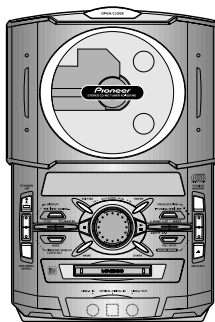


Service Manual

Pioneer



ORDER NO.
RRV2149

CD MD TUNER XC-IS21MD

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

Type	Model	Power Requirement	Remarks
	XC-IS21MD		
ZUCXJ	O	DC power supply from other system	

● This product is a system(s) component.

This product does not function properly when independent; to avoid malfunctions, be sure to connect it to the prescribed system component(s), otherwise damage may result.

Component	System	Service Manual	Remarks
	IS-21MD		
CD MD TUNER	XC-IS21MD	RRV2149	This service manual
STEREO POWER AMPLIFIER	M-IS21	RRV2143	
SPEAKER SYSTEM	S-IS21	RRV2141	

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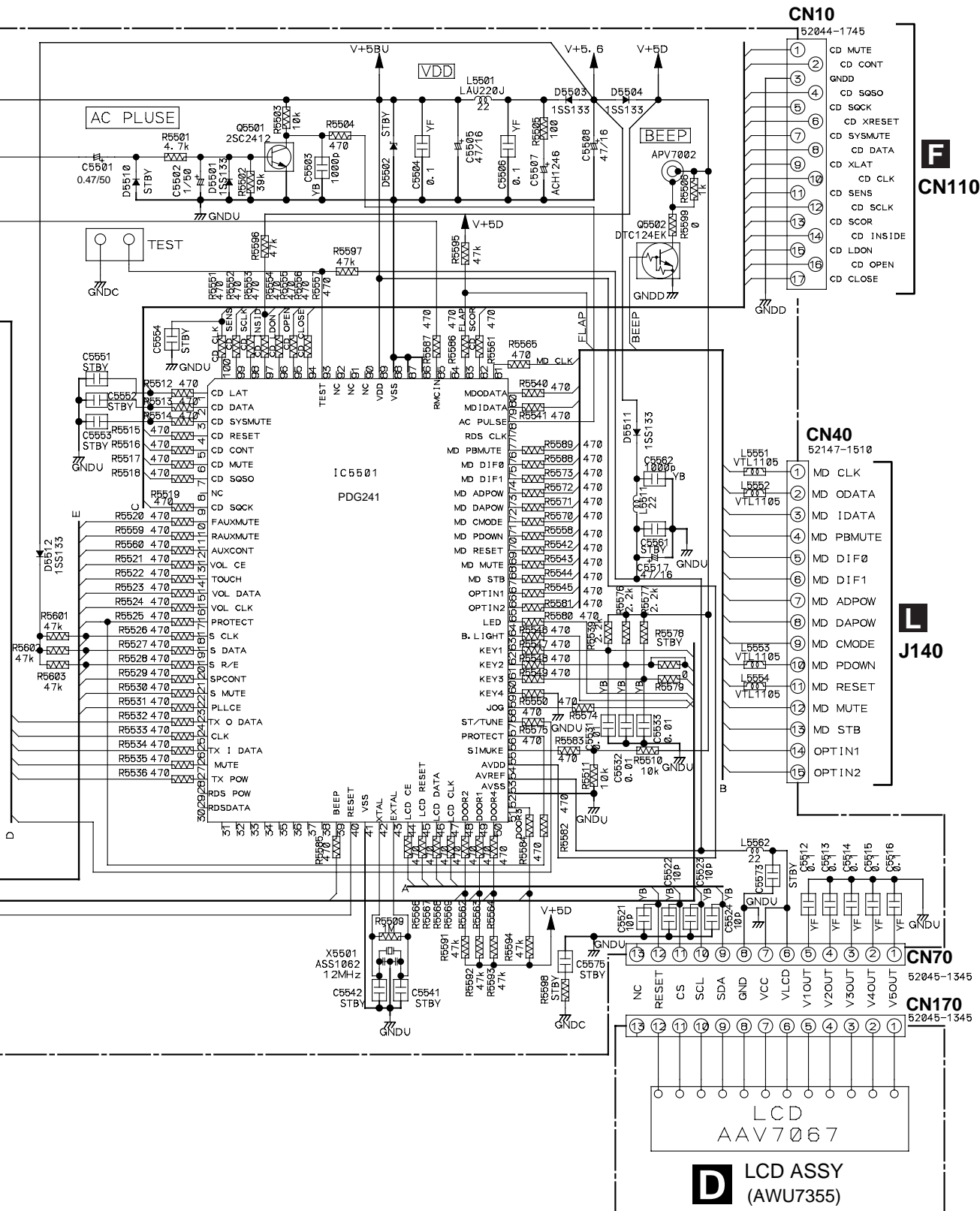


