

Service Manual

TOP NEXT

ORDER NO.AD0107130C8

Service Manual

DVD/Video CD/CD changer



SL-DV250

Colour

(S).....Silver

Areas

EE.....Russia.

GCS.....Southeast Asia.

GN.....Oceania

Brand name

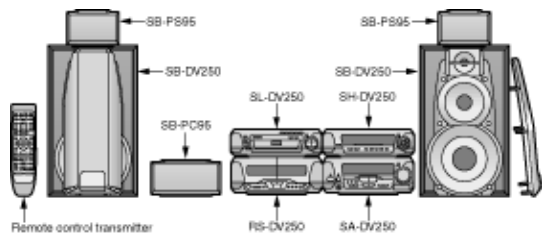
Technics...(EE, GN) areas

Panasonic...(GCS) area

System:SC-DV250

Because of unique interconnecting cables, when a component requires service, send or bring in the entire system.

Note: Refer to the service manual for Model No.SA-DV250 (ORDER NO.AD0107129C8) for information on“ACCESSORIES” and“PACKAGING”.



Specification

• Disc played	
DVD-Video disc	8/ 12cm single-sided, single-layer 8/ 12cm single-sided, double-layer 8/ 12cm double-sided, double-layer (one layer perside)
CD (CD-DA, VIDEO-CD)	8/ 12cm discs
CD-R/RW disc	8/ 12cm discs
• Audio	
Number of channels	5.1 (FL, FR, SL, SR, C, SW)
• Video	
Signal system	PAL 625/50, PAL 525/60, NTSC
Output level (75Ω)	
Composite video	1Vp-p (75Ω)
S-video Y	1Vp-p (75Ω)
S-video C	0.3Vp-p (75Ω) (PAL) 0.286Vp-p (75Ω) (NTSC)
• Pick up	
Beam source	Semiconductor laser
Wavelength	658/790 nm
• General	
Dimensions (W×H×D):	293×89×288 mm

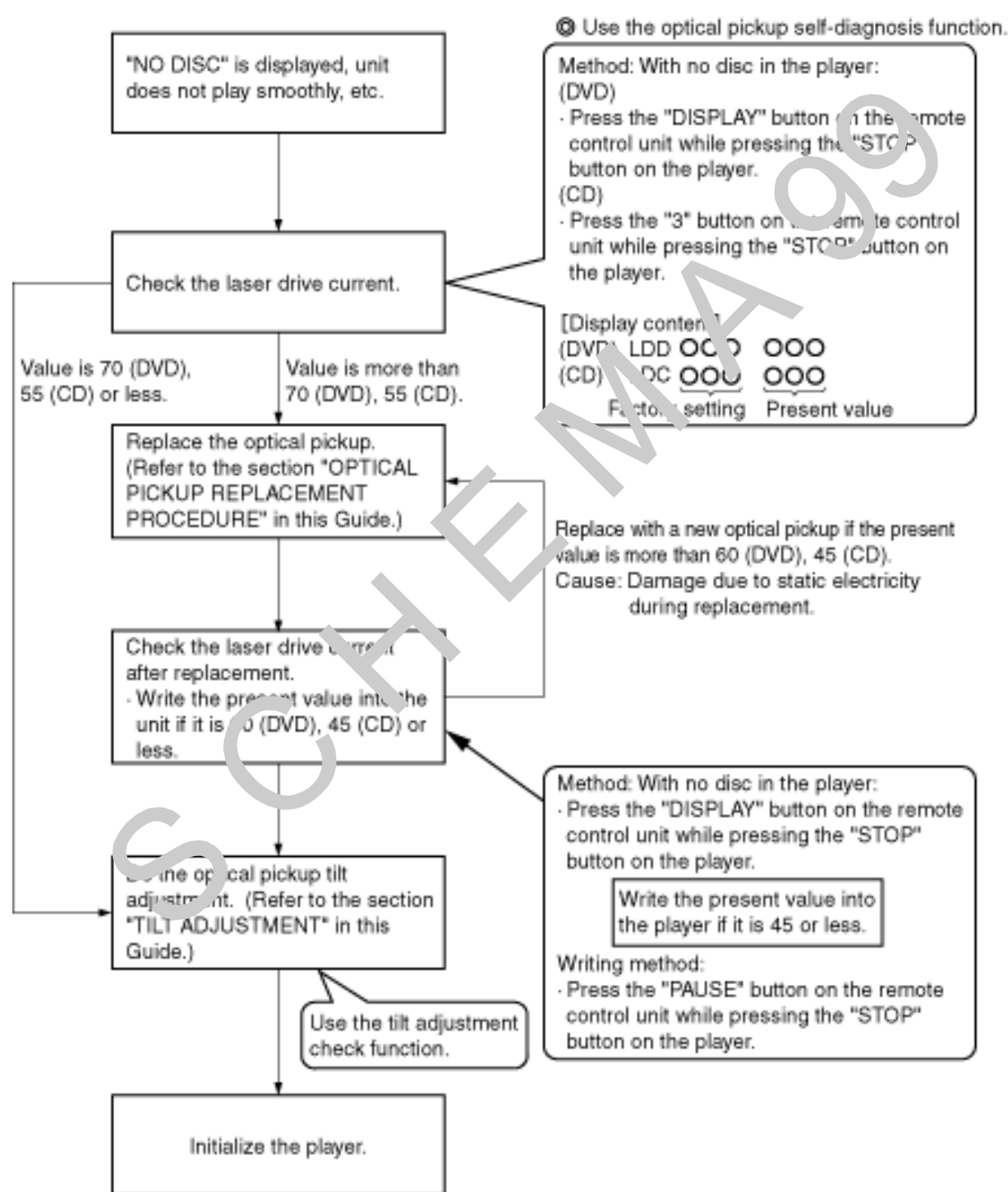
6.1 Self-diagnosis

[TOP](#) [PREVIOUS](#) [NEXT](#)

The optical pickup self-diagnosis function and tilt adjustment check function have been included in this unit. When repairing, use the following procedure for effective Self-diagnosis and tilt adjustment. Be sure to use the self-diagnosis function before replacing the optical pickup when "NO DISC" is displayed. As a guideline, you should replace the optical pickup when the value of the laser drive current is more than 55.

Note:

Press the power button to turn on the power, and check the value within three minutes before the unit warms up. (Otherwise, the result will be incorrect.)



[TOP](#) [PREVIOUS](#) [NEXT](#)

7.1 Self-diagnosis Function and Service Modes

[TOP](#) [PREVIOUS](#) [NEXT](#)

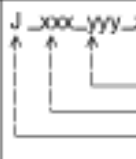
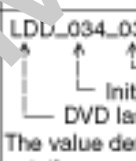
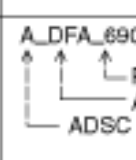
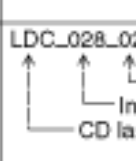
in use	new DVD	
UHF error display The latest error storage function n=1	UHF error display Same, currently in use	
Jitter/read error display	Jitter/read error display Focus drive value display	The focus drive current value can be displayed.
Laser drive current display For DVD	Laser drive current display For DVD/CD	
	ADSC internal RAM data display	The servo learning value stored in the RAM data inside the ADSC (servo controller) IC is displayed.
	Total operation time display SP motor Laser (DVD/CD)	The operation times of SP motor and the laser (both for the DVD and CD) can be displayed.

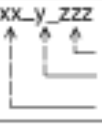
[TOP](#) [PREVIOUS](#) [NEXT](#)

7.2 Service mode table

[TOP](#) [PREVIOUS](#) [NEXT](#)

Pressing various button combinations on the player and remote control unit can activate the service modes.

Item	Play mode and button combination	Function	Display	Cancellation method
Jitter check	In PLAY mode, press "STOP" button on the player, and "5" button on the remote control unit.	Jitter check Jitter rate is measured and displayed. Measurement is repeatedly done in the cycle of one second. Read error counter starts from zero upon mode setting. When target block data failed to be read out, the counter advances by one increment. When the failure is caused by minor error, it may be corrected when retried to enable successful reading. In this case, the counter advances by one. When the error persists even after retry, the counter may jump by two or more.	 Jitter rate is shown in decimal notation to one place of decimal. Focus drive value is shown in hexadecimal notation.	Press STOP button.
Error code check	Press "STOP" button on the player, and "0" button on the remote control unit.	Error code check The latest error code stored in EEPROM is displayed.	Error code (play_err) is expressed in the following convention. Error code = 0 x DAXX is expressed: → DVD LXXX Error code = 0 x DBXX is expressed: → DVD LXXX Error code = 0 x DXXX is expressed: → DVD FXXX Error code = 0 x 0000 is expressed: → DVD FXXX * "nn" denotes the serial number category.	Cancelled automatically 5 seconds later.
Initial setting of laser drive current	In STOP mode, press "STOP" button on the player, and "PAUSE" button on the remote control unit.	Initial setting of laser drive current. Initial current value for each of DVD laser and CD laser is separately saved in EEPROM.		Cancelled automatically 5 seconds later.
DVD laser drive current measurement	In STOP mode, press "STOP" button on the player, and "DISPLAY" button on the remote control unit.	DVD laser drive current measurement -DVD laser drive current is measured and the result is displayed together with the initial value stored in EEPROM. After the measurement, DVD laser emission is kept on. It is turned off when POWER key is switched off. (It is also turned off when the primary power is switched off.)	 The value denotes the current in decimal notation. The above example shows the initial current is 34mA and the measured value is 32mA.	Cancelled automatically 5 seconds later.
ADSC internal RAM data check	Press "STOP" button on the player, and "1" button on the remote control unit.	ADSC internal RAM data check -ADSC internal RAM data is read out and displayed. Change the address with "CANCEL" key operation to show the data for 14 addresses.	 The value is shown in hexadecimal notation. The above example shows the data in ADSC address DFAh is 6901h.	Press STOP button.
CD laser drive current measurement	In STOP mode, press "STOP" button on the player, and "3" button on the remote control unit.	CD laser drive current measurement CD laser drive current is measured and the result is displayed together with the initial value stored in EEPROM. After the measurement, CD laser emission is kept on. It is turned off when POWER key is switched off. (It is also turned off when the primary power is switched off.)	 The value denotes the current in decimal notation. The above example shows the initial current is 28mA and the measured value is 26mA.	Cancelled automatically 5 seconds later.

