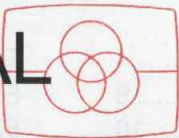


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STEREO DOUBLE AUTOREVERSE CASSETTE DECK

# X-B5/B7/B9

## SERVICE MANUAL



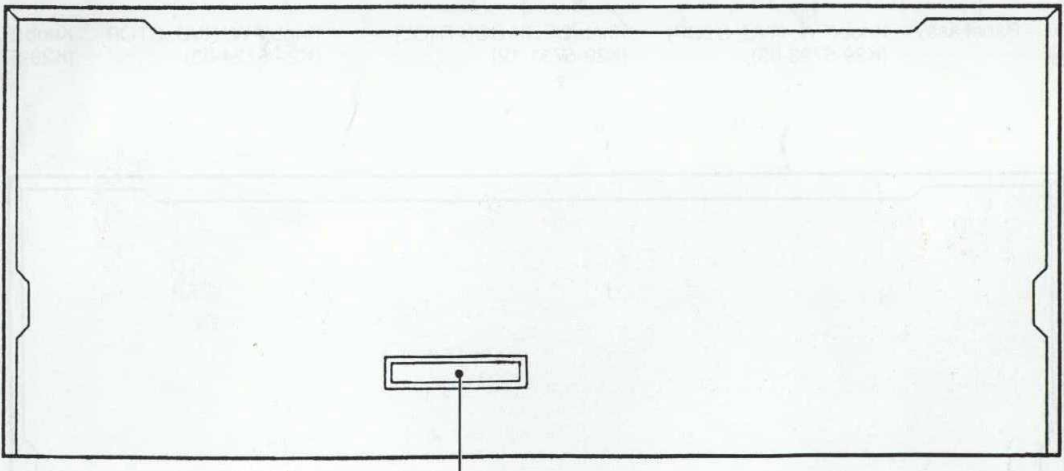
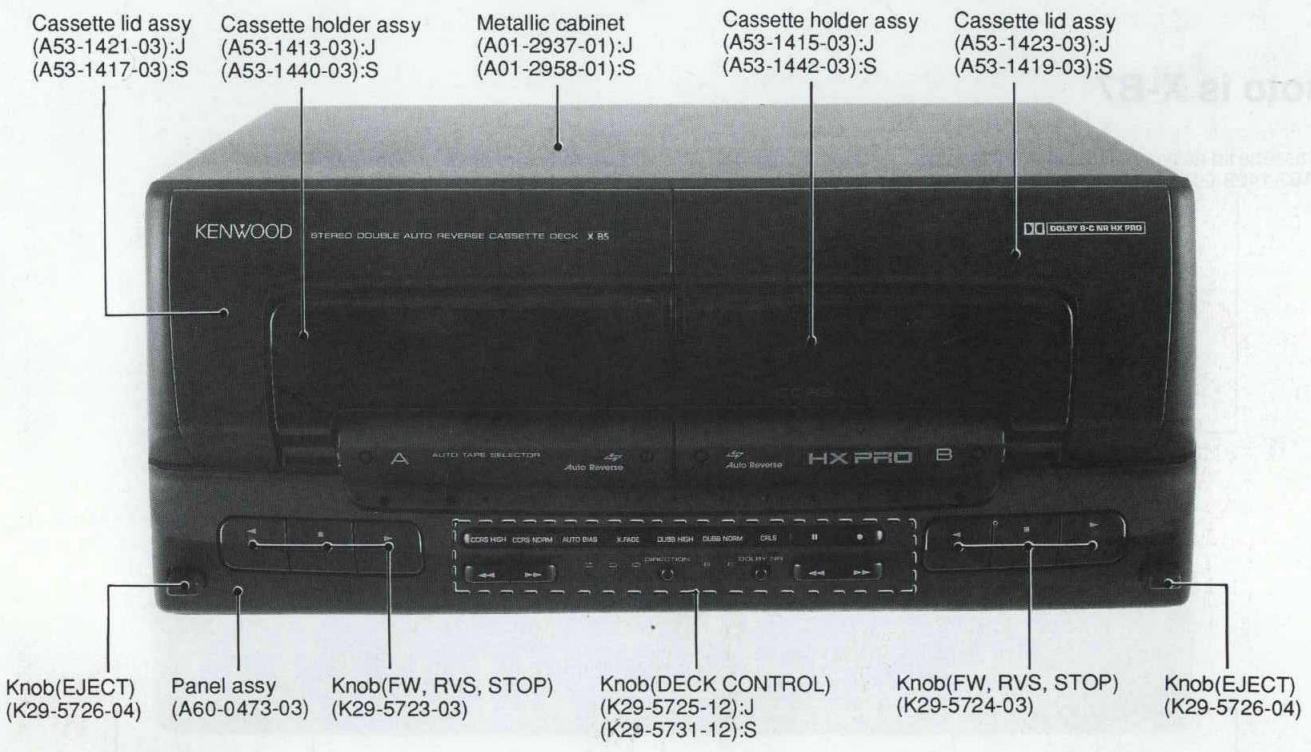
# KENWOOD

Free service manuals  
Gratis schema's

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B51-4728-00 (B) 4217

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### Photo is X-B5



Rectangular receptacle (E58-0006-05)

J: Japan made  
S: Singapore made

\* Refer to parts list on page 28.

## PRECAUTIONS FOR REPAIR

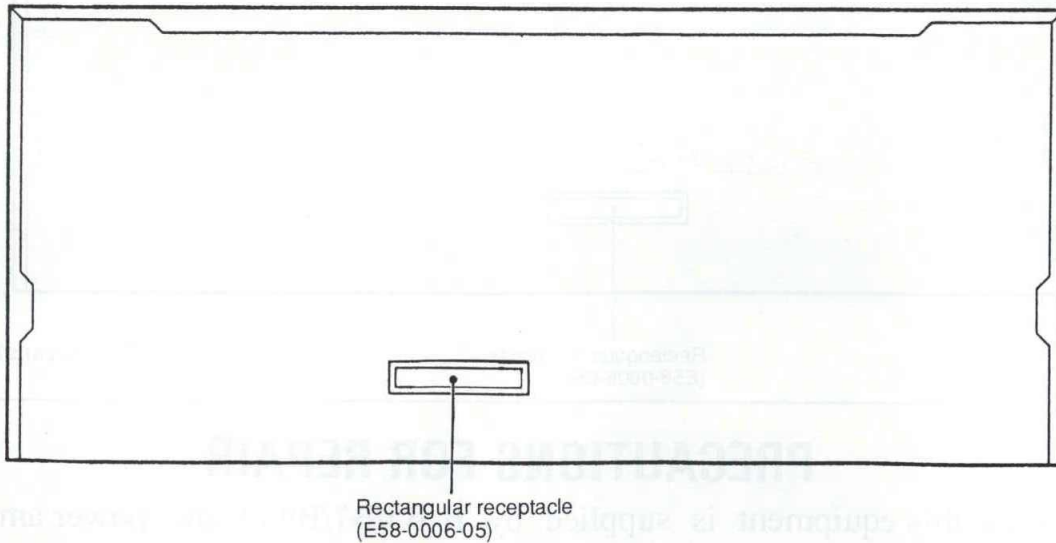
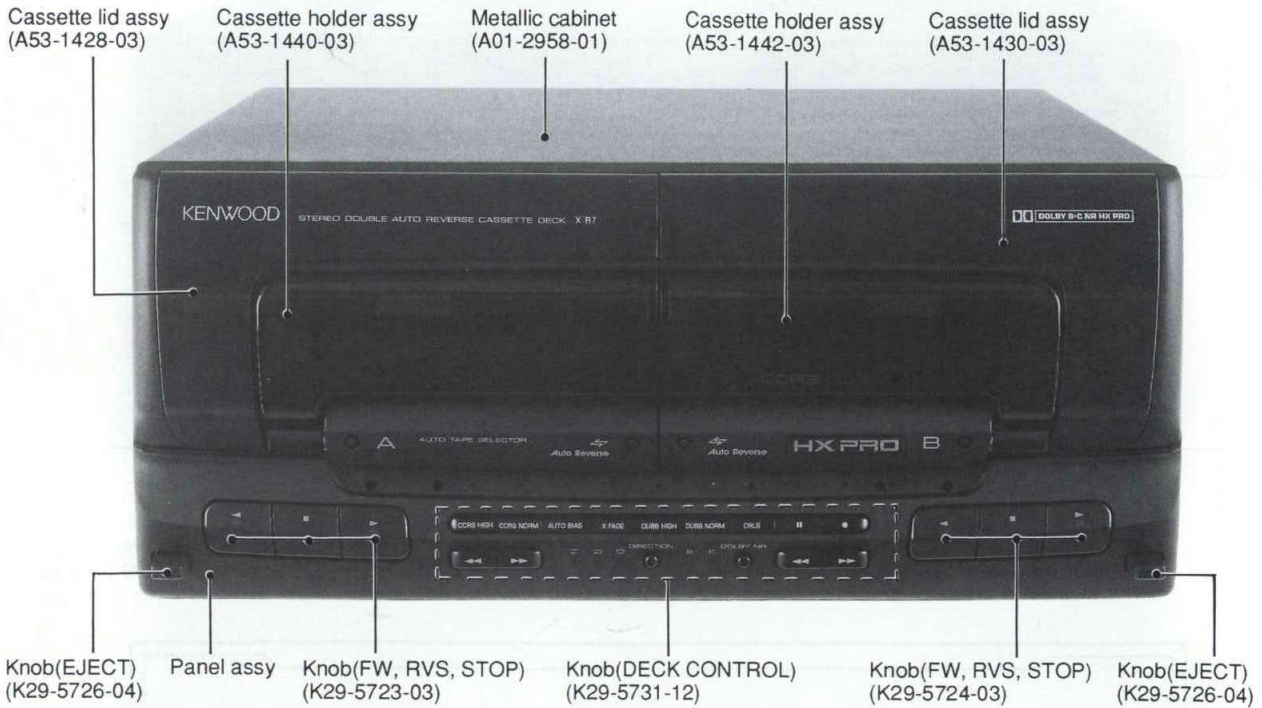
Since power of this equipment is supplied by B-B5/B7/B9 of the power amplifier of the stereo system, these equipment and the jig (RM-90PS+UA-93AD) are needed when doing the repairs.

# X-B5/B7/B9

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## Photo is X-B7

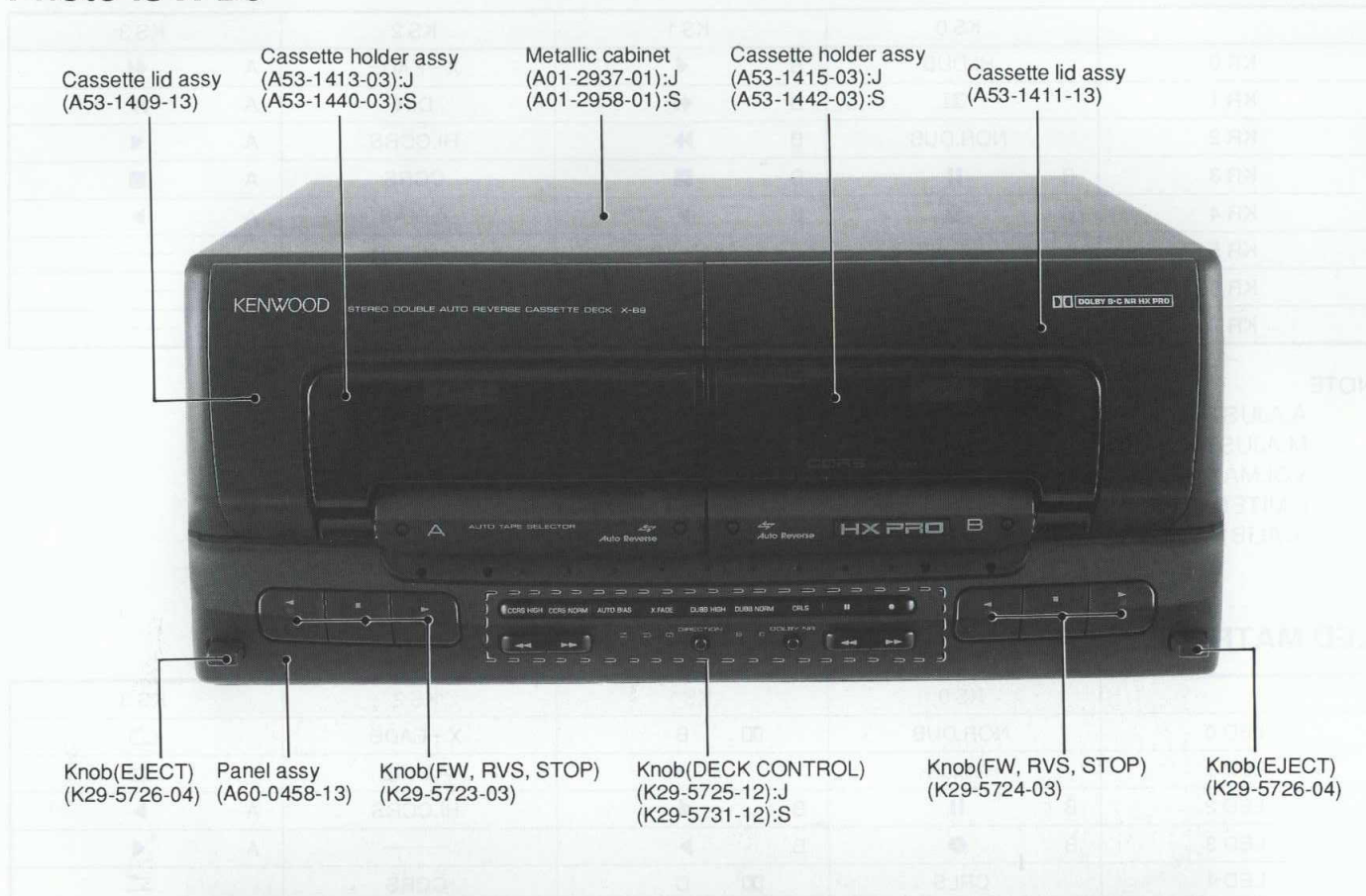


\* Refer to parts list on page 28.



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## Photo is X-B9



J: Japan made  
S: Singapore made

\* Refer to parts list on page 28.

