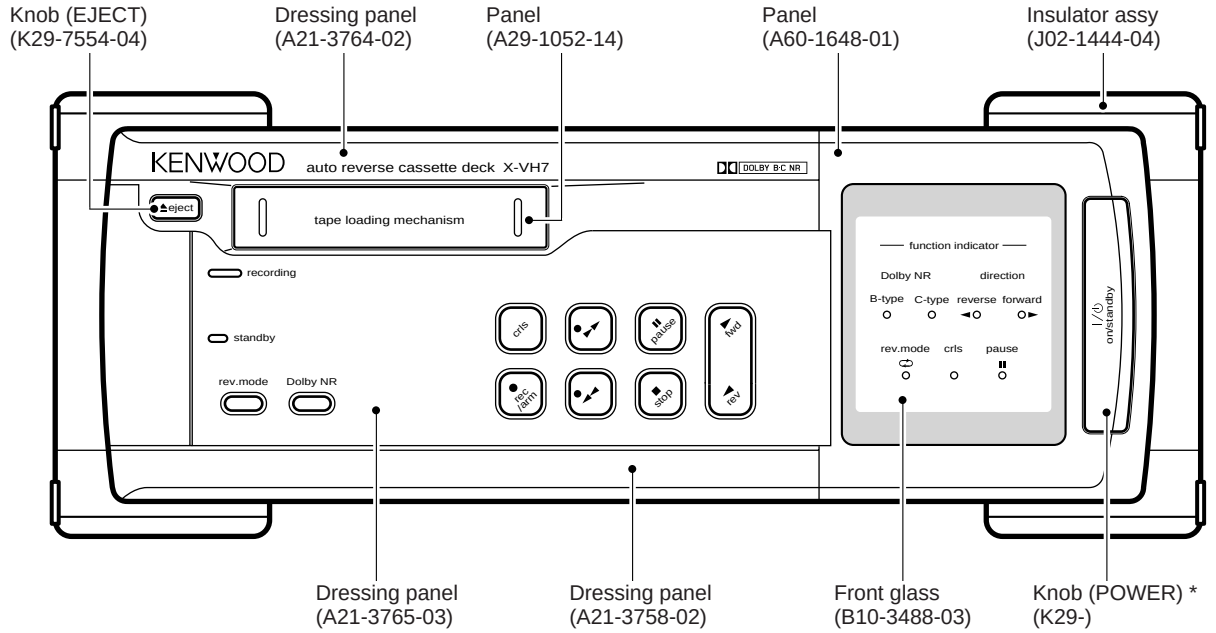
STEREO AUTO REVERSE CASSETTE DECK

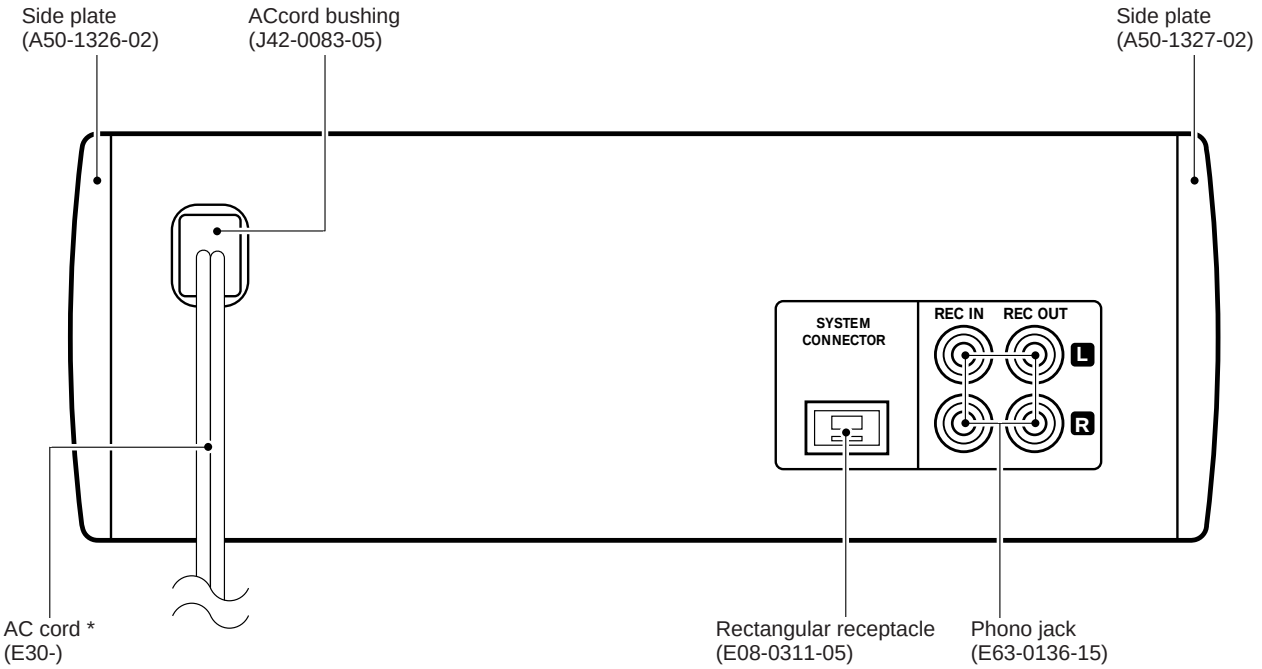
X-VH7

SERVICE MANUAL

(VH-700)

KENWOOD





*** Refer to parts list on page 13.**

Refer to **X-E9** and **X-SA7** service manuals **(B51-4926-00/B51-5214-00)**, if you require in detail.

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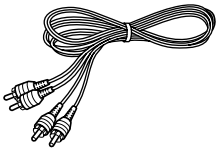
CONTENTS / ACCESSORIES

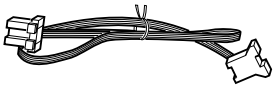
Contents

Accessories

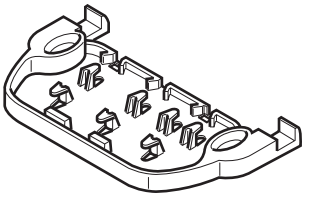
Audio cord (2)
(E30-0615-05)



System control cord (1)
(E30-2628-05)



Spacer for stacked installation (1)
(J19-5996-02)



Front feet replacement tool (1)
(Allen wrench)
(W01-0084-05)

Replancement front feet (2)
(J02-0130-05)

System configurations

SYSTEM	RECEIVER	CASSETTE	SPEAKER
VH-600	RD-VH7	-	LS-VH7
VH-700	RD-VH7	X-VH7	LS-VH7

Operation to reset

The microcomputer may fall into malfunction (impossibility to operate, erroneous display, etc.) when the power cord is unplugged while power is ON or due to an external factor. In this case, execute the following procedure to reset the microcomputer and return it to normal condition.

● Please note that resetting the microcomputer clears the contents stored in it returns it to condition when it left the factory.

Unplug the power cord from the AC outlet and, while holding the "⏏eject" key depressed, plug the power cord again.

● If a tape is loaded in the deck, it will be ejected now.

DISASSEMBLY FOR REPAIR

ELECTRIC CHECK

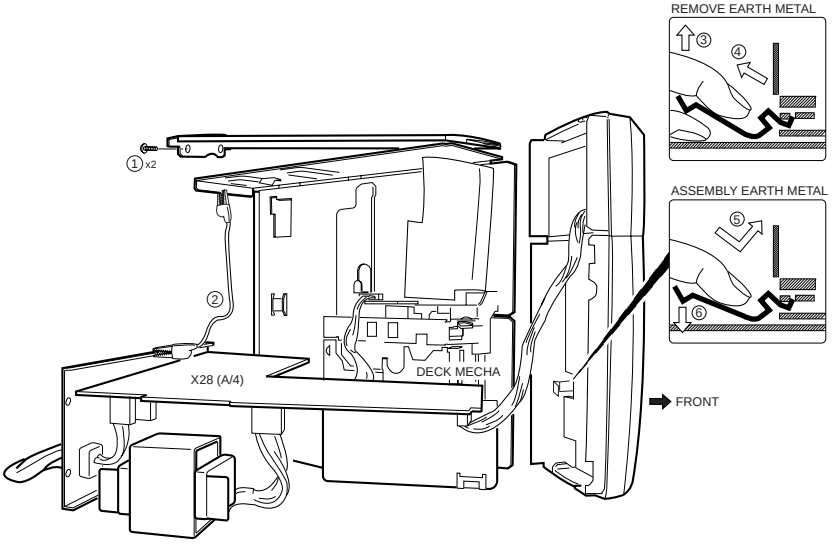
1) Remove insulator a'ssy, then remove some screw of L,R side board(①). Next remove the top and the bottom boards, then remove the power transformer and the rear panel assembling PCB.
2) Connect GND between PCB and the deck mechanism with a alligator clip lead weir (②).

