

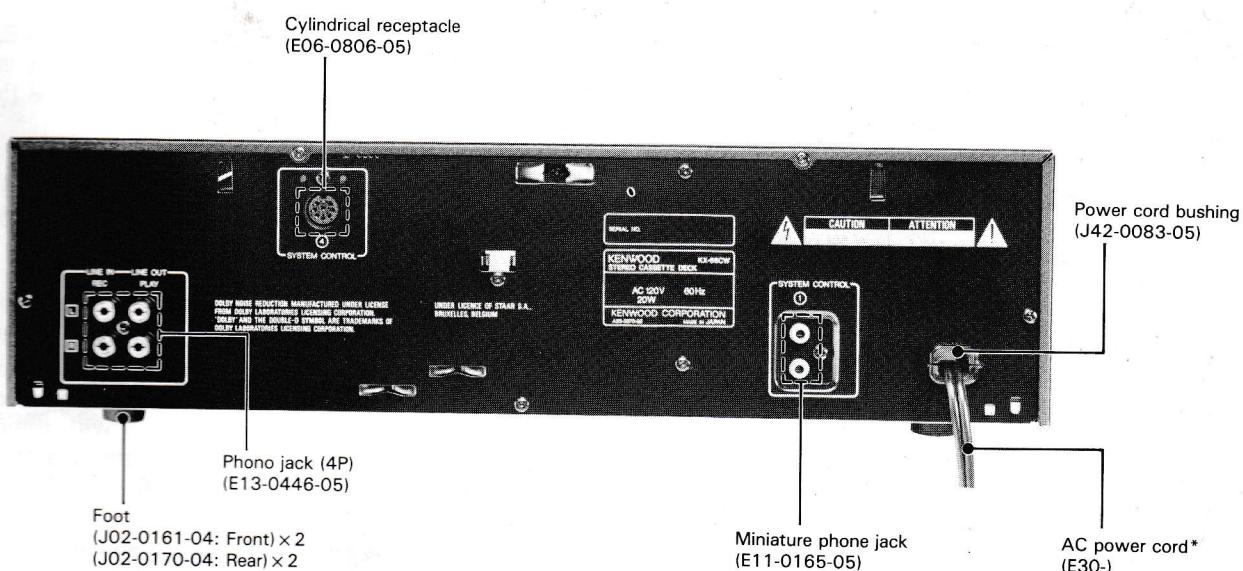
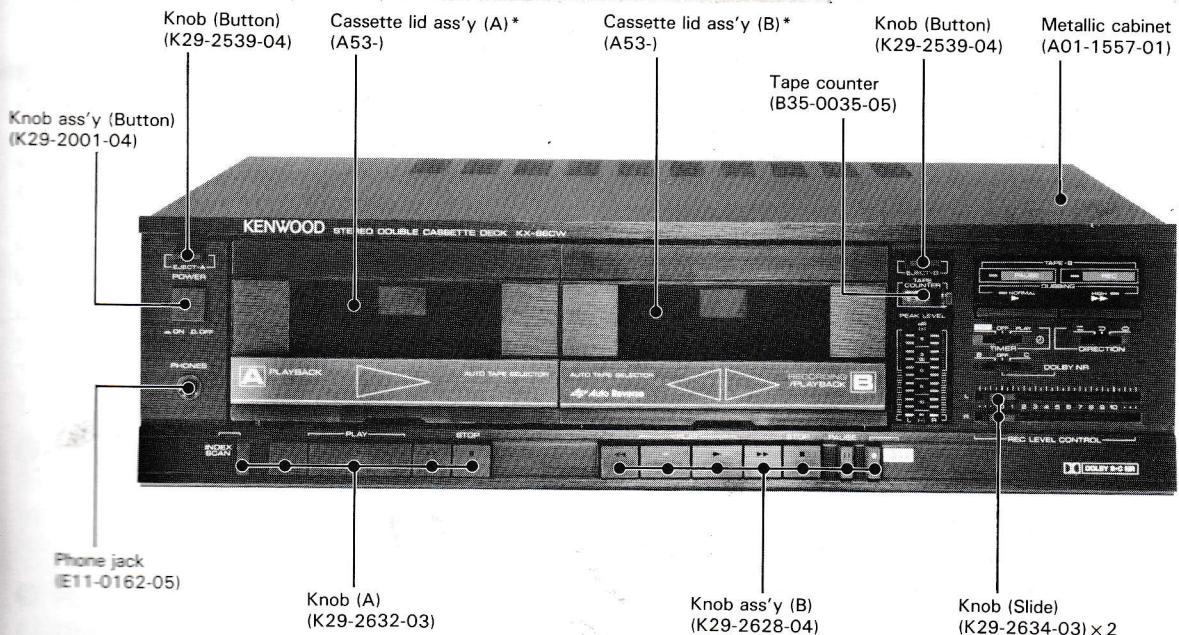
STEREO DOUBLE CASSETTE DECK

# KX-66CW

## SERVICE MANUAL

# KENWOOD

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P51 2160/T2207



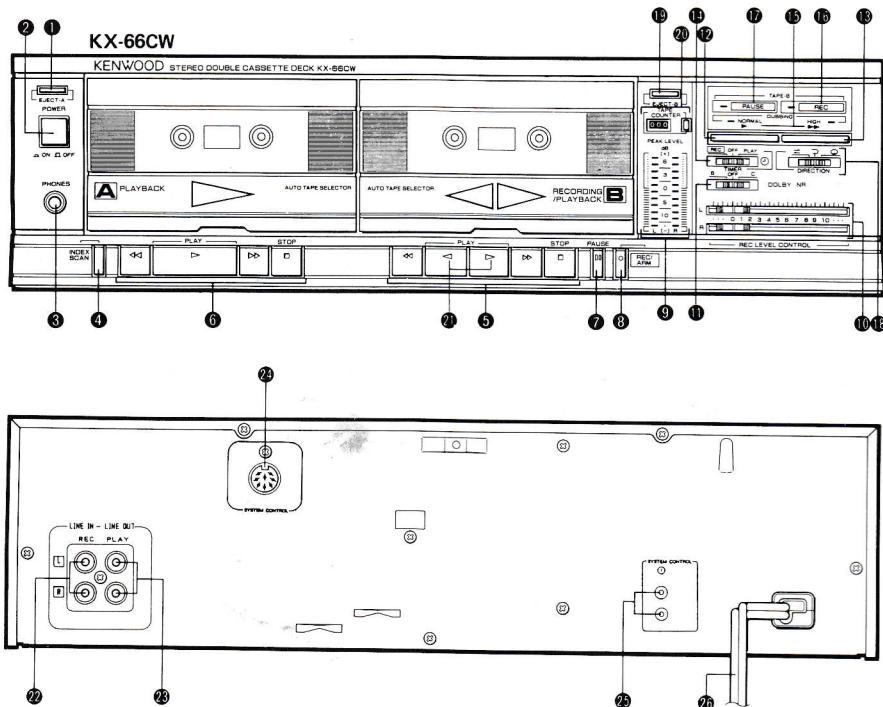
\* Refer to parts list on page 38.

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## CONTROLS, INDICATORS AND CONNECTORS

**① A deck EJECT button**

Pressing this button opens the A deck cassette holder.

**② POWER switch**

Use this switch to turn the power on and off.

**③ PHONE JACK**

Plug stereo headphones into this jack to monitor recordings or tape playback.

**④ INDEX SCAN key (only A deck)**

This key is for A deck only.

Press this key to select the desired turn. When this key is pressed, the beginning of each tune is played back for about 10 seconds.

**⑤ B deck operation keys****• Rewind key (<|<|)**

Press to rewind tape. Tape will move from the right reel to the left reel at high speed. When this key is pressed during playback, tunes are skipped in the reverse direc-

tion each time the key is pressed. When this key is pressed together with the forward play key (>|), the tape is rewound and the tape is played back from the first tune of side A.

**• Fast forward key (>|>|)**

Press to rapidly advance the tape. Tape will move from the left reel to the right reel at high speed. When this key is pressed during playback, tunes are skipped in the forward direction each time the key is pressed.

When this key is pressed together with the reverse play key (<|), the tape is rewound and the tape is played back from the first tune of side B.

**• Reverse play key (<|)**

Press to play tape in the reverse direction (side B). When this key is pressed more than twice, the current tune is played back repeatedly (16 times). To release the current tune being played back repeatedly, press the stop key (□).

When the reverse play key (<|) is pressed with tapes loaded in both A and B decks, the unit enters relay playback mode.

# CONTROLS, INDICATORS AND CONNECTORS

## ● Forward play key (▷)

Press to play the tape in the forward direction (side A). When this key is pressed more than twice, the current tune is played back repeatedly (16 times). To release the current tune being played back repeatedly, press the stop key (□).

When the forward play key (▷) is pressed with tapes loaded in both decks, the unit enters relay playback mode.

## ● Stop key (□)

Press to stop tape travel. This will also release the previous mode of operation.

## ⑥ A deck operation key (One way for A deck)

- Rewind key (◀◀)
- Fast forward key (▷▷)
- Forward play key (▷)
- Stop key (□)

## ⑦ Pause key (□□)

When this key is pressed during playback, recording, dubbing or high-speed dubbing, the unit temporarily stops.

To release playback pause mode, press the play key.

To release rec pause mode, press the REC/ARM key.

## ⑧ REC/ARM key

Press this key to start recording. The REC indicator lights. The recording mode can only be entered from the stop mode.

## ⑨ PEAK LEVEL meter

Indicate the peak values of the input levels for recording or the output levels for playback.

## ⑩ REC LEVEL CONTROL knobs

Adjust the right and left recording levels, with these knobs. Left and right channels can be adjusted separately.

## ⑪ DOLBY NR switch

To record or play back a tape with Dolby NR, set the switch to B or C.

## ⑫ Normal-speed dubbing key

When this key is pressed, the normal dubbing indicator lights and dubbing from Deck A to Deck B starts.

## ⑬ High-speed dubbing key

When this key is pressed, the high-speed dubbing indicator lights and high-speed dubbing from Deck A to Deck B starts.

## ⑭ TIMER stand-by switch

This switch is used along with an audio timer when an unattended recording or timer-playback is performed. Set this switch to the REC position for unattended recording, to the PLAY position for timer-playback and to the OFF position when the timer is not used. For timer operation, B deck has the priority.

## ⑯ Dubbing indicators

**NORMAL** — Lights when the normal speed dubbing key is pressed.

**HIGH** — Lights when the high speed dubbing key is pressed.

## ⑯ REC indicator

This indicator lights during recording or dubbing.

## ⑰ PAUSE indicator

This indicator lights when the pause key (□□) is pressed.

## ⑱ DIRECTION switch

**Normal mode (—)** — In this position, one side playback or recording is possible. When the end of tape is reached, the operation mode is released and the tape stops.

When the tape reaches its end in playback mode, the tape loaded on the other deck is played back.

**Reverse mode (↔)** — In this position, both sides can be played back or recorded. In this mode, recording and playback do not automatically change from side B to side A.

When the tape reaches its end in playback mode, the tape loaded on the other deck is played back.

**Endless mode (○)** — In this position, tape is played back repeatedly. DPSS, index scan are carried out twice (2 sides).

In endless mode (○), relay playback is not possible.

## ⑲ B deck EJECT/B button

Pressing this button opens the B deck cassette holder.

## ⑳ TAPE COUNTER and reset button

The TAPE COUNTER provides a means of locating passages on the tape. When starting a recording, set the counter 000 by depressing the reset button.

## ㉑ B deck FORWARD/REVERSE indicator

Shows the direction of tape travel.

## ㉒ REC/LINE IN jacks

Connect to the Tape Rec jacks of your amplifier using the audio cables (supplied).

## ㉓ PLAY/LINE OUT jacks

Connect to the Tape Play jacks of your amplifier using the audio cables (supplied).

## ㉔ Jack ④ (Synchro for the receiver unit)

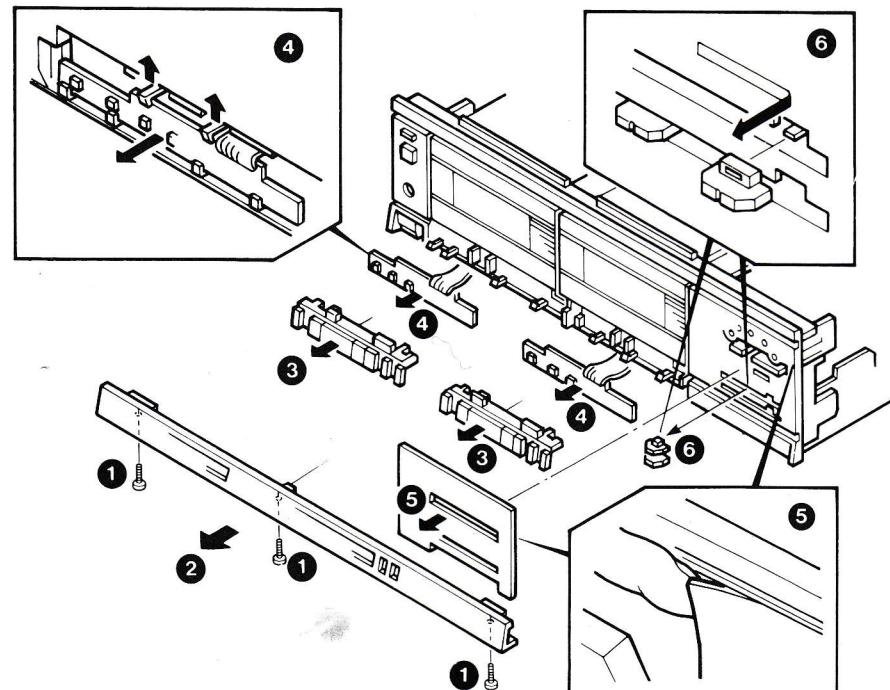
## ㉕ Jack ① (Synchro for the system component)

## ㉖ Power cord

Plug in to a convenient AC outlet.

## DISASSEMBLY FOR REPAIR

1. Remove the three screws retaining the dressing plate from the bottom of the front panel ( 1 ) and remove the dressing plate ( 2 ).
2. Remove each control knob located on the lower side of the cassette holder ( 3 ).



5. Remove the screw retaining the chassis to the front panel section ( 7 ).
6. Remove the lugs on both ends retaining the chassis to the front panel ( 8 ). Then slightly lift up the front panel and remove the lugs located on the bottom of the front panel ( 9 ). Pull out the whole of the front panel section in the

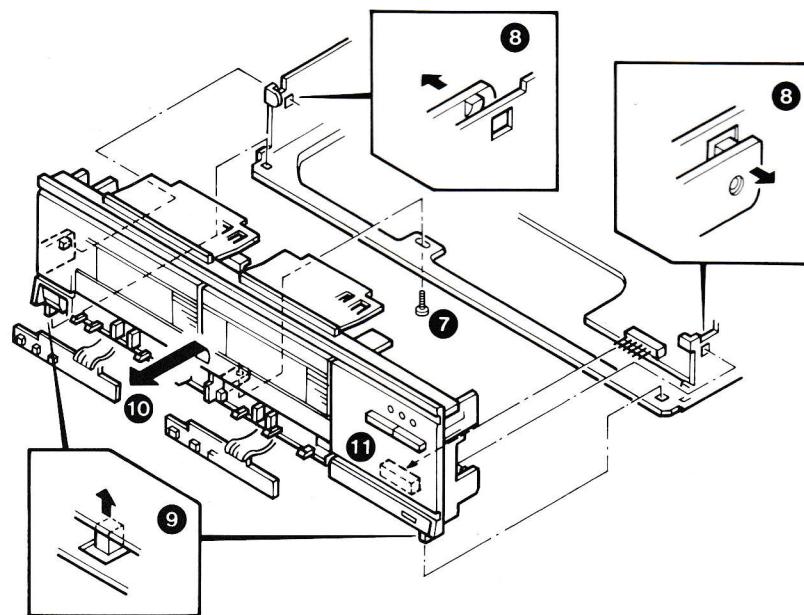
direction of the arrow ( 10 ).

At this time, the switch unit connected to the main unit by

the connectors will also be removed ( 11 ). When

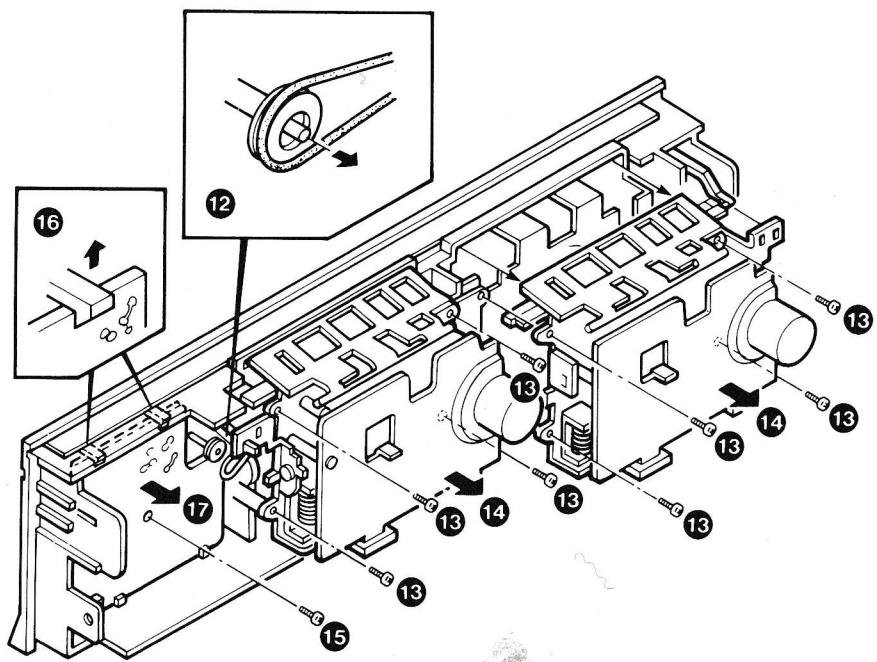
reassembling the front panel section, perform it taking

care of these connectors.

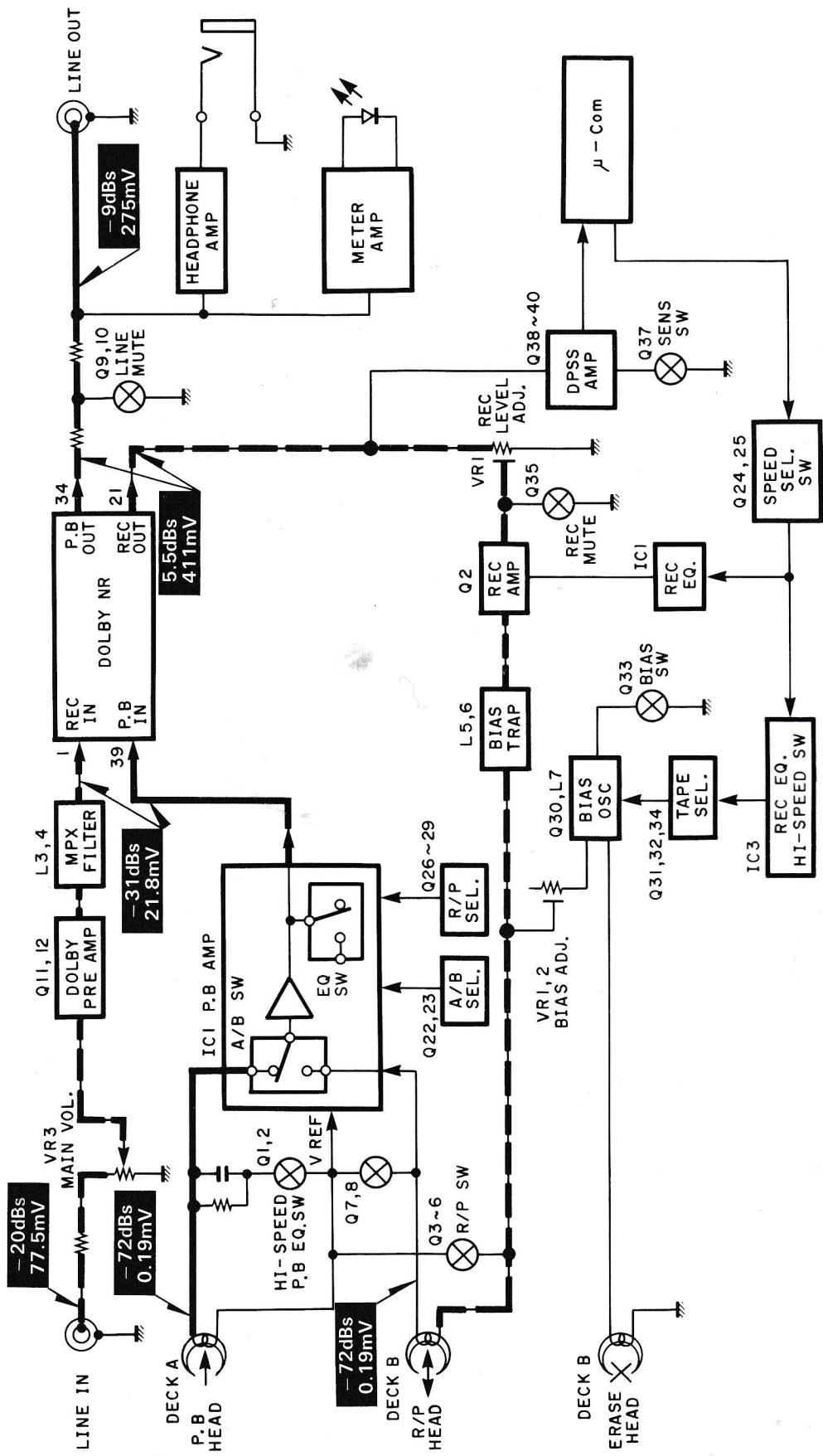


## DISASSEMBLY FOR REPAIR

7. Remove the rubber belt of for the tape counter ( 12 ).
8. Remove the eight screws and the metal fitting retaining the A and B mechanisms ( 13 ).
9. Pull out the both mechanisms in the direction of the arrow ( 14 ).
10. Remove the lugs retaining the switch unit ( 15 ), and remove the switch unit ( 16 ).



