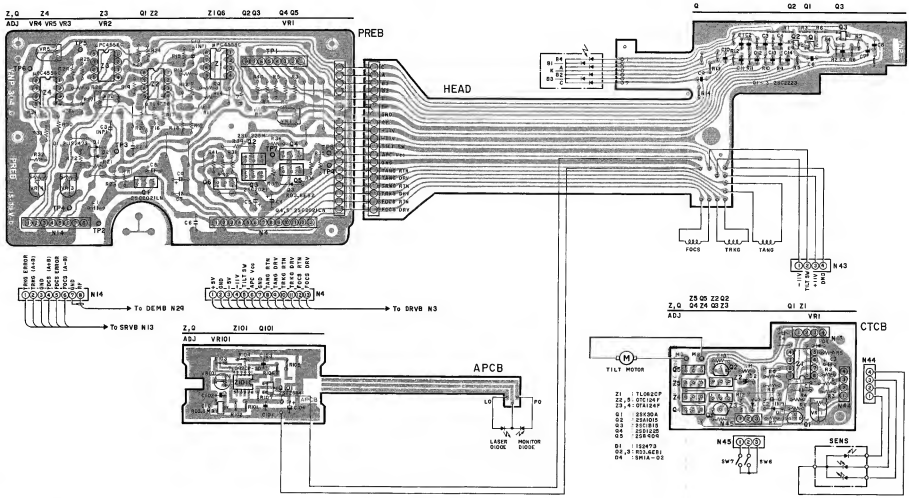
FUSB	:	Fuse Board
RECB	:	Rectifier Board
DRVB	:	Driver Board
LOLB	:	Loading Logic Board
INTB	:	Interlock Board
CNNB	:	Connector Board
PREB	:	Pre-processing Board
SRVB	:	Servo Board
CONT	:	System Control
FTS	:	Focus, Tracking, & Slider servo
TBC	:	Time Base Correction (Spindle & Tangential servo)
KEYA	:	Key Board A
KEYB	:	Key Board B
IRAB	:	Infrared Amplifier Board
DINB	:	DIN Connector Board
DEMB	:	Demodulator Board
VDEM	:	Video demodulator
ADEM	:	Audio demodulator
SFUS	:	Sub Fuse Board

4.3 FUSB, SFUS, RECB, DRVB, INTB, CNNB & BLMB

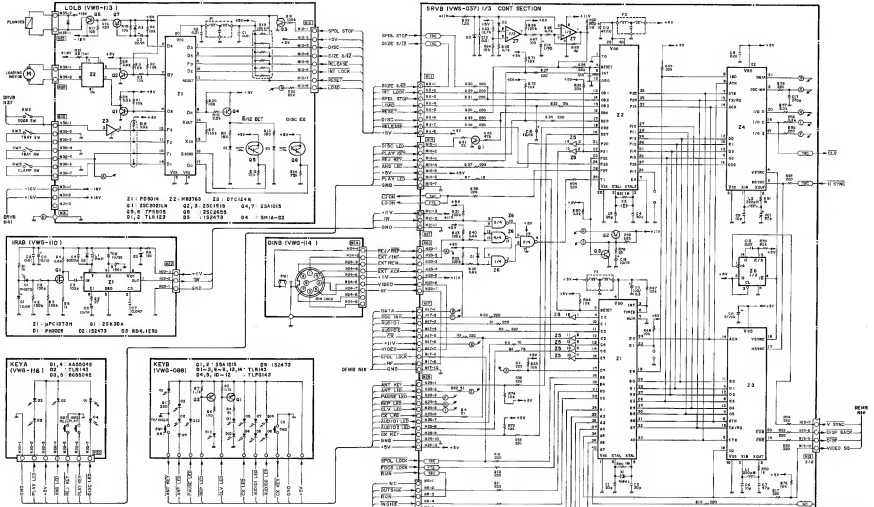


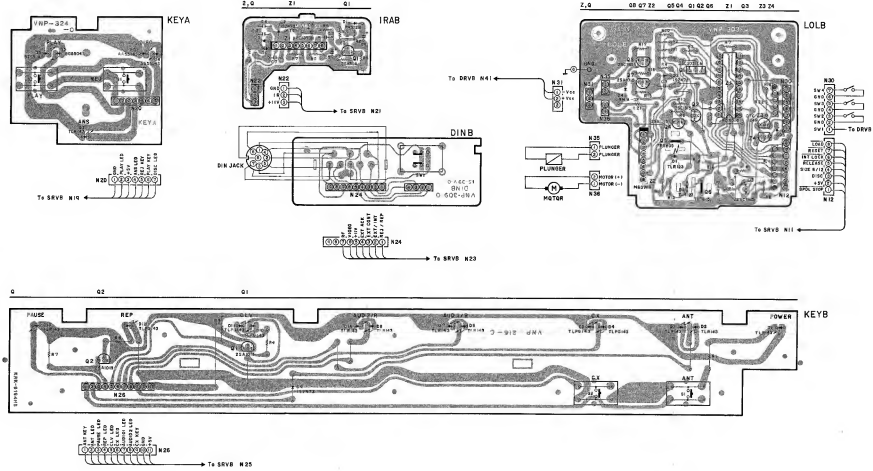

RECB
DRVB
FUSB
POWER TRANSFORMER
AC 100V 50/60Hz
POWER SWITCH
SFUS
BLMB
INTB
CNNB
MOTOR
To SRVB N8
To LOLB N31
To SRVB N4
To PRCB R4
To SRVB N10
To LOLB N30-1
DOOR SW
1
2
3
4
5
6
A
B
C
D


PICKUP
HEAD
PREB (VWV-053)
APCB
SENS
CTCB
Q1~3 2SC2223
Z1~4 : μPC4558C
Q1,3~5 : 2SC2021LN
2501225
Q2 : 2SC945BL
D1,2 : 1S2473
D3 : RD3.6EB2
Z1 : TL082CP
Z2,5 : DTC124F
Z3,4 : DTA124F
Q1 : 2SK30A
Q2 : 2SA1015
Q3 : 2SC1815
Q4 : 2SD1225M
Q5 : 2SB1010M
D1 : 1S2473
D2,3 : RD3.6EB1
D4 : SM1A-D2
Q101 : 2SC2894
D101 : RD3.3MB
Z101 : TL082CP-SO
NOTE
CHIP PACKAGED TRANSISTOR
CAPACITOR CHIP
CHEMICAL CAPACITOR CHIP
RESISTOR CHIP
CHIP PACKAGED ZD

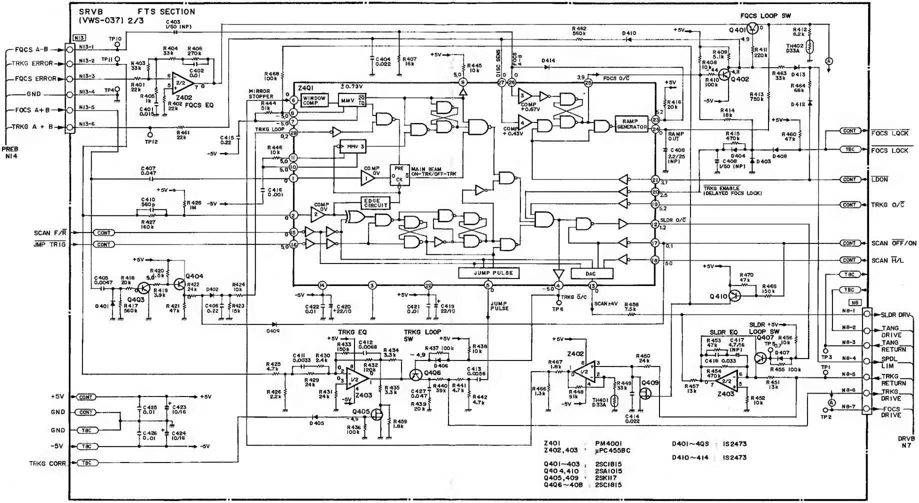

PREB
HEAD
APCB
CTCB
SENS
To DEMB N29
To SRVB N13
To DRVB N3
TILT MOTOR
LASER DIODE
MONITOR DIODE
FOCS
TRKG
TANG
N14
N4
N43
N44
N45

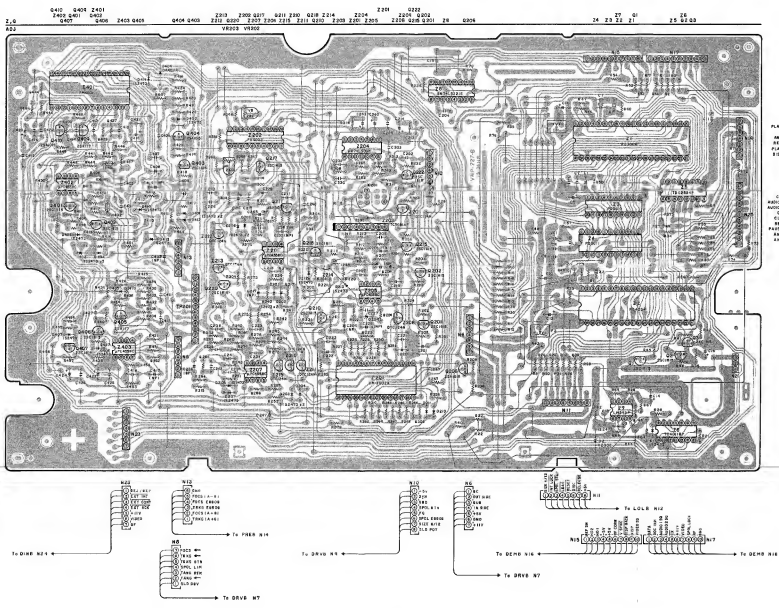
4.5 LOLB, IRAB, DINB, KEYA, KEYB, SRVB 1/3 (CONT)

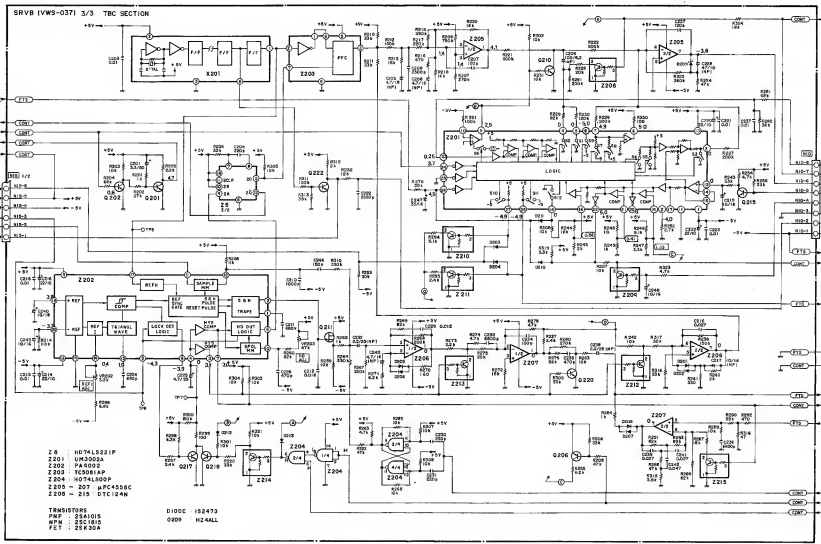


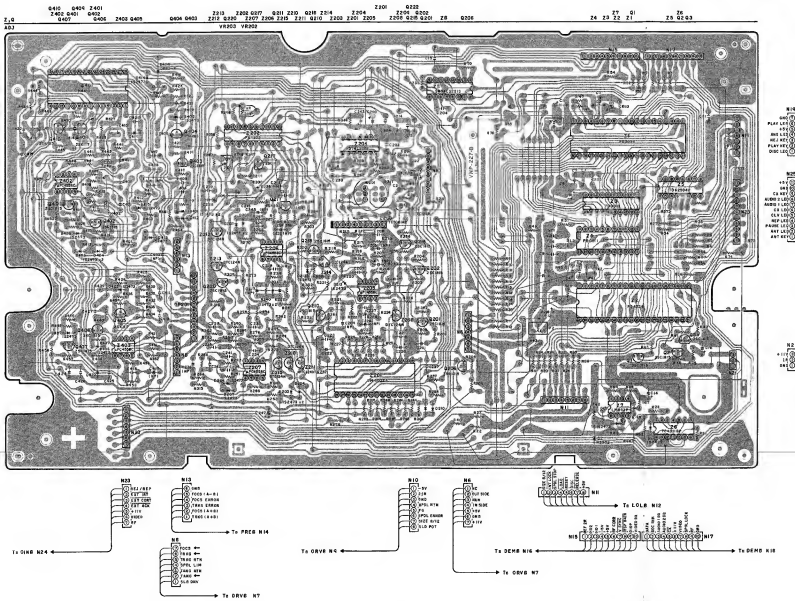

KEYA
IRAB
DINB
LOLB
KEYB
PAUSE
REP
ANT
POWER
To SRVB N19
To SRVB N21
To SRVB N23
To SRVB N25
To DRVB N41
To DRVB N37~1
To SRVB N11
PLUNGER
MOTOR
DIN JACK