# X-B5/B7/B9

## CIRCUIT DESCRIPTION

### KEY MATRIX

	KS 0	KS 1	KS 2	KS 3
KR 0	HI.DUB	B ◀	X-FADE	A ◀◀
KR 1	☒	B ◀◀	DIR	A ▶▶
KR 2	NOR.DUB	B ▶▶	HI.CCRS	A ◀
KR 3	B	B ■	CCRS	A ■
KR 4	B ●	B ▶	A.BIAS	A ▶
KR 5	CRLS	(CALIB)	LIMITER	—
KR 6	VOLMAX	TEST 2	—	—
KR 7	TEST 1	A.AJUST	M.AJUST	—

### NOTE

- A.AJUST.....For self adjustment
- M.AJUST.....For manual adjustment
- VOLMAX.....For electronic VOL MAX
- LIMITER.....Adjustment range limiting mode of self adjustment (During short circuit)
- (CALIB).....Sensitivity adjustment mode 400 Hz oscillation state KEEP

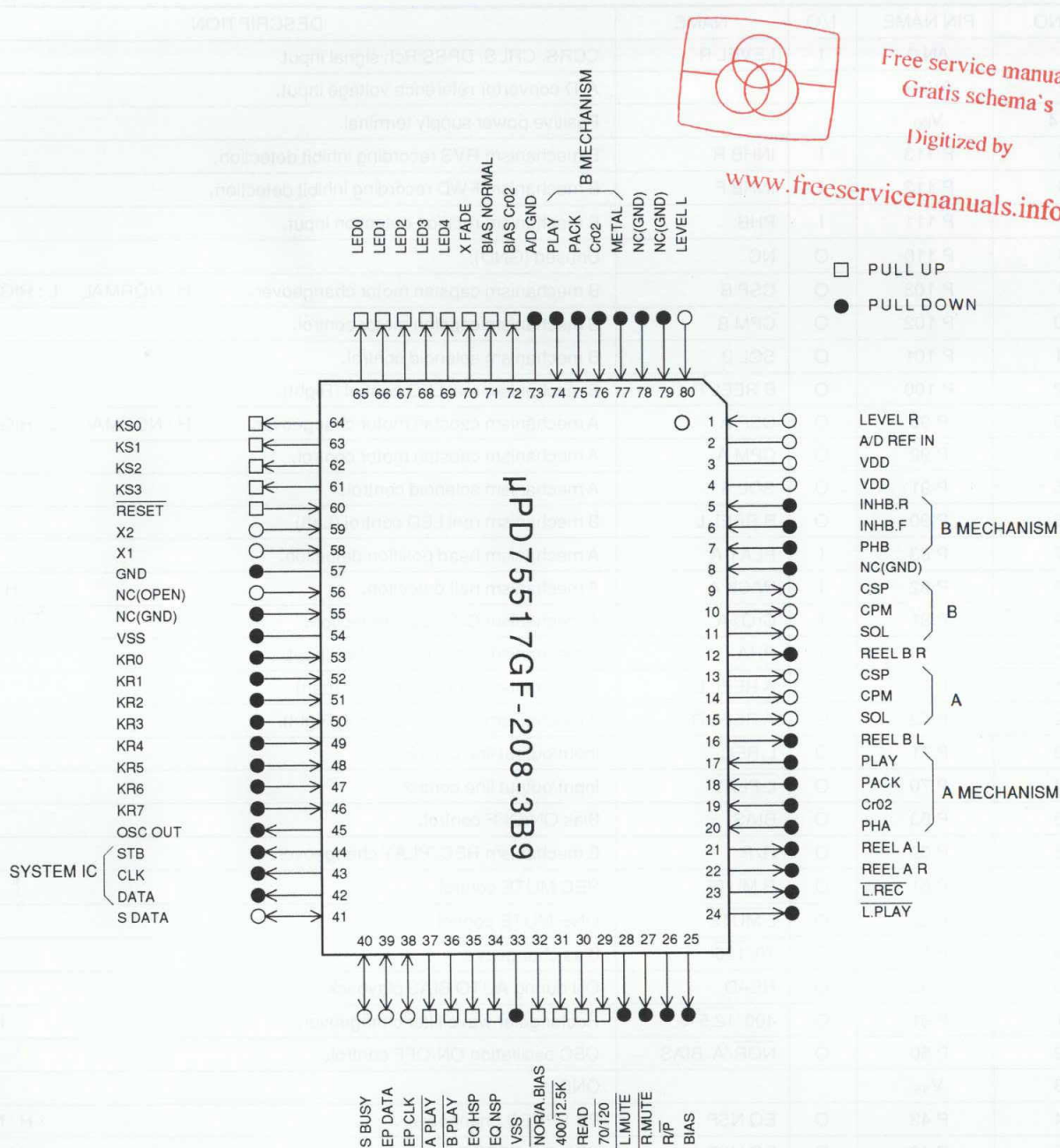
### LED MATRIX

	KS 0	KS 1	KS 2	KS 3
LED 0	NOR.DUB	☒ B	X-FADE	↻
LED 1	HI.DUB	—	A.BIAS	↻
LED 2	B	B ◀	HI.CCRS	A ▶
LED 3	B ●	B ▶	—	A ◀
LED 4	CRLS	☒ C	CCRS	↕



## CIRCUIT DESCRIPTION

### Pin connection



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## X-B5/B7/B9

## CIRCUIT DESCRIPTION

## TERMINAL DESCRIPTION

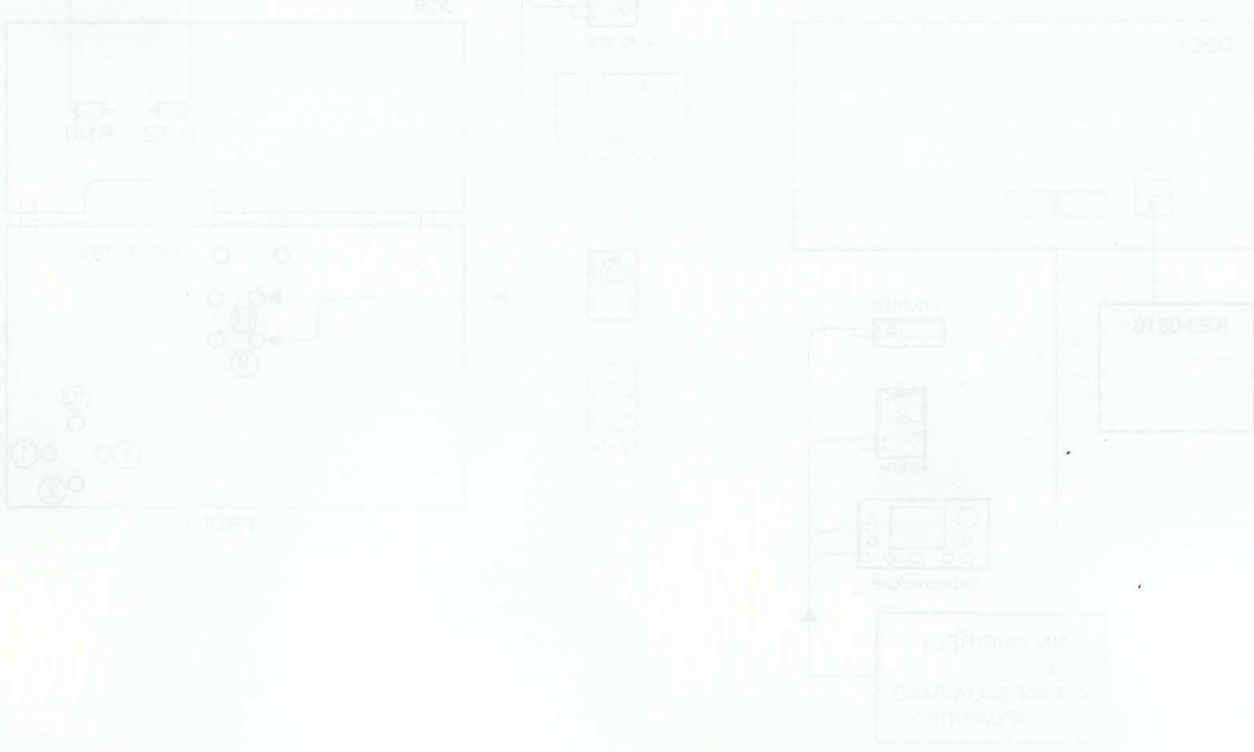
Pin connection

PIN NO.	PIN NAME	I/O	NAME	DESCRIPTION
1	AN 0	I	LEVEL R	CCRS, CRLS, DPSS Rch signal input.
2	AV <sub>REF</sub>			A/D converter reference voltage input. : V <sub>DD</sub>
3, 4	V <sub>DD</sub>			Positive power supply terminal.
5	P 113	I	INH B R	B mechanism RVS recording inhibit detection. L : Inhibit
6	P 112	I	INH B F	B mechanism FWD recording inhibit detection. L : Inhibit
7	P 111	I	PHB	B mechanism rotation detection input.
8	P 110	O	NC	Unused (GND).
9	P 103	O	CSP B	B mechanism capstan motor changeover. H : NORMAL L : HIGH SPEED
10	P 102	O	CPM B	B mechanism capstan motor control. H : ON
11	P 101	O	SOL B	B mechanism solenoid control. H : ON
12	P 100	O	B REEL R	B mechanism reel LED control (Right).
13	P 93	O	CSP A	A mechanism capstan motor changeover. H : NORMAL L : HIGH SPEED
14	P 92	O	CPM A	A mechanism capstan motor control. H : ON
15	P 91	O	SOL A	A mechanism solenoid control. H : ON
16	P 90	O	B REEL L	B mechanism reel LED control (Left).
17	P 83	I	PLAY A	A mechanism head position detection. H : PLAY
18	P 82	I	PACK A	A mechanism half detection. H : With half
19	P 81	I	CrO <sub>2</sub> A	A mechanism CrO <sub>2</sub> tape detection. H : NORMAL
20	P 80	I	PHA	A mechanism rotation detection input.
21	P 73	O	A REEL L	A mechanism reel LED control (Left).
22	P 72	O	A REEL R	A mechanism reel LED control (Right).
23	P 71	O	L.REC	Input/output line control. L : REC
24	P 70	O	L.PLAY	Input/output line control. L : PLAY
25	P 63	O	BIAS	Bias ON/OFF control. ON
26	P 62	O	R/P	B mechanism REC/PLAY changeover. H : REC
27	P 61	O	R MUTE	REC MUTE control. L : ON
28	P 60	O	L MUTE	LINE MUTE control. L : ON
29	P 53	O	70/120	Bias changeover. H : 70 μs
30	P 52	O	READ	ON during AUTO BIAS playback. H : ON
31	P 51	O	400/12.5 K	Rectangular wave filter changeover. H : 400 Hz
32	P 50	O	NOR/A BIAS	OSC oscillation ON/OFF control. H : ON
33	V <sub>SS</sub>			GND
34	P 43	O	EQ NSP	PB SPEED changeover. H : NORM SP
35	P 42	O	EQ HSP	REC EQ SPEED changeover. H : HIGH SP
36	P 41	O	B PLAY	B mechanism head changeover. L : B head ON
37	P 40	O	A PLAY	A mechanism head changeover. L : A head ON
38	P 33	I/O	EPROM CLK	EPROM clock input/output.
39	P 32	I/O	EPROM DATA	EPROM data input/output.
40	P 31	I/O	S BUSY	Serial BUSY input/output.
41	P 30	I/O	S DATA	Serial data input/output.
42	P 23	O	DATA	System IC serial data input/output
43	P 22	O	CLK	System IC clock output.
44	P 21	O	STB	System IC strobe signal input.
45	P 20	O	OSC OUT	Rectangular wave output terminal (400 Hz or 12.5 kHz)



## CIRCUIT DESCRIPTION

PIN NO.	PIN NAME	I/O	NAME	DESCRIPTION	
46~53	P 13~P 10 P 03~P 00	I	KR 7~KR 4 KR 3~KR 0	Key return signal input.	H : ON
54	V <sub>SS</sub>			GND	
55	XT 1		NC	Unused (GND).	
56	XT 2		NC	Unused (OPEN).	
57	IC		NC	Unused (GND).	
58~59	X 1~X 2			Clock oscillator connection terminal.	
60	RESET	I	RESET	Reset signal input.	L : RESET
61~64	P 143~P 140	O	KS 3~KS 0	Key scan signal output.	L : SCAN
65~69	P 133~130, P 123	O	LED 3~LED 0 LED 4	LED drive output.	L : ON
70	P 122	O	X FADE	Cross fade control (For ERASE HEAD control ON/OFF).	H : ON
71	P 121	O	BIAS NORM	REC BIAS NORMAL .	H : NORMAL
72	P 120	O	BIAS CrO2	REC BIAS CrO2.	H : CrO2
73	AV <sub>SS</sub>			A/D converter reference voltage input.	: GND
74	P 153	I	PLAY B	B mechanism position detection.	H : PLAY
75	P 152	I	PACK B	B mechanism half detection.	H : With half
76	P 151	I	CrO2 B	B mechanism CrO2 tape detection.	H : NORMAL
77	P 150	I	METAL	B mechanism metal tape detection.	L : METAL
78	AN 3	I	NC	Unused (GND).	
79	AN 2	I	NC	Unused (GND).	
80	AN 1	I	LEVEL R	CCRS, CRLS, DPSS and Rch signal input.	