REMOVE EARTH METAL

Support the earth metal by your finger to keep the shape, then pull up (③) and remove (④) the earth metal .

ASSEMBLE EARTH METAL

Insert the tip of the earth metal (⑤), then support the earth metal by your finger, push down it (⑥).



CIRCUIT DESCRIPTION

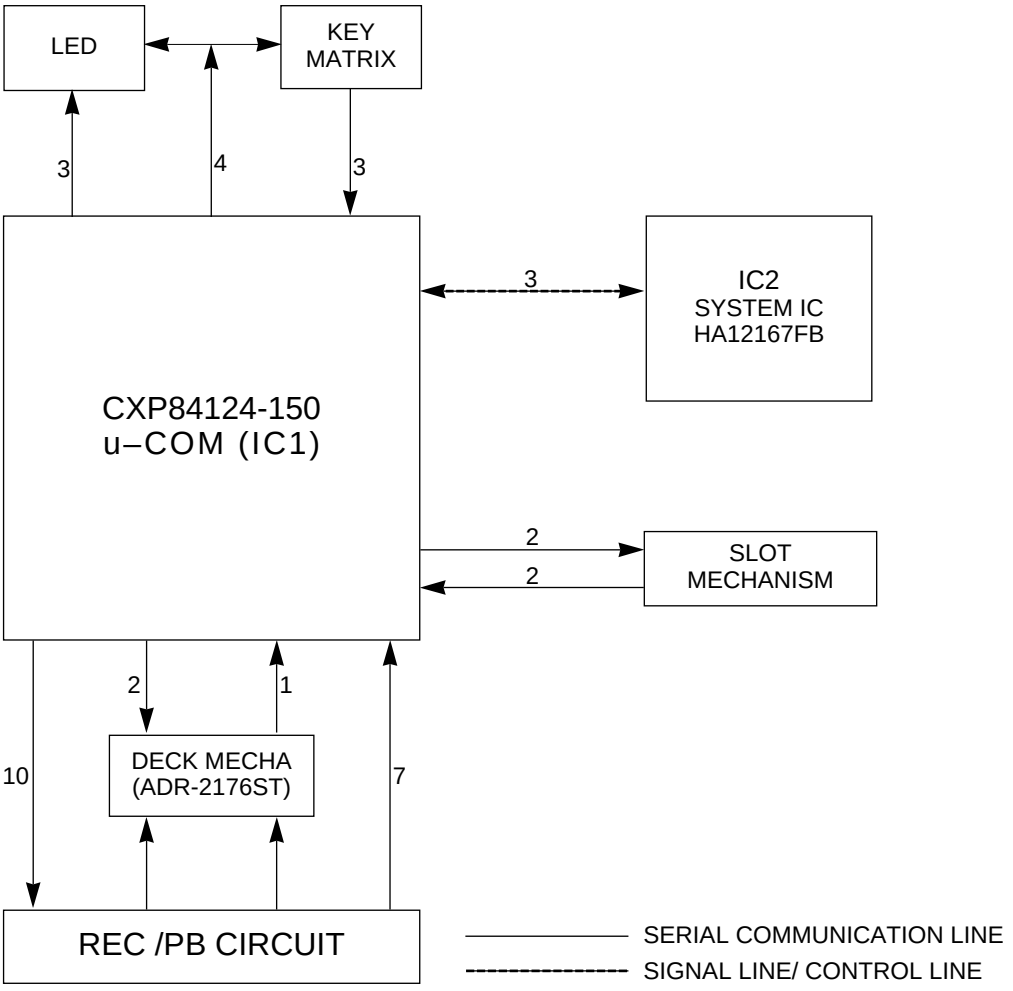
1. Deck Microprocessor :

CXP 84124-150 (X28 : IC1)

1-1 Features

1) Single loading cassette deck.
2) Equipped with DPSS. UP search, DOWN search, 1 tune repeat, RWD play, dash and play, REREC standby.
3) Dolby NR B/C
4) One touch edit.(only remocon)
5) CRLS
6) One touch operation

1-2 Microprocessor periphery block diagram



1-3 KEY matrix, LED matrix

1-3-1 KEY matrix

{( )u-COM IC PORT}

	KS0(6)	KS1(7)	KS2(9)	KS3(8)
KR0(15)	POWER	■	REV. MODE	CRLS
KR1(16)	◄	◄◄	▲	●
KR2(14)	►	II	DOLBY	►►

1-3-2 LED matrix

	KS0(6)	KS1(7)	KS2(9)	KS3(8)
LED0(19)	EJECT	STANDBY	DOLBY B	RECORDING
LED1(20)	PAUSE	CRLS	REV. MODE	DOLBY C
LED2(18)	- - - - - - - -	REVERSE	FORWARD	- - - - - - - -

CIRCUIT DESCRIPTION

1-4 Pin description

Pin	Name	I/O	Connect	Description		
1	S.BUSY	I/O	OPEN	Serial communication BUSY signal	H: BUSY	L: READY
2~5	—	I	OPEN	No used		
6~9	KS0,1,3,2	O	PU	KEY SCAN 0,1,3,2		
14~16	KR2,0,1	I	PD	KEY RETURN 2,0,1		
17	—	I	OPEN	No used		
18~20	LED2,0,1	O	OPEN	LED drive output2,0,1	L: ON	
21	BACKLIGHT_ON	O	PD	BACK LIGHT LED drive output	H: ON	
22~29	—	O	OPEN	No used		
30	RESET	I	PU	u-com RESET signal detect	L: RESET	
31	EXTAL	I	OPEN	MAIN CLOCK(10MHz)		
32	XTAL	—	OPEN			
33	VSS(GND)	—	GND	GND		
34	TX	—	OPEN	No used		
35	TEX(GND)	I	GND	GND		
36	AVSS(GND)	—	GND	A/D converter GND		
37	AVREF	I	+5V	A/D converter reference voltage		
38	SOL	O	PD	MECHA solenoid control	H: ON	
39	R_INH_F	I	PU	FWD REC permission detect signal input	L: REC	
40	PHOTO SW	I	PU	REAL drive pulse input		
41	HALF_SW	I	PU	Cassette half detect signal input	L: CASSETTE EXIST	
42	PLAY SW	I	PU	MECHA HEAD position detect	L: ON	
43	TYPE II	I	PU	TYPE Ö†detect signal input	L: TYPE II	
44,45	LEVEL L/R	I	PD	Lch/Rch level input		
46	R_INH_R	I	PU	RVS. REC permission detect signal input	L: REC	
47	CPM	O	PD	Capstan motor control	H: ON	
48	CLOCK	O	OPEN	System IC CLOCK output		
49	REC/PLAY	O	OPEN	REC/PLAY changeover	H: REC	L: PLAY
50	ERASE	O	PD	ERASE HEAD control output	H: ON	
51	DATA	O	OPEN	System IC DATA output		
52	STB	O	OPEN	System IC STROBE signal output		
53~59	—	O	OPEN	No used		
60	BIAS NOR	O	PD	BIAS CONTROL	H: NORMAL TAPE	
61~63	—	I	OPEN	No used		
64	SLOT OPEN	O	OPEN	SLOT OPEN motor control	H: ON	
65	SLOT CLOSE	O	OPEN	SLOT CLOSE motor control	H: ON	
66	CLOSE SW	O	PU	SLOT CLOSE detect SW input	L: ON	
67	OPEN SW	O	PU	SLOT OPEN detect SW input	L: ON	
68	—	O	OPEN	No used		
69	CE	O	PU	AC OFF detect signal input	L: AC OFF	
70	DOLBY_RESET	O	OPEN	DOLBY IC RESET control	L: RESET	
71	—	O	OPEN	No used		
72	VDD(+5V)	—	+5V	power supply		
73	—	—	+5V	No used(Connect to VDD(+5V))		
74	70/120	O	PD	PLAY equalizer control output	H: 70µs	L: 120µs
75,76	—	O	OPEN	No used		
77	AVR_OFF	O	PD	Circuit AVR ON/OFF control	H: AVR ON	
78	LINE MUTE	O	PD	LINE MUTE control output	L: MUTE ON	
79	REC MUTE	O	PD	REC MUTE control output	L: MUTE ON	
80	S.DATA	I/O	OPEN	Serial communication DATA signal		