## BLOCK &amp; LEVEL DIAGRAM



# CIRCUIT DESCRIPTION

## DESCRIPTION OF COMPONENTS

### Recording/Playback Unit (X28-1820-11)

Components	Application/Functions	Operation/Conditions/Interchangeability
Q1	Head switch	OFF during high speed. ON with other speeds.
Q2	Head switch	OFF during high speed. ON with other speeds.
Q3	Head switch	ON during playback. OFF in other modes.
Q4	Head switch	ON during playback. OFF in other modes.
Q5	Head switch	ON during playback. OFF in other modes.
Q6	Head switch	ON during playback. OFF in other modes.
Q7	Head switch	ON during recording. OFF in other modes.
Q8	Head switch	ON during recording. OFF in other modes.
Q9	Line Mute	OFF during playback, recording and rec-pause. ON in other modes.
Q10	Line Mute	OFF during playback, recording and rec-pause. ON in other modes.
Q11	Buffer AMP	Impedance matching.
Q12	Buffer AMP	Impedance matching.
Q13	70 $\mu$ /120 $\mu$ switch	ON during deck A playback with mechanism A set for 70 $\mu$ s. OFF in other cases.
Q14	70 $\mu$ /120 $\mu$ switch	ON during deck B playback with mechanism B set for 70 $\mu$ s. OFF in other cases.
Q15	PB EQ Mute	OFF during playback.
Q16	PB EQ Mute	OFF during playback.
Q17	Dolby R/P switch	OFF during Dolby playback. OFF in other modes.
Q18	Dolby R/P switch	ON during Dolby playback. OFF in other modes.
Q19	Power supply for Dolby	ON during Dolby playback. OFF in other modes.
Q20	Dolby OFF/ON (Dubbing)	ON during dubbing. OFF in other modes.
Q21	Dolby OFF/ON (Dubbing)	ON during dubbing. OFF in other modes.
Q22	A/B switch	OFF during deck A playback or dubbing. ON in other modes.
Q23	A/B switch	ON during deck A playback or dubbing. OFF in other modes.
Q24	Speed switch	OFF during high speed. ON with other speeds.
Q25	Speed switch	ON during high speed. OFF with other speeds.
Q26	R/P switch	ON during playback. OFF in other modes.
Q27	R/P switch	OFF during playback. ON in other modes.
Q28	R/P switch	OFF during playback. ON in other modes.
Q29	R/P switch	OFF during playback. ON in other modes.
Q30	Bias OSC	
Q31	Tape switch	ON with metal tape. OFF with other tapes.
Q32	Tape switch	ON with CrO <sub>2</sub> tape. OFF with other tapes.
Q33	Bias ON/OFF	ON during recording. OFF in other modes.
Q34	Tape selection	ON with metal tape. OFF with other tapes.
Q35	Rec mute driver	OFF during recording. ON in other modes.
Q36	Line mute driver	OFF during recording, playback and rec-pause. ON in other modes.
Q37	DPSS sensitivity switch	OFF during recording, playback and rec-pause. ON in other modes.
Q38	DPSS AMP	
Q39	DPSS AMP	

## CIRCUIT DESCRIPTION

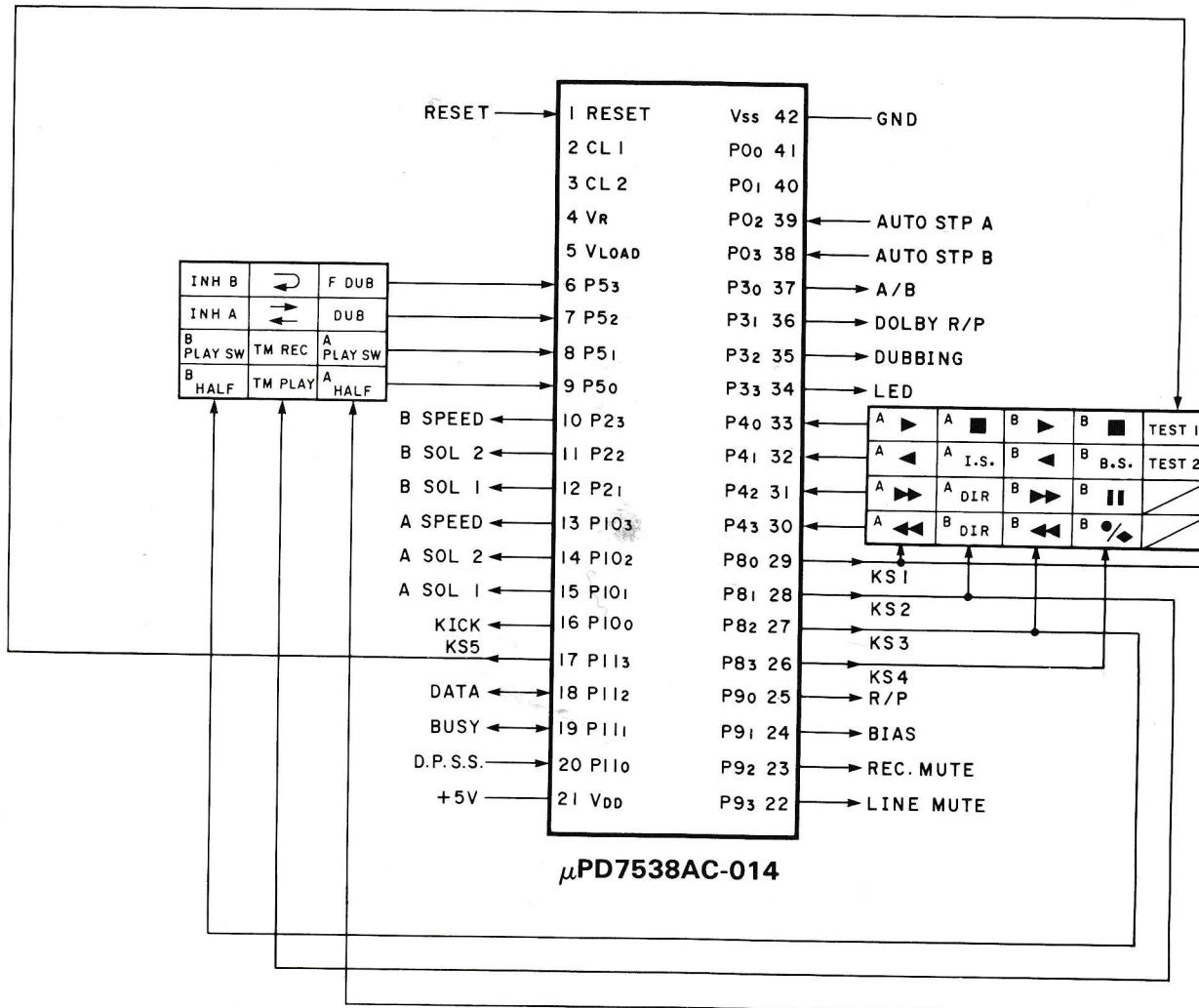
Components	Application/Functions	Operation/Conditions/Interchangeability
Q40	DPSS switch	ON when program is present. OFF when program is absent.
Q41	LED driver	
Q42	LED driver	
Q43	LED driver	
Q44	Reset	
Q45	Reset	
Q46	Deck B motor speed switch	ON during high speed. ON with other speeds.
Q47	Solenoid drive	Drives SOL 2 of deck B mechanism.
Q48	Solenoid drive	Drives SOL 1 of deck B mechanism.
Q49	Deck A motor speed switch	ON during high speed. ON with other speeds.
Q50	Solenoid drive	Drives SOL 2 of deck A mechanism.
Q51	Solenoid drive	Drives SOL 1 of deck A mechanism.
Q52	Kick driver	ON when plunger is kicked.
Q53	Kick driver	ON when plunger is kicked.
Q54	Direction switch	ON with reverse direction. OFF with other direction.
Q55	Direction switch	ON with reverse direction. OFF with other direction.
Q56	LED driver	
Q57	LED driver	
Q58	Deck B motor speed switch	ON during high speed.
Q59	Deck A motor speed switch	ON during high speed.

## Recording Amplifier Unit (X87-1140-01)

Components	Application/Functions	Operation/Conditions/Interchangeability
Q1, 2	Signal muting	When pin 5 of CN2 becomes "H", Q1 and Q2 turn ON so that muting is applied to the input signals from pin 1 of CN1 and pin 9 of CN2.
IC1, 2	Equalizer selection	Those pins 1-7 of IC1 (IC2) to which pins 6 and 7 of CN1 and pins 1-4 of CN2 are connected are controlled to turn ON/OFF each equalizer device. When each input pin becomes "H", the output side (pins 10-16 of each IC) conducts with GND (pin 8) to determine the NF constant of IC3.
IC3	Recording equalizer amplifier	It operates on single power supply and is used with the input voltage pulled up to 1/2 VB. Its NF constant is determined by IC1 : IC2, thus providing the recording equalizer characteristics.

# CIRCUIT DESCRIPTION

Port Layout ( $\mu$ PD7538AC-014)



## CIRCUIT DESCRIPTION

Port Distribution Table

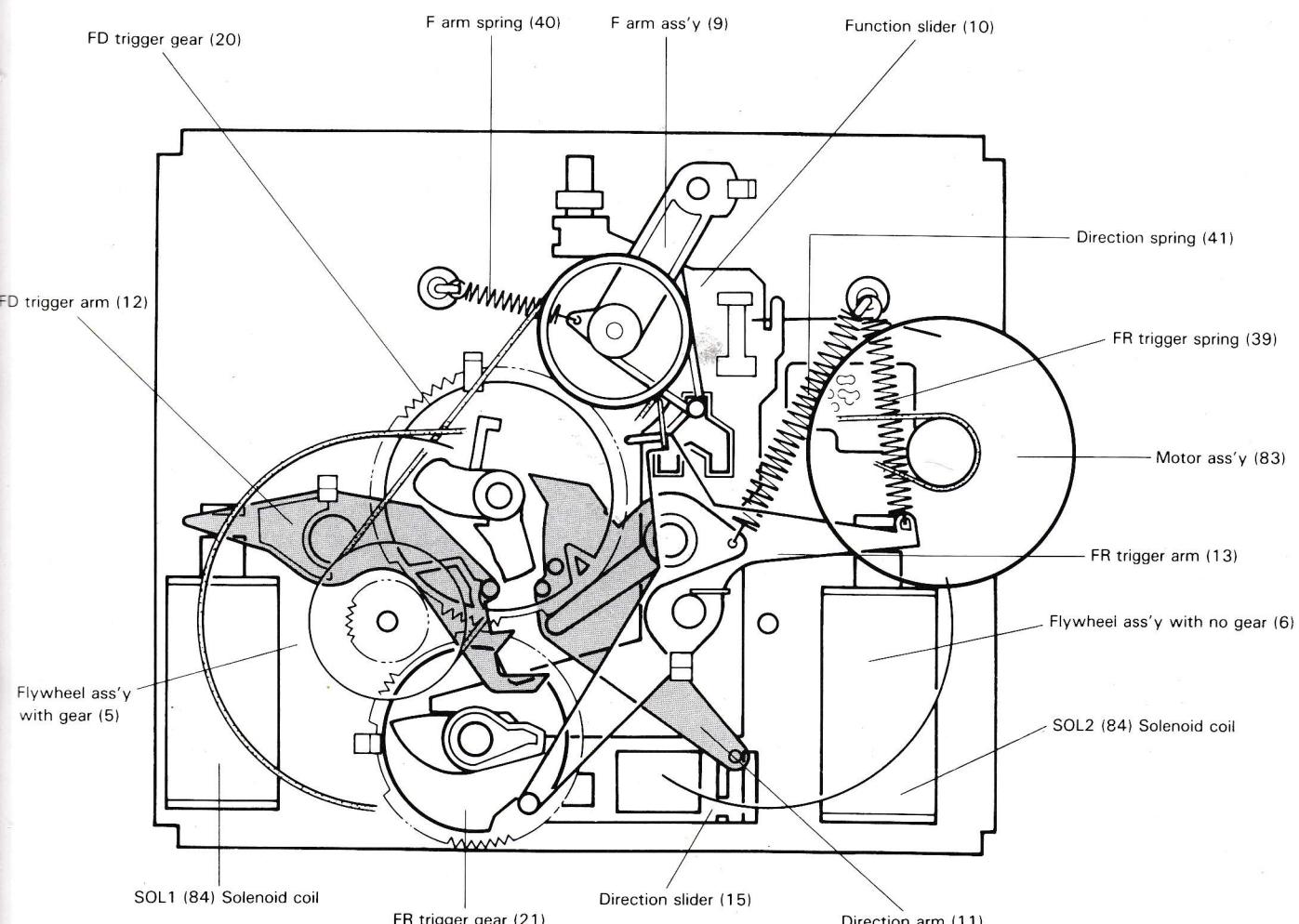
Port	Pin No.	I/O Mode	Active Mode	Function
P0	2	39	I H	A mechanism rotation detection sensor input
	3	38	I H	B mechanism rotation detection sensor input
P2	1	12	O H	B mechanism SOLENOID 1 drive output
	2	11	O H	B mechanism SOLENOID 2 drive output
	3	10	O H	B mechanism HIGH SPEED output
P3	0	37	O H	Playback equalizer A/B selection output
	1	36	O H	DOLBY R/P selection signal output
	2	35	O H	DUBBING HIGH signal output
	3	34	O H	LED segment drive signal
P4	0	33	I H	KEY RETURN signal input 1
	1	32	I H	KEY RETURN signal input 2
	2	31	I H	KEY RETURN signal input 3
	3	30	I H	KEY RETURN signal input 4
P5	0	9	I H	KEY RETURN signal input 5
	1	8	I H	KEY RETURN signal input 6
	2	7	I H	KEY RETURN signal input 7
	3	6	I H	KEY RETURN signal input 8
P8	0	29	O H	KEY SCAN signal 1, F. DUB LED DRIVE
	1	28	O H	KEY SCAN signal 2, DUB LED DRIVE
	2	27	O H	KEY SCAN signal 3, REC LED DRIVE
	3	26	O H	KEY SCAN signal 4, PAUSE LED DRIVE
P9	0	25	O H	R/P selection signal output
	1	24	O H	BIAS control signal output
	2	23	O H	REC MUTE signal output
	3	22	O H	LINE MUTE signal output
P10	0	16	O H	Mechanism SOLENOID KICK output
	1	15	O H	B mechanism SOLENOID 1 drive output
	2	14	O H	B mechanism SOLENOID 2 drive output
	3	13	O H	B mechanism HIGH SPEED output
P11	0	20	I H	DPSS blank detection signal input
	1	19	I/O H	System control serial input/output BUSY
	2	18	I/O H	System control serial input/output DATA
	3	17	O H	KEY SCAN signal 5

## MECHANISM DESCRIPTION

This mechanism is an improvement of the mechanism (X92-1070-00) used in X-7WS, KX-949W and KX-95W. A figure ( ) in a following drawing denotes a reference

number in the parts list.

Drawings are rear perspective view, unless otherwise specified.



Parts layout

Driving Power	: More than 100g·cm
Take up Torque	: 30 ~ 75g·cm
FF. REW Torque	: 75 ~ 140g·cm
Back Tension Torque	: 2 ~ 4g·cm

## MECHANISM DESCRIPTION

## 1. OUTLINE

- Rotation transmission**: Rotation is transmitted from the motor as indicated by the arrow (➡) in Fig. 1.
- FD trigger gear**: For PLAY and direction reversion. Drives the sub chassis and the direction arm.
- FD trigger arm**: For PLAY and direction reversion. Driven by the solenoid 1 to control the FD trigger gear.
- FR trigger gear**: For FF and REW. Drives the function slider.

- FR trigger arm**: For FF and REW. Driven by the solenoid 2 to control the FR trigger gear.
- Direction arm**: For direction reversion. Drives the direction slider.
- Direction slider**: For direction reversion. Controls the head, pinch roller and switch.
- Function slider**: For FF and REW. Controls the F arm ass'y.

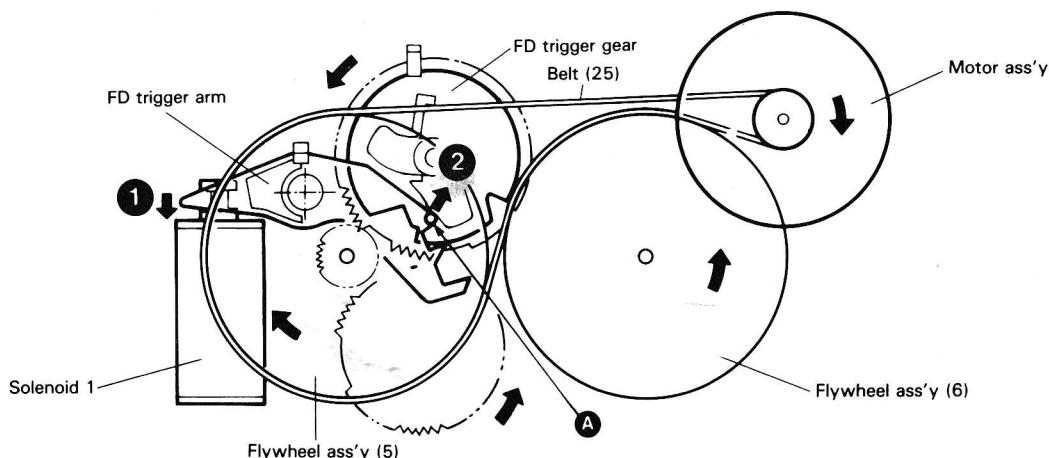


Fig. 1 Transmission of rotation

## 2. OPERATION IN EACH MODE

## 2-1 Forward play (FWD PLAY) operation (Figs. 1 and 2)

When the PLAY key is pressed, the PLAY signal is transmitted from the microprocessor. Thus, the solenoid 1 is attracted and released once to pull the FD trigger arm.

The FD trigger arm rotates in the direction of arrow ② (Fig. 1) and the boss A is disengaged from the protrusion of the FD trigger gear so that the FD trigger gear is engaged with the flywheel gear and rotated in the direction of the arrow (Fig. 2). Then, the cam (A) located at the rear of the FD trigger gear

pushes upwards the tongue of the sub chassis (802) to lift the head. At the same time, the cams on the rear of the FD trigger gear controls the direction arm to move the direction slider in the FWD direction (arrow ①) to select the FWD side record/erase head and pinch roller (arrows ②, ③, ④ and ⑤) (Fig. 2).

During this time, the solenoid 1 is attracted and released again.

## MECHANISM DESCRIPTION

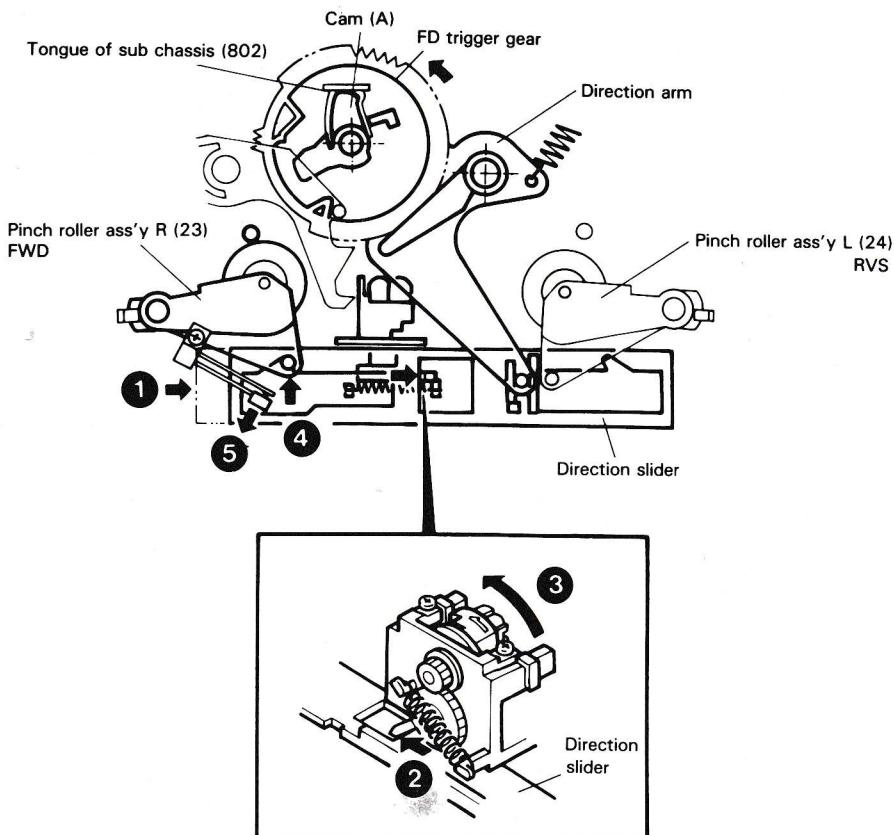


Fig. 2 Status of forward play

### 2-2 Reverse play (RVS PLAY) operation (Fig. 3)

By the RVS PLAY signal, the solenoid 1 is attracted to rotate the FD trigger arm. Thereby, the stopper of the FD trigger gear is released from the FD trigger arm and starts rotating. The solenoid 1 is kept as it is for a certain time (about 1/2 rotation of the gear), after which it is released.

By the cam on the rear of the gear, the direction arm rotates to move the direction slider in the RVS direction (arrow ①) (Fig. 3). As the head (sub chassis) rises, the pin of the pinch roller (L) is put into the concave section ③ of the direction slider so that the pinch roller (L) presses against its corresponding capstan only in the RVS side.

Then, the head rotates in the direction of arrow ②, the reverse mode switch is turned ON due to the motion of the section indicated by arrow ③ so that the reverse play mode is entered.