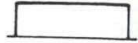
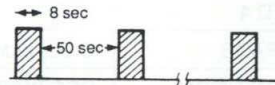


# X-B5/B7/B9

## ADJUSTMENT

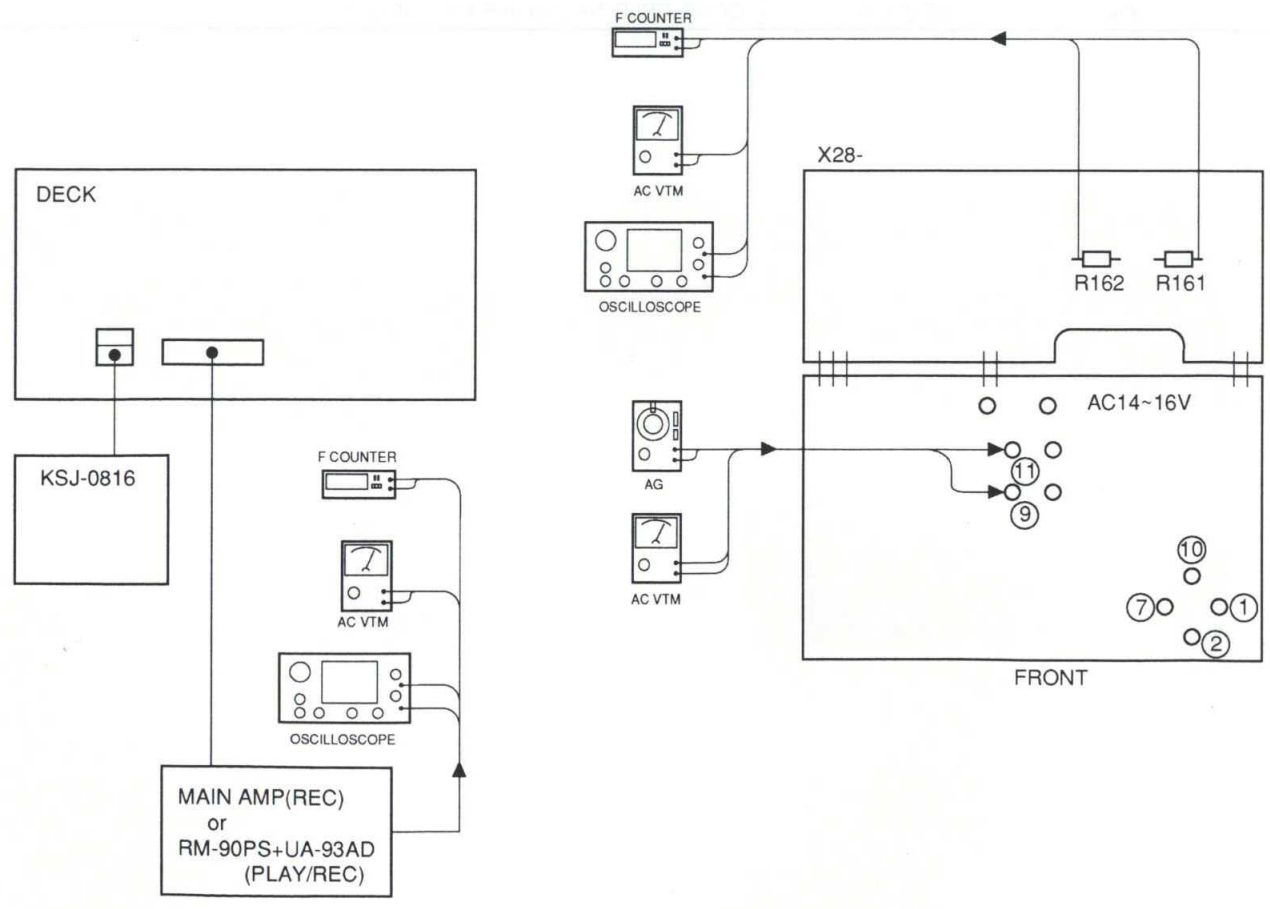
### ADJUSTMENT PROCEDURE

- (1) Supply AC 14-16 V power from the main amplifier or jig.
- (2) In the case of automatic adjustment, prepare a Dolby level tape (TCC-130 or MTT-150) as well as a tape equivalent to SCC-2280.

DOLBY LEVEL CALIBRATION	TCC-130 MTT-150	DOLBY B · TYPE TONE 200 nwb/m	DOLBY B · TYPE TONE 
DOLBY LEVEL + Alignment	SCC-2280	DOLBY B-TYPE TONE 200 nwb/m	

- (3) If a synchronization check jig is available, connect it (KSJ-0816)

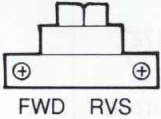
### Connection diagram




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## ADJUSTMENT

No.	ITEM	INPUT SETTING	OUTPUT SETTING	CASSETTE TAPE DECK SETTING	ALIGNMENT POINTS	ALIGN FOR	FIG.
Unless otherwise specified, set the respective switches as follows: TAPE: NORMAL DOLBY: OFF						0dBs=0.775V	
<b>I Cassette mechanism unit (Adjustment of the REC/PLAY head)</b>							
<1>	Demagnetization and cleaning	—	—	Power:OFF Demagnetization, cleaning, PLAY	Recording head, erase head, capstan, pinch roller	Demagnetize the REC/PLAY head with the head eraser. Clean the REC/PLAY head, erase head, capstan and pinch roller using a cotton swab slightly dampened with alcohol.	
<2>	Azimuth of the REC/PLAY head	SCC-1727 TCC-153 MTT-114 10kHz, -10dB	—	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.	
<b>II PC BOARD ADJUSTMENT (Note) Carry out the double speed adjustment in the first place.</b>							
<1>	TAPE SPEED (HI SPEED)	TCC-110 MTT-111 SCC-1727 3kHz	—	※ (1) TEST MODE (2) SYNCRO TEST MODE	VR 1 (A) VR 2 (B)	Adjust the tape speed so that 6kHz is obtained at the center of the tape.	
<2>	TAPE SPEED (NORMAL)				VR 3 (A) VR 4 (B)	Adjust the tape speed so that 3kHz is obtained at the center of the tape.	

※

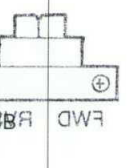
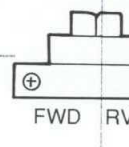
1. Short circuit PT (7)  (10) and turn the POWER ON. FWD KEY: NORMAL SPEED FF KEY: HI SPEED.

2. Synchronization test mode (KSJ-0816)

- 1) Enter E040H → Synchronization test ON state
- 2) A DECK FWD PLAY E010H
- 3) A DECK HI SPEED E018H VR 1 6 kHz
- 4) A DECK NORMAL E017H VR 3 3 kHz
- 5) A DECK STOP E014H
- 6) B DECK NORMAL E020H
- 7) B DECK HI SPEED E028H VR 2 6 kHz
- 8) B DECK NORMAL E027H VR 4 3 kHz
- 9) B DECK STOP E024H
- 10) DECK Synchro test OFF E041H

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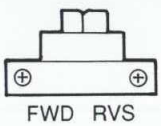
# TUBGLAETIA

FIG.	REGLAGE DE L'ENTREE	REGLAGE DE LA SORTIE	REGLAGE DE LA TETE D'ENREGISTREMENT/LECTURE	REGLAGE DU MAGNETOPHONE CASSETTE	POINTS DE REGULATION	ALIGNER POUR
Sans en cas d'indications spéciales, régler chaque commutateur comme suit Unless otherwise specified, set the respective switches as follows TAPE: NORMAL DOLBY: OFF						
<b>I Section magnétophone à cassette (réglage de la tête d'enregistrement/lecture)</b> I Cassette mechanism unit (Adjustment of the recording/reading head)						
(1)	Démagnétiser la tête d'enregistrement/lecture et nettoyer la tête d'effacement, le cabestan et le galet presseur. Demagnetize the recording head, erase head, cassette pinch roller using a cotton swab slightly dampened with alcohol.	Réglage de la tête d'enregistrement/lecture. Recording head, erase head, cassette pinch roller	Alimentation: Coupée Démagnétisation, nettoyage, PLAY Power: OFF Demagnetization, cleaning, PLAY	Tête d'enregistrement, tête d'effacement, cabestan, galet presseur	Régler la vitesse de bande pour obtenir 1610 Hz au centre de la bande. Regulate the tape speed to obtain 1610 Hz at the center of the tape.	<1>
(2)	Azimut de la tête d'enregistrement/lecture. Head azimuth adjustment.	 SCC-1727 TCC-153 MTT-114 FWD RVS	PLAY PLAY	 FWD RVS	Régler la sortie à la valeur maximale, puis agir sur la vis de réglage d'azimut de sorte que la forme de signal de la courbe de Lissajous sur l'oscilloscope soit proche d'une ligne droite à 45°.	<2>
<b>II REGLAGES DE LA PLAQUETTE A CIRCUITS IMPRIMES (Remarque: Commencer par régler les deux vitesses.)</b> II PC BOARD ADJUSTMENT (Note: Carry out the double speed adjustment in the first place.)						
(1)	VITESSE DE LA BANDE (GRANDE) Tape speed (High)	VR 1 (A) VR 2 (B) TCC-110	* TEST MODE TEST MODE TEST MODE	VR 1 (A) VR 2 (B)	Régler la vitesse de bande pour obtenir 1610 Hz au centre de la bande. Regulate the tape speed to obtain 1610 Hz at the center of the tape.	<1>
(2)	VITESSE DE LA BANDE (NORMALE) Tape speed (Normal)	VR 3 (A) VR 4 (B) SCC-1727 3kHz	* TEST MODE TEST MODE TEST MODE	VR 3 (A) VR 4 (B)	Régler la vitesse de bande pour obtenir 1610 Hz au centre de la bande. Regulate the tape speed to obtain 1610 Hz at the center of the tape.	<2>

- \* Short circuit PT (7) and turn the POWER ON FWD KEY: NORMAL SPEED FF KEY: HI SPEED  
 1. Court-circuiter PT (7) et mettre sous tension. Touche FWD: vitesse normale Touche FF: grande vitesse
2. Mode de test de synchronisation (KSJ-0816)
- |     |   |            |                 |       |  |
|-----|---|------------|-----------------|-------|--|
| 1)  | Entrer E040H → Test de synchronisation EN SERVICE | E010H      | A DECK FWD PLAY | E010H | Synchronisation test mode (KSJ-0816)           |
| 2)  | A DECK FWD PLAY                                   | E010H      | E010H           | E010H | 1) Enter E040H → Synchronisation test ON state |
| 3)  | A DECK HI SPEED                                   | VR 1 6 kHz | E018H           | E018H | 2) A DECK FWD PLAY                             |
| 4)  | A DECK NORMAL                                     | VR 3 3 kHz | E017H           | E017H | 3) A DECK HI SPEED                             |
| 5)  | A DECK STOP                                       | E014H      | E014H           | E014H | 4) A DECK NORMAL                               |
| 6)  | B DECK NORMAL                                     | E020H      | E020H           | E020H | 5) A DECK STOP                                 |
| 7)  | B DECK HI SPEED                                   | VR 2 6 kHz | E028H           | E028H | 6) B DECK NORMAL                               |
| 8)  | B DECK NORMAL                                     | VR 4 3 kHz | E027H           | E027H | 7) B DECK HI SPEED                             |
| 9)  | B DECK STOP                                       | E024H      | E024H           | E024H | 8) B DECK NORMAL                               |
| 10) | DECK Test de synchronisation HORS SERVICE         | E041H      | E041H           | E041H | 9) B DECK STOP                                 |
|     |   |            |                 |       | 10) DECK Synchro test OFF                      |



## ABGLEICH

Nr.	GEGENSTAND	EINGANGS-EINSTELLUNG	AUSGANGS-EINSTELLUNG	CASSETTENECK-EINSTELLUNG	ABGLEICH-PUNKTE	ABGLEICHEN FÜR	ABB.
<b>Wenn nicht anders angegeben, die entsprechenden Schalter folgendermaßen einstellen:</b> <b>TAPE: NORMAL DOLBY:OFF</b> <b>I Cassettenlaufwerk (Einstellung des REC/PLAY-Kopfes)</b>							
(1)	Entmagnetisierung und Reinigung	—	—	POWER: OFF Entmagnetisierung, Reinigung, PLAY	Aufnahme-kopf, Löschkopf, Tonwelle, Andruckrolle	Den REC/PLAY-Kopf mit einem Tonkopf-Entmagnetisierer entmagnetisieren. REC/PLAY-Kopf, Löschkopf, Tonwelle und Andruckrolle mit einem leicht mit Alkohol angefeuchteten Wattestäbchen reingen.	
(2)	Azimut des REC/PLAY-Kopfes	SCC-1727 TCC-153 MTT-114 10 kHz, -10 dB	—	PLAY	 FWD RVS	Den Ausgang auf den Maximalwert einstellen und die Azimut-Einstellschraube so justieren, daß die Lissajous-Figur des Oszilloskops annähernd eine Gerade von 45° wird.	
<b>II PLATINEN-EINSTELLUNG (Hinweis) Die Doppelgeschwindigkeits-Einstellung zuerst durchführen.</b>							
(1)	BANDGESCHWINDIGKEIT (SCHNELL)	TCC-110 MTT-111 SCC-1727 3 kHz	—	※ (1) TEST MODE (2) SYNCRO TEST MODE	VR 1 (A) VR 2 (B)	Die Bandgeschwindigkeit so einstellen, daß ein 6-kHz-Signal in Bandmitte erzeugt wird.	
(2)	BANDGESCHWINDIGKEIT (NORMAL)				VR 3 (A) VR 4 (B)	Die Bandgeschwindigkeit so einstellen, daß ein 3-kHz-Signal in Bandmitte erzeugt wird.	

※

- PT(7)  (10) Kurzschließen und die Stromversorgung einschalten.  
FWD-TASTE: NORMALE GESCHWINDIGKEIT FF-TASTE: HOHE GESCHWINDIGKEIT

- Synchronisations-Testmodus (KSJ-0816)
  - E040H eingeben → Synchronisations-Testzustand EIN
  - A DECK FWD PLAY E010H
  - A DECK HI SPEED E018H VR 1 6 kHz
  - A DECK NORMAL E017H VR 3 3 kHz
  - A DECK STOP E014H
  - B DECK NORMAL E020H
  - B DECK HI SPEED E028H VR 2 6 kHz
  - B DECK NORMAL E027H VR 4 3 kHz
  - B DECK STOP E024H
  - DECK E041H
  - Synchronisationstest AUS

H06	
H08	
H10	
H12	
H14	
H16	
H18	
H20	




# X-B5/B7/B9

## ADJUSTMENT

### PB LEVEL, REC LEVEL ADJUSTMENT

#### 1 In the case of automatic adjustment (Self adjustment)




● Lit (ON) ○ FLICKERING × OFF

STEPS OF PROCEDURE		LED INDICATION STATE									
1	Turn the Power OFF										
2	Enter TCC—130 in DECK A Enter SCC—2280 in DECK B										
3	After turning the power ON, enter E 050 H or short circuit TP  , and then turn the power ON. (The operation starts automatically.)										
4	DECK A playback level adjustment.		CCRS-HIGH	CCRS-NOR	AUTO-BIAS	X-FADE	DUBB-HIGH	DUBB-NOR	CRLS		
		(Adjustment under way)	●	●	○	○	×	×	×	×	●
		(Finished)	●	●	○	●	×	×	×	×	×
5	DECK B playback level adjustment.	(Adjustment under way)	●	●	○	●	○	×	×	×	×
		(Finished)	●	●	○	●	●	×	×	×	×
6	Recording level adjustment.	(Recording under way)	●	●	○	●	●	○	×	×	●
		(Adjustment under way)	●	●	○	●	●	○	×	×	×
		(Finished)	●	●	○	●	●	●	×	×	×
7	Recording bias adjustment.	(Recording under way)	●	●	○	●	●	●	○	×	●
		(Adjustment under way)	●	●	○	●	●	●	○	×	×
		(Finished)	●	●	●	●	●	●	●	×	×
8	The adjustment is finished when the 7 light emitting diodes (LED) of CCRS—HIGH←→CRLS are lit. (E080H is outputted at this time F090H is outputted when there is error.) The operation mode returns to normal when the power is turned OFF or when the PAUSE KEY is pushed.										