CIRCUIT DESCRIPTION

2. DEFAULT STATES

2-1 Main unit default states

ITEM	STATE
POWER	OFF
DOLBY	OFF
R/$\overline{P}$	PLAY
$\overline{\text{REC MUTE}}$	ON
$\overline{\text{LINE MUTE}}$	ON
BIAS	OFF
ERASE	OFF
REC LEVEL(E. VOL)	-15dB
SOL	OFF
CPM	ON(500ms) → OFF
DIRECTION	FORWARD
REVERSE MODE	ENDLESS MODE

3. TEST MODE

3-1 Setting method

While pressing the FWD key, plug the power cord to the AC wall outlet.(Setting up: MUTE ON)
Set up REC level : -15dB
All LED lighting, then be cancelled to press a key and insert a tape.
Insert a tape or press the STOP key, then LEDs display the leaf SW movement of the mechanism.
(ON:LED lighting, OFF:No LED lighting)
DOLBY-B: Mistake REC FWD
DOLBY-C: Mistake REC REV
REV-MODE: PACK DETECT SW
CRLS: CrO2 DETECT SW

3-2 Initializing method

While pressing the EJECT key, plug the power cord to the AC wall outlet.
Jump out a tape compulsion, then LED STANDBY be blinked and lighted .

3-3 Cancel test mode

1) AC power OFF: initialize and cancel the test mode.
2) Press the PAUSE key ,then be stopped the mechanism and be cancelled the test mode on POWER ON. (No jump out a tape compulsion)

3-4 TEST MODE specifications

1) The keys are activated normal except the test mode indicating key .
2) No mute control by the mode changeover. But mute on by POWER ON/OFF.

3-5 Set inspection test mode

3-5-1 REC/PB inspection

Press the REC key: ①REC(4sec.)→ ②REVERSE(4sec.) → ③Start PLAY automatically.
But press the REC key with recording again, the recording time be extended for 4 sec per one press.

3-5-2 Test mode initializing condition

Press the STOP key,then be stopped the mechanism movement.
(But no change of the system IC/IC2 setting up)
And LEDs display normal with the leaf SW.

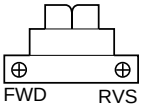
3-5-3 REC level changeover

Press the CRLS key, changeover REC level.

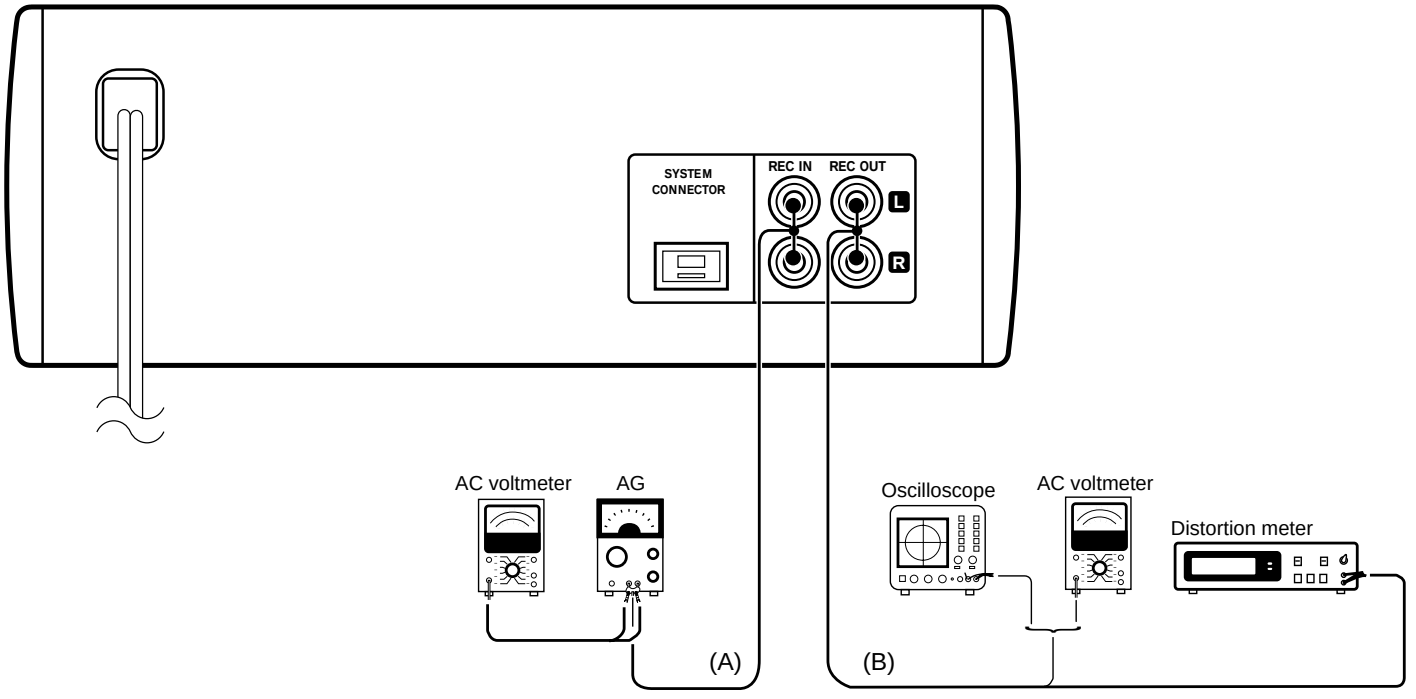
- LEVEL display: -15dB(LED CRLS blinking)←→0dB(LED REV.MODE blinking)

