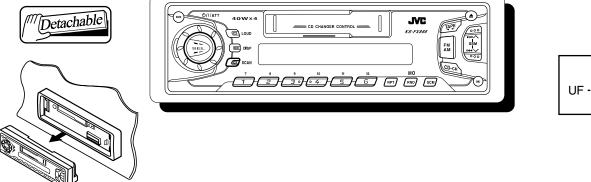
JYC SERVICE MANUAL CASSETTE RECEIVER

KS-FX888



Area Suffix

UF ----- China

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Safety precaution

CAUTION Burrs formed during molding may be left over on some parts of the chassis. Therefore, pay attention to such burrs in the case of preforming repair of this system.

Disassembly method

<Main body>

■ Removing the front panel assembly (See Fig.1)

1. Press the eject button in the lower right part of the front panel. Remove the front panel assembly from the body.

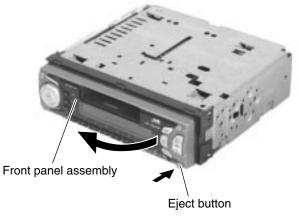


Fig.1

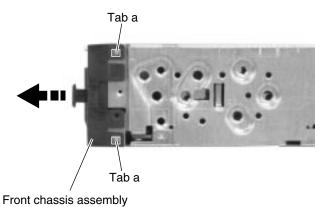


Fig.2

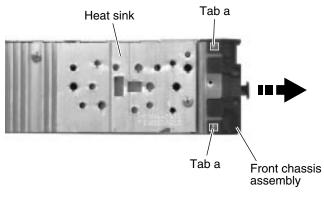


Fig.3

Removing the front chassis assembly (See Fig.2 and 3)

- Prior to performing the following procedure, remove the front panel assembly.
- 1. Release the four joint tabs **a** on both sides of the front chassis assembly and remove the front chassis assembly toward the front.

■ Removing the heat sink (See Fig.4)

1. Remove the three screws **A** on the left side of the body.

Removing the bottom cover (See Fig.5 and 6)

- Prior to performing the following procedure, remove the front panel assembly, the front chassis assembly and the heat sink.
- 1. Turn over the body and unjoint the five joints **b** with the bottom cover and the body using a screwdriver.

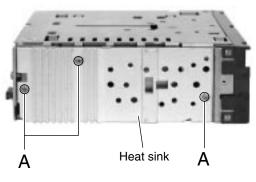
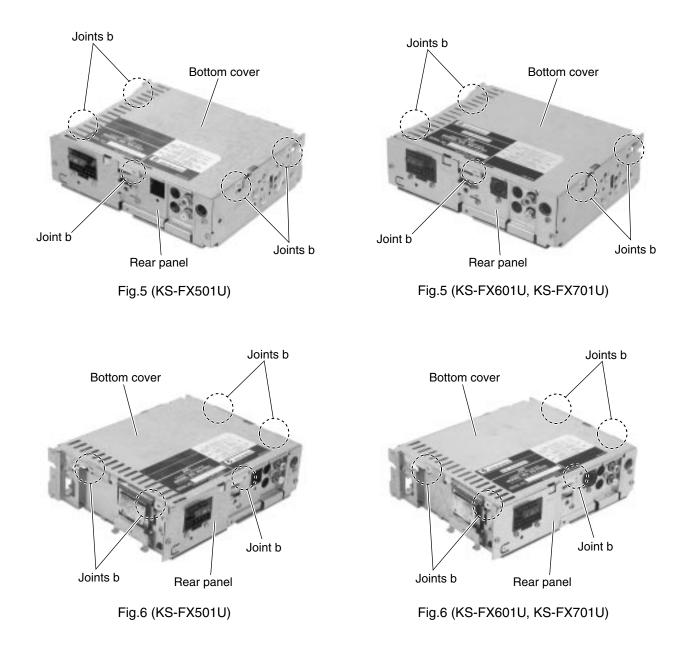


Fig.4



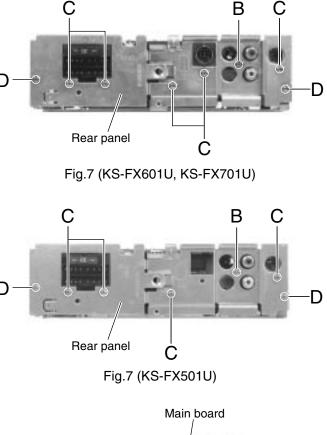
Removing the main board

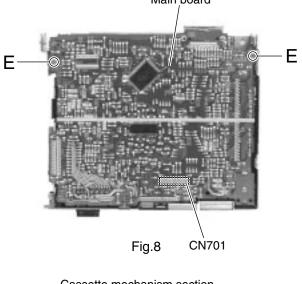
(See Fig.7 and 8)

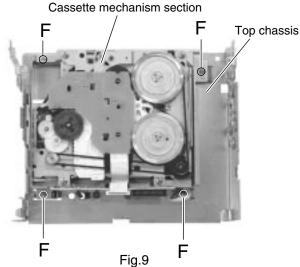
- Prior to performing the following procedure, remove the front panel assembly, the front chassis assembly, the heat sink and the bottom cover.
- Remove the screw B, the five screws C and the two screws D attaching the rear bracket on the back of the body. Remove the rear panel.