#### List of codes of the synchro test mode

- Deck synchro test code (E 0××H)
- Synchro test ON  
Synchro test ON code (40 H)
- Synchro test OFF  
Synchro test OFF code (41 H)

- DOLBY OFF (37 H) .....DOLBY is turned OFF.
- DOLBY B ON (38 H).....DOLBY B is turned ON.
- DOLBY C ON (39 H).....DOLBY C is turned ON.

- DIRECTION  (3 AH).....The operation is switched to the one-way mode.
- DIRECTION  (3 BH).....The operation is switched to the reverse mode.
- DIRECTION  (3 CH).....The operation is switched to the endless mode.

Normal operation is carried out in the following modes.

	A	B
FWD PLAY	10 H	20 H
PVS PLAY	11 H	21 H
FF	12 H	22 H
RWD	13 H	23 H
STOP	14 H	24 H
REC		25 H
PAUSE		26 H
FWD REC		2 CH
RVS REC		2 DH

CCRS	30 H
H.CCRS	31 H
X-FADE	32 H
A.BIAS	33 H
CRLS	34 H
NOR.DUB	35 H
HI.DUB	36 H



# ADJUSTMENT

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## 2 Manual adjustment

● Lit (ON) ○ FLICKERING × OFF

STEPS OF PROCEDURE		LED INDICATION STATE									
1	Turn the Power OFF										
2	After turning the power ON, enter E051H or short circuit TP <b>2</b> → <b>7</b> , and then turn the power ON.	CCRS-HIGH	CCRS-NOR	AUTO-BIAS	X-FADE	DUBB-HIGH	DUBB-NOR	CRLS		●	
		●	×	○	●	×	×	×	×	×	×
3	Enter TCC—130 in DECK A and PLAY.										
4	DECK A Lch LEVEL adjustment.										
	<div style="border: 1px solid black; padding: 5px; display: inline-block;">                     Same as in the case of P.B  <div style="display: flex; justify-content: space-around; width: 100px;"> <span style="border: 1px solid black; padding: 2px;">DUBB NOR</span> <span style="border: 1px solid black; padding: 2px;">CRLS</span> </div> <div style="display: flex; justify-content: space-around; width: 100px; font-size: small;"> <span>DOWN</span> <span>UP</span> </div> </div> Adjust the output level to -1 dBs by means of the UP/DOWN KEY. TCC-130 200 nwb/m - -1 dBs (690 mV) ----- 250 nwb/m - 0 dBs 160 nwb/m - -4 dBs										
	※When using 160 nwb/m or 250 nwb/m tape, adjust to -4 dB and 0 dB respectively.										
5	Push the <b>DUBB HIGH</b> KEY. Adjust the DECK A Rch LEVEL.	×	●	○	●	×	×	×	×	×	×
6	Push the <b>DUBB HIGH</b> KEY. Enter TCC—130 in DECK B, and PLAY. Adjust the B Lch LEVEL.	●	×	○	×	●	×	×	×	×	×
7	Push the <b>DUBB HIGH</b> KEY. Adjust the B, Rch LEVEL.	×	●	○	×	●	×	×	×	×	×
As the PLAY/REC select IC is on the PLAY side even during recording in the manual adjustment mode, the playback or recording monitor is output from the deck. Due to this, connect TP <b>11</b> and <b>9</b> of the AG output and input the recording. —REC Adjustment—											
8	Push the <b>DUBB HIGH</b> KEY (Lch REC LEVEL). Load the tape to be recorded in the DECK B (TDK AC-223). Connect AG (1 kHz) with TP <b>11</b> . Push the REC KEY to start the recording, and adjust AG for the output to become -10 dBs. Play the recorded tape back, and make sure that the 1 kHz output is -10 dBs.	●	×	○	×	×	●	×	×	×	×
	<div style="border: 1px solid black; padding: 5px; display: inline-block;">                     DUBB NOR    CRLS                      DOWN        UP                 </div> Adjust the output to -10 dBs by means of the UP/DOWN KEY. (Each stop corresponds to a change of approximately 0.2 dBs)	●	×	○	×	×	●	×	×	●	×
		●	×	○	×	×	●	×	×	×	
9	Push the <b>DUBB HIGH</b> KEY Rch REC LEVEL adjustment. Connect AG (1 kHz) with TP <b>9</b> . Push the REC KEY, and adjust AG to obtain -10 dBs. Play the recorded tape back, verify whether the output is -10 dBs, and make the required adjustments.	×	●	○	×	×	●	×	×	×	×
		×	●	○	×	×	●	×	×	×	

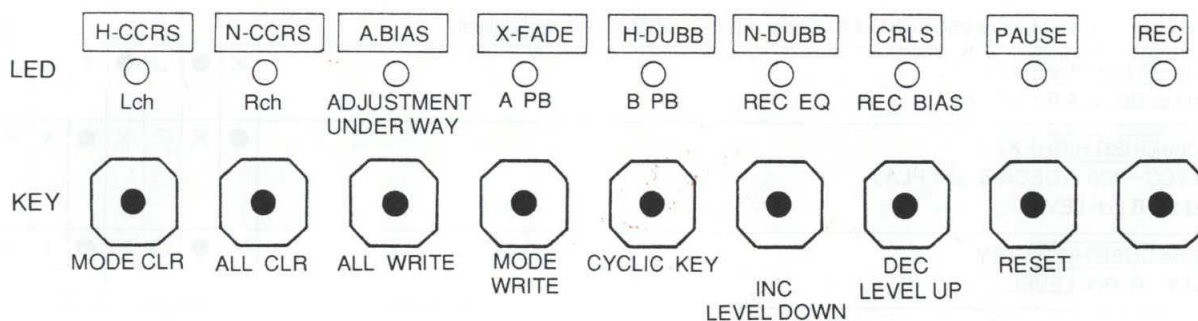
# X-B5/B7/B9

## ADJUSTMENT

● Lit (ON) ○ FLICKERING × OFF

	STEPS OF PROCEDURE	LED INDICATION STATE
10	Push the <b>DUBB HIGH</b> KEY. Lch BIAS adjustment.	● × ○ × × × ● × ×
	Connect AG (-10 dBs) with TP <b>11</b> and record 1 kHz/10 kHz alternately. Make the required adjustments with the UP/DOWN KEY for the playback outputs of 1 kHz/10 kHz to become the same.	● × ○ × × × ● × ●
11	Push the <b>DUBB HIGH</b> KEY. Rch recording BIAS adjustment.	× ● ○ × × × ● × ×
	Connect AG with TP <b>9</b> , record 1 kHz/10 kHz alternately, and carry out the required adjustment with the UP/DOWN KEY for the playback outputs to become the same.	× ● ○ × × × ● × ●
12	Push the <b>AUTO BIAS KEY</b> which is flickering, and send data to the EEPROM.	
13	Reset the adjustment mode by turning the power OFF or by means of the <b>PAUSE</b> key.	

### LAYOUT OF THE KEYS AND LED



### PRECAUTIONS FOR ADJUSTMENT

#### During manual adjustment mode

- The manual adjustment mode is necessarily started from the adjustment of the A Lch PB.
- All backup check data are reset.  
When resetting the manual adjustment mode, make sure of pushing the ALL WRITE key in the first place before resetting.  
If the Manual adjustment mode is reset before pushing the ALL WRITE key (before writing the backup check data), the operation starts from the initial state, by assuming that the backup has been destroyed, when the operation is started the next time from any mode other than adjustment.
- No key can be fetched during ALL WRITE or during WRITE by item. (Maximum about 500 ms).
- Operations in the deck by means of the other keys can be carried out as usual.
- There is no output of synchronization code for ordinary operation. (Because the synchronization code is used to display the adjustment value).
- Adjust the bias within the limits comprehended from 20 STEP to 50 STEP.  
In the manual adjustment mode the bias setting can be done with a variable value within the limits comprehended from 0 STEP to 63 STEP.  
In the AUTO BIAS adjustment mode, however, all values of the bias under 20 STEP are rounded up to 20 STEP, and all values over 50 STEP rounded down to 50 STEP when the main unit bias is called, because a limiter is provided as apart of the operations related to AUTO BIAS.



# X-B5/B7/B9 X-B5/B7/B9

RECORD/PLAYBACK AMPLIFIER UNIT (X28-2542-XX) (Component side view)

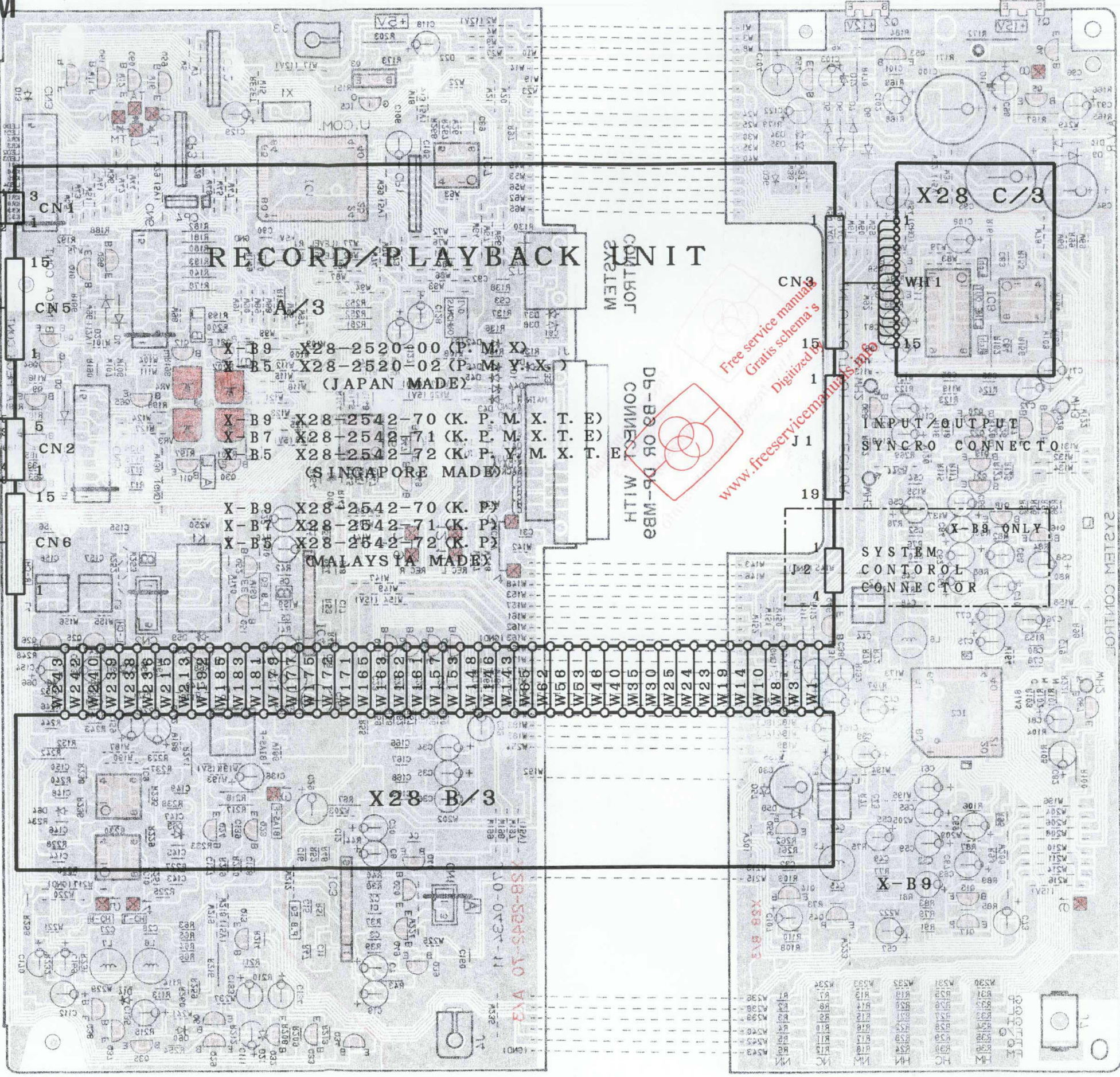
## WIRING DIAGRAM

**A MECHA**

X-B9	D40-1297-05 (P. M. X)
X-B5	D40-1301-05 (P. M. Y. X) (JAPAN MADE)
X-B9	D40-1299-05 (K. P. M. X. T. E)
X-B7	D40-1318-05 (K. P. M. X. T. E)
X-B5	D40-1303-05 (K. P. Y. M. X. T. E) (SINGAPORE MADE)
X-B9	D40-1299-05 (K. P.)
X-B7	D40-1318-05 (K. P.)
X-B5	D40-1303-05 (K. P.) (MALAYSIA MADE)

**B MECHA**

X-B9	D40-1298-05 (P. M. X)
X-B5	D40-1302-05 (P. M. Y. X) (JAPAN MADE)
X-B9	D40-1300-05 (K. P. M. X. T. E)
X-B7	D40-1319-05 (K. P. M. X. T. E)
X-B5	D40-1304-05 (K. P. Y. M. X. T. E) (SINGAPORE MADE)
X-B9	D40-1300-05 (K. P.)
X-B7	D40-1319-05 (K. P.)
X-B5	D40-1304-05 (K. P.) (MALAYSIA MADE)



