

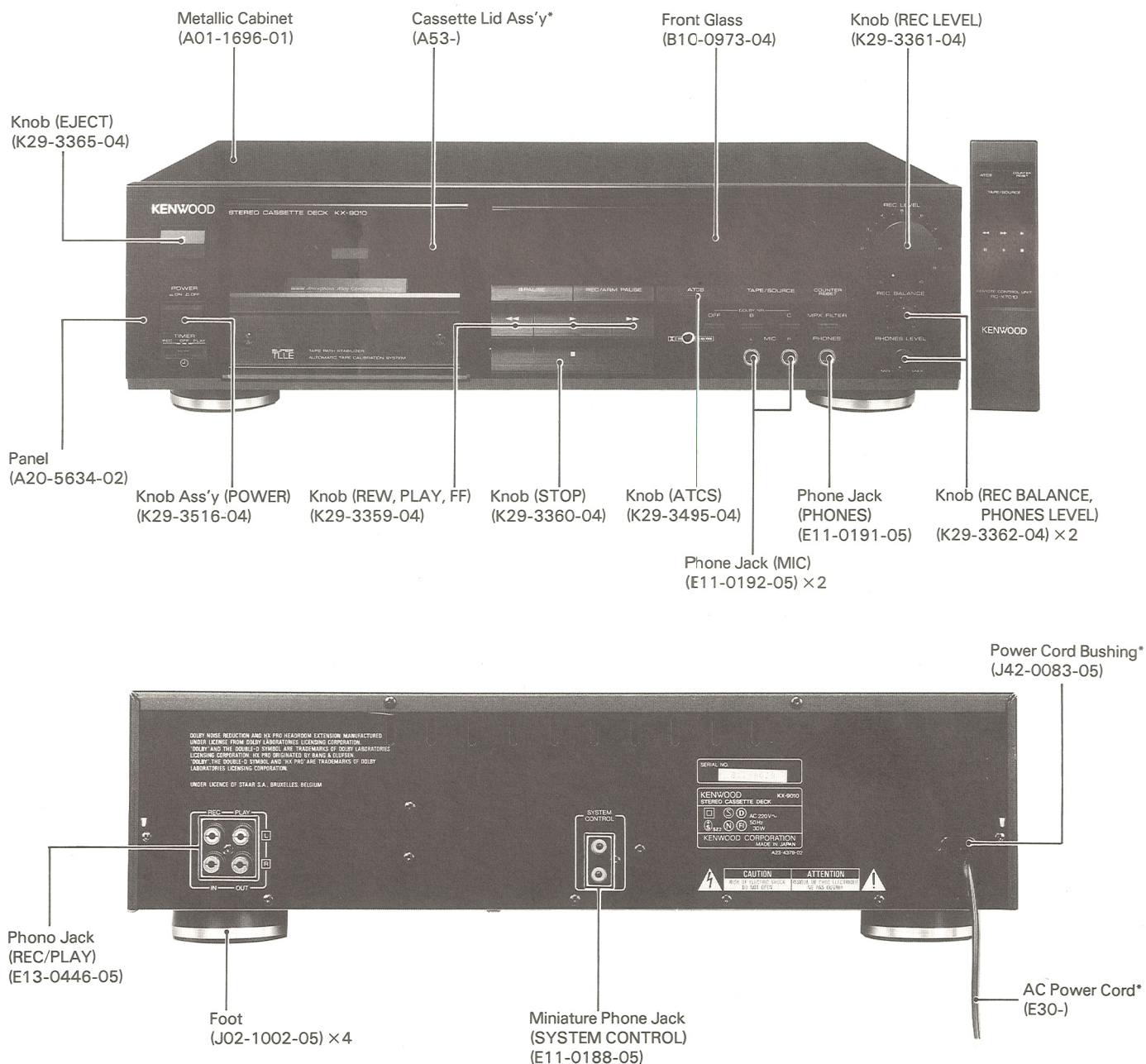
STEREO CASSETTE DECK

KX-9010

SERVICE MANUAL

KENWOOD

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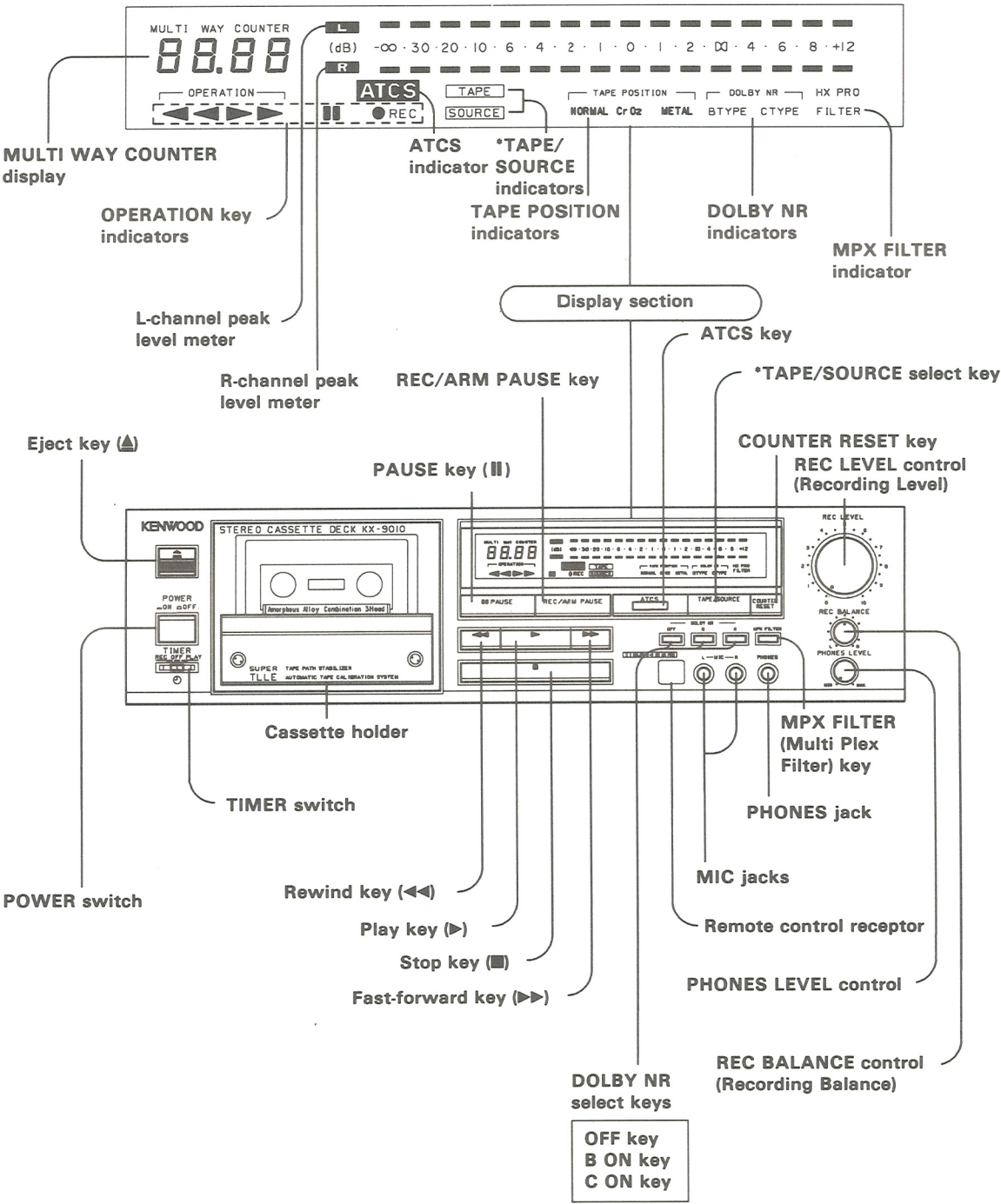


* Refer to parts list on page 41.

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CONTROL AND INDICATOR

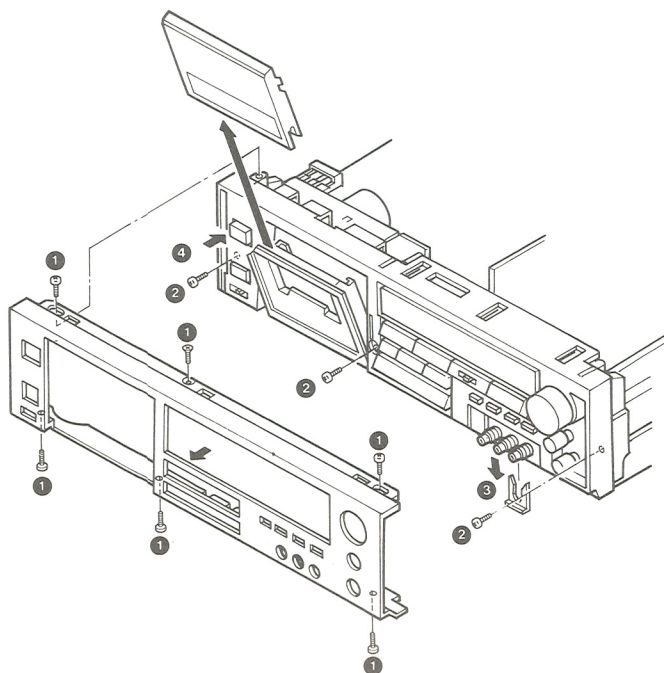


DISASSEMBLY FOR REPAIR

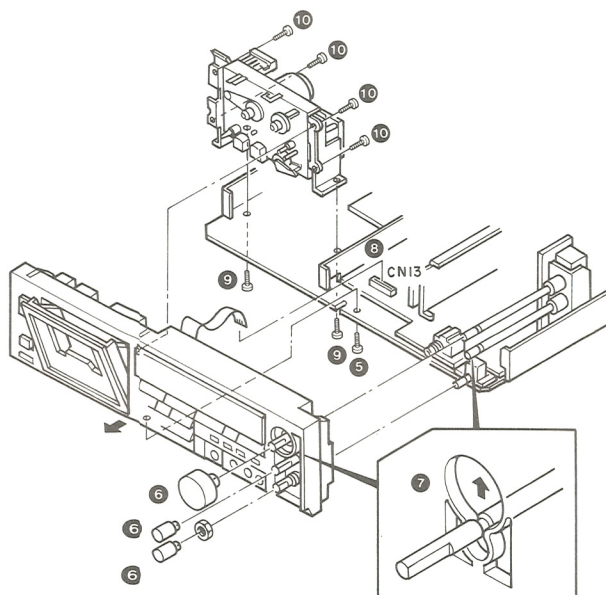
● Removing the front panel and mechanism ass'y

* Remove the case beforehand.

1. Remove the six screws ① and take out the front panel.
2. Remove the three screws ②.
3. Remove the PHONES jack fixture ③ in the direction of the arrow.
4. Press the EJECT knob and detach the cassette lid ④.



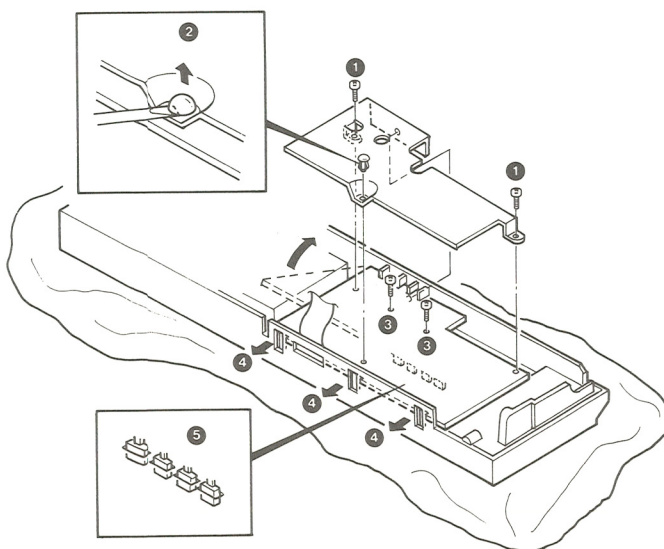
5. Remove the one screw ⑤.
6. Take out the REC LEVEL, REC BALANCE and PHONES LEVEL control knobs and remove the hexagonal nut of the PHONES LEVEL control knob ... ⑥.
7. Detach the two shafts from the sub panel in the direction of the arrow ... ⑦.
8. Disconnect the flexible board from X26-(A/3) CN13 ... ⑧.
9. Remove the two screws ⑨ fixing the mechanism.
10. Remove the four screws ⑩ and take out the mechanism ass'y.



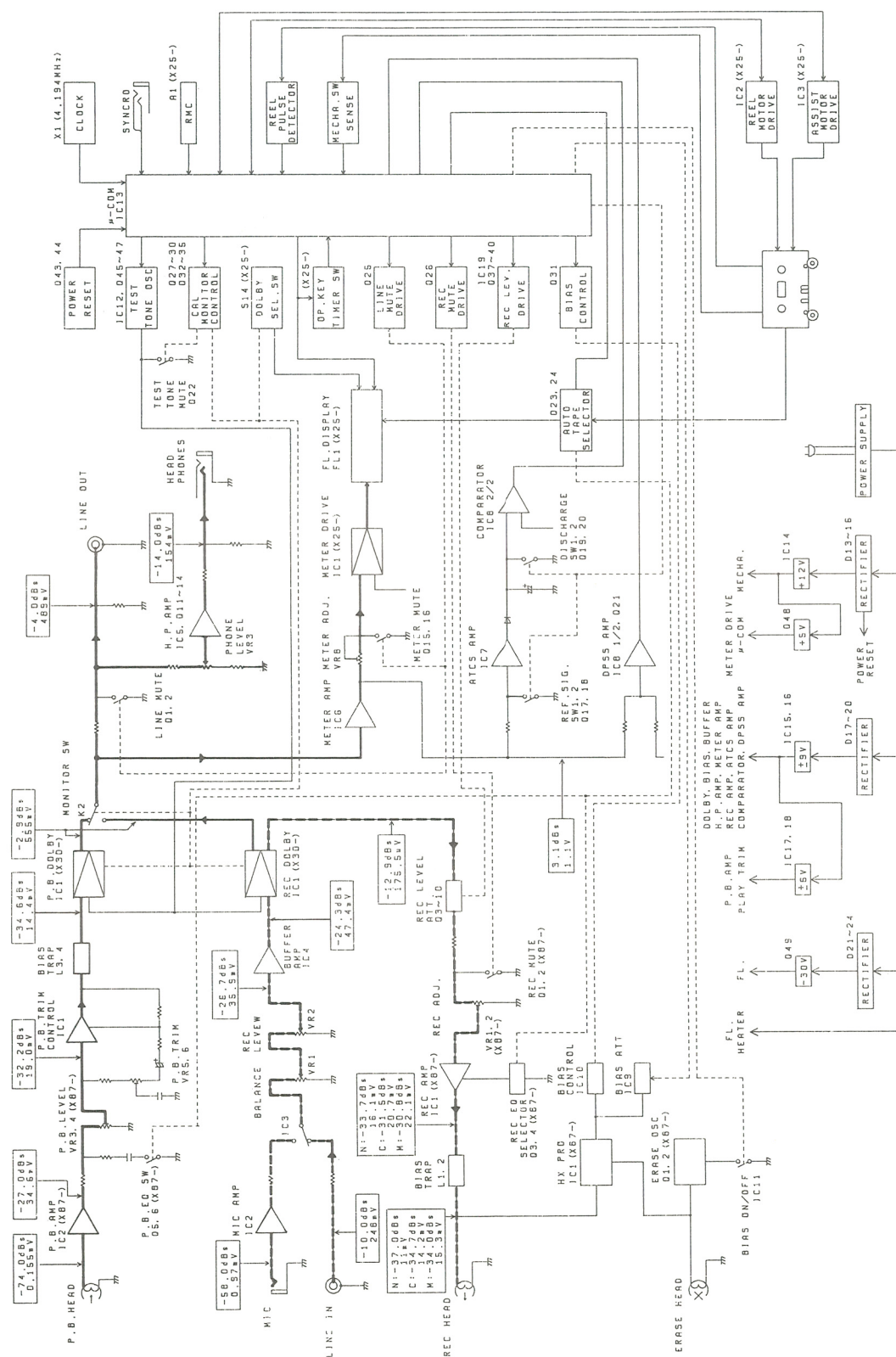
● Removing the operation section unit

1. Remove the two screws ①.
2. Drive off the push rivet ② by a screwdriver, etc. and detach the metal piece.
3. Remove the two screws ③.
4. Undo the catches in the directions of arrows and take out the operation section unit ④.

Note: When installing the operation section unit, put the DOLBY NR and MPX FILTER knobs into the cuts on the sub panel ... ⑤.