ADJUSTMENT

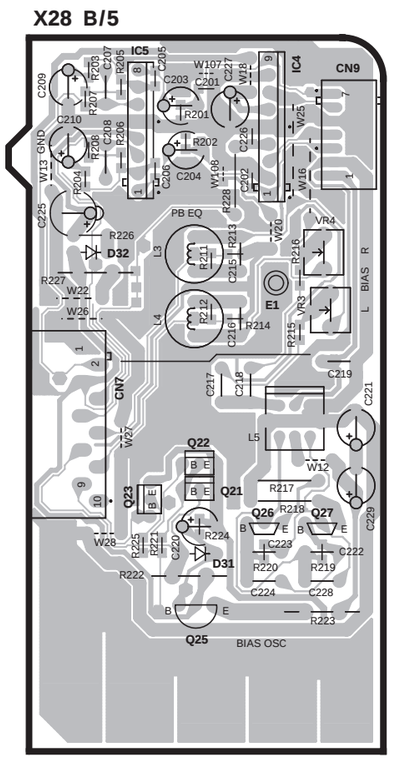
CASSETTE DECK

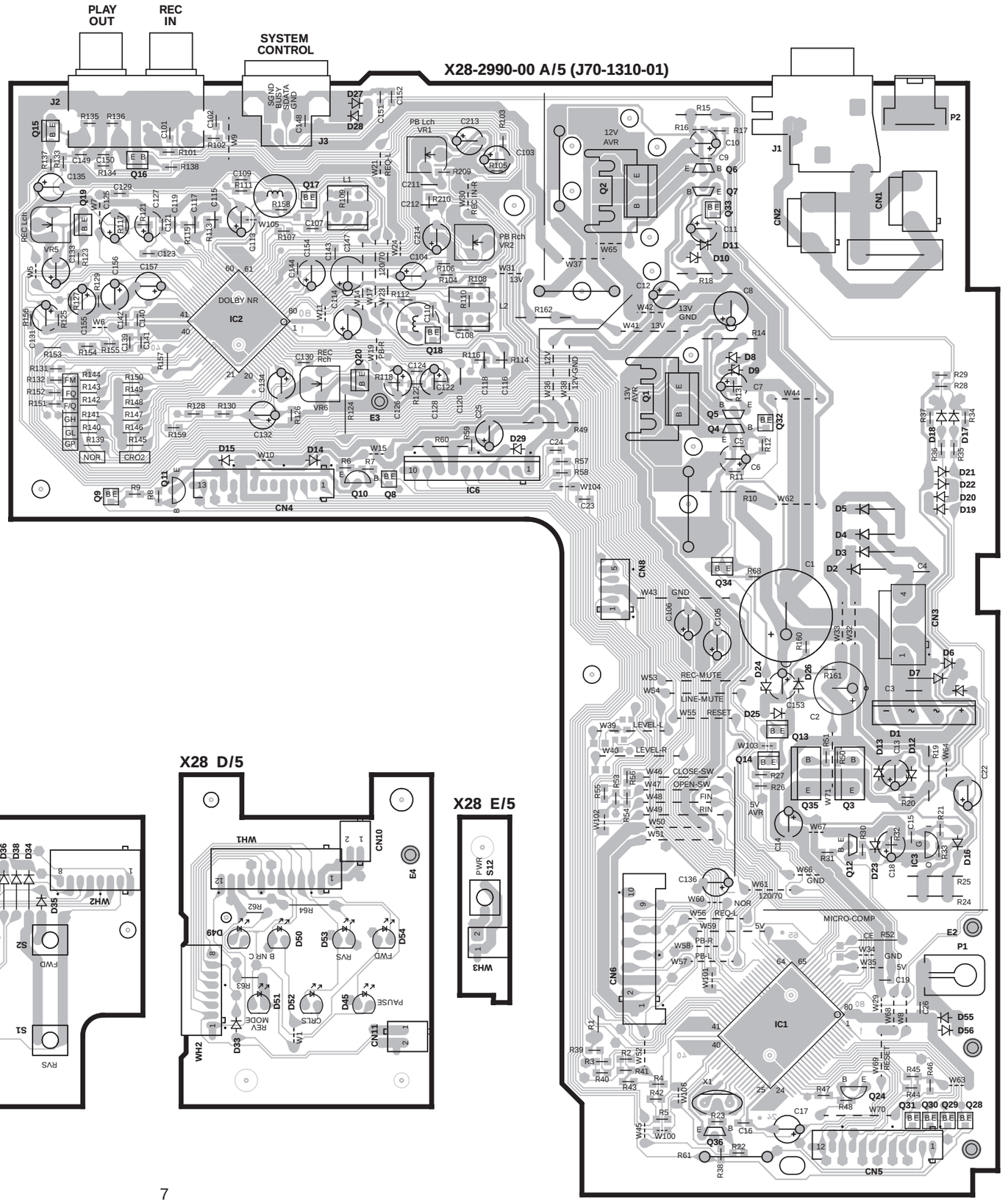
NO.	ITEM	INPUT SETTINGS	OUTPUT SETTINGS	CASSETTE DECK SETTINGS	ALIGNMENT	ALIGN FOR	FIG.
Unless otherwise specified, set the respective switches as follows: TAPE: NORMAL DOLBY: OFF INPUT: REC IN OUTPUT: PLAY OUT 0dBm=0.775V ø. Cassette mechanism (REC/PB head adjustment)							
〔1〕	Demagnetization and cleaning	-	-	(POWER OFF) demagnetization (PLAY) cleaning	REC/PB head erase head capstan pinch roller	Demagnetize the REC/PB head by head eraser. Clean the REC/PB head ,eraser head, capstan and pinch roller with a cotton swab immersed in alcohol.	
〔2〕	REC/PB head azimuth	TCC-153 MTT-114 10kHz,-10dB	(B)	PLAY		Adjust the output to maximum and adjust the azimuth adjustment screw for the Lissajous waveform pattern of the oscilloscope to become close to a 45˚ straight line.	
Ⅱ. Capstan motor adjustment							
〔1〕	Tape speed (NORMAL)	TCC-110 MTT-111 3kHz	(B)	PLAY	VR. inside motor	Adjust so that the frequency 3kHz at the center of the tape.	
Ⅲ. PC board adjustment							
〈1〉	Playback level	TCC-130	(B)	PLAY	VR1,2	-1dBm	
〈2〉	Recording level	TCC-108 400Hz -21dBm (A)	(B)	REC ⇔ PLAY	VR5,6	-21dBm	
〈3〉	Bias current	TCC-108 12.5kHz -21dBm (A)			VR3,4	-21dBm	