(KS-FX601U / KS-FX701U)

- Remove the screw B, the four screws C and the two screws D attaching the rear bracket on the back of the body. Remove the rear panel. (KS-FX501U)
- 2. Remove the two screws **E** attaching the main board on the bottom of the body. Disconnect connector CN701 on the main board in the direction of the arrow.





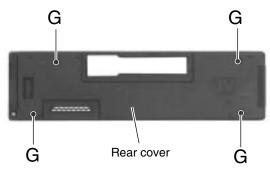


Removing the cassette mechanism section (See Fig.9)

- Prior to performing the following procedure, remove the front panel assembly, the front chassis assembly, the heat sink, the bottom cover and the main board.
- 1. Remove the four screws **F** attaching the cassette mechanism section on the back of the top chassis.

■ Removing the control switch board (See Fig.10 to 12)

- Prior to performing the following procedure, remove the front panel assembly.
- 1. Remove the four screws **G** attaching the rear cover on the back of the front panel assembly.
- 2. Unjoint the twelve joints **c** with the front panel and the rear cover.
- 3. Remove the control switch board on the back of the front panel.





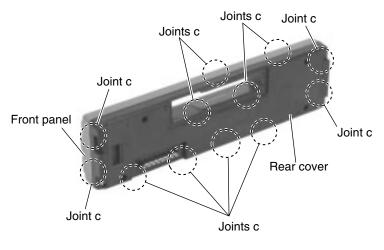
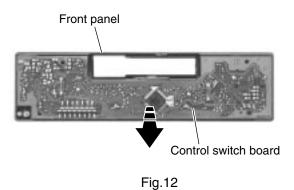


Fig.11



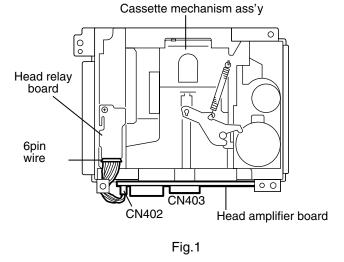
<Removal of the cassette mechanism>

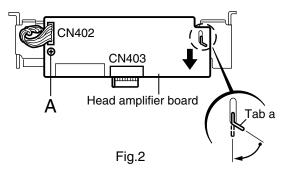
Removing the head amplifier board. (See Fig.1 and 2)

- 1. For the 6pin wire extending from connector CN402 on the head amplifier board, disconnect it from the head relay board.
- 2. Disconnect the card wire from connector CN403 on the head amplifier board.
- 3. Remove the screw **A** attaching the head amplifier board.
- 4. Move the tab **a** as shown in Fig.2 and remove the head amplifier board while moving it in the direction of the arrow.

Removing the cassette mechanism assembly (See Fig.1 to 3)

- 1. Disconnect the 6pin wire from connector CN402 and the card wire from CN403 on the head amplifier board (Refer to Fig.1 and 2).
- 2. Remove the four screws **B** on the bottom of the cassette mechanism.





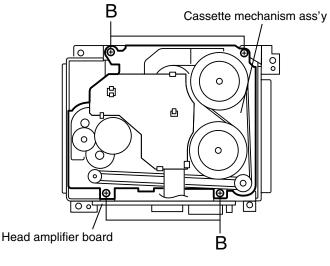


Fig.3

Removing the head relay board

(See Fig.4)

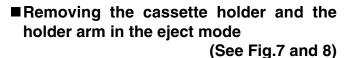
- 1. Unsolder the soldering **b** on the head relay board.
- 2. Remove the screw **C** attaching the head relay board.
- 3. Remove the head relay board in the direction of the arrow while releasing the two joints **c**.

Removing the load arm (See Fig.5)

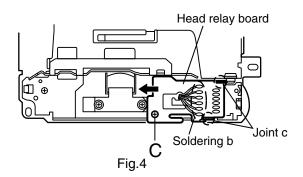
- 1. Remove the **E** washer attaching the load arm using a pincette or something like that and remove the spring **d**.
- 2. Move the part of the load arm marked \approx upwards to release it from the axis of rotation. Then rotate the load arm in the direction of the arrow to remove it from the cach.

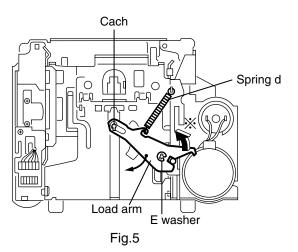
■ Removing the sub chassis (See Fig.6)

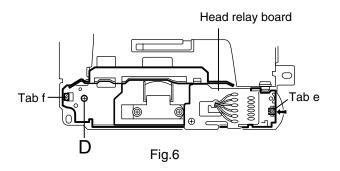
- Prior to performing the following procedure, remove the head relay board.
- 1. Remove the screw **D** attaching the sub chassis.
- 2. Push the tab \mathbf{e} in the direction of the arrow to detach the one side of the sub chassis. Then release the sub chassis from the tab \mathbf{f} .