BLOCK LEVEL DIAGRAM



CIRCUIT DESCRIPTION

Functions of Components:

Display Unit (X25-3430-82: M, 2-72: T, E)

Component	Component Name	Use/Function	Operation/Condition/Compatibility
Q1, 2	2SA733 (A)(Q, P) 2SA933S (Q, R)	Grid control voltage control	When the FL tube lights, the pins 9 and 10 (meter's L and R dynamic signals are generated on duty cycle 25%) of IC1 become "L" and Q1 and Q2 turn ON to apply voltage to 1GB and 2GB.
Q3	2SC1740S (Q, R) 2SC945 (A)(Q, P)	Reel motor drive control voltage control	This component turns ON in the PLAY or REC mode. When an "H" signal is output from the pin 41 (RM.V-SW) of microprocessor IC13, Q3 turns ON so that the voltage at the pin 4 of IC2 becomes 3.8 V. In any other mode, Q3 turns OFF so that the voltage at the pin 4 of IC2 becomes 4.8—5 V.
Q4, 5	2SC1740S (Q, R) 2SC945 (A)(Q, P)	Rotation detection amplification	The switching signal (5 pulses) in proportion to the rotating speed of the reel stand is obtained from the mechanism for waveform shaping.
Q6, 8	DTC124EN	Grid control voltage control and key scan signal buffer	When "H" signals are output to the pin 47 (2GA) and pin 48 (1GA9) of microprocessor IC13, Q6—Q9 turn ON to apply voltage to the pin 20 (2GA) and pin 21 (1GA) of the FL tube, thus concurrently preventing the voltage drops across KR2 and KR4.
Q7, 9	DTA124EN		
IC1	BA6805A	Level meter drive	2-channel 16-point dynamic lighting
IC2	BA6229	Reel motor driver	
IC3	BA6209	Assist motor drive	

Cassette Unit (X26-1220-12)

Component	Component Name	Use/Function	Operation/Condition/Compatibility																				
Q1, 2	2SC2878 (B) 2SD1302 (S, T)	Line mute switch	In the PLAY, REC or REC PAUSE mode, the pin 7 (LM) of microprocessor IC13 becomes "H" and Q25 turns ON so that Q1 and Q2 turn OFF.																				
Q3—10	2SC1740S (Q, R) 2SC945 (A)(Q, P)	Recording level attenuation switch	At the time of ATCS, the recording input level to the recording amplifier is varied to correct the tape recording sensitivity. (Max. 16 steps) Due to the H/L operation of the pins 11—14 (LEVEL#1—LEVEL#4) of microprocessor IC13, driver transistors Q37—Q40 turn OFF/ON so that transistors Q3—Q10 are turned OFF/ON correspondingly. <table border="1"> <thead> <tr> <th></th><th>μ-COM</th><th>DRIVER</th><th>ATT switch</th></tr> </thead> <tbody> <tr> <td>MSB</td><td>LEVEL#4 (P14): H/L</td><td>Q40: OFF/ON</td><td>Q3, 4: OFF/ON</td></tr> <tr> <td>MSB</td><td>LEVEL#3 (P13): H/L</td><td>Q39: OFF/ON</td><td>Q5, 6: OFF/ON</td></tr> <tr> <td>MSB</td><td>LEVEL#2 (P12): H/L</td><td>Q38: OFF/ON</td><td>Q7, 8: OFF/ON</td></tr> <tr> <td>LSB</td><td>LEVEL#1 (P11): H/L</td><td>Q37: OFF/ON</td><td>Q9, 10: OFF/ON</td></tr> </tbody> </table> Initial value LEVEL#4="L" Q40=ON Q3, 4=ON LEVEL#1—3="H" Q37—39=OFF Q5—10=OFF		μ -COM	DRIVER	ATT switch	MSB	LEVEL#4 (P14): H/L	Q40: OFF/ON	Q3, 4: OFF/ON	MSB	LEVEL#3 (P13): H/L	Q39: OFF/ON	Q5, 6: OFF/ON	MSB	LEVEL#2 (P12): H/L	Q38: OFF/ON	Q7, 8: OFF/ON	LSB	LEVEL#1 (P11): H/L	Q37: OFF/ON	Q9, 10: OFF/ON
	μ -COM	DRIVER	ATT switch																				
MSB	LEVEL#4 (P14): H/L	Q40: OFF/ON	Q3, 4: OFF/ON																				
MSB	LEVEL#3 (P13): H/L	Q39: OFF/ON	Q5, 6: OFF/ON																				
MSB	LEVEL#2 (P12): H/L	Q38: OFF/ON	Q7, 8: OFF/ON																				
LSB	LEVEL#1 (P11): H/L	Q37: OFF/ON	Q9, 10: OFF/ON																				
Q11, 12	2SC2003 (L, K)	Headphone amplifier current buffer	Headphone amplifier output current buffer																				
Q13, 14	2SA954 (L, K)																						
Q15, 16	2SC2878 (B) 2SD1302 (S, T)	Meter mute switch	In the PLAY, REC or REC PAUSE mode, the pin 7 (LM) of microprocessor IC13 becomes "H" and Q25 turns OFF so that Q15 and Q16 are turned OFF.																				
Q17, 18	2SC1740S (Q, R) 2SC945 (A)(Q, P)	ATCS amplifier gate switch	At the time of ATCS, the test signal and reference signal recorded on the tape are distributed between IC7 1/2 and 2/2. In normal operation, Q17 and Q18 both turn ON.																				
Q19, 20	2SC1740S (Q, R) 2SC945 (A)(Q, P)	Discharge switch	For bias or level adjustment at the time of ATCS, these components turn OFF. Otherwise, they are ON.																				
Q21	2SC1740S (Q, R) 2SC945 (A) (Q, P)	DPSS amplifier sensitivity selection switch	In the PLAY mode, this component turns ON to raise the DPSS amplifier sensitivity. In the CUE or REVIEW mode, it turns OFF to lower the DPSS amplifier sensitivity.																				
Q22	2SC1740S (Q, R) 2SC945 (A)(Q, P)	Test signal mute switch	At the time of ATCS, this component is turned OFF to pass the test signal. In normal operation, it is ON.																				

CIRCUIT DESCRIPTION

Cassette Unit (X26-1220-12)

Component	Component Name	Use/Function	Operation/Condition/Compatibility																		
Q23, 24	2SA733 (A) (Q, P) 2SA933S (Q, R)	Auto tape selection control	These components are ON/OFF controlled by the tape detection switch in the mechanism. <table><tr><td></td><td>Nor.</td><td>CrO₂</td><td>METAL</td></tr><tr><td>Q23</td><td>OFF</td><td>ON</td><td>OFF</td></tr><tr><td>Q24</td><td>OFF</td><td>OFF</td><td>ON</td></tr></table>		Nor.	CrO₂	METAL	Q23	OFF	ON	OFF	Q24	OFF	OFF	ON						
	Nor.	CrO₂	METAL																		
Q23	OFF	ON	OFF																		
Q24	OFF	OFF	ON																		
Q25	2SA733 (A) (Q, P) 2SA933S (Q, R)	Line mute drive	This component is ON/OFF controlled by the output of the pin 7 (LM) of microprocessor IC13. <table><tr><td></td><td>PLAY, REC, REC · PAUSE</td><td>OTHERS</td><td>Power ON/OFF</td></tr><tr><td>Q25</td><td>OFF</td><td>ON</td><td>ON</td></tr></table>		PLAY, REC, REC · PAUSE	OTHERS	Power ON/OFF	Q25	OFF	ON	ON										
	PLAY, REC, REC · PAUSE	OTHERS	Power ON/OFF																		
Q25	OFF	ON	ON																		
Q26	2SA733 (A) (Q, P) 2SA933S (Q, R)	Recording mute drive	This component is ON/OFF controlled by the output of the pin 8 (RM) of microprocessor IC13. <table><tr><td></td><td>REC</td><td>REC · MUTE</td><td>OTHERS</td><td>Power ON/OFF</td></tr><tr><td>Q26</td><td>OFF</td><td>ON</td><td>ON</td><td>ON</td></tr></table> Q1 and Q2 in the recording amplifier unit of DT2 (X87-1030-06 A/2) are turned ON/OFF in concert with the ON/OFF operation of Q26.		REC	REC · MUTE	OTHERS	Power ON/OFF	Q26	OFF	ON	ON	ON								
	REC	REC · MUTE	OTHERS	Power ON/OFF																	
Q26	OFF	ON	ON	ON																	
Q27	DTC124EN	TAPE/SOURCE relay (K2) control	Switches the LINE OUT output to TAPE/SOURCE via relay K2.																		
Q28	DTC124EN	PLAY/REC/CAL control, and ATCS Dolby NR cancel	Alternating the voltage level at the R/P terminal of pin 9 of microcomputer IC13 between H and L turns Q28 and Q29 ON and OFF. By combining that status with the H/L status of the ATCS terminal at pin 15, the Dolby mode is switched to PLAY/REC/CAL or the Dolby NR is canceled. Q30 and Q32 to Q 34 are used for Dolby PLAY/REC/CAL switching, and Q35 is used for Dolby NR cancellation. Dolby PLAY/REC/CAL <table><tr><td></td><td>ATCS = "L"</td><td>ATCS = "H"</td></tr><tr><td>R/P (P9) = "L"</td><td>PLAY</td><td>PLAY</td></tr><tr><td>R/P (P9) = "H"</td><td>CAL</td><td>REC</td></tr></table> Dolby NR <table><tr><td></td><td>ATCS = "L"</td><td>ATCS = "H"</td></tr><tr><td>R/P (P9) = "L"</td><td>OFF</td><td>OFF or B or C</td></tr><tr><td>R/P (P9) = "H"</td><td>OFF</td><td>OFF or B or C</td></tr></table>		ATCS = "L"	ATCS = "H"	R/P (P9) = "L"	PLAY	PLAY	R/P (P9) = "H"	CAL	REC		ATCS = "L"	ATCS = "H"	R/P (P9) = "L"	OFF	OFF or B or C	R/P (P9) = "H"	OFF	OFF or B or C
	ATCS = "L"	ATCS = "H"																			
R/P (P9) = "L"	PLAY	PLAY																			
R/P (P9) = "H"	CAL	REC																			
	ATCS = "L"	ATCS = "H"																			
R/P (P9) = "L"	OFF	OFF or B or C																			
R/P (P9) = "H"	OFF	OFF or B or C																			
Q29,30	2SA733 (A)(Q, P) 2SA933S (Q, R)																				
Q32	DTA124EN																				
Q33～35	DTC124EN																				
Q31	DTA124EN	Bias ON/OFF drive	Due to the H/L operation of the pin 10 (BIAS) of microprocessor IC13, Q31 is turned OFF/ON to turn OFF/ON inverter IC11, so that that bias oscillator is turned ON/OFF. <table><tr><td></td><td>REC</td><td>OTHERS</td><td>Power ON/OFF</td></tr><tr><td>BIAS (P10)</td><td>"H"</td><td>"L"</td><td>"L"</td></tr><tr><td>Q31</td><td>OFF</td><td>ON</td><td>ON</td></tr><tr><td>BIAS OSC</td><td>ON</td><td>OFF</td><td>OFF</td></tr></table>		REC	OTHERS	Power ON/OFF	BIAS (P10)	"H"	"L"	"L"	Q31	OFF	ON	ON	BIAS OSC	ON	OFF	OFF		
	REC	OTHERS	Power ON/OFF																		
BIAS (P10)	"H"	"L"	"L"																		
Q31	OFF	ON	ON																		
BIAS OSC	ON	OFF	OFF																		
Q36	DTC124EN	Cassette half indicator control	This component functions to let "Normal", "CrO2" and "METAL" in the FL tube light or go out according to the presence or absence of the cassette half of the mechanism. <table><tr><td>Cassette half</td><td>Q36</td></tr><tr><td>Provided</td><td>OFF</td></tr><tr><td>Not provided</td><td>ON</td></tr></table>	Cassette half	Q36	Provided	OFF	Not provided	ON												
Cassette half	Q36																				
Provided	OFF																				
Not provided	ON																				
Q37～40	DTA124EN	Recording level attenuation switch driver	Refer to the description under "Q3-10".																		

CIRCUIT DESCRIPTION

Cassette Unit (X26-1220-12)

Component	Component Name	Use/Function	Operation/Condition/Compatibility															
Q41	DTC124EN	LINE/MIC input cutoff during tape playback	Alternating the voltage level of the T.F. -SW terminal at pin 62 of microcomputer IC13 between H and L during normal recording/playback (in modes other than ATCS mode) switches the control voltage supplied to analog SW IC3 ON and OFF. This causes muting of the LINE and MIC inputs during playback. Pin 62 of IC13 is switched to L only during tape playback, causing the control voltage to IC3 to be cut off.															
Q42	DTA124EN																	
Q43, 44	2SC1740S (Q, R) 2SC945 (A) (Q, P)	Microprocessor reset	At the time of power ON/OFF, an “L” signal is applied to the pin 61 (RESET) of microprocessor IC13 to reset. <table><tr><td></td><td>Right after power ON</td><td>Right after power OFF</td></tr><tr><td>Q43</td><td>ON</td><td>OFF</td></tr><tr><td>Q44</td><td>OFF after being ON for a fixed time</td><td>OFF after being ON for a fixed time</td></tr></table>		Right after power ON	Right after power OFF	Q43	ON	OFF	Q44	OFF after being ON for a fixed time	OFF after being ON for a fixed time						
	Right after power ON	Right after power OFF																
Q43	ON	OFF																
Q44	OFF after being ON for a fixed time	OFF after being ON for a fixed time																
Q45	2SC1740S (Q, R) 2SC945 (A) (Q, P)	Test signal frequency selection	At the time of ATCS, the test signal oscillator oscillates at 400 Hz with Q45 On and at 10 kHz with Q45 OFF.															
Q46, 47	2SC1740S (Q, R) 2SC945 (A) (Q, P)	Filter cutoff frequency selection	The cutoff frequency is changed to remove the harmonic components from the square wave emitted from IC12 by low pass filtering. <table><tr><td></td><td>Q46, 47</td></tr><tr><td>400 Hz</td><td>ON</td></tr><tr><td>10 kHz</td><td>OFF</td></tr></table>		Q46, 47	400 Hz	ON	10 kHz	OFF									
	Q46, 47																	
400 Hz	ON																	
10 kHz	OFF																	
Q48	2SD1266 (Q, P)	+5 V power supply	Regulated power supply for microprocessor and FL display IC															
Q49	2SB941 (Q, P)	—30 V power supply	Regulated power supply for FL display circuit															
IC1	M5218P-A NJM4558D-A	PLAY TRIM control	High-frequency compensation of playback frequency response.															
IC2	M5218P-A NJM4558D-A	MIC. amp.																
IC3	MB84066BM μPD4066BC	INPUT SELECTOR																
IC4	M5218P-A NJM4558D	Multiplex filter buffer																
IC5	M5218P NJM4558D	Headphone amplifier																
IC6		Meter amplifier																
IC7		Level detection amplifier	At the time of ATCS, here is obtained the gain necessary to convert into DC the test signal or reference signal recorded on the tape.															
IC8	NJM072BD μPC4072C	DPSS amplifier and level comparator	IC8 1/2 is the DPSS amplifier. IC8 2/2 is the level comparator for ATCS.															
IC9	TD62554S	BIAS Step	At the time of ATCS, the bias current is varied to correct the tape frequency response. (Max. 16 steps for normal tape, max. 14 steps for chrome tape, and max. 12 steps for metal tape) Due to the H/L operation of the pins 37—40 (BIAS#1—BIAS#4) of microprocessor IC13, the transistors in IC9 are turned ON/OFF to vary the bias current. <table><tr><td></td><td>μ-COM</td><td>ATT switch (IC9)</td></tr><tr><td>MSB</td><td>BIAS#4 (P40): H/L</td><td>INVERTER 1: ON/OFF</td></tr><tr><td>MSB</td><td>BIAS#3 (P39): H/L</td><td>INVERTER 2: ON/OFF</td></tr><tr><td>MSB</td><td>BIAS#2 (P38): H/L</td><td>INVERTER 3: ON/OFF</td></tr><tr><td>LSB</td><td>BIAS#1 (P37): H/L</td><td>INVERTER 4: ON/OFF</td></tr></table> Initial value BIAS#4=“L” INVERTER 1=OFF BIAS#1~3=“H” INVERTER 2~4=ON		μ-COM	ATT switch (IC9)	MSB	BIAS#4 (P40): H/L	INVERTER 1: ON/OFF	MSB	BIAS#3 (P39): H/L	INVERTER 2: ON/OFF	MSB	BIAS#2 (P38): H/L	INVERTER 3: ON/OFF	LSB	BIAS#1 (P37): H/L	INVERTER 4: ON/OFF
	μ-COM	ATT switch (IC9)																
MSB	BIAS#4 (P40): H/L	INVERTER 1: ON/OFF																
MSB	BIAS#3 (P39): H/L	INVERTER 2: ON/OFF																
MSB	BIAS#2 (P38): H/L	INVERTER 3: ON/OFF																
LSB	BIAS#1 (P37): H/L	INVERTER 4: ON/OFF																

CIRCUIT DESCRIPTION

Cassette Unit (X26-1220-12)

Component	Component Name	Use/Function	Operation/Condition/Compatibility						
IC10	TD62554S	Normal/chrome tape bias setting	<table><tr><td></td><td>Normal</td><td>Chrome</td></tr><tr><td>LCH RCH</td><td>INVERTER 3: ON INVERTER 1: ON</td><td>INVERTER 4: ON INVERTER 2: ON</td></tr></table>		Normal	Chrome	LCH RCH	INVERTER 3: ON INVERTER 1: ON	INVERTER 4: ON INVERTER 2: ON
	Normal	Chrome							
LCH RCH	INVERTER 3: ON INVERTER 1: ON	INVERTER 4: ON INVERTER 2: ON							
IC11	TD62554S	BIAS ON/OFF	Refer to the description under “Q31”.						
IC12	NJM555D	Test signal oscillation	This component oscillates to generate the test signal for ATCS. The test signal oscillation is made or not made according to the H or L state of the pin 63 (T. TONE ON/OFF) of microprocessor IC13.						
IC13	CXP5096-003S	Microprocessor							
IC14	AN7812F μPC7812HF	+12 V power supply	Regulated power supply for mechanism system and relay drive						
IC15	M5F78MO9L	+9 V power supply	Regulated power supply for signal system amplification						
IC16	M5F79MO9L	—9 V power supply	Regulated power supply for signal system amplification						
IC17	TA78L006AP	+6 V power supply	Regulated power supply for playback system amplification						
IC18	TA79L006P	—6 V power supply	Regulated power supply for playback amplification						
IC19	NJM78L05A μPC78L05J	+5 V power supply	Regulated power supply for recording level attenuation switch driver						

Dolby Unit (X30-1270-04, 05)

Component	Component Name	Use/Function	Operation/Condition/Compatibility
Q1—4	2SC1740S (Q, R) 2SC945 (A) (Q, P)	Multiplex filter switch	When the multiplex filter switch (S14-4: X25-3430A/6) is ON, an "H" signal is output to turn ON Q1-Q4 so that the filter is turned ON.
IC1	CX20188	Dolby B-C amplifier	This component works as the decoder and encoder.

Bias Oscillation Unit (X87-1270-01)

Component	Component Name	Use/Function	Operation/Condition/Compatibility
Q1	2SD863 (E, F)	Bias oscillation	Oscillation for erase head, and for HX excitation
Q2	2SD863 (E, F)	Bias oscillation control	This component turns CN in the REC mode.
IC1	μPC1297CA	HX-PRO IC	

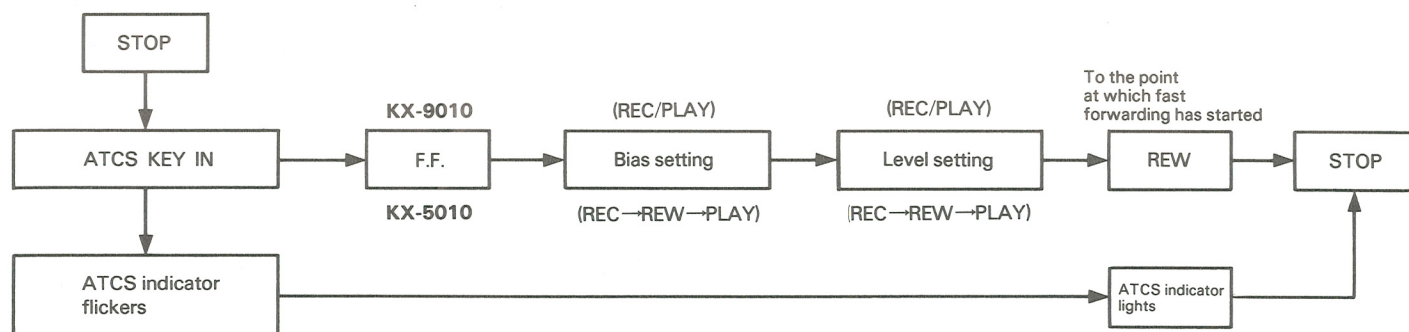
CIRCUIT DESCRIPTION

ATCS (Automatic Tape Calibration System)

For recording on a tape, the recording sensitivity and frequency response depending upon the tape type have been deviated from the reference values because of the irregularity in property between individual tapes except our reference tape. Conventionally, to correct this deviation, the manually operated REC CAL (correcting the recording sensitivity) and the manually operated BIAS CAL (correcting the frequency response) are provided to neutralize the irregularity in property between individual tapes. The ATCS feature provided to this deck automatically performs the REC CAL and BIAS CAL which are manually operated conventionally in order to neutralize the irregularity in property between individual tapes.