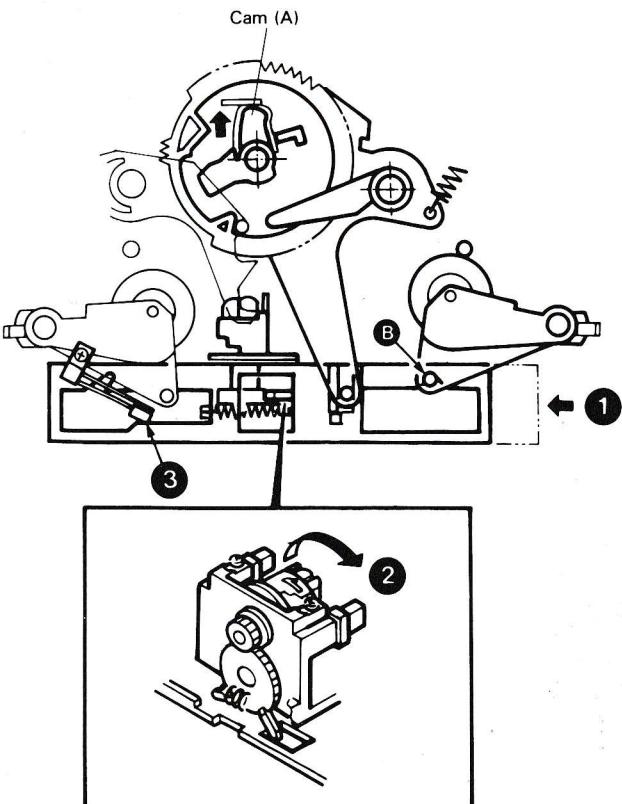


Fig. 3 Status of reverse play

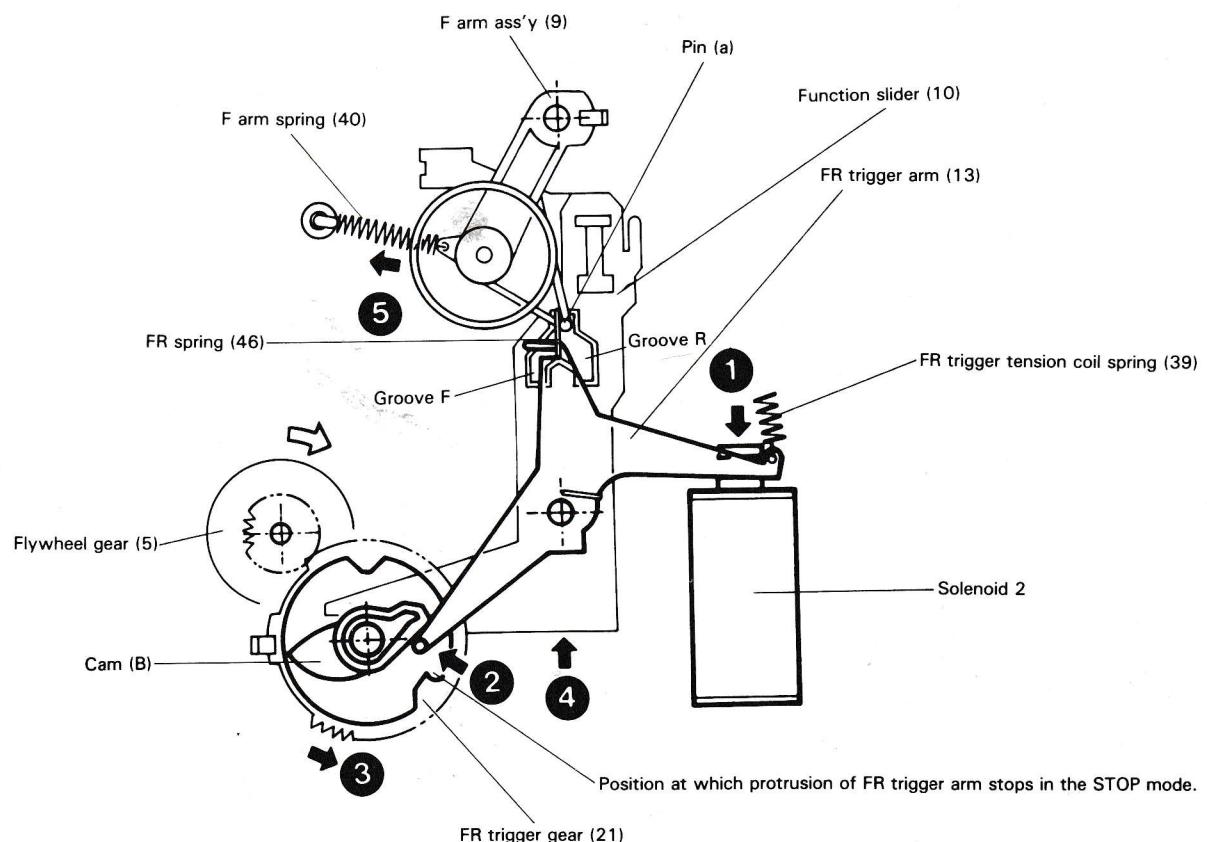
## MECHANISM DESCRIPTION

**2-3 FF operation (Figs. 4 and 5)**

In the FF operation, the solenoid 2 is attracted twice, after which it is held ①. When the solenoid 2 comes to the ON position, attracted, the FR trigger arm rotates in the direction of arrow ② so that the FR trigger gear rotates in the direction of arrow ③ (Fig. 4).

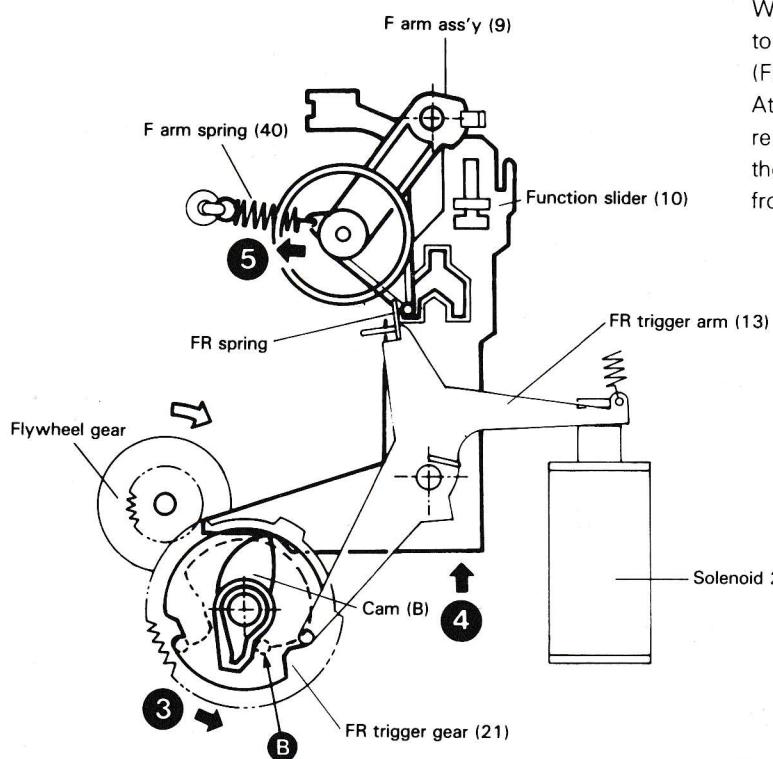
The FR trigger gear starts rotation due to engagement with

the flywheel gear and the function slider is pushed upwards in the direction of arrow ④ by the cam (B) located on the rear. The F arm ass'y is always pulled in the direction of arrow ⑤ by the F arm spring (40). At this time, as the solenoid 2 is in the OFF position, the pin (a) of the F arm ass'y enters into the groove F of the function slider in a natural manner. (Fig. 4)



**Fig. 4 When FR trigger gear starts rotating**

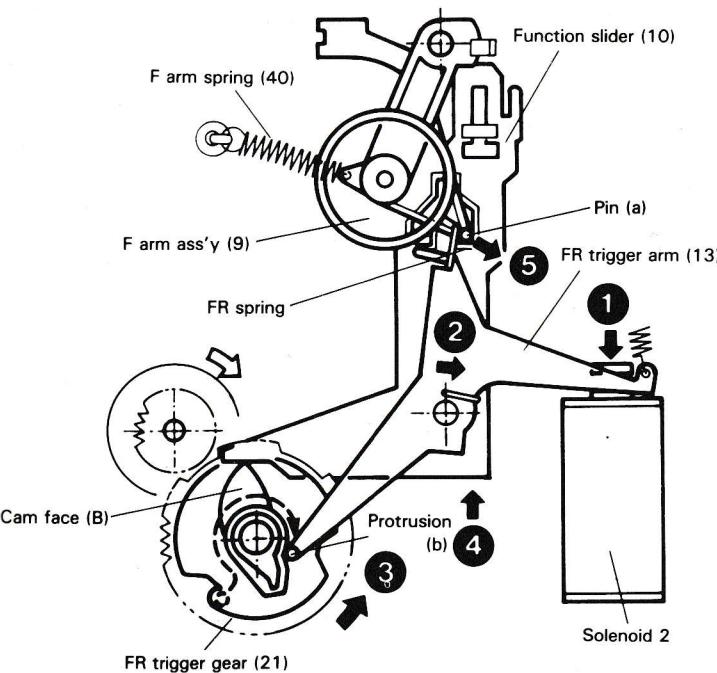
## MECHANISM DESCRIPTION



**Fig. 5 Right before solenoid 2 is held**

When the pin (a) is put into the groove, the solenoid 2 comes to the ON position again and is held in this position as it is. (Fig. 5)

At this time, the FR spring attached to the FR trigger arm remains bent. The FR trigger gear is held by the touching of the FR trigger arm pin against the section **B** of the cam in the front, in which state the FF mode is entered.



**Fig. 6 Rewind mode**

### 2-4 Rewind (REW) operation (Fig. 6)

In the rewind operation, the solenoid 2 is attracted once and held. Thus, the FR trigger arm is moved to the direction of arrow ②. By the FR spring, the F arm ass'y moves to the direction of arrow ⑤ and the pin (a) is put into the groove R of the function slider. When the FR trigger gear is held by the pin of the FR trigger arm, the rewind mode is entered.

## MECHANISM DESCRIPTION

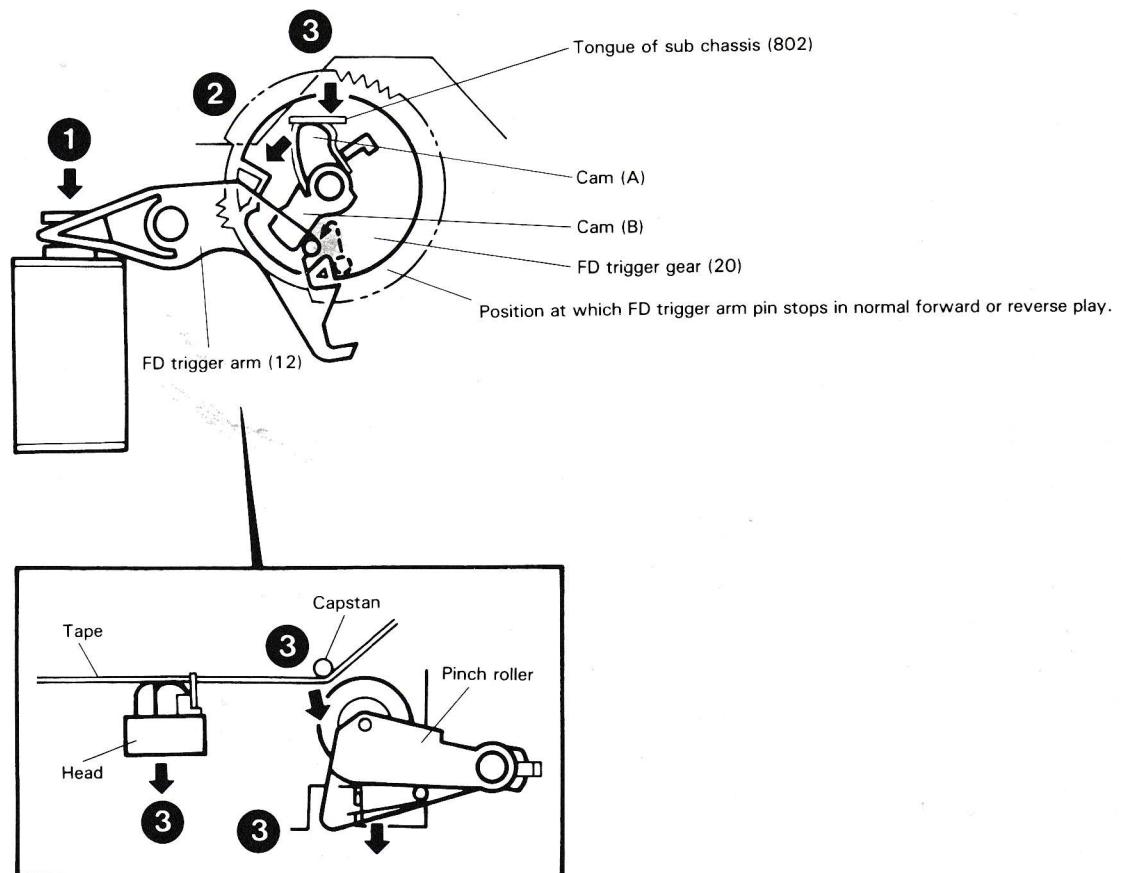
**2-5 DPSS (Direct Program Search System) operation, and cue/review (REV) operation**

In the DPSS operation, on the attracting timing of the solenoids 1 and 2, the head is put away from the tape and also the pinch roller is released from the capstan. The solenoid 1 is attracted twice, after which it is held.

The FD trigger gear is locked by the cam (B) and the FD trigger arm pin at the position at which it rotates slightly more than in the normal forward or reverse play.

In this position, the sub chassis lowers slightly than in the PLAY position, in which state the head and the pinch roller are put away in the direction of arrow ③.

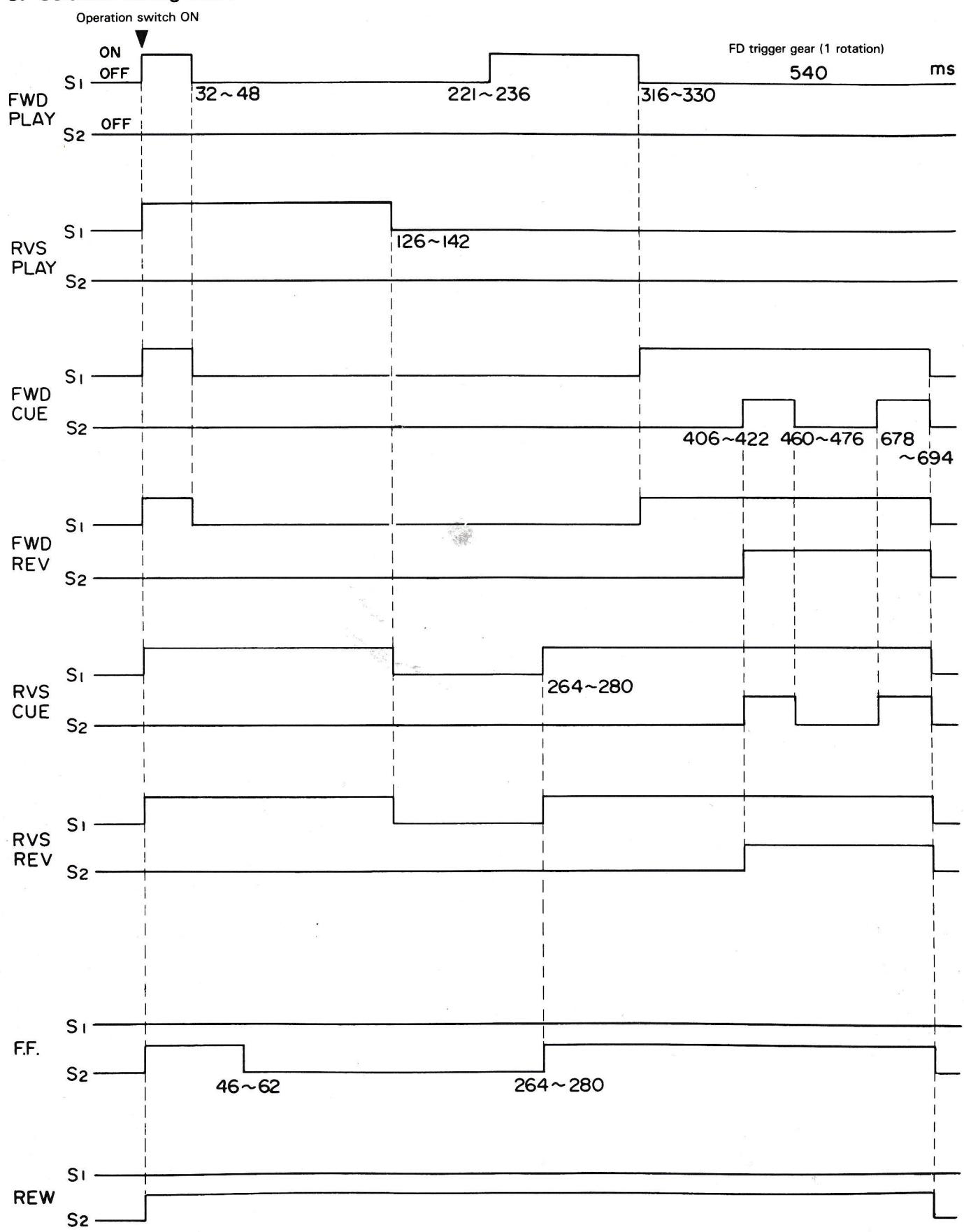
Then the solenoid 2 is attracted. Thus, the tape is wound at high speed by the FF or REW operation and the interval between tunes is searched for.



**Fig. 7 DPSS operation**

# MECHANISM DESCRIPTION

### 3. Solenoid timing chart

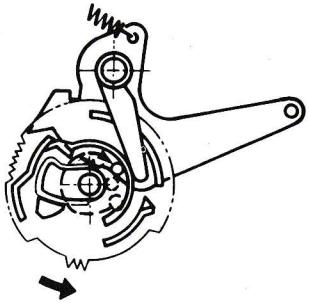
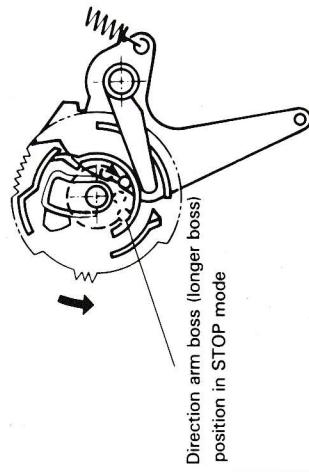
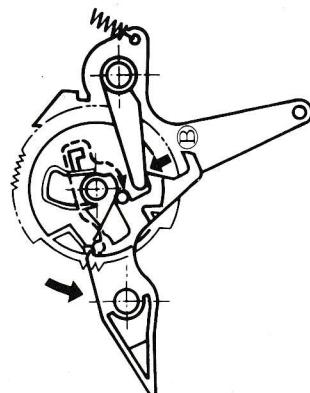
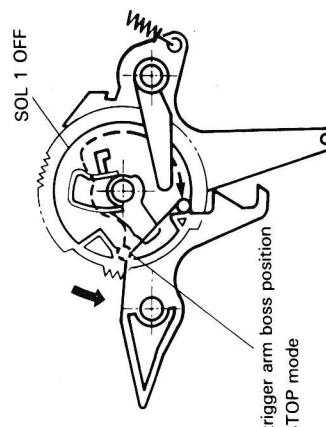
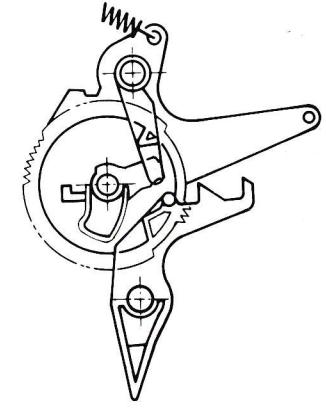
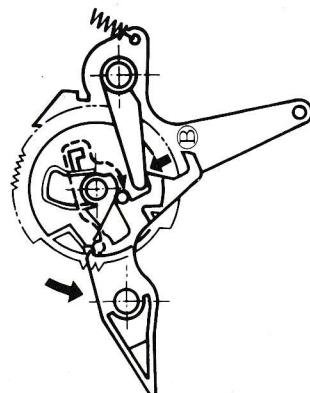


## MECHANISM DESCRIPTION

**Description of FD Trigger Gear, FD Trigger Arm and FR Trigger Arm Position During Operation (1)**

Description	Mode	FWD STOP Mode	FWD STOP → FWD PLAY	Path from FWD STOP → REV PLAY
Relationship of positions of cam surfaces and direction arm projection when the FD trigger is seen through the rear of the mechanism.				
				<p>Figure showing FWD mode direction arm fixed position when SOL 1 is drawn out, the flywheel drive gear and FD trigger gear are engaged, and the FD trigger gear is rotated in the direction of the arrow.</p>
				<p>Figure showing when SOL 1 is drawn out, the FD trigger arm projection moves from the stop position in the STOP mode, the rotation of the flywheel in the direction of the arrow is transmitted to the FD trigger gear, the FD trigger gear rotates approximately one full turn and is fixed at the other FD trigger gear projection position.</p>

# MECHANISM DESCRIPTION

Description	Mode	RVS STOP Mode	RVS STOP – RVS PLAY	RVS STOP – RVS PLAY
Relationship of positions of cam surfaces and direction arm projection when the FD trigger is seen through the rear of the mechanism.				
Unlike the FWD mode, the direction arm projection is positioned at the FD trigger gear inner cam surface.			The direction arm projection is held along the FD trigger gear inner cam surface.	Direction arm held in RVS position by FD trigger arm.
Relationship of positions of projections and FD trigger arm when the FD trigger is seen from the rear of the mechanism.				
				When switching from the RVS STOP to the RVS PLAY mode, the hook inside the FD trigger arm pushes the direction arm in the direction of arrow B and holds it there. So the projection of the direction arm moves the path of the RVS operation.