Item	Play mode and button combination	Function	Display	Cancellation method
Version display	In STOP mode, press "STOP" button on the player, and "7" button on the remote control unit.	Version display	xx_y_zzz  System controller release number System controller model number System controller generation	Cancelled automatically 5 seconds later.
Dealer's lock	In STOP mode, press "STOP" and "OPEN/CLOSE" buttons on the player, and "PLAY" button on the remote control unit for 3 second.	Dealer's lock The lock is switched ON or OFF. When dealer's lock is ON, it prohibits the tray opening. When the lock is switched, its ON/OFF status is stored in EEPROM.	· "LOCKED" sign appears when dealer's lock is switched on, or when secondary power key or tray opening key is pressed while the lock is on. · "UNLOCKED" sign appears when dealer's lock is switched off.	Repeat the same operation.
Initialization	In STOP mode, press "STOP" button on the player and "≥10" button on the remote control unit.	Initialization User settings are cancelled and player is initialized to factory setting.	"INITIALIZED"	
Region display	In STOP mode, press "STOP" button on the player, and "6" button on the remote control unit.	Region display	x_yy_zzz  N: NTSC / 6: PAL60 N: noPAL / P: PAL Region No.	Cancelled automatically 5 seconds later.
Timer 1 check	In STOP mode, press "STOP" button on the player, and "▲" button on the remote control unit.	Timer 1 check Operation time of laser operation timer is measured separately for DVD laser and CD laser.	T1_1234_5678 Shown to the left is DVD laser time, and to the right CD laser time. Time is shown in 4 digits of decimal notation in a unit of 10 hours. "0000" will follow "9999".	Cancelled automatically 5 seconds later.
Timer 1 reset	While displaying Timer 1 data, press "STOP" button on the player, and "▼" button on the remote control unit.	Timer 1 reset Operation time of laser operation timer of both DVD laser and CD laser is reset all at once.	T1_0000_0000	Cancelled automatically 5 seconds later.
Timer 2 check	In STOP mode, press "STOP" button on the player, and "▶" button on the remote control unit.	Timer 2 check Spindle motor operation timer	T2_1234 Time is shown in 4 digits of decimal notation in a unit of 10 hours. "0000" will follow "9999".	Cancelled automatically 5 seconds later.
Timer 2 reset	While displaying Timer 2 data, press "STOP" button on the player, and "◀" button on the remote control unit.	Timer 2 reset Spindle motor operation timer	T2_0000	Cancelled automatically 5 seconds later.

[TOP](#) [PREVIOUS](#) [NEXT](#)

7.3 ADSC Internal Ram Data Display

[TOP](#) [PREVIOUS](#) [NEXT](#)

The servo learning value in the RAM data inside the servo processor ADSC is displayed.
The value is useful for the servo operation/disc quality judge including the OPU.
The concrete contents are shown below:

Address	Contents of display
4B4	Focus gain learning value for DVD-S, DVD-D(L0), CD, and VCD
4BC	Focus gain learning value for DVD-D(L1)
4B6	Focus balance learning value for DVD-S, DVD-D(L0), CD, and VCD
4BE	Focus balance learning value for DVD-D(L1)
4B5	Tracking gain value for DVD-S, DVD-D(L0), CD, and VCD
4BD	Tracking gain value for DVD-D(L1)
TB0	Tracking balance value for DVD-S, DVD-D(L0), CD, VCD
TB1	Tracking balance value for DVD-D(L1)
DBD	DSL offset learning value for DVD-S and DVD-D
DBC	DSL offset learning value for CD and VCD
FC0	Equalizer FC value for DVD-S, DVD-D(L0), CD, and VCD
BT0	Equalizer BOOST value for DVD-S, DVD-D(L0), CD, and VCD
FC1	Equalizer FC value for DVD-D(L1)
BT1	Equalizer BOOST value for DVD-D(L1)

[TOP](#) [PREVIOUS](#) [NEXT](#)

7.4 Sales demonstration lock function

[TOP](#) [PREVIOUS](#) [NEXT](#)

This function prevents discs from being lost when the unit is used for sales demonstrations by disabling the disc eject function. "LOCKED" is displayed on the unit, and ordinary operation is disabled.

[7.4.1 Setting](#)

[7.4.2 Cancellation](#)

[TOP](#) [PREVIOUS](#) [NEXT](#)

SCHEMA 99

7.4.1 Setting

[TOP](#) [PREVIOUS](#) [NEXT](#)

The sales demonstration lock is set by simultaneously pressing “STOP” button on the player and “PLAY” button on the remote control unit.

[TOP](#) [PREVIOUS](#) [NEXT](#)

SCHEMA 99

7.4.2 Cancellation

[TOP](#) [PREVIOUS](#) [NEXT](#)

The lock can be cancelled by the same procedure as used in setting. ("UNLOCKED" is displayed on cancellation. Disconnecting the power cable from power outlet does not cancel the lock.)

[TOP](#) [PREVIOUS](#) [NEXT](#)

SCHEMA 99

8.1 Service Tools and Equipment

[TOP](#) [PREVIOUS](#) [NEXT](#)

Application	Name	Number
Tilt adjustment	DVD test disc	DVDT-S15 or DVDT-S01
	Hex wrench	
Inspection	Extension cable (module P.C.B. to mother P.C.B.)	JGS0098 (DVD-RV41 only)
	Extension cable (module P.C.B. to mother P.C.B.)(2pcs: DVD-RV31 only, 1pce: DVD-RV41 only)	
Others	Screw lock	RZZ0L01
	Grease	RFKXGAK152
	Oil	RFKXGA1280, JZS0648
Confirmation	CD test disc	PVCD-K06 or any other commercially available disc
	VCD test disc	PVCD-K06 or any other commercially available disc

[TOP](#) [PREVIOUS](#) [NEXT](#)

8.4.1 Optical pickup tilt adjustment

[TOP](#) [PREVIOUS](#) [NEXT](#)

Measurement point	Adjustment point	Mode	Disc
	Tangential adjustment screw Tilt adjustment screw	T01 (inner periphery) play T43 (outer periphery) play	DVDR-S15 or DVDT-S01
Measuring equipment		Adjustment value	
None (Main unit display for servicing is used.)		Adjust to the minimum jitter value.	

[8.4.1.1 Adjustment procedure](#)

[8.4.1.2 Important points](#)

[8.4.1.3 Check after adjustment](#)

[8.4.1.4 Procedure for screw lock](#)

[TOP](#) [PREVIOUS](#) [NEXT](#)

8.4.1.1 Adjustment procedure

[TOP](#) [PREVIOUS](#) [NEXT](#)

1. While pressing “STOP” button on the main unit, press "5" on the remote control unit.
2. Confirm that "J_xxx_yyy_zz" is shown on the front display.

For your information:

"yyy" and "zz" shown to the right have nothing to do with the jitter value. "yyy" is the error counter, while "zz" is the focus drive value.

Note:

Jitter value appears on the front display.

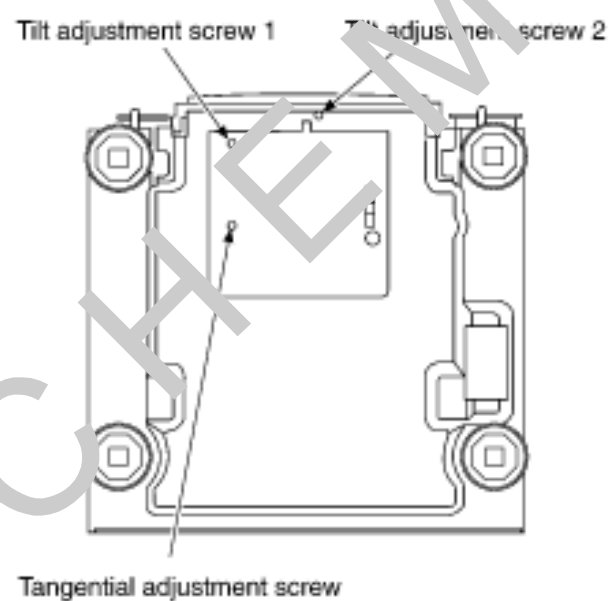
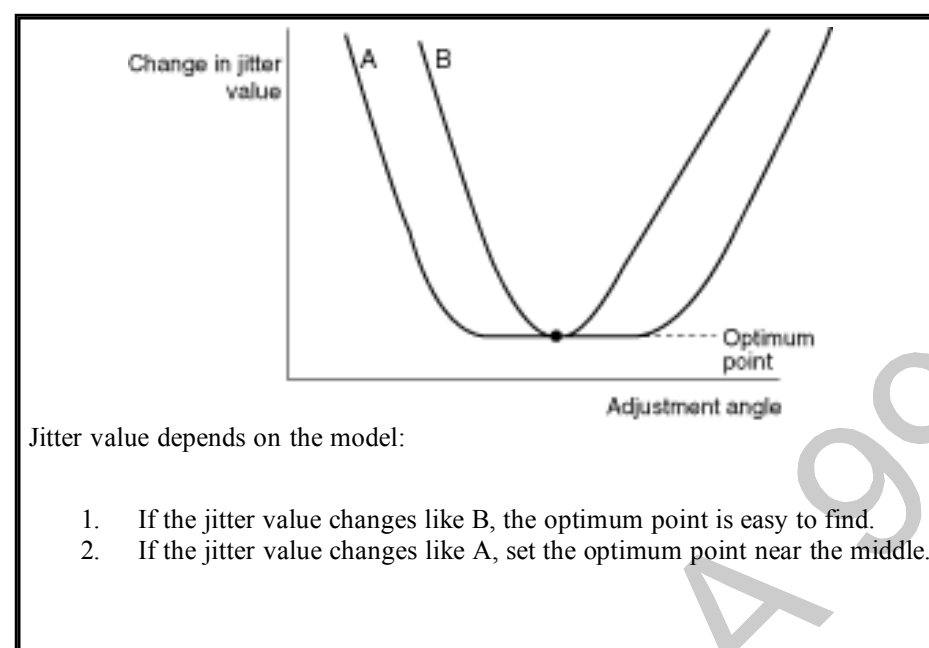
3. Play test disc T01 (inner periphery).
4. Adjust tangential adjustment screw so that the jitter value is minimized.
5. Play test disc T43 (outer periphery).
6. Adjust tilt adjustment screw 1 so that the jitter value is minimized.
7. Play test disc T43 (outer periphery).
8. Adjust tilt adjustment screw 2 so that the jitter value is minimized.
9. Repeat adjusting tilt adjustment screws 1 and 2 alternately until the jitter value is minimized.