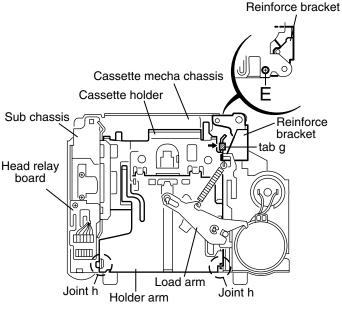


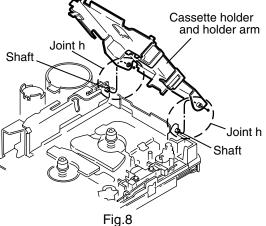
- Prior to performing the following procedure, remove the head relay board, the load arm and the sub chassis.
- 1. Remove the screw E attaching the reinforce bracket.
- 2. Remove the reinforce bracket.
- 3. Push the tab **g** fixing the cassette holder in the direction of the arrow and open the cassette holder and the holder arm upward until they stop at an angle of 45 degrees. Move the two joints **h** to the side and remove the cassette holder and the holder arm from the shaft.

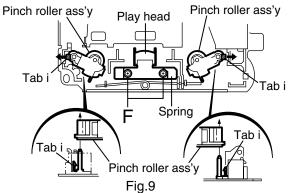


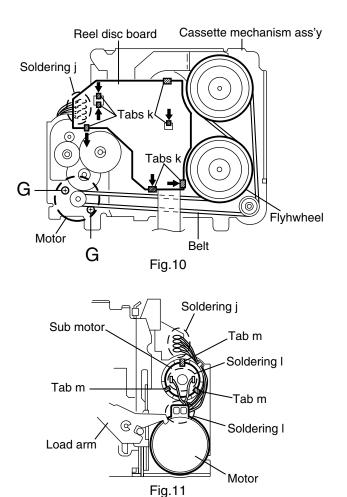


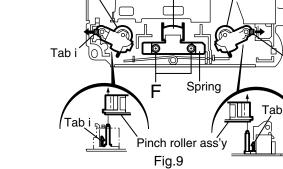


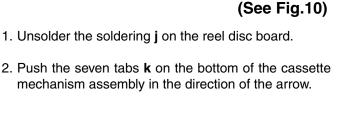












Removing the motor and the sub motor (See Fig.10 and 11)

Removing the play head (See Fig.9)

the head relay board and the sub chassis.

Removing the pinch roller ass'y

the head relay board and the sub chassis.

out the pinch rollers on both sides.

Removing the reel disc board

same time).

· Prior to performing the following procedure, remove

1. Remove the two screws F attaching the play head

· Prior to performing the following procedure, remove

1. Push each tab i in the direction of the arrow and pull

(The spring under the play head comes off at the

(See Fig.9)

- 1. Unsolder the two soldering I of the motor and the sub motor.
- 2. Release the sub motor from the three tabs **m**. Push the sub motor upward and pull out it.
- 3. Remove the belt on the bottom of the cassette mechanism assembly and remove the two screws G attaching the motor.

ATTENTION: The motors can be detached before removing the load arm.

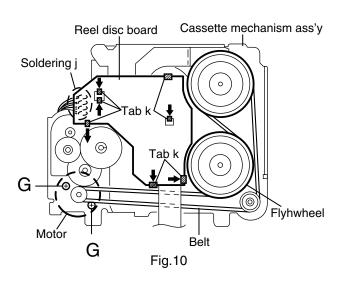
1-9

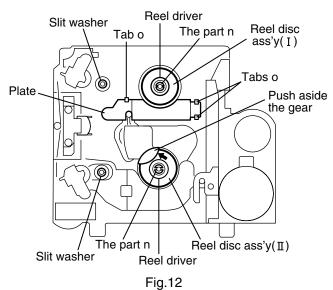
Removing the flywheel

(See Fig.10 and 12)

- 1. Prior to performing the following procedure, remove the head relay board, the load arm, the sub chassis, the cassette holder, the holder arm and the reel disc board.
- 2. Remove the belt on the bottom of the cassette mechanism ass'y.
- 3. Remove the slit washer attaching the flywheel on the upper side of the cassette mechanism ass'y and pull out the flywheel downward. Then remove another flywheel in the same way.

ATTENTION: When reassembling, make sure to use a new slit washer.





- ■Removing the reel disc ass'y(I) (See Fig.12 to 14)
- Prior to performing the following procedure, remove the head relay board, the load arm, the sub chassis, the cassette holder and the holder arm.
- 1. Disengage the part **n** inside of the reel driver which engages with the shaft, using a pincette or something like that. Then remove the reel driver from the shaft.
- 2. Remove the reel driver spring and the reel table.

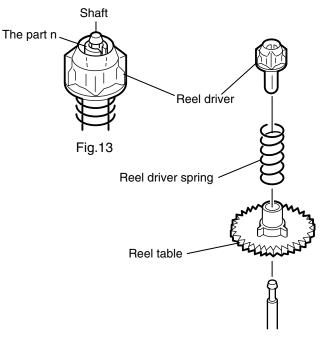
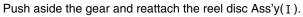


Fig.14

■ Removing the reel disc ass'y(II) (See Fig.12 to 15)

ATTENTION: Prior to performing the following procedure, remove the reel disc (I).

