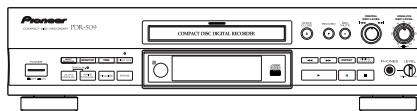


Service Manual



ORDER NO.
RRV2167

COMPACT DISC RECORDER

PDR-509

THIS MANUAL IS APPLICABLE TO THE FOLLOWING MODEL(S) AND TYPE(S).

Type	Model	Power Requirement	Remarks
	PDR-509		
KU/CA	○	AC120V	
MY	○	AC220-230V	
MV	○	AC220-230V	

This service manual should be used together with the following manual (s).

Model	Order No.	Remarks
PDR-509	RRV2055	Service guide

FOR U.S. MODELS

NECESSARY INFORMATION FOR DHHS RULES MARKED ON THE REAR BASE AND ON THE TOP OF CD MECHANISM AS BELOW.

DANGER – LASER RADIATION WHEN OPEN.
AVOID DIRECT EXPOSURE TO BEAM.

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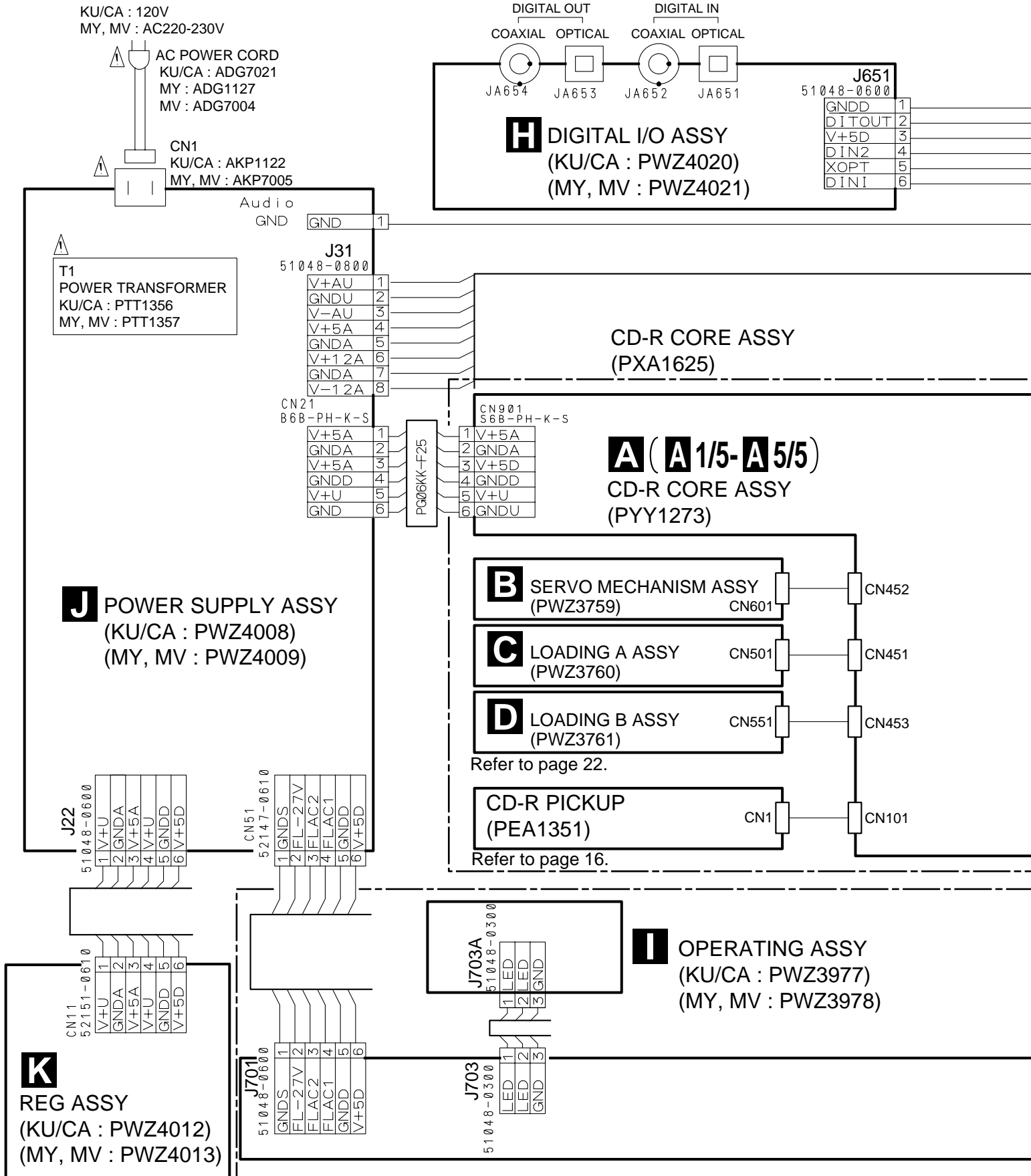
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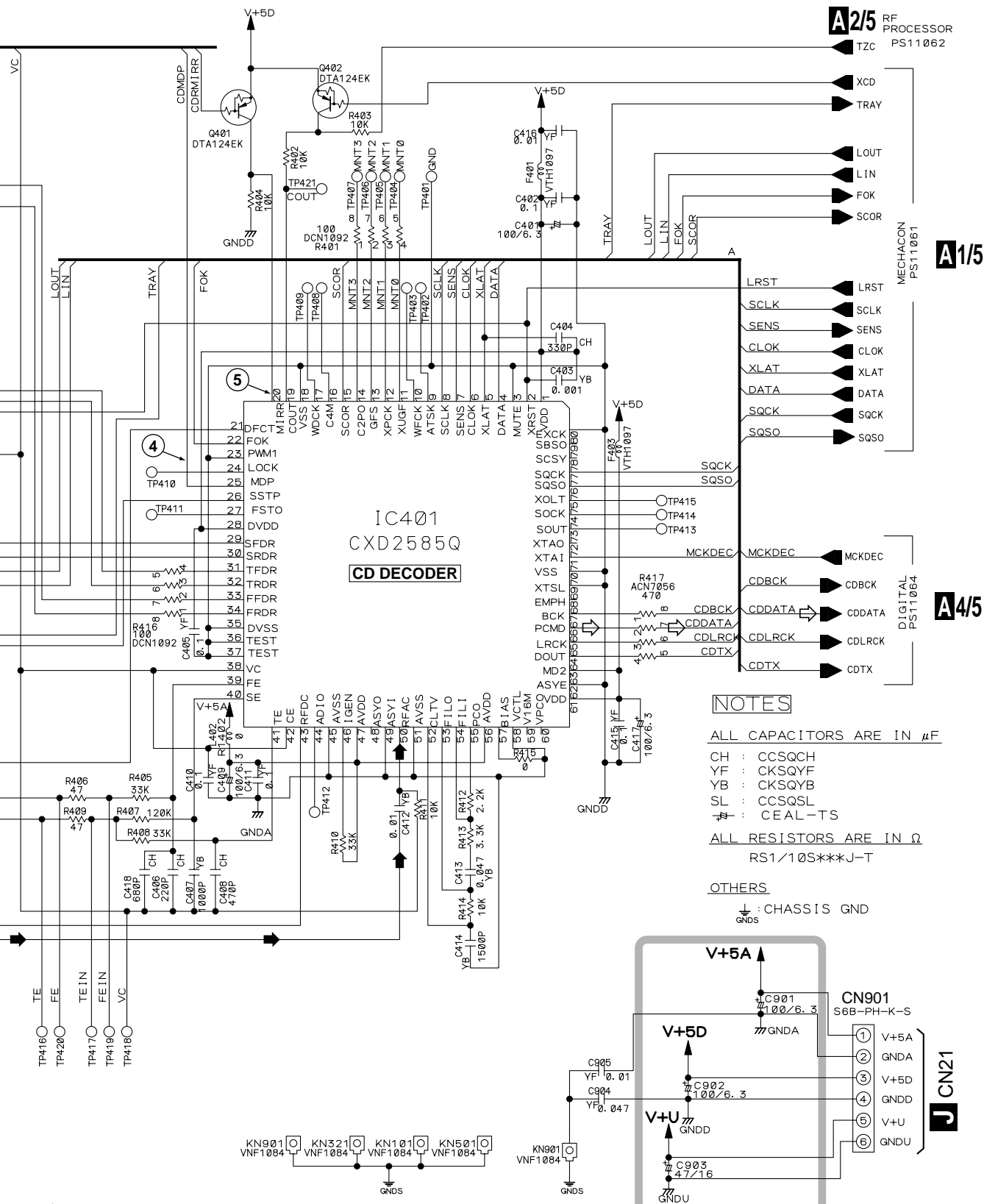