[TOP](#) [PREVIOUS](#) [NEXT](#)

8.4.1.2 Important points

[TOP](#) [PREVIOUS](#) [NEXT](#)

1. Make tangential adjustment first, and then make tilt adjustment.
2. Repeat adjusting two or three times to find the optimum point.
3. Finish the procedure with tilt adjustment.



[TOP](#) [PREVIOUS](#) [NEXT](#)

8.4.1.3 Check after adjustment

[TOP](#) [PREVIOUS](#) [NEXT](#)

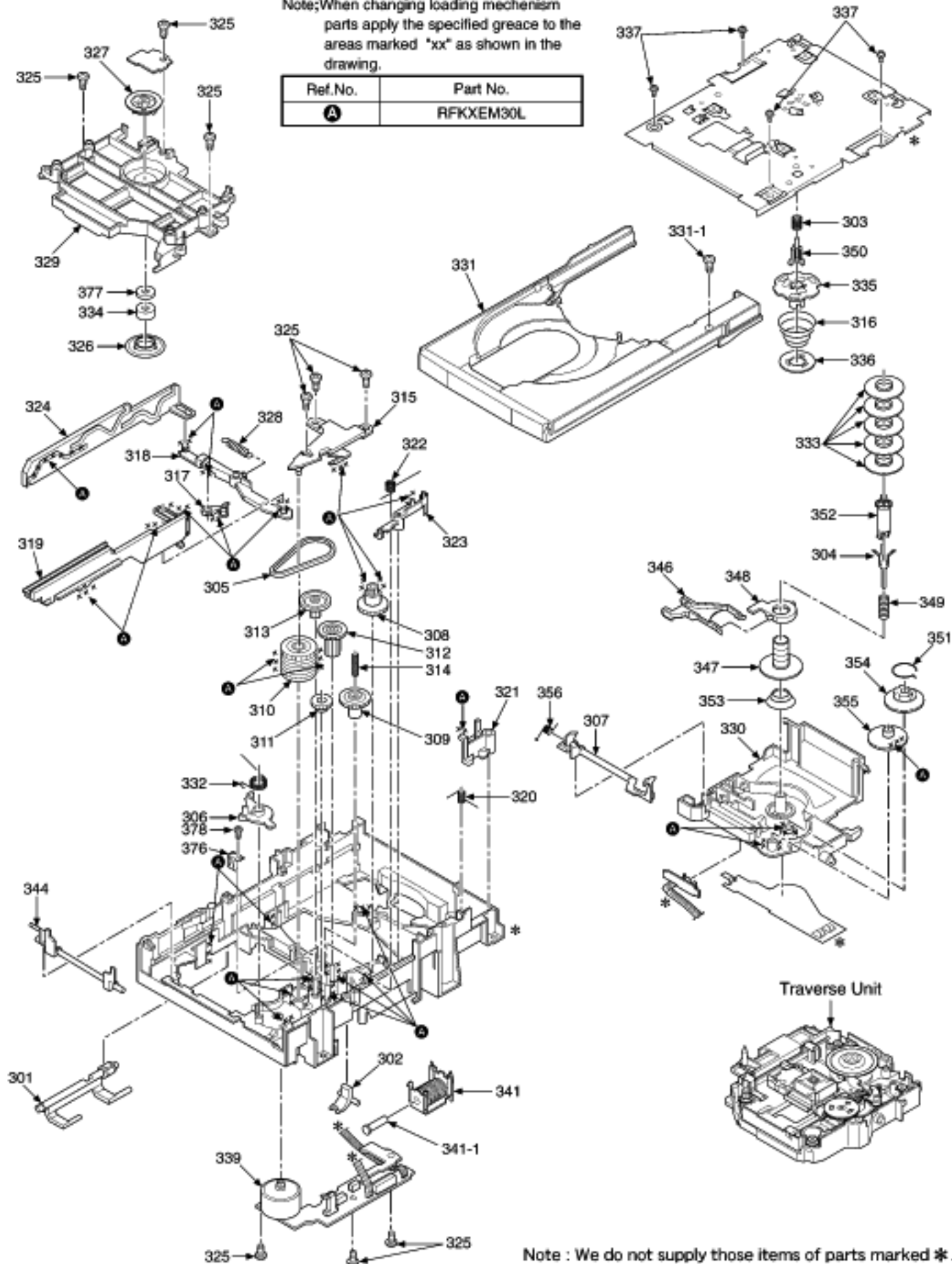
Play test disc or any other disc to make sure there is no picture degradation in the inner, middle and outer peripheries, and no audio skipping. After adjustment is finished, lock each adjustment screw in position using screw lock.

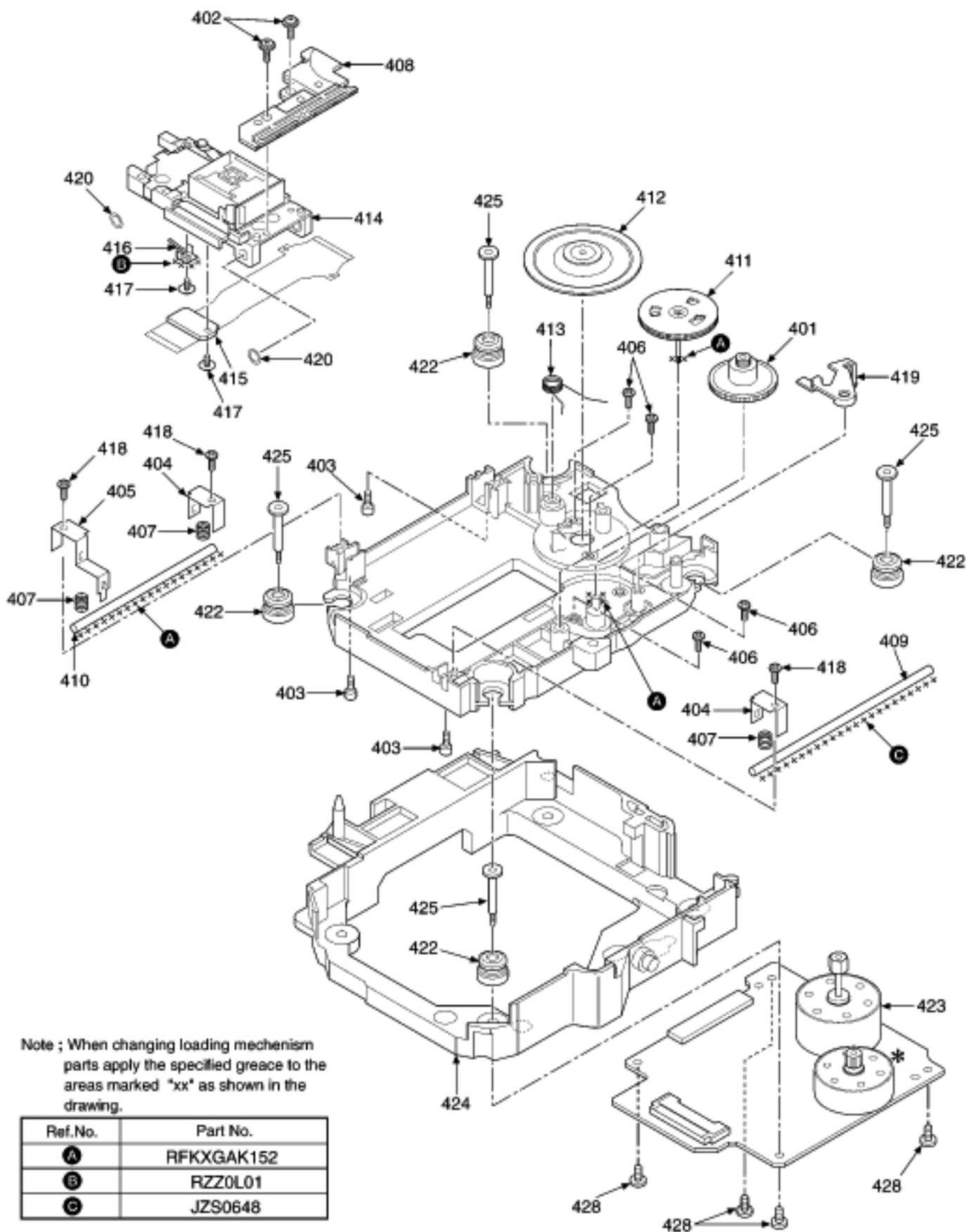
[TOP](#) [PREVIOUS](#) [NEXT](#)

SCHEMA 99

Note; When changing loading mechanism parts apply the specified grease to the areas marked "xx" as shown in the drawing.