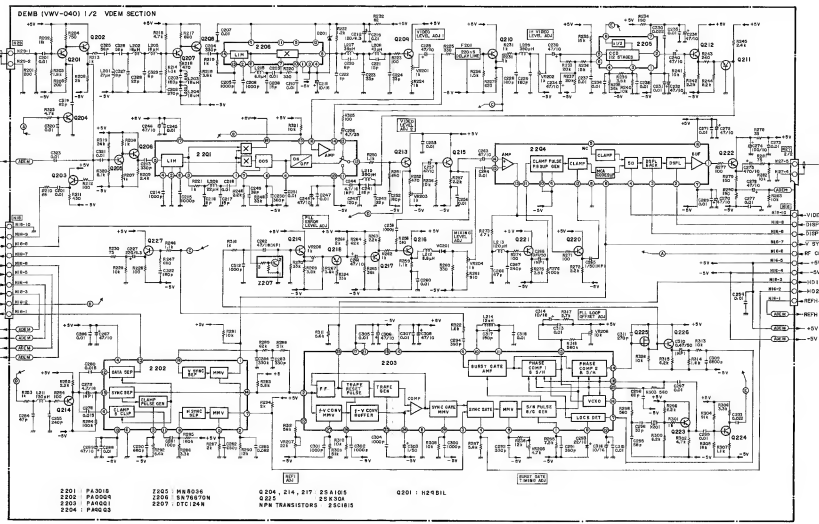
4.6 SRVB 2/3 (FTS)

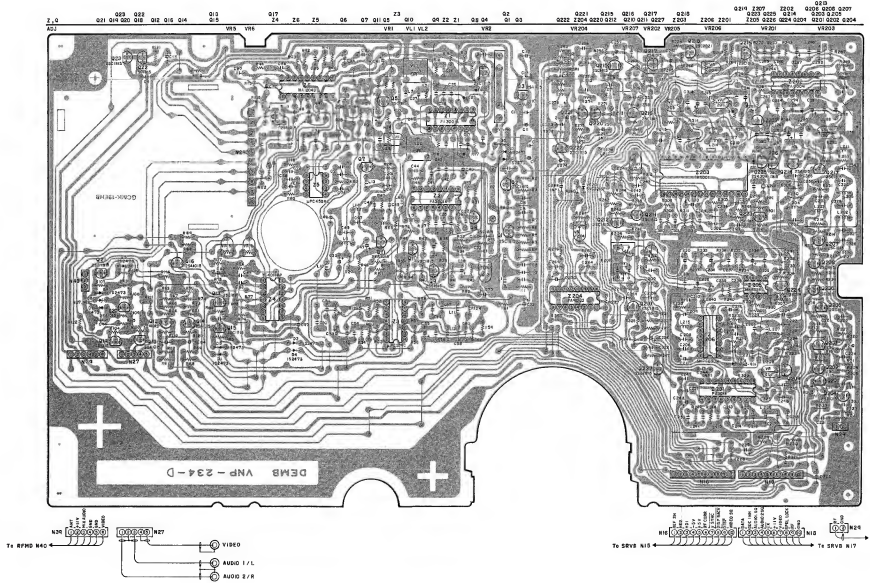


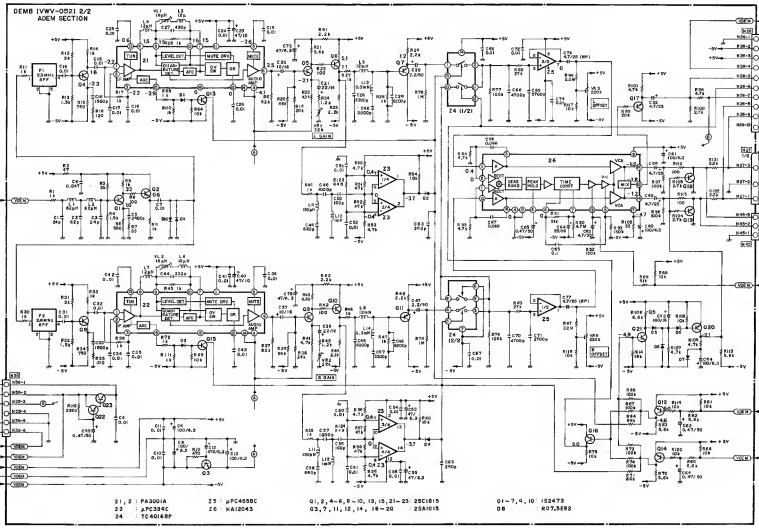

To KEYA N20
To KEYB
To JOGA N22
To DIME N24
To PREM N14
To DRVB N4
To DRVB N7
To LOLB N12
To DEMO N16
To DEMO N18
To DRVB N7

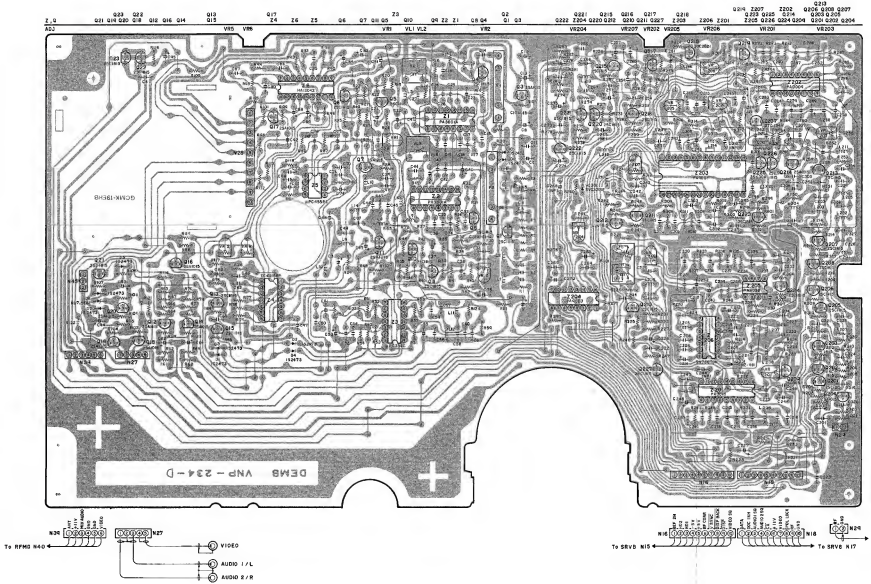

SRVB (VWS-0371) 3/3 TBC SECTION
FOCS LOCK
H SYNC
LV DV
RUN
+5V
RF CORR
-5V
HD 1
HD 2
REF IN
COMB M16
SIZE A/Z
SLOW POT
SIZE A/Z
SPOL ERROR
FH
SPOL RTN
GND
2FH
-5V
SPOL STOP
TRKG CORR
GND
GND
TANG DRV
SPOL LOCK
TANG RTN
JMP TRIG
CLV
SCAN STP/ON
SRVB M9
Z6 HD74LS221P
Z201 UM3002A
Z202 PA1002
Z203 TC9081AP
Z204 HD74LS00SP
Z205 ~ 207 μPC4558C
Z208 ~ 215 DTC124N
TRANSISTORS
PNP : 2SA1015
NPN : 2SC1815
FET : 2SK30A
DIODE 1S2473
0209 MZ4ALL


1
2
3
4
5
A
B
C
D
To HEAD N20
To KEYB N26
To LOAD N22
To LOAD N12
To DEMO N16
To DEMO N18
To DRVB N7
To DRVE N6
To SENS N24
To FRCS N14
To DRVE N7
4-23
4-24

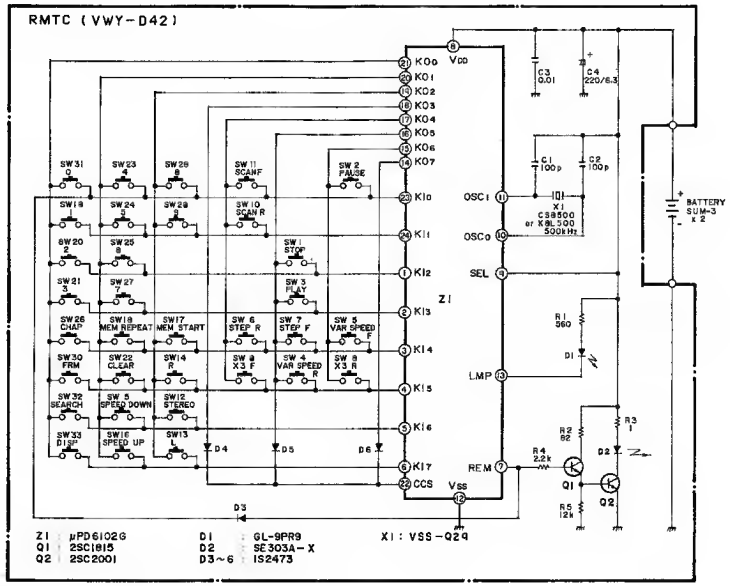

DEMB (VWV-040) 1/2 VDEM SECTION
Q201 : FA3018
Q202 : FA2008
Q203 : FA2001
Q204 : FMG03
Q205 : MN8036
Q206 : SN76870N
Q207 : DTC124N
Q204, 214, 217 2SA1015
Q225 2SC924
NPN TRANSISTORS 2SC1815
Q201 : HZ4B1L

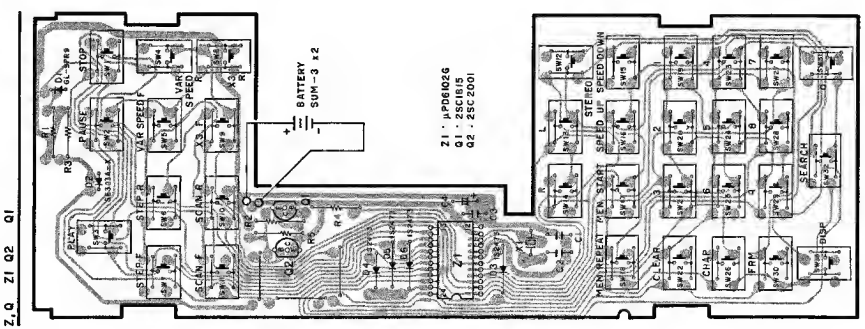

DEMB VNP-234-D
N25
N27
VIDEO
AUDIO 1/L
AUDIO 2/R
To RFMD N4C
N16
N26
To SRVB N15
To SRVB N17
To PRES N4


DEMB (VWV-0521) 2/2
ADEM SECTION
RFMD
21, 22 : PA3001A
23 : μPC3416C
24 : TC40H69P
Z5 : μPC4558C
Z6 : HA12043
Q1, 2, 4~6, 8~10, 13, 15, 21~23 : 2SC1815
Q3, 7, 11, 12, 14, 16~20 : 2SA1015
D1~7, 9, 10 : 1S2473
D8 : RD7.5ES2