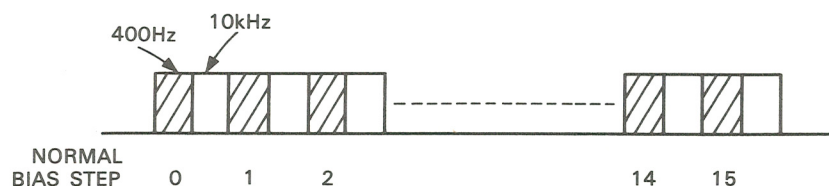
In the ATCS operation, when the ATCS key is pressed after a recordable tape is loaded, the bias and level settings are performed after a fast forwarding of 1 sec. Upon termination of the settings, the tape is rewound to the point at which its fast forwarding has started or to the start point of the tape.

- When it is necessary to stop the ATCS operation on its way, press the STOP key.
- After termination of the ATCS operation, when it is necessary to cancel the ATCS settings for the purpose of changing the tape type, press the ATCS key once again.



BIAS SETTING

- (1) Record 400 Hz and 10 kHz signals varying steppedly the bias from max. to min. at intervals of 100 msec. (Normal tape 0—15, CrO₂ tape 1—14, metal tape 2—13)



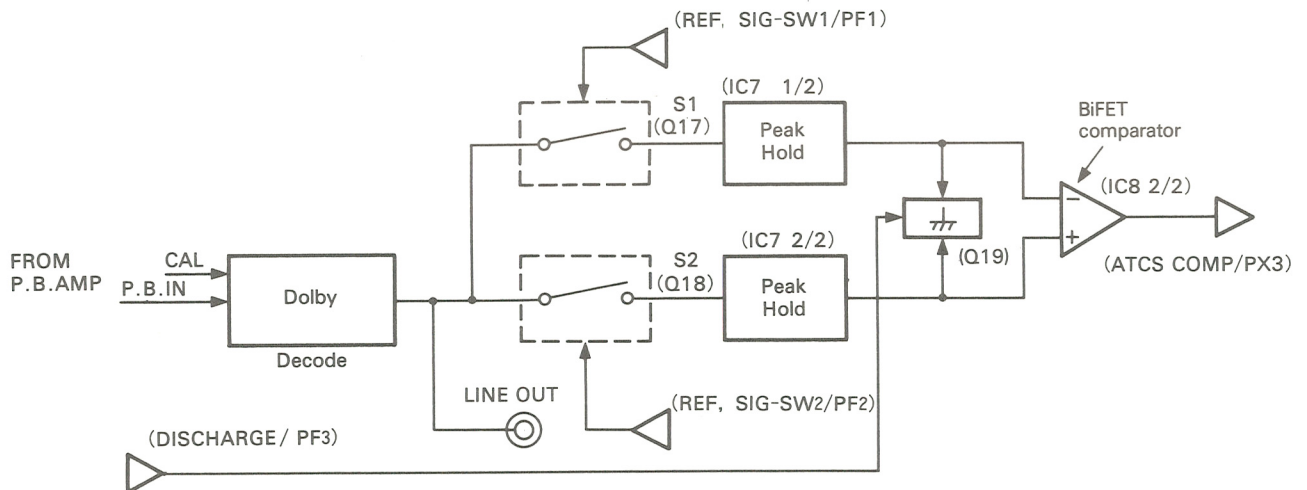
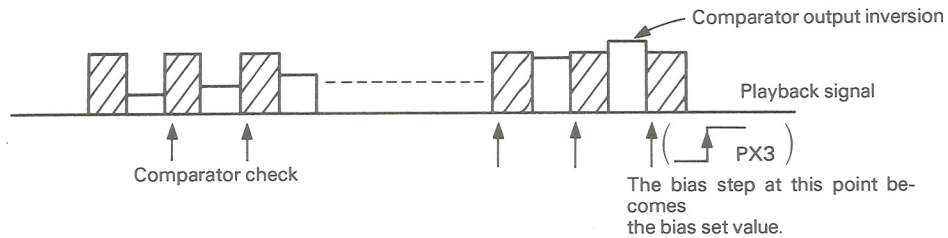
CIRCUIT DESCRIPTION

- (2) After detecting the recording start point, playback is entered. Then, the playback signal is held and check is made for the inversion of the comparator output. The bias step value at the point of time that the comparator output is inverted (that is to say the rise of the COMP/PX3 pulse for ATCS is detected) becomes the

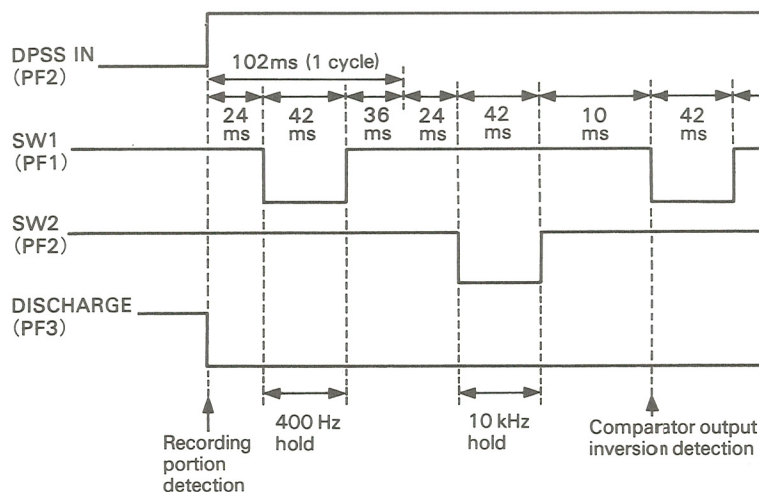
tape bias point.

(Comparator inversion ... 400 Hz playback signal < 10 kHz playback signal)

(Unless the comparator output is inverted until the bias min. is reached, the bias setting is not good.)



Bias comparator output inversion detection:



400 Hz signal hold ... S1 ON/S2 OFF

The hold process is applied for 40 msec that is seen as the stable period out of 100 msec of playback signal.

20 msec — (40 msec) — 40 msec

10 kHz signal hold ... S1 OFF/S2 ON

The timing to hold is the same as with 400 Hz.

CIRCUIT DESCRIPTION

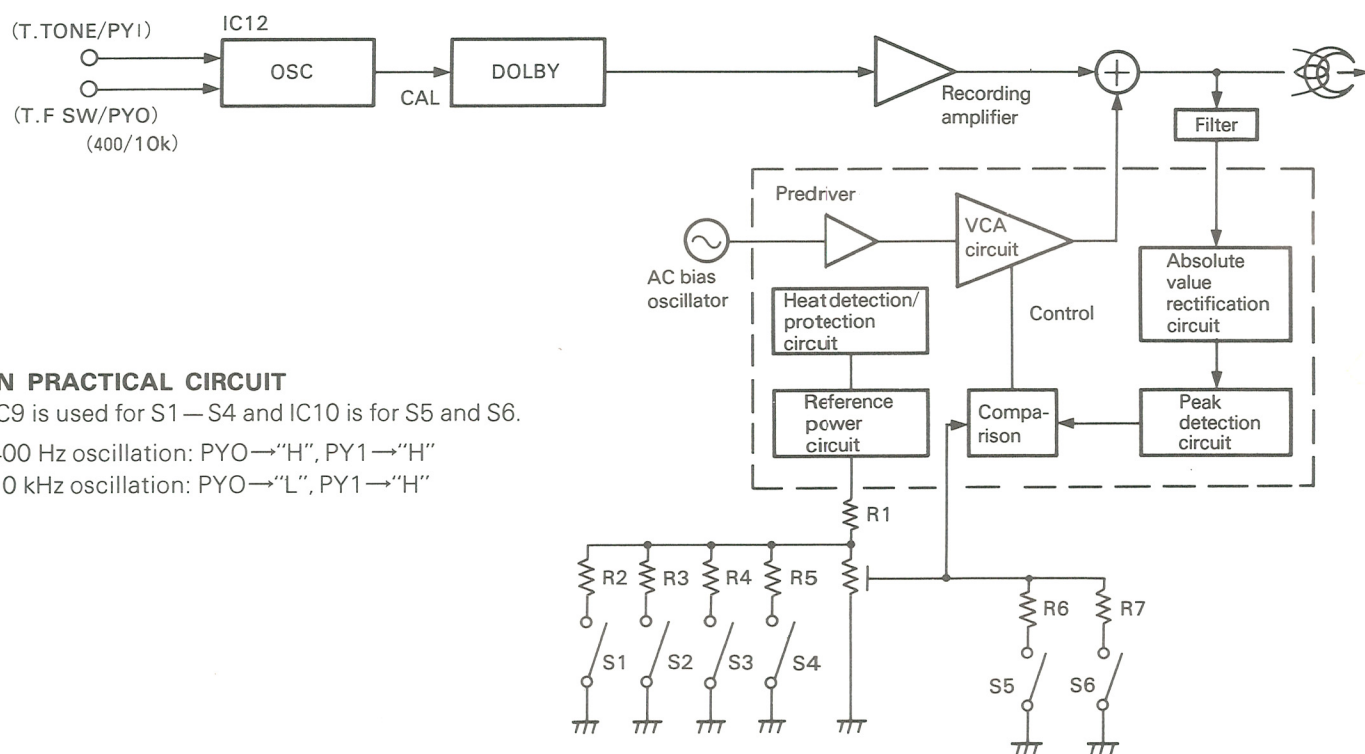
BIAS ATTENUATOR CIRCUIT

The bias attenuator circuit makes use of the Dolby HX PRO system for its aiming of attenuation. By dividing the reference voltage from the reference power circuit, the respective bias values of normal, CrO₂ and metal tapes are set through R6, R7, S5 and S6.

The set bias value of each tape can be varied in steps of

0.3 dB by the bias attenuator circuit consisting of R1—R5 and S1—S4. The standard value (the initial value) is of 7H with S1—S3=ON and S4=OFF.

(Of the microprocessor output port, it is of 7H with BIAS#1—#3="H" and BIAS#4="L".)



IN PRACTICAL CIRCUIT

IC9 is used for S1—S4 and IC10 is for S5 and S6.

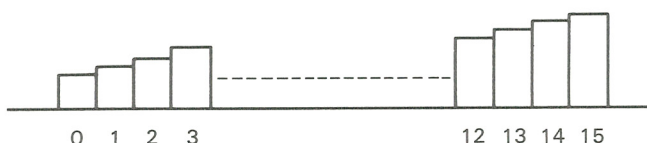
400 Hz oscillation: PYO→"H", PY1→"H"

10 kHz oscillation: PYO→"L", PY1→"H"

CIRCUIT DESCRIPTION

LEVEL SETTING

- (1) Record the 400 Hz signal varying steppedly the level from min. to max. at intervals of 100 msec. (0—15, 16 steps)



Transistors Q3—Q10 are ON/OFF controlled by pins LEVEL#1—#4 of the microprocessor port to vary the 400 Hz signal level.

For the initial value, Q3 and Q4 alone are turned ON to set the level depending upon the ratio of R18 (3.3 k) and R20 (9.1 k).

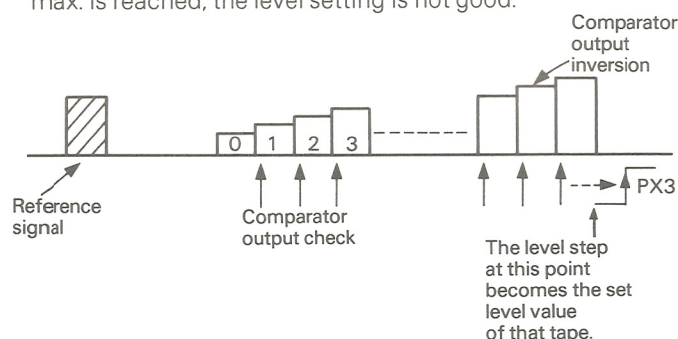
- (2) After termination of recording, the point of tape at which recording has started is detected, after which the STOP mode is entered.

- (3) Level reference signal hold
S1 ON/S2 OFF, R/P (PD2) → "H" (REC MODE) *Note
T.F SW (PYO) → "H", T.TONE (PY1) → "H" (ON)
The oscillation stable time is 700 msec, after which the reference signal is held at the S1 side for 100 msec.

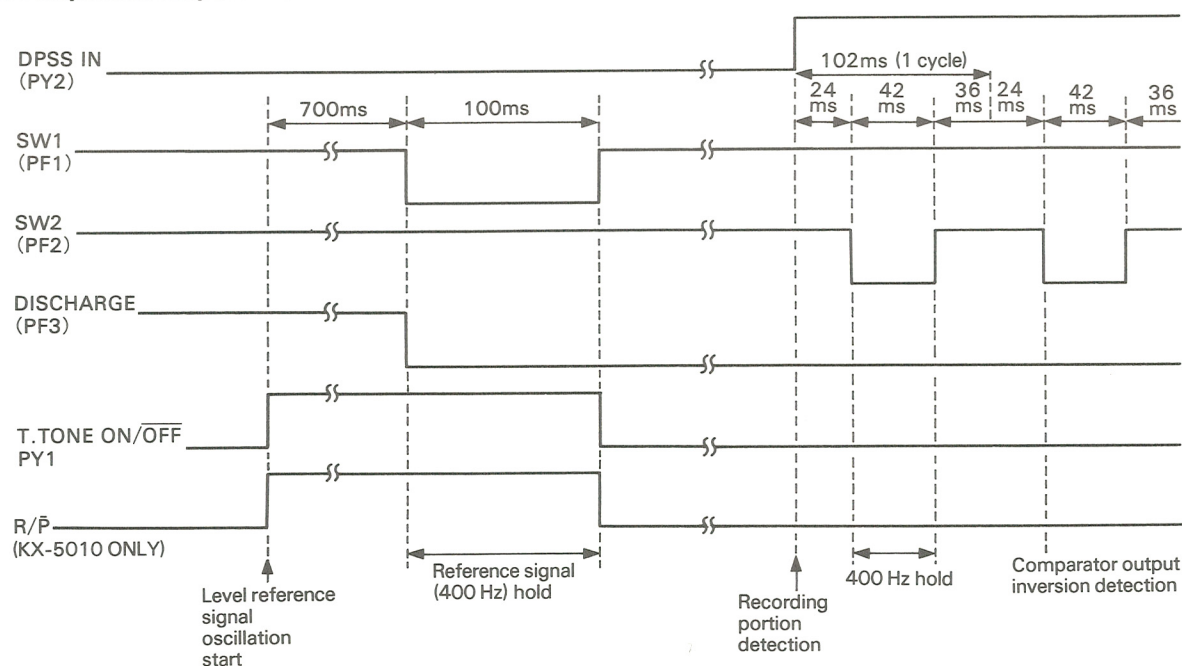
- (4) After the termination of the reference signal hold process, the playback (PB) mode is entered. Then, after detecting the beginning of the signal, the signal is held and check is made as to the inversion of the comparator output. The level step value at the point of time that the comparator output is inverted (that is to say the rise of the PX3 pulse is detected) becomes the level point of that tape.

(Comparator output inversion... level reference signal < 400 Hz playback signal)

Unless the comparator output is inverted until the level max. is reached, the level setting is not good.



Level comparator output inversion detection:



- * 400 Hz signal hold... S1 OFF/S2 ON, R/P → "L"
The hold process is applied for 40 msec that is seen as the stable period out of 100 msec of playback signal.
- * When the bias and level settings are either not good, the ATCS operation is taken to fail and they are set to

the standard value.

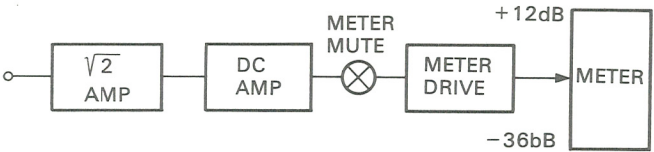
Standard value bias/level "7"

When either is good, the given values are taken as the set values.

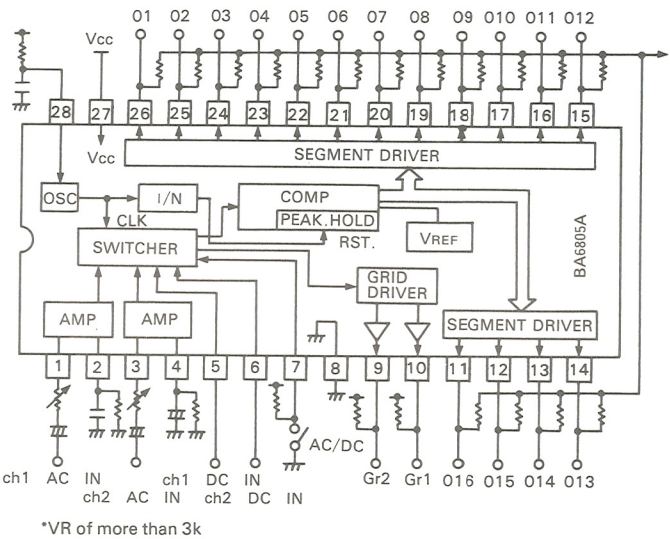
CIRCUIT DESCRIPTION

FLUORESCENT DISPLAY IC (BA6805A)

A conventional meter drive circuit is composed of a 1/2 power compression amplifier (BA6138) + a DC amplifier (NJM4558) + a meter IC (AN6870N).



The meter drive circuit of this time is unitized into a one-chip IC, conventionally being of 3 chips.

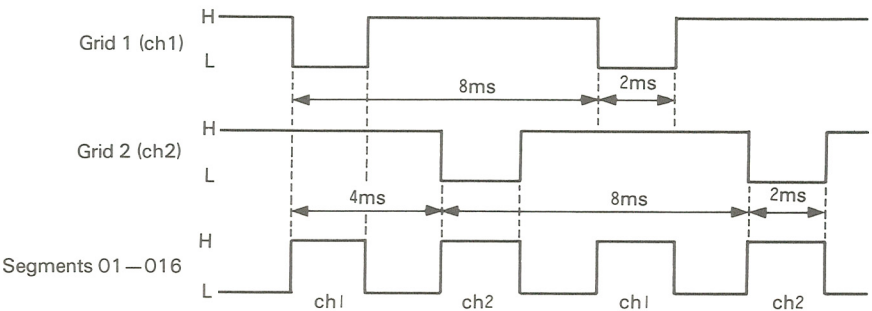


This IC features:

- DIP 28-pin, 16-point Lch/Rch display in dynamic drive system
- Selectable between AC and DC inputs by the H/L operation of 7 pins
- Peak hold function (2 sec) of 12 high-order points for AC input
- Built-in 1/2-power compression amplifier (For AC input)

Outputs grid 1 and grid 2 (pins 9 and 10), of NPN open collector, can be connected to the grids through PNP transistor buffers. Outputs segments 01—016 (pins 11—26), of PNP open collector, can be directly connected to the segments.