Ref.No.	Part No.
A	RFKXEM30L





Ref No.	IC2001																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
STOP	1.6	1.6	1.7	3.3	1.6	1.7	0	1.6	1.6	1.5	1.5	1.7	1.4	3.3	1.7	2.4	0	2.2	1.5	0
PLAY	2.1	1.6	1.7	1.3	1.6	1.7	0	1.6	1.6	1.5	1.5	1.7	1.4	3.3	1.7	2.5	1.1	2.2	1.5	0
Ref No.	IC2001																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
STOP	1.1	1.1	1.9	1.7	1.5	0	3.3	1.7	0	0	1.7	0	1.7	1.6	0	1.5	1.9	3.3	1.7	1.7
PLAY	1.3	1.3	1.9	1.7	1.5	0	3.3	1.7	0	0	1.7	0	1.7	1.6	0	1.7	1.7	3.3	1.7	1.7
Ref No.	IC2001																			
MODE	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
STOP	0	1.7	1.9	1.0	0	3.3	3.3	1.5	0	0	1.7	1.7	0	0	0	0	0	2.5	3.3	0
PLAY	0	2.0	1.9	1.0	0	3.3	0	1.5	0	0	1.7	2.0	0	0	3.3	3.3	0	2.5	3.3	0
Ref No.	IC2001																			
MODE	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
STOP	1.9	0	0	0	0	0.9	3.3	1.7	3.3	0.2	3.4	0	0	0	3.3	1.6	0.9	1.3	0.5	1.7
PLAY	1.8	0	0.2	0	0	0.9	0	1.7	3.3	0.1	3.4	0	0	0	3.3	1.6	0.9	0.9	0.9	1.1
Ref No.	IC2001																			
MODE	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
STOP	0	3.3	1.7	3.1	3.3	3.3	3.3	2.8	3.3	3.3	0	0	0	0	0	2.5	2.4	1.8	1.6	1.6
PLAY	0	3.3	1.7	3.0	3.3	3.3	3.3	2.8	3.3	3.3	0	0	0	0	0	2.5	2.4	1.8	2.0	1.1
Ref No.	IC3001																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
STOP	3.3	0.1	1.4	0.1	0	1.2	0	0.9	3.3	1.4	3.3	3.3	3.3	1.8	0	0	0	0	0	0
PLAY	3.3	0.1	1.4	0.1	0	0	0.5	0.9	3.3	1.5	3.3	3.0	3.3	1.8	0	0	0	0	0	0
Ref No.	IC3001																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
STOP	0	0	0	0	0	0	3.3	3.3	0	3.3	3.1	3.3	1.5	3.3	2.9	3.0	2.9	3.0	1.8	2.8
PLAY	0	0	0	0	0	0	2.4	3.3	0	3.3	2.4	3.3	1.5	3.3	0.6	0.6	0.6	3.0	1.8	2.8
Ref No.	IC3001																			
MODE	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
STOP	3.0	2.8	0	0	0	0	0	3.3	3.3	3.3	3.3	0	3.3	3.1	3.1	3.0	3.1	0	3.1	3.0
PLAY	2.4	2.2	3.1	0	3.3	3.3	3.3	3.3	3.3	0.4	0	0	3.3	0	0.1	0.1	0	0	0	0.7
Ref No.	IC3001																			
MODE	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
STOP	3.0	3.0	1.8	3.0	3.1	3.0	3.1	0	3.4	0	0	0	0	3.3	1.3	0	3.3	1.7	1.8	3.4
PLAY	1.2	1.1	1.8	1.2	1.2	0.8	0.8	0	0.7	0	0	0	0	3.3	1.9	1.7	1.7	1.7	1.8	0.4
Ref No.	IC3001																			
MODE	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
STOP	1.7	1.7	1.7	0	1.7	0	1.8	1.6	1.7	1.7	3.3	0	0	0	0	0	0	3.3	1.4	3.3
PLAY	1.8	1.7	1.8	0	1.7	0	1.8	1.6	1.7	3.3	0	0	0	0	0	0	0	3.3	1.6	3.3
Ref No.	IC3001																			
MODE	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120
STOP	0	0	0	1.8	1.8	0	0	1.8	3.3	1.4	3.3	3.3	0	0	0	1.0	1.0	2.4	0.6	3.3
PLAY	0	0	0	1.8	1.8	0	0	1.8	0	3.3	3.3	0	0	0	1.0	1.0	0.6	2.4	0.6	0
Ref No.	IC3001																			
MODE	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140
STOP	0.6	0.6	2.4	0.4	0	0.6	0.6	2.4	0.4	3.3	1.3	1.3	2.2	0.3	0	0	0	0	0	0
PLAY	0.6	0.6	2.4	0.4	3.3	1.3	1.3	2.4	0.4	0	1.3	2.2	0.5	0	0	0	0	3.3	3.0	0
Ref No.	IC3001																			
MODE	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160
STOP	0	0	3.3	3.1	0	1.8	0	0	0	0	0	0	0.1	0	0	3.3	0	3.1	3.1	3.3
PLAY	1.8	1.2	1.2	0.1	1.2	0.1	2.1	1.2	2.2	0	0	0	1.4	1.2	0	3.3	0	2.3	2.1	3.3
Ref No.	IC3001																			
MODE	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180
STOP	3.0	3.1	0	3.0	3.0	3.3	3.3	3.0	0	3.1	3.2	3.3	3.1	1.8	3.1	3.1	3.0	2.9	3.3	3.1
PLAY	3.0	3.1	0	0	3.0	2.6	3.3	2.5	2.5	3.1	2.6	2.5	3.1	2.6	3.1	2.4	3.0	2.6	2.8	0
Ref No.	IC3001																			
MODE	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200
STOP	3.0	0	1.7	3.3	1.7	0	3.3	1.8	3.0	3.3	3.3	3.0	3.3	0	3.3	3.3	3.3	3.3	3.1	0
PLAY	2.6	0	1.7	1.7	3.3	0	3.3	1.8	3.0	3.3	3.3	3.0	0	0	0	3.3	3.3	3.3	0	0
Ref No.	IC3001																			
MODE	201	202	203	204	205	206	207	208												
STOP	0.1	1.8	0.9	0	3.3	0	1.2	0												
PLAY	0.1	1.8	0.9	0	3.3	0	1.2	0												
Ref No.	IC3051																			
MODE	1	2	3	4	5															
STOP	2.6	2.6	1.8	0	0															
PLAY	2.6	2.6	1.8	0	0															
Ref No.	IC3061																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
STOP	3.3	3.1	2.9	0	3.1	3.0	3.3	3.3	2.9	0	2.9	3.0	3.3	3.0	3.3	3.3	3.3	3.1	0.8	0
PLAY	3.3	3.2	3.0	0	3.1	3.1	3.3	3.3	3.1	0	3.0	3.1	3.3	2.8	33	3.3	3.3	3.1	1.4	0
Ref No.	IC3061																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
STOP	0	0	0	1.4	3.3	0	1.1	1.2	1.4	1.2	0	0	0	3.3	1.7	3.0	0	3.3	3.1	2.9
PLAY	0	0	0	1.5	3.3	0	1.1	1.5	1.4	1.2	0	0	0	3.3	1.7	3.0	0	3.3	3.1	3.1
Ref No.	IC3061										IC3091									
MODE	41	42	43	44	45	46	47	48	49	50			1	2	3	4	5	6		
STOP	0	2.9	2.9	3.3	3.1	2.8	0	3.0	3.0	0			5.0	0	5.0	1.3	0	3.3		
PLAY	0	3.1	3.1	3.3	3.2	2.8	0	2.8	3.2	0			5.0	0	5.0	1.3	0	3.3		