- 1. Release the plate from the three tabs \mathbf{o} .
- 2. Push aside the gear over the reel table using a pincette or something like that.
- 3. Remove the reel disc ass'y (II) as with the reel disc ass'y (I).
 - ATTENTION: Do not break the front panel tab fitted to the metal cover.



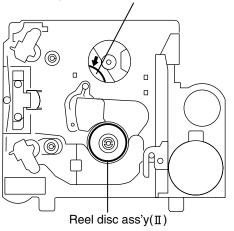


Fig.15

Adjustment method

■Test instruments reqired for adjustment

- 1. Digital osclloscope(100MHz)
- 2. Frequency Counter meter
- 3. Electric voltmeter
- 4. Wow & flutter meter
- 5. Test Tapes

MC-109C	for TAPA CURL confirmation
	(without Padd type)
VT724	for DOLBY level measurement
VT739	For playback frequency measurement
VT712 For	wow flutter & tape speed measurement
VT703	For head azimuth measurement
6. Torque gauge	e Cassette type for CTG-N
	(mechanism adjustment)

■Measuring conditions(Amplifier section)

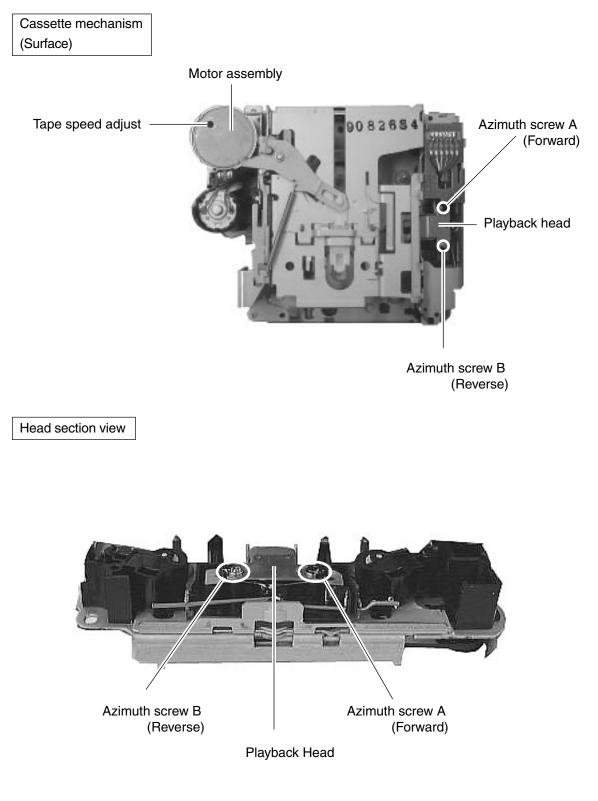
Power supply voltage	DC14.4V (10.5 - 16V)
Load impedance	4Ω (2Speakers connection)
Line out	20kΩ

■Standard volume position

Balance and Bass,Treble volume .Fader :Center(Indication"0") Loudness,Dolby NR,Sound,Cruise:Off Volume position is about 2V at speaker output with following conditions.Playback the test tape VT721.

AM mode	999kHz/62dB,INT/400Hz,30%
	modulation signal on recieving.
FM mono mode	97.5MHz/66dB,INT/400Hz,22.5kHz
	deviation pilot off mono
FM stereo mode	1kHz,67.5kHz dev. pilot7.5kHz dev.
Output level	0dB

Arrangement of adjusting & test points



■Information for using a car audio service jig

- 1. We're advancing efforts to make our extension cords common for all car audio products. Please use this type of extension cord as follows.
- 2. As a U-shape type top cover is employed, this type of extension cord is needed to check operation of the mechanism assembly after disassembly.
- 3. Extension cord : EXTKSRT002-18P (18 pin extension cord) For connection between mechanism assembly and main board assembly.

Cassette mechanism

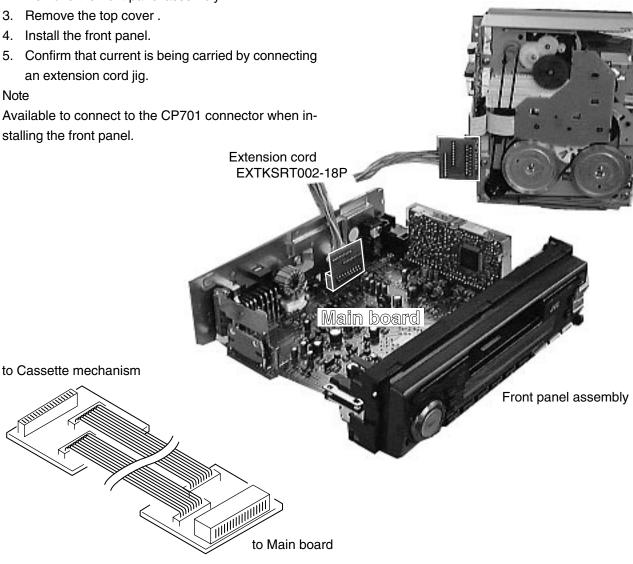
Check for mechanism driving section such as motor, etc..