RECORD/PLAYBACK CONTROL SYSTEM

DP-B9 OR DP-MB9 CONNECT WITH

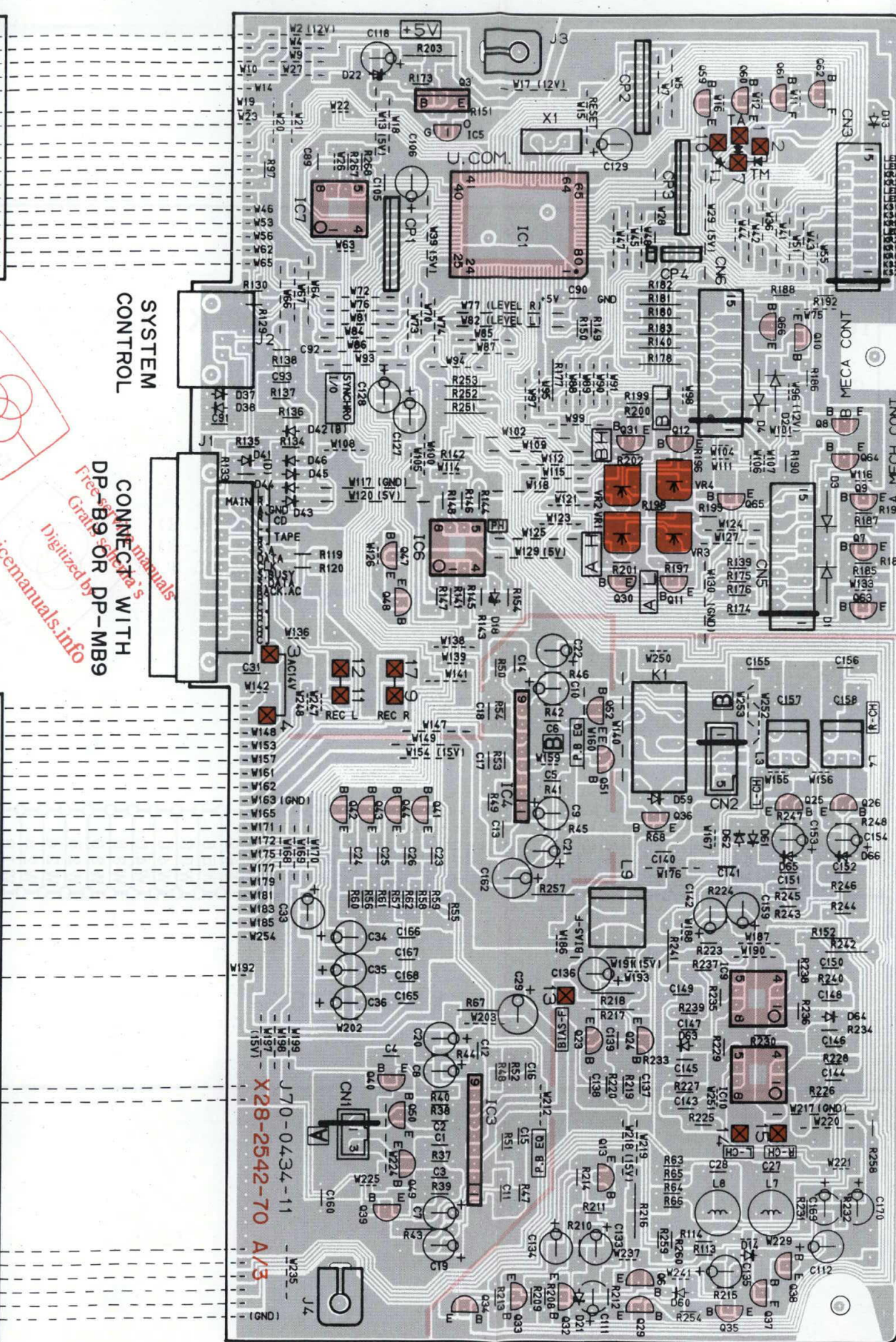
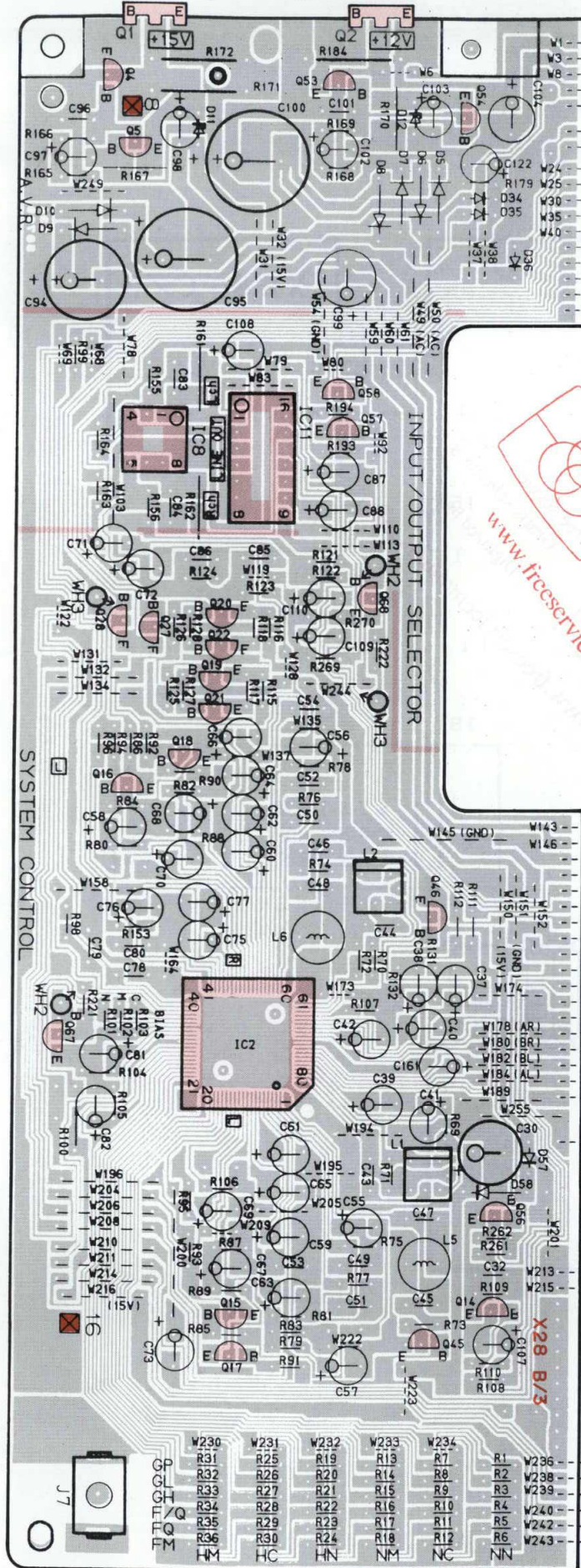
PC BOARD (Component side view)



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



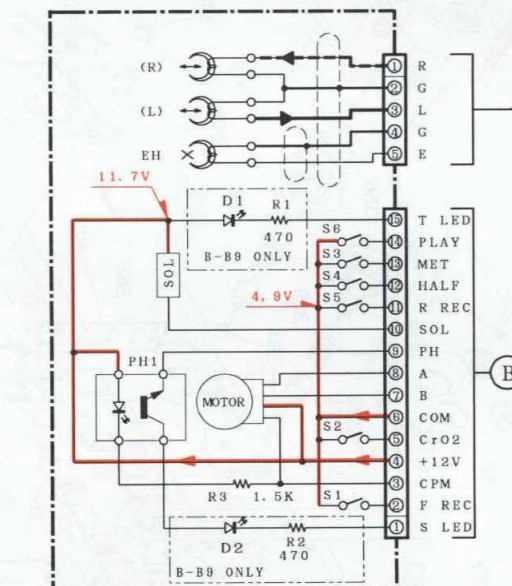
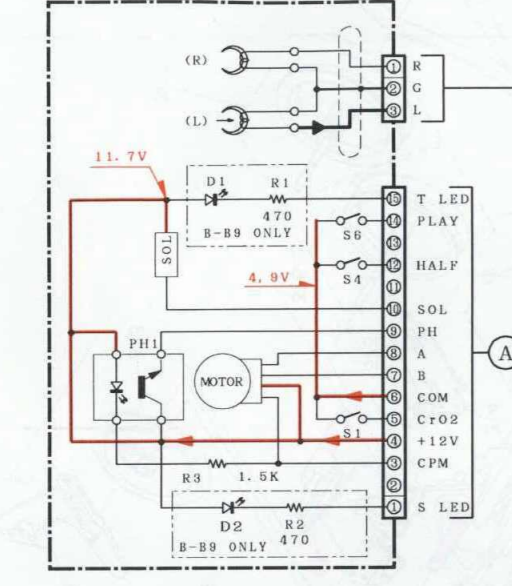
# PC BOARD (Component side view) RECORD/PLAYBACK AMPLIFIER UNIT (X28-2542-XX)





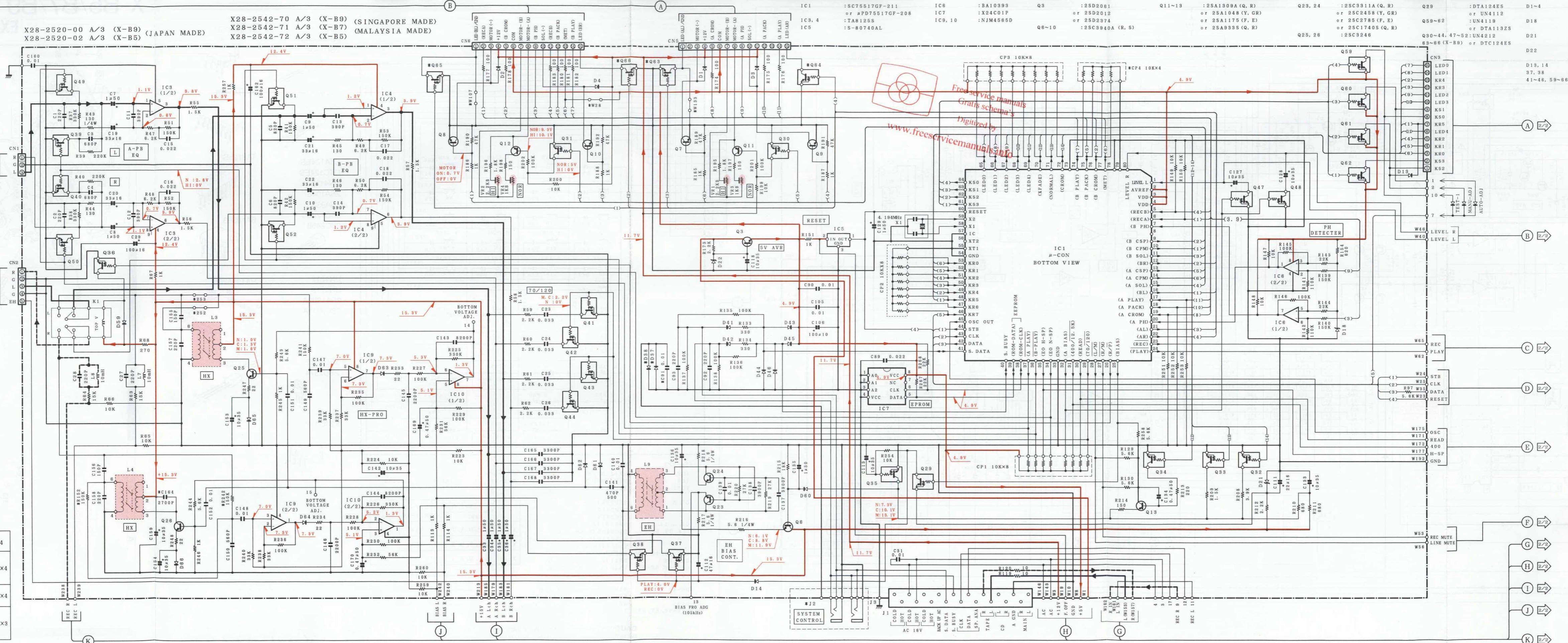
**A MECHA ASS'Y**  
 D40-1297-05 (X-B9) (JAPAN MADE)  
 D40-1301-05 (X-B5)

D40-1299-05 (X-B9) (SINGAPORE MADE)  
 D40-1318-05 (X-B7) (MALAYSIA MADE)  
 D40-1303-05 (X-B5)



**B MECHA ASS'Y**  
 D40-1298-05 (X-B9) (JAPAN MADE)  
 D40-1302-05 (X-B5) (SINGAPORE MADE)  
 D40-1300-05 (X-B9) (MALAYSIA MADE)  
 D40-1319-05 (X-B7)  
 D40-1304-05 (X-B5)

			Q83-66	J2 D87, 38 C91	W107 W193	W28	W259 R242	W252 R152	CP4	
X-B8	JAPAN MADE	P, M, X		YES	YES	NO	NO	YES	NO	10KX4
	SINGAPORE MADE	K, P, M, X, T, E	YES	YES	NO	NO	YES	NO	NO	10KX4
X-B7	SINGAPORE MADE	K, P, M, X, T, E	NO	NO	YES	NO	YES	NO	NO	10KX4
	MALAYSIA MADE	K, P	NO	NO	YES	NO	YES	NO	NO	10KX4
X-B5	JAPAN MADE	P, M, X		NO	NO	YES	YES	NO	YES	10KX3
	SINGAPORE MADE	K, P, Y, M, X, T, E	NO	NO	YES	YES	NO	YES	NO	10KX3
	MALAYSIA MADE	K, P								



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— SIGNAL LINE  
 — GND LINE  
 — +B LINE  
 - - - -B LINE