DEMB VNP-234-D
To RFMG N40
N36
N37
VIDEO
AUDIO I/L
AUDIO R/R
To SRVB N15
N14
N16
To SRVB N17
N26
To FREP N14

4.10 REMOTE CONTROL UNIT (CU-700)





4.11 PARTS LIST OF EACH PCB

NOTES:

- *Parts without part number cannot be supplied.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *When ordering resistors, convert the resistance value into code form, and then rewrite the part no. as before.*

FUS0(VWR-052) Parts list 1

(MK)(Part No.)	(IT)(REF Nos. & DESCRIPTIONS)		
⚠ RD1/4VS225J	R	1	
⚠ VCG-010 (VCG-011)	C	1	
⚠ VTL-003 (VTL-004)	L	1	Line filter
⚠ VEK-005	FU	1	125V 2A
⚠ VKR-001			Fuse holder

SFUS(VWR-051) Parts list 1

(MK)(Part No.)	(IT)(REF Nos. & DESCRIPTIONS)		
VEK-010	FU	2- 5	125V 3A

REC0(VWR-032) Parts list 1

(MK)(Part No.)	(IT)(REF Nos. & DESCRIPTIONS)		
SM1.5-02	D	1- 4	
SM1A-02	D	5- 10	
VCH-009	C	1, 2	3300/25
CEA222M25	C	3	
CEA472M10	C	4	
CEA602M10	C	5	

CNN0(VWY-054) Parts list 1

(MK)(Part No.)	(IT)(REF Nos. & DESCRIPTIONS)		
RD1/4PS561J	R	1	

0LM0 Parts list 1

(MK)(Part No.)	(IT)(REF Nos. & DESCRIPTIONS)		
PA2016	Z	1	
2SC1015	Q	1, 4, 6, 9, 11, 14	
2SA017	Q	2, 7, 12	
2SD800	Q	3, 0, 13	
2S0034	Q	5, 10, 15	
SM1A-02	D	1- 6	
RD1/4VM□□□J	R	1, 2, 4- 6, 0- 10, 12- 14, 16- 10, 20- 22, 24, 26- 32	
RD1/2VM□□□J	R	3, 7, 11, 15, 19, 23	
RN1/4PR□□□□F	R	25	
CEA470M50	C	1- 3	
CQPA104G100	C	4	
CEANL100K16	C	5	
CEA4R7M25	C	6	

DRV0(VWR-050) Parts list 1

(MK)(Part No.)	(IT)(REF Nos. & DESCRIPTIONS)		
μPC4550C	Z	1, 2	
NJM4558S	Z	3, 4	
μPC339C	Z	5	
DTA124N	Z	6, 7	
2SC1061	Q	1	
2SD525	Q	3, 20	
2S0595	Q	4, 6	
2SC495	Q	7, 13	
2SA505	Q	0, 14	
2SD1225M	Q	9, 11, 16	
2S0909M	Q	10, 12	
2SC1015	Q	15, 17, 21, 22	
2SA1015	Q	10	
2SC1627	Q	19	
HZ11C-2	D	1, 6	
1S2473	D	2, 7, 11- 14	
HZ60-2	D	3, 0	
S2K20	D	15	
RD1/6PS□□□J	R	1- 12, 15- 29, 35, 36, 30- 41, 43- 52, 54, 59, 60, 62- 65, 67- 77, 79, 00, 04, 05, 07- 90, 93	
RD1/2PS220J	R	13, 14	
RD1/4PM□□□J	R	22	
RD1/2VS3R3J	R	30, 31	
VCN-099	R	32, 33	4.7/1W
VCN-100	R	34	2.7/1W
VCN-093	R	53	3.3/2W
VCN-092	R	54	1.2/3W
RN1/4PR□□□□F	R	55- 50	
RD1/4VM□□□J	R	66, 70, 06	
VCP-074	VR	1, 2	4.7k
VCP-070	VR	3	22k
CKDYF103Z50	C	1, 3, 5, 6, 0, 10, 12, 13, 24, 25, 27, 35, 36	
CEA221M25	C	2, 9	
CEA470M16	C	4, 11, 20	
CEA470M10	C	7, 14	
CKDY0561K50	C	15, 16	
CKDY0101K50	C	17	
CQMA103J50	C	10	
CKDY0601K50	C	19	
CEA100M50	C	20	
CEA220M16LL	C	21	
CEA010M50	C	23	
CCDSL560J50	C	31	
CEA220M50	C	32	
VTT-021	L	1	Choke coil
VEC-101			Silicon rubber sp
VEC-102			Insulator
VEC-072			Mica insulator

NOTES:

- *Parts without part number cannot be supplied.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
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PREB(VWV-853) Parts list 1

(MK)(Part No.)	(IT)(REF Nos. & DESCRIPTIONS)		
uPC455BC (NJM4558D)	Z	1- 4	
2SC2821LN	Q	1, 3- 5	
2SD1225M	Q	2	
1S2473	D	1, 2	
RD3.6EB2	D	3	
RD1/6PS000J	R	1- 38, 48	
RD1/4PM000J	R	39	
VCP-867	VR	1	330
VCP-888	VR	2, 4	47K
VCP-874	VR	3, 5	4.7K
CKDYF183Z50	C	1, 6, 7	
CCDSL101JS0	C	2	
CEAR47M50NP	C	3	
CEA228M16	C	4	
CEA010M50	C	5	
CEA188M16	C	8, 9	
VKN-894	FPC connecter		

CTCB(VWS-039) Parts list 1

(MK)(Part No.)	(IT)(REF Nos. & DESCRIPTIONS)		
TL882CP	Z	1	
DTC124F	Z	2, 5	
DTA124F	Z	3, 4	
2SK30ATM	Q	1	
2SA1015	Q	2	
2SC1815	Q	3	
2SD1225M	Q	4	
2SB909M	Q	5	
1S2473	D	1	
RD3.6EB1	D	2, 3	
SM1A-02	D	4	
RD1/4VM000J	R	1- 5, 7- 9, 11- 14	
RD1/4PM000J	R	6	
VCP-884	VR	1	22BK
CQMA683J50	C	1	
CEAR47M50NP	C	2, 5	
CEA188M16LL	C	3	
CEA338M16	C	4	

DINB(VWG-114) Parts list 1

(MK)(Part No.)	(IT)(REF Nos. & DESCRIPTIONS)		
VSH-001	SW	1	
VKN-881	8p DIN sockat		

KEYA(VWG-116) Parts list 1

(MK)(Part No.)	(IT)(REF Nos. & DESCRIPTIONS)		
AASS04S	D	1, 4	
TLR143	D	2	
BGSS04S	D	3, 5	
VSC-884	SW	1, 2	

KEYB(VWG-888) Parts list 1

(MK)(Part No.)	(IT)(REF Nos. & DESCRIPTIONS)		
2SA1015	Q	1, 2	
TLR143	D	1- 3, 6- 8, 13, 14	
TLPG143	D	4, 5, 18- 12	
1S2473	D	9	
RD1/4PM000J	R	1, 4- 7	
VSC-884	SW	1, 2	
VKP-223	Flat cable		

LDLB(VWG-113) Parts list 1

(MK)(Part No.)	(IT)(REF Nos. & DESCRIPTIONS)		
PD5819	Z	1	
MB3763	Z	2	
DTC124N	Z	3	
2SC2021LN	Q	1	
2SC1815	Q	2, 3	
2SA1015	Q	4, 7	
TPS685	Q	5, 6	
2SC2655	Q	8	
TLR123	D	1, 2	
1S2473	D	3	
SM1A-02	D	4	
RD1/6PS000J	R	1- 17, 20	
VCN-894	R	18	4P-3.3k
VCN-895	R	19	6P-10k
VCN-896	R	21	3.9/1W
RD1/4PMB23J	R	22	
CKDYF183Z50	C	1, 2	
CEA220M16LL	C	3	
VTH-885	F	1	
VNL-179	Sensor cover		

IRAB(VWG-110) Parts list 1

(MK)(Part No.)	(IT)(REF Nos. & DESCRIPTIONS)		
uPC1373H	Z	1	
2SK30ATM	Q	1	
PH302B	D	1	
1S2473	D	2	
RD9.1EB3	D	3	
RD1/4VM000J	R	1	
RD1/6PS000J	R	2- 8	
CEA180M16LL	C	1, 5, 6, 8	
CCDSL101J50	C	2, 3	
CQMA302J50	C	4	
CQMA473J50	C	7	
CKDYF103Z50	C	9	
VTL-118	L	1	5mH
VNF-061	Shield cap		
VNF-062	Shiald base		

NOTES:

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SRVB(VWS-037) Parts list 1

(MK)(Part No.)	(IT)(REF Nos. & DESCRIPTIONS)
PD3006	Z 1
PD4034	Z 2
(PD8009)	
PD0010	Z 3
PD0011	Z 4
TD62504P	Z 5
TC40110P	Z 6
(M8840110M)	
uPC393C	Z 7
(LM393P)	
SN74LS221N	Z 0
(HD74LS221P)	
UM3002A	Z 201
PA9002	Z 202
TC5001AP	Z 203
SN74LS00N	Z 204
(HD74LS00P)	
uPC4558C	Z 205-207,402,403
(NJM4558D)	
DTC124N	Z 208-215
PM4001	Z 401
2SC1015	Q 1- 3,201,202,210,215,217, 210,220,222,401-403,406,407
2SA1015	Q 206,404,410
2SK30ATM	Q 211
2SK117	Q 405,409
1S2473	D 1, 3,201-200,211-213,401-410,412-414
HZ3C2	D 2
HZ4ALL	D 209
HZ983	D 415
(RD9.1EB2)	
RD1/6PS□□□J	R 1- 4, 7- 18, 20- 31, 33-36, 30- 45, 47- 62, 65- 76, 00, 01,201,205,216,240,241, 245-247,249,250,252,254,255, 263,266,270,271,273,274,277, 284,292,294,295,295,297-299, 312,315,316,319,323
RD1/4VM□□□J	R 5, 6, 32, 37, 46,451,452, 450,463,464
RN1/4PR□□□□F	R 63, 64,206,207,210-212,217, 219,314
RD1/4PM□□□J	R 02
RD1/6PS□□□J	R 202-204,207,208,213,210,220, 224,228,229,231,232,236,242-244,240,251,253,256-260,262, 265,269,272,275,276,270,279, 281-203,206-209,291,293,297, 301-309,311,313,317,318,320-322,324,401-404,407,400,410, 414,416,418,421-424,429,431, 436-440,444-446,448-450,453, 455-457,460,461,460-470
RD1/6PS□□□J	R 221-223,226,227,230,239,261, 264,267,260,280,300,310,405, 406,409,411-413,415,417,419, 420,425-420,430,432-435,441, 442,454,459,462,466,467
VCP-073	VR202 3.3K