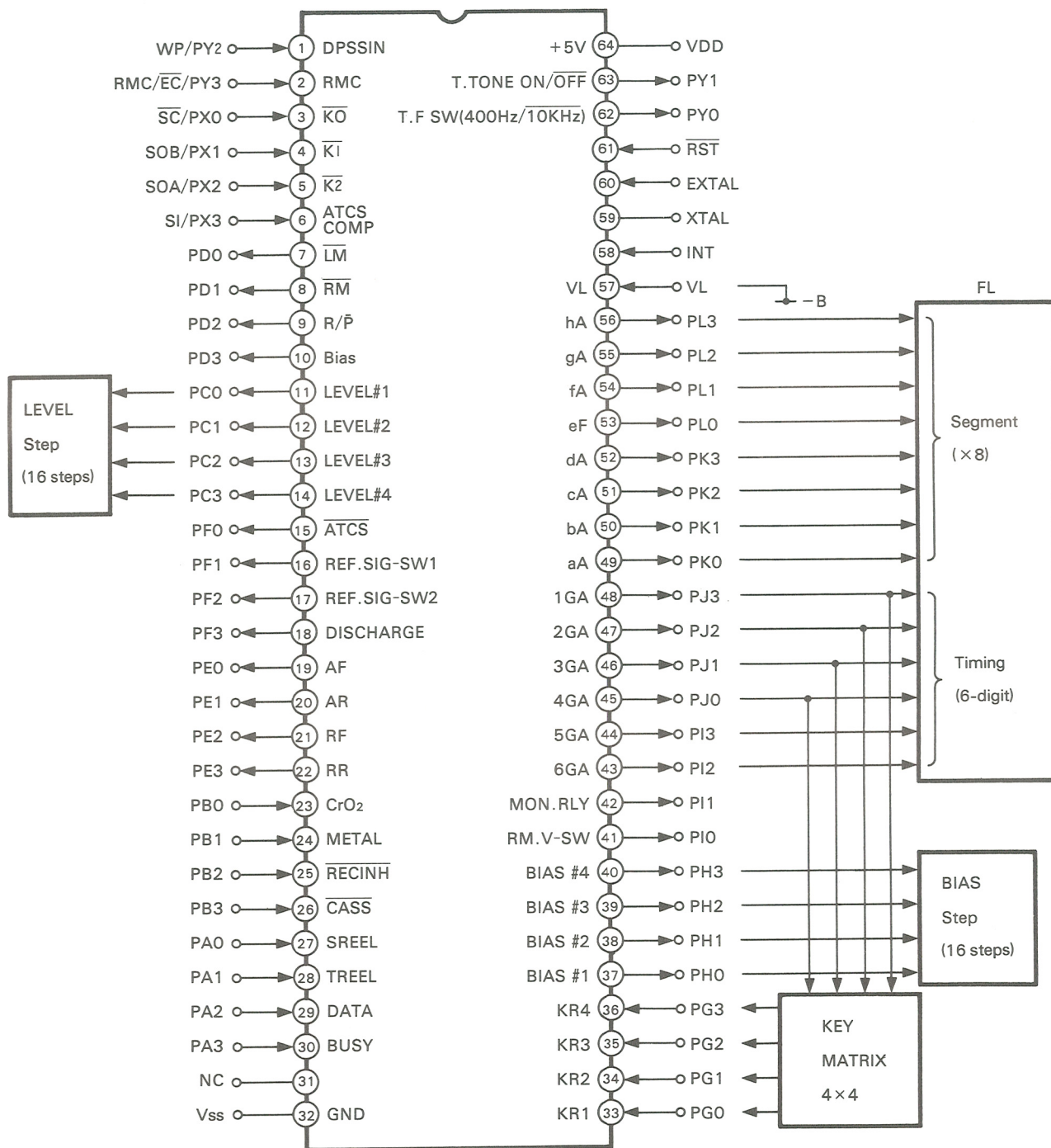
The following is the timing chart of grid and segment outputs.



CIRCUIT DESCRIPTION

MICROPROCESSOR (CXP5096-003S)

Port layout



CIRCUIT DESCRIPTION

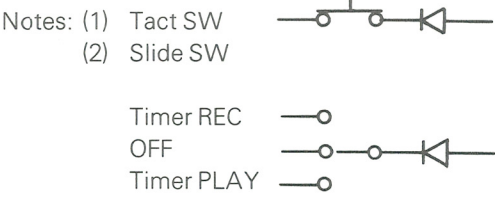
Pin Functions

Pin. No.	Pin Name	Function	I/O	Pin No.	Pin Name	Function	I/O
1	PY2/WP	DPSS IN: music scan no-recording detection input "L"—no recording, "H"—recording	I	64	VDD	5V	
2	PY3/RMC/EC	Remote control input pin	I	63	PY1	T.TONE ON/OFF: ATCS reference signal oscillation, "L"—stop, "H"—oscillate	O
3	PX0/SC	Assist motor input SW position	I	62	PY0	T.F SW (100/10K): ATCS reference signal selection, "L"—10 kHz, "H"—400 Hz	O
4	PX1/SOB		I	61	RST	Reset pin	I
5	PX2/SOA		I	60	EXTAL		I
6	PX3/SI	ATCS COMP: ATCS comparator input	I	59	XTAL		O
7	PD0	LM: Line Mute "L"—ON "H"—OFF	O	58	INT	Serial communication start detection data input	I
8	PD1	RM: Rec Mute "L"—ON "H"—OFF	O	57	VL	High-voltage port pull-down resistance power supply	
9	PD2	R/P: REC/PLAY selection SW	O	56	PL3	(hA)	O
10	PD3	Bias: Recording bias control "H"—ON "L"—OFF	O	55	PL2	(gA)	O
11	PC0	LEVEL #1	O	54	PL1	(fA)	O
12	PC1	LEVEL #2	O	53	PL0	Display segment outputs (eA)	O
13	PC2	LEVEL #3	O	52	PK3	(8 segments × 6 digits) (dA)	O
14	PC3	LEVEL #4	O	51	PK2		O
15	PF0	ATCS: "L" when in ATCS operation	O	50	PK1		O
16	PF1	REF. SIG-SW1: ATCS level playback detection/selection SW, "L"—input cutoff, "H"—input valid	O	49	PK0	(aA)	O
17	PF2	REF. SIG-SW2: ATCS playback signal selection output SW. "L"—input cutoff, "H"—input valid	O	48	PJ3	(1G)	O
18	PF3	DISCHARGE: ATCS detection signal discharge output, "L"—OFF, "H"—discharge	O	47	PJ2	Key scan timing outputs (2G)	O
19	PEO	AF: Assist motor FWD ON, "L"—OFF, "H"—ON	O	46	PJ1		O
20	PE1	NR: Assist motor RVS ON, "L"—OFF, "H"—ON	O	45	PJ0	(8 segments × 6 digits) (4G)	O
21	PE2	RF: Reel motor FWD ON, "L"—OFF, "H"—ON	O	44	PI3	(5G)	O
22	PE3	RR: Reel motor RVS ON, "L"—OFF, "H"—ON	O	43	PI2	(6G)	O
23	PB0	CrO ₂	I	42	PI1	MONI RLY: 3-head TAPE/SOURCE switch, "L"—tape, "H"—source	O
24	PB1	METAL	I	41	PI0		O
25	PB2	RECINH: Broken hub detection input, "L"—broken hub	I	40	PH3	BIAS #4	O
26	PB3	CASSETTE: Cassette existence/non-existence discrimination input, "L"—cassette existence	I	39	PH2	BIAS #3	O
27	PA0/AD0	SREEL: Supply side reel pulse input	I	38	PH1	BIAS #2	O
28	PA1/AD1	TREEL: Takeup side reel pulse input	I	37	PH0	BIAS #1	O
29	PA2/AD2	DATA: Serial communication data input	I	36	PG3/AD7	Key matrix inputs (KR4)	I
30	PA3/AD3	BUSY: Serial communication control input	I	35	PG2/AD6		I
31	NC			34	PG1/AD5		I
32	Vss	GND		33	PG0/AD4		I

CIRCUIT DESCRIPTION

Key Matrix

	4G (PJ0)	3G (PJ1)	2G (PJ2)	1G (PJ3)
KR4 (PG3)	Counter ⁽¹⁾ Reset	FF ⁽¹⁾	REC/A.R.M. ⁽¹⁾	Timer ⁽²⁾ REC
KR3 (PG2)	Index ⁽¹⁾ Scan	REW ⁽¹⁾	PAUSE ⁽¹⁾	Timer ⁽²⁾ PLAY
KR2 (PG1)	Blank ⁽¹⁾ Search	PLAY ⁽¹⁾	TEST 1 ⁽⁴⁾	TAPE ⁽²⁾ MONITOR
KR1 (PG0)	ATCS ⁽¹⁾	STOP ⁽¹⁾	TEST 2 ⁽⁴⁾	2-/3-head selection ⁽³⁾



(3) Diode existence/non-existence. Diode does not exist for the 2-head type (when D10 is not given).



(4) TP3-TP5 shorted: TEST 1
TP3-TP4 shorted: TEST 2

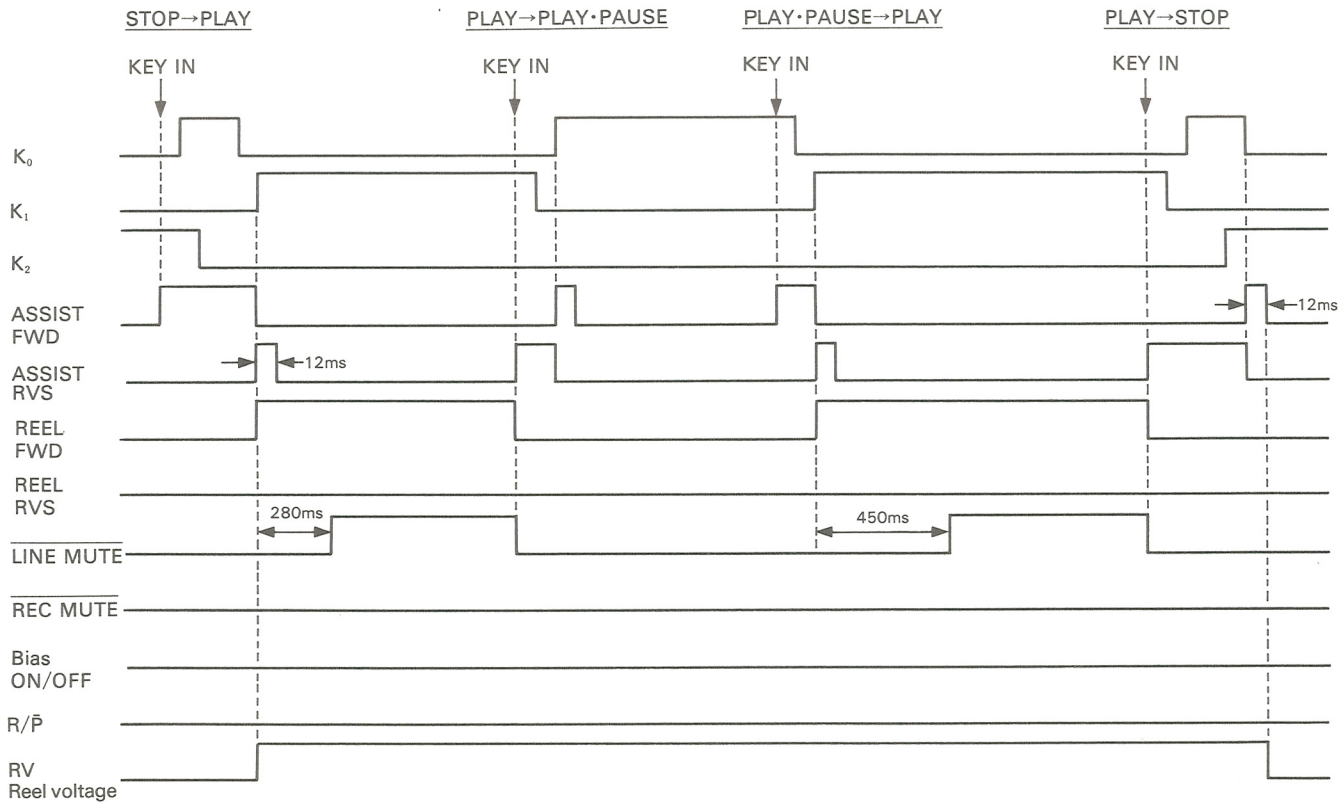
Mechanism Switches

	K ₀	K ₁	K ₂	Reel motor
STOP	ON	ON	OFF	OFF
PLAY	ON	OFF	ON	Normal rotation
PAUSE	OFF	ON	ON	OFF
CUE/ REVIEW	OFF	ON	ON	Normal/reverse rotation
FF/REW	ON	OFF	OFF	Normal/reverse rotation

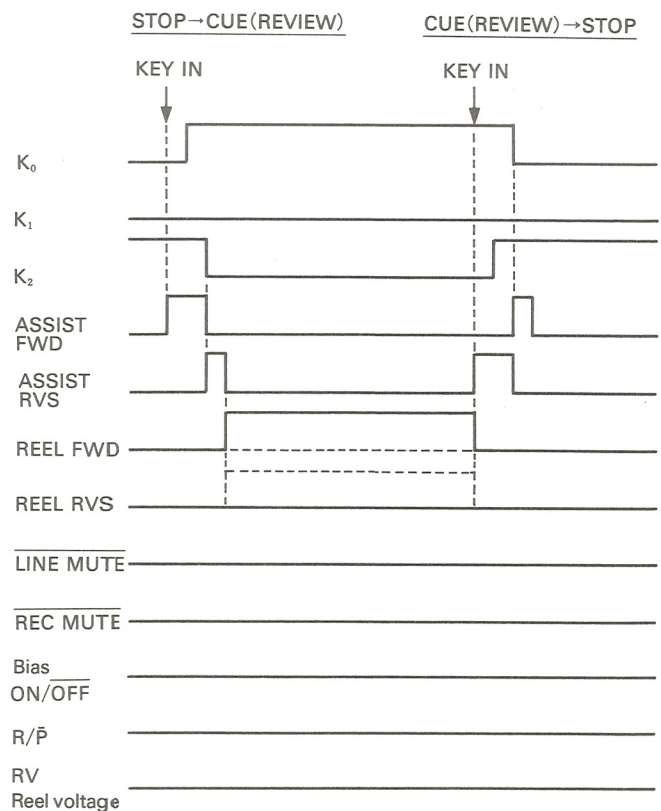
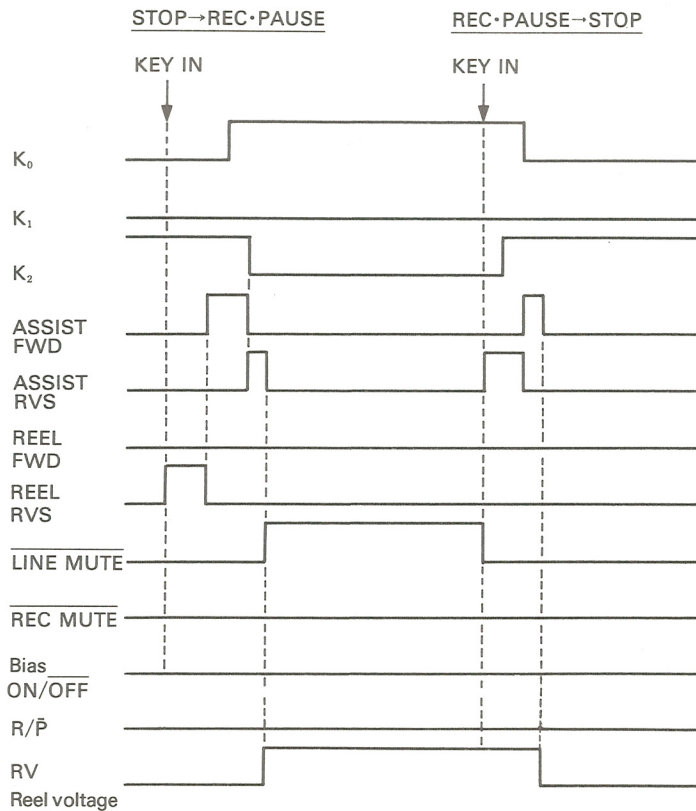
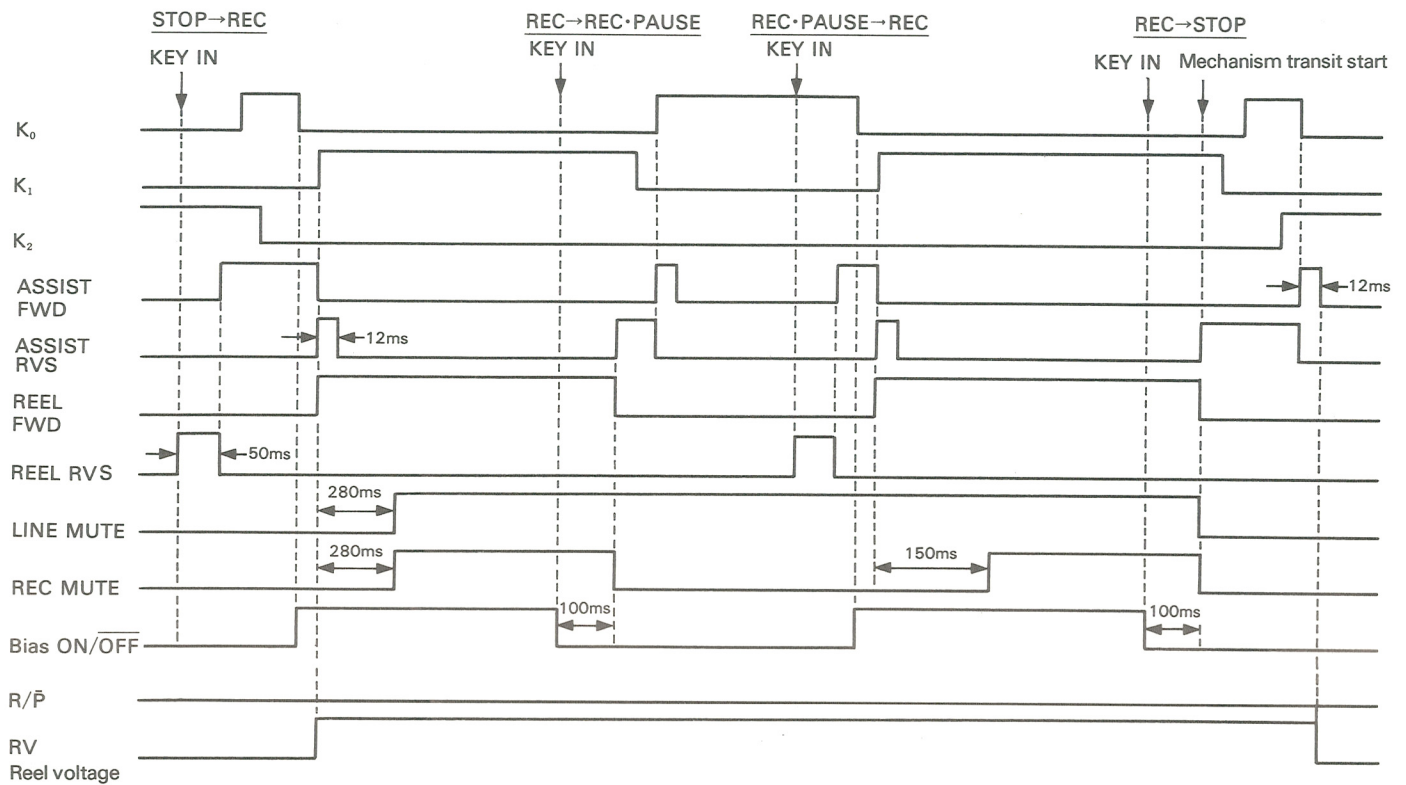
Outline of operational timing of mechanism switches K₀, K₁ and K₂ in respective modes (For more details, refer to the timing chart given below.)