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● FRONT PANEL ASSY (2/2) PARTS LIST

Mark	No.	Description	Parts No.
	1	CD MOTOR ASSY	AWU7318
	2	CD ASSY	AWU7307
	3	Slider Motor	VXM1033
NSP	4	Motor Shield	ANK7067
	5	Motor Pulley	PNW1634
	6	Gear Holder	AMR7240
	7	Gear A	ANW7063
	8	Gear B	AMR7260
	9	Gear Pulley A	ANW7066
	10	Belt	AEB7171
	11	CD MECHANISM ASSY	KSM-620AAA
	12	Float Spring	ABH7170
	13	Mechanism Holder	AMR7242
	14	CD Door Window	AAK7673
	15	CD Door Escutcheon	AAK7619
	16	CD Door	AAN7189
	17	Shaft Assy	AXG7078
	18	Shaft Holder	AMR7237
	19	Cussion Rubber	AEB7154
	20	Screw	BBZ30P080FMC
	21	Screw	VPZ30P080FZK
	22	Screw	ABA7054
	23	Screw	PMZ26P040FMC
	24	Screw	IPZ20P080FMC
	25	Float Rubber	AEB7129
	26	17P F.F.C/ 30V	ADD7146
	27	Screw	VPZ30P100FMC



IC106	
PIN NO.	VOLTAGE
1	1.6V
2	0.49V
3	1.61V
4	4.99V
5	4.99V
6	1.61V
7	1.62V
8	2.46V
9	2.51V
10	0V
11	0V
12	2.54V
13	2.45V
14	1.62V
15	1.62V
16	1.61V
17	3.17V
18	0V
19	1.61V
20	1.61V
21	1.61V
22	1.61V
23	1.36V
24	1.36V
25	1.61V
26	1.61V
27	1.63V
28	2.41V
29	2.55V
30	2.47V
31	2.48V
32	0V
33	0V
34	2.79V
35	2.18V
36	0V
37	1.69V
38	5.0V
39	4.99V
40	1.67V
41	1.69V
42	1.69V

IC108	
PIN NO.	VOLTAGE
1	2.47V
2	2.63V
3	4.87V
4	2.63V
5	1.59V
6	0V
7	0V
8	4.87V
9	0V
10	2.25V
11	4.94V
12	4.94V
13	4.94V
14	4.94V
15	3.12V
16	4.94V