SRVB(VWS-037) Parts list 2

(MK)(Part No.)	(IT)(REF Nos. & DESCRIPTIONS)
VCP-000	VR203 47K
CCDSL300J50	C 1- 4
CEA470M10	C 5, 12
CCDCH100D50	C 6, 9
CCDCH470J50	C 7
CKDYF103Z50	C 0, 13,203,213,215,221,223, 237,421,422,425,426
CEA101M6R3	C 10, 11
CEA010M50	C 14
CQMA224J50	C 15,406,415
CEA100M16	C 16, 18,219,240,243,240,423, 424
CCDSL271J50	C 17
CCDSL101J50	C 19,234,430
CEA3R3M50	C 201
CQMA222J50	C 202
CCDSL221J50	C 204,230,231
CEA4R7M16NP	C 205,200,245,417
CQMA332J50	C 206,411
CCDSL121J50	C 207,227
CEA101M6R3NP	C 209
CQMA102J50	C 210,416
CQSH681J50	C 211,224
CQMA103J50	C 212
CEA220M10	C 214,216,220,222,419,420
CEA100M16NP	C 217
CQMA273J50	C 210,239,241
CEA4R7M25	C 225
CQSH471J50	C 226
CEA470M10NP	C 228
CQMA123J50	C 229
CEA2R2M25NP	C 232,236,409
CQMA682J50	C 233,238,412
CCDSL471J50	C 235
CQMA473J50	C 242,407,427
CCDSL151J50	C 246
CEA330M16	C 247
CQMA153J50	C 401
CQMA103J50	C 402
CEA010M50NP	C 403,408
CQMA223J50	C 404,414
CQMA472J50	C 405
CCDSL561J50	C 410
CQMA562J50	C 413
CQMA333J50	C 410
VCM-003	VC 1 50pF
VTL-039	L 1, 2 Coil 220u
VTH-005	F 1, 2 Filter
VSS-018	X 1 4MHz
VSS-021	X 2 4.41M
VSS-020	X 201
(VSS-024)	
D33A	TH401,402

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DEM0(VWV-052) Parts list 1

(MK)	(Part No.)	(IT)	(REF Nos. & DESCRIPTIONS)
	PA3001A	Z	1, 2
	μPC339C	Z	3
	TC40168P	Z	4
	μPC4558C (NJM4558D)	Z	5
	HA12043	Z	6
	PA3010	Z	201
	PA0009	Z	202
	PA9001	Z	203
	PA9003	Z	204
	MN8036	Z	205
	SN76670N	Z	206
	DTC124N	Z	207
	2SC1015	Q	1, 2, 4- 6, 0- 10, 13, 15, 21- 23,201-203,205-213, 215,216,219-224,226,227
	2SA1015	Q	3, 7, 11, 12, 14, 16- 20, 204,214,217
	2SC2021	Q	218
	2SK30ATM	Q	225
	1S2473	D	1- 7, 9, 10
	RD7.5E02	D	0
	HZ981L	D	201
	RD1/6PS000J	R	1- 17, 23- 25, 20- 36, 42- 44, 47- 49, 54, 55, 65, 72, 01, 02,105,110-113,201,203- 200,210-214,216,217,219-228, 230-232,234,242,243,246-248, 250-255,257-262,266,271,273, 274,277-201,287,294,298,301, 303,307,314,316,322,325
	RD1/6PS000J	R	10- 22, 37- 41, 60- 64, 66- 71, 73- 00, 03- 05, 09, 91- 101,103,104,106-109,114-122, 202,209,215,210,229,233,230- 241,244,245,249,256,263-265, 267,269,270,272,275,276,282, 283,286,288,289,291-293,295- 297,299,300,302,304-306,308, 310,311,313,315,317,319-321, 323,326
	RN1/4PR0000F	R	27, 20, 46, 47, 50- 53, 56- 59,123,124,235-237,240,290, 309,312
	RD1/4VM000J	R	06, 07, 90,324
	RD1/6PS000J	R	123,124,204,205,310
	VCP-070	VR	1, 2,207 22K
	VCP-004	VR	5, 6 220K
	VCP-070	VR	201-204,208 1K
	VCP-074	VR	205 4.7K
	VCP-076	VR	206 10K
	CCDCH240J50	C	1, 3
	CCDCH020J50	C	2
	CKDYF103Z50	C	4, 7, 10, 11, 14, 15, 17- 19, 24- 26, 31, 32, 34- 36, 41- 43, 51, 52, 54, 56, 60, 61, 66, 67, 72, 74,201,207, 209,210,210,219,231,235,237- 239,245,247,251,253,256,259, 260,264,269,271,273,277,286, 280,297,299,305,307,320,321, 323,324

DEM0(VWV-052) Parts list 2

(MK)	(Part No.)	(IT)	(REF Nos. & DESCRIPTIONS)
	CKDY0392K50	C	5
	CKDYF473Z50	C	6
	CEA101M6R3	C	0, 9, 13, 00, 01,212
	CEA471M6R3	C	12
	CKDY0152K50	C	16
	CEA100M16	C	20,314
	CEA220M16	C	21
	CEA470M10	C	23, 40,225,230,234,236,240, 246,261,270,272,287,289,306, 300
	CCDSL431J50	C	27
	CQMA622J50	C	20, 29, 45, 46
	CEA2R2M50LL	C	30, 47
	CKDY0102K50	C	33
	CEA100M16LL	C	37, 93,211,316
	CEA220M16LL	C	38
	CCDSL331J50	C	44,204,213,283,284
	CQMA102J50	C	40, 57,300,302
	CKDY8681K50	C	49, 50,202,290
	CCDSL161J50	C	50, 59
	CEA470M6R3LL	C	53, 55, 73, 75
	CEAR47M50LL	C	62, 64
	CCDSL391J50	C	63, 65,294
	CQMA472J50	C	60, 70
	CQMA272J50	C	69, 71
	CEA4R7M25NP	C	76, 77
	CEA4R7M35LL	C	02,226
	CEANLR47K50	C	03
	CEANL220K16	C	04
	CQMA104J50	C	05
	CQMA603J50	C	86, 87
	CEA4R7M25	C	00, 09, 92
	CQMA103J50	C	91,313
	CEA101M6R3LL	C	94
	CEAR47M50	C	95
	CQMA332J50	C	96, 97
	CCDSL271J50	C	202,311
	CCDSL181J50	C	203,220,229,252,322
	CKDY0102K50	C	205,206,214,215,258,312
	CCDCH150J50	C	208,217,221
	CCDCH000D50	C	216,220,222,327,329
	CCDCH330J50	C	223,224,296
	CEA221M6R3	C	227
	CKDYF223Z50	C	233,330
	CCDSL180J50	C	241
	CCDCH220J50	C	242,320
	CCDSL121J50	C	243
	CEA4R7M16NP	C	244,279
	CCDCH390J50	C	249
	CCDSL361J50	C	250
	CCDCH470J50	C	254,266
	CCDSL241J50	C	255,267
	CEA470M10NP	C	262
	CEA470M10LL	C	263,276

NOTES:

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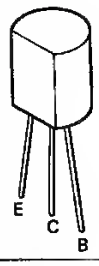
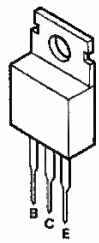
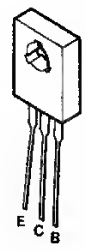
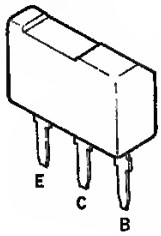
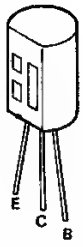
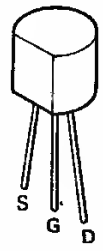
DEM0(VWV-052) Parts list 3

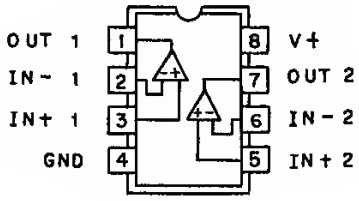
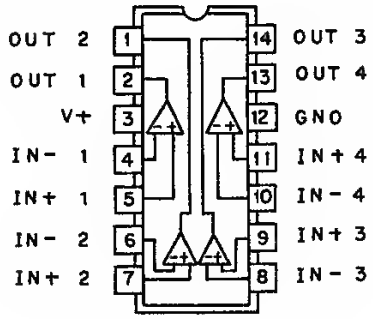
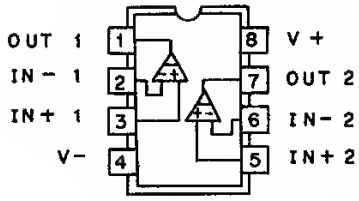
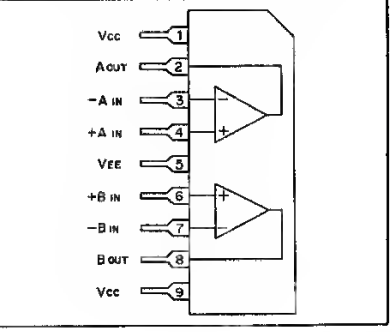
(MK)(Part No.)	(IT)(REF Nos. & DESCRIPTIONS)	
CEA010M50NP	C 265	
CEAR47M50NP	C 260,310	
CEA101M10	C 274	
CEA471M10	C 275	
CQMA153J50	C 270,200	
CCDCH101J50	C 201	
CQPA823G100	C 285	
CQSH391J50	C 291	
CQSH331J50	C 292	
CEA220M10	C 293	
CCDCH560J50	C 295,325,326	
CCDCH600J50	C 290	
CQSH102J50	C 301,304	
CEA010M50	C 303	
CQMA602J50	C 309	
CKDYF103Z50	C 315,310	
CCDSL020J50	C 319	
SVC321SP	VC201	
VTL-040	L 1, 2	62uH
(VTL-060)		
VTL-024	L 3, 4, 7,214	12uH
VTL-119	L 5, 0	12mH
VTL-023	L 6	10uH
VTL-154	L 9, 11	150uH
VTL-047	L 10, 12	1mH
(VTL-070)		
VTL-139	L 13, 14	3.3mH
VTL-020	L 201	27uH
VTL-026	L 202-205	10uH
VTL-027	L 206	22uH
VTL-030	L 207	39uH
VTL-051	L 200	43uH
(VTL-067)		
VTL-042	L 209,210	390uH
VTL-036	L 211,213	120uH
VTL-021	L 212,215	6.0uH
VTF-021	VL 1, 2	10uH
VTF-051	F 1	B.P.F 2.3MHz
VTF-052	F 2	0.P.F 2.0MHz
VTF-016	F 201	D.L. 220ns
VSS-019	X 201	3.50MHz
IPZ30P000FMC		