Ref No.	IC6201																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
STOP	3.3	3.0	3.3	2.7	3.3	3.3	3.3	3.0	3.3	3.3	3.3	3.3	2.4	3.0	3.0	2.8	3.3	1.3	0	0
PLAY	3.3	3.0	3.3	3.2	3.3	3.3	3.3	3.1	3.3	3.3	3.3	3.3	2.4	3.0	3.1	2.9	3.3	1.3	0	0
Ref No.	IC6201																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
STOP	3.3	3.3	1.6	1.6	3.3	3.0	2.8	2.9	2.7	2.6	2.6	3.0	2.5	3.3	2.7	2.6	2.8	3.0	2.6	2.4
PLAY	3.3	3.3	1.6	1.6	3.3	3.1	2.9	3.0	2.8	2.8	2.7	3.0	2.7	3.3	2.7	2.7	2.9	3.0	2.6	2.5
Ref No.	IC6201																			
MODE	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
STOP	2.8	2.4	0.5	3.3	3.3	3.3	3.3	1.1	1.1	3.0	1.4	2.9	3.3	2.0	0	3.3	3.3	0	0	3.3
PLAY	2.9	2.6	0.5	3.3	3.3	3.3	3.3	1.1	1.1	3.0	1.4	2.8	3.3	2.0	0	3.3	3.3	0	0	3.3
Ref No.	IC6201																			
MODE	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
STOP	0	0	0	3.3	0	3.3	3.3	3.3	0	2.8	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.4	0	3.3
PLAY	0	0	0	3.3	0	3.3	3.3	3.3	0	2.8	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.4	0	3.4
Ref No.	IC6201																			
MODE	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
STOP	3.3	3.3	3.3	3.0	3.1	3.1	3.1	3.1	3.1	3.1	3.1	0	3.1	3.0	3.1	3.1	3.1	3.1	3.1	3.1
PLAY	3.3	3.3	3.3	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	0	3.1	3.1	3.0	3.1	3.1	3.1	3.1	3.1
Ref No.	IC6251										IC6301									
MODE	1	2	3	4	5	6	7		1	2	3	4	5							
STOP	3.3	0	0	1.9	5.1	0	5.1		0	0	0	3.3	3.3							
PLAY	3.3	0	0	1.9	5.1	0	5.1		0	0	0	3.3	3.3							
Ref No.	IC6302																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
STOP	2.6	2.9	0.1	3.4	0.1	3.4	3.4	3.4	0	0	0.1	3.3	0	0	0	0	0.1	0.1	3.4	3.4
PLAY	2.3	0.1	2.3	2.0	2.4	1.7	1.7	1.7	0	0	3.3	3.3	0	0	0	0	0.1	1.8	1.8	1.7
Ref No.	IC6302																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
STOP	3.4	0.1	3.4	3.4	2.9	3.0	0	3.1	3.0	3.1	3.1	3.0	3.1	3.1	3.1	3.1	3.3	3.1	3.1	3.1
PLAY	1.8	1.7	1.7	1.7	2.9	3.0	0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.1	3.3	3.3	3.1	3.0	3.0
Ref No.	IC6302								IC6303											
MODE	41	42	43	44	45	46	47	48		1	2	3	4	5	6	7	8			
STOP	3.1	3.1	3.1	3.1	3.1	0	3.3	2.4		0	0	0	0	3.3	3.3	0	3.3			
PLAY	3.1	3.1	3.1	3.1	3.1	0	3.3	2.6		0	0	0	0	3.3	3.3	0	3.3			
Ref No.	IC6501																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16				
STOP	3.3	0	1.6	1.5	3.3	0	1.6	0.8	1.4	1.5	0	3.3	1.5	0	1.5	3.3				
PLAY	3.3	0	1.6	1.5	3.3	0	1.4	1.0	1.4	1.5	0	3.2	1.5	0	1.4	3.2				
Ref No.	IC7001																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
STOP	1.3	3.3	0	3.3	3.3	3.3	3.3	0	1.7	2.5	3.3	3.4	3.3	1.7	3.3	3.3	1.7	0	3.4	1.7
PLAY	1.8	3.3	2.0	3.3	3.3	0	3.3	0	1.7	2.5	3.3	0	3.3	1.7	3.3	3.3	1.8	0	3.4	1.7
Ref No.	IC7001																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
STOP	3.3	3.3	3.3	0	0	3.3	0	0	0	3.3	0	3.3	0	0	0	2.5	2.4	2.6	0	2.9
PLAY	3.3	3.3	3.3	3.3	1.0	3.3	3.2	0	0	3.3	0	3.3	0	0	0	2.5	1.5	2.3	0	2.9
Ref No.	IC7001																			
MODE	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
STOP	2.8	2.6	2.8	2.5	2.6	3.0	2.6	2.7	2.8	3.0	2.8	3.0	3.0	3.0	2.9	0	2.4	3.3	3.3	3.0
PLAY	2.7	2.2	2.4	2.5	2.6	2.8	2.5	2.8	2.6	2.9	2.9	3.0	2.9	2.9	2.9	0	2.5	3.3	3.3	3.0
Ref No.	IC7001																			
MODE	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
STOP	3.3	3.3	3.3	0	0	2.5	0	3.0	3.0	3.0	0	3.0	3.0	3.0	1.7	3.3	0	3.3	0	0
PLAY	3.4	3.1	3.1	0	0	2.5	0	3.0	3.1	3.1	0	3.1	3.1	3.1	1.7	3.3	0	3.3	0	0
Ref No.	IC7001																			
MODE	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
STOP	1.7	0	0	0	3.1	2.5	0	0	0	1.7	1.8	3.3	1.7	1.7	1.7	3.3	1.7	0	0	1.5
PLAY	1.7	0	0	0	3.1	2.5	0	0	0	1.8	1.7	3.3	1.7	1.7	1.7	3.3	1.7	0	0	1.5
Ref No.	IC7001																			
MODE	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120
STOP	1.7	3.3	0	3.3	3.3	0	0	0	0.2	3.4	1.6	1.7	1.7	1.3	0	3.3	3.3	3.3	0	0
PLAY	1.7	3.3	0	3.3	3.3	0	0	0	0.1	3.4	1.7	1.7	1.7	1.3	0	3.3	3.3	3.3	0	0
Ref No.	IC7001																			
MODE	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140
STOP	0	0	0	3.3	2.5	3.3	0	3.3	3.3	3.3	0	3.3	3.3	0	3.3	0	0	3.3	3.3	0
PLAY	0	0	0	3.3	2.5	3.3	0	3.4	3.4	3.3	0	3.3	3.3	0	3.4	0	0	3.3	3.4	0
Ref No.	IC7001																			
MODE	141	142	143	144																
STOP	0.2	0	0	3.3																
PLAY	0.2	0	0	3.4																
Ref No.	QR3301																			
MODE	E	C	B		E	C	B													
STOP	0	0.1	4.3		0	3.1	0													
PLAY	0	0.1	4.3		0	3.1	0													

Ref No.	IC2501																				
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
STOP	1.6	1.6	1.6	2.0	2.0	1.6	0	5.0	0	0	2.9	2.9	2.9	2.9	4.3	4.3	3.8	3.8	0	0	
PLAY	1.6	1.6	1.6	1.4	2.3	0	0	5.0	3.3	0	2.9	2.9	2.9	2.9	4.3	4.3	5.1	3.5	0	0	
Ref No.	IC2501																				
MODE	21	22	23	24	25	26	27	28													
STOP	9.0	9.0	1.6	8.3	0	1.6	0	2.5													
PLAY	9.0	9.0	1.8	8.1	0	1.6	3.3	2.5													
Ref No.	IC5201																				
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
STOP	0	0	4.6	0	4.6	1.6	1.6	2.7	3.3	2.7	3.3	1.8	1.6	0	3.3	0	3.3	0.5	0	1.6	
PLAY	0	0.5	3.3	0	4.6	1.6	1.6	2.6	3.3	2.7	3.3	1.8	1.6	0	0	0	3.3	0.5	0	1.6	
Ref No.	IC5201																				
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	
STOP	1.6	1.6	1.6	1.6	3.3	1.8	1.8	1.0	1.7	0.6	0	2.2	2.2	2.9	1.6	1.6	5.0	2.2	2.2	2.3	
PLAY	2.1	1.6	1.6	1.6	3.3	1.8	1.8	1.0	1.7	1.4	0	2.2	2.2	2.2	2.0	0.9	5.0	2.2	2.2	2.3	
Ref No.	IC5201																				
MODE	41	42	43	44	45	46	47	48													
STOP	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2													
PLAY	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2													
Ref No.	IC3071																				
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
STOP	3.4	3.2	3.1	0	3.1	3.1	3.4	3.3	3.0	0	3.0	3.0	3.4	3.3	3.3	3.3	3.3	3.4	0.8	0.1	
PLAY	3.4	3.2	3.1	0	3.1	3.1	3.4	3.3	3.1	0	3.1	3.1	3.4	3.3	3.3	3.3	3.3	3.4	0.9	0.1	
Ref No.	IC3071																				
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	
STOP	0.1	0.1	0.1	1.4	3.4	0	1.0	1.4	1.3	1.3	0.1	0	0	0	0	3.3	0	3.4	3.1	3.0	
PLAY	0.1	0.1	0.1	1.4	3.4	0	1.0	1.4	1.4	1.4	0.1	0.1	0	0	0	3.3	0	3.4	3.2	3.1	
Ref No.	IC3071																				
MODE	41	42	43	44	45	46	47	48	49	50											
STOP	0	3.1	3.0	3.4	3.2	3.0	0	3.0	3.1	0											
PLAY	0.1	3.1	3.1	3.3	3.2	3.0	0.1	3.0	3.2	0.1											
Ref No.	IC3301																				
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16					
STOP	4.9	1.5	0	1.6	1.8	1.8	1.7	0	0	1.8	1.8	2.1	2.1	0	2.0	4.9					
PLAY	4.9	1.5	0	1.6	1.8	1.8	1.8	0	0	1.8	1.8	2.1	2.1	0	2.1	4.9					
Ref No.	IC4211																				
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
STOP	0	0	0	0	0	0	0	5.1	2.5	2.6	2.5	2.6	2.5	2.6	2.6	0	0	5.1	0	0	
PLAY	3.4	3.4	0	0	0	0	0	5.1	2.5	2.6	2.5	2.6	2.5	2.6	2.6	0	0	5.1	0	0	
Ref No.	IC4211																				
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	
STOP	0	5.1	0	5.1	0	5.1	0	5.1	0	0	0	0	3.3	3.4	2.9	3.4	3.1	1.4	1.4	1.7	
PLAY	0	5.1	0	5.1	0	5.1	0	5.1	0	0	0	0	3.3	3.4	2.9	3.4	3.1	1.4	1.4	1.7	
Ref No.	IC4211																				
MODE	41	42	43	44	45	46	47	48		IC6221						IC6222					
STOP	1.7	0	3.4	0	0	0	0	0		3.1	3.1	0	4.5	5.0		2.9	2.9	0	4.2	5.0	
PLAY	1.7	0	3.4	0	0.5	0	0	3.4		3.1	3.1	0	4.5	5.0		2.9	2.8	0	4.1	5.0	
Ref No.	Q5211																				
MODE	E	C	B		Q5215					QR5251											
STOP	5.0	2.2	4.6		E	C	B		5.0	1.2	4.6		E	C	B						
PLAY	4.0	0.9	3.3		5.0	1.2	4.6		3.3	3.3	0.1										

SCHEMATIC DIAGRAM-1

A TERMINAL CIRCUIT

- MAIN SIGNAL
- FOCUS ERROR SIGNAL
- TRACKING ERROR SIGNAL

NOTE:DO NOT USE THE PART NUMBER SHOWN ON THIS DRAWING FOR ORDERING. THE CORRECT PART NUMBER IS SHOWN IN THE PARTS LIST, AND MAY BE SLIGHTLY DIFFERENT OR AMENDED SINCE THIS DRAWING WAS PREPARED.