IC109	
PIN NO.	VOLTAGE
1	2.77V
2	2.77V
3	3.2V
4	1.58V
5	1.58V
6	1.56V
7	0V
8	0V
9	0V
10	0V
11	0V
12	0V
13	0V
14	3.2V

IC110	
PIN NO.	VOLTAGE
1	0V
2	3.2V
3	0V
4	3.2V
5	0V
6	0.11V
7	0V
8	0V

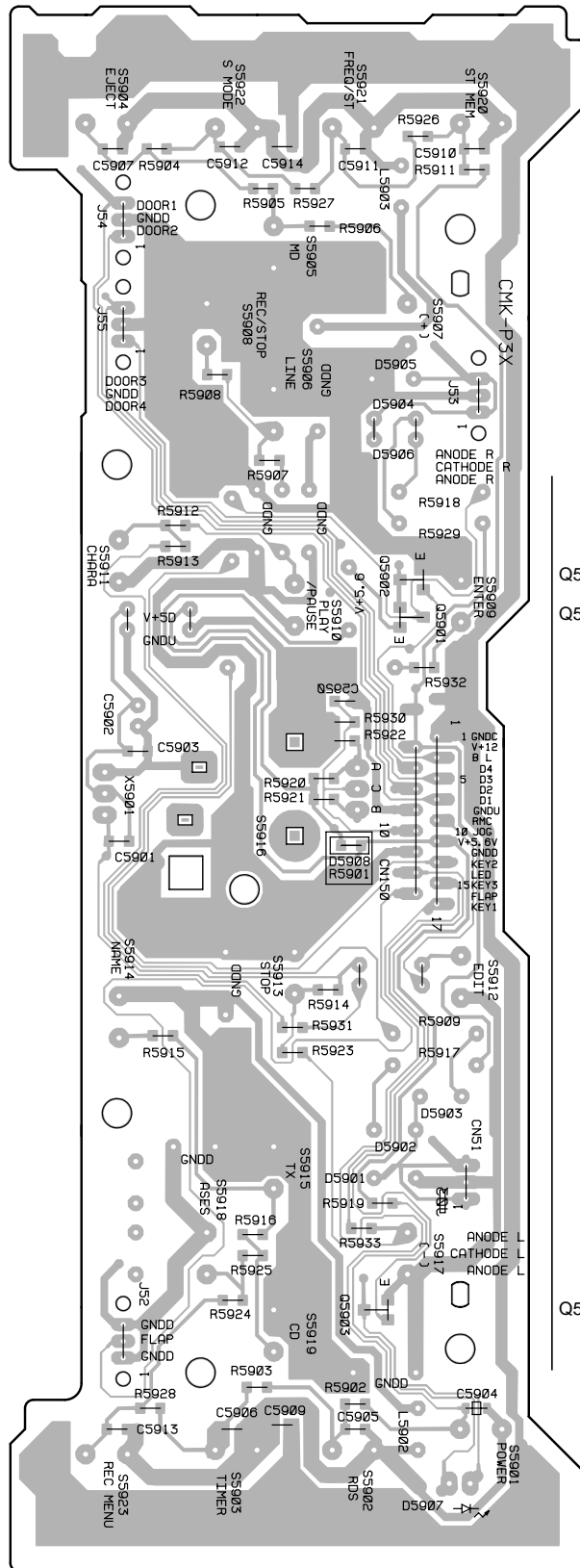
IC112	
PIN NO.	VOLTAGE
1	1.66V
2	1.62V
3	1.62V
4	0V
5	1.67V
6	1.67V
7	1.67V
8	3.19V

IC113	
PIN NO.	VOLTAGE
1	4.95V
2	3.96V
3	0V
4	0V
5	0V
6	0V
7	0V
8	0V
9	4.94V
10	4.12V
11	3.19V
12	0V
13	0V
14	4.94V

IC114	
PIN NO.	VOLTAGE
1	0V
2	4.19V
3	3.21V
4	2.81V
5	0V

IC116	
PIN NO.	VOLTAGE
1	4.98V
2	0V
3	0V
4	4.99V
5	3.2V
6	0V
7	0.03V
8	3.18V
9	0V
10	0V
11	0V
12	0.22V
13	0V
14	0.25V
15	0.25V
16	2.82V
17	0.16V
18	4.94V
19	2.82V
20	1.33V

M FRONT PANEL ASSY



SIDE B

(ANP7301-B)

④ Preliminary Adjustment

Step No.	Operation Keys and Operation Method	FL Display	Status	Remarks
3	Press the NAME key (until AUT YOBI is displayed).	AUT YOBI	Preliminary adjustment mode	
4	Preliminary adjustment starts when the PLAY key is pressed.	HAo : RFg : PTG : Can't ADJ. COMPLETE	Defective adjustment (problem with the servo system) Adjustment end	
5	Press the STOP key.	AUT YOBI	Return to menu display	
6	Power OFF	EEPROM W GGF1328 (MMD-212)	Writing to the EEPROM	

Note: When this adjustment is performed after defocus adjustment has been performed, defocus is returned to the initial status, and defocus adjustment must be performed.