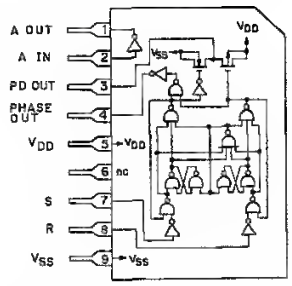
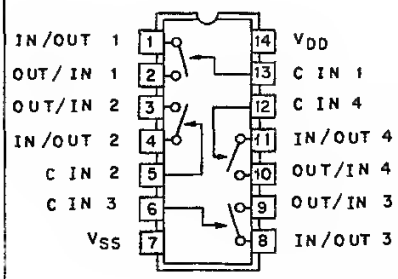
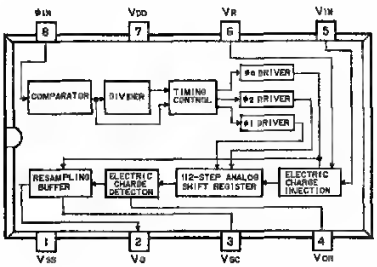
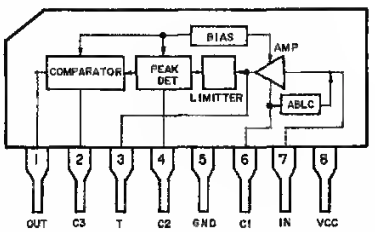
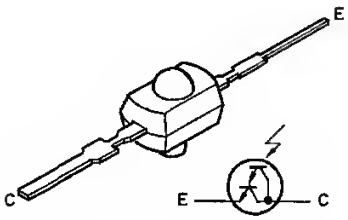
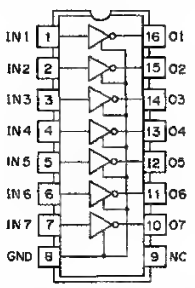
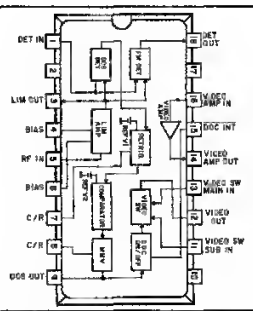
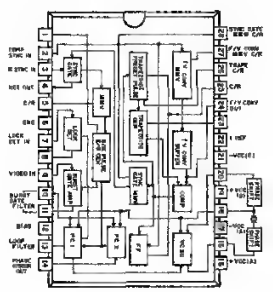
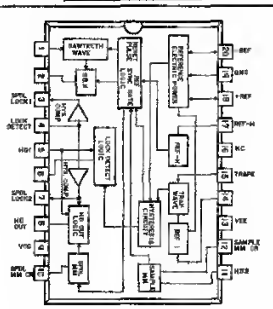
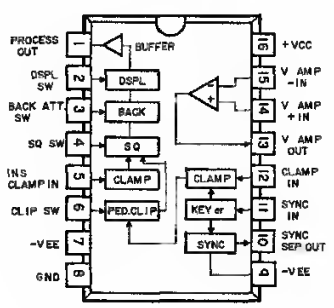
RMTC(VWY-042) Parts list 1

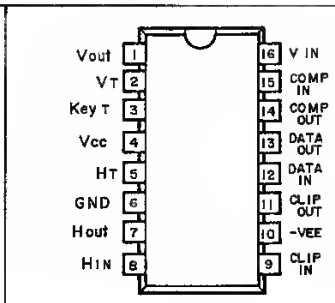
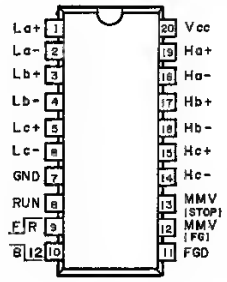
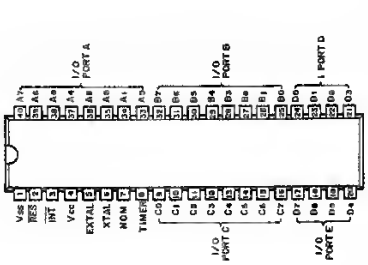
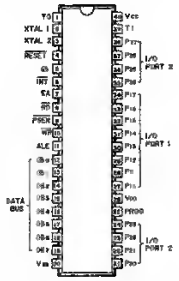
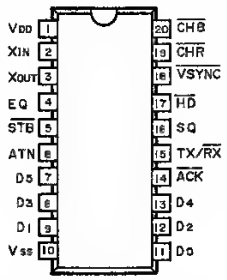
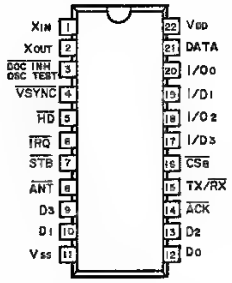
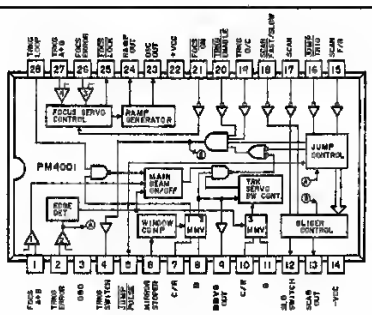
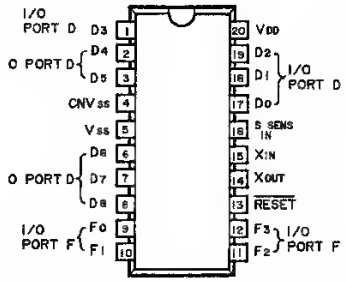
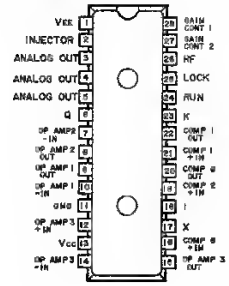
(MK)(Part No.)	(IT)(REF Nos. & DESCRIPTIONS)		
uPD6102G	Z 1		
2SC1015	Q 1		
2SC2001	Q 2		
GL-9PR9	D 1		
SE303A-X	D 2		
1S2473	D 3- 6		
RD1/4PM000J	R 1- 5		
CCDCH101J50	C 1, 2		
CKDYF103Z50	C 3		
CEA221M6R3	C 4		
VSS-029	X 1	500kHz	
(VSS-031)			
VSC-006	SW 1- 33		

4.12 TR & ICs

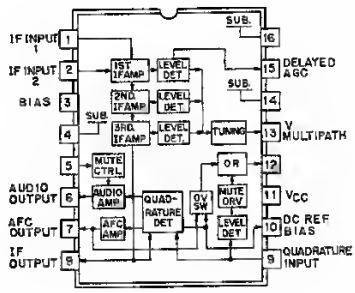
2SC1815 2SA1015 2SC1627 2SA817		2SD880 2S8834 2SC1061N 2SD525 2S8595		2SC495 2SA505	
2SD1225M 2S8909M 2SC2021LN		2SC2655		2SK30A 2SK30ATM	
2SK117					

μPC4558C NJM4558D TL082CP		μPC339C	
μPC393C		NJM4558S	

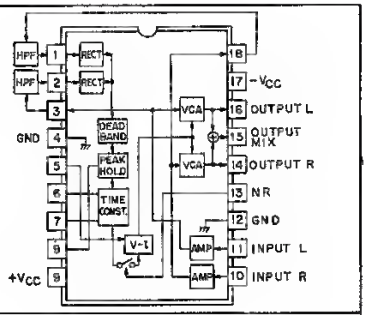
TC5081AP		TC40168P	
MN8036		μPC1373H	
TPS605		TD62504P	
PA3018		PA9001	
PA9002		PA9003	

PA0009		PA2016	
PD3006		PD4034	
PD0010		PD0011	
PM4001		PD5019	
UM3002A			

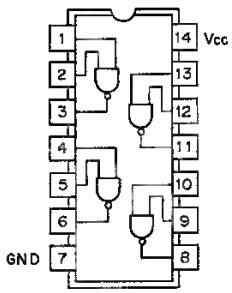
PA3001A



HA12043



SN74LS00N



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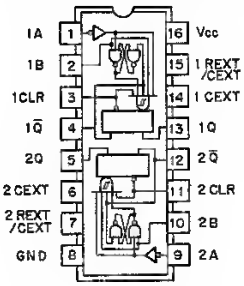
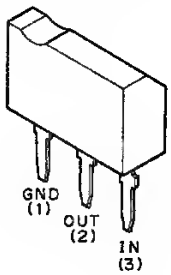


DTC124F
DTA124F



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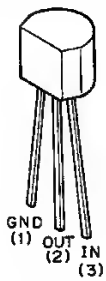
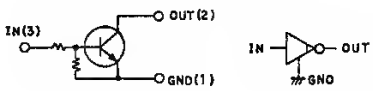
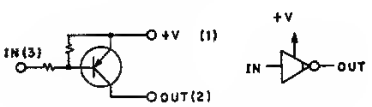
DTA124N



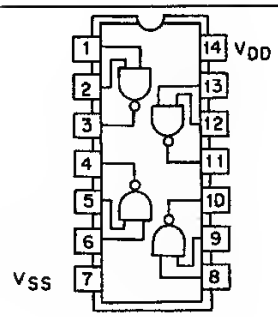
DTC124F
DTC124N



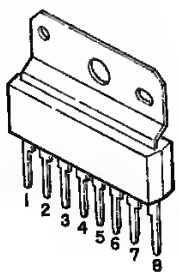
DTA124F
DTA124N

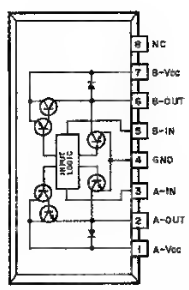


TC4011BP



MB3763

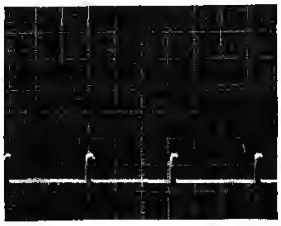




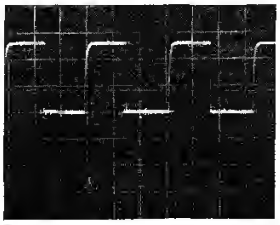
4.13 WAVEFORMS

SRVB PA9002 ①
V:2V/div H:20μs/div

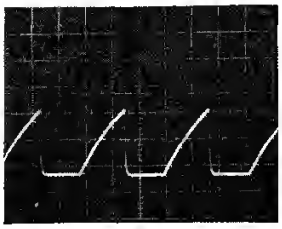
SRVB PA9002 ⑤
V:2V/div H:20μs/div



SRVB PA9002 ⑧
V:2V/div H:20μs/div

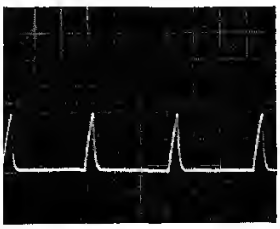


SRVB PA9002 ⑩
V:2V/div H:20μs/div

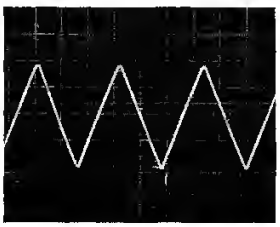


SRVB PA9002 ⑪
V:2V/div H:20μs/div

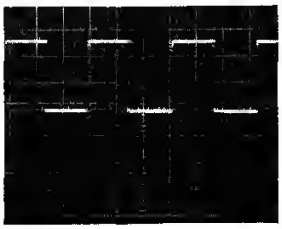
SRVB PA9002 ⑫
V:2V/div H:20μs/div



SRVB PA9002 ⑮
V:2V/div H:20μs/div

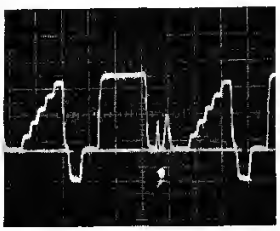


SRVB TC5081AP ①
V:2V/div H:20μs/div



SRVB ZB ⑤
V:2V/div H:20μs/div

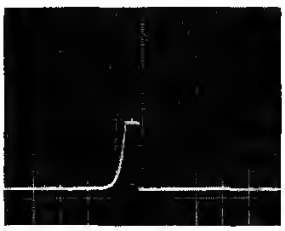
DEMB PA301B ⑪
V:0.5V/div H:10μs/div



DEMB PA301B ⑬
V:0.5V/div H:10μs/div

DEMB PA0009 ①
V:5V/div H:5ms/div

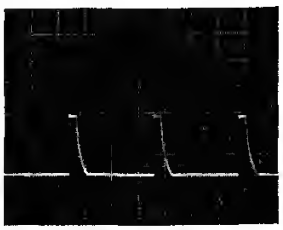
DEMB PA0009 ⑦
V:2V/div H:2μs/div



DEMB PA0009 ⑧
V:0.1V/div H:20μs/div

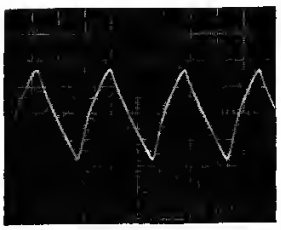
DEMB PA0009 ⑯
V:2V/div H:0.2ms/div

DEMB PA9001 ①
V:2V/div H:20μs/div



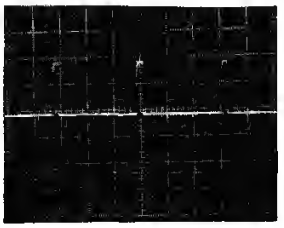
DEMB PA9001 ⑤
V:2V/div H:20μs/div

DEMB PA9001 ⑯
V:0.2V/div H:0.1μs/div

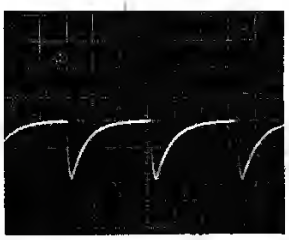


DEMB PA9001 ㉓
V:0.1V/div H:20μs/div
(10:1)