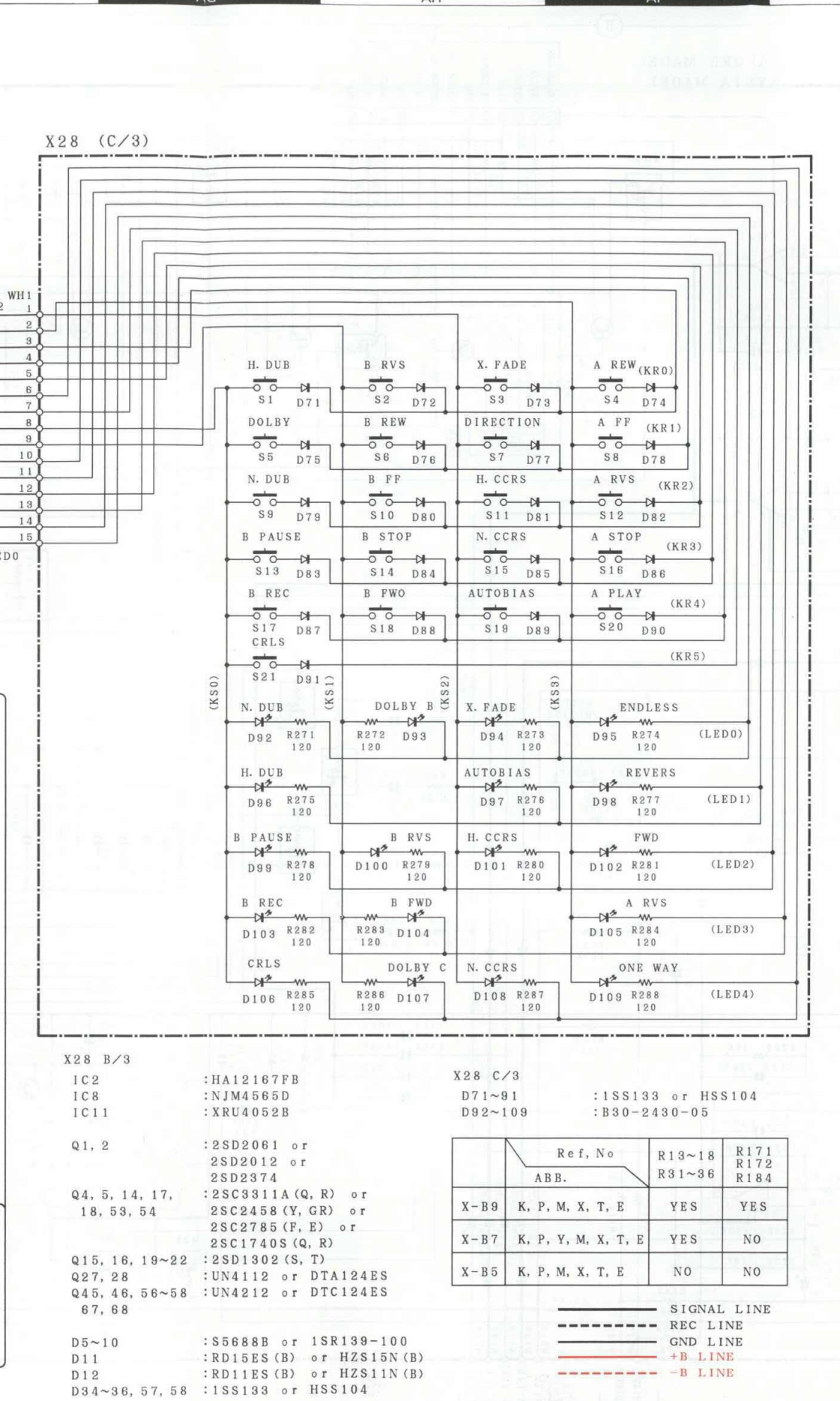
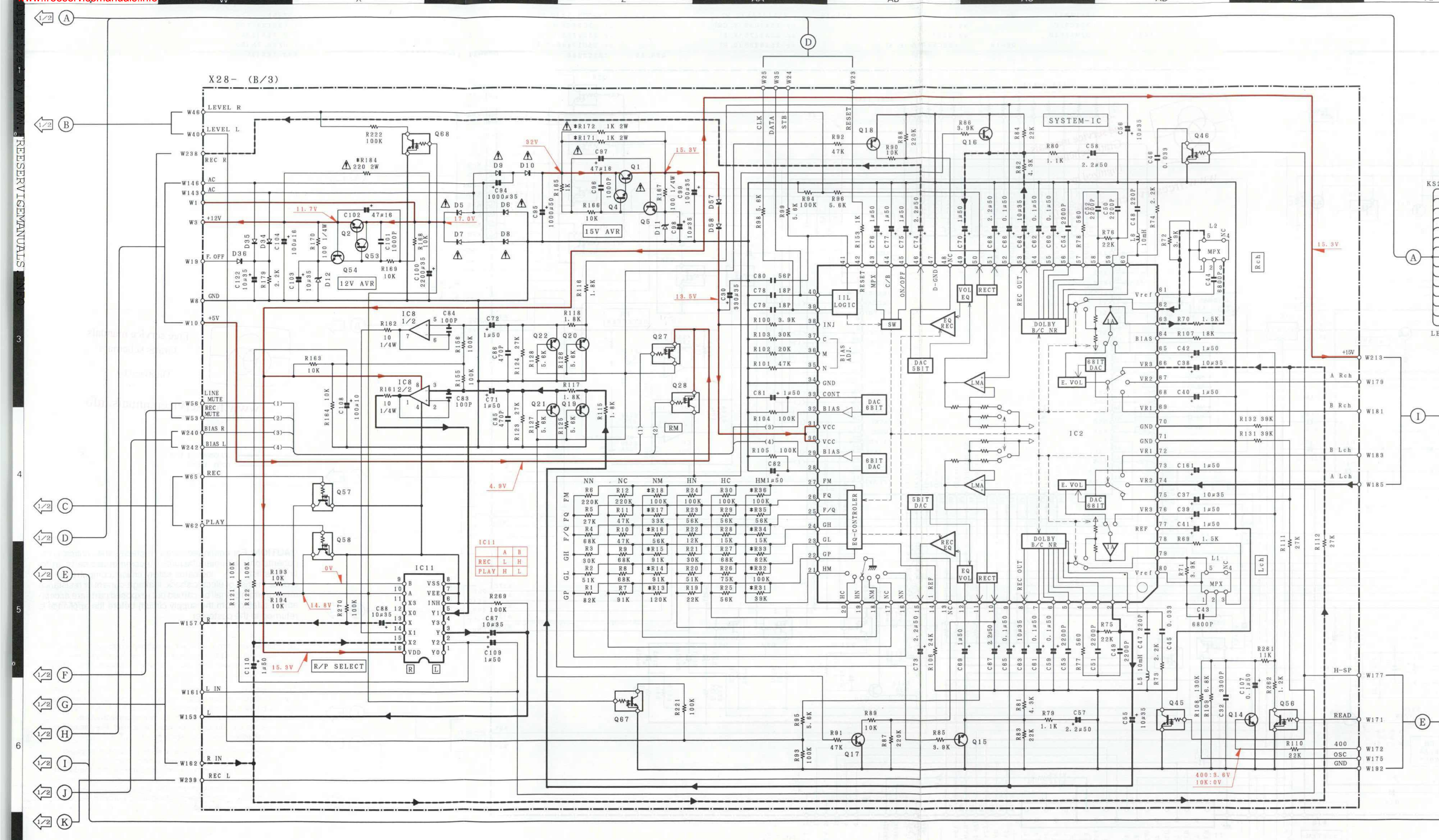
**CAUTION:** For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list). ⚠ indicates safety critical components. To reduce the risk of electric shock, leakage current or resistance measurements shall be carried out (exposed parts are acceptably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

DC voltages are as measured with a high impedance voltmeter with a cassette loaded at playback mode. Values may vary slightly due to variations between individual instruments or/and units. Bias circuit DC voltages are as measured while in the record mode.

Les tensions c.c. doivent être mesurées avec un voltmètre à haute impédance, une cassette étant insérée en mode de lecture. Les valeurs peuvent différer légèrement du fait des variations inhérentes aux appareils et aux instruments de mesure individuels. Les tensions c.c. du circuit de polarité doivent être mesurées, l'appareil étant en mode d'enregistrement.

Die angegebenen Gleichspannungswerte wurden bei eingesetzter Cassette in der Wiedergabe mit einem hochohmigen Spannungsmesser gemessen. Dabei schwanken die Meßwerte aufgrund von Unterschieden zwischen einzelnen Instrumenten oder Geräten u. U. geringfügig. Die angegebenen Gleichspannungswerte der Polarisierungsschaltung wurden in der Aufnahme-Betriebsart gemessen.





- 2SC3246
- 2SC3940A
- 2SD1302
- 2SA1175
- 2SC2785
- DTA124ES
- DTC124ES
- UN4112
- 2SA1048
- 2SA933S
- 2SC1740S
- 2SC2458
- UN4212
- UN4219
- 2SA1309A
- 2SC3311A
- 2SD2012
- 2SD2374
- X24C01P
- NJM4565D
- XRU4052B
- TA8125S
- BA10393
- HA12167FB
- S-80740AL

X28 B/3

IC2 : HA12167FB  
 IC8 : NJM4565D  
 IC11 : XRU4052B

X28 C/3

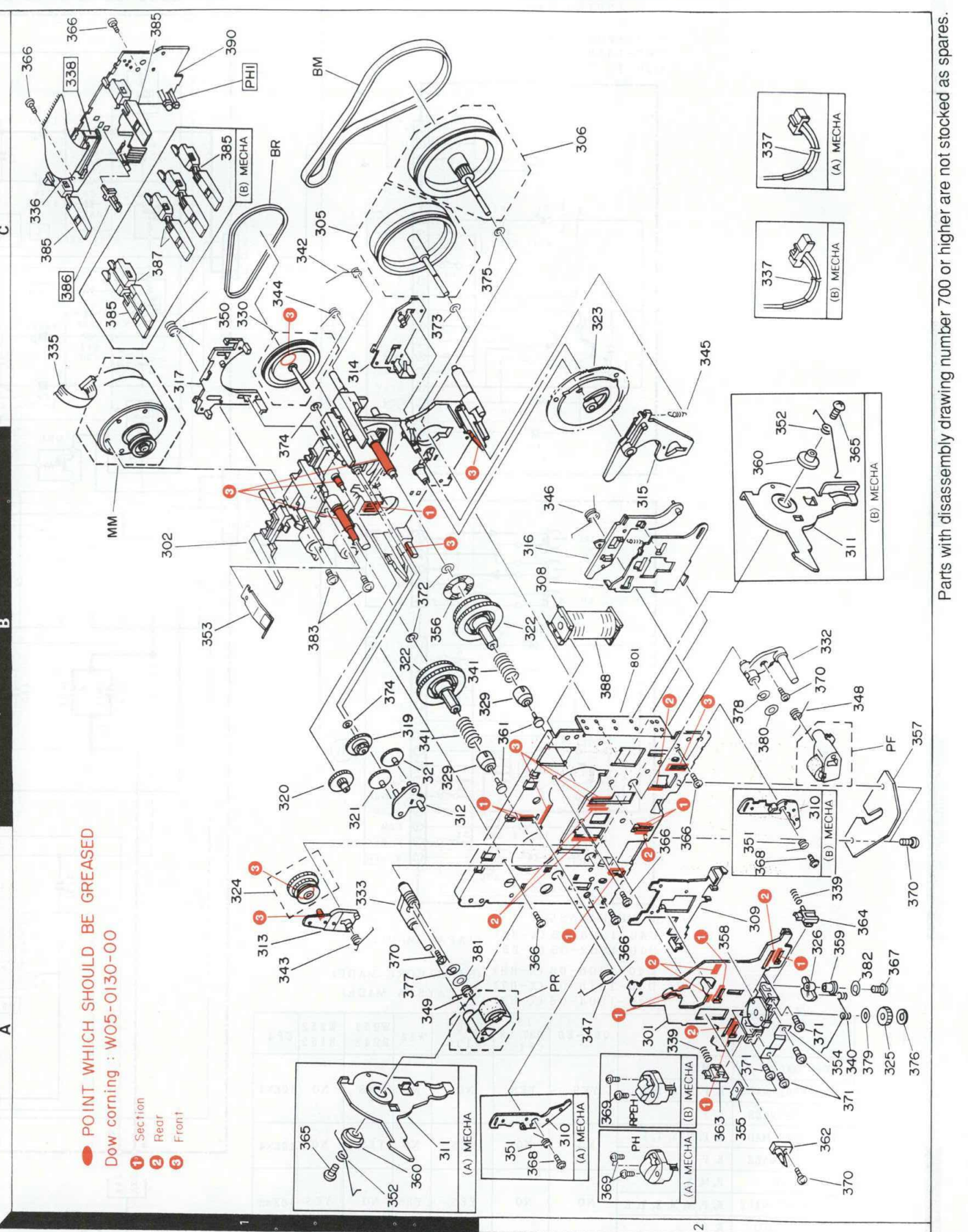
D71~91 : 1S5133 or HSS104  
 D92~109 : B30-2430-05

Ref. No	R13~18	R171
Q1, 2	2SD2061 or 2SD2012 or 2SD2374	R172 R184
Q4, 5, 14, 17, 18, 59, 54	2SC3311A (Q, R) or 2SC2458 (Y, GR) or 2SC2785 (F, E) or 2SC1740S (Q, R)	
Q15, 16, 18~22	2SD1302 (S, T)	
Q27, 28	UN4112 or DTA124ES	
Q45, 46, 56~58, 67, 68	UN4212 or DTC124ES	
D5~10	S5888B or 1SR139-100	
D11	RD15ES (B) or HZS15N (B)	
D12	RD11ES (B) or HZS11N (B)	
D34~36, 57, 58	1S5133 or HSS104	

Legend:  
 — SIGNAL LINE  
 - - - REC LINE  
 ····· GND LINE  
 +B LINE (Red)  
 -B LINE (Blue)

# X-B5/B7/B9

## EXPLODED VIEW (MECHANISM)



DC voltages are as measured with a high impedance voltmeter with a cassette loaded at playback mode. Values may vary slightly due to variations between individual instruments or/and units. Bias circuit DC voltages are as measured while in the record mode.

Les tensions c.c. doivent être mesurées avec un voltmètre à haute impédance, une cassette étant insérée en mode de lecture. Les valeurs peuvent différer légèrement du fait des variations inhérentes aux appareils et aux instruments de mesure individuels. Les tensions c.c. du circuit de polarité doivent être mesurées, l'appareil étant en mode d'enregistrement.

Die angegebenen Gleichspannungswerte wurden bei eingesetzter Cassette in der Wiedergabe mit einem hochohmigen Spannungsmesser gemessen. Dabei schwanken die Messwerte aufgrund von Unterschieden zwischen einzelnen Instrumenten oder Geräten u. U. geringfügig. Die angegebenen Gleichspannungswerte der Vormagnetisierungsschaltung wurden in der Aufnahme-Betriebsart gemessen.

**CAUTION:** For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list). ⚠ indicates safety critical components. 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.

2/2

# X-B5/B7/B9

## KENWOOD

Y26-3660-10

Parts with disassembly drawing number 700 or higher are not stocked as spares.