⑤ Normal adjustment

Step No.	Operation Keys and Operation Method	FL Display	Status	Remarks
1	Short circuit MECH TEST MODE during the power ON. (Fig.6-1)	EJECT	Test mode	
2	Insert the test disc GGF1328 (MMD-212).	LOADING GRT AJST		
3	Press the NAME key (until AUTO AJST is displayed).	AUTO AJST	Normal adjustment mode	
4	Normal adjustment starts when the PLAY key is pressed.	PEG : HAG : Can't ADJ. COMPLETE	Defective adjustment (problem with the servo system) Adjustment end	
5	Press the STOP key.	AUTO AJST	Return to menu display	

⑥ Defocus adjustment

Step No.	Operation Keys and Operation Method	FL Display	Status	Remarks
1	Short circuit MECH TEST MODE during the power ON. (Fig.6-1)	EJECT	Test mode	
2	Insert the test disc GGF1328 (MMD-212).	LOADING GRT AJST		
3	Press the NAME key (until deFO AJST is displayed).	deFO AJST		
4	Press the PLAY key. of <u>○○○○</u> c <u>□□□□</u> Defocus Value ↑ ↑ C1 Error Value	PEG : FESpp : of000c0015	Defocus mode is entered, and after automatic execution of normal adjustment, the C1 error at the time of focus offset 0 is displayed.	
5	Check the jitter value and end the adjustment when the intermediate jitter value is 29 nsec or less.			
6	Press the REC key.	of+04 c0032	The C1 error with application of a focus offset of about 0.4 μm on the + side is displayed. The jitter value (J+) at this time is recorded.	

7.1.3 DETAILS OF ERROR DISPLAY

Error Display	Details of Error	Measure
Can't REC	<ul style="list-style-type: none"> DEFECT occurred 10 times continuously during REC-PLAY. Recordable cluster became 0 since DEFECT occurred during REC-PLAY. Address is unreadable. REC state can not be set for 20 seconds even after try again. 	<ul style="list-style-type: none"> Check if there are scratches, dusts, fingerprints, or black spots on disc. Check if disc fluctuates eccentrically or moves up and down largely.
Can't COPY	<ul style="list-style-type: none"> Determined as follows according to the channel status of the signals input from D-IN during REC-PAUSE or REC-PLAY. <ol style="list-style-type: none"> Other than audio Other than consumer use Copy NG due to inversion of COPY bit of CD 	<ul style="list-style-type: none"> Check if CD is copy-proof. (Example: CD-R, etc.)
DIN UNLOCK	<ul style="list-style-type: none"> The following occurred for digital signal input from D-IN during REC-PAUSE, REC-PLAY, or CD FUNC playback <ol style="list-style-type: none"> Digital IN PLL unlocked. Locked at other than FS = 32, 44.1 and 48 kHz. 	<ul style="list-style-type: none"> Check if D-IN signal line is normal.
TOC FULL	<ul style="list-style-type: none"> No area for registering music number and character information during REC-PLAY (music name, disc number, etc.) 	<ul style="list-style-type: none"> Replace with recording/playback disc with space for registering UTOC.
UTOCER T S R	<ul style="list-style-type: none"> FTNO > LTNO. FTNO ≠ 0 or 1. UTOC recorded on DISC could not be read. 	<ul style="list-style-type: none"> Replace with other discs to check if UTOC data is normal.
UTOCER A	<ul style="list-style-type: none"> Start address > End address. 	<ul style="list-style-type: none"> Replace with other discs to check if UTOC data is normal.
UTOCER L 0 1 2 4	<ul style="list-style-type: none"> Any one data of UTOC 0 to 4 has looped. 	<ul style="list-style-type: none"> Replace with other discs to check if UTOC data is normal.
NOT AUDIO	<ul style="list-style-type: none"> Data not for audio is recorded for TNO track mode currently selected. 	<ul style="list-style-type: none"> Select other TNO or replace with other discs.
? DISC	<ul style="list-style-type: none"> Data called MINI of system ID written in ASCII codes in TOC is incorrect. Disc type written in TOC is not pre-mastered MD, recording MD, or hybrid MD. 	<ul style="list-style-type: none"> Disc is outside specifications. Replace with different disc and check.
DISC FULL	<ul style="list-style-type: none"> No recordable space when attempted to set REC-PAUSE. 	<ul style="list-style-type: none"> Replace with different disc with recording space.
Playback MD	<ul style="list-style-type: none"> Disc only for playback was loaded when attempted to set REC-PAUSE or edit. 	<ul style="list-style-type: none"> Disc is for playback only. Replace with disc for recording.
PROTECTED	<ul style="list-style-type: none"> Attempted to record or edit even through REC-proof knob of disc for recording was in the REC-proof state. Attempted to edit track with write-protect according to information on UTOC. 	<ul style="list-style-type: none"> Track attempted to be edited is write-protected. Try again with different track. Restore the REC-proof knob and try again.
Can't EDIT	<ul style="list-style-type: none"> Editing conditions were not satisfied for each editing function. 	<ul style="list-style-type: none"> Operating method is wrong. Try again using correct method.
DISC ER [DISC ER R DISC ER S DISC ER W]	<ul style="list-style-type: none"> Data read was incorrect or could not be read properly. Error occurred during music data recording and recording could not be performed correctly. Music data READ search time exceeded REC PAUSE shift abnormality (search time exceeded) SD WRITE (search time exceeded) 	<ul style="list-style-type: none"> Faulty TOC or UTOC data or scratch on disc. Replaced with other discs.