	→	FF REW	STOP	↔	PAUSE	↔	PLAY	←
K ₀	OFF	ON	ON	OFF	OFF	ON	ON	OFF
K ₁	OFF	OFF	ON	ON	ON	ON	OFF	OFF
K ₂	OFF	OFF	OFF	OFF	ON	ON	ON	ON

Mechanism Switch Timing Chart (R/P: KX-5010 ONLY)



CIRCUIT DESCRIPTION



CIRCUIT DESCRIPTION

Test Mode:

1. TEST 1 (Shorted between TP3 and TP5)

- 1-1 At power ON, TIMER PLAY SW ON
→PLAY mode is engaged immediately.
- 1-2 TIMER REC SW ON
 - (1) Power ON→After recording of 15 sec, the tape is rewound to its point at which recording has started→STOP mode is engaged (inhibited with the hub broken).
 - (2) FF key ON→After recording of 3 sec, the tape is rewound to its point at which recording has started→PLAY mode is engaged. (Due to the repeat pressure of the FF key, a sequence of REC→REW→PLAY is performed.)
- 1-3 ATCS operation
 - ATCS key in→Bias varies in 16 steps (400 Hz and 10 kHz are reciprocally recorded in units of 100 msec)
 - Level varies in 16 steps (400 Hz is recorded in units of 100 msec)
 - Tape is rewound to its point at which recording has started
 - Playback starts.

2. TEST 2 (Assist motor operation inhibited)

- (Shorted between TP3 and TP4)
- 2-1 At power ON, all display lights immediately.
→After key in, normal display is made.

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, pinch roller.	Clean the REC/PLAY head erase head, capstan and pinch roller using a cotton swab slightly damped with alcohol.	
[3]	AZIMUTH	(A) MTT-114, TCC-153 10kHz,-10dB	(B)	PLAY	Azimuth adjustment screw	Maximum output.	(a)
II DC MOTOR							
(1)	TAPE SPEED	(A) MTT-111, TCC-110 3kHz, -4dB	(B)	PLAY	Trimming poten- tiometer in the DC motor	Adjust the tape speed so that a 3kHz signal is produced at the center of the tape.	(b)
III PC BOARD							
< 1 >	PLAYBACK LEVEL	MTT-150 400Hz	(B)	PLAY	VR3 (L) VR4 (R) (X87-103 B/2)	Output level: -1.2dBs	
		MTT-256 315Hz				Output level: -4.0dBs	
		MTT-256U,TCC-160 315Hz				Output level: 0 dBs	
< 2 >	PLAY TRIM CONTROL	MTT-256 MTT-256U, TCC-160 315Hz,10kHz	(B)	PLAY	VR5 (L) VR6 (R) (X26-122)	Adjust the variable resistors so that the level of 10kHz is +0.5dBs to the level of 315kHz.	
< 3 >	BIAS CURRENT	(A) 1kHz,-30dBs 10kHz,-30dBs	(B)	Adjust REC VR (LEVEL,BALANCE) so that the REC monitor output becomes -24dBs at 1kHz, then record and reproduce signal of 1kHz and 10kHz in alternation.	VR1 (L) VR2 (R) (X87-127)	Adjust the bias current adjusting VR so that the playback level of the 10kHz signal is +0.5dB higher than that of the 1kHz signal when recording a 1kHz signal and a 10kHz signal alternately.	
< 4 >	RECORD LEVEL	(A) 1kHz,-30dBs	(B)	Record and reproduce a 1kHz signal under the conditions set in < 3 >	VR1 (L) VR2 (R) (X87-103 A/2)	Adjust the variable resistors so that a playback level of -24dBs is obtained.	
< 5 >	FL PEAK LEVEL METER	(A) 1kHz,-10dBs	—	REC PAUSE Adjust REC VR(LEVE- L,BALANCE) so that the monitor output is -4dBs at 1kHz.	VR8 (X26-122)	Adjust to the same level as that to L-channel	

REGLAGE

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	(A) MTT-114, TCC-153 10kHz.-10dB	(B)	PLAY	Vis d'azimut	Sortie maximiser.	(a)
II MOTEUR CC							
(1)	VITESSE DE DEFILEMENT	(A) MTT-111, TCC-110 3kHz, -4dB	(B)	PLAY	Résistance ajustable du moteur CC	Régler la vitesse de bande de façon qu'un signal de 3kHz soit produit au centre de la bande.	(b)
III PLAQUE IMPRIMEE							
< 1 >	NIVEAU DE LECTURE	MTT-150 400Hz	(B)	PLAY	VR3 (G) VR4 (D) (X87-103 B/2)	Niveau de sortie: -1,2dBs	
		MTT-256 315Hz				Niveau de sortie: -4,0dBs	
		MTT-256U, TCC-160 315Hz				Niveau de sortie: 0 dBs	
< 2 >	COMMANDE D'APAIRAGE DE LECTURE	MTT-256 MTT-256U TCC-160 315Hz, 10kHz	(B)	PLAY	VR5 (G) VR6 (D) (X26-122)	Ajuster les résistances variables de manière à ce que le niveau de 10kHz soit +0,5dBs au niveau de 315kHz.	
< 3 >	COURANT DE POLARISATION	(A) 1kHz.-30dBs 10kHz.-30dBs	(B)	Régler REC VR (LEVEL, BALANCE) de façon que la sortie de moniteur REC soit de -24dBs à 1kHz, puis enregistrer et reproduire des sig- naux de 1kHz et 10kHz en alternance.	VR1 (G) VR2 (D) (X87-127)	Ajuster le courant de polarisation en ajustant VR pour que le niveau de lecture du siganl 10kHz soit de +0,5dB supérieur à celui du signal 1kHz lors de l'enregistrement d'un signal 1kHz et d'un signal de 10kHz alternativement.	
< 4 >	NIVEAU D'ENREGISTREMENT	(A) 1kHz.-30dBs	(B)	Enregistrer et reproduire un signal de 1kHz dans les conditions précisées en <3>.	VR1 (G) VR2 (D) (X87-103 A/2)	Ajuster les résistances variables de façon à obtenir un niveau de lecture de -24dBs.	
< 5 >	INDICATEUR DE NIVEAU DE CRETE A FL	(A) 1kHz.-10dBs	—	REC PAUSE Ajuster REC VR(LEV- EL, BALANCE) de façon à ce que la sortie moniteur soit de -4dBs à 1kHz	VR8 (X26-122)	Ajuster sur le même niveau que le canal de gauche.	

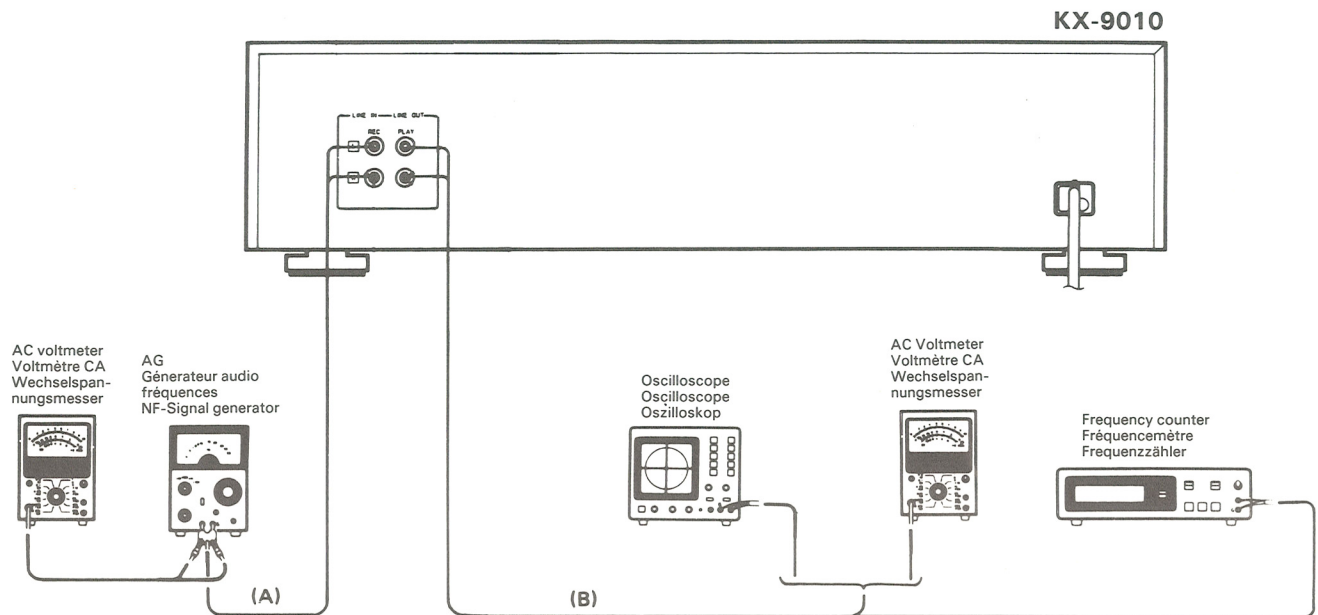
ABGLEICH

NR.	GEGENSTAND	EINGANGS-EINSTELLUNG	AUSGANGS-EINSTELLUNG	KASSETTENGÄRÄT-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 Entmagnetisierungsdsrossel.	
[2]	REINIGUNG	—	—	PLAY	AUFNAHME/WIEDERGABE-Kopf Löschkopf, Tonwelle, Andruckrolle.	AUFNAHME/WIEDERGABE-Kopf, Löschkopf, Tonwelle und Andruckrolle mit einem leicht mit Alkohol befeuchteten Wattebausch reinigen.	
[3]	AZIMUT-EINSTELLUNG	(A) MTT-114, TCC-153 10kHz, -10dB	(B)	PLAY	Azimut-Einstellschraube	Maximale Ausgang.	(a)
II GLEICHSTROMMOTOR							
(1)	BANDGESCHWINDIGKEIT	(A) MTT-111, TCC-110 3kHz, -4dB	(B)	PLAY	Trimmer potentiometer an Gleichstrommotor	Die Bandgeschwindigkeit so justieren, daß ein 3kHz Signal auf der Mitte des Bands erzeugt wird.	(b)
III GEDRUCKTE SCHALTPLATTE							
< 1 >	WIEDERGABE-PEGEL	MTT-150 400kHz	(B)	PLAY	VR3 (L) VR4 (R) (X87-103 B/2)	Ausgangspegel: -1,2dBs	
		MTT-256 315kHz				Ausgangspegel: -4,0dBs	
		MTT-256U, TCC-160 315kHz				Ausgangspegel: 0 dBs	
< 2 >	WIEDERGABE-TRIMMERREGLER	MTT-256 MTT-256U TCC-160 315Hz, 10kHz	(B)	PLAY	VR5 (L) VR6 (R) (X26-122)	Die Regelwiderstände so einstellen, da der pegel von 10kHz +0,5dBs zum pegel von 315kHz beträgt.	
< 3 >	LEERLAUFSTROM	(A) 1kHz. -30dBs 10kHz. -30dBs	(B)	REC VR (LEVEL, BALANCE) so justieren, daß der REC Monitorausgang -24dBs bei 1kHz wird, und danach abwechselnd Signal von 1kHz und 10kHz aufnehmen und wiedergeben.	VR1 (L) VR2 (R) (X87-127)	Den Vormagnetisierungsstrom-Regelwiderstand so einstellen, daß der Wiedergabepegel des 10kHz Signals um +0,5dB höhen ist als der des 1kHz Signals, wenn ein 1kHz Signal und ein 10kHz Signal abwechselnd aufgenommen wurde.	
< 4 >	AUFNAHMEPEGEL	(A) 1kHz. -30dBs	(B)	Ein 1kHz Signal unter den in Punkt <3> beschriebenen Bedingungen aufnehmen und reproduzieren.	VR1 (L) VR2 (R) (X87-103 A/2)	Die Regelwiderstände so justieren, daß ein wiedergabepegel von -24dBs erzielt wird.	
< 5 >	FL SPITZEN-PEGELMESSER	(A) 1kHz. -10dBs	—	REC PAUSE REC VR(LEVEL, BALANCE) so einstellen, daß der Monitorausgang bei 1kHz, -4dBs ist.	VR8 (X26-122)	Auf den gleichen Pegel wie für den linken Kanal einstellen.	

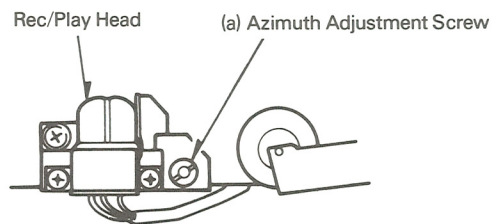
KX-9010

ADJUSTMENT/REGLAGE/ABGLEICH

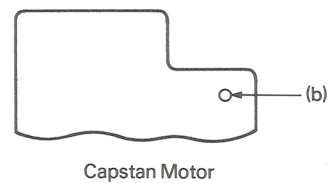
SYSTEM CONNECTIONS



(a) Azimuth Adjustment

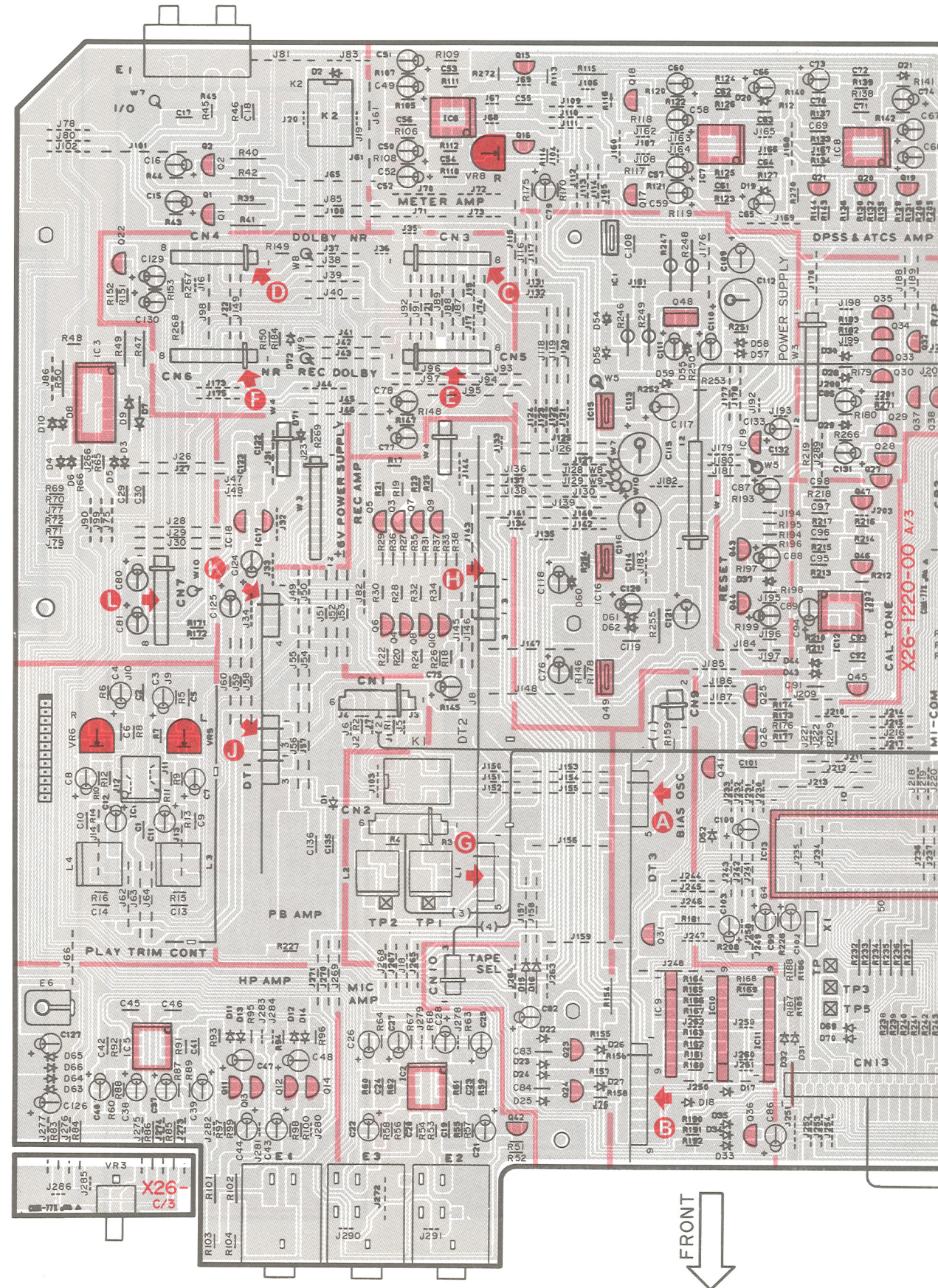
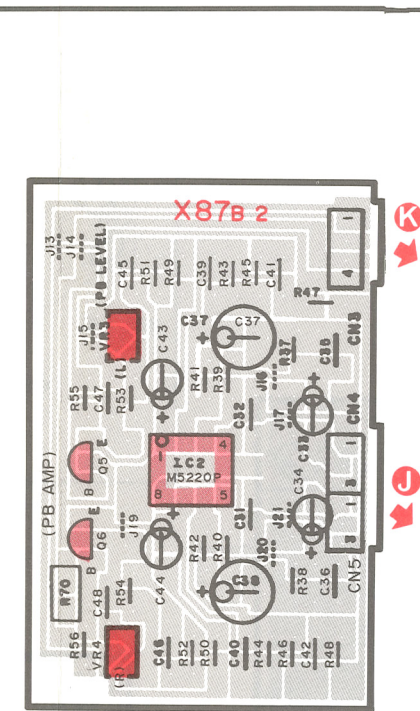