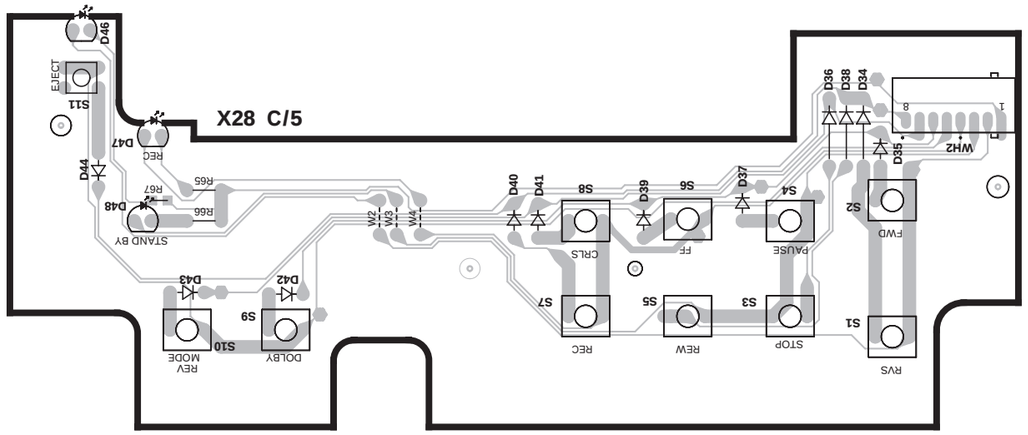
Measurement equipment connection



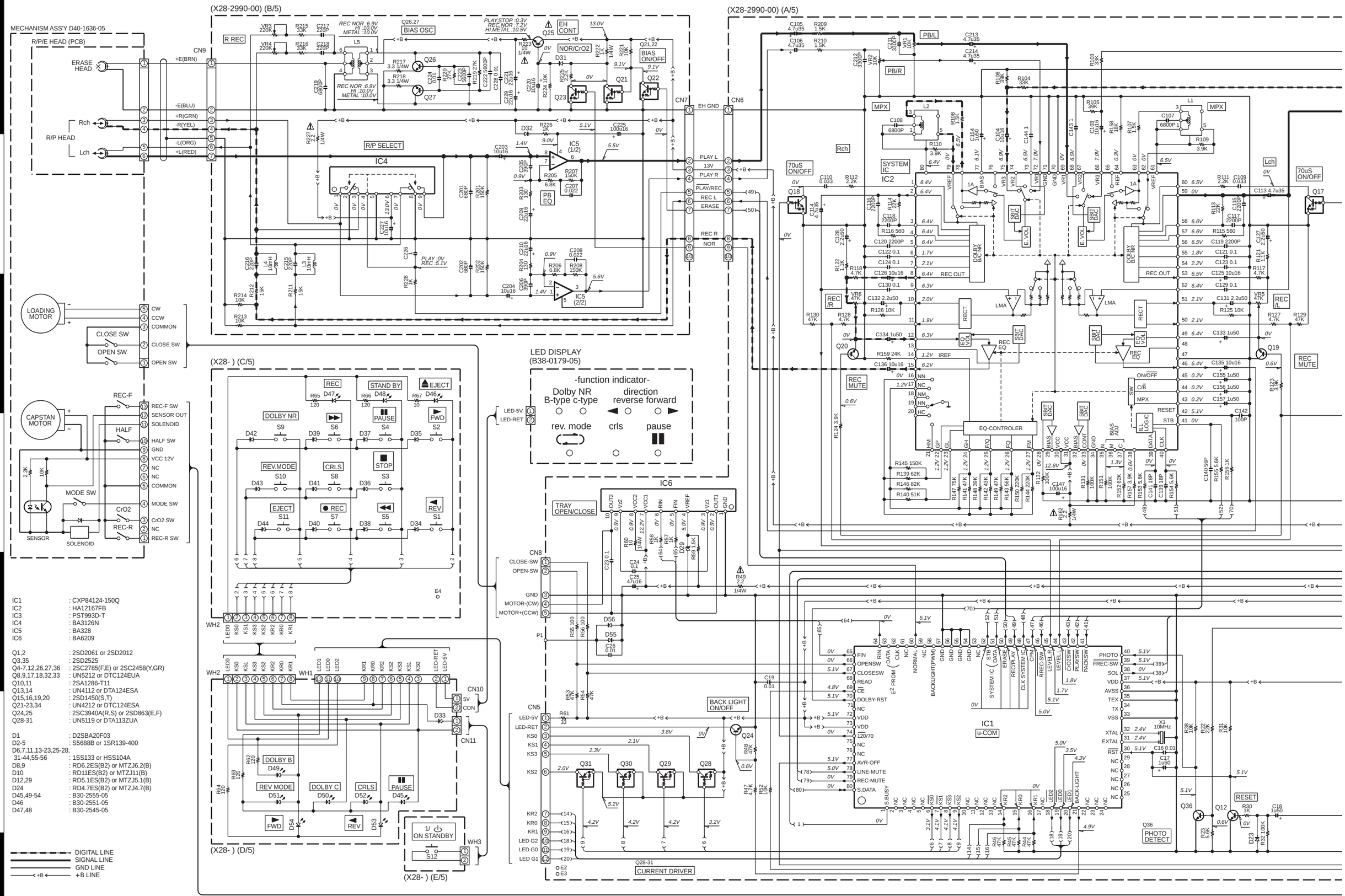
PC BOARD (Component side view)







Refer to the schematic diagram for the value of resistors and capacitors.



IC1 : CXP84124-150Q
IC2 : HA12167FB
IC3 : PST993D-T
IC4 : BA3126N
IC5 : BA328
IC6 : BA6209

Q1,2 : 2SD2061 or 2SD2012
Q3,35 : 2SD2525
Q4-7,12,26,27,36 : 2SC2785(F,E) or 2SC2458(Y,GR)
Q8,9,17,18,32,33 : UN5212 or DTC124EUA
Q10,11 : 2SA1286-T11
Q13,14 : UN4112 or DTA124ESA
Q15,16,19,20 : 2SD1450(S,T)
Q21-23,34 : UN4212 or DTC124ESA
Q24,25 : 2SC3940A(R,S) or 2SD863(E,F)
Q28-31 : UN5119 or DTA113ZUA

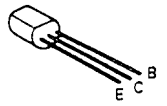
D1 : D2SBA20F03
D2-5 : S5688B or 1SR139-400
D6,7,11,13-23,25-28, 31-44,55-56 : 1SS133 or HSS104A
D8,9 : RD6.2ES(B2) or MTZJ6.2(B)
D10 : RD11ES(B2) or MTZJ11(B)
D12,29 : RD5.1ES(B2) or MTZJ5.1(B)
D24 : RD4.7ES(B2) or MTZJ4.7(B)
D45,49-54 : B30-2555-05
D46 : B30-2551-05
D47,48 : B30-2545-05

CAUTION: For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list). ⚠ indicates safety critical components. For continued protection against risk of fire, replace only with same type and rating fuse(s). To reduce the risk of electric shock, leakage-current or resistance measurements shall be carried out (exposed parts are acceptably insulated from the supply circuit) before the appliance is returned to the customer.

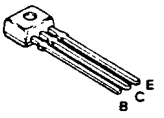
The DC voltage is an actual reading measured with a high impedance type voltmeter with a cassette loaded at playback mode. The measurement value may vary depending on the measuring instruments used or on the product. Bias circuit DC voltage is measured while in the record mode.

(X28-2990-00) (A/5)

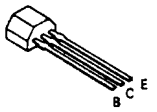
2SA1286-T11
2SC3940A
2SD863



2SC2785



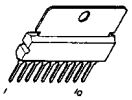
DTA124ESA
DTC124ESA
UN4112
2SC2458



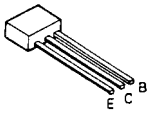
UN5119

2SD2012

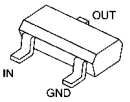
BA6209



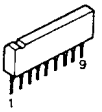
UN4212



DTC124EUA



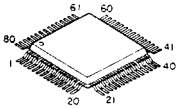
BA3126N



UN5212

2SD2061

HA12167FB



(X28-2990-00)				
DESTINATION		UNIT No.	J1	P2
COUNTRY	ABB.			
JAPAN	J	0-00	YES	NO

(X28-2992-71)				
DESTINATION		UNIT No.	J1	P2
COUNTRY	ABB.			
U.S.A.	K	2-71	NO	YES
U.K.	T			
EUROPE	E			
PX	Y			

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Noise reduction circuit made under license from Dolby Laboratories Licensing Corporation.

Y26-4420-11

X-VH7

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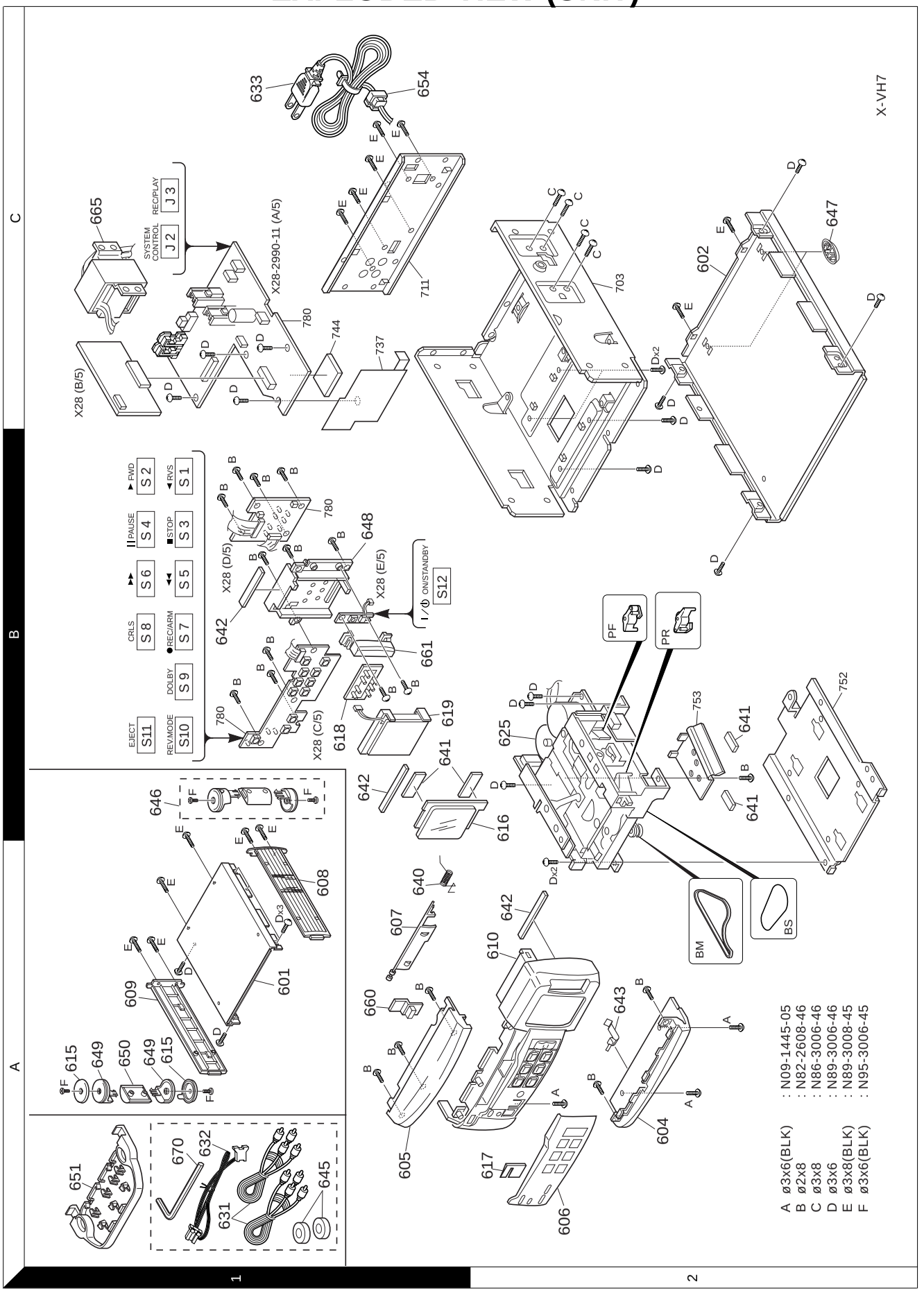
EXPLODED VIEW (UNIT)