TO OPTICAL PICKUP UNIT
FP5201

T+	30	TC5225
F+	29	TC5224
F-	28	TC5223
T-	27	TC5222
3.3VHFM	26	TC5221
GND	25	TC5220
LD+(DVD)	24	TC5219
GND	23	TC5218
RFP	21	TC5217
RFN	20	TC5216
F1(DVD)	19	TC5215
F2(DVD)	18	TC5214
GAIN+/-L	17	TC5213
PIN(DVD)	16	TC5212
VREF2.2(DVD)	15	TC5211
TA(DVD)	14	TC5210
TD(DVD)	13	TC5209
TC(DVD)	12	TC5208
TB(DVD)	11	TC5207
VCC5V	10	TC5206
FE1	9	TC5205
GND	8	TC5204
LD+(CD)	7	TC5203
T1(CD)	6	TC5202
VREF2.2(CD)	5	TC5201
FE2(CD)	4	
T2(CD)	3	
PIN(CD)	2	
GND	1	

C5253
0.1

D5251
MA2J72800L

Q5251
UN2124-TX
(SWITCHING 3.3VHFM)

L5251
ELJEA100KF

R5203
56k

R5204
22k

RA5231
(100×4)

R5252
1k

LD+(DVD)	24	TC5220
GND	23	TC5219
RFP	21	TC5218
RFN	20	TC5217
F1(DVD)	19	TC5216
F2(DVD)	18	TC5215
GAIN+/-L	17	TC5214
PIN(DVD)	16	TC5213
VREF2.2(DVD)	15	TC5212
TA(DVD)	14	TC5211
TD(DVD)	13	TC5210
TC(DVD)	12	TC5209
TB(DVD)	11	TC5208
VCC5V	10	TC5207
FE1	9	TC5206
GND	8	TC5205
LD+(CD)	7	TC5204
T1(CD)	6	TC5203
VREF2.2(CD)	5	TC5202
FE2(CD)	4	TC5201
T2(CD)	3	
PIN(CD)	2	
GND	1	

C5223
0.1

C5251
0.1

C5252
10V10

LB5206
VLP0323A601R

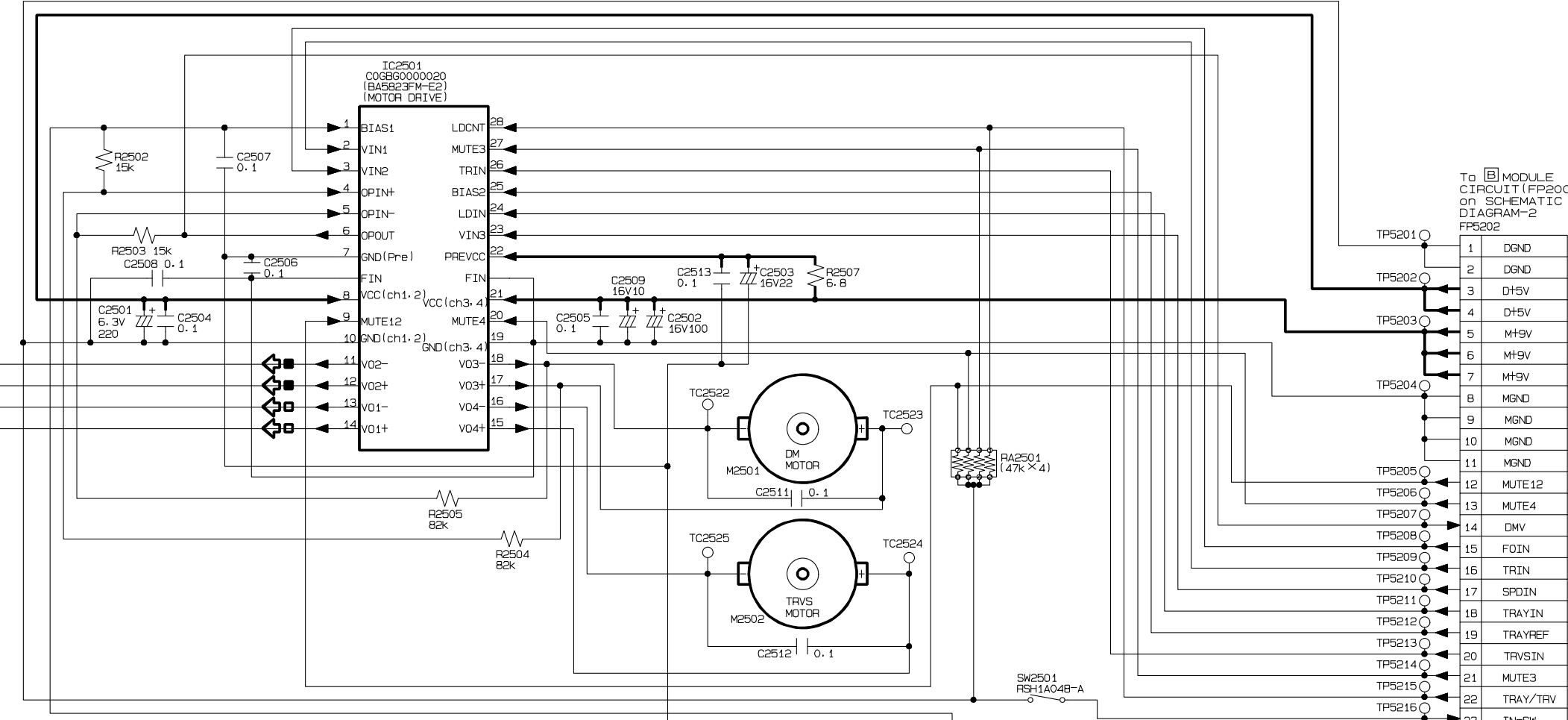
LB5205
VLP0323A601R

LB5204
VLP0155-T

LB5203
VLP0155-T

LB5202
VLP0323A601R

JALBK2HS470T



To MODULE
CIRCUIT (FP2001)
on SCHEMATIC
DIAGRAM-2
FP5202

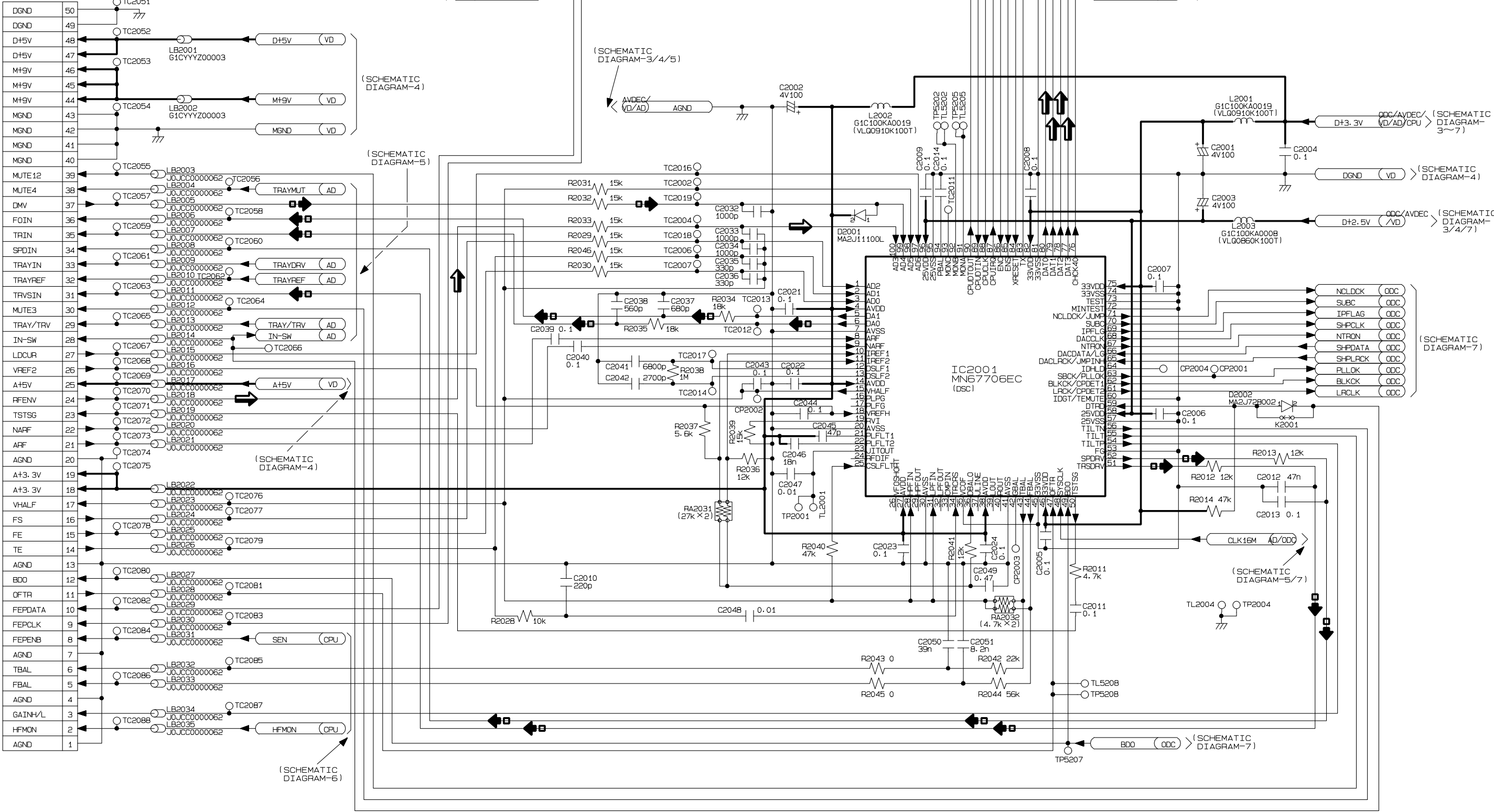
1	DGND
2	DGND
3	D+5V
4	D+5V
5	M+9V
6	M+9V
7	M+9V
8	MGND
9	MGND
10	MGND
11	MGND
12	MUTE12
13	MUTE4
14	DMV
15	FOIN
16	TRIN
17	SPDIN
18	TRAYIN
19	TRAYREF
20	TRVSIN
21	MUTE3
22	TRAY/TRV
23	IN-SW
24	LDCLR
25	VREF2
26	A+5V
27	RFENV
28	TSTSG
29	NARF
30	ARF
31	AGND
32	A+3.3V
33	A+3.3V
34	VHALF
35	FS
36	FE
37	TE
38	AGND
39	BDO
40	OFTR
41	FEPDATA
42	FEPCLK
43	FEPENB
44	AGND
45	TBAL
46	FBAL
47	AGND
48	GAIN+/-L
49	HFMON
50	AGND