(b) Tape Speed Adjustment

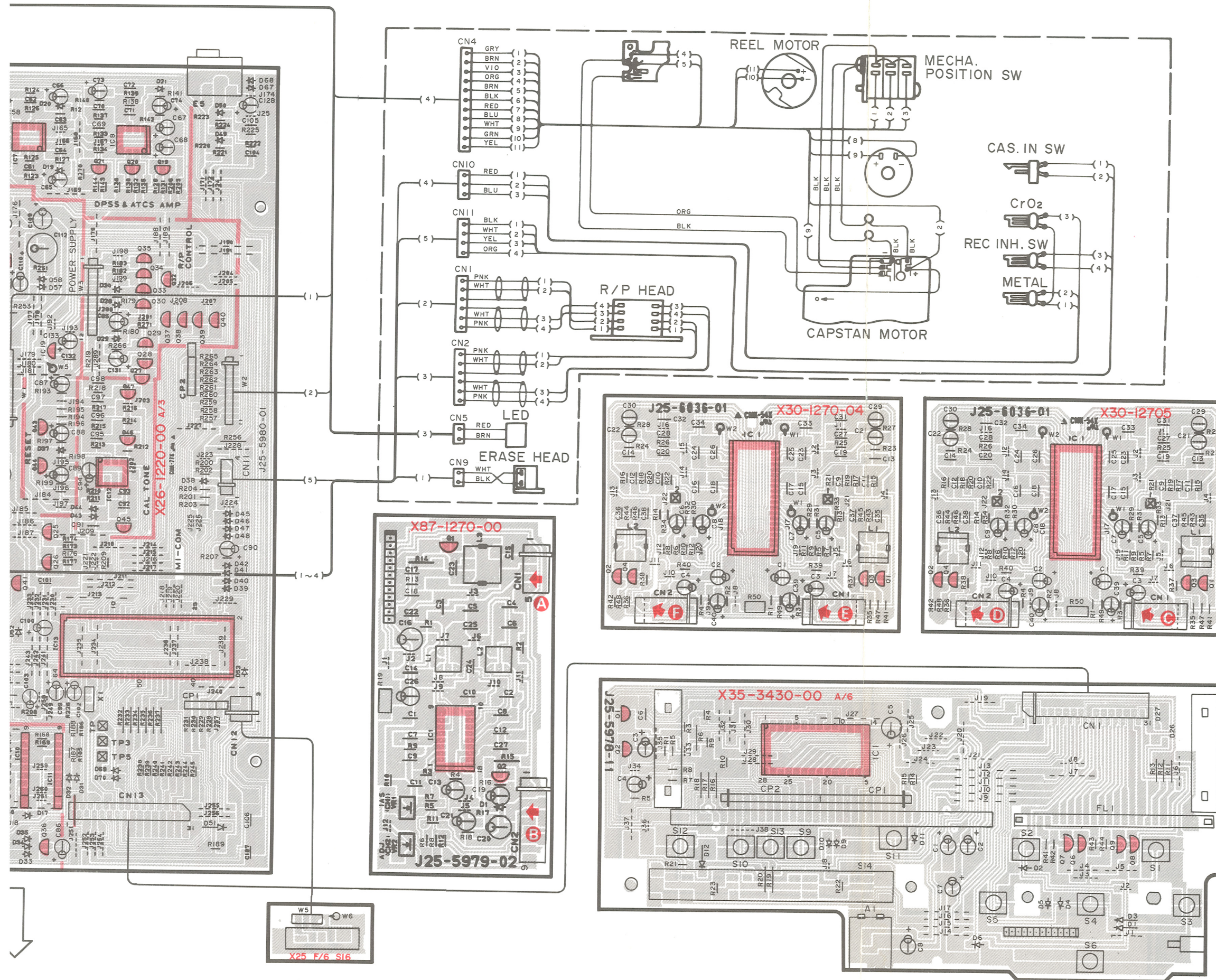


1	Dark gray
2	Dark gray
3	Dark gray
4	White
5	Dark gray
6	White
7	Dark gray





FRONT



X25-3430-11

Ref. No.	IC	Q	Address
1		5AI	
2		6AI	
3		6X	
4		6X	
5		6X	
6		6AL	
7		6AL	
8		6AL	
9		6AL	
1		6AJ	
2		6Y	
3		6Y	
4		3Y	

Ref. No.	IC	Q	Address
43		4AE	
44		4AE	
45		4AE	
46		4AE	
47		3AE	
48		2AD	
49		4AD	
1		5AB	
2		6AC	
3		3AA	
4			
5		6AB	
6		1AC	
7		2AD	
8		2AE	
9		6AD	
10		6AD	
11		6AE	
12		4AE	
13		5AE	
14		2AD	
15		3AD	
16		4AD	
17		3AB	
18		3AB	
19		3AE	

X26-1220-11

Ref. No.	IC	Q	Address
1		2AB	
2		2AB	
3		3AC	
4		4AC	
5		3AC	
6		4AC	
7		3AC	
8		4AC	
9		3AC	
10		4AC	
11		6AB	
12		6AB	
13		6AB	
14		6AB	
15		1AD	
16		2AD	
17		2AD	
18		1AD	
19		2AE	
20		2AE	
21		2AE	
22		2AB	
23		6AD	
24		6AD	
25		4AE	
26		4AE	
27		3AE	
28		3AE	
29		3AE	
30		3AE	
31		5AD	
32		3AE	
33		3AE	
34		2AE	
35		2AE	
36		6AE	
37		3AE	
38		3AF	
39		3AF	
40		3AF	
41		5AD	
42		6AC	

X30-1270-03

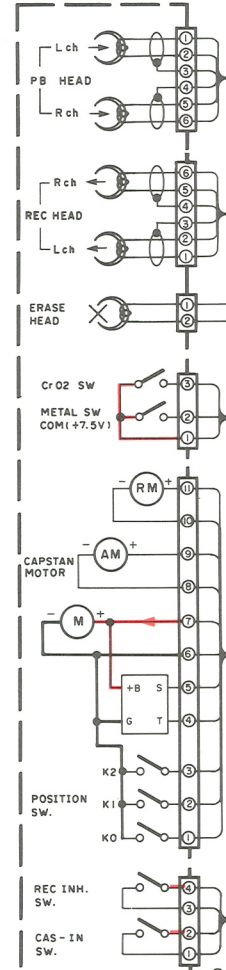
Ref. No.	IC	Q	Address
1		5AM	
2		5AK	
3		5AL	
4		5AK	
1		4AL	

X87-1270-00

Ref. No.	IC	Q	Address
1		4AG	
2		6AH	
1		5AG	

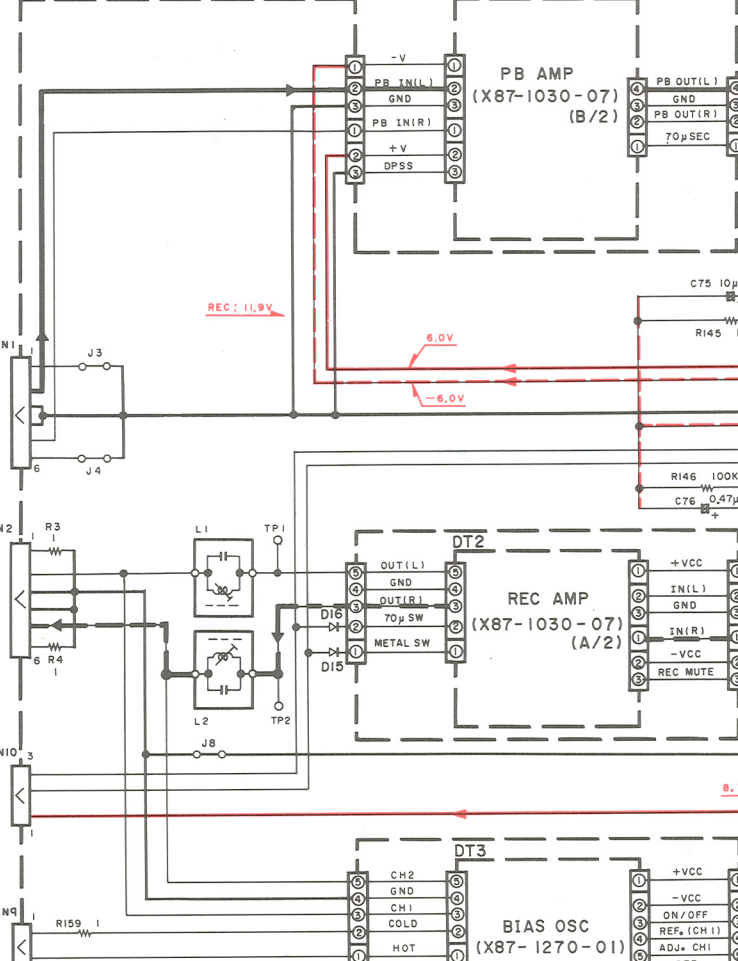
Q1,2,15,16: 2SD1302(S,T)
or 2SC2878(B)
Q3~10,17~22,43~47
: 2SC1740S(Q,R)
or 2SC945(A)(Q,P)
Q11,12 : 2SC2003(L,K)
Q13,14 : 2SA954(L,K)
Q23~26,29,30
: 2SA933S(Q,R)
or 2SA733(A)(Q,P)
Q27,28,33~36,41
: DTC124EN
Q31,32,37~40,42
: DTA124EN
Q48 : 2SD1266(Q,P)
Q49 : 2SB941(Q,P)

CASSETTE MECHANISM ASS'Y
(D40-0871-05)



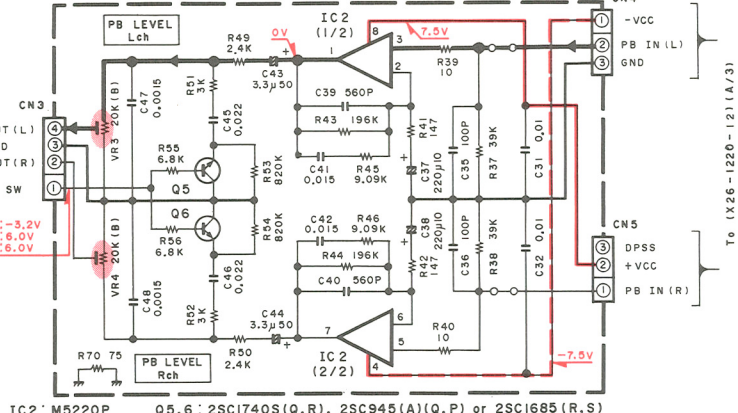
D2~35,37~46
49,51~53
56~59,63~72
: HSS104 or ISS133
D54 : RD5.1ES(B2)
or HZS.1N(B2)
D55 : RD5.6ES(B2)
or HZS.6N(B2)
D60 : RD3.9ES(B2)
or HZS.3.9N(B2)
D61 : RD1.1ES(B2)
or HZS.1N(B2)
D62 : RD20JS(B2)
or HZS20N(B2)

(X26-1220-12)(A/3)



IC1,2,4 : NJM4558D-A or M5218P-A
IC3 : μ PD4066BC or MB84066BM
IC5~7 : NJM4558D or M5218P
IC8 : NJM072BD or μ PC4072C
IC9~11 : TD62554S
IC12 : NJM555D
IC13 : CX20188
IC14 : μ PC7812HF or AN7812F
IC15 : M5F79M09L
IC16 : M5F79M09L
IC17 : TA78L006AP
IC18 : TA79L006P
IC19 : μ PC78L05J or NJM78L05A

PB AMP UNIT (X87-1030-07)(B/2)



IC2 : M5220P Q5,6 : 2SC1740S(Q,R), 2SC945(A)(Q,P) or 2SC1685(R,S)

DTA124EN

2SD1266

2SB941

TX3010N

MB84066BM

TD62554S

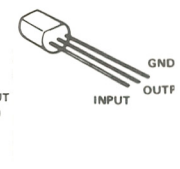
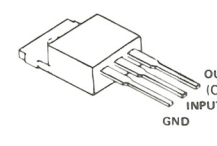
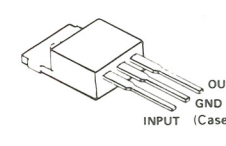
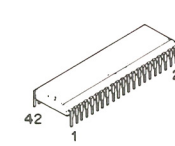
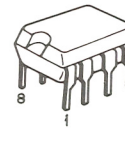
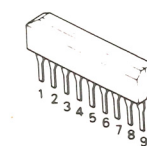
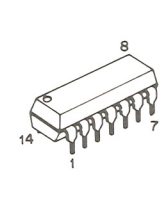
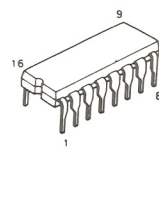
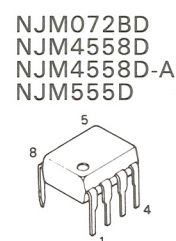
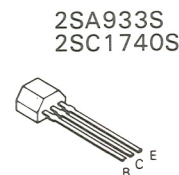
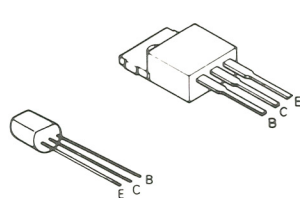
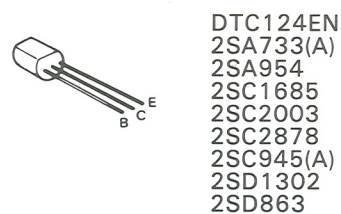
M5218P
M5218P-A
M5220P
UPC4072C

CX20188

AN7812F
M5F78M09L
UPC7812HF

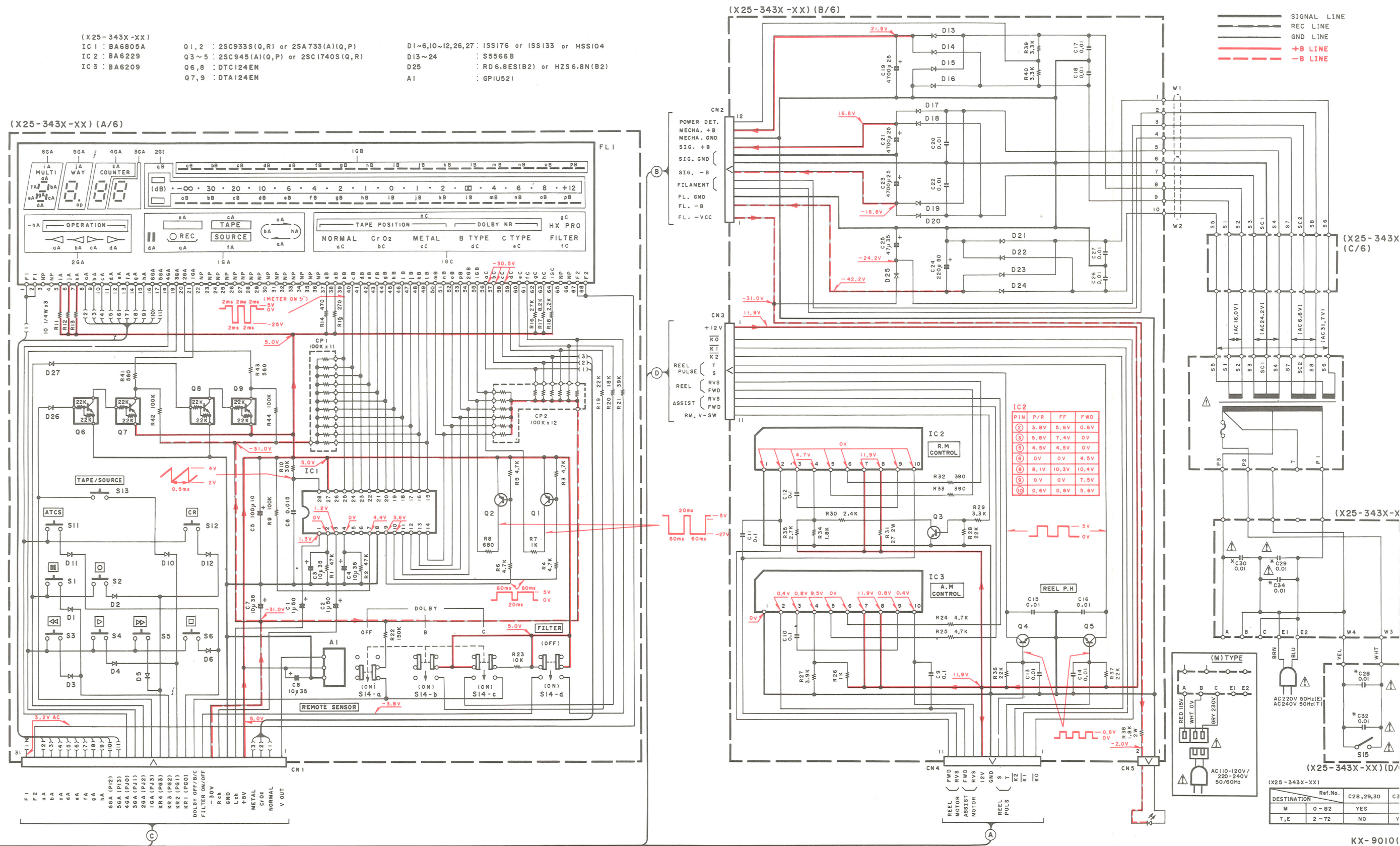
M5F79M09L

TA78L006AP



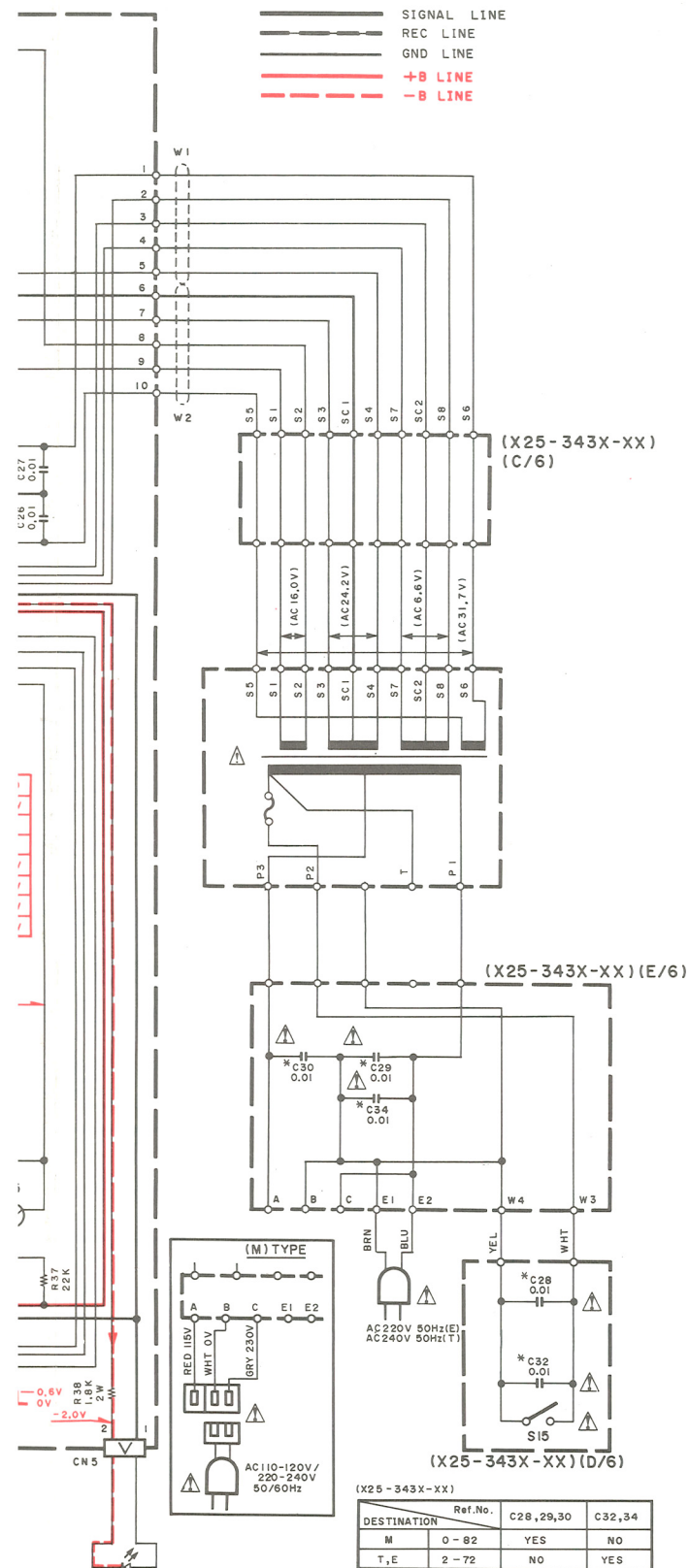
Q25	E	C	B	Q26	E	C	B	Q28	E	C	B
PLAY	4.5V	-8.2V	4.7V	PLAY	4.5V	4.4V	3.8V	PLAY	0V	11.8V	0V
REC	4.7V	-8.2V	4.7V	REC	4.7V	-3.8V	4.7V	REC	0V	0V	4.8V