## ADJUSTMENT

No.	ITEM	INPUT SETTINGS	OUTPUT SETTINGS	CASSETTE TAPE DECK SETTINGS	ALIGNMENT POINTS	ALIGN FOR	FIG.
CASSETTE DECK SECTION TAPE: NORMAL, DOLBY: OFF, INPUT: LINE 0dBs = 0.775V							
I REC/PLAY HEAD							
[ 1 ]	DEMAGNETIZATION	—	—	POWER: OFF Remove the cassette door.	REC/PLAY head	Demagnetize the REC/PLAY head with a head demagnetizer.	
[ 2 ]	CLEANING	—	—	PLAY	REC/PLAY head erase head, capstan and pinch roller.	Clean the REC/PLAY head erase head, capstan and pinch roller using a cotton swab slightly damped with alcohol.	
[ 3 ]	AZIMUTH	MTT-114 10kHz, -10dB	(B)	PLAY	Azimuth adjustment screw	Maximum output.	
II PC BOARD (X28-1820-XX)							
< i >	TAPE SPEED (HI SPEED)	MTT-111 3kHz	(B)	Connect a jumper between GND and TP1(TP2). PLAY	(X28-1820-XX) DECK A: VR6 DECK B: VR4	Adjust the tape speed so that a 6kHz signal is produced at the center of the tape.	(a)
< ii >	TAPE SPEED (NORMAL)	MTT-111 3kHz	(B)	PLAY	(X28-1820-XX) DECK A: VR7 DECK B: VR5	Adjust the tape speed so that a 3kHz signal is produced at the center of the tape.	(b)
III PC BOARD (X28-1820-XX, X87-1100-04, X87-1140-01)							
< 1 >	PLAYBACK LEVEL	(a) MTT-150 400Hz	(B)	PLAY	(X87-1100-04) DECK A: VR1 (L) VR2 (R) DECK B: VR3 (L) VR4 (R)	Output level: -6.0dBs	(c)
		(b) MTT-256 315Hz				Output level: -9.0dBs	
		(c) MTT-256U 315Hz				Output level: -5.0dBs	
< 2 >	BIAS CURRENT	(A) 1kHz, -30dBs 10kHz, -30dBs	(B)	Adjust VR3 so that the REC monitor output becomes -29dBs at 1kHz, then record and reproduce signal of 1kHz and 10kHz in alternation.	(X28-1820-XX) VR1 (L) VR2 (R)	Record 1kHz and 10kHz in alternation and adjust the variable resistors which control the bias current so that the same playback level is obtained.	(d)
< 3 >	RECORD LEVEL	(A) 1kHz, -10dBs	(B)	Record and reproduce a 1kHz signal under the conditions set in < 2 >.	(X87-1140-01) VR2 (L) VR1 (R)	Adjust the variable resistors so that a playback level of -9dBs is obtained.	(e)

## REGLAGES

N°	ITEM	REGLAGE DE L'ENTREE	REGLAGE DE LA SORTIE	REGLAGE DU MAGNETO -PHONE A CASSETTE	POINTS DE L'ALIGNEMENT	ALIGNER POUR	FIG.
SECTION DU MAGNETOPHONE		TAPE: NORMAL, DOLBY: OFF, ENTREE: LINE 0dBs = 0,775V					
I TETE D'ENREGISTREMENT/LECTURE							
[1]	DEMAGNETISATION	—	—	POWER: OFF Eloigner la porte.	Tête D'ENREGISTREMENT/ LECTURE	Demagnétiser la tête D'ENREGISTREMENT/LECTURE avec un démagnétiseur de tête.	
[2]	NETTOYAGE	—	—	PLAY	Tête D'ENREGISTREMENT/ LECTURE tête d'effacement, cabestan, galetpresseur.	Nettoyer la tête D'ENREGISTREMENT/LECTURE la tête d'effacement, le cabestan et le galetpresseur avec un coton-tige légèrement imbibé d'alcool.	
[3]	AZIMUT	MTT-114 10kHz.-10dB	(B)	PLAY	Vis d'azimut	Sortie maximiser.	
II PLAQUE IMPRIMEE (X28-1820-XX)							
< i >	VITESSE DE DEFILEMENT (HI SPEED)	MTT-111 3kHz	(B)	Connecter un cablage entre les GND et TP1(TP2). PLAY	(X28-1820-XX) DECK A: VR6 DECK B: VR4	Régler la vitesse de bande de façon qu'un signal de 6kHz soit produit au centre de la bande.	(a)
< ii >	VITESSE DE DEFILEMENT (NORMAL)	MTT-111 3kHz	(B)	PLAY	(X28-1820-XX) DECK A: VR7 DECK B: VR5	Régler la vitesse de bande de façon qu'un signal de 3kHz soit produit au centre de la bande.	(b)
III PLAQUE IMPRIMEE (X28-1820-XX, X87-1100-04, X87-1140-01)							
< 1 >	NIVEAU DE LECTURE	(a) MTT-150 400Hz	(B)	PLAY	(X87-1100-04) DECK A: VR1 (G) VR2 (D) DECK B: VR3 (G) VR4 (D)	Niveau de sortie: -6,0dBs	(c)
		(b) MTT-256 315Hz				Niveau de sortie: -9,0dBs	
		(c) MTT-256U 315Hz				Niveau de sortie: -5,0dBs	
< 2 >	COURANT DE POLARISATION	(A) 1kHz.-30dBs 10kHz.-30dBs	(B)	Régler VR3 de façon que la sortie de moniteur REC soit de -29dBs à 1kHz, puis en registrer et reproduire des signaux de 1kHz et 10kHz en alternance.	(X28-1820-XX) VR1 (G) VR2 (D)	Enregistrer un signal de 1kHz et 10kHz en alternance et ajuster les résistances variables qui commandent le courant de polarité de façon à obtenir le même niveau de lecture.	(d)
< 3 >	NIVEAU D'ENREGISTREMENT	(A) 1kHz.-10dBs	(B)	Enregistrer et reproduire un signal de 1kHz dans les conditions précisées en <2>.	(X87-1140-01) VR2 (G) VR1 (D)	Ajuster les résistances variables de façon à obtenir un niveau de lecture de -9dBs.	(e)

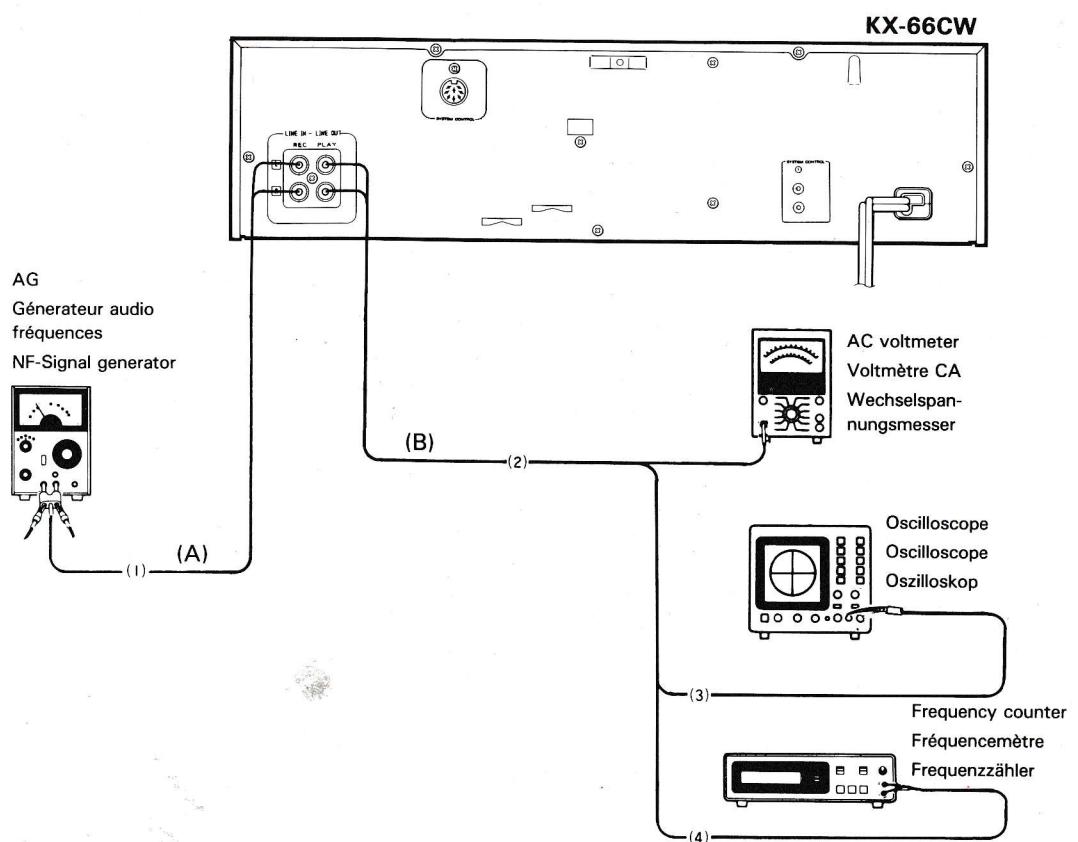
## ABGLEICH

NR.	GEGENSTAND	EINGANGS-EINSTELLUNG	AUSGANGS-EINSTELLUNG	KASSETTENGERÄT-EINSTELLUNG	ABGLEICH PUNKTE	ABGLEICHEN FÜR	ABB.
CASSETTEN-DECK ABTEILUNG TAPE: NORMAL, DOLBY: OFF, EINGANG: LINE							0dBs = 0,775V
I AUFNAHME/WIEDERGABE KOPF							
[ 1 ]	ENTMAGNETISIERUNG	—	—	POWER: OFF Den Kassettenfach deckel oben herausziehen.	AUFNAHME/ WIEDERGABE-Kopf	Entmagnetisierung von dem AUFNAHME/WIEDERGABE Kopf mit einem Tonkopf Entmagnetisierungsdrossel.	
[ 2 ]	REINIGUNG	—	—	PLAY	AUFNAHME/ WIEDERGABE-Kopf Löschkopf, Tonwelle, Andruckrolle.	AUFNAHME/WIEDERGABE-Kopf, Löschkopf, Tonwelle und Andruckrolle mit einem leicht mit Alkohol befeuch- teten Wattebausch reinigen.	
[ 3 ]	AZIMUT-EINSTELLUNG	MTT-114 10kHz, -10dB	(B)	PLAY	Azimut- Einstellschraube	Maximal Ausgang.	
II GEDRUCKTE SCHALTPLATTE (X28-1820-XX)							
< i >	BANDGESCHWINDIGKEIT (HI SPEED)	MTT-111 3kHz	(B)	Einen Schaltdraht zwischen GND und TP1(TP2) anschließen. PLAY	(X28-1820-XX) DECK A: VR6 DECK B: VR4	Die Bandgeschwindigkeit so justieren, daß ein 6kHz Signal auf der Mitte des Bands erzeugt wird.	(a)
< ii >	BANDGESCHWINDIGKEIT (NORMAL)	MTT-111 3kHz	(B)	PLAY	(X28-1820-XX) DECK A: VR7 DECK B: VR5	Die Bandgeschwindigkeit so justieren, daß ein 3kHz Signal auf der Mitte des Bands erzeugt wird.	(b)
III GEDRUCKTE SCHALTPLATTE (X28-1820-XX, X87-1100-04, X87-1140-01)							
< 1 >	WIEDERGABE-PEGEL	(a) MTT-150 400kHz	(B)	PLAY	(X87-1100-04) DECK A: VR1 (L) VR2 (R) DECK B: VR3 (L) VR4 (R)	Ausgangspegel: -6,0dBs	(c)
		(b) MTT-256 315kHz				Ausgangspegel: -9,0dBs	
		(c) MTT-256U 315kHz				Ausgangspegel: -5,0dBs	
< 2 >	LEERLAUFSTROM	(A) 1kHz. -30dBs 10kHz. -30dBs	(B)	VR3 so justieren, daß der REC Monitorausgang -29dBs bei 1kHz wird, und danach abwechselnd Signale von 1kHz und 10kHz aufnehmen und wiedergeben.	(X28-1820-XX) VR1 (L) VR2 (R)	Signale von 1kHz und 10kHz abwechselnd aufnehmen und die Regelwiderstände, die den Vormagnetisierungsstrom regeln, so justieren, daß der gleiche Wiedergabepiegel erzielt wird.	(d)
< 3 >	AUFNAHMEPEGEL	(A) 1kHz. -10dBs	(B)	Ein 1kHz Signal unter den in Punkt <2> beschriebenen Bedingungen aufnehmen und reproduzieren.	(X87-1140-01) VR2 (L) VR1 (R)	Die Regelwiderstände so justieren, daß ein wiedergabepiegel von -9dBs erzielt wird.	(e)

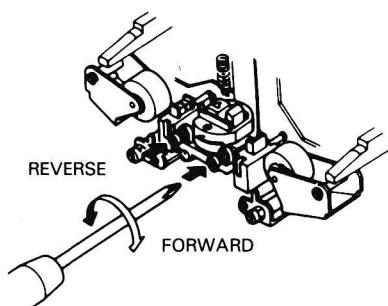
## ADJUSTMENT/REGLAGES/ABGLEICH

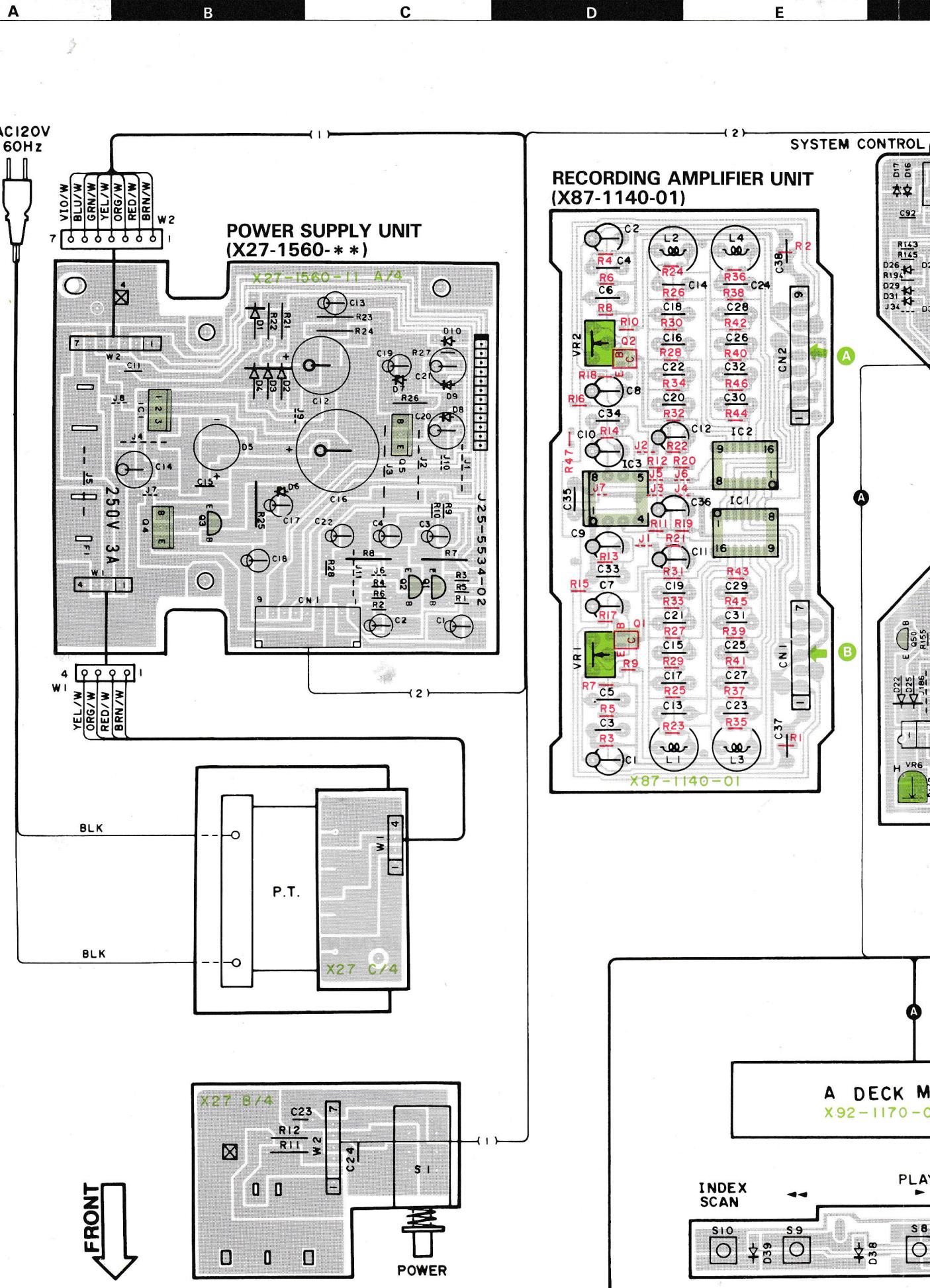
## SYSTEM CONNECTIONS

	ABB.
	$B_s = 0,775V$
dem	
opf	
sel.	
of,	
nd	
em	
ech	
gen.	
te	(a)
te	(b)
s	
s	
s	
kHz	
nd	
ie	
rom	
aß	
egel	
(d)	
(e)	