# X-B5/B7/B9

## PARTS LIST

### RECORD/PLAYBACK AMPLIFIER UNIT

Unit No.	Destination
X28-2542-72	X-B5, K, P, Y, M, X, T, E
X28-2542-71	X-B7, K, P, M, X, T, E
X28-2542-70	X-B9, K, P, M, X, T, E

### MECHANISM ASSY

Unit No.	Destination
D40-1303-05	A DECK: X-B5, K, P, Y, M, X, T, E
D40-1318-05	A DECK: X-B7, K, P, M, X, T, E
D40-1299-05	A DECK: X-B9, K, P, M, X, T, E
D40-1304-05	B DECK: X-B5, K, P, Y, M, X, T, E
D40-1319-05	B DECK: X-B7, K, P, M, X, T, E
D40-1300-05	B DECK: X-B9, K, P, M, X, T, E



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

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

No. 2

Ref. No. 参照番号	Address 位置	New Parts 新部品	Parts No. 部品番号	Description 部品名 / 規格	Desti- nation 向備考
C	1F		N89-3008-46	BINDING HEAD TAPTITE SCREW	
<b>X-B7</b>					
601	1D	*	A01-2958-01	METALLIC CABINET	A
605	2D	*	A53-1428-03	CASSETTE LID ASSY	A
606	2D	*	A53-1430-03	CASSETTE LID ASSY	B
607	2D	*	A53-1440-03	CASSETTE HOLDER ASSY	A
608	2E	*	A53-1442-03	CASSETTE HOLDER ASSY	B
609	1E	*	B07-1720-04	ESCUTCHEON	A
610	2D	*	B10-1987-03	FRONT GLASS	B
611	2D	*	B10-1988-03	FRONT GLASS	B
613	1E	*	B19-1523-04	LIGHTING BOARD	S
614	1E	*	B19-1524-04	LIGHTING BOARD	S
-	-		B46-0122-23	WARRANTY CARD	E
-	-		B46-0143-13	WARRANTY CARD	T
620	1E		D39-0176-05	DAMPER	
623	2D	*	G01-3615-04	TORSION COIL SPRING	B
624	2E	*	G01-3616-04	TORSION COIL SPRING	A
627	2D, 2E	*	G02-1001-24	FLAT SPRING	
628	2E	*	G11-2052-14	CUSHION FOOT	
-	-		H50-0682-04	ITEM CARTON CASE	KPX
-	-		H50-0683-04	ITEM CARTON CASE	M
-	-		H50-0749-04	ITEM CARTON CASE	S
-	-		H50-0803-04	ITEM CARTON CASE	W
-	-		H10-5520-02	POLYSTYRENE FOAMED FIXTURE L	S
-	-		H10-5521-02	POLYSTYRENE FOAMED FIXTURE R	S
-	-		H10-5599-02	POLYSTYRENE FOAMED FIXTURE L	S
-	-		H10-5600-02	POLYSTYRENE FOAMED FIXTURE R	S
-	-		H20-0574-04	PROTECTION COVER	W
-	-		H25-0681-04	PROTECTION BAG	W
-	-		H25-0681-04	PROTECTION BAG	W
631	2F		J02-0370-05	FOOT REAR	KPXTE
635	1D	*	K29-5723-03	KNOB FW RVS STOP	A
636	2D	*	K29-5724-03	KNOB FW RVS STOP	B
637	1D	*	K29-5731-12	KNOB DECK CONTROL	
638	1F	*	K29-5726-04	KNOB EJECT	
A	1E, 1F		N89-2608-46	BINDING HEAD TAPTITE SCREW	
B	1D, 1F		N89-3008-45	BINDING HEAD TAPTITE SCREW	
C	1F		N89-3008-46	BINDING HEAD TAPTITE SCREW	
<b>X-B9</b>					
601	1D		A01-2937-01	METALLIC CABINET	J
602	2E	*	A60-0458-13	PANEL ASSY	S
603	2D	*	A21-1846-03	DRESSING PANEL	A
604	2D	*	A21-1845-03	DRESSING PANEL	B
605	2D	*	A53-1409-13	CASSETTE LID ASSY	A
606	2D	*	A53-1411-13	CASSETTE LID ASSY	A
607	2D	*	A53-1413-03	CASSETTE HOLDER ASSY	B
607	2D	*	A53-1413-03	CASSETTE HOLDER ASSY	J
607	2D	*	A53-1440-03	CASSETTE HOLDER ASSY	B
608	2E	*	A53-1415-03	CASSETTE HOLDER ASSY	J
608	2E	*	A53-1442-03	CASSETTE HOLDER ASSY	B

L:Scandinavia  
Y:PX(Far East, Hawaii)  
Y:AFES(Europe)

K:USA  
T:England  
X:Australia

P:Canada  
E:Europe  
M:Other Areas

9: X-B9  
J: JAPAN MADE  
S: SINGAPORE MADE  
W: MALAYSIA MADE

⚠ indicates safety critical components

No. 1

Ref. No. 参照番号	Address 位置	New Parts 新部品	Parts No. 部品番号	Description 部品名 / 規格	Desti- nation 向備考
<b>X-B5</b>					
601	1D		A01-2937-01	METALLIC CABINET	J
601	1D		A01-2958-01	METALLIC CABINET	S
602	2E	*	A60-0473-03	PANEL ASSY	A
605	2D	*	A53-1417-03	CASSETTE LID ASSY	AJ
605	2D	*	A53-1421-03	CASSETTE LID ASSY	AJ
606	2D	*	A53-1419-03	CASSETTE LID ASSY	BS
606	2D	*	A53-1423-03	CASSETTE LID ASSY	BJ
607	2D	*	A53-1413-03	CASSETTE HOLDER ASSY	AJ
607	2D	*	A53-1440-03	CASSETTE HOLDER ASSY	AS
608	2E	*	A53-1415-03	CASSETTE HOLDER ASSY	BJ
608	2E	*	A53-1442-03	CASSETTE HOLDER ASSY	BS
609	1E		B07-1720-04	ESCUTCHEON	
610	2D	*	B10-1987-03	FRONT GLASS	AS
610	2D	*	B10-1990-03	FRONT GLASS	AJ
611	2D	*	B10-1988-03	FRONT GLASS	BS
611	2D	*	B10-1991-03	FRONT GLASS	BJ
613	1E	*	B19-1523-04	LIGHTING BOARD	S
614	1E	*	B19-1524-04	LIGHTING BOARD	S
-	-		B46-0122-23	WARRANTY CARD	E
-	-		B46-0143-13	WARRANTY CARD	T
620	1E		D39-0176-05	DAMPER	
623	2D	*	G01-3615-04	TORSION COIL SPRING	B
624	2E	*	G01-3616-04	TORSION COIL SPRING	A
627	2D, 2E	*	G02-1001-24	FLAT SPRING	J
627	2D, 2E	*	G02-1001-24	FLAT SPRING	S
628	2E	*	G11-2052-14	CUSHION FOOT	
-	-		H50-0670-04	ITEM CARTON CASE	KPYX
-	-		H50-0671-04	ITEM CARTON CASE	M
-	-		H50-0672-04	ITEM CARTON CASE	PYMX
-	-		H50-0747-04	ITEM CARTON CASE	TE
-	-		H50-0801-04	ITEM CARTON CASE	KP
-	-		H10-5514-02	POLYSTYRENE FOAMED FIXTURE L	J
-	-		H10-5515-02	POLYSTYRENE FOAMED FIXTURE R	J
-	-		H10-5520-02	POLYSTYRENE FOAMED FIXTURE L	S
-	-		H10-5521-02	POLYSTYRENE FOAMED FIXTURE R	S
-	-		H10-5599-02	POLYSTYRENE FOAMED FIXTURE L	W
-	-		H10-5600-02	POLYSTYRENE FOAMED FIXTURE R	W
-	-		H20-0574-04	PROTECTION COVER	M
-	-		H20-0574-04	PROTECTION COVER	YM
-	-		H25-0681-04	PROTECTION BAG	PYX
-	-		H25-0681-04	PROTECTION BAG	KP
-	-		H25-0681-04	PROTECTION BAG	KPXTE
631	2F		J02-0370-05	FOOT REAR	
635	1D	*	K29-5723-03	KNOB FW RVS STOP	A
636	2D	*	K29-5724-03	KNOB FW RVS STOP	B
637	1D	*	K29-5725-12	KNOB DECK CONTROL	J
637	1D	*	K29-5731-12	KNOB DECK CONTROL	B
638	1F	*	K29-5726-04	KNOB EJECT	S
A	1E, 1F		N89-2608-46	BINDING HEAD TAPTITE SCREW	
B	1D, 1F		N89-3008-45	BINDING HEAD TAPTITE SCREW	

L:Scandinavia  
Y:PX(Far East, Hawaii)  
Y:AFES(Europe)

K:USA  
T:England  
X:Australia

P:Canada  
E:Europe  
M:Other Areas

9: X-B9  
J: JAPAN MADE  
S: SINGAPORE MADE  
W: MALAYSIA MADE

⚠ indicates safety critical components

PARTS LIST



# PARTS LIST

No. 4

Ref. No. 参照番号	Address 位置	Address 位置	Parts No. 部品番号	Description 部品名 / 規格	Desti- nation 向備考
C27, 28			CC45FSL1H221J	CERAMIC	S
C29			CE04KW1C101M	ELECTRØ	S
C30			CE04KW1C101M	ELECTRØ	S
C30			CE04KW1V331M	ELECTRØ	S
C31			CK45FF1H103Z	CERAMIC	S
C32			CK45FBIH332K	CERAMIC	S
C33			CE04KW1H010M	ELECTRØ	S
C33			CE04LW1H010M	ELECTRØ	S
C37, 38			CE04LW1V100M	ELECTRØ	S
C39			CE04KW1H010M	ELECTRØ	S
C43			CK45FBIH682K	CERAMIC	S
C45, 46			CK45FF1H333Z	CERAMIC	S
C47, 48			CC45FSL1H221J	CERAMIC	S
C49			CQ92FM1H222J	MYLAR	S
C55			CE04KW1V100M	ELECTRØ	S
C55			CE04LW1V100M	ELECTRØ	S
C57, 58			CE04KW1H2R2M	ELECTRØ	S
C59			CE04LW1H2R2M	ELECTRØ	S
C63			CE04KW1H010M	ELECTRØ	S
C63			CE04LW1H010M	ELECTRØ	S
C65, 66			CE04KW1H0R1M	ELECTRØ	S
C67, 68			CE04LW1H2R2M	ELECTRØ	S
C69			CE04KW1H010M	ELECTRØ	S
C69			CE04LW1H010M	ELECTRØ	S
C73, 74			CE04KW1H2R2M	ELECTRØ	S
C75, 77			CE04LW1H2R2M	ELECTRØ	S
C75			CE04KW1H010M	ELECTRØ	S
C78, 79			CC45FSL1H180J	CERAMIC	S
C80			CC45FSL1H560J	CERAMIC	S
C81, 82			CE04KW1H010M	ELECTRØ	S
C81, 82			CE04LW1H010M	ELECTRØ	S
C83, 84			CC45FSL1H101J	CERAMIC	S
C85, 86			CK45FBIH471K	CERAMIC	S
C87, 88			CE04KW1V100M	ELECTRØ	S
C89			CE04LW1V100M	ELECTRØ	S
C89			CK45FF1H223Z	CERAMIC	S
C92, 93			CC45FSL1H221J	CERAMIC	S
C94			CE04KW1V102M	ELECTRØ	S
C95			CE04LW1V102M	ELECTRØ	S
C95			CE04KW1H102M	ELECTRØ	S
C96			CK45FBIH102K	CERAMIC	S
C97			CE04KW1C470M	ELECTRØ	S
C97			CE04LW1C470M	ELECTRØ	S
C98			CE04KW1V100M	ELECTRØ	S
C98			CE04LW1V100M	ELECTRØ	S

9: X-B9  
J: JAPAN MADE  
S: SINGAPORE MADE  
W: MALAYSIA MADE

A: A DECK  
B: B DECK  
5: X-B5  
7: X-B7

▲ indicates safety critical components.

No. 3

Ref. No. 参照番号	Address 位置	Address 位置	Parts No. 部品番号	Description 部品名 / 規格	Desti- nation 向備考
609	1E		B07-1720-04	ESCUITCHEON	A
610	2D		B10-1966-03	FRONT GLASS	B
611	2D		B10-1967-03	FRONT GLASS	B
613	1E		B19-1523-04	LIGHTING BOARD	
614	1E		B19-1524-04	LIGHTING BOARD	
616	2D		B43-0297-04	BADGE	E
			B46-0122-23	WARRANTY CARD	T
			B46-0143-13	WARRANTY CARD	
620	1E		D39-0176-05	DAMPER	
623	2D		G01-3615-14	TORSION COIL SPRING	B
624	2E		G01-3616-14	TORSION COIL SPRING	A
627	2D, 2E		G02-0944-04	FLAT SPRING	J
627	2D, 2E		G02-1001-24	FLAT SPRING	S
628	2E		G11-2052-14	CUSHION	
			H50-0664-04	ITEM CARTON CASE	PMX
			H50-0675-04	ITEM CARTON CASE	KPX
			H50-0676-04	ITEM CARTON CASE	M
			H50-0748-04	ITEM CARTON CASE	TE
			H50-0802-04	ITEM CARTON CASE	KP
			H10-5514-02	POLYSTYRENE FOAMED FIXTURE L	J
			H10-5515-02	POLYSTYRENE FOAMED FIXTURE R	J
			H10-5520-02	POLYSTYRENE FOAMED FIXTURE L	S
			H10-5521-02	POLYSTYRENE FOAMED FIXTURE R	S
			H10-5599-02	POLYSTYRENE FOAMED FIXTURE L	W
			H10-5600-02	POLYSTYRENE FOAMED FIXTURE R	W
			H20-0574-04	PROTECTION COVER	M
			H25-0659-04	PROTECTION BAG (0397 PRINTED)	T
			H25-0681-04	PROTECTION BAG	PX
			H25-0681-04	PROTECTION BAG	KPXET
			H25-0681-04	PROTECTION BAG	KP
631	2F		J02-0370-05	FØØT	
632	2E		J02-1095-04	FØØT	
635	1D		K29-5723-03	KNØB FW RVS STØP	A
636	2D		K29-5724-03	KNØB FW RVS STØP	B
637	1D		K29-5725-12	KNØB DECK CONTROL	J
637	1D		K29-5731-12	KNØB DECK CONTROL	S
638	1F		K29-5726-04	KNØB EJECT	
A	1E, 1F		N82-2608-46	BINDIG HEAD TAPTLITE SCREW	
B	1D, 1F		N89-3008-45	BINDING HEAD TAPTLITE SCREW	
C	1F		N89-3008-46	BINDING HEAD TAPTLITE SCREW	
<b>RECORD/PLAYBACK AMPLIFIER UNIT (X28-2542-XX)</b>					
D92 -109			B30-2430-05	LED (SEL6210S)	
C1, 2			CC45FSL1H221J	CERAMIC	J
C3, 4			CK45FBIH681K	CERAMIC	K
C5, 6			CK45FBIH821K	CERAMIC	K
C7			CE04KW1H010M	ELECTRØ	S
C7 -10			CE04LW1H010M	ELECTRØ	S
C11 -14			CK45FBIH391K	CERAMIC	K
C15 -18			CQ92FM1H223J	MYLAR	K
C19 -22			CE04KW1C330M	ELECTRØ	16HV
C19 -22			CE04LW1C330M	ELECTRØ	16HV
C23 -26			CF92FV1H333J	MF	J