Die angegebenen Gleichspannungsw
setzter Cassette in der Wiedergabe
Spannungsmesser gemessen. Dabe
werte aufgrund von Unterschieden
strumenten oder Geräten u. U. gering
Gleichspannungswerte der Vorm
wurden in der Aufnahme-Betriebsart



Die angegebenen Gleichspannungswerte wurden bei einer Testkassette in der Wiedergabe mit einem hochgenauigen Spannungsmesser gemessen. Dabei schwanken die Werte aufgrund von Unterschieden zwischen einzelnen Instrumenten oder Geräten u. U. geringfügig. Die angegebenen Gleichspannungswerte der Vormagnetisierungen wurden in der Aufnahme-Betriebsart gemessen.

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



KX-9010(E) (2/2)
 KX-9010(E) (2/2)

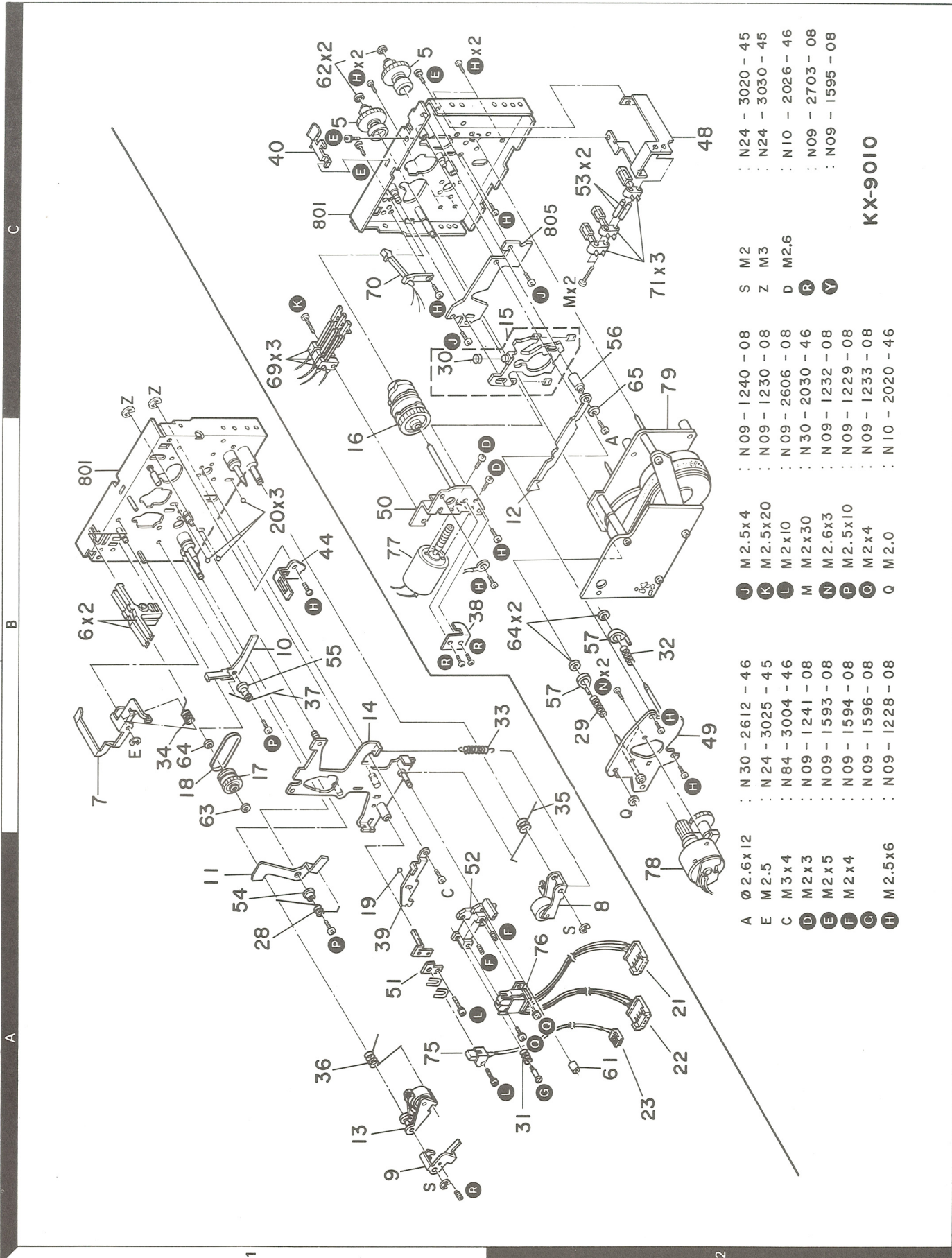
un voltmètre à
 mode du lec-
 fait des varia-
 ts de mesure
 être mesurées,

Die angegebenen Gleichspannungswerte wurden bei einge-
 setzter Cassette in der Wiedergabe mit einem hochohmigen
 Spannungsmesser gemessen. Dabei schwanken die Meß-
 werte aufgrund von Unterschieden zwischen einzelnen In-
 strumenten oder Geräten u. U. geringfügig. Die angegebenen
 Gleichspannungswerte der Vormagnetisierungsschaltung
 wurden in der Aufnahme-Betriebsart gemessen.

Y26-2860-11

KX-9010
 KENWOOD

EXPLODED VIEW (MECHANISM)

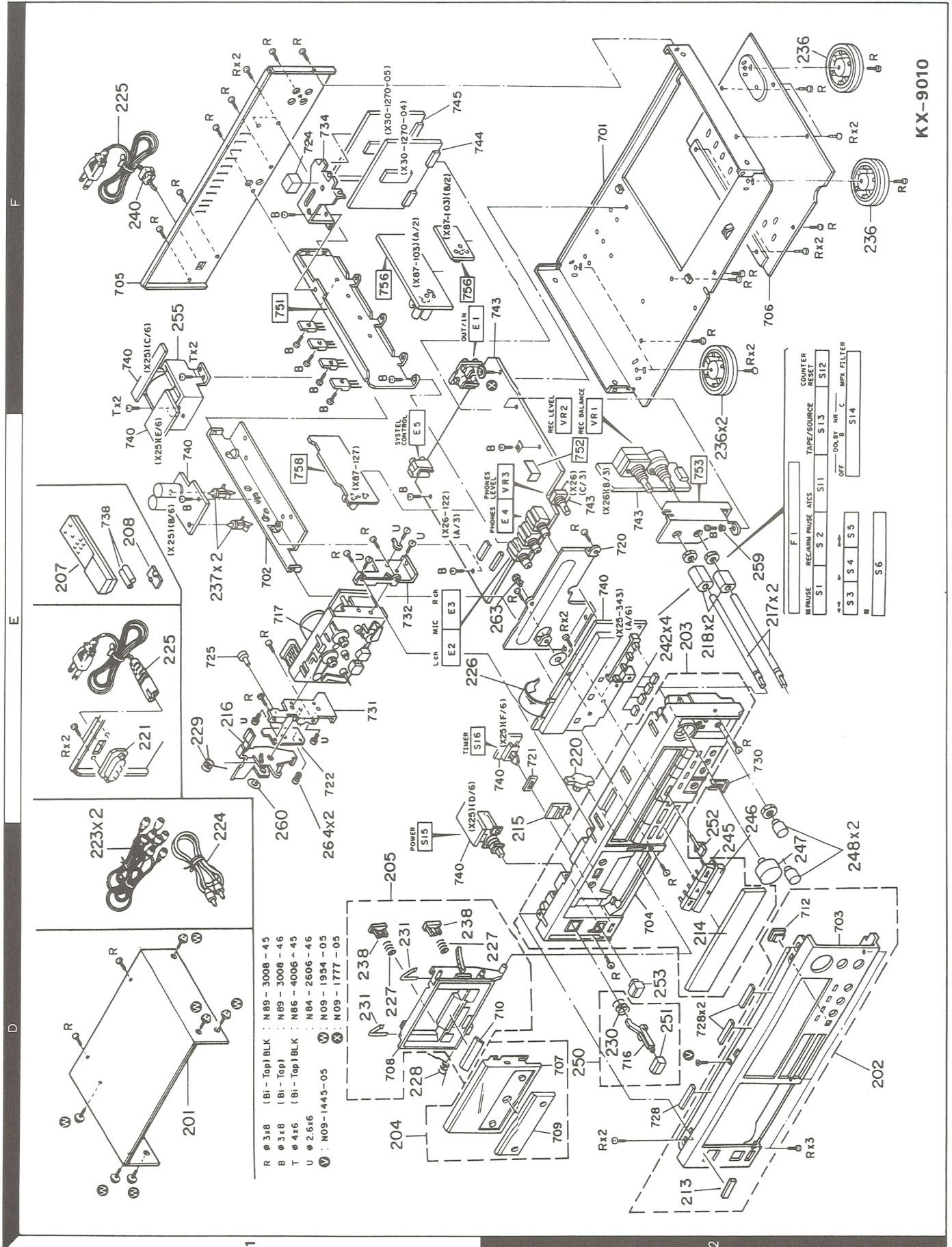


A	Ø 2.6x12	: N 30 - 2612 - 46	J	M 2.5x4	: N 09 - 1240 - 08	S	M 2	: N 24 - 3020 - 45
E	M 2.5	: N 24 - 3025 - 45	K	M 2.5x20	: N 09 - 1230 - 08	Z	M 3	: N 24 - 3030 - 45
C	M 3x4	: N 84 - 3004 - 46	L	M 2x10	: N 09 - 2606 - 08	D	M 2.6	: N 10 - 2026 - 46
D	M 2x3	: N 09 - 1241 - 08	M	M 2x30	: N 30 - 2030 - 46	R		: N 09 - 2703 - 08
E	M 2x5	: N 09 - 1593 - 08	N	M 2.6x3	: N 09 - 1232 - 08	Y		: N 09 - 1595 - 08
F	M 2x4	: N 09 - 1594 - 08	P	M 2.5x10	: N 09 - 1229 - 08			
G		: N 09 - 1596 - 08	Q	M 2x4	: N 09 - 1233 - 08			
H	M 2.5x6	: N 09 - 1228 - 08		Q	M 2.0			

KX-9010

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.

PARTS LIST

× 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.

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
KX-9010						
201	1D		A01-1696-01	METALLIC CABINET		
202	2D	*	A20-5831-03	PANEL ASSY		
203	2E	*	A22-1102-01	SUB PANEL ASSY		
204	1D	*	A53-1123-03	CASSETTE LID ASSY	M	
204	1D	*	A53-1125-03	CASSETTE LID ASSY	TE	
205	1D	*	A53-1127-03	CASSETTE HOLDER ASSY		
207	1E	*	A70-0282-05	REMOTE CONTROLLER ASSY		
208	1E		A09-0077-08	BATTERY COVER(REMOTE CONTROL)		
213	2D		B43-0287-04	KENWOOD BADGE		
214	2D		B10-0973-04	FRONT GLASS		
215	2D		B30-1036-05	LED(SLF-601C)		
-			B46-0122-13	WARRANTY CARD	TE	
-			B46-0143-03	WARRANTY CARD	TE	
-		*	B50-9686-00	INSTRUCTION MANUAL		
-		*	B50-9687-00	INSTRUCTION MANUAL	ME	
-		*	B50-9688-00	INSTRUCTION MANUAL	M	
-		*	B50-9689-00	INSTRUCTION MANUAL	E	
216	1E		D10-2241-03	LEVER		
217	2E		D21-1486-04	EXTENSION SHAFT		
218	2E		D22-0067-04	SHAFT COUPLING		
220	2E		D39-0176-05	DAMPER		
⚠ 221	1E		E03-0102-25	AC INLET	M	
223	1D		E30-0505-05	AUDIO CORD		
224	1D		E30-0977-05	CORD WITH PLUG		
⚠ 225	1E		E30-1305-15	AC POWER CORD (INLET)	M	
⚠ 225	1F		E30-2276-05	AC POWER CORD	T	
⚠ 225	1F		E30-2277-05	AC POWER CORD	E	
226	1E		E31-4301-05	WIRING HARNESS		
227	1D		G01-2288-04	COMPRESSION SPRING		
228	1D		G01-2289-04	TORSION COIL SPRING		
229	1E		G01-2346-04	TORSION COIL SPRING		
230	2D		G01-2347-04	COMPRESSION SPRING		
231	1D		G02-0364-04	FLAT SPRING		
-		*	H01-8529-04	ITEM CARTON CASE		
-			H10-3694-02	POLYSTYRENE FOAMED FIXTURE		
-			H10-3695-02	POLYSTYRENE FOAMED FIXTURE		
-			H20-0417-14	PROTECTION COVER(460X370X360)	M	
-			H25-0224-04	PROTECTION BAG (800X400X0.03)	TE	
-			H25-0232-04	PROTECTION BAG (235X350X0.03)		
236	1E, 2F		J02-1002-05	FOOT		
237	1E		J19-0506-05	UNIT HOLDER		
238	1D		J11-0140-04	CLAMPER ASSY		
⚠ 240	1F		J42-0083-05	POWER CORD BUSHING	TE	
-			J61-0307-05	WIRE BAND		
242	2E		K27-1931-04	KNOB (BUTTON) DOLBY MPX		
245	2D		K29-3359-04	KNOB (REW,PLAY,FF)		
246	2D		K29-3360-04	KNOB (STOP)		
247	2D		K29-3361-04	KNOB (REC,LEVEL)		
248	2D		K29-3362-04	KNOB (LEVEL/BALANCE)		
250	2D		K29-3364-04	KNOB ASSY (EJECT)		
251	2D		K29-3365-04	KNOB (EJECT)		

E: Scandinavia & Europe K: USA P: Canada

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PARTS LIST

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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
252	2D		K29-3495-04	KNØB (ATCS)		
253	2D		K29-3516-14	KNØB ASSY (POWER)		
⚠ 255	1F		L01-5592-05	POWER TRANSFORMER		
259	2E		N19-0190-05	INSULATING WASHER		
260	1D		N19-0880-04	FLAT WASHER		
263	2E		N29-0035-05	PUSH RIVET (3.5X5.5)		
264	1E		N29-0067-05	PUSH RIVET (3.5X4.5)		
B	1F		N89-3008-46	BINDING HEAD TAPTITE SCREW	T	
R	1F, 2F		N89-3008-45	BINDING HEAD TAPTITE SCREW		
T	1E		N86-4006-45	BINDING HEAD TAPTITE SCREW		
U	1E		N89-2606-46	BINDING HEAD TAPTITE SCREW		
V	2D		N09-1445-05	SET SCREW (M3X8)		
W	1D		N09-1954-05	MACHINE SCREW		
X	2F		N09-1777-05	SEMS (TAPTITE SCREW)		
DISPLAY UNIT (X25-3430-82: M, 2-72: T, E)						
C1 ,2			CE04KW1H010M	ELECTRØ 1.0UF 50WV		
C3 ,4			CE04KW1V100M	ELECTRØ 10UF 35WV		
C5			CE04JW1A101M	ELECTRØ 100UF 10WV		
C6			CF92FV1H153J	MF 0.015UF J		
C7 ,8			CE04KW1V100M	ELECTRØ 10UF 35WV		
C9 -12			C91-0700-05	CERAMIC 0.1UF J		
C13 -18			CK45FF1H103Z	CERAMIC 0.010UF Z		
C19			CE04KW1E472M	ELECTRØ 4700UF 25WV		
C20			CK45FF1H103Z	CERAMIC 0.010UF Z		
C21			C90-1666-05	ELECTRØ 4700UF 25WV		
C22			CK45FF1H103Z	CERAMIC 0.010UF Z		
C23			C90-1666-05	ELECTRØ 4700UF 25WV		
C24			CE04KW1H221M	ELECTRØ 220UF 50WV		
C25			CE04KW1V470M	ELECTRØ 47UF 35WV		
C26 ,27			CK45FF1H103Z	CERAMIC 0.010UF Z		
⚠ C28 -30			C91-0023-05	CERAMIC 0.01UF AC250V	M	
⚠ C32			C91-0647-05	CERAMIC 0.01UF P	TE	
⚠ C34			C91-0647-05	CERAMIC 0.01UF P	TE	
CN1			E10-3102-05	FLAT CABLE CONNECTOR		
⚠ -			F29-0072-05	INSULATING COVER	TE	
CP1			R90-0258-05	MULTI-COMP 100KX11 J 1/6W		
CP2			R90-0272-05	MULTI-COMP 100KX12 J 1/6W		
R31			RS14KB3D270J	FL-PROOF RS 27 J 2W		
R38			RS14KB3D182J	FL-PROOF RS 1.8K J 2W		
S1 -6			S40-1064-05	PUSH SWITCH		
S11 -13			S40-1064-05	PUSH SWITCH		
S14			S42-4057-05	MULTIPLE PUSH SWITCH		
⚠ S15			S40-1138-05	PUSH SWITCH (POWER TYPE)		
S16			S31-1030-05	SLIDE SWITCH		
D1 -6			HSS104	DIODE		
D1 -6			1SS133	DIODE		
D10 -12			HSS104	DIODE		
D10 -12			1SS133	DIODE		
D13 -24			S5566B	DIODE		
D25			HZS6.8N(B2)	ZENER DIODE		
D25			RD6.8ES(B2)	ZENER DIODE		