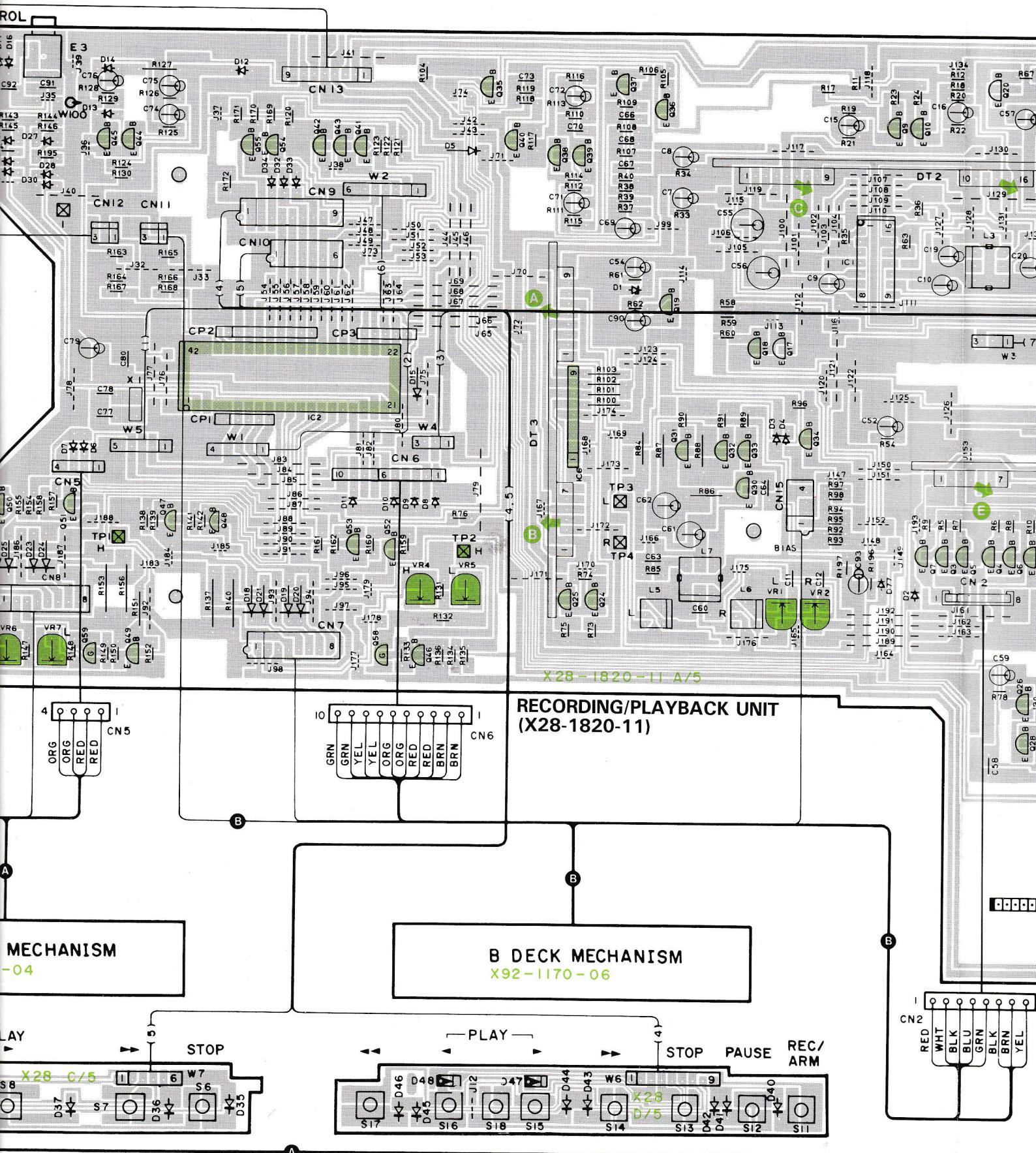


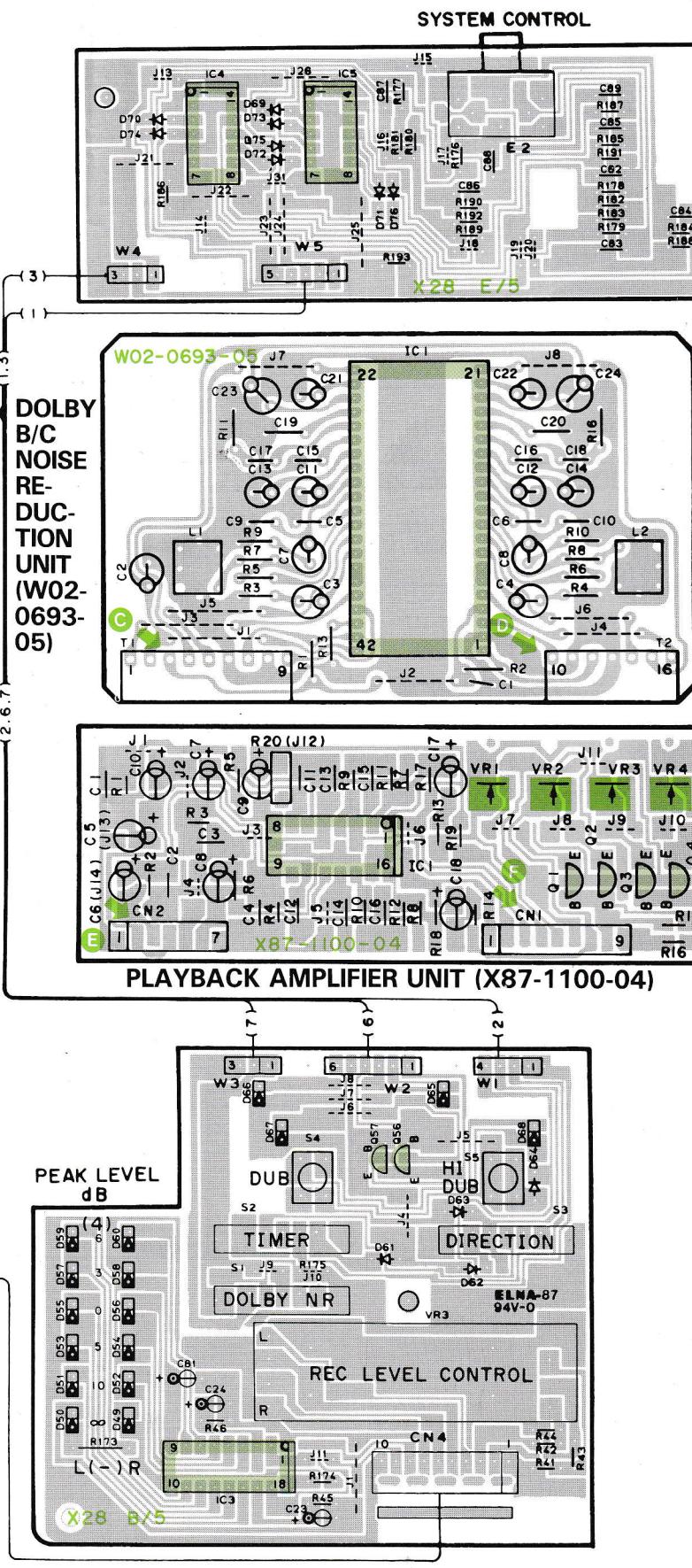
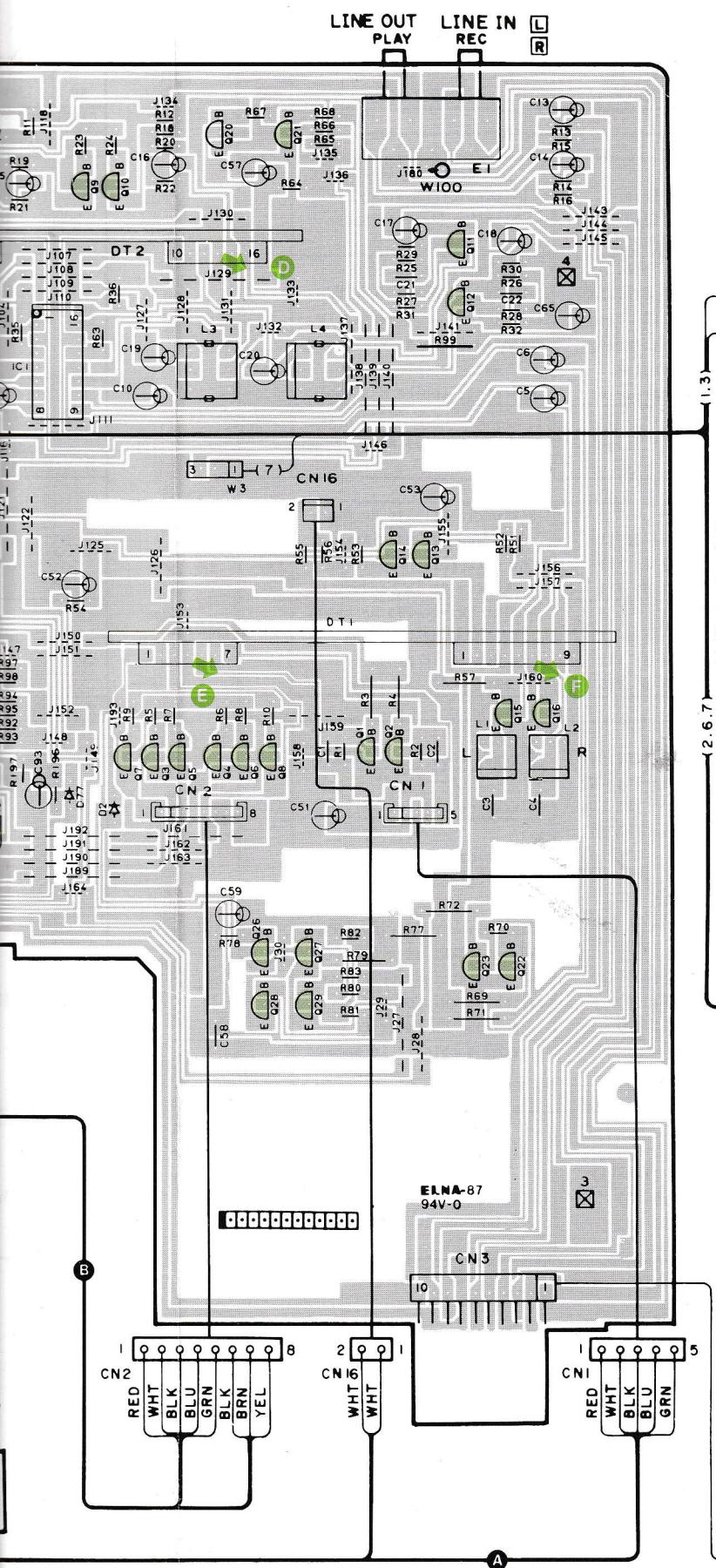
## AZIMUTH ADJUSTMENT SCREW

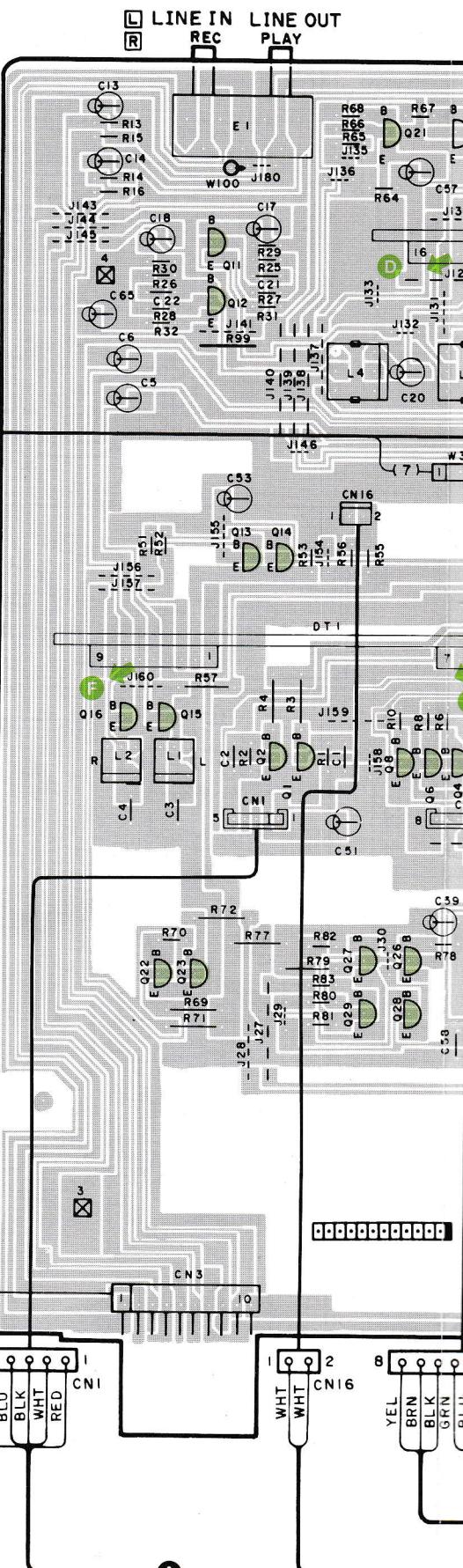
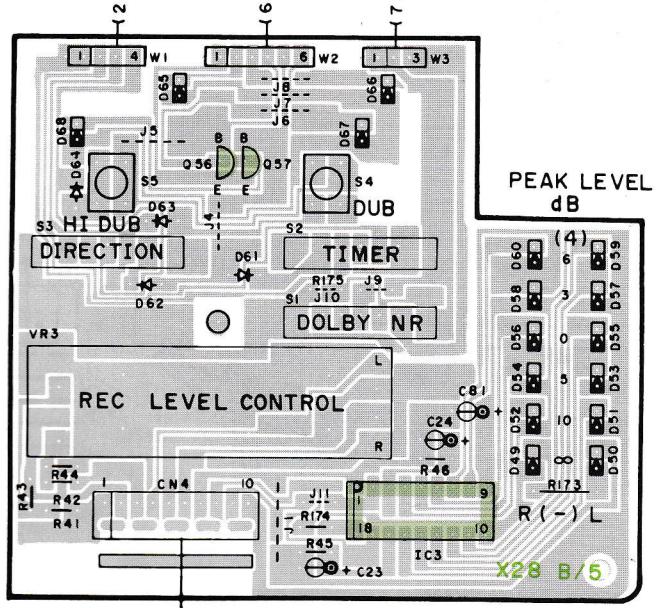
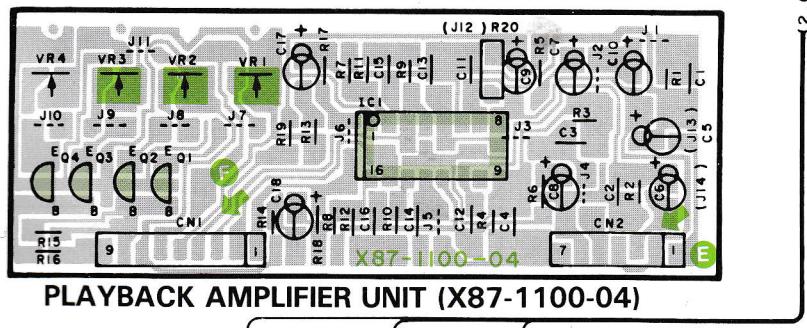
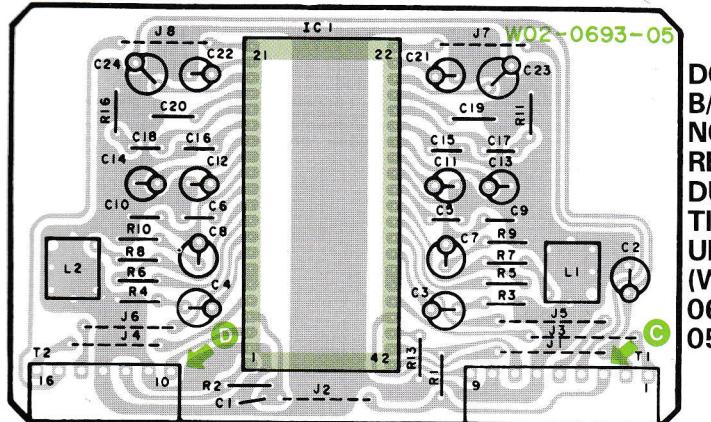
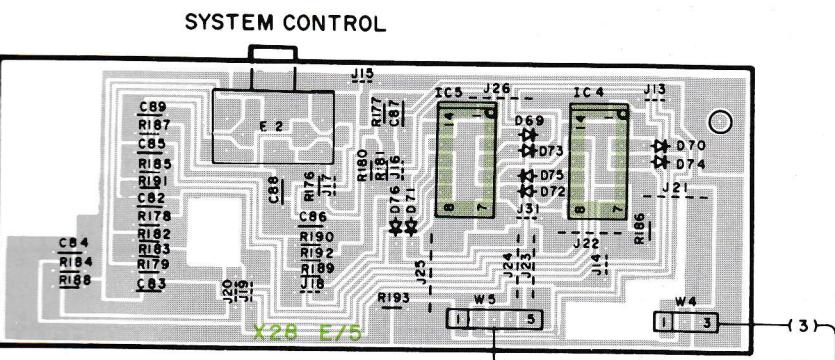




# P.C. BOARD (Component side view)

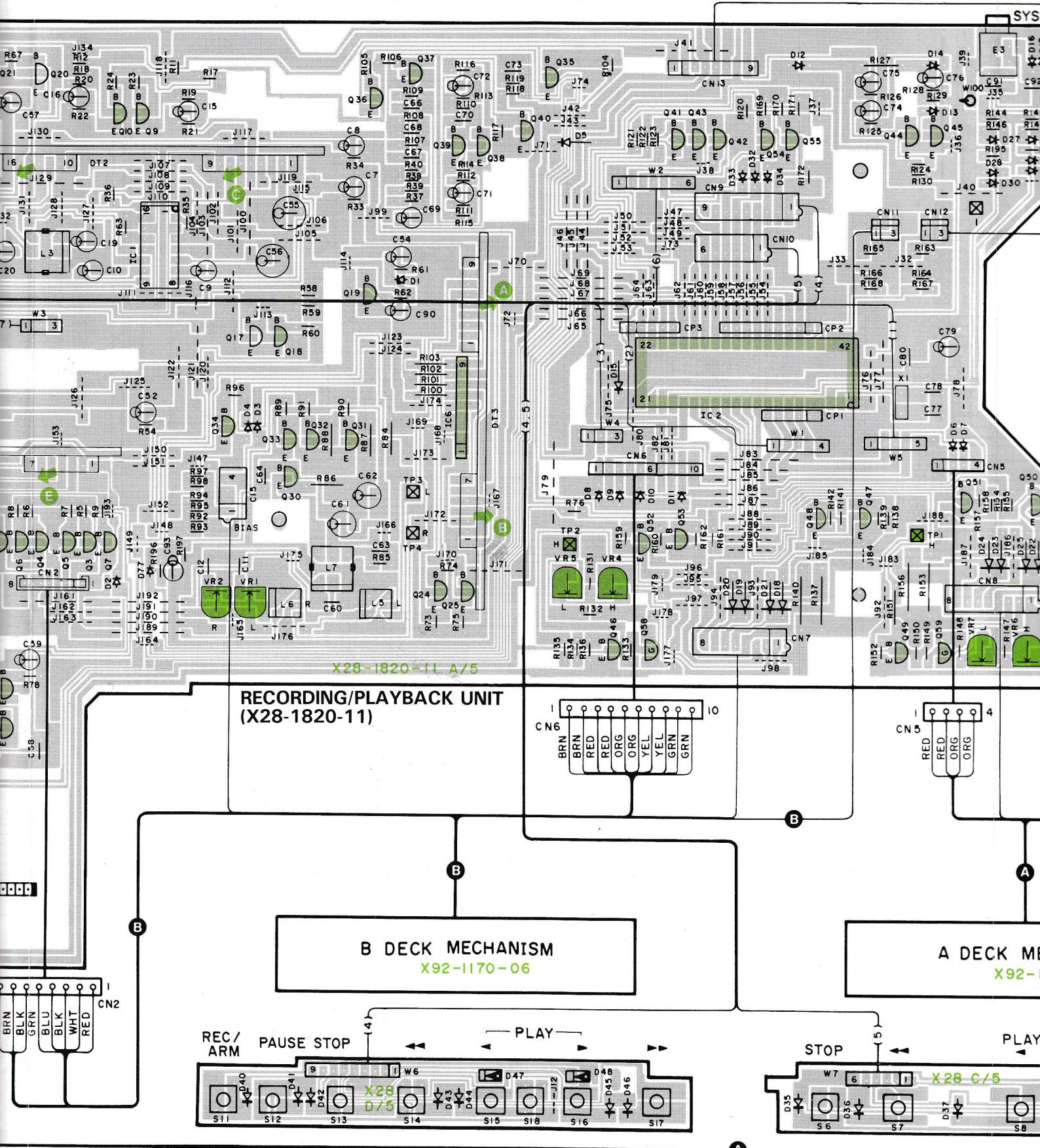






V W X Y Z

# P.C. BOARD (Foil side view)



AA

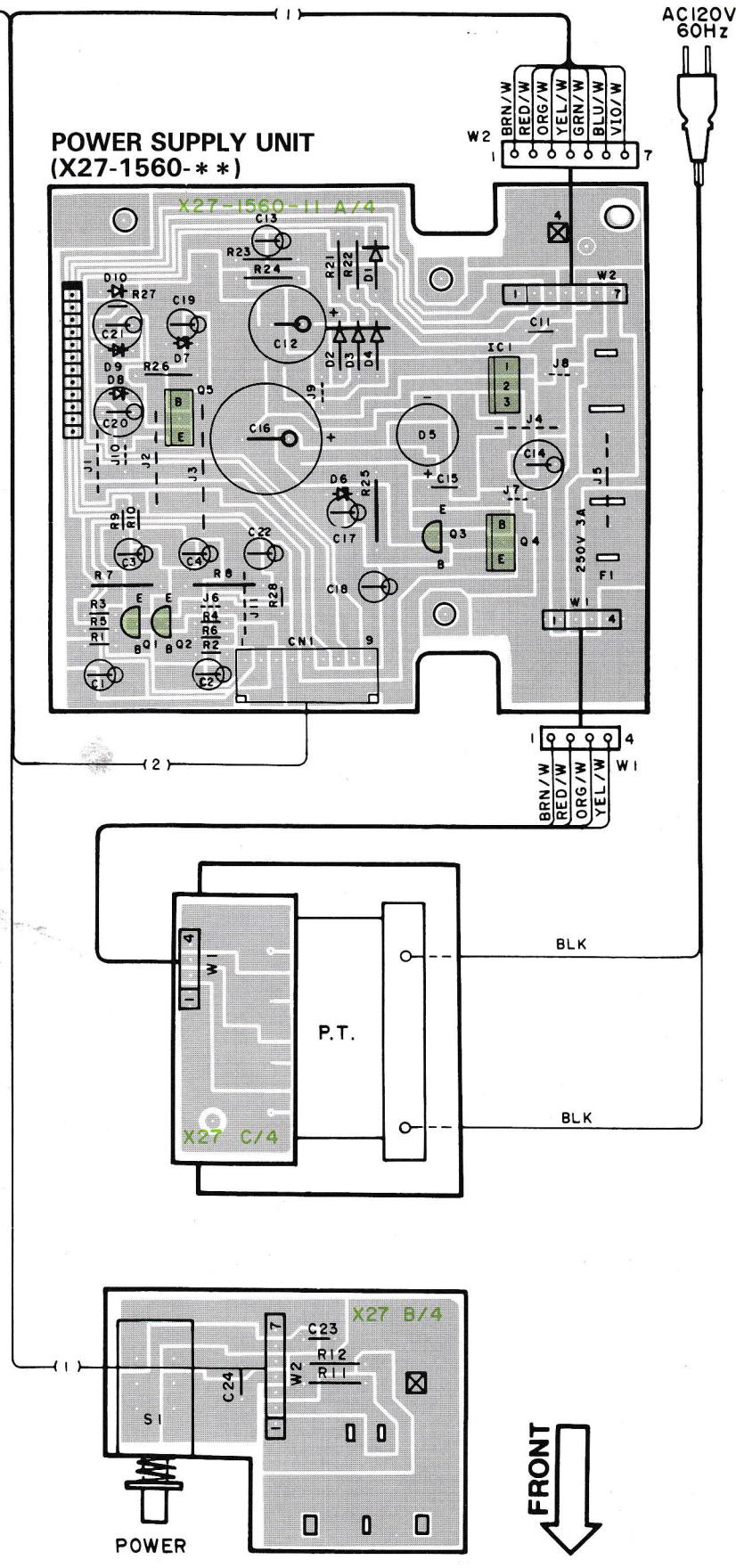
AB

AC

AD

AE

AF



KX-66CW (K)

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

# VOLTAGE TABLES

X28-1820-11

Q11,12

E	3.8V
C	6.7V
B	4.4V

Q19

E	-
C	18V
B	-

Q35,36

E	5V
C	-
B	-

Q38

E	0.6V
C	1.2V
B	-

Q39

E	0.6V
C	3.3V
B	1.2V

Q40

E	5.4V
C	0V
B	5.4V

Q52

E	16V
C	-
B	-

IC4,5

7	0V
14	6V

IC6

1	0V
2	0V
3	4.7V
4	4.7V
5	0V
6	0V
7	0V
8	8.2V
9	0V

IC2

4,5,40~42	0V
21	6V

IC3

1	0V	10	2.7V
2	-	11	11.3V
3	0V	12	12.8V
4	12.8V	13	11.3V
5	12.8V	14	12.8V
6	11.0V	15	12.8V
7	12.8V	16	-
8	11.0V	17	0V
9	14.4V	18	2.1V