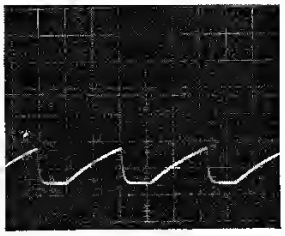
DEMB PA9001 ㉕
V:1V/div H:20μs/div



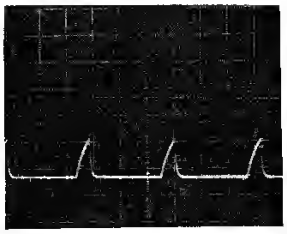
DEMB PA9001 ㉖
V:2V/div H:20μs/div



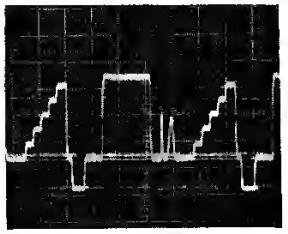
DEMB PA9001 ㉗
V:2V/div H:20μs/div



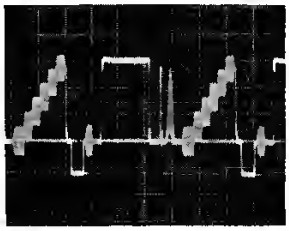
DEMB PA9001 ㉘
V:2V/div H:20μs/div



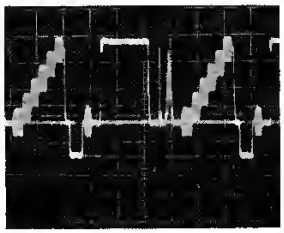
DEMB PA9003 ⑪
V:0.5V/div H:10μs/div



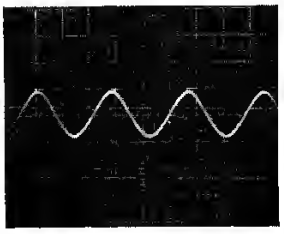
DEMB PA9003 ⑫
V:0.5V/div H:10μs/div



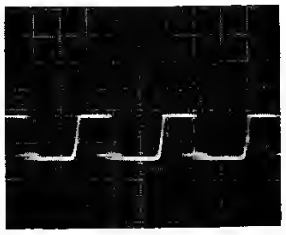
DEMB PA9003 ⑬
V:0.5V/div H:10μs/div



DEMB MN8036 ⑧
V:0.1V/div H:0.1μs/div

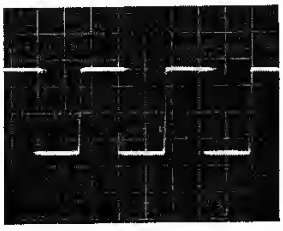


DRV8 O18 ©
V:0.1V/div H:10μs/div

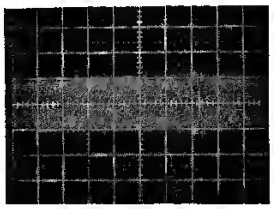


DRVB N9-7
V:0.5V/div H:10μs/div

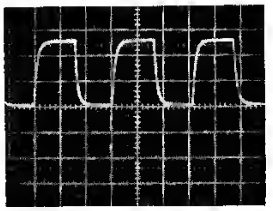
DRVB O20 ©
V:0.1V/div H:10μs/div



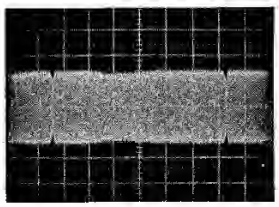
PREB TP2 (RF) MDDE; #1000 STILL
V:5mV/div H:2msec/div



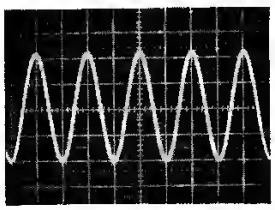
LOLB Z1-14 MDDE; PLAY
V:0.2V/div H:1μsec/div



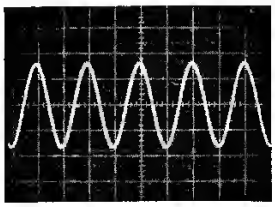
ADEM Z1-1 MODE; PLAY
V:20mV/div H:5msec/div



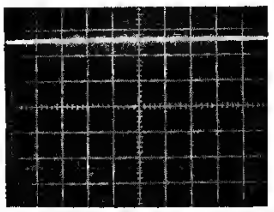
ADEM Z4-3 MDDE; #3600 PLAY
V:10mV/div H:0.5msec/div



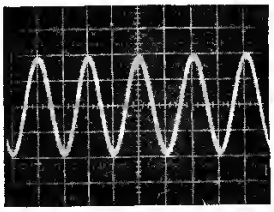
ADEM Z8-2 MODE; #3600 PLAY
V:20mV/div H:0.5msec/div



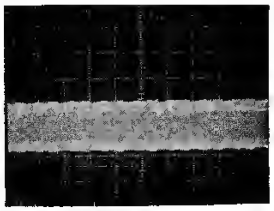
ADEM Z6-6 MODE; #3600 PLAY
V:0.1V/div H:0.5msec/div



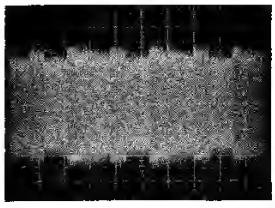
ADEM Z6-11 MDDE; #3600 PLAY
V:10mV/div H:0.5msec/div



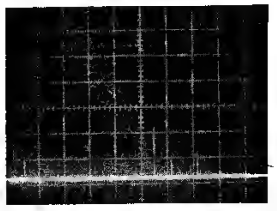
VDEM Z201-3 MDDE; #1000 PLAY
V:50mV/div H:20μsec/div



VDEM Z201-5 MODE; #1000 PLAY
V:10mV/div(AC) H:20μse/div

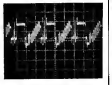


VDEM Z201-9 MODE; #1000 STILL
V:0.1V/div H:2msec/div

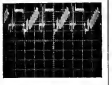


VDEM Z201-11 MODE; #1000 STILL
V:0.1V/div H:20μsec/div

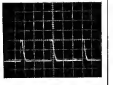
VDEM Z201-12 MODE; #1000 STILL
V:0.1V/div H:20μsec/div



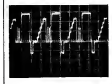
VDEM Z201-13 MODE; #1000 STILL
V:0.1V/div H:20μsec/div



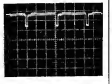
VDEM Z202-3 MODE; PLAY
V:0.2V/div H:20μsec/div



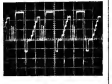
VDEM Z202-9 MODE; #1000 STILL
V:50mV/div H:20μsec/div



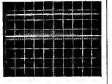
VDEM Z202-11 MODE; #1000 STILL
V:50mV/div H:20μsec/div



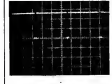
VDEM Z202-12 MODE; #1000 STILL
V:50mV/div H:20μsec/div



VDEM Z202-13 MODE; #1000 STILL
V:0.2V/div H:5msec/div

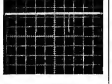


VDEM Z202-14 MODE; #1000 STILL
V:0.2V/div H:20μsec/div



VDEM Z202-15 MODE; #1000 STILL
V:0.1V/div H:20μsec/div

VDEM Z202-16 MODE; #1000 STILL
V:0.2V/div H:5msec/div



DRVS Q18-8 MODE; PLAY
V:20mV/div H:20μsec/div

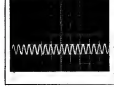
VDEM Z203-4 MODE; PLAY
V:0.2V/div H:20μsec/div

VDEM Z203-9 MODE; PLAY
V:0.1V/div H:20μsec/div

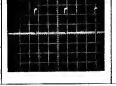
VDEM Z203-10 MODE; #1000 STILL
V:50mV/div H:1μsec/div

VDEM Z203-18 MODE; STAND-BY
V:50mV/div H:0.5μsec/div

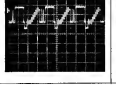
VDEM Z203-20 MODE; STAND-BY
V:50mV/div H:0.5μsec/div



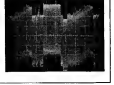
TBC Z203-7 (PB H) MODE; PLAY
V:0.2V/div H:20μsec/div



VDEM Z204-1 MODE; #1000 STILL
V:0.1V/div H:20μsec/div

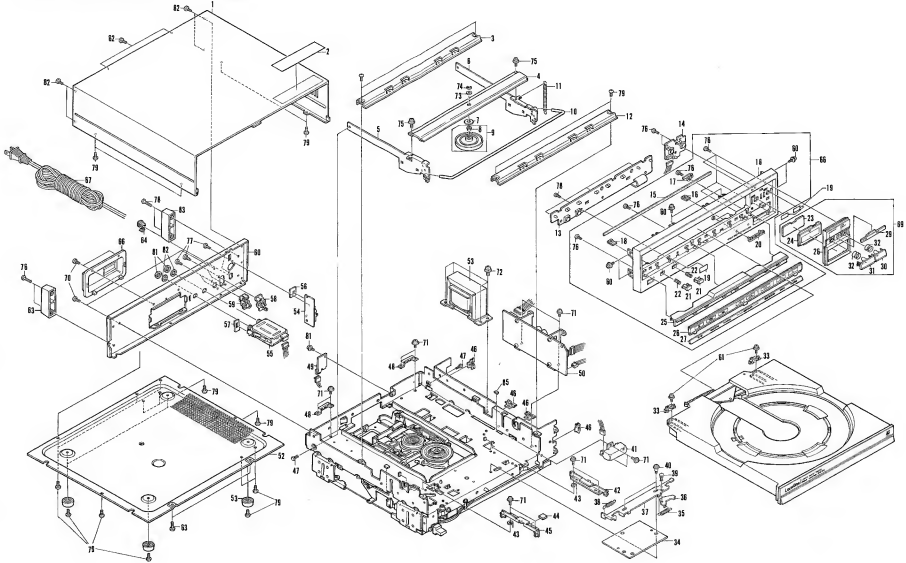


VDEM Z205-8 MODE; #1000 STILL
V:10mV/div(AC) H:10μsec/div



5. EXPLODED VIEW

5.1 EXTERNAL AND TOP VIEW



NOTES:

- *Parts without part number cannot be supplied.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*