Parts with exploded view numbers larger than 700 are not supplied.

✻ New Parts
Parts without **Parts No.** are not supplied.
Les articles non mentionnes dans le **Parts No.** ne sont pas fournis.
Teile ohne **Parts No.** werden nicht geliefert.

❶

Ref. No	Address	New Parts	Parts No.	Description	Destination	Remarks
				X-VH7		
601	1A		A01-3696-01	METALLIC CABINET,TOP		
602	2C		A01-3698-01	METALLIC CABINET,BOTTOM		
604	2A		A21-3758-02	DRESSING PANEL BOTTOM		
605	1A	✻	A21-3764-02	DRESSING PANEL TOP		
606	2A	✻	A21-3765-03	DRESSING PANEL ALUMI		
607	1A	✻	A29-1052-14	PANEL		
608	1A		A50-1326-02	SIDE PLATE		
609	1A		A50-1327-02	SIDE PLATE		
610	2A	✻	A60-1648-01	PANEL		
615	1A		B09-0267-04	CAP		
616	2B	✻	B10-3488-03	FRONT GLASS		
617	2A		B12-0361-04	INDICATOR REC		
618	1B	✻	B12-0365-04	INDICATOR INDICATOR		
619	1B	✻	B38-0179-05	LED DISPLAY ASSY		
-			B46-0310-03	WARRANTY CARD	TE	
-			B46-0328-03	WARRANTY CARD	KY	
-		✻	B46-0347-03	WARRANTY CARD	K	
-		✻	B60-4177-00	INSTRUCTION MANUAL(EN)	KTY	
-		✻	B60-4178-00	INSTRUCTION MANUAL(5-LAN)	E	
-		✻	B60-4179-00	INSTRUCTION MANUAL(FR)	K	
625	2B	✻	D40-1636-05	MECHANISM ASSY		
631	1A		E30-0615-05	AUDIO CORD		
632	1A		E30-2628-05	CORD WITH CONNECTOR		
⚠ 633	1C		E30-2788-05	AC POWER CORD	E	
⚠ 633	1C		E30-2791-05	AC POWER CORD	T	
⚠ 633	1C		E30-2883-05	AC POWER CORD	KY	
640	1A		G01-4122-04	TORSION COIL SPRING		
641	1B,2B		G10-0489-04	NON-WOVEN FABRIC		
642	2A,1B		G11-2272-04	SOFT TAPE		
643	2A		G02-1681-04	LEAF SPRING		
-		✻	H10-7568-02	POLYSTYRENE FOAMED FIXTURE		
-		✻	H10-7569-02	POLYSTYRENE FOAMED FIXTURE		
-		✻	H12-2465-04	PACKING FIXTURE	T	
-			H25-0681-04	PROTECTION BAG		
-			H25-1595-04	PROTECTION BAG		
-			H30-0610-04	ADHESIVE DOUBLE-COATED TAPE		
-		✻	H50-3361-04	ITEM CARTON CASE	E	
-		✻	H50-3362-04	ITEM CARTON CASE	K	
-		✻	H50-3363-04	ITEM CARTON CASE	T	
-		✻	H50-3546-04	ITEM CARTON CASE	Y	
645	1A		J02-0130-05	FOOT		
646	1B		J02-1444-04	INSULATOR ASSY		
647	2C		J02-1445-04	FOOT		
648	1B	✻	J19-5981-03	HOLDER		
649	1A		J19-5994-04	HOLDER		
650	1A		J19-5995-04	HOLDER		
651	1A		J19-5996-02	BRACKET		
⚠ 654	1C		J42-0083-05	POWER CORD BUSHING		
-			J61-0098-05	WIRE BAND		
660	2A		K29-7554-04	KNOB EJECT		
661	1B	✻	K29-7557-03	KNOB POWER	TE	
661	1B	✻	K29-7564-03	KNOB POWER	KY	

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❷

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⚠ 665	1C	✻	L07-2731-05	POWER TRANSFORMER	TE	
⚠ 665	1C	✻	L07-2733-05	POWER TRANSFORMER	KY	
670	1A		W01-0084-05	HEXAGON WRENCH KEY		
				REC/PLAY (X28-2990-11)		
D45		✻	B30-2555-05	LED(RED,3)		
D46			B30-2551-05	LED(BLUE,PHAI 3)		
D47 ,48			B30-2545-05	LED(RED3(160))		
D49 -54		✻	B30-2555-05	LED(RED,3)		
C1			CE04KW1H222M	ELECTRO 2200UF 50WV		
C2			CE04KW1E471M	ELECTRO 470UF 25WV		
C3 ,4			CK45FF1H103Z	CERAMIC 0.010UF Z		
C5			CC73FSL1H102J	CHIP C 1000PF J		
C6			CE04KW1E470M	ELECTRO 47UF 25WV		
C7			CE04KW1C100M	ELECTRO 10UF 16WV		
C8			CE04KW1C101M	ELECTRO 100UF 16WV		
C9			CC73FSL1H102J	CHIP C 1000PF J		
C10			CE04KW1E470M	ELECTRO 47UF 25WV		
C11			CE04KW1C100M	ELECTRO 10UF 16WV		
C12			CE04KW1C470M	ELECTRO 47UF 16WV		
C13			CE04KW1C100M	ELECTRO 10UF 16WV		
C14			CE04KW1A101M	ELECTRO 100UF 10WV		
C15 ,16			CK73FB1H103K	CHIP C 0.010UF K		
C17 ,18			CE04KW1H010M	ELECTRO 1.0UF 50WV		
C19			CK73FB1H103K	CHIP C 0.010UF K		
C22			CE04KW1H010M	ELECTRO 1.0UF 50WV		
C23 ,24			CK73FB1C104K	CHIP C 0.10UF K		
C25			CE04KW1C470M	ELECTRO 47UF 16WV		
C26			CK73FB1H103K	CHIP C 0.010UF K		
C101,102			CC73FSL1H221J	CHIP C 220PF J		
C103,104			CE04KW1C100M	ELECTRO 10UF 16WV		
C105,106			CE04KW1V4R7M	ELECTRO 4.7UF 35WV		
C107,108			CK73FB1H682K	CHIP C 6800PF K		
C109,110			CK73FB1H333K	CHIP C 0.033UF K		
C113,114			CE04KW1V4R7M	ELECTRO 4.7UF 35WV		
C115-120			CQ93FMG1H222J	MYLAR 2200PF J		
C121-124			CK73FB1C104K	CHIP C 0.10UF K		
C125,126			CE04KW1C100M	ELECTRO 10UF 16WV		
C127,128			CE04KW1H2R2M	ELECTRO 2.2UF 50WV		
C129,130			CK73FB1C104K	CHIP C 0.10UF K		
C131,132			CE04KW1H2R2M	ELECTRO 2.2UF 50WV		
C133,134			CE04KW1H010M	ELECTRO 1.0UF 50WV		
C135,136			CE04KW1C100M	ELECTRO 10UF 16WV		
C139			CC73FSL1H180J	CHIP C 18PF J		
C140			CC73FSL1H560J	CHIP C 56PF J		
C141			CC73FSL1H180J	CHIP C 18PF J		
C142			CC73FSL1H101J	CHIP C 100PF J		
C143,144			CK73FF1C105Z	CHIP C 1.0UF Z		
C147			CE04KW1C101M	ELECTRO 100UF 16WV		
C148			CK73FB1H103K	CHIP C 0.010UF K		
C149-152			CC73FSL1H221J	CHIP C 220PF J		
C153			CE04KW1H220M	ELECTRO 22UF 50WV		
C154-157			CE04KW1H010M	ELECTRO 1.0UF 50WV		
C201,202			CC73FSL1H681J	CHIP C 680PF J		