X87-1140-01

Q1,2

E	0V
C	0V
B	0V

IC3

1	9V
2	9V
3	9V
4	0V
5	9V
6	9V
7	9V
8	18V

Q2

X27-1560-11, -22

Q1

E	11.85V
C	17.9V
B	12.45V

Q2

E	-
C	17.9V
B	-

Q3

E	-
C	19.5V
B	16.1V

Q4

E	14.76V
C	19.5V
B	16.1V

Q5

E	6.05V
C	14.76V
B	6.63V

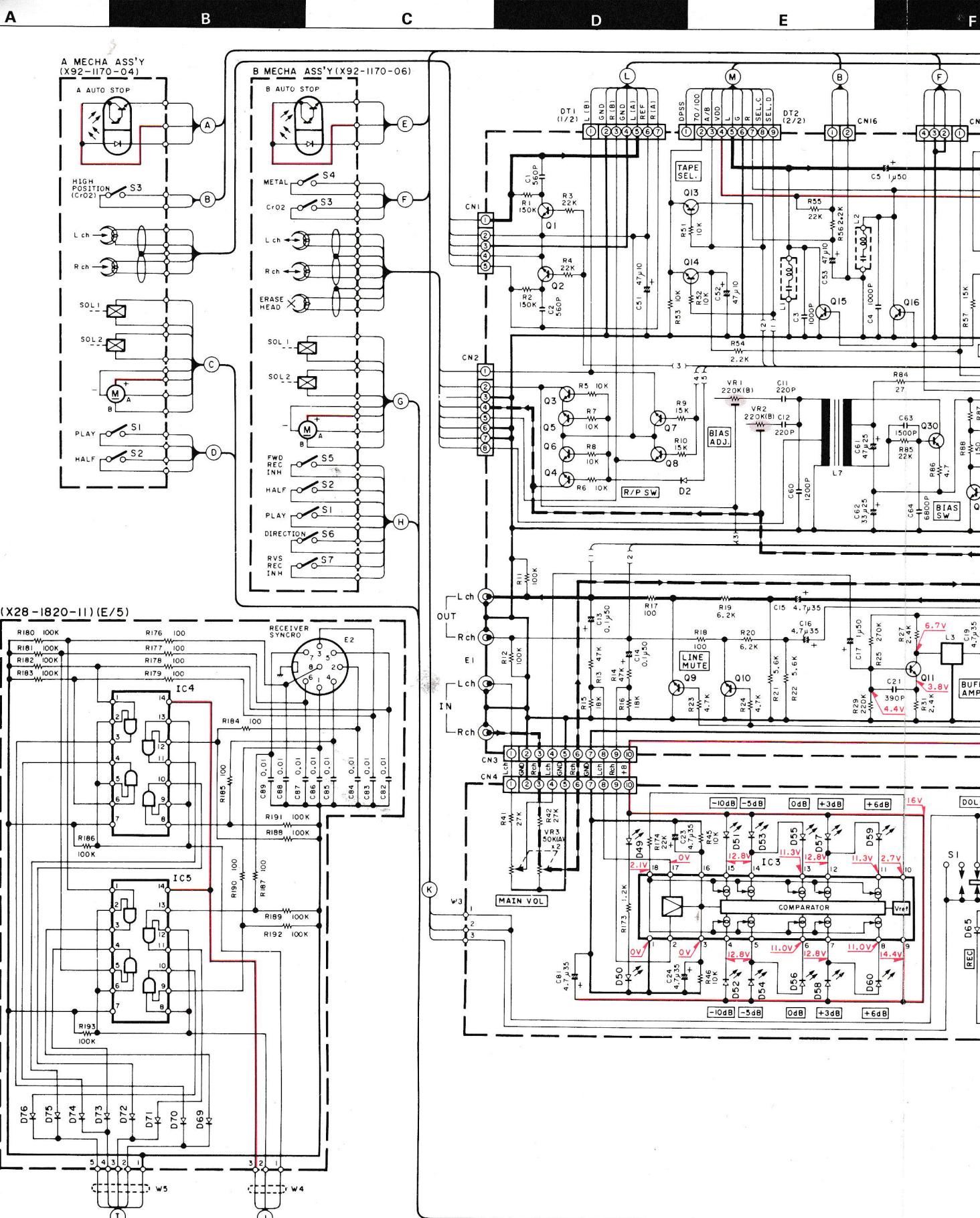
IC1

1	29.8V
2	0V
3	17.9V

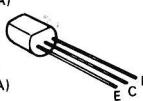
X87-1100-04

IC1

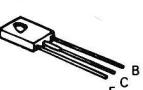
1	10.5V	9	2.9V
2	2.4V	10	-
3	0V	11	2.9V
4	2.4V	12	2.9V
5	2.9V	13	2.9V
6	2.9V	14	2.4V
7	2.8V	15	0.2V
8	0V	16	2.4V



2SA733(A)  
2SA992  
2SC1845  
2SC2320  
2SC945(A)  
2SD1302  
2SD863



2SB772



2SD1266



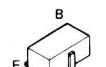
DTC143TFF  
2SC3666



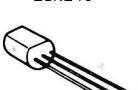
2SA933S  
2SC1740S



2SC2713



2SK246

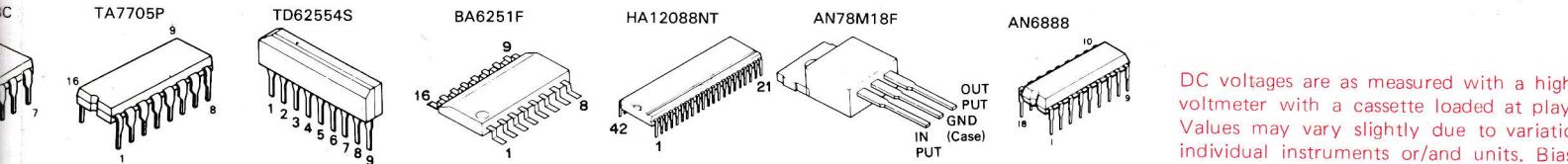
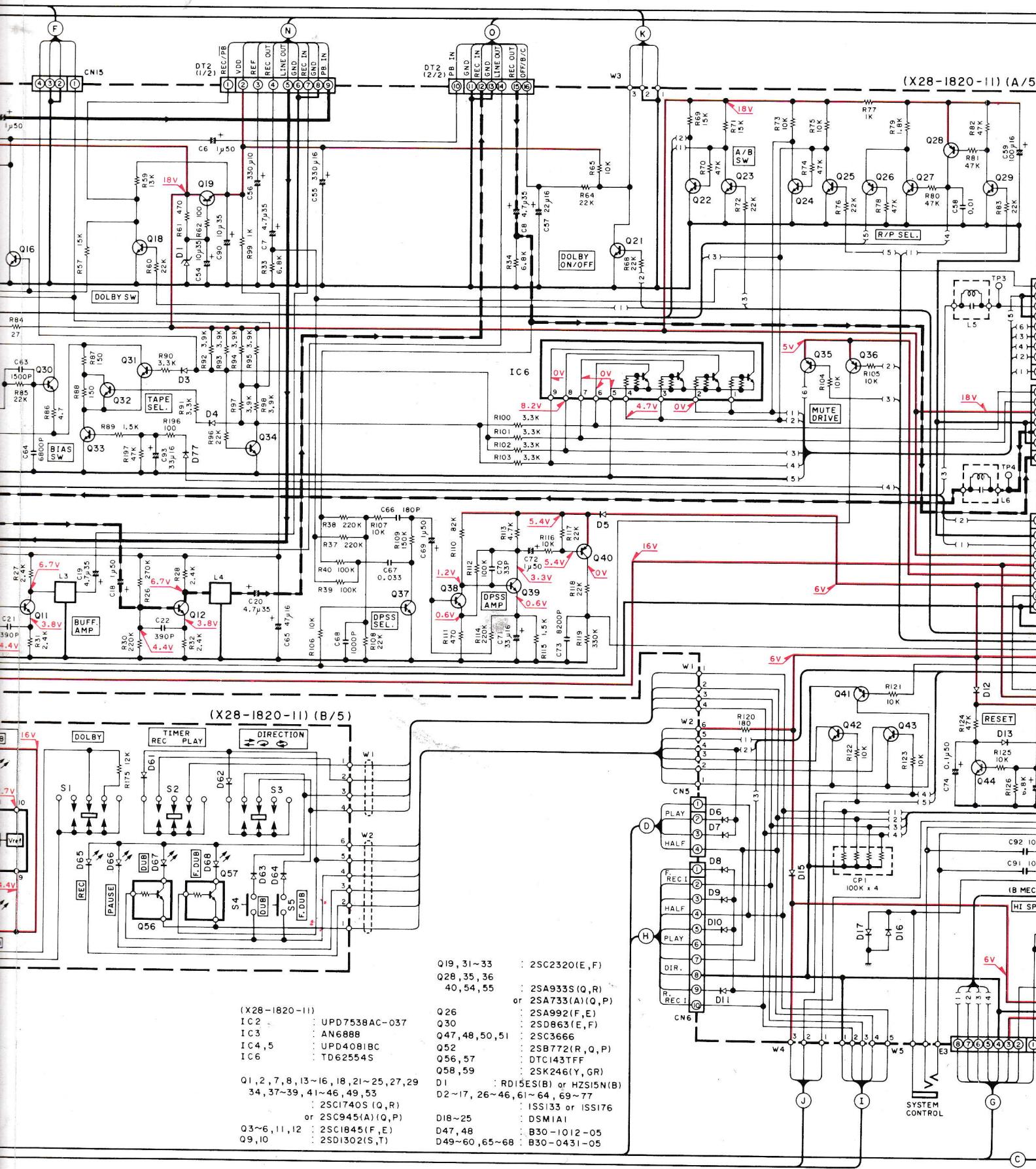


$\mu$ PD4081BC

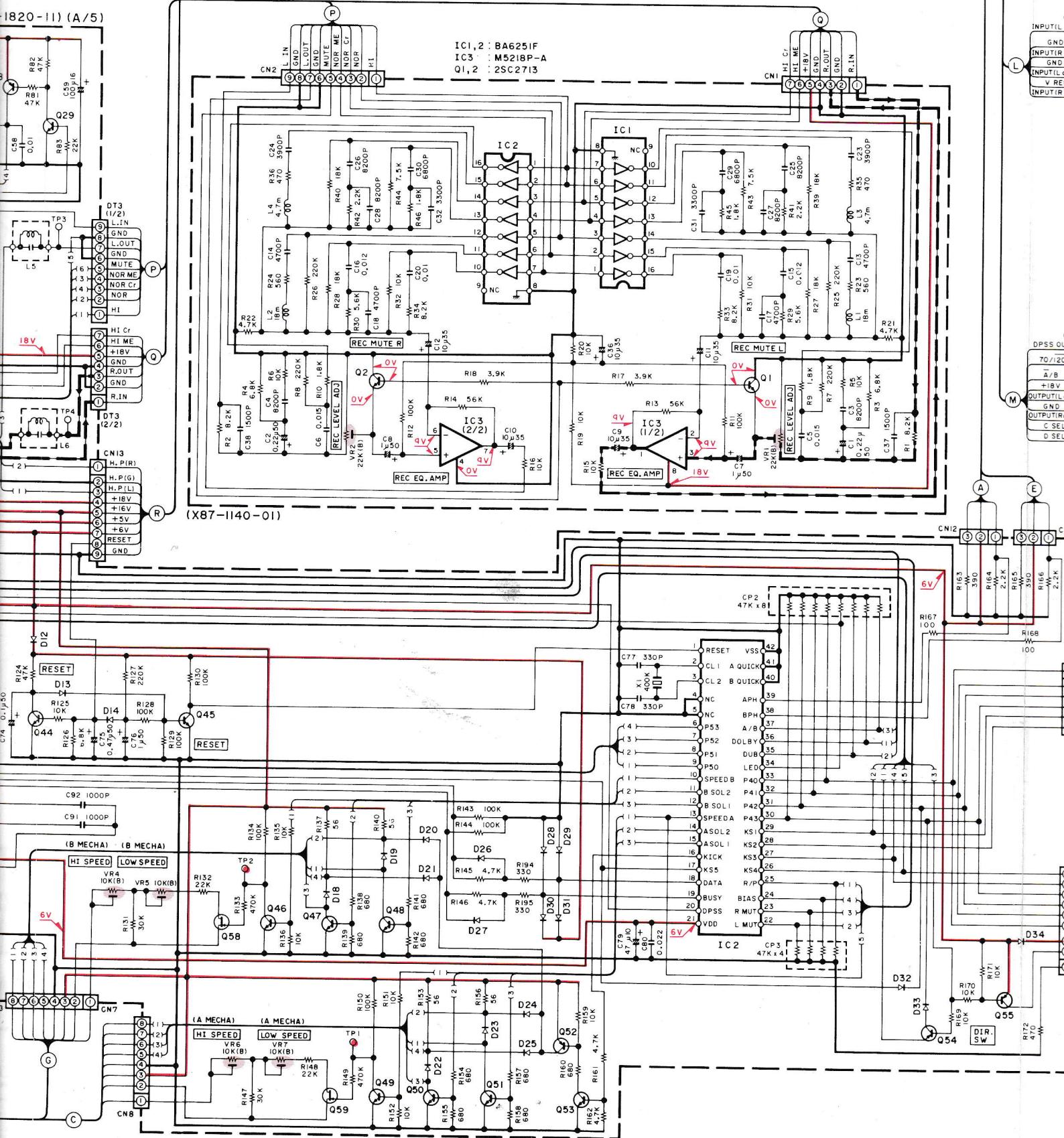


TA770





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

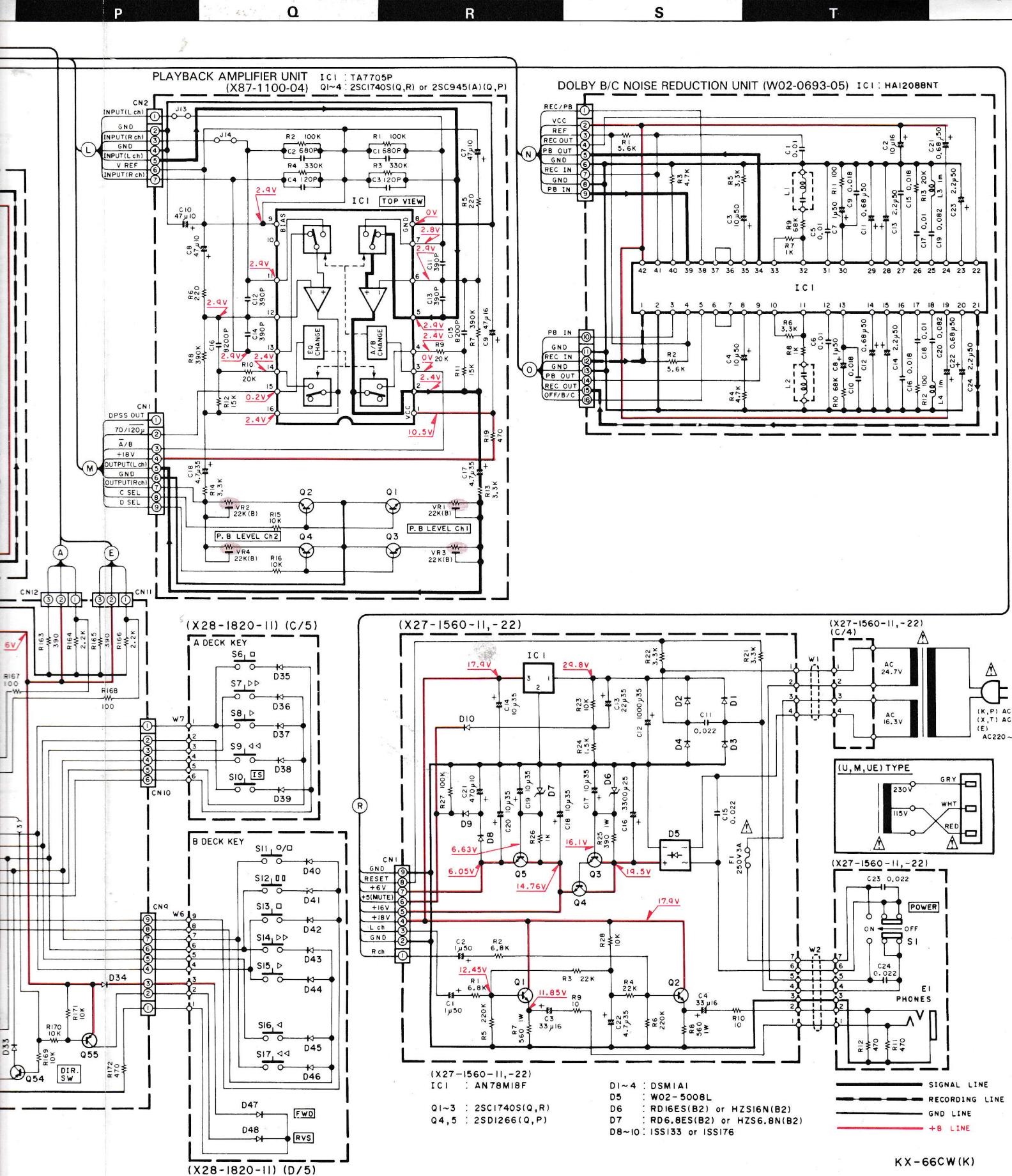


Les tensions c.c. doivent être mesurées avec un voltmètre à haute impédance, une cassette étant insérée en mode du lecture. Les valeurs peuvent différer légèrement du fait des variations inhérentes aux appareils et aux instruments de mesure individuels.

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 components only with respect to parts list).  
reduce the risk of



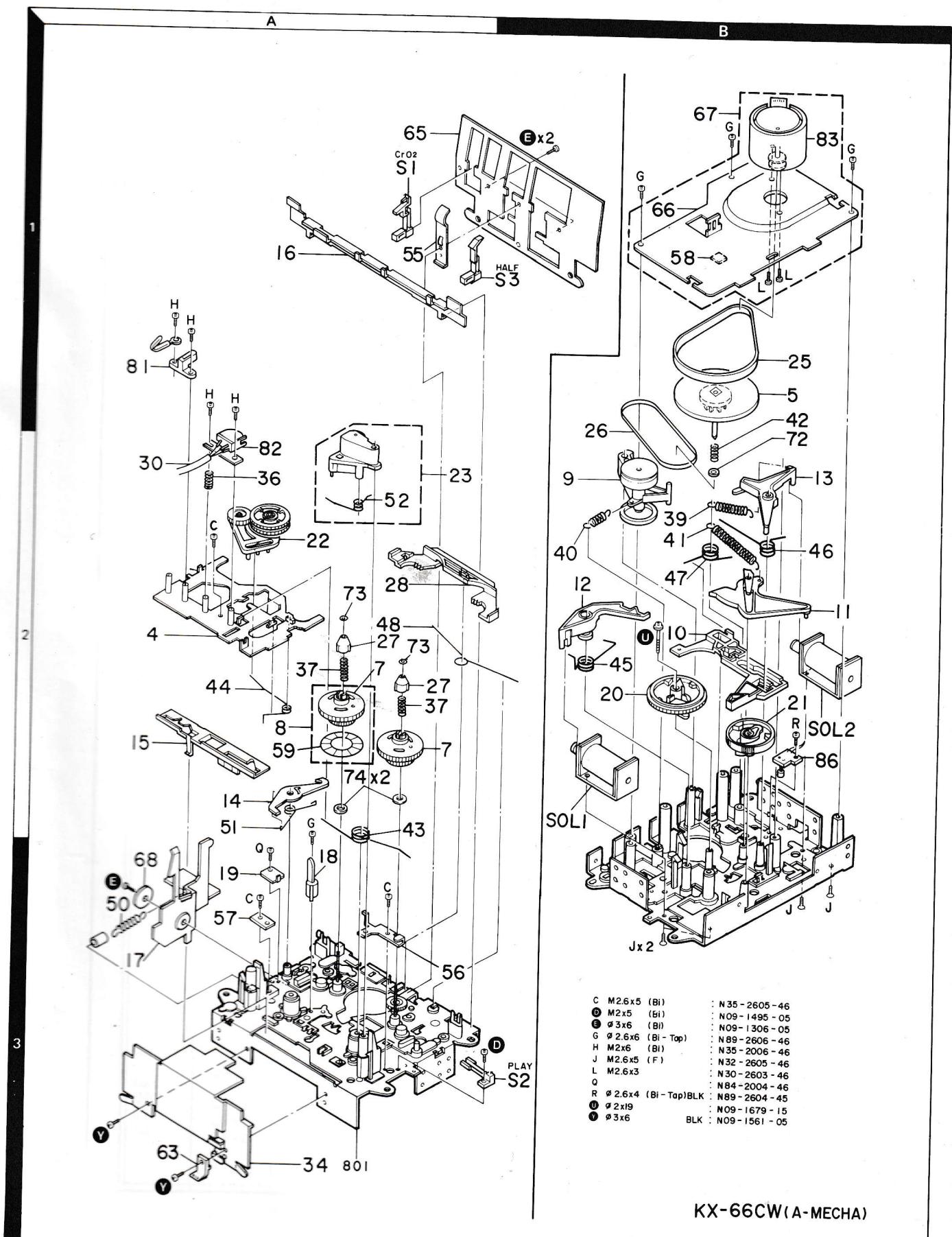
**CAUTION:** For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list). Indicates safety critical components. To reduce the risk of electric shock, leakage-current or resistance

measurements shall be carried out (exposed parts are acceptably insulated from the supply circuit) before the appliance is returned to the customer.