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3.2 OVERALL WIRING DIAGRAM





NOTES

ALL CAPACITORS ARE IN μ F

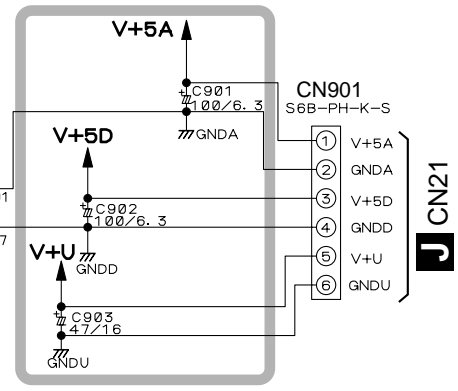
CH : CCSQCH
 YF : CKSQYF
 YB : CKSQYB
 SL : CCSQL
 ∇ : CEAL-TS

ALL RESISTORS ARE IN Ω
 RS1/10S***J-T

OTHERS
 ∇ : CHASSIS GND

➔ : RF SIGNAL ROUTE
 ⇨ : AUDIO SIGNAL ROUTE

○ : The power supply is shown with the marked box.



VOLTAGES and WAVEFORMS

A1/5 CD-R CORE ASSY

Media	Pickup Position	DGAI (IC351-pin56)	D8CM (IC351-pin57)
CD	12cm Inner	0V	0V
	12cm Outer	5V	0V
	8cm Inner	0V	0V
	8cm Outer	5V	0V
CD-R CD-RW	12cm Inner	5V	0V
	12cm Outer	5V	0V
	8cm Inner	0V	5V
	8cm Outer	5V	5V

	at FS = 44 kHz (at FS Converter through)	Others
FSR/XTHR (CN301-pin 2)	0V	5V
	at DIGITAL LOCK	at DIGITAL UNLOCK
XVCO (CN301-pin3)	0V	5V
UNLOCK (CN301-pin7)	0V	5V
XPFail (CN301-pin4)	5V	-
XRST (CN301-pin11)	5V	-

A3/5 CD-R CORE ASSY

Operating Mode	CLV (IC201-pin13)	ECLV (IC201-pin14)
STOP	0V	0V
CAV	0V	5V
CLV	5V	0V
ECLV	5V	5V

A4/5 CD-R CORE ASSY

	A/D Converter used	
	at Analog REC Pause or REC	Others
ADSTBY (CN501-pin4)	0V	5V
	at MUTE ON (Audio Signal Not Output)	at MUTE OFF (Audio Signal Output)
AMUTE (CN501-pin9)	5V	0V
LRSTD (CN501-pin10)	5V	-