LO-700/KU(TOP) Parts list 1

(MK)	(KY)	(Part Number)	(D E S C R I P T I O N)
1		VNA-025	Bonnet
2		VRW-253	Caution label
3		VNE-455	Bridge
4		VNE-432	Clamper holder
5		VXA-120	Clamper arm (L)
6		VXA-129	Clamper arm (R)
7		VEB-049	Cushion
8		N.S.P.	DC baaring
9		VXX-249	Clamper
10		VLL-102	Rod
11		V8H-887	Spring
12		VNE-455	Bridge
13		VWG-808	KEY8
14		VWG-116	KEYA
15		VEC-149	Cushion
16		VNK-207	Front panel
17			Wire crip
18		V0N-012	Speed nut
19		VEC-140	Shiet
20		VAM-813	Nama plate
21		VAC-156	Button
22		V8H-090	Spring
23		VNK-144	IR filter
24		VNK-143	IR window
25		VNK-130	Panal
26		VNK-288	Display panal
27		VNK-209	Undar panel
28		VNK-210	Control panel
29		VNK-142	Acrylic window
30		VXA-138	PLAY button
31		VXA-137	REJECT button
32		V8H-051	Spring
33		VNL-176	Stopper
34		VEC-118	Black sheet
35		VBH-003	Cum Spring
36		VNE-427	Lock sensor board
37		VNE-442	Slide board
38		V0H-886	Spring
39		VEC-179	Plastic rivet
40		VLL-185	Screw
41		VWG-118	IRA8
42		VXA-125	Roller plata
43		V0E-012	Height Adj. washer
44		VE0-856	Slide cushion
45		VXA-125	Roller plate
46		N.S.P.	Wire clip
47		VEC-179	Plastic rivet
48		VNL-177	Caddy guide
49		VWS-030	INT0
50		VWR-050	ORV8
51		VTT-040	Power transformsr
52		N.S.P.	0ottom board
53		VEC-119	Foot
54		VWG-114	DIN0
55		VWL-016	RFM0

LO-700/KU(TOP) Parts list 2

(MK)	(KY)	(Part Number)	(D E S C R I P T I O N)
56		VEC-122	Blind
57		VEC-105	0lind
58		VK0-003	2P pin-jack
59		VK8-088	1P pin-jack
60			Rear panel
61		VLL-082	Nut
62		VNE-278	Washer
63		VNL-101	Protecter
64		VEC-027	Cord stopper
65		VE8-868	Stopper
66		VNK-216	Rear covar
67		VDG-016	Power cord
68		VXX-205	Front panel ass'y
69		VXX-206	Control panel ass'y
78		8CZ38P868FZK	
71		ACZ30P068FMC	
72		PM040P008FMC	
73		WA32N100C800	
74		YE28FUC	
75		PM030P050FUC	
76		VPZ30P080FMC	
77		8PZ30P000FZK	
78		VCZ30P200FZK	
79		VCZ30P068FMC	
80		PM030P060FMC	
81		PM826P860FMC	
82		PCZ30P060FNi	
83		88Z30P800FNi	

5.2 BOTTOM VIEW

NOTES:

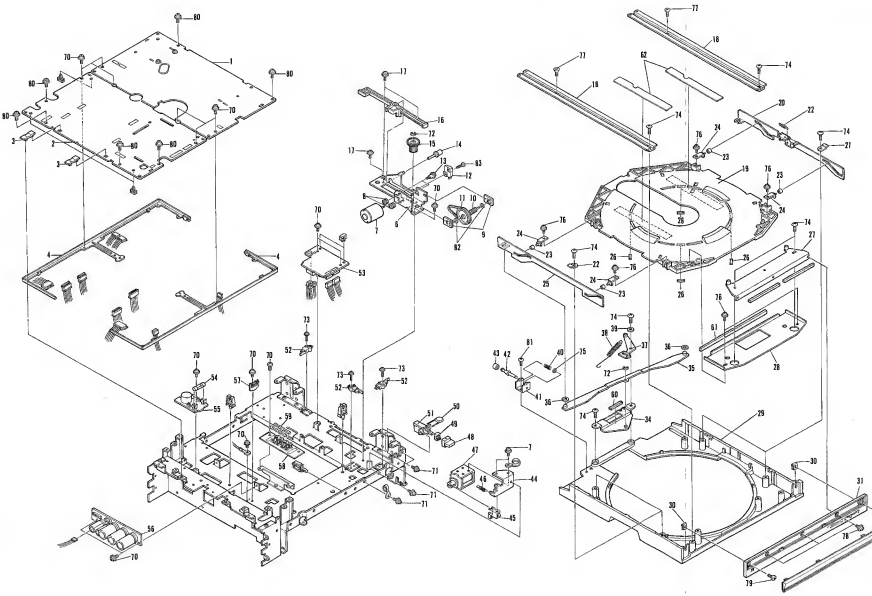
- *Parts without part number cannot be supplied.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*

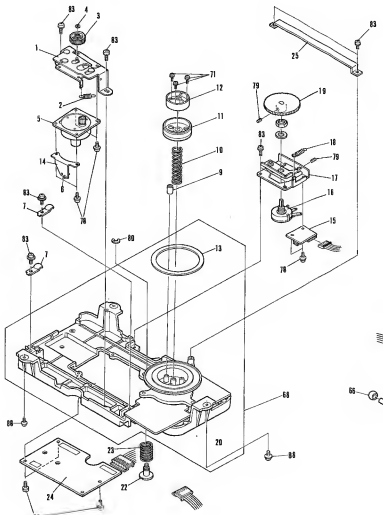
LO-700/KU(8OTTOM) Parts list 1

(MK)	(KY)	(Pert Number)	(O E S C R I P T I O N)
1		VWV-052	OEMB
2		VWS-037	SRV8
3		VEC-124	Hinge
4		VNE-453	PCB holder
5		VACANT	
6		VXA-126	Motor holder
7		VXM-02B	Roeding motor
8		VE8-050	8ushing
9		VNL-172	Sheft holder
1B		VXA-127	Worm gear ass´y
11		VEB-071	8alt
12		VSF-0B9	Micro-switch
13		VLL-1B3	Screw
14		VXA-175	Arm roller
15		VNL-173	Worm whaal
16		VNL-174	FL reck
17		VLL-184	Screw
1B		VNG-013	Reil
19		VNK-136	Tray
20		VXA-133	Cum (L)
21		VNE-434	Cum guide
22		V8H-083	Spring
23		VLL-179	Roller
24		VXA-134	Lifter
25		VNE-439	Cum (R)
26		VEB-0B0	Cushion Rubber
27		VXA-187	Joint
2B		VNE-467	Plete
29		VNK-235	Caddy
30		VBN-002	Speed nut
31		VNK-145	Roading penel
32		VAH-040	Aluminum panel
33		VNK-1B7	Panel eacutchaon
34		VXA-131	Rink holder
35		VXA-130	Rink ass´y
36		VE8-069	Rink spacar
37		VXA-135	Ejecter
3B		VBH-116	Spring
39		VLL-180	Waaher
40		VBH-B91	Spring
41		VNE-581	Holder
42		VLL-253	Switch pin
43		VEB-053	Conductive rubber
44		VXA-123	Plunger holder
45		VNE-426	Lever
46		VBH-BB5	Spring
47		VXP-8B9	Plunger
4B		VAC-155	POWER button
49		VEC-151	Flexible ring
50		VCG-B18	Capacitor
51		VSA-007	Power switch
52		VSK-B04	SW
53		VWG-113	LOL8
54		VEK-B05	Fuae 2A
55		VWR-852	FUS8

LO-7B0/KU(BOTTOM) Parts list 2

(MK)	(KY)	(Part Number)	(O E S C R I P T I O N)
56		VWR-032	RECB
57		N.S.P.	4P terminal
5B		VWR-051	SFUS
59		VEK-018	Fuae 3A
60		VEO-042	Cushion
61		VEC-144	Cushion
62		VEB-063	Oumping rubber
63		VACANT	
64		VACANT	
65		VACANT	
66		VACANT	
67		VACANT	
68		VACANT	
69		VACANT	
70		ACZ30P060FMC	
71		PMB30P060FMC	
72		YE30FUC	
73		ACZ20P080FMC	
74		VPZ40P120FMC	
75		YE20FUC	
76		iPZ3BP080FMC	
77		CPZ4BP120FMC	
78		8MZ30P050FNi	
79		BBZ3BP0B0FNi	
80		ACZ3BP060FGN	
B1		VPZ3BP060FMC	
B2		WA20P060-010	
83		PMZ26P100FMC	





NOTES:

- *Parts without part number cannot be supplied.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*

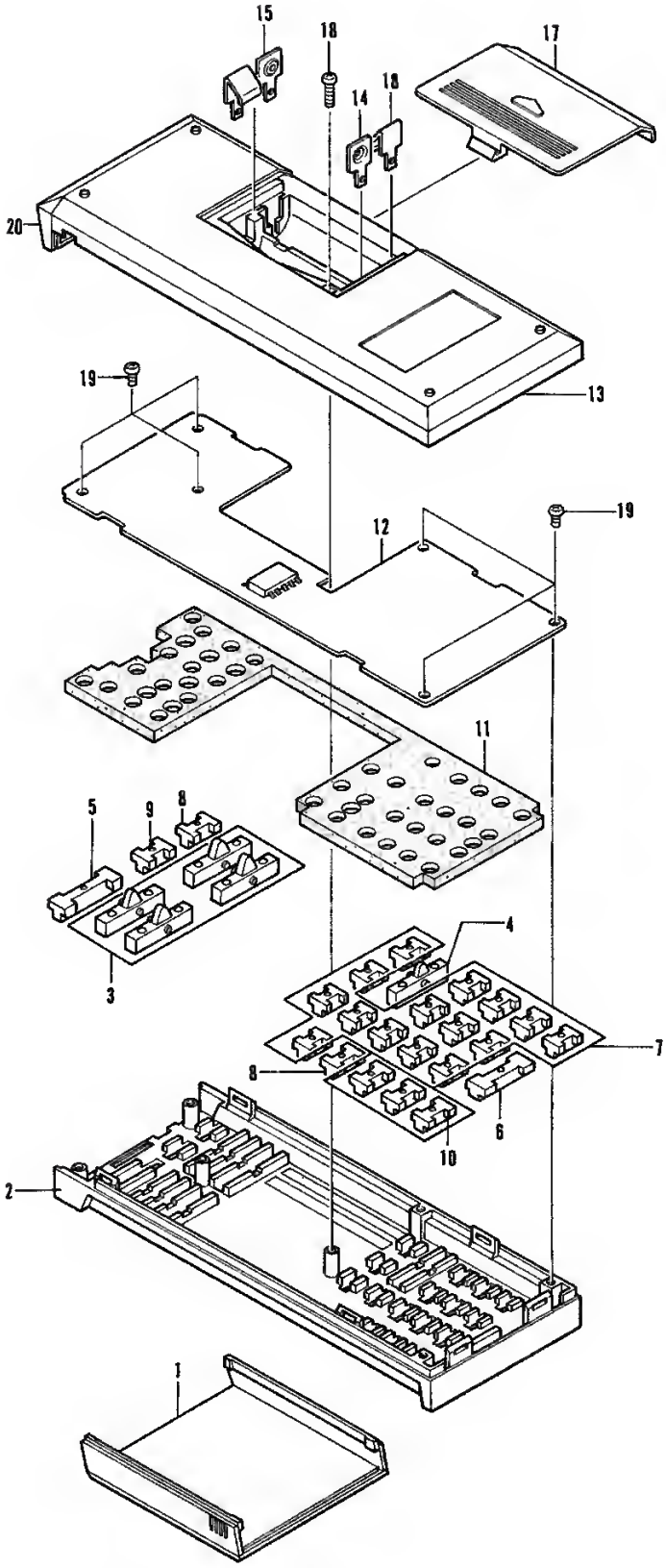
LD-700/KU(MECH.) Parts list 1

(MK)	(KY)	(Part Number)	(D E S C R I P T I O N)
1		VXA-115	Motor holder
2		VBH-070	Spring
3		VNL-020	Pinion 0
4			Polyathylana washer
5		VXM-020	Slider motor
6		VCG-005	Thru type cap.
7		V0K-013	Holder
0		VLA-061	Nut M5
9		VOM-007	Spacer
10		V0H-081	Centering Spring
11		VNV-012	Cantering hab
12		VNL-160	Yoke
13		VE0-040	Rubbar spacer
14		VNE-240	Filter holder
15		VWY-054	CNN0
16		VCS-005	Potantiometer
17		VXA-116	Gear ass´y
10		V0H-079	Spring
19		VNL-045	Pinion
20		VACANT	
21		VACANT	
22		VLL-161	Shipping screw
23		V0H-002	Spring
24		VWV-053	PRE0
25		VNE-424	0ridge
26		VXA-163	Slider
27		VWS-039	CTC0
20		VNE-515	Holder
29		VNL-226	Shaft holdar
30		V0H-000	Spring
31		VXA-161	Gear shaft
32		VGX-039	PD ASS´Y
33		VNL-229	Holder
34		VACANT	
35		VACANT	
36		VACANT	
37		VNE-525	Wire holder
30		VGX-037	Objective lans ass´y
39		VLL-230	Screw
40		VNH-046	Stopper
41		VGX-041	Sanser ass´y
42		VGX-053	Pickup body
43		VGX-030	Grating ass´y
44		VXM-031	TILT motor
45		VNE-513	Holder
46			M2*2.2
47		VXA-160	Worm shaft
40		VNL-225	Worm shaft holder
49		VLL-224	Shaft
50		VNL-222	Pulley
51		VE0-060	0elt
52		VXA-119	Roller arm
53		VNL-165	Rollar
54		VLL-159	Roller shaft
55		VXA-165	Rollar holdar