7.2 PARTS

7.2.1 IC

• The information shown in the list is basic information and may not correspond exactly to that shown in the schematic diagrams.

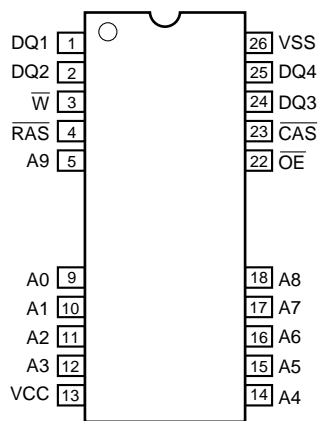
•List of IC

M5M4V4400CTP-7, M56758FP, PD5523A, LR376487, BD7910FV, BR93LC56F, IR3R55M, AK4520A, CXA1821M, CXD2587Q, PDG241.

■ M5M4V4400CTP-7 (CORE MAIN ASSY : IC103)

• DRAM

•Pin Assignment (Top View)

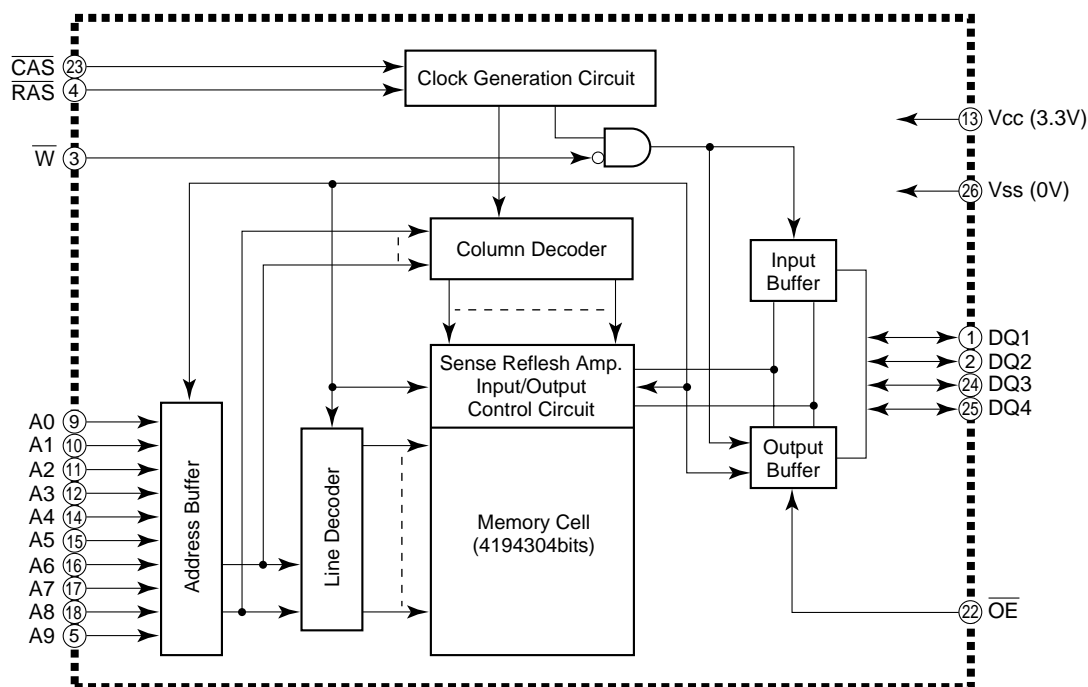


•Pin Function

No.	Name	Description	
1	DQ1	Data Input/Output	
2	DQ2		
3	\overline{W}	Write control input	
4	\overline{RAS}	Line address strobe input	
5	A9	Address input	
6	 8	Address input	
9			A0
12			A3
13	Vcc	Power supply voltage (+3.3 V)	