**KX-66CW**  
**KENWOOD**

KX-66CW(K)

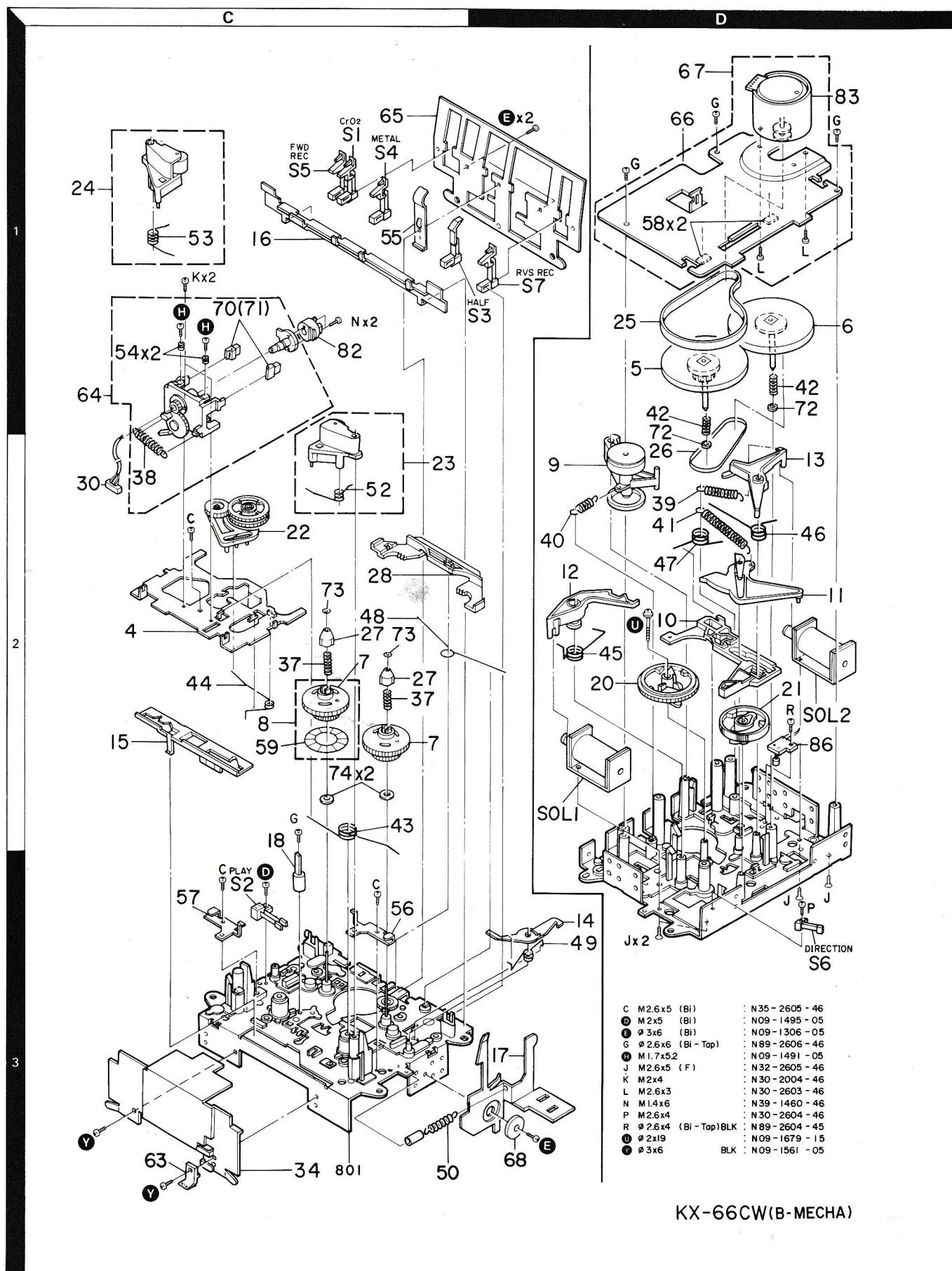
## EXPLODED VIEW (MECHANISM A)



KX-66CW(A-MECHA)

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

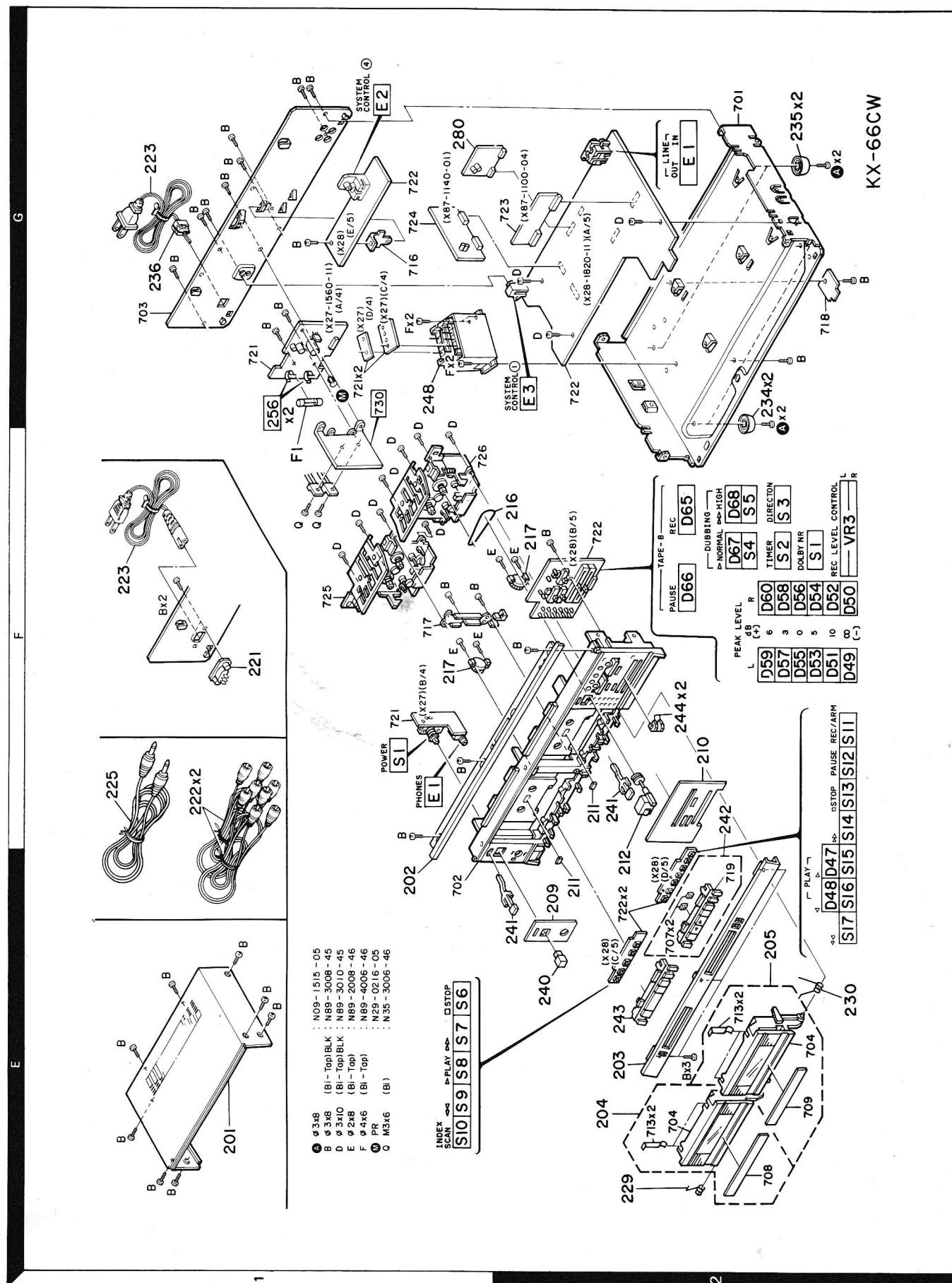
## EXPLODED VIEW (MECHANISM B)



KX-66CW(B-MECHA)

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

## EXPLODED VIEW (UNIT)



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

# KX-66CW

\* New Parts

Parts without Parts No. are not supplied.

Les articles non mentionnés dans le Parts No. ne sont pas fournis.

Telle ohne Parts No. werden nicht geliefert.

Ref. No. 参照番号	Address 位 置	New Parts 新	Parts No. 部品番号	Description 部品名／規格	Desti- nation 仕向	Re- marks 備考
<b>KX-66CW</b>						
201	1E	*	A01-1557-01	METALLIC CABINET		
202	1E	*	A21-0985-02	DRESSING PANEL		
203	2E	*	A21-0988-02	DRESSING PANEL		
204	2E	*	A53-0899-03	CASSETTE HOLDER ASSY(A)	KPUMUE	
204	2E	*	A53-0899-03	CASSETTE HOLDER ASSY(A)	X	
204	2E	*	A53-0934-03	CASSETTE HOLDER ASSY(A)	TE	
205	2E	*	A53-0898-03	CASSETTE HOLDER ASSY(B)	KPUMUE	
205	2E	*	A53-0898-03	CASSETTE HOLDER ASSY(B)	X	
205	2E	*	A53-0933-03	CASSETTE HOLDER ASSY(B)	TE	
209	2E	*	B03-2205-04	DRESSING PLATE (POWER)		
210	2F	*	B03-2207-03	DRESSING PLATE (FRONT)		
211	2E, 2F		B07-1720-04	ESCUTCHEON		
212	2E		B35-0035-05	TAPE COUNTER		
-			B46-0092-03	WARRANTY CARD	K	
-			B46-0094-03	WARRANTY CARD	UUE	
-			B46-0095-03	WARRANTY CARD	UUE	
-			B46-0096-13	WARRANTY CARD	X	
-			B46-0121-03	WARRANTY CARD	P	
-			B46-0122-13	WARRANTY CARD	E	
-			B46-0143-03	WARRANTY CARD	T	
-		*	B50-6841-00	INSTRUCTION MANUAL (ENGLISH)		
-		*	B50-6842-00	INSTRUCTION MANUAL (FRENCH)	PMXE	
-		*	B50-6843-00	INSTRUCTION MANUAL (SPANISH)	M	
-		*	B50-6844-00	INSTRUCTION MANUAL (ARABIC)	M	
-		*	B50-6846-00	INSTRUCTION MANUAL (G.D.I.)	E	
-			B58-0223-04	CAUTION CARD (PRE-SET 120V)	U	
-			B58-0269-04	CAUTION CARD	K	
-			B58-0513-04	CAUTION CARD (PRESET220-240)	UE	
-			B59-0092-00	SERVICE DIRECTORY	UE	
216	2F	*	D16-0163-04	BELT		
217	1F, 2F	*	D39-0183-05	DAMPER		
△ 221	1F		E03-0102-25	AC INLET	UMUE	
△ 222	1F		E30-0505-05	AUDIO CORD		
△ 223	1G		E30-0459-05	AC POWER CORD	E	
△ 223	1G		E30-0780-05	AC POWER CORD	KP	
△ 223	1F		E30-1305-15	AC POWER CORD (INLET)	UMUE	
△ 223	1G		E30-1341-05	AC POWER CORD	X	
△ 223	1G		E30-1416-05	AC POWER CORD	T	
225	1F		E30-1392-05	CORD WITH PLUG	KPUMUE	
225	1F		E30-1392-05	CORD WITH PLUG	X	
△ F1	1F		F06-3023-05	FUSE (UL) (250V 3A)	K	
229	2E	*	G01-2053-04	EXTENSION SPRING(L)		
230	2E	*	G01-2054-04	EXTENSION SPRING(R)		
-		*	H01-7576-04	ITEM CARTON CASE		
-			H10-3441-02	POLYSTYRENE FOAMED FIXTURE(L)		
-			H10-3442-02	POLYSTYRENE FOAMED FIXTURE(R)		
-			H11-0004-04	POLYSTYRENE FOAMED BOARD		
-			H20-0417-04	PROTECTION COVER(460X370X360)	M	
-			H25-0223-04	PROTECTION BAG (750X350X0.03)	KPUMUE	
-			H25-0223-04	PROTECTION BAG (750X350X0.03)	TE	
-			H25-0232-04	PROTECTION BAG (235X350X0.03)		

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234	2G		J02-0161-04	FOOT (FRONT)		
235	2G		J02-0170-04	FOOT (REAR)		
236	1G		J42-0083-05	POWER CORD BUSHING	KPXTE	
-			J61-0307-05	WIRE BAND		
240	2E		K29-2001-04	KNOB ASSY(BUTTON)POWER		
241	2E, 2F		K29-2539-04	KNOB (BUTTON) EJECT		
242	2E		K29-2628-04	KNOB ASSY (B)		
243	2E		K29-2632-03	KNOB (A)		
244	2F		K29-2634-03	KNOB (SLIDE) REC LEVEL CONTROL		
▲ 248	1G	*	L01-7931-05	POWER TRANSFORMER	KP	
▲ 248	1G	*	L01-7932-05	POWER TRANSFORMER	XTE	
▲ 248	1G	*	L01-7934-05	POWER TRANSFORMER	UMUE	
A M	2G		N09-1515-05	TAPPING SCREW (Ø3XB)FOOT		
M	1G		N29-0216-05	RIVET		
<b>POWER SUPPLY UNIT (X27-1560-XX) (K: -11/P,U,M,UE,X,T,E: -22)</b>						
C1 ,2			CEO4KW1H010M	ELECTR0 1.0UF	50WV	
C3 ,4			CEO4KW1C330M	ELECTR0 33UF	16WV	
C11			CK45FF1H223Z	CERAMIC 0.022UF	Z	
C12			CEO4KW1V102M	ELECTR0 1000UF	35WV	
C13			CEO4KW1V220M	ELECTR0 22UF	35WV	
C14			CEO4KW1V100M	ELECTR0 10UF	35WV	
C15			CK45FF1H223Z	CERAMIC 0.022UF	Z	
C16			CEO4KW1E332M	ELECTR0 3300UF	25WV	
C17 -20			CEO4KW1V100M	ELECTR0 10UF	35WV	
C21			CEO4KW1A471M	ELECTR0 470UF	10WV	
C22			CEO4KW1V4R7M	ELECTR0 4.7UF	35WV	
C23 ,24			CK45FF1H223Z	CERAMIC 0.022UF	Z	
E1	1F		E11-0162-05	PHONE JACK (3P)PHONES		
256	1G		J13-0041-05	FUSE CLIP	K	
R7 ,8			RS14KB3A561J	FL-PROOF RS 560	J 1W	
R25			RS14KB3A391J	FL-PROOF RS 390	J 1W	
S1	1F	*	S40-2358-05	PUSH SWITCH (POWER TYPE)		
D1 -4			DSM1A1	DIODE		
D5			W02-5008L	DIODE		
D6			HZS16N(B2)	ZENER DIODE		
D6			RD16ES(B2)	ZENER DIODE		
D7			HZS6.8N(B2)	ZENER DIODE		
D7			RD6.8ES(B2)	ZENER DIODE		
D8 -10			ISS133	DIODE		
D8 -10			ISS176	DIODE		
IC1		*	AN78M18F	IC(VOLTAGE REGULATOR/+18V)		
Q1 -3			2SC1740S(Q,R)	TRANSISTOR		
Q4 ,5			2SD1266(O,P)	TRANSISTOR		
<b>RECORDING/PLAYBACK UNIT (X28-1820-11)</b>						
D47 ,48	2E		B30-1012-05	LED(SLP-981C-50)FWD,RVS		
D49 -60	2E		B30-0431-05	LED(LN21CPH) PEAK LEVEL		
D65 -68	2E		B30-0431-05	LED(LN21CPH) TAPE DUBBING		
C1 ,2			CK45FB1H561K	CERAMIC 560PF	K	
C3 ,4			CK45FB1H102K	CERAMIC 1000PF	K	
C5 ,6			CEO4KW1H010M	ELECTR0 1.0UF	50WV	

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C7 ,8			CEO4KW1V4R7M	ELECTRQ	4.7UF	35WV		
C11 ,12			CC45FSL1H221J	CERAMIC	220PF	J		
C13 ,14			CEO4KW1H0R1M	ELECTRQ	0.1UF	50WV		
C15 ,16			CEO4KW1V4R7M	ELECTRQ	4.7UF	35WV		
C17 ,18			CEO4KW1H010M	ELECTRQ	1.0UF	50WV		
C19 ,20			CEO4KW1V4R7M	ELECTRQ	4.7UF	35WV		
C21 ,22			CK45FB1H391K	CERAMIC	390PF	K		
C23 ,24			CEO4JW1V4R7M	ELECTRQ	4.7UF	35WV		
C51 -53			CEO4KW1A470M	ELECTRQ	47UF	10WV		
C54			CEO4KW1V100M	ELECTRQ	10UF	35WV		
C55			CEO4KW1C331M	ELECTRQ	330UF	16WV		
C56			CEO4KW1A331M	ELECTRQ	330UF	10WV		
C57			CEO4KW1C220M	ELECTRQ	22UF	16WV		
C58			CK45FF1H103Z	CERAMIC	0.010UF	Z		
C59			CEO4KW1C101M	ELECTRQ	100UF	16WV		
C60			C91-0774-05	POLYPRQ	1200PF	J		
C61			CEO4KW1E470M	ELECTRQ	47UF	25WV		
C62			CEO4KW1E330M	ELECTRQ	33UF	25WV		
C63			CF92FV1H152J	MF	1500PF	J		
C64			CF92FV1H682J	MF	6800PF	J		
C65			CEO4KW1C470M	ELECTRQ	47UF	16WV		
C66			CC45FSL1H181J	CERAMIC	180PF	J		
C67			CF92FV1H333J	MF	0.033UF	J		
C68			CK45FB1H102K	CERAMIC	1000PF	K		
C69			CEO4KW1H010M	ELECTRQ	1.0UF	50WV		
C70			CC45FSL1H330J	CERAMIC	33PF	J		
C71			CEO4KW1C330M	ELECTRQ	33UF	16WV		
C72			CEO4KW1H010M	ELECTRQ	1.0UF	50WV		
C73			CF92FV1H822J	MF	8200PF	J		
C74			CEO4KW1H0R1M	ELECTRQ	0.1UF	50WV		
C75			CEO4KW1HR47M	ELECTRQ	0.47UF	50WV		
C76			CEO4KW1H010M	ELECTRQ	1.0UF	50WV		
C77 ,78			CC45FSL1H331J	CERAMIC	330PF	J		
C79			CEO4KW1A470M	ELECTRQ	47UF	10WV		
C80			CK45FF1H223Z	CERAMIC	0.022UF	Z		
C81			CEO4JW1V4R7M	ELECTRQ	4.7UF	35WV		
C82 -89			CK45FF1H103Z	CERAMIC	0.010UF	Z		
C90			CEO4KW1V100M	ELECTRQ	10UF	35WV		
C91 ,92			CK45FB1H102K	CERAMIC	1000PF	K		
C93			CEO4KW1C330M	ELECTRQ	33UF	16WV		
E1	26		E13-0446-05	PHONE JACK(4P) LINE CYLINDRICAL RECEPTACLE MINIATURE PHONE JACK(SYS CONT)				
E2	16		E06-0806-05					
E3	26		E11-0165-05					
L1 ,2			L39-0126-05	TRAP COIL LC FILTER				
L3 ,4			L79-0720-05					
L5 ,6			L39-0145-05	LW OSCILLATING COIL OSCILLATING COIL				
L7			L32-0341-05					
X1			L78-0202-05	RESONATOR (400KHZ)				
CP1			R90-0291-05	MULTI-COMP	100KX4	J	1/6W	
CP2			R90-0462-05	MULTIPLE RESISTOR				
CP3			R90-0202-05	MULTI-COMP	47KX4	J	1/6W	
R84			RD14GB2E270J	FL-PROOF RD	27	J	1/4W	
R86			RD14GB2E4R7J	FL-PROOF RD	4.7	J	1/4W	
R137			RS14KB3D560J	FL-PROOF RS	56	J	2W	

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R140			RS14KB3D560J	FL-PROOF RS 56 J 2W		
R153			RS14KB3D560J	FL-PROOF RS 56 J 2W		
R156			RS14KB3D560J	FL-PROOF RS 56 J 2W		
VR1 ,2			R12-5047-05	TRIMMING POT. (220K)REC LEVEL		
VR3	2F		R13-4040-05	POTENTIOMETER(50KAX2)REC LEVEL		
VR4 -7			R12-3134-05	TRIMMING POT. (10KB) SPEED		
S1 -3	2F		S31-1017-05	SLIDE SWITCH (DOLBY NR,TIMER)		
S4 -17	1E,2F		S40-1064-05	PUSH SWITCH (OPERATION KEY)		
D1			HZS15N(B)	ZENER DIODE		
D1			RD15ES(B)	ZENER DIODE		
D1 ,2			2SC945(A)(Q,P)	TRANSISTOR		
D2 -17			1SS133	DIODE		
D2 -17			1SS176	DIODE		
D7 ,8			2SC945(A)(Q,P)	TRANSISTOR		
D13 -16			2SC945(A)(Q,P)	TRANSISTOR		
D18			2SC945(A)(Q,P)	TRANSISTOR		
D18 -25			DSM1A1	DIODE		
D21 -25			2SC945(A)(Q,P)	TRANSISTOR		
D26 -46			1SS133	DIODE		
D26 -46			1SS176	DIODE		
D27			2SC945(A)(Q,P)	TRANSISTOR		
D28			2SA733(A)(Q,P)	TRANSISTOR		
D29			2SC945(A)(Q,P)	TRANSISTOR		
D34			2SC945(A)(Q,P)	TRANSISTOR		
D35 ,36			2SA733(A)(Q,P)	TRANSISTOR		
D37 -39			2SC945(A)(Q,P)	TRANSISTOR		
D40			2SA733(A)(Q,P)	TRANSISTOR		
D41 -46			2SC945(A)(Q,P)	TRANSISTOR		
D49			2SC945(A)(Q,P)	TRANSISTOR		
D53			2SC945(A)(Q,P)	TRANSISTOR		
D54 ,55			2SA733(A)(Q,P)	TRANSISTOR		
D61 -64			1SS133	DIODE		
D61 -64			1SS176	DIODE		
D69 -77			1SS133	DIODE		
D69 -77		*	1SS176	DIODE		
IC2			UPD7538AC-037	IC(MICROPROCESSOR)		
IC3			AN6888	IC(SPT LED LEVEL METER DR X2)		
IC4 ,5			UPD4081BC	IC(AND X4)		
IC6			TD62554S	IC(4CH TRANSISTOR ARRAY)		
Q1 ,2			2SC1740S(Q,R)	TRANSISTOR		
Q3 -6			2SC1845(F,E)	TRANSISTOR		
Q7 ,8			2SC1740S(Q,R)	TRANSISTOR		
Q9 ,10			2SD1302(S,T)	TRANSISTOR		
Q11 ,12			2SC1845(F,E)	TRANSISTOR		
Q13 -16			2SC1740S(Q,R)	TRANSISTOR		
Q18			2SC1740S(Q,R)	TRANSISTOR		
Q19			2SC2320(E,F)	TRANSISTOR		
Q21 -25			2SC1740S(Q,R)	TRANSISTOR		
Q26			2SA992(F,E)	TRANSISTOR		
Q27			2SC1740S(Q,R)	TRANSISTOR		
Q28			2SA933S(Q,R)	TRANSISTOR		
Q29			2SC1740S(Q,R)	TRANSISTOR		
Q30			2SD863(E,F)	TRANSISTOR		