Disassembly method

- 1. Remove the bottom cover.
- 2. Remove the front panel assembly.
- 3. Remove the top cover.
- 4. Install the front panel.
- 5. Confirm that current is being carried by connecting an extension cord jig.

Note

Available to connect to the CP701 connector when installing the front panel.



EXTKSRT002-18P

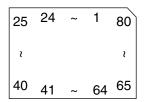
■Mechanism adjustment section

Item	Adjusting & Confirmation Methods	Adjust	Std. Value
1. Tape running adjustment	 a) At Forward playmode, using mirror tape, make adjustment with Azimuth screw A and Azimuth screw B, without curl of 4 parts of head tape guide. b) At Reverse play mode, using mirror tape, make adjustment with Azimuth screw A and Azimuth screw B, without tape curl of 4 parts of head guide. c) At Forward / Reverse play mode, make confirmation of no tape curl of 4 parts of head tape guide. 		Azimuth screw A Azimuth screw B
2. Azimuth adjustment confirmation	 a) At forward play mode, make adjustment of peak of Lch / Rch output with Azimuth screw A. * For Oscilloscope litharge corrugation, set 45° as standard. b) At Reverse play mode, make adjustment of peak of Lch / Rch output with Azimuth screw B. * For Oscilloscope litharge corrugation, set 45 as standard. c) With AC volt meter confirm the difference of output for 4ch between Lch / Rch at forward play mode and Lch / Rch Reverse play mode being within 3.0dB. d) After operation, make confirmation of Lch / Rch azimuth output being within 1.0dB from adjustment value. 	0° Pha	50 45°
	OK Tape curl NG CH HEAD TAPE		
2.Tape Speed and Wow & Flutter	 Check to see if the reading of the frequency counter & W ow flutter meter is within 2940-3090 Hz(FWD/REV), and less than 0.35% (JIS RMS). In case of out of specification, adjust the motor with a built- in volume resistor. 	Built-in volume resistor	Tape Speed 2940-3090Hz Wow&Flutter Less than 0.35% (JIS RMS)
3.Playback Frequency response	 Play the test tape (VT724 : 1kHz) back and set the volume position at 2V. Play the test tape (VT739) back and confirm 0±3dB at1kHz/ 10kHz and -4+2dB at 1kHz/63Hz. When 10kHz is out of specification, it will be necessary to read adjust the azimuth. 		Speaker out 1kHz/10kHz : 0dB±3dB, 63Hz/1kHz : -4dB+2dB,

Description of major ICs

■ LC72366-9985 (IC701) : System CPU

1. Pin layout



2. Pin function

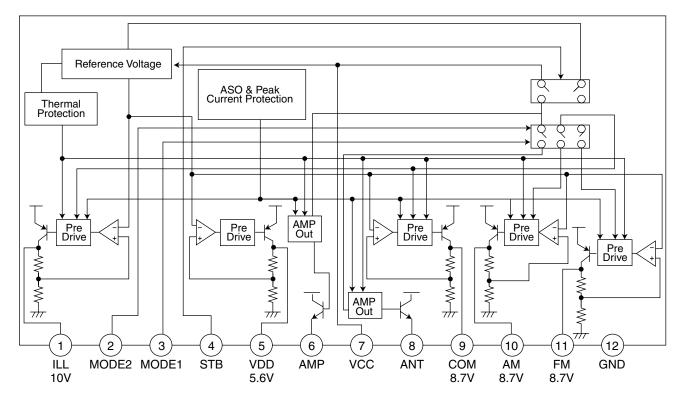
Pin No.	Symbol	I/O	Function	
1	XIN	Ι	Crystal oscillator input port	
2	GND	-	Connect to GND	
3	J-BUS SI	Ι	Data input for J-BUS information	
4	J-BUS SO	0	Data output for J-BUS information	
5	J-BUS SCK	0	Clock output for J-BUS information	
6	J-BUS I/O	0	Switching signal output for J-BUS information I/O, H:Out L:In	
7	NC	-	None connection	
8	LCD SO	0	Data output for LCD driver	
9	LCD SCK	0	Information clock output for LCD driver data	
10	LCD CE	0	Chip enable output for LCD driver	
11	DIMMER IN	-	None connection	
12	EVOL SO	0	Data output for electrical volume	
13	EVOL SCK	0	Clock output for electrical volume information	
14	NC	-	Non connection	
15	TUNER ILLUM	-	Non connection	
16	TAPE ILLUM	-	Non connection	
17	CD ILLUM	-	Non connection	
18	DEMERIT	-	Non connection	
19	NC	-	Non connection	
20	OPEN	-	Non connection	
21	NC	-	Non connection	
22	NC	-	Non connection	
23	NC	-	Non connection	
24	NC	-	Non connection	
25	KS1	-	Non connection	
26	KS0	0	Diode matrix output port for initial establishing	
27	K3	Ι	Diode matrix output port for initial establishing	
28	K2	Ι	Diode matrix output port for initial establishing	
29	K1	-	Non connection	
30	K0	Ι	Diode matrix output port for initial establishing	
31	Vdd	-	5V power supply port (+B)	
32	TEST	Ι	Turn on all light indicator of LCD, L: All light a LED indicator	
33	FF/REW MODE	0	FF/REW mode select signal output	
34	SEEK/STOP	0	H:Auto seek, L: Stop Use both as IF count REQ and Seek/Stop	
35	MONO	0	Forced monaural output port, H:Turn on Forced monaural	
36	RADIO/TAPE	-	Non connection	
37	BEEP LEVEL	-	Non connection	
38	PWR-CNT	0	"H" : Turn on power	
39	ACC	-	Non connection	
40	KICK	-	Non connection	