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❸

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C203,204			CE04KW1C100M	ELECTRO	10UF		16WV		
C205,206			CC73FSL1H391J	CHIP C	390PF		J		
C207,208			CQ93FMG1H223J	MYLAR	0.022UF		J		
C209,210			CE04KW1C220M	ELECTRO	22UF		16WV		
C211,212			CQ93FMG1H332J	MYLAR	3300PF		J		
C213,214			CE04KW1V4R7M	ELECTRO	4.7UF		35WV		
C215-218			CC45FSL1H221J	CERAMIC	220PF		J		
C219			CQ93HP2A682J	MYLAR	6800PF		J		
C220			CE04KW1C100M	ELECTRO	10UF		16WV		
C221			CE04KW1C220M	ELECTRO	22UF		16WV		
C222,223			CQ93FMG1H562J	MYLAR	5600PF		J		
C224			CQ93FMG1H103J	MYLAR	0.010UF		J		
C225			CE04KW1C101M	ELECTRO	100UF		16WV		
C226			CK73FF1C105Z	CHIP C	1.0UF		Z		
C227			CE04KW1C100M	ELECTRO	10UF		16WV		
C228			CQ93FMG1H103J	MYLAR	0.010UF		J		
C229			CE04KW1C220M	ELECTRO	22UF		16WV		
CN1 ,2			E40-4245-05	PIN ASSY					
CN3			E40-4101-05	PIN ASSY					
CN4			E40-3257-05	PIN ASSY					
CN5			E40-3256-05	PIN ASSY					
CN6			E40-8164-05	PIN ASSY					
CN7			E40-8169-05	SOCKET FOR PIN ASSY					
CN8			E40-3249-05	PIN ASSY					
CN9			E40-3265-05	PIN ASSY					
CN10,11			E40-3260-05	PIN ASSY					
J2	1C		E63-0136-15	PHONO JACK					
J3	1C		E08-0311-05	RECTANGULAR RECEPTACLE					
E1 -4			J11-0808-05	WIRE CLAMPER					
L1 ,2			L79-1242-05	LC FILTER					
L3 ,4			L40-1035-29	SMALL FIXED INDUCTOR(10MH, J)					
L5		✻	L32-1010-05	BIAS OSCILLATING COIL					
X1			L78-0294-05	RESONATOR (10.000M)					
R2 -5			RK73FB2A101J	CHIP R	100	J	1/10W		
R6			RK73FB2A473J	CHIP R	47K	J	1/10W		
R7			RK73FB2A472J	CHIP R	4.7K	J	1/10W		
R8			RK73FB2A473J	CHIP R	47K	J	1/10W		
R9			RK73FB2A472J	CHIP R	4.7K	J	1/10W		
⚠ R10			RD14NB2E100J	RD	10	J	1/4W		
R11 ,12			RK73FB2A682J	CHIP R	6.8K	J	1/10W		
R13			RK73FB2A100J	CHIP R	10	J	1/10W		
R14			RD14NB2E221J	RD	220	J	1/4W		
⚠ R15			RD14NB2E8R2J	RD	8.2	J	1/4W		
R16 ,17			RK73FB2A682J	CHIP R	6.8K	J	1/10W		
R18			RD14NB2E221J	RD	220	J	1/4W		
⚠ R19			RD14NB2E4R7J	RD	4.7	J	1/4W		
R20 ,21			RK73FB2A102J	CHIP R	1.0K	J	1/10W		
R22			RK73FB2A223J	CHIP R	22K	J	1/10W		
R23			RK73FB2A562J	CHIP R	5.6K	J	1/10W		
R24 ,25			RD14NB2E472J	RD	4.7K	J	1/4W		
R26 ,27			RK73FB2A103J	CHIP R	10K	J	1/10W		
R28 ,29			RK73FB2A104J	CHIP R	100K	J	1/10W		
R30			RK73FB2A102J	CHIP R	1.0K	J	1/10W		

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❹

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R31			RK73FB2A103J	CHIP R	10K	J	1/10W		
R32			RK73FB2A104J	CHIP R	100K	J	1/10W		
R33			RK73FB2A103J	CHIP R	10K	J	1/10W		
R34			RK73FB2A104J	CHIP R	100K	J	1/10W		
R35 ,36			RK73FB2A331J	CHIP R	330	J	1/10W		
R37			RK73FB2A104J	CHIP R	100K	J	1/10W		
R38 -43			RK73FB2A103J	CHIP R	10K	J	1/10W		
R44 -46			RK73FB2A473J	CHIP R	47K	J	1/10W		
R47			RK73FB2A472J	CHIP R	4.7K	J	1/10W		
R48			RK73FB2A473J	CHIP R	47K	J	1/10W		
⚠ R49			RD14NB2E2R2J	RD	2.2	J	1/4W		
R50 ,51			RK73FB2A100J	CHIP R	10	J	1/10W		
R53 ,54			RK73FB2A473J	CHIP R	47K	J	1/10W		
R55 ,56			RK73FB2A101J	CHIP R	100	J	1/10W		
R57 ,58			RK73FB2A102J	CHIP R	1.0K	J	1/10W		
R59			RK73FB2A152J	CHIP R	1.5K	J	1/10W		
R60			RD14NB2E100J	RD	10	J	1/4W		
R67			RK73FB2A100J	CHIP R	10	J	1/10W		
R68			RK73FB2A223J	CHIP R	22K	J	1/10W		
R101,102			RK73FB2A101J	CHIP R	100	J	1/10W		
R103,104			RK73FB2A333J	CHIP R	33K	J	1/10W		
R105,106			RK73FB2A393J	CHIP R	39K	J	1/10W		
R107,108			RK73FB2A152J	CHIP R	1.5K	J	1/10W		
R109,110			RK73FB2A392J	CHIP R	3.9K	J	1/10W		
R111,112			RK73FB2A222J	CHIP R	2.2K	J	1/10W		
R113,114			RK73FB2A223J	CHIP R	22K	J	1/10W		
R115,116			RK73FB2A561J	CHIP R	560	J	1/10W		
R117,118			RK73FB2A472J	CHIP R	4.7K	J	1/10W		
R121,122			RK73FB2A112J	CHIP R	1.1K	J	1/10W		
R123			RK73FB2A392J	CHIP R	3.9K	J	1/10W		
R125,126			RK73FB2A103J	CHIP R	10K	J	1/10W		
R127,128			RK73FB2A472J	CHIP R	4.7K	J	1/10W		
R129,130			RK73FB2A473J	CHIP R	47K	J	1/10W		
R131,132			RK73FB2A104J	CHIP R	100K	J	1/10W		
R133,134			RK73FB2A122J	CHIP R	1.2K	J	1/10W		
R135,136			RK73FB2A563J	CHIP R	56K	J	1/10W		
R137,138			RK73FB2A392J	CHIP R	3.9K	J	1/10W		
R151			RK73FB2A104J	CHIP R	100K	J	1/10W		
R152			RK73FB2A623J	CHIP R	62K	J	1/10W		
R154,155			RK73FB2A562J	CHIP R	5.6K	J	1/10W		
R156			RK73FB2A102J	CHIP R	1.0K	J	1/10W		
R158			RK73FB2A183J	CHIP R	18K	J	1/10W		
R159			RK73FB2A243J	CHIP R	24K	J	1/10W		
R160			RK73FB2A563J	CHIP R	56K	J	1/10W		
R161			RK73FB2A473J	CHIP R	47K	J	1/10W		
⚠ R162			RD14NB2E2R2J	RD	2.2	J	1/4W		
R201,202			RK73FB2A154J	CHIP R	150K	J	1/10W		
R203,204			RK73FB2A131J	CHIP R	130	J	1/10W		
R205,206			RK73FB2A682J	CHIP R	6.8K	J	1/10W		
R207,208			RK73FB2A154J	CHIP R	150K	J	1/10W		
R209,210			RK73FB2A152J	CHIP R	1.5K	J	1/10W		
R211,212			RK73FB2A153J	CHIP R	15K	J	1/10W		
R213,214			RK73FB2A103J	CHIP R	10K	J	1/10W		
R215,216			RK73FB2A333J	CHIP R	33K	J	1/10W		
R219,220			RK73FB2A273J	CHIP R	27K	J	1/10W		