SCHEMATIC DIAGRAM-2

B MODULE CIRCUIT
ADSC SECTION (ADSC)

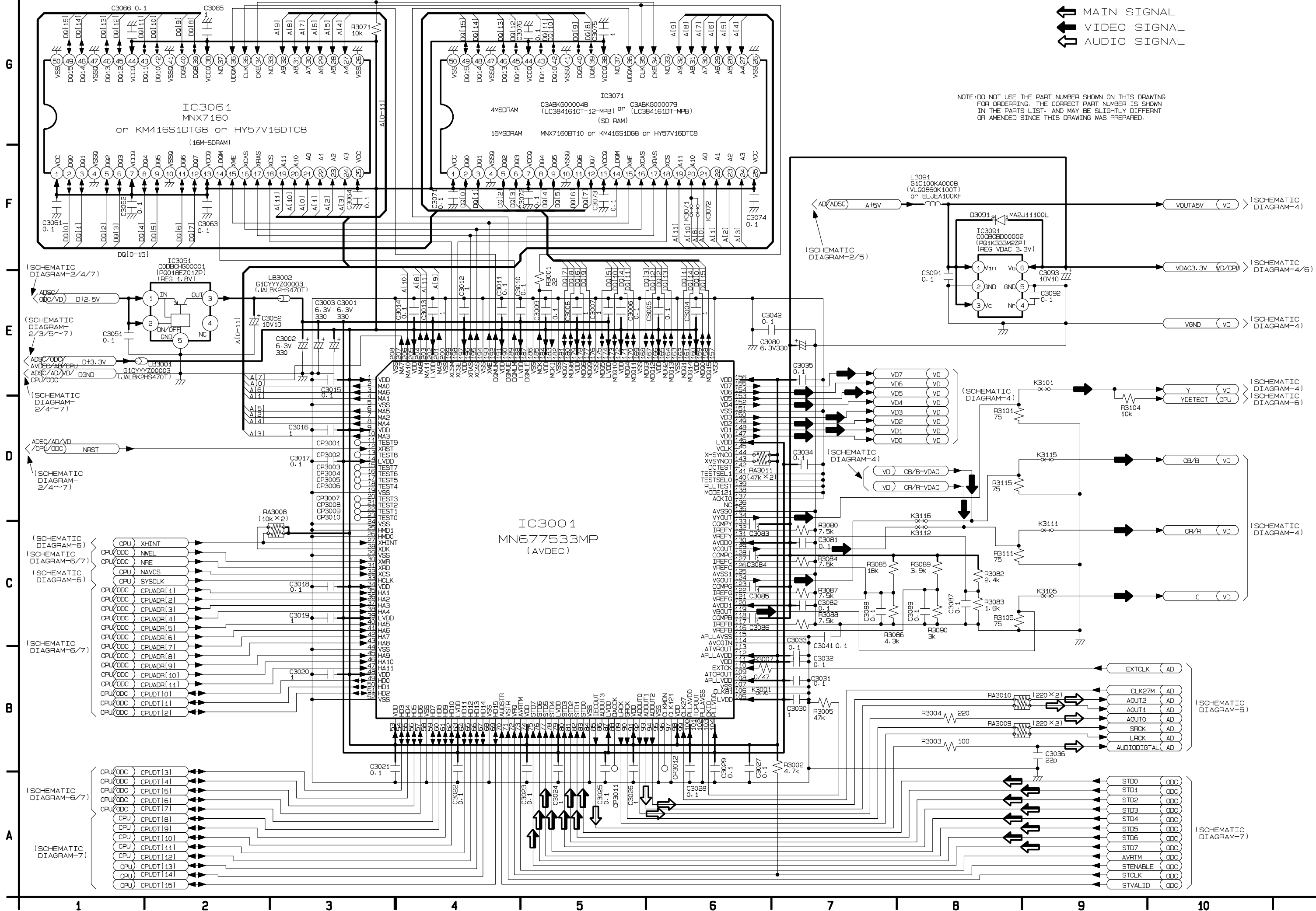
MAIN SIGNAL
MOTOR DRIVE SIGNAL

To [A] TERMINAL
CIRCUIT (FP5202)
on SCHEMATIC
DIAGRAM-1
FP2001

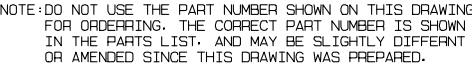


NOTE: DO NOT USE THE PART NUMBER SHOWN ON THIS DRAWING
FOR ORDERING. THE CORRECT PART NUMBER IS SHOWN
IN THE PARTS LIST, AND MAY BE SLIGHTLY DIFFERENT
OR AMENDED SINCE THIS DRAWING WAS PREPARED.

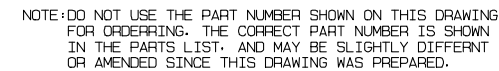
AV DECODER SECTION (AVDEC)



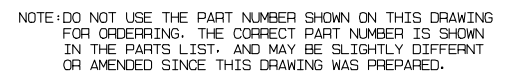
A



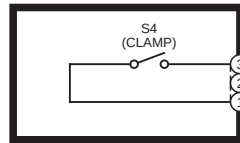
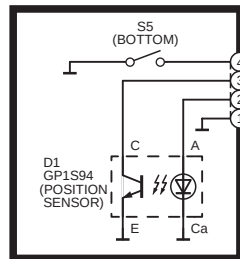
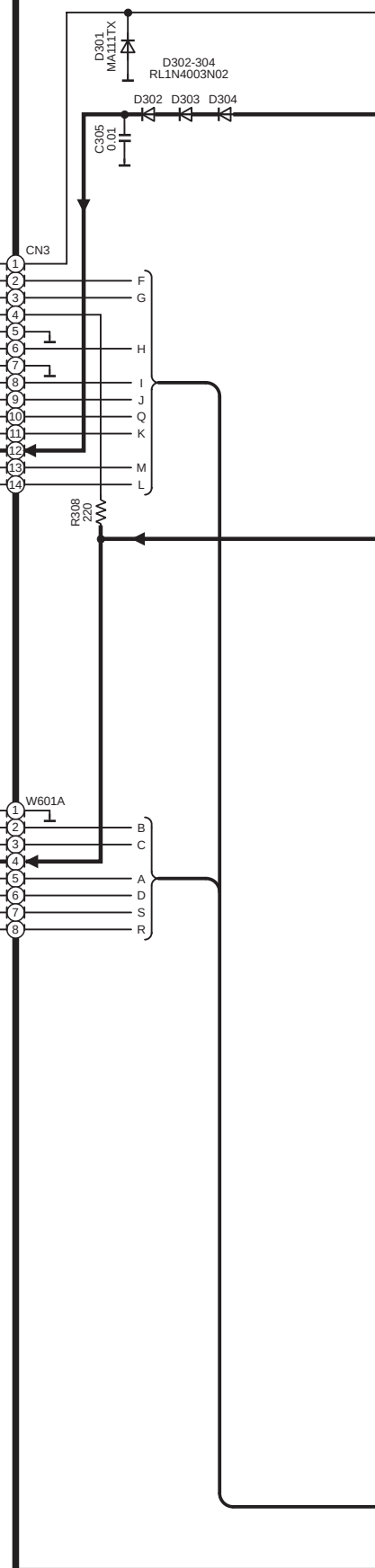
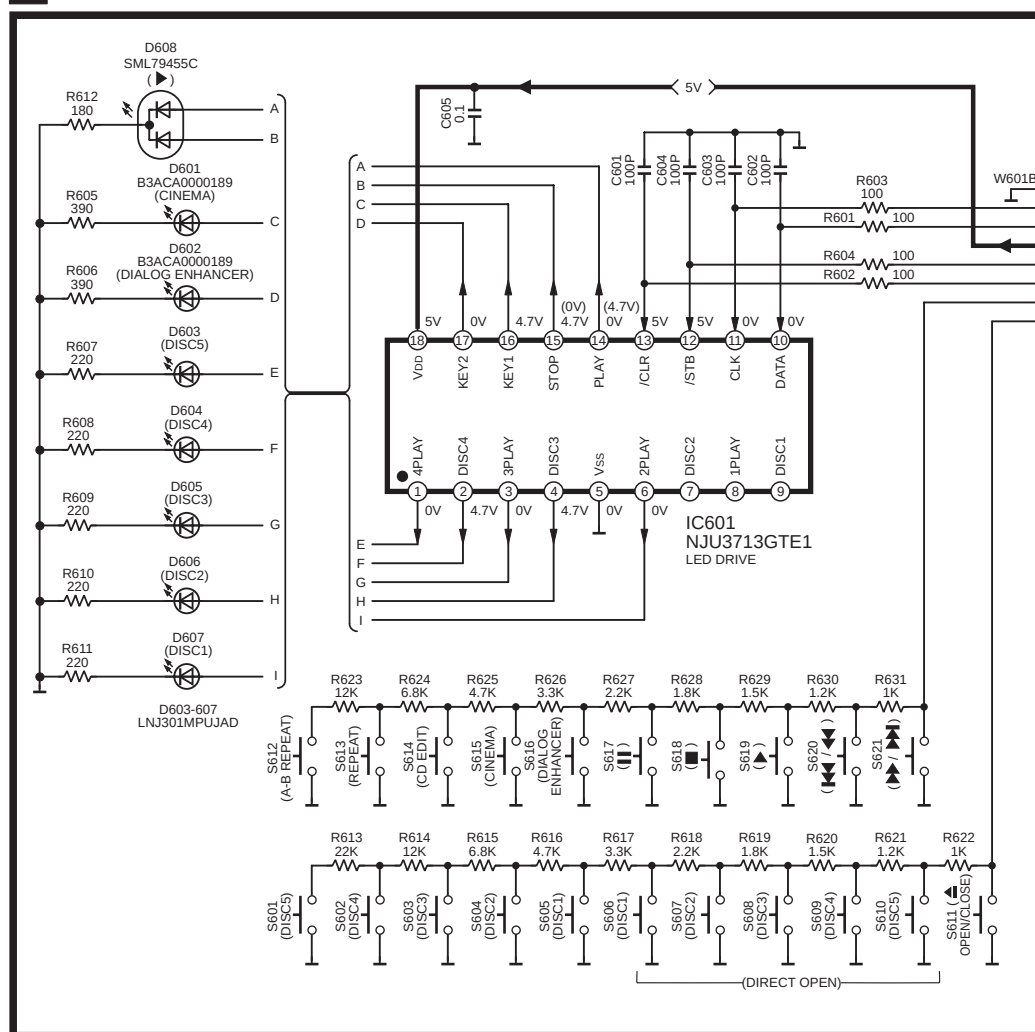
← AUDIO SIGNAL



A

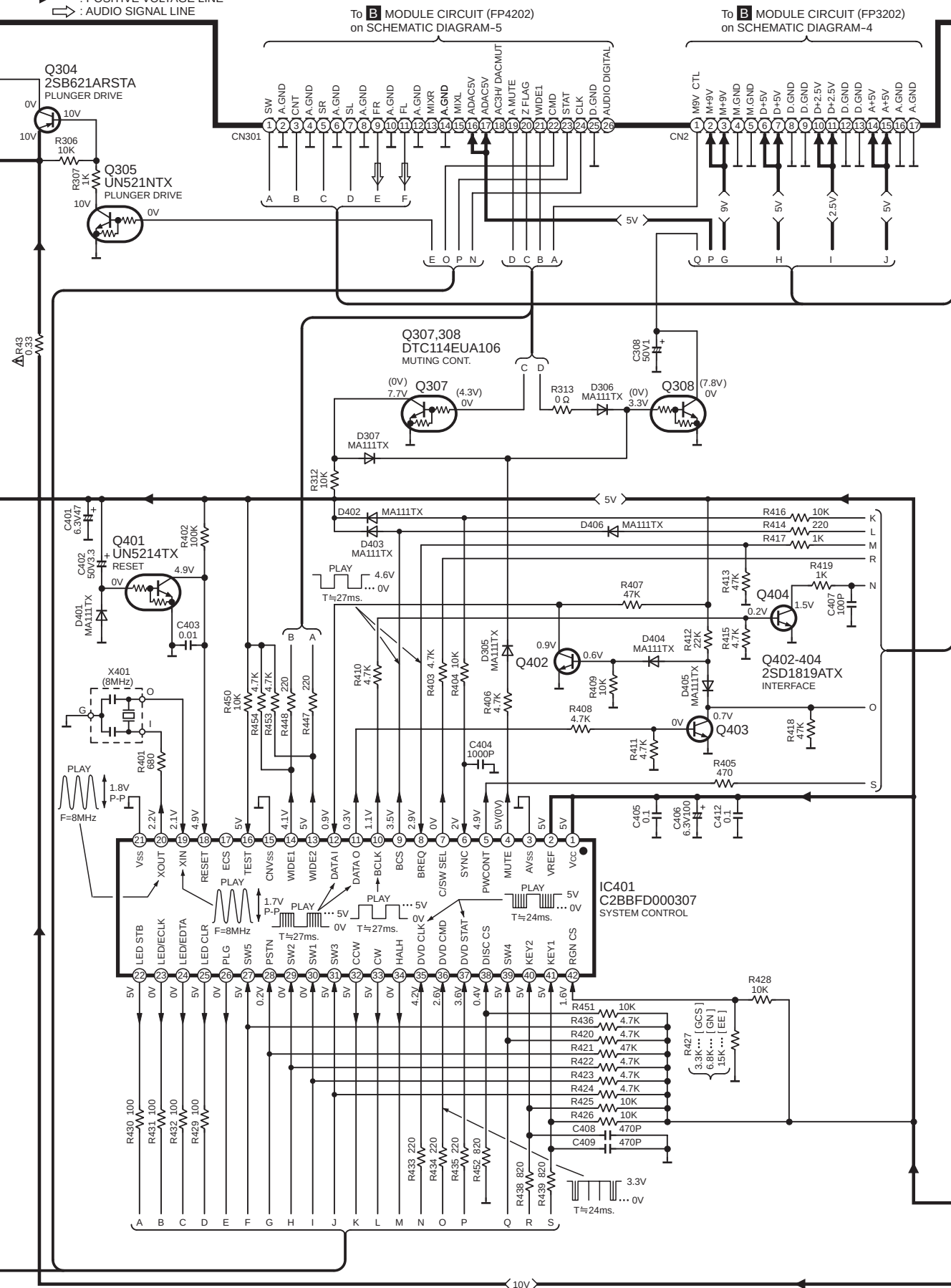


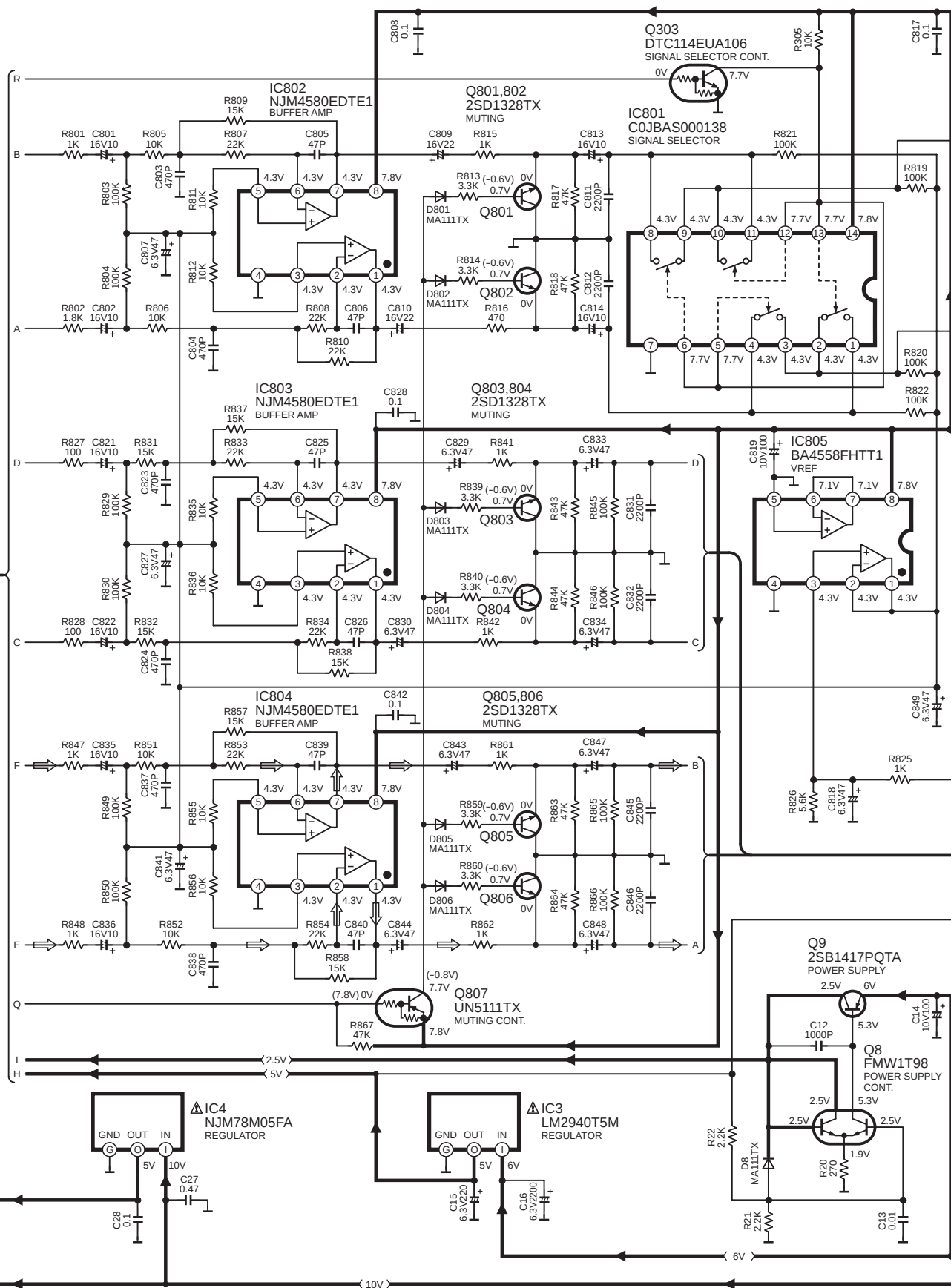
SCHEMATIC DIAGRAM-8

E LOADING MOTOR CIRCUIT → : POSITIVE VOLTAGE LINE**C** MAIN CIRCUIT**F** CLAMP SW CIRCUIT**G** BOTTOM SW CIRCUIT**D** OPERATION CIRCUIT

SCHEMATIC DIAGRAM-9

→ : POSITIVE VOLTAGE LINE
 ⇨ : AUDIO SIGNAL LINE





SCHEMATIC DIAGRAM-11

To SOUND PROCESSOR(SH-DV250) &
CASSETTE DECK(RS-DV250)

To **B** MODULE CIRCUIT(FP3202)
on SCHEMATIC DIAGRAM-4