LC72366-9985(2/2)	
2012000 0000(212)	

			LC72366-9985(2/2)	
Pin No.	Port Name	I/O	Function	
41	MOTOR	0	Main motor output, H:Transport L: Stop	
42	SUBMO+	0	Sub-motor output(+), Loading direction to transport output	
43	SUBMO-	0	Sub-motor output(-), Eject direction to transport output	
44	BEEP	-	Non connection	
45	TAPE IN	Ι	Switch for detecting to input cassette, L: Cassette in	
46	STANDBY	Ι	Switch for detecting standby position	
47	REEL	Ι	Switch for detecting tape end position	
48	MODE	Ι	Detecting mode position input	
49	F/R	Ι	Switch for detecting forward/reverse , H:FWD L:REV	
50	MS	Ι	MS input port,	
51	SD/ST	Ι	Station detector, Stereo signal input, H:SD	
52	DETACH	0	Front panel detect	
53	ENC1	Ι	Connect to encoder 1	
54	ENC2	Ι	Connect to encoder 2	
55	J-BUS INT	Ι	Cut in signal detecting port from J-Bus information	
56	REMOCON	-	Non connection	
57	FM/AM	0	FM/AM mode switching signal port, H:FM L:AM	
58	DOLBY	-	Non connection	
59	NC	-	Non connection	
60	MUTE	0	Mute output port, L:Mute	
61	MEM DET	Ι	Back-up power supply detecting port, H:input L:no input	
62	LEVELMETER	Ι	Pressure voice level voltage input for level meter.	
63	S.METER	Ι	S meter voltage input	
64	KEY2	Ι	Key 2 input port	
65	KEY1	Ι	Key 1 input port	
66	KEY0	Ι	Key 0 input port	
67	ACCDET	Ι	Hold port for Acc detecting, L: Hold mode	
68	SENSE	Ι	Voltage sensor port	
69	AM IF COUNT	-	Non connection	
70	FM IF COUNT	Ι	FM frequency detecting	
71	NC	-	Non connection	
72	NC	-	Non connection	
73	Vdd	-	5V power supply (+B)	
74	AM OSC	Ι	Non connection	
75	FM OSC	Ι	FM limited signal input	
76	VSS	-	Ground port for power supply	
77	NC	-	Non connection	
78	E0	0	Error signal output port for PLL	
79	TEST1	-	Test port for LSI, To connect ground	
80	XOUT	0	4.5MHz crystal oscillator output	

AN80T05 (IC901) : Regulator

1.Terminal layout & Block diagram



2.Pin function

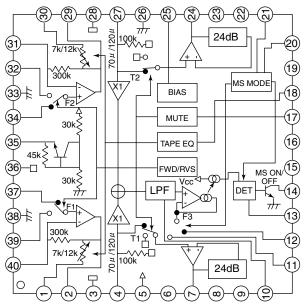
Pin No.	Symbol	Function
1	ILL	10V power supply for illumination.
2	MODE2	When 5V is input, becomes AM. and the antenna output is turned on.
3	MODE1	When 5V is input, becomes AM. and the output of FM is switched.
4	STB	When 5V is input, outputs to ILL,COM,and AMP. It is 0V usually.
5	VDD	5.6V power supply.
6	AMP	Power supply supply to remote amplifier
7	VCC	Back up. connects with ACC with it.
8	ANT	Power supply supply to auto antenna.
9	COM	8.7V power supply.
10	AM	The power supply of 8.7V to AM.
11	FM	The power supply of 8.7V to FM.
12	GND	Ground