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R221			RK73FB2A103J	CHIP R	10K	J	1/10W		
R222			RD14NB2E102J	RD	1.0K	J	1/4W		
R223			RD14NB2E100J	RD	10	J	1/4W		
R224			RK73FB2A103J	CHIP R	10K	J	1/10W		
R225			RK73FB2A222J	CHIP R	2.2K	J	1/10W		
⚠ R227			RD14NB2E2R2J	RD	2.2	J	1/4W		
VR1 ,2			R32-0037-05	TRIMMING POT.					
VR3 ,4		✻	R12-5049-05	TRIMMING POT.					
VR5 ,6			R32-0040-05	TRIMMING POT.					
W100			R92-0670-05	CHIP R	0 OHM				
W101,102			R92-0679-05	CHIP R	0 OHM				
W103			R92-0670-05	CHIP R	0 OHM				
W104			R92-0679-05	CHIP R	0 OHM				
W105			R92-0670-05	CHIP R	0 OHM				
W106			R92-0679-05	CHIP R	0 OHM				
W107,108			R92-0670-05	CHIP R	0 OHM				
S1 -10	1B		S70-0031-05	TACT SWITCH					
S11	1B		S70-0072-05	TACT SWITCH					
S12	1B		S70-0031-05	TACT SWITCH					
⚠ D1			D2SBA20F03	DIODE					
⚠ D2 -5			S5688B	DIODE					
⚠ D2 -5			1SR139-400	DIODE					
⚠ D6 ,7			HSS104A	DIODE					
⚠ D6 ,7			1SS133	DIODE					
D8 ,9			MTZJ6.2(B)	ZENER DIODE					
D8 ,9			RD6.2ES(B2)	ZENER DIODE					
D10			MTZJ11(B)	ZENER DIODE					
D10			RD11ES(B2)	ZENER DIODE					
D11			HSS104A	DIODE					
D11			1SS133	DIODE					
D12			MTZJ5.1(B)	ZENER DIODE					
D12			RD5.1ES(B2)	ZENER DIODE					
D13 -23			HSS104A	DIODE					
D13 -23			1SS133	DIODE					
D24			MTZJ4.7(B)	ZENER DIODE					
D24			RD4.7ES(B)	ZENER DIODE					
D25 -28			HSS104A	DIODE					
D25 -28			1SS133	DIODE					
D29			MTZJ5.1(B)	ZENER DIODE					
D29			RD5.1ES(B2)	ZENER DIODE					
D31 -44			HSS104A	DIODE					
D31 -44			1SS133	DIODE					
D55 ,56			HSS104A	DIODE					
D55 ,56			1SS133	DIODE					
IC1		✻	CXP84124-150Q	MI-COM IC					
IC2			HA12167FB	ANALOGUE IC					
IC3			PST993D-T	ANALOGUE IC					
IC4			BA3126N	ANALOGUE IC					
IC5			BA328	IC					
IC6			BA6209	ANALOGUE IC					
⚠ Q1 ,2			2SD2012	TRANSISTOR					
⚠ Q1 ,2			2SD2061	TRANSISTOR					
⚠ Q3			2SD2525	TRANSISTOR					
Q4 -7			2SC2458(Y,GR)	TRANSISTOR					

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Q4 -7			2SC2785(F,E)	TRANSISTOR		
Q8 ,9			DTC124EUA	DIGITAL TRANSISTOR		
Q8 ,9			UN5212	DIGITAL TRANSISTOR		
Q10 ,11			2SA1286-T11	TRANSISTOR		
Q12			2SC2458(Y,GR)	TRANSISTOR		
Q12			2SC2785(F,E)	TRANSISTOR		
Q13 ,14			DTA124ESA	DIGITAL TRANSISTOR		
Q13 ,14			UN4112	DIGITAL TRANSISTOR		
Q15 ,16			2SD1450(S,T)	TRANSISTOR		
Q17 ,18			DTC124EUA	DIGITAL TRANSISTOR		
Q17 ,18			UN5212	DIGITAL TRANSISTOR		
Q19 ,20			2SD1450(S,T)	TRANSISTOR		
Q21 -23			DTC124ESA	DIGITAL TRANSISTOR		
Q21 -23			UN4212	DIGITAL TRANSISTOR		
⚠ Q24 ,25			2SC3940A(R,S)	TRANSISTOR		
⚠ Q24 ,25			2SD863(E,F)	TRANSISTOR		
Q26 ,27			2SC2458(Y,GR)	TRANSISTOR		
Q26 ,27			2SC2785(F,E)	TRANSISTOR		
Q28 -31			DTA113ZUA	DIGITAL TRANSISTOR		
Q28 -31			UN5119	DIGITAL TRANSISTOR		
Q32 ,33			DTC124EUA	DIGITAL TRANSISTOR		
Q32 ,33			UN5212	DIGITAL TRANSISTOR		
Q34			DTC124ESA	DIGITAL TRANSISTOR		
Q34			UN4212	DIGITAL TRANSISTOR		
⚠ Q35			2SD2525	TRANSISTOR		
Q36			2SC2458(Y,GR)	TRANSISTOR		
Q36			2SC2785(F,E)	TRANSISTOR		
MECHANISM (D40-1636-05) The following are repair parts only.						
BM	2A		D16-0740-08	MAIN BELT		
BS	2A		D16-0705-08	SUB BELT		
PF	2B		D14-0380-08	FWD PINCH ROLLER		
PR	2B		D14-0381-08	REW PINCH ROLLER		
625	2B		D40-1636-05	MECHANISM ASSY		

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X-VH7

SPECIFICATIONS

Track ..... 4-track, 2-channel stereo
Recording system ..... AC bias system (Frequency:105 kHz)
Heads
  Playback/recording head 1
  Erasing head 1
Motors 1
Wow and flutter ..... 0.15 % (W.RMS)
Fast winding time ..... Approx.110seconds (C-60 tape)

Frequency response
  TYPE Ⅰ tape ..... 40 Hz~18 kHz, ±3 dB
  TYPE Ⅱ tape ..... 40 Hz~19 kHz, ±3 dB
Signal to noise ratio
  DOLBY NR OFF ..... 60 dB
  DOLBY B NR ON ..... 67 dB
  DOLBY C NR ON ..... 73 dB
Input sensitivity / Impedence
  Line (REC) ..... 77.5 mV/47 kΩ
Output level / Impedence
  Line (PLAY) ..... 775 mV/10 kΩ

General

Power consumption ..... 15 W
Dimensions (Parallel setting) ..... W : 247 mm
H : 96 mm
D : 279 mm
Weight(net) ..... 3.2 kg

Notes

KENWOOD follows a policy of continuous advancements in development. For this reason specifications may be changed without notice.

- Sufficient performance may not be exhibited at extremely cold locations (where water freezes).

Note:
Component and circuit are subject to modification to insure best operation under differing local conditions. This manual is based on Europe (E) standard, and provides information on regional circuit modification through use of alternate schematic diagrams, and information on regional component variations through use of parts list.

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