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Q31 -33			2SC2320(E,F)	TRANSISTOR			
Q34			2SC1740S(Q,R)	TRANSISTOR			
Q35 ,36			2SA933S(Q,R)	TRANSISTOR			
Q37 -39			2SC1740S(Q,R)	TRANSISTOR			
Q40			2SA933S(Q,R)	TRANSISTOR			
Q41 -46			2SC1740S(Q,R)	TRANSISTOR			
Q47 ,48			2SC3666	TRANSISTOR			
Q49			2SC1740S(Q,R)	TRANSISTOR			
Q50 ,51			2SC3666	TRANSISTOR			
Q52			2SB772(R,Q,P)	TRANSISTOR			
Q53			2SC1740S(Q,R)	TRANSISTOR			
Q54 ,55			2SA933S(Q,R)	TRANSISTOR			
Q56 ,57			DTC143TFF	DIGITAL TRANSISTOR			
Q58 ,59			2SK246(Y,GR)	FET			
280	1G		W02-0693-05	ELECTRIC CIRCUIT MODULE			
<b>PLAYBACK AMPLIFIER UNIT (X87-1100-04)</b>							
C1 ,2			CK45FB1H681K	CERAMIC	680PF	K	
C3 ,4			CC45FSL1H121J	CERAMIC	120PF	J	
C7 ,8			CEO4KW1A470M	ELECTRO	47UF	10WV	
C9			CEO4KW1C470M	ELECTRO	47UF	16WV	
C10			CEO4KW1A470M	ELECTRO	47UF	10WV	
C11 -14			CK45FB1H391K	CERAMIC	390PF	K	
C15 ,16			CF92FV1H822J	MF	8200PF	J	
C17 ,18			CEO4KW1V4R7M	ELECTRO	4.7UF	35WV	
VR1 -4			R12-3101-05	TRIMMING POT. (22K)PB LEVEL			
IC1			TA7705P	IC(PB EQ AMP/FWD REV SWITCH)			
Q1 -4			2SC1740S(Q,R)	TRANSISTOR			
Q1 -4			2SC945(A)(Q,P)	TRANSISTOR			
<b>RECORDING AMPLIFIER UNIT (X87-1140-01)</b>							
C1 ,2			CEO4KW1HR22M	ELECTRO	0.22UF	50WV	
C3 ,4			CF92FV1H822J	MF	8200PF	J	
C5 ,6			CF92FV1H153J	MF	0.015UF	J	
C7 ,8			CEO4KW1H010M	ELECTRO	1.0UF	50WV	
C9 -12			CEO4KW1V100M	ELECTRO	10UF	35WV	
C13 ,14			CF92FV1H472J	MF	4700PF	J	
C15 ,16			CF92FV1H123J	MF	0.012UF	J	
C17 ,18			CF92FV1H472J	MF	4700PF	J	
C19 ,20			CF92FV1H103J	MF	0.010UF	J	
C23 ,24			CF92FV1H392J	MF	3900PF	J	
C25 -28			CF92FV1H822J	MF	8200PF	J	
C29 ,30			CF92FV1H682J	MF	6800PF	J	
C31 ,32			CF92FV1H332J	MF	3300PF	J	
C36			CEO4KW1V100M	ELECTRO	10UF	35WV	
C37 ,38			CF92FV1H152J	MF	1500PF	J	
L1 ,2		*	L40-1835-29	SMALL FIXED INDUCTOR(18MH,G)			
L3 ,4		*	L40-4725-29	SMALL FIXED INDUCTOR(4.7MH,J)			
J1 -7			R92-0350-05	JUMPER WIRE (RESISTOR TYPE)			
R1 ,2			RD41FB2B822J	CYLND CHIP R 8.2K	J	1/8W	
R3 ,4			RD41FB2B682J	CYLND CHIP R 6.8K	J	1/8W	
R5 ,6			RD41FB2B103J	CYLND CHIP R 10K	J	1/8W	
R7 ,8			RD41FB2B224J	CYLND CHIP R 220K	J	1/8W	
R9 ,10			RD41FB2B182J	CYLND CHIP R 1.8K	J	1/8W	

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R11 ,12		*	RD41FB2B104J	CYLND CHIP R 100K	J	1/8W			
R13 ,14		*	RD41FB2B563J	CYLND CHIP R 56K	J	1/8W			
R15 ,16		*	RD41FB2B103J	CYLND CHIP R 10K	J	1/8W			
R17 ,18		*	RD41FB2B392J	CYLND CHIP R 3.9K	J	1/8W			
R19 ,20		*	RD41FB2B103J	CYLND CHIP R 10K	J	1/8W			
R21 ,22		*	RD41FB2B472J	CYLND CHIP R 4.7K	J	1/8W			
R23 ,24		*	RD41FB2B561J	CYLND CHIP R 560	J	1/8W			
R25 ,26		*	RD41FB2B224J	CYLND CHIP R 220K	J	1/8W			
R27 ,28		*	RD41FB2B183J	CYLND CHIP R 18K	J	1/8W			
R29 ,30		*	RD41FB2B562J	CYLND CHIP R 5.6K	J	1/8W			
R31 ,32		*	RD41FB2B103J	CYLND CHIP R 10K	J	1/8W			
R33 ,34		*	RD41FB2B822J	CYLND CHIP R 8.2K	J	1/8W			
R35 ,36		*	RD41FB2B471J	CYLND CHIP R 470	J	1/8W			
R39 ,40		*	RD41FB2B183J	CYLND CHIP R 18K	J	1/8W			
R41 ,42		*	RD41FB2B222J	CYLND CHIP R 2.2K	J	1/8W			
R43 ,44			RD41FB2B752J	CYLND CHIP R 7.5K	J	1/8W			
R45 ,46			RD41FB2B182J	CYLND CHIP R 1.8K	J	1/8W			
VR1 ,2			R12-31D1-05	TRIMMING POT. (22K)REC LEVEL					
IC1 ,2			BA6251F	IC(7CH TRANSISTOR ARRAY)					
IC3			M5218P-A	IC(OP AMP X2)					
Q1 ,2			2SC2713	TRANSISTOR					

## MECHANISM ASS'Y (A) (X92-1170-04)

4	2A	*	A11-0215-03	SUB CHASSIS ASSY					
5	1B		D01-0066-05	FLYWHEEL ASSY					
7	2A		D03-0236-04	REEL DISK					
8	2A		D03-0244-05	REEL DISK ASSY					
9	2B		D10-1404-15	ARM ASSY (F ARM)					
10	2B		D10-1405-03	SLIDER (FUNCTION)					
11	2B		D10-1406-03	ARM (DIRECTION)					
12	2B		D10-1407-03	ARM (FD TRIGGER)					
13	2B		D10-1408-03	ARM (FR TRIGGER)					
14	2A		D10-1409-04	ARM (LOCK)					
15	2A		D10-1410-03	SLIDER (DIRECTION)					
16	1A		D10-1411-03	LEVER					
17	3A		D10-1649-14	LEVER					
18	3A		D21-1098-04	SHAFT					
19	3A		D32-0138-04	STOPPER (L)					
20	2B		D13-0613-02	GEAR (TD TRIGGER,BLK)					
21	2B		D13-0267-12	GEAR (FR TRIGGER)					
22	2A	*	D14-0186-05	IDLER ASSY (QWY)					
23	2A		D14-0184-03	PINCH ROLLER ASSY					
25	1B		D16-0083-04	BELT					
26	1B		D16-0116-04	BELT					
27	2A		D19-0073-04	HUB SHAFT					
28	2A		D30-0018-05	BRAKE					
30	2A	*	E31-3965-05	LEAD WIRE (HEAD)					
34	3A	*	F10-0613-04	SHIELDING PLATE					
36	2A		G01-1670-04	COMPRESSION SPRING(R/P HEAD)					
37	2A		G01-1911-04	COMPRESSION SPRING(BK TENTION)					
39	2B		G01-1667-04	EXTENSION SPRING(FR TRIGGER)					
40	2B		G01-1668-04	EXTENSION SPRING(F ARM)					
41	2B		G01-2045-04	EXTENSION SPRING(DIRECTION)					

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42	1B		G01-1671-04	COMPRESSION SPRING(FLYWHEEL)		
43	2A		G01-1912-14	TORSION COIL SPRING(RETURN)		
44	2A		G01-1677-04	TORSION COIL SPRING(IDLER)		
45	2B		G01-1678-04	TORSION COIL SPRING(TD TRIGGER)		
46	2B		G01-1679-04	TORSION COIL SPRING(FRSP)		
47	2B		G01-1680-04	TORSION COIL SPRING(FUNCTION)		
48	2A		G01-1681-14	TORSION COIL SPRING(BRAKE)		
50	3A		G01-1839-14	EXTENSION SPRING(LOCK LEVER, RD)		
51	2A	*	G01-1743-14	TORSION COIL SPRING(EL)		
52	2A	*	G01-1967-04	TORSION COIL SPRING		
55	1A	*	G02-0424-04	FLAT SPRING		
56	3A	*	G02-0423-04	FLAT SPRING		
57	3A		G02-0390-04	FLAT SPRING (PANEL-L)		
58	1B		G16-0108-14	SHEET		
59	2A		G16-0109-08	SHEET		
63	3A		J19-2644-04	HOLDER		
65	1A		J21-3834-04	SWITCH MOUNTING HARDWARE		
66	1B	*	J21-3642-14	FLYWHEEL MOUNTING HARDWARE		
67	1B	*	J21-3702-13	MOUNTING HARDWARE ASSY(MOTOR)		
68	3A		J31-0179-14	COLLAR (LOCK LEVER)		
-			J61-0054-05	WIRE BAND		
--			J61-0307-05	WIRE BAND		
72	1B		N19-0367-14	FLAT WASHER		
73	2A		N19-0365-04	FLAT WASHER (Ø1.2) HUB SHAFT		
74	2A		N19-0986-04	FLAT WASHER (Ø1.7) REEL DISK		
D	3B		N09-1495-05	MACHINE SCREW(M2X5)PLAY SW		
E	3A, 1B		N09-1306-05	TAPPING SCREW(Ø3X6)		
U	2B		N09-1679-15	TAPTRITE SCREW(FD GEAR)		
Y	3A		N09-1561-05	TAPTRITE SCREW(Ø3X6, +--)		
S1	1A		S46-1029-25	LEAF SWITCH (CR02)		
S2	3B		S46-1046-05	LEAF SWITCH (PLAY)		
S3	1B		S46-1075-05	LEAF SWITCH (HALF)		
81	1A		T32-0308-05	ERASE HEAD (DUMMY)		
82	2A	*	T34-0320-05	RECORD/PLAYBACK HEAD		
83	1B		T42-0424-04	MOTOR ASSY		
86	2B		T95-0028-05	OPTO ISOLATOR		
SOL.1	2B		T94-0084-05	SOLENOID COIL		
SOL.2	2B		T94-0086-15	SOLENOID COIL		

## MECHANISM ASS'Y (B) (X92-1170-06)

4	2C	*	A11-0193-13	SUB CHASSIS (R ER)		
5	1D		D01-0066-05	FLYWHEEL ASSY		
6	1D		D01-0067-05	FLYWHEEL ASSY		
7	2C		D03-0236-04	REEL DISK		
8	2C		D03-0244-05	REEL DISK ASSY		
9	2D		D10-1404-15	ARM ASSY (F ARM)		
10	2D		D10-1405-03	SLIDER (FUNCTION)		
11	2D		D10-1406-03	ARM (DIRECTION)		
12	2D		D10-1407-03	ARM (FD TRIGGER)		
13	2D		D10-1408-03	ARM (FR TRIGGER)		
14	3D		D10-1409-04	ARM (LOCK)		
15	2C		D10-1410-03	SLIDER (DIRECTION)		
16	1C		D10-1411-03	LEVER		

E: Scandinavia &amp; Europe K: USA P: Canada

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⚠ indicates safety critical components.

# PARTS LIST

\* New Parts

Parts without Parts No. are not supplied.

Les articles non mentionnés dans le Parts No. ne sont pas fournis.

Telle ohne Parts No. werden nicht geliefert.

Ref. No. 参照番号	Address 位 置	New Parts 新 品	Parts No. 部品番号	Description 部品名 / 規 格	Desti- nation 仕 向	Re- marks 備考
17	3D		D10-1650-14	LEVER		
18	3C		D21-1098-04	SHAFT		
20	2D		D13-0613-02	GEAR	(TD TRIGGER, BLK)	
21	2D		D13-0267-12	GEAR	(FR TRIGGER)	
22	2C		D14-0179-05	IDLER ASSY	(RVS)	
24	1C		D14-0185-03	PINCH ROLLER ASSY		
25	1D	*	D16-0156-04	BELT	(RVS X2)	
26	2D		D16-0116-04	BELT		
27	2C		D19-0073-04	HUB SHAFT		
28	2C		D30-0018-05	BRAKE		
30	1C	*	E31-3967-05	LEAD WIRE	(HEAD)	
34	3C	*	F10-0613-04	SHIELDING PLATE		
37	2C		G01-1911-04	COMPRESSION SPRING(BK TENTION)		
38	2C		G01-1666-08	EXTENSION SPRING(DIRECTION)		
39	2D		G01-1667-04	EXTENSION SPRING(FR TRIGGER)		
40	2D		G01-1668-04	EXTENSION SPRING(F ARM)		
41	2D		G01-2045-04	EXTENSION SPRING(DIRECTION)		
42	1D		G01-1671-04	COMPRESSION SPRING(FLYWHEEL)		
43	2C		G01-1912-14	TORSION COIL SPRING(RETURN)		
44	2C		G01-1677-04	TORSION COIL SPRING(IDLER)		
45	2D		G01-1678-04	TORSION COIL SPRING(TD TRIGGER)		
46	2D		G01-1679-04	TORSION COIL SPRING(FRSP)		
47	2D		G01-1680-04	TORSION COIL SPRING(FUNCTION)		
48	2C		G01-1681-14	TORSION COIL SPRING(BRAKE)		
49	3D		G01-1682-04	TORSION COIL SPRING(ER)		
50	3C		G01-1839-14	EXTENSION SPRING(LOCK LEVER, R)		
52	2C	*	G01-1967-04	TORSION COIL SPRING(R)		
53	1C	*	G01-1968-04	TORSION COIL SPRING(L)		
54	1C		G01-1758-08	COMPRESSION SPRING (AZIMUTH)		
55	1C	*	G02-0424-04	FLAT SPRING		
56	3C	*	G02-0423-04	FLAT SPRING		
57	3C	*	G02-0422-04	FLAT SPRING (PANEL-R)		
58	1D		G16-0108-14	SHEET		
59	2C		G16-0109-08	SHEET		
63	3C		J19-2644-04	HOLDER		
64	1C		J19-2528-05	HOLDER ASSY		
65	1C		J21-3624-04	SWITCH MOUNTING HARDWARE		
66	1D		J21-3951-04	FLYWHEEL MOUNTING HARDWARE		
67	1D	*	J21-3952-03	MOUNTING HARDWARE ASSY		
68	3D		J31-0179-14	COLLAR	(LOCK LEVER)	
70	1C		J90-0158-08	GUIDE		
71	1C		J90-0159-08	GUIDE		
-			J61-0054-05	WIRE BAND		
-			J61-0307-05	WIRE BAND		
72	1D		N19-0367-14	FLAT WASHER	(Ø2.6)FLYWHEEL	
73	2C		N19-0365-04	FLAT WASHER		
74	2C		N19-0986-04	FLAT WASHER		
D	3C		N09-1495-05	MACHINE SCREW(M2X5)PLAY SW		
E	1D, 3D		N09-1306-05	TAPPING SCREW(Ø3X6)		
H	1C		N09-1491-05	MACHINE SCREW(M1.7X5.2)AZIMUTH		
U	2D		N09-1679-15	TAPTITE SCREW(FD GEAR)		

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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 / 規格	Desti- nation 仕 向	Re- marks 備考
Y	3C		N09-1561-05	TAPITIE SCREW(Ø3X6,+-)		
S1	1C		S46-1029-25	LEAF SWITCH (TAPE SELECTOR)		
S2	3C		S46-1046-05	LEAF SWITCH (PLAY)		
S3	1D		S46-1075-05	LEAF SWITCH (HALF)		
S4	1C		S46-1029-25	LEAF SWITCH (TAPE SELECTOR)		
S6	3D		S46-1068-05	LEAF SWITCH (DIRECTION)		
S7	1C		S46-1029-25	LEAF SWITCH (TAPE SELECTOR)		
B2	1C	*	T39-0004-05	RECORD/PLAYBACK ERASE HEAD		
B3	1D		T42-0424-04	MOTOR ASSY		
B6	2D		T95-0028-05	OPTO ISOLATOR		
SOL1	2D		T94-0084-05	SOLENOID COIL		
SOL2	2D		T94-0086-15	SOLENOID COIL		

**DOLBY B/C NOISE REDUCTION UNIT (W02-0693-05)**

IC1		HA12088NT	IC(DOLBY B/C NOISE REDUCTION)		
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## SPECIFICATIONS

<b>Type</b>	Stereo Double Full Logic Cassette Deck with Dolby B, C NR Tape A : One way, Tape B : Auto reverse
<b>Track System</b>	4-track, 2-channel stereo/mono, recording/playback
<b>Recording System</b>	AC bias system (Bias frequency: 105 kHz)
<b>Erasing System</b>	AC system
<b>Tape Speed</b>	4.76 cm/sec (1-7/8 ips)
<b>Heads</b>	Hard permalloy playback/record head x 1 Hard permalloy playback head x 1 Double gap ferrite erasing head x 1
<b>Motor</b>	Electronically-controlled DC motor x 2
<b>Fast Winding Time</b>	Approx. 80 seconds with C-60 tape
<b>Frequency Response:</b>	
<b>Normal Tape</b>	20 Hz to 15,000 Hz (30 Hz to 14,000 Hz, ±3 dB)
<b>CrO<sub>2</sub> Tape</b>	20 Hz to 16,000 Hz (30 Hz to 15,000 Hz, ±3 dB)
<b>Metal Tape</b>	20 Hz to 16,000 Hz (30 Hz to 15,000 Hz, ±3 dB)
<b>Signal-to Noise Ratio:</b>	
<b>Dolby C Type NR ON</b>	73 dB (Normal tape)
<b>Dolby B Type NR ON</b>	63 dB (Normal tape)
<b>Dolby NR OFF</b>	56 dB (Normal tape)
<b>Harmonic Distortion</b>	Less than 0.6% (at 1 kHz, 0 VU with normal tape)
<b>Wow and Flutter</b>	0.1 % (W.R.M.S), ±0.25% (DIN)
<b>Input sensitivity/Impedance:</b>	
<b>LINE x 2</b>	77.5 mV/50 kohms
<b>Output Level/Output Impedance:</b>	
<b>LINE x 2</b>	270 mV/3.3 kohms
<b>Power Consumption</b>	20 W
<b>Dimensions</b>	W: 420 mm (16-9/16") H: 119 mm (4-13/16") D: 265 mm (10-3/8")
<b>Weight (Net)</b>	5.1 kg (11.2 lb)
<b>Reference Tapes</b>	Normal: KENWOOD ND-54 CrO <sub>2</sub> : KENWOOD CD-54 Metal: KENWOOD MD-46

Kenwood follows a policy of continuous advancements in development.

For this reason specifications may be changed without notice.

DOLBY and the double-D symbol are trademarks of Dolby Laboratories Licensing Corporation.

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

Kenwood poursuit une politique de progrès constants en ce qui concerne le développement.

Pour cette raison, les spécifications sont sujettes à modifications sans préavis.

La marque DOLBY et le double "D" sont des marques déposées des Dolby Laboratories.

Le système de réduction du bruit de fond est fabriqué sous licence des Dolby Laboratories.

Kenwood strebt ständige Verbesserungen in der Entwicklung an.

Daher bleiben Änderungen der technischen Daten jederzeit vorbehalten.

DOLBY und Doppel-D-Symbol sind eingetragene Warenzeichen der Dolby Laboratories.

Dolby-Rauschunterdrückung mit Lizenz der Dolby Laboratories gefertigt.

## KENWOOD CORPORATION

Shionogi Shibuya Building, 17-5, 2-chome Shibuya, Shibuya-ku, Tokyo 150, Japan

## KENWOOD ELECTRONICS

1315 E. Watsoncenter Rd, Carson, California 90745;  
75 Seaview Drive, Secaucus, New Jersey 07094, U.S.A.

## KENWOOD ELECTRONICS CANADA INC.

P.O. Box 1075 959 Gana Court, Mississauga, Ontario, Canada L4T 4C2

## KENWOOD ELECTRONICS BENELUX N.V.

Mechelsesteenweg 418 B-1930 Zaventem, Belgium

## KENWOOD ELECTRONICS DEUTSCHLAND GMBH

Rembrücker-Str. 15, 6056 Heusenstamm, West Germany

## TRIO-KENWOOD FRANCE S.A.

Hi-Fi-VIDEO-CAR Hi-Fi

13, Boulevard Ney, 75018 Paris, France

## TRIO-KENWOOD U.K. LTD.

17 Bristol Road, The Metropolitan Centre, Greenford, Middx. UB6 8UP England

## KENWOOD ELECTRONICS AUSTRALIA PTY. LTD.

4E Woodcock Place, Lane Cove, N.S.W. 2066, Australia

## KENWOOD &amp; LEE ELECTRONICS, LTD.

Wang Kee Building, 5th Floor, 34-37, Connaught Road, Central, Hong Kong