CXA2559Q(IC401):Playback equalizer amplifier with music sensor

1.Pin layout

〇 1	40	~	31	30
s				s
10				21
	11	~	20	

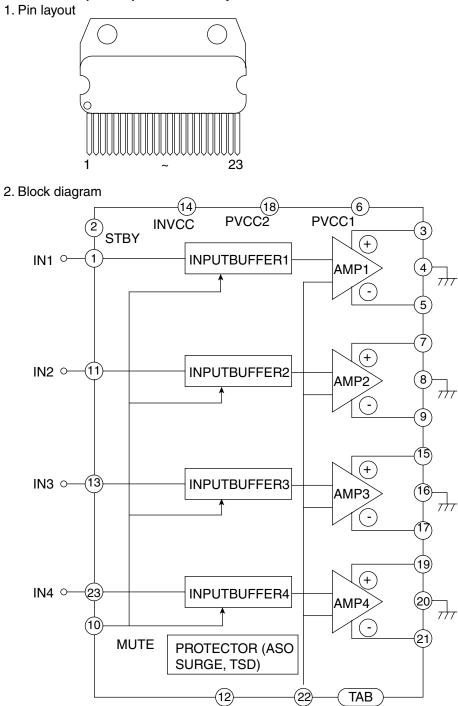




3.Pin function

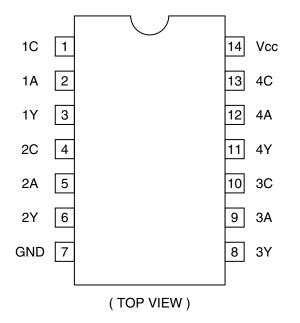
Pin No.	Symbol	I/O	Function	
1	PBTC1	-	Terminal of capacity of reproduction equalizer reproduction	
2	PBOUT1	0	Equalizer output terminal	
3	OUTREF1	0	Output standard terminal	
4	TAPEIN1	Ι	ape input terminal	
5	Vcc	-	Power supply terminal	
6	NC	-	Non connection	
7	LINEOUT1	0	Line-out output terminal	
8,9	NC	-	Non connection	
10	MSLPF	-	Detection LPF terminal between tunes	
11	G2FB	-	Detection level set terminal between tunes	
12	GI1FB	-	Detection level set terminal between tunes	
13	MSTC	-	Time constant connection terminal for the detection between tunes	
14	MSOUT	0	Detection output terminal between tunes	
15,16	NC	-	Non connection	
17	MUTESW	Ι	Mute function control terminal	
18	TAPESW	Ι	Reproduction equalizer control terminal	
19	DRSW	Ι	Head change control terminal	
20	MSMODE	Ι	Detection mode control terminal between tunes	
21	MSSW	Ι	Detection function control terminal between tunes	
22,23	NC	-	Non connection	
24	LINEOUT2	0	Line-out output terminal	
25	DIREF	-	Resistance connection terminal for standard current setting	
26	GND	-	Earth terminal	
27	TAPEIN2	Ι	Tape input terminal	
28	OUTREF2	0	Output standard terminal	
29	PBOUT2	0	Reproduction equalizer output terminal	
30	PBTC2	-	Terminal of capacity of reproduction equalizer	
31	PBFB2	Ι	Reproduction equalizer return terminal	
32	PNRIN2	Ι	Reproduction equalizer input terminal	
33	PBGND	-	Reproduction equalizer system earth terminal	
34	PBFIN2	Ι	Reproduction equalizer input terminal	
35	VCT	0	Middle point terminal	
36	PBREF	0	Reproduction equalizer standard terminal	
37	PBFIN1	Ι	Reproduction equalizer input terminal	
38	PBGND	-	Reproduction equalizer system earth terminal	
39	PBRIN1	Ι	Reproduction equalizer input terminal	
40	PBFB1	Ι	Reproduction equalizer return terminal	

■ HA13158A (IC301) : Power amp



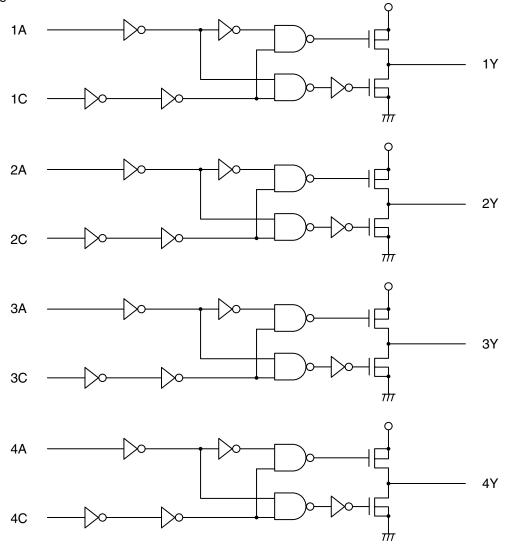
HD74HC126P (IC801) : Changer control

1.Pin arrangement

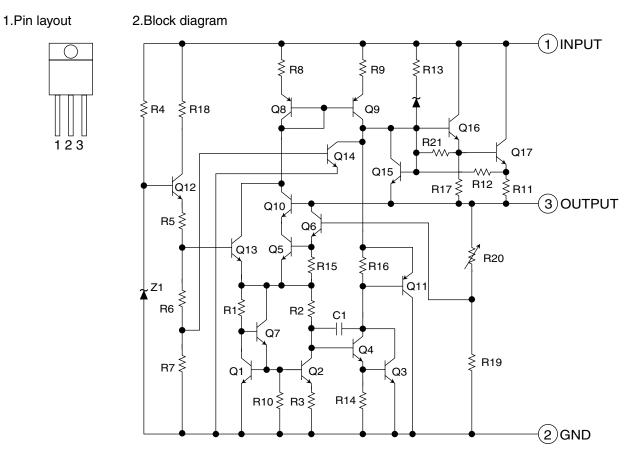


Inp	out	Output				
C A		Y				
L	х	Z				
Н	L	L				
н	н	Н				

3. Block diagram

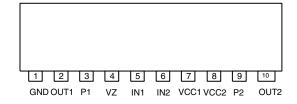


KIA7810PI (IC902) : Regulator



■ LB1641 (IC402) : DC motor driver

1. Pin layout



2. Pin function

Inp	ut	Out	put	Mode		
IN1	IN2	OUT1	OUT2	WIDDE		
0	0	0	0	Brake		
1	0	1	0	CLOCKWISE		
0	1	0	1	COUNTER-CLOCKWISE		
1	1	0	0	Brake		