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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	
D26 ,27 D26 ,27 FL1 IC1 IC2 IC3 Q1 ,2 Q1 ,2 Q3 -5 Q3 -5 Q6 Q7 Q8 Q9 A1			HSS104 1SS133 BG-591GK BA6805A BA6229 BA6209 2SA733(A)(Q,P) 2SA933S(Q,R) 2SC1740S(Q,R) 2SC945(A)(Q,P) DTC124EN DTA124EN DTC124EN DTA124EN W02-0975-05	DIODE DIODE FLUORESCENT INDICATOR TUBE IC(LEVEL METER DRIVER) IC(MOTOR DRIVER) IC(MOTOR DRIVER) TRANSISTOR TRANSISTOR TRANSISTOR TRANSISTOR DIGITAL TRANSISTOR DIGITAL TRANSISTOR DIGITAL TRANSISTOR DIGITAL TRANSISTOR ELECTRIC CIRCUIT MODULE			
CASSETTE UNIT (X26-1220-12)							
C1 ,2 C3 ,4 C5 ,6 C7 ,8 C9 ,10 C11 ,12 C13 ,14 C15 ,16 C17 ,18 C19 ,20 C21 ,22 C23 ,24 C25 -28 C29 ,30 C31 ,32 C33 ,34 C35 ,36 C37 ,38 C39 ,40 C41 ,42 C43 ,44 C45 ,46 C47 ,48 C49 ,50 C51 ,52 C53 ,54 C55 ,56 C57 ,58 C59 ,60 C61 ,62 C63 ,64 C65 -68 C69 C70 C71 C72 C73 ,74 C75			CK45FF1H103Z CE04KW1H3R3M CF92FV1H332J CE04KW1V100M CQ09FS1H101JZS CE04KW1V100M CQ09FS1H391JZS CE04KW1V100M CF92FV1H102J CC45FSL1H101J CE04KW1H010M CC45FSL1H220J CE04KW1V100M CK45FF1H103Z CE04KW1H2R2M CC45FSL1H330J CK45FF1H103Z CE04KW1H010M CE04KW1V100M CC45FSL1H220J CE04KW1V100M CK45FF1H103Z CE04KW1V100M CE04KW1H0R1M CE04KW1V100M CC45FSL1H330J CK45FF1H103Z CE04KW1H0R1M CE04KW1V100M CC45FSL1H101J CK45FF1H103Z CE04KW1V100M CF92FV1H332J CK45FB1H681K CC45FSL1H470J CF92FV1H563J CE04KW1H010M CE04KW1V100M	CERAMIC ELECTRO MF ELECTRO POLYSTY ELECTRO POLYSTY ELECTRO MF CERAMIC ELECTRO CERAMIC ELECTRO ELECTRO CERAMIC ELECTRO CERAMIC ELECTRO ELECTRO ELECTRO CERAMIC CERAMIC ELECTRO ELECTRO ELECTRO CERAMIC CERAMIC ELECTRO ELECTRO ELECTRO CERAMIC CERAMIC ELECTRO ELECTRO CERAMIC CERAMIC ELECTRO MF CERAMIC CERAMIC MF ELECTRO ELECTRO	0.010UF Z 3.3UF 50WV 3300PF J 10UF 35WV 100PF J 10UF 35WV 390PF J 10UF 35WV 1000PF J 100PF J 1.0UF 50WV 22PF J 10UF 35WV 0.010UF Z 2.2UF 50WV 33PF J 0.010UF Z 1.0UF 50WV 10UF 35WV 22PF J 10UF 35WV 0.010UF Z 10UF 35WV 0.1UF 50WV 10UF 35WV 33PF J 0.010UF Z 0.1UF 50WV 10UF 35WV 100PF J 0.010UF Z 10UF 35WV 3300PF J 680PF K 47PF J 0.056UF J 1.0UF 50WV 10UF 35WV		

E: Scandinavia & Europe K: USA P: Canada
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C76			CE04KW1HR47M	ELECTR0 0.47UF 50WV		
C77			CE04KW1V100M	ELECTR0 10UF 35WV		
C78			CE04KW1C220M	ELECTR0 22UF 16WV		
C79			CE04KW1H010M	ELECTR0 1.0UF 50WV		
C80 , 81			CE04KW1A221M	ELECTR0 220UF 10WV		
C82			CE04KW1V100M	ELECTR0 10UF 35WV		
C83 , 84			CK45FF1H103Z	CERAMIC 0.010UF Z		
C85			CE04KW1A101M	ELECTR0 100UF 10WV		
C86			CE04KW1V100M	ELECTR0 10UF 35WV		
C87			CE04KW1V4R7M	ELECTR0 4.7UF 35WV		
C88			CE04KW1H2R2M	ELECTR0 2.2UF 50WV		
C89			CE04KW1V100M	ELECTR0 10UF 35WV		
C90			CE04KW1H010M	ELECTR0 1.0UF 50WV		
C91			CF92FV1H224J	MF 0.22UF J		
C92			CF92FV1H103J	MF 0.010UF J		
C93			CF92FV1H912J	MF 9100PF J		
C94			CE04KW1V100M	ELECTR0 10UF 35WV		
C95			CF92FV1H393J	MF 0.039UF J		
C96			CF92FV1H122J	MF 1200PF J		
C97			CF92FV1H393J	MF 0.039UF J		
C98			CF92FV1H152J	MF 1500PF J		
C99			CE04KW1A101M	ELECTR0 100UF 10WV		
C100			CE04KW1H010M	ELECTR0 1.0UF 50WV		
C101			C91-0700-05	CERAMIC 0.1UF J		
C102			CE04KW1H010M	ELECTR0 1.0UF 50WV		
C103			CE04KW1V100M	ELECTR0 10UF 35WV		
C104-107			CK45FB1H102K	CERAMIC 1000PF K		
C108			CK45FF1H103Z	CERAMIC 0.010UF Z		
C109			CE04KW1C101M	ELECTR0 100UF 16WV		
C110			CE04KW1V100M	ELECTR0 10UF 35WV		
C111			CE04KW1A101M	ELECTR0 100UF 10WV		
C112			CE04KW0J102M	ELECTR0 1000UF 6.3WV		
C113, 114			CK45FF1H103Z	CERAMIC 0.010UF Z		
C115, 116			CE04KW1C471M	ELECTR0 470UF 16WV		
C117			CE04KW1V470M	ELECTR0 47UF 35WV		
C118			CE04KW1A101M	ELECTR0 100UF 10WV		
C119			CK45FF1H103Z	CERAMIC 0.010UF Z		
C120			CE04KW1V100M	ELECTR0 10UF 35WV		
C121			CE04KW1V470M	ELECTR0 47UF 35WV		
C122, 123			CK45FF1H103Z	CERAMIC 0.010UF Z		
C124, 125			CE04KW1A101M	ELECTR0 100UF 10WV		
C126, 127			CE04KW1H010M	ELECTR0 1.0UF 50WV		
C128			CE04KW1V100M	ELECTR0 10UF 35WV		
C129, 130			CE04KW1H010M	ELECTR0 1.0UF 50WV		
C131			CE04KW1C220M	ELECTR0 22UF 16WV		
C132			CK45FF1H103Z	CERAMIC 0.010UF Z		
C133			CE04KW1V100M	ELECTR0 10UF 35WV		
CN13			E10-3101-05	FLAT CABLE CONNECTOR		
E1			E13-0482-05	PHONE JACK		
E2 , 3			E11-0192-05	PHONE JACK		
E4			E11-0191-05	PHONE JACK		
E5			E11-0188-05	MINIATURE PHONE JACK		
L1 -4			L39-0107-05	TRAP COIL		
X1			L78-0209-05	RESONATOR (4.194MHZ)		

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B			N89-3008-46	BINDING HEAD TAPTITE SCREW		
CP1			R90-0202-05	MULTI-COMP 47KX4 J 1/6W		
CP2			R90-0228-05	MULTI-COMP 10KX5 J 1/6W		
R101,102			RD14GB2E330JTS	FL-PROOF RD 33 J 1/4W		
R246			RS14KB3A102J	FL-PROOF RS 1.0K J 1W		
R247,248			RS14KB3D331J	FL-PROOF RS 330 J 2W		
R249			RS14KB3A390J	FL-PROOF RS 39 J 1W		
R255			RD14GB2E222JTS	FL-PROOF RD 2.2K J 1/4W		
VR1			R06-5123-05	POTENTIOMETER(200KX2)		
VR2			R10-5021-05	POTENTIOMETER(100K)		
VR3			R10-3035-05	POTENTIOMETER		
VR5 ,6			R12-3126-05	TRIMMING POT.(10K)		
VR8			R12-3126-05	TRIMMING POT.(10K)		
K2			S51-2074-05	MAGNETIC RELAY		
D2 -35			1SS133	DIODE		
D37 -46			HSS104	DIODE		
D49			HSS104	DIODE		
D51 -53			HSS104	DIODE		
D54			HZS5.1N(B2)	ZENER DIODE		
D54			RD5.1ES(B2)	ZENER DIODE		
D55			HZS5.6N(B2)	ZENER DIODE		
D55			RD5.6ES(B2)	ZENER DIODE		
D56 -59			HSS104	DIODE		
D60			HZS3.9N(B2)	ZENER DIODE		
D60			RD3.9ES(B2)	ZENER DIODE		
D61			HZS11N(B2)	ZENER DIODE		
D61			RD11ES(B2)	ZENER DIODE		
D62			HZS20S(B2)	ZENER DIODE		
D62			RD20JS(B2)	ZENER DIODE		
D63 -72			HSS104	DIODE		
IC1 ,2			M5218P-A	IC(OP AMP X2)		
IC1 ,2			NJM4558D-A	IC(OP AMP X2)		
IC3			MB84066BM	IC(BILATERAL SWITCH X4)		
IC3			UPD4066BC	IC(BILATERAL SWITCH X4)		
IC4			M5218P-A	IC(OP AMP X2)		
IC4			NJM4558D-A	IC(OP AMP X2)		
IC5 -7			M5218P	IC(OP AMP X2)		
IC5 -7			NJM4558D	IC(OP AMP X2)		
IC8			NJM072BD	IC(FET OP AMP X2)		
IC8			UPC4072C	IC(OP AMP X2)		
IC9 -11			TD62554S	IC(4CH TRANSISTOR ARRAY)		
IC12			NJM555D	IC(TIMER)		
IC13			CXP5096-003S	IC(MICROPROCESSOR)		
IC14			AN7812F	IC(VOLTAGE REGULATOR/ +12V)		
IC14			UPC7812HF	IC(VOLTAGE REGULATOR/ +12V)		
IC15			M5F78M09L	IC(VOLTAGE REGULATOR/ +9V)		
IC16			M5F79M09L	IC(VOLTAGE REGULATOR/ -9V)		
IC17			TA78L006AP	IC(VOLTAGE REGULATOR/ +6V)		
IC18			TA79L006P	IC(VOLTAGE REGULATOR/ -6V)		
IC19			NJM78L05A	IC(VOLTAGE REGULATOR/ +5V)		
IC19			UPC78L05J	IC(VOLTAGE REGULATOR/ +5V)		
Q1 ,2			2SC2878(B)	TRANSISTOR		

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Q1 ,2 Q3 -10 Q3 -10 Q11 ,12 Q13 ,14 Q15 ,16 Q15 ,16 Q17 -22 Q17 -22 Q23 -26 Q23 -26 Q27 ,28 Q29 ,30 Q29 ,30 Q31 ,32 Q33 -36 Q37 -40 Q41 Q42 Q43 -47 Q43 -47 Q48 Q49			2SD1302(S,T) 2SC1740S(Q,R) 2SC945(A)(Q,P) 2SC2003(L,K) 2SA954(L,K) 2SC2878(B) 2SD1302(S,T) 2SC1740S(Q,R) 2SC945(A)(Q,P) 2SA733(A)(Q,P) 2SA933S(Q,R) DTC124EN 2SA733(A)(Q,P) 2SA933S(Q,R) DTA124EN DTC124EN DTA124EN DTC124EN DTA124EN 2SC1740S(Q,R) 2SC945(A)(Q,P) 2SD1266(Q,P) 2SB941(Q,P)	TRANSISTOR TRANSISTOR TRANSISTOR TRANSISTOR TRANSISTOR TRANSISTOR TRANSISTOR TRANSISTOR TRANSISTOR TRANSISTOR TRANSISTOR DIGITAL TRANSISTOR TRANSISTOR TRANSISTOR DIGITAL TRANSISTOR DIGITAL TRANSISTOR DIGITAL TRANSISTOR DIGITAL TRANSISTOR DIGITAL TRANSISTOR TRANSISTOR TRANSISTOR TRANSISTOR TRANSISTOR			
DOLBY NR UNIT (X30-1270-04, 0-05)							
C1 ,2 C3 ,4 C5 ,6 C7 ,8 C9 -12 C13 ,14 C15 ,16 C17 ,18 C19 ,20 C21 ,22 C23 ,24 C25 ,26 C27 ,28 C29 ,30 C31 ,32 C33 ,34 C35 ,36 C37 ,38 C39 ,40 L1 ,2 R5 ,6 R7 ,8 R9 ,10 R11 ,12 R23 ,24 R25 ,26 R27 ,28 R49 IC1			CE04KW1V100M CE04KW1H2R2M CE04KW1H3R3M CE04KW1V100M CF92FV1H222J CF92FV1H392J CF92FV1H474J CF92FV1H154J CF92FV1H153J C90-1349-05 CF92FV1H224J CF92FV1H683J CF92FV1H563J C90-1349-05 CF92FV1H562J CF92FV1H103J CF92FV1H152J CF92FV1H122J CE04KW1A471M L79-0189-05 RN14BK2C1781FTS RN14BK2C2152FTS RN14BK2C1001FTS RN14BK2C1622FTS RN14BK2C7501FTS RN14BK2C6810FTS RN14BK2C9091FTS RN14BK2C1303FTS CX20188	ELECTRO ELECTRO ELECTRO ELECTRO MF MF MF MF MF NP-ELEC MF MF MF NP-ELEC MF MF MF MF ELECTRO LC FILTER RN RN RN RN RN RN RN RN IC(DOLBY B/C)	10UF 35WV 2.2UF 50WV 3.3UF 50WV 10UF 35WV 2200PF J 3900PF J 0.47UF J 0.15UF J 0.015UF J 1UF 50WV 0.22UF J 0.068UF J 0.056UF J 1UF 50WV 5600PF J 0.010UF J 1500PF J 1200PF J 470UF 10WV 1.78K F 1/6W 21.5K F 1/6W 1.00K F 1/6W 16.2K F 1/6W 7.50K F 1/6W 681.0 F 1/6W 9.09K F 1/6W 130K F 1/6W		

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Q1 -4			2SC1740S(Q,R)	TRANSISTOR		
Q1 -4			2SC945(A)(Q,P)	TRANSISTOR		
RECORD/PLAYBACK UNIT (X87-1030-07)						
C1 ,2		*	CF92FV1H394J	MF 0.39UF J		
C3 ,4			CE04KW1V100MEL	ELECTRO 10UF 35WV		
C5 ,6			CC45FSL1H100D	CERAMIC 10PF D		
C7 ,8			CF92FV1H222J	MF 2200PF J		
C9 ,10			CF92FV1H823J	MF 0.082UF J		
C11 ,12			CE04KW1V100MEL	ELECTRO 10UF 35WV		
C13 ,14			CF92FV1H153J	MF 0.015UF J		
C15 ,16			CF92FV1H103J	MF 0.010UF J		
C17 ,18			CQ09FS1H101JZS	POLYSTY 100PF J		
C19 ,20			CF92FV1H223J	MF 0.022UF J		
C21 ,22			CF92FV1H153J	MF 0.015UF J		
C23 ,24			CF92FV1H392J	MF 3900PF J		
C25 ,26			CF92FV1H182J	MF 1800PF J		
C27 ,28			CQ09FS1H221JZS	POLYSTY 220PF J		
C29 -32			CK45FF1H103Z	CERAMIC 0.010UF Z		
C35 ,36			CQ09FS1H101JZS	POLYSTY 100PF J		
C37 ,38		*	CE04KW1A221MEL	ELECTRO 220UF 10WV		
C39 ,40			CQ09FS1H561JZS	POLYSTY 560PF J		
C41 ,42			CF92FV1H153J	MF 0.015UF J		
C43 ,44			CE04KW1H3R3MEL	ELECTRO 3.3UF 50WV		
C45 ,46			CF92FV1H223J	MF 0.022UF J		
C47 ,48			CF92FV1H152J	MF 1500PF J		
L1 ,2		*	L40-1238-29	SMALL FIXED INDUCTOR(12MH,G)		
R5 ,6		*	RN14BK2C6192FTS	RN 61.9K F 1/6W		
R7 ,8		*	RN14BK2C1102FTS	RN 11.0K F 1/6W		
R11 ,12		*	RN14BK2C2612FTS	RN 26.1K F 1/6W		
R25 ,26			RN14BK2C5620FTS	RN 562.0 F 1/6W		
R29 ,30		*	RN14BK2C5112FTS	RN 51.1K F 1/6W		
R31 ,32		*	RN14BK2C1621FTS	RN 1.62K F 1/6W		
R41 ,42		*	RN14BK2C1470FTS	RN 147.0 F 1/6W		
R43 ,44		*	RN14BK2C1963FTS	RN 196K F 1/6W		
R45 ,46			RN14BK2C9091FTS	RN 9.09K F 1/6W		
VR1 -4			R12-3058-05	TRIMMING POT.(20K)		
D1 ,2			1SS176	DIODE		
IC1		*	TX3010N	IC(REC AMP)		
IC2		*	M5220P	IC(OP AMP X2)		
Q1 -4			2SC1685(R,S)	TRANSISTOR		
Q1 -4			2SC1740S(Q,R)	TRANSISTOR		
Q1 -4			2SC945(A)(Q,P)	TRANSISTOR		
Q5 ,6			2SC1685(R,S)	TRANSISTOR		
Q5 ,6			2SC1740S(Q,R)	TRANSISTOR		
Q5