No.	Name	Description	
14	A4	Address input	
18	A8		
19	 21	Address input	
22			\overline{OE}
23			\overline{CAS}
24	DQ3	Data Input/Output	
25	DQ4		
26	Vss	Ground (0 V)	

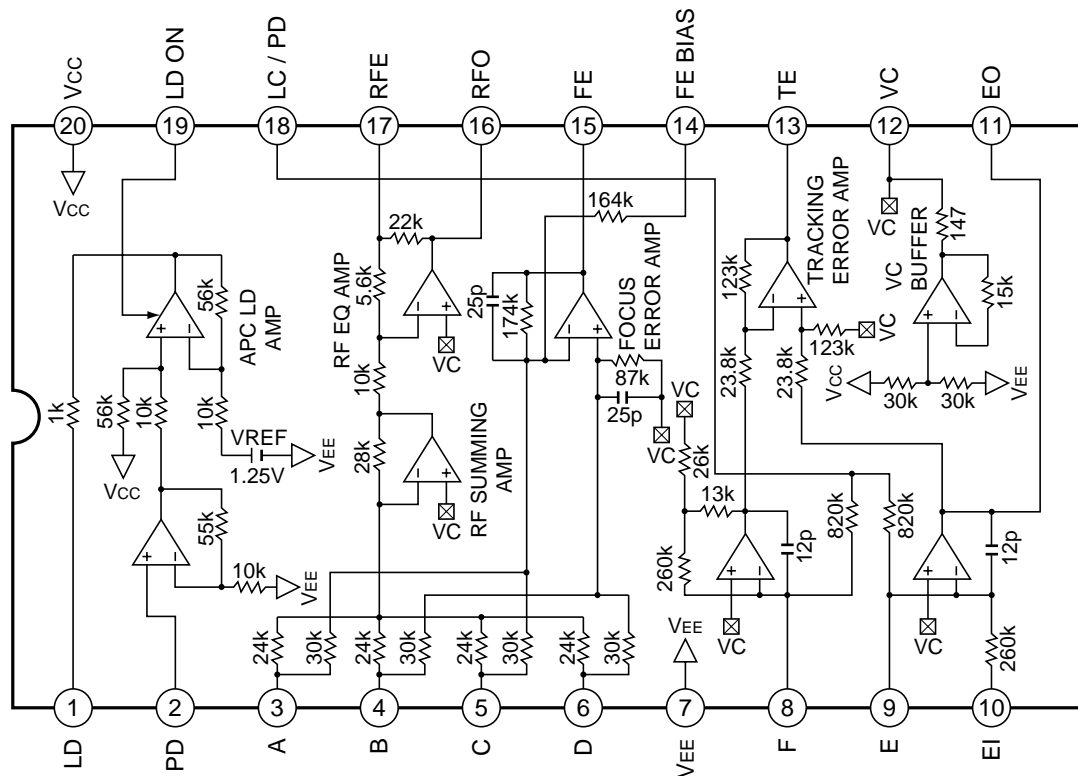
•Block Diagram



■ CXA1821M (CD ASSY : IC1101)

• RF AMP. IC

●Block Diagram



●Pin Function

No.	Pin Name	I/O	Function	No.	Pin Name	I/O	Function
1	LD	O	APC amplifier output	11	EO	-	Gain adjust the signal which was input from pin 9.
2	PD	I	APC amplifier input	12	VC	O	DC voltage output of (VCC+VEE)/2
3	A	I	RF amplifier and FE amplifier input	13	TE	O	Tracking error amplifier output F-E signal is output.
4	B			14	FE BIAS	I	Pin for focus bias adjustment
5	C			15	FE	O	Focus error amplifier output
6	D			16	RFO	O	RF amplifier output
7	VEE	-	Ground pin	17	RFE	-	Pin for RF amplifier equalization
8	F	I	Tracking error amplifier input.	18	LC/PD	I	Bias pin VCC : LC , OPEN : PDIC
9	E			19	LD ON	I	ON/OFF switching pin of APC amplifier VCC : ON, VEE : OFF
10	EI	-	Gain adjust the signal which was input from pin 9.	20	VCC	-	Power supply pin

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