LD-700/KU(MECH.) Parts list 2

(MK)	(KY)	(Part Number)	(D E S C R I P T I O N)
56		VSK-003	Leaf switch
57			M1.7 X 2.0
50		VNL-220	Limit gear
59		VXA-162	Holder
60		VNL-166	Rack
61		VNL-227	Limit gear 0
62		VLL-220	Gear shaft
63		VNL-167	Holder
64		VNT-024	Shaft holdar
65		VLL-219	Shaft
66		VNL-167	Holder
67		VWY-059	Pickup
60		VXX-255	Mech. chasis ass´y
69		VE0-073	Pad
70		YE15FUC	
71		PMA26P060FMC	
72		YE30FUC	
73		YE20FUC	
74		0MZ30P060FMC	
75		PMA30P000FMC	
76		SMZ30H050F0T	
77		PMA26P040FMC	
70		PMA30P060FMC	
79		ZMD30H060F0T	
00		YE40FUC	
01		VACANT	
02		VACANT	
03		PM030P060FMC	
04		W026FMC	
05		PMZ26P060FMC	
06		W0261	
07		PMA26P100FMC	
00		PM030P000FMC	

5.4 CU-700



NOTES.

- *Parts without part number cannot be supplied.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*

CU-700(VXX-196) Parts list 1

(MK)	(KY)	(Part Number)	(D E S C R I P T I O N)
1		VNK-159	Slide cover
2		VNK-217	Top cover
3		VNL-193	Button A
4		VNL-194	Button B
5		VNL-195	Button C
6		VNL-196	Button D
7		VNL-197	Button E
8		VNL-198	Button F
9		VNL-199	Button G
10		VNL-200	Button H
11		VEC-142	Spacer
12		VWY-042	RMTC
13		VNK-150	Bottom cover
14		VNE-527	Terminal +
15		VNE-520	Terminal -+
16		VNE-529	Terminal -
17		VNK-160	Battery cover
18		P0Z20P100FMC	
19		P0Z20P050FMC	
20		VAP-020	IR Filter

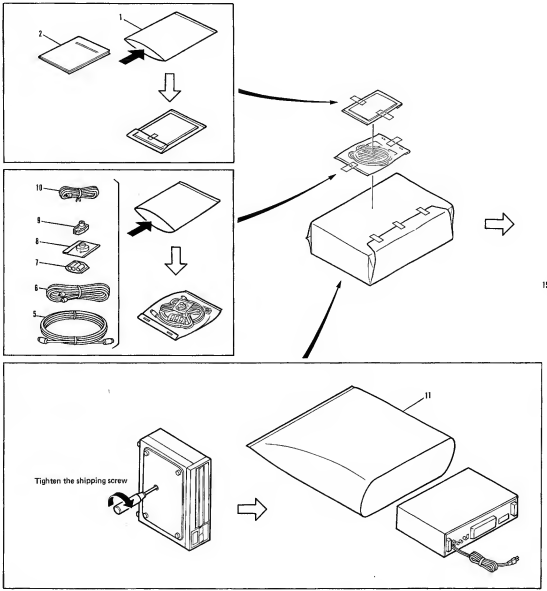
5.5 PACKING MATERIAL

NOTES:

- *Parts withaut part number cannot be supplied.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure ta use parts of identical designation.*

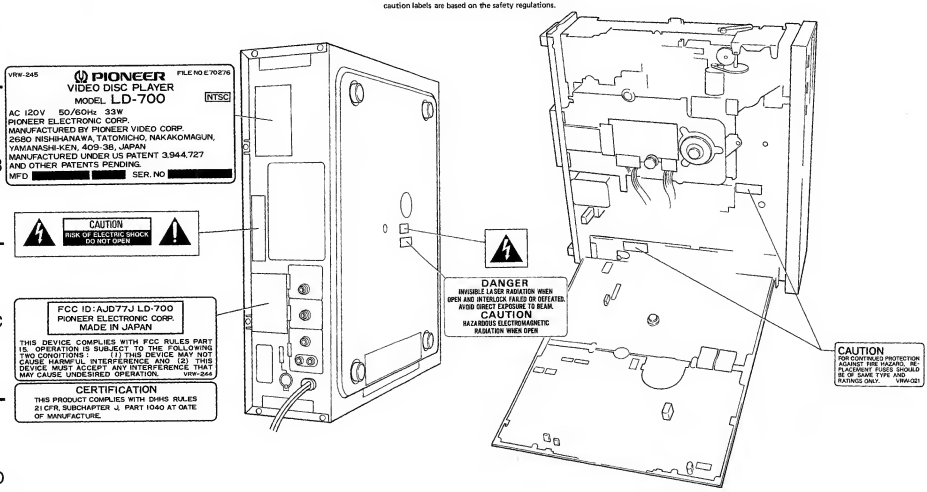
LD-700/KU(PACKING) Parts list 1

(MK)	(KY)	(Part Number)	(D E S C R I P T I O N)
1		VHL-014	Polyethylene bag
2		VRB-026	Operating instructions
3		VACANT	
4		VACANT	
5		VDE-009	Antenna cable
6		VOE-010	Audio cable
7			Battery SUM-3
0		VKX-001	Antenna adaptor (A)
9		VKX-002	Antenna adaptor (B)
10		VDE-014	Video cable
11		VHA-043	Bag
12		VXX-196	CU-700
13		VHX-006	Part box
14		VHA-072	Side pad (L)
15		VHA-073	Side pad (R)
16		VHG-073	Packing case


1
2
10
9
8
7
6
5
Tighten the shipping screw
11
12
13
14
15
16

6. LABEL CHECK

NOTE:
Before returning this player to the customer, make sure all shields, barriers, covers, and labels are in place, and inter-lock system of the disc table is functioning properly. Attaching places of caution labels are based on the safety regulations.



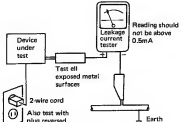
7. SAFETY INFORMATION

1. SAFETY PRECAUTIONS

The following check should be performed for the continued protection of the customer and service technician.

LEAKAGE CURRENT CHECK

Measure leakage current to a known earth ground (water pipe, conduit, etc.) by connecting a leakage current tester such as Simpson Model 229-2 or equivalent between the earth ground and all exposed metal parts of the appliance (input/output terminals, screwheads, metal overlays, control shaft, etc.). Plug the AC line cord of the appliance directly into a 120V AC 60Hz outlet and turn the AC power switch on. Any current measured must not exceed 0.5mA.



AC Leakage Test

ANY MEASUREMENTS NOT WITHIN THE LIMITS OUTLINED ABOVE ARE INDICATIVE OF A POTENTIAL SHOCK HAZARD AND MUST BE CORRECTED BEFORE RETURNING THE APPLIANCE TO THE CUSTOMER.

2. PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in the appliance have special safety related characteristics. These are often not evident from visual inspection nor the protection afforded by them necessarily can be obtained by using replacement components rated for voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in this Service Manual.

Electrical components having such features are identified by marking with a ⚠ on the schematics and on the parts list in this Service Manual.

The use of a substitute replacement component which does not have the same safety characteristics as the PIONEER recommended replacement one, shown in the parts list in this Service Manual, may create shock, fire, or other hazards.

Product Safety is continuously under review and new instructions are issued from time to time. For the latest information, always consult the current PIONEER Service Manual. A subscription to, or additional copies of, PIONEER Service Manual may be obtained at a nominal charge from PIONEER.

8. SPECIFICATIONS

1. General

System and Disc spec. ..... Complies with MCA, Philips specifications

*1 Maximum playing time
- 12-inch standard play disc: 30 min/side
- 12-inch extended play disc: 60 min/side
- 8-inch standard play disc: 14 min/side
- 8-inch extended play disc: 20 min/side

Spindle motor revolutions
- Standard play disc ..... 1,800 RPM
- Extended play disc ..... 1,800 RPM (inner circumference) to 600 RPM (outer circumference)

2. Video characteristics

Format ..... NTSC specifications

Video output
- Level ..... 1Vp-p nominal, sync. negative, terminated
- Impedance ..... 75 ohms unbalanced
- Terminal ..... Pin-jack

VHF output
- Channel ..... Channel 3 or 4 (switchable)
- Impedance ..... 75 ohms unbalanced
- Terminal ..... F-type jack

3. Audio characteristics

Audio output ..... Two-channel: stereo or two individual channels

Level ..... 650 mV nominal (1 kHz 100% mod. 50 kilohms terminated)

Terminal ..... Stereo pin-jacks

4. Functions

	CAV	CLV
Play (Normal play mode with sound)	YES	YES
Pause (Pause mode without picture and sound)	YES	YES
Scan forward/reverse	YES	YES
Fast forward/reverse (3X normal play)	YES	NO
Multi-speed play	YES	NO
Still/Step forward/reverse	YES	NO
Interval repeat play	YES	YES
Multi-speed display	YES	NO
Frame number display	YES	NO
Elapsed time number display	NO	YES
Chapter number display	*2	*2
Frame number search	YES	NO
Chapter number search	*2	*2
Elapsed time number search	NO	YES
Chapter stop (with chapter number display) ...	*2	*2
Automatic picture stop (special discs only)	*3	NO
Remote control (infrared wireless control)	YES	YES

5. I/O port

(I/O terminals for external control)

Terminal ..... DIN, 8 pins

6. Others

Power requirements ..... 120V AC, 50/60 Hz

Power consumption ..... 33 watts

Dimensions ..... 420 (W) x 414.8 (D) x 120 (H) mm
16-17/32 (W) x 16-5/16 (D) x 4-3/4 (H) in.

Net weight (without package) ..... 12.4 kg (27.3 lbs)

Operating temperature ..... +5 to +35 degrees C

Operating humidity ..... 0 to 90%

7. Furnished accessories

Remote control unit (CU-700) 1

Size "AA" dry batteries 2

VHF connecting cable with F-type plugs 1

Audio connecting cords with pin-plugs 1

Video connecting cable with pin-plugs 1

300-ohms to 75-ohms F-type plug 1

75-ohms F-type plug adaptor 1

Operating instructions 1

Warranty card 1

NOTES:

Specifications and the design subject to possible modification without notice, due to improvements.

** 1 Actual playback time differs for each disc.*

** 2 Only for discs recorded with chapter codes.*

** 3 Only for discs recorded with picture stop codes.*