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# X-B5/B7/B9

## PARTS LIST

No. 8

No. 7

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Ref. No. 参照番号	Address 位置	New Parts 部品番号	Parts No. 部品番号	Description 部品名 / 規格	Desti- nation 向備考
Q59 -62			DTA113ZS	DIGITAL TRANSISTOR	
Q59 -62			UN4119	DIGITAL TRANSISTOR	9
Q63 -68			DTC124ES	DIGITAL TRANSISTOR	5
Q63 -68			UN4212	DIGITAL TRANSISTOR	5
Q67 ,68			DTC124ES	DIGITAL TRANSISTOR	5
Q67 ,68			UN4212	DIGITAL TRANSISTOR	5
<b>MECHANISM ASSY (D40-1XXX-XX)</b>					
301	2A		A10-2999-08	HEAD CHASSIS CALKED ASSY	
302	1B		A11-0754-08	BASE CHASSIS ASSY	B
305	1C		001-0138-08	FLYHHEEL ASSY LEFT	A
306	2C		001-0139-08	FLYHHEEL ASSY RIGHT	A
308	2B		D10-3210-08	SHIFT LEVER	B
309	2A		D10-3211-08	PLAY SHIFT LEVER	
310	2B		D10-3212-08	INTER LOCK LEVER	RIGHT
310	2A		D10-3220-08	INTER LOCK LEVER	LEFT
311	1A		D10-3304-08	EJECT LEVER	LEFT
311	2B		D10-3305-08	EJECT LEVER	RIGHT
312	1B		D10-3214-08	FR ARM	
313	1A		D10-3215-08	PLAY ARM	
314	1C		D10-3216-08	SHIFT SELECT LEVER	
315	2B		D10-3217-08	TRIGGER ARM	
316	2B		D10-3218-08	SELECT ARM	
317	1C		D10-3219-08	BRAKE ARM	
319	1B		D13-0965-08	CLUTCH GEAR	
320	1B		D13-0966-08	REW GEAR	
321	1B		D13-0967-08	FR GEAR	
322	1B, 2B		D13-0968-08	REEL GEAR	
323	2C		D13-0970-08	PLAY CAM GEAR	
324	1A		D13-0974-08	PLAY GEAR ASSY	
325	2A		D13-0981-08	ROTATION GEAR	
326	2A		D13-0982-08	RETURN GEAR	
329	1B		D19-0270-18	REEL CAP	
330	1C		D19-0273-08	CLUTCH PULLEY ASSY	RIGHT
332	2B		D23-0277-08	HOUSING ASSY	LEFT
333	1A		D23-0270-08	HOUSING ASSY	
335	1C		E35-0264-08	MOTOR WIRE	15P
336	1C		E35-0267-08	FLAT WIRE	
336	1C	*	E35-0753-08	FLAT WIRE	15P
337	2C		E35-0515-08	HEAD WIRE	5P
338	2C	*	E35-0752-08	HEAD WIRE	3P
339	1C		E40-4244-05	PIN CONNECTOR	
340	2A		G01-3500-08	TAPE GUIDE SPRING	
340	2A		G01-3428-08	RETURN GEAR SPRING	
341	1B		G01-3429-08	REEL SPRING	
342	1C		G01-3431-08	CLUTCH ARM SPRING	
343	1A		G01-3432-08	PLAY ARM SPRING	
344	1C		G01-3433-08	SHIFT SELECT LEVER SPRING	
345	2C		G01-3434-08	TRIGGER ARM SPRING	
346	2B		G01-3435-08	SHIFT LEVER SPRING	
347	2A		G01-3436-08	HEAD CHASSIS SPRING	
348	2B		G01-3437-08	PINCH ROLLER ARM SPRING	RIGHT
349	1A		G01-3438-08	PINCH ROLLER ARM SPRING	LEFT
350	1C		G01-3439-08	BRAKE ARM SPRING	
351	2A		G01-3440-08	INTER LOCK LEVER SPRING	RIGHT

Ref. No. 参照番号	Address 位置	New Parts 部品番号	Parts No. 部品番号	Description 部品名 / 規格	Desti- nation 向備考
D57 -60			HSS104	D10DE	S
D57 -60			SS133	D10DE	S
D57 -66			HSS104	D10DE	7,9
D57 -66			SS133	D10DE	7,9
D65 ,66			HSS104	D10DE	5
D65 ,66			SS133	D10DE	5
D71 -91			HSS104	D10DE	
D71 -91			SS133	D10DE	
IC1	*		SC755176F-211	IC	
IC1	*		UP755176F-208	IC	
IC2	*		HA12167FB	IC(DOUBLY B/C, REC EO)	
IC3 ,4			TA8125S	IC(2CH PRE AMP)	
IC6			S-90740AL	IC(VOLTAG DETECTOR)	
IC6			BA10393	IC(DUAL COMPALATOR)	
IC7			XZ4C01P	IC(128X8BIT SERIAL EEPROM)	
IC8 -10			NJM4565D	IC(OP AMP X2)	
IC11			XRU4052B	IC(MULTIPLIER/DEMULTIPLIER)	
Q1 -3			2S0201Z	TRANSISTOR	S
Q1 -3			2S02374	TRANSISTOR	S
Q4 ,5			25C1740S(Q,R)	TRANSISTOR	S
Q4 ,5			25C2458(Y,GR)	TRANSISTOR	S
Q4 ,5			25C2785(F,E)	TRANSISTOR	S
Q4 ,5			25C3311A(Q,R)	TRANSISTOR	S
Q6 -10			25C3940A(R,S)	TRANSISTOR	S
Q11 -13			25A1048(Y,GR)	TRANSISTOR	S
Q11 -13			25A1175(F,E)	TRANSISTOR	S
Q11 -13			25A1309A(Q,R)	TRANSISTOR	S
Q14			25A933S(Q,R)	TRANSISTOR	S
Q14			25C1740S(Q,R)	TRANSISTOR	S
Q14			25C2458(Y,GR)	TRANSISTOR	S
Q14			25C2785(F,E)	TRANSISTOR	S
Q14			25C3311A(Q,R)	TRANSISTOR	S
Q15 ,16			25D1302(S,T)	TRANSISTOR	S
Q17 ,18			25C1740S(Q,R)	TRANSISTOR	S
Q17 ,18			25C2458(Y,GR)	TRANSISTOR	S
Q17 ,18			25C2785(F,E)	TRANSISTOR	S
Q17 ,18			25C3311A(Q,R)	TRANSISTOR	S
Q19 -22			25D1302(S,T)	TRANSISTOR	S
Q23 ,24			25C1740S(Q,R)	TRANSISTOR	S
Q23 ,24			25C2458(Y,GR)	TRANSISTOR	S
Q23 ,24			25C2785(F,E)	TRANSISTOR	S
Q23 ,24			25C3311A(Q,R)	TRANSISTOR	S
Q25 ,26			25C3246	TRANSISTOR	S
Q27 -29			DTA124ES	DIGITAL TRANSISTOR	S
Q27 -29			UN4112	DIGITAL TRANSISTOR	S
Q30 -52			DTC124ES	DIGITAL TRANSISTOR	S
Q30 -52			UN4212	DIGITAL TRANSISTOR	S
Q35			DTC1132S	DIGITAL TRANSISTOR	S
Q35			UN4219	DIGITAL TRANSISTOR	S
Q53 ,54			25C1740S(Q,R)	TRANSISTOR	S
Q53 ,54			25C2458(Y,GR)	TRANSISTOR	S
Q53 ,54			25C2785(F,E)	TRANSISTOR	S
Q53 ,54			25C3311A(Q,R)	TRANSISTOR	S
Q56 -58			DTC124ES	DIGITAL TRANSISTOR	S
Q56 -58			UN4212	DIGITAL TRANSISTOR	S

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L: Scandinavia  
Y: PX(Far East, Hawaii)  
Y: AFES(Europe)

K: USA  
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P: Canada  
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# PARTS LIST

No.9

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Ref. No. 参照番号	Address 位置	New Parts 新	Parts No. 部品番号	Description 部品名 / 规格	Desti- nation 任	Re- marks 備考
351	2A		G01-3441-08	INTER LOCK LEVER SPRING		A
352	1A		G01-3499-08	EJECT LEVER SPRING		A
353	2B, 2C		G01-3501-08	EJECT LEVER SPRING		B
354	1B		G02-0913-08	EJECT LEVER SPRING		
354	2A		G02-0994-08	PACK LOCK FLAT SPRING		
355	2A		G11-2117-08	AZIMUTH SPRING		
356	2A		G16-0780-08	HEAD WIRE CLAMPER		
357	1B		G16-0786-08	REFLECT SEAL		
358	2B		J21-5918-08	INSULATING SHEET		
359	2A		J31-0850-08	HEAD PLATE ASSY		
360	2A		J31-0852-08	RETURN GEAR COLLAR		
361	1A, 2B		J31-0852-08	EJECT LEVER COLLAR		
362	2B		J42-0183-08	REEL CAP BUSHING		
363	2A		J90-0680-08	CASSETTE GIDE		
364	2A		J90-0692-08	TAPE GUIDE		LEFT
364	2A		J90-0693-08	TAPE GUIDE		RIGHT
365	1A, 2B		N09-2952-08	BINDING HEAD TAP TITE		M2.6X8
366	2A, 1C		N09-1809-08	TAPPING SCREW		M2X6
367	2A	*	N09-3039-08	TAPPING SCREW		M1.7X8
368	2A		N09-2953-08	WASHER HEAD SCREW		M2X10
369	2A		N09-2876-08	HEAD SCREW		
370	1A, 2B		N09-1496-08	TAP TITE SCREW		M2X4
371	2A		N09-2951-08	AZIMUTH SCREW		
372	1B		N19-1224-08	FLAT WASHER		/4.1X6.5X0.25
373	1C		N19-1225-08	FLAT WASHER		/2.1X4.0X0.25
374	1B		N19-1285-08	FLAT WASHER		/1.6X3.0X0.13
375	1C		N19-1286-08	FLAT WASHER		/2.3X4.0X0.25
376	2A		N19-1287-08	FLAT WASHER		/3.5X6.5X0.5
377	1A		N19-1288-08	FLAT WASHER		/1.65X5.0X0.5
378	2B		N19-1289-08	FLAT WASHER		/1.8X6.0X0.5
379	2A		N19-1317-08	POLYSLIDER WASHER		4.45X7.0X0.2
380	2B	*	N19-1354-08	POLYSLIDER WASHER		2.16X5.5X0.5
381	1A	**	N19-1355-08	POLYSLIDER WASHER		1.9X5.0X0.5
382	2A	**	N19-1353-08	SPRING WASHER		1.7X8
383	1B		N35-2604-46	BINDING HEAD MACHINE SCREW		
385	1C		S74-0006-08	LEAF SWITCH (REC)		
386	1C		S74-0007-08	LEAF SWITCH (PACK DETECT)		
387	1C		S74-0022-08	LEAF SWITCH (METAL,C.F#2)		
388	2B		T94-0228-08	SOLENOID ASSY		
390	1C		W02-1130-08	ELECTRIC UNIT		
BM	1C		D16-0332-08	MAIN BELT		
BR	1C		D16-0331-08	REEL BELT		
PF	2B		D14-0341-08	PINCH ROLLER ASSY		
PR	2A		D14-0340-08	PINCH ROLLER ASSY		
MM	1B		T42-0599-08	DC MOTOR ASSY		
PH	2A		T31-0069-08	PLAYBACK HEAD		
RPEH	2A		T39-0346-08	REC/PLAYBACK/ERASE HEAD		
D1 ,2			B30-2409-08	LED (SEL2415E)		
PH1	1C		NJL5165K	PHOTØ REFLECTØR		
R1 ,2			RD148B2C471J	RD 470		J 1/6W
R3			RD148B2C152J	RD 1.5K		J 1/6W

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## X-B5/B7/B9

## SPECIFICATIONS

## Cassette deck unit (X-B5)

Track ..... 4-track, 2-channel stereo  
 Recording system ..... AC bias system  
 (Frequency: 105 kHz)

## Heads

A deck Playback head ..... 1  
 B deck Playback / recording head ..... 1  
 Erasing head ..... 1

## Motors

A deck ..... 1  
 B deck ..... 1

Fast winding time ..... Approx. 110 seconds  
 (C-60 tape)

## Frequency response

Normal tape ..... 35 Hz to 17,000 Hz,  $\pm 3$  dB  
 CrO<sub>2</sub> tape ..... 35 Hz to 18,000 Hz,  $\pm 3$  dB

## Signal to noise ratio

Dolby C NR ON ..... 72 dB  
 Dolby B NR ON ..... 66 dB  
 Dolby NR OFF ..... 58 dB

Harmonic distortion ..... Less than 3.2 %  
 (315 Hz, 3rd H.D., 250 nWb / m)

Wow and flutter ..... 0.09 % (W.R.M.S.)  
 $\pm 0.19$  % (DIN)

## [General]

Dimensions ..... W: 270 mm (10-5 / 8")  
 H: 120 mm (4-3 / 4")  
 D: 258 mm (10-3 / 16")

Weight (net) ..... 2.8 kg (6.2 lb)

## Cassette deck unit (X-B7/B9)

Track ..... 4-track, 2-channel stereo  
 Recording system ..... AC bias system  
 (Frequency: 105 kHz)

## Heads

A deck Playback head ..... 1  
 B deck Playback / recording head ..... 1  
 Erasing head ..... 1

## Motors

A deck ..... 1  
 B deck ..... 1

Fast winding time ..... Approx. 110 seconds  
 (C-60 tape)

## Frequency response

Normal tape ..... 35 Hz to 17,000 Hz,  $\pm 3$  dB  
 CrO<sub>2</sub> tape ..... 35 Hz to 18,000 Hz,  $\pm 3$  dB  
 Metal tape ..... 35 Hz to 18,000 Hz,  $\pm 3$  dB

## Signal to noise ratio

Dolby C NR ON ..... 73 dB (Metal tape)  
 Dolby B NR ON ..... 66 dB (Metal tape)  
 Dolby NR OFF ..... 58 dB (Metal tape)

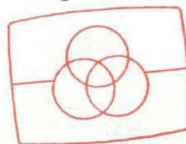
Harmonic distortion ..... Less than 3.2 %  
 (315 Hz, 3rd H.D., 250 nWb / m, metal tape)

Wow and flutter ..... 0.09 % (W.R.M.S.)  
 $\pm 0.19$  % (DIN)

## [General]

Dimensions ..... W: 270 mm (10-5 / 8")  
 H: 120 mm (4-3 / 4")  
 D: 258 mm (10-3 / 16")

Weight (net) ..... 2.8 kg (6.2 lb)



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## Note:

Component and circuitry are subject to modification to insure best operation under differing local conditions. This manual is based on the U.S.A. (K) 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.