LC75823W (IC651) : LCD driver

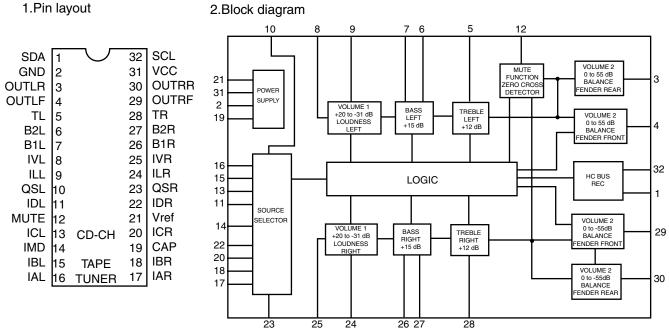
1. Pin Layout & Symbol

yout & Symbo	bl	~	8 5	_	13	₽₽					
5	ى ب ب	OSC Vss		Η	Š	<u>s</u> s	352	551	350	349	
С Р					-		Ŷ	γ)	γ	γ	
64		61 60					52	51	50	+ 49	
S1 ⊶1											- ○ S 48
S2 0−2										47-	-0 S47
S33										46-	-≎ S46
S4 0−4										45-	-○ S45
S5 0 + 5											-0 S44
S6 0 − 6											-0 S43
S7 0 − 7											-0 S42
S8 0-8											-0 S41
S9 0+9											-0 S40
S10 0+10											-0 S39
S11 0-11											-0 S38
S12 0+12											-0 S37
S13 0-13											-0 S36
S14 0-14											-0 S35
S15 0+15											-0 S34
S16 0+16	18 10	20 21	<u></u>	2010	5 26	27.20	2 20	30	21		-o S33
			\pm		120	\pm	123	+	+	1	
7 C	0 0 0 0	0 -	0 0 0 0	4 r	, <u>o</u>	► 0	6	0	5	320	
5	ა <u>ა</u>	S20 S21	S2 S2	S24	S26	82 S2	S2	S3	S31	S3	

2. Pin Function

	0 1 1								
Pin No.	Symbol	I/O	Function						
1 to 52	S1 to S52	0	Segment output pins used to display data transferred						
		0	by serial data input.						
53 to 55	COM1 to COM3	Common driver output pins. The frame frequency is given							
	by : t0=(fosc/384)Hz.								
56	VDD		Power supply connection. Provide a voltage of between						
			4.5 and 6.0V.						
57	INH	I	Display turning off input pin.						
			INT="L" (Vss) off (S1 to S52, COM1 to COM3="L"						
			INT="H" (VDD) on						
			Serial data can be transferred in display off mode.						
58	VDDD1	I	Used for applying the LCD drive 2/3 bias voltage						
			externally.						
			Must be connected to VDD2 when a 1/2 bias drive scheme						
			is used.						
59	VDD2	VDD2 I Used for applying the LCD drive 1/3 bias voltage							
		externally.							
			Must be connected to VDD1 when a 1/2 bias drive scheme						
			is used.						
60	Vss		Power supply connection. Connect to GND.						
61	OSC	Oscillator connection.							
			An oscillator circuit is formed by connecting an external						
			resistor and capacitor at this pin.						
62	CE		Serial data CE : Chip enable						
	_		interface connection						
63	CL		to the controller. CL : Sync clock						
64	DI		DI : Transfer data						

TEA6320T-X (IC161) : E.volume



3.Pin functions

Pin No.	Symbol	I/O	Functions		Symbol	I/O	Functions		
1	SDA	I/O	Serial data input/output.	17	IAR	I	Input A right source.		
2	GND	-	Ground.	18	IBR	I	Input B right source.		
3	OUTLR	0	output left rear.	19	CAP	-	Electronic filtering for supply.		
4	OUTLF	0	output left front.	20	ICR	I	Input C right source.		
5	TL	I	Treble control capacitor left channel or input from an external equalizer.	21	Vref	-	Reference voltage (0.5Vcc)		
6	B2L	-	Bass control capacitor left channel or output to an external equalizer.		IDR	-	Not used		
7	B1L	-	Bass control capacitor left channel.		QSR	0	Output source selector right channel.		
8	IVL	I	Input volume 1. left control part.		ILR	I	Input loudness right channel.		
9	ILL	I	Input loudness. left control part.		IVR	I	Input volume 1. right control part.		
10	QSL	0	Output source selector. left channel.		B1R	-	Bass control capacitor right channel		
11	IDL	-	Not used		B2R	0	Bass control capacitor right channel or output to an external equalizer.		
12	MUTE	-	Not used		TR	I	Treble control capacitor right channel or input from an external equalizer.		
13	ICL	I	Input C left source.		OUTRF	0	Output right front.		
14	IMO	-	Not used		OUTRR	0	Output right rear.		
15	IBL	I	Input B left source.	31	Vcc	-	Supply voltage.		
16	IAL	Ι	Input A left source.		SCL	Ι	Serial clock input.		

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