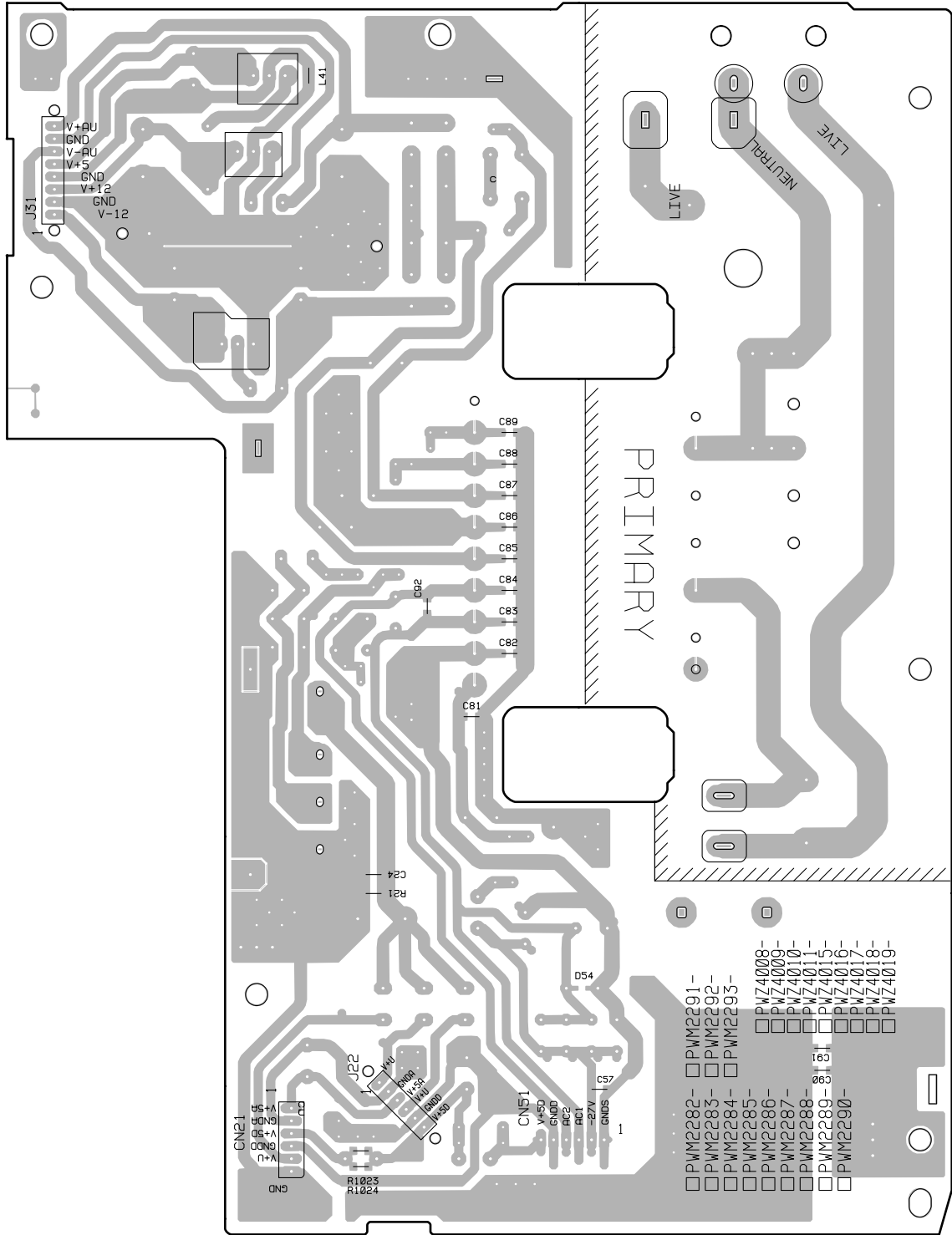
Note :

The encircled numbers denote measuring point in the schematic diagram.

A1/5 CD-R CORE ASSY

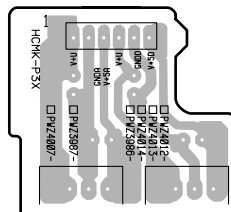
<p>① CN301 - pin 5 (MREQ) V: 0.2V/div.(10 : 1) H: 5msec/div. (STOP)</p>	<p>⑦ CN301 - pin 13 (MSI) V: 0.2V/div.(10 : 1) H: 5msec/div. (STOP)</p>
<p>② CN301 - pin 6 (EN_CE) V: 0.2V/div.(10 : 1) H: 5msec/div. (STOP)</p>	<p>⑧ IC301 - pin 28 (SCLK) V: 2V/div. H: 2µsec/div. (Disk Loading)</p>
<p>③ CN301 - pin 8 (XFUSE) V: 0.2V/div.(10 : 1) H: 5msec/div. (STOP)</p>	<p>⑨ IC301 - pin 27 (XL2) V: 0.2V/div.(10 : 1) H: 5msec/div. (STOP)</p>
<p>④ CN301 - pin 9 (MACK) V: 0.2V/div.(10 : 1) H: 5msec/div. (STOP)</p>	<p>⑩ IC301 - pin 26 (DATA) V: 0.2V/div.(10 : 1) H: 5msec/div. (STOP)</p>
<p>⑤ CN301 - pin 10 (MSCK) V: 0.2V/div.(10 : 1) H: 0.5µsec/div. (PLAY)</p>	<p>⑪ IC301 - pin 25 (CLOK) V: 0.2V/div.(10 : 1) H: 5msec/div. (STOP)</p>
<p>⑥ CN301 - pin 12 (MSO) V: 0.2V/div.(10 : 1) H: 5msec/div. (STOP)</p>	<p>⑫ IC301 - pin 24 (XLAT) V: 0.2V/div.(10 : 1) H: 5msec/div. (STOP)</p>

J POWER SUPPLY ASSY



(PNP1466-A)

K REG ASSY



SIDE B

J K

6.5.2 M-S Mix Ratio Adjustment

Test Point	CN102 - pin 4 (TE) and pin 3 (MPP)	Test Disc	STD-903
Adjustment Point	DIGITAL REC LEVEL knob		
Adjustment Value	Adjust until the value of the output signals from pin 4 (TE) and pin 3 (MPP) of CN102 are the same, or the differential output of these signals is minimal.		
Symptom when out of adjustment	Sound broken, record characteristics deteriorate		
[Procedure]			
<p>(1) Press the AUTO/MANUAL button so that "02 F3" appears on the FL display.</p> <p>(2) Press the FINALIZE button for focus-in.</p> <p>(3) Press the PLAY button for CAV-servo spindle kick (the status where the spindle rotates with the focus servo on and tracking servo off).</p> <p>(4) Adjust with the DIGITAL REC LEVEL knob until the value to be reached is obtained.</p> <p>(5) Press the DIGITAL REC LEVEL knob to register the adjustment.</p> <p>Once the adjustment is registered with the DIGITAL REC LEVEL knob, "?" on the FL display will disappear.</p> <p>(6) Press the STOP button to stop the unit.</p> <p>Note: For adjustment, use the following circuits.</p>			
<p>Note: Adjustment must be done around mid-radius on a disc.</p>			

6.5.3 Tracking Offset Adjustment

Test Point	CN102 - pin 4 (TE)
Adjustment Point	DIGITAL REC LEVEL knob
Adjustment Value	0 mV ± 10 mV
[Procedure]	
<p>(1) Press the AUTO/MANUAL button so that "03 F6" appears on the FL display.</p> <p>(2) Adjust with the DIGITAL REC LEVEL knob until the above adjustment value to be reached is obtained.</p> <p>(3) Press the DIGITAL REC LEVEL knob to register the adjustment.</p> <p>Once the adjustment is registered with the DIGITAL REC LEVEL knob, "?" on the FL display will disappear.</p>	
<p>Note: Perform the adjustment in Stop mode.</p> <p>This adjustment is possible with the low-pass filter used in adjustment 5 above attached.</p>	

No.	Mark	Pin Name	I/O	Pin Function
41	P32	MACK	O	Communication response for mechanism controller (H to L: communication permission) (L to H: Communication end)
42	P31	LREQ	O	CE signal for LC89585 (L: Enable)
43	P30	UNLOCK	I	Digital unlock detection
44	INTP3	POT_INT	I	Rotary encoder SW operation detection (↓ interrupt)
45	INTP2	XPFAIL	I	Power down detection (L: power down)
46	INTP1	MREQ	I	Mechanism controller communication request (interrupt)
47	INTP0	REMIN	I	Remote control input (interrupt)
48	IC	VPP	I	Connect to GND
49	P72	ROT3	I	Not used "L" outputs
50	P71	ROT2	I	"H" outputs when playing the CD/CD-R/CD-RW discs in the Hi-bit mode
51	P70	ROT1	I	Rotary encoder SW direction judgment input
52	VDD	VDD	–	Connect to VDD
53	P127	SCAN4	O	Key matrix output 4
54	P126	SCAN3	O	Key matrix output 3
55	P125	SCAN2	O	Key matrix output 2
56	P124	SCAN1	O	Key matrix output 1
57	P123	SCAN0	O	Key matrix output 0
58	P122	KEYIN3	I	Key matrix input 3
59	P121	KEYIN2	I	Key matrix input 2
60	P120	KEYIN1	I	Key matrix input 1
61	P117	KEYIN0	I	Key matrix input 0
62	P116	–	O	Not used "L" outputs
63	P115	SCMS	O	Prepare the mode switch ("L" outputs)
64	P114	FINL_SEG	O	FINALIZE-segment output (At lights up: H)
65	P113	SEG 10	O	FL segment output 10
66	P112	SEG 9	O	FL segment output 9
67	P111	SEG 8	O	FL segment output 8
68	P110	SEG 7	O	FL segment output 7
69	P107	SEG 6	O	FL segment output 6
70	P106	SEG 5	O	FL segment output 5
71	VLOAD	–	–	VLOAD
72	P105	SEG 4	O	FL segment output 4
73	P104	SEG 3	O	FL segment output 3
74	P103	SEG 2	O	FL segment output 2
75	P102	SEG 1	O	FL segment output 1
76	P101	SEG 0	O	FL segment output 0
77	P100	GRID10	O	FL grid output 10
78	FIP9	GRID 9	O	FL grid output 9
79	FIP8	GRID 8	O	FL grid output 8
80	FIP7	GRID 7	O	FL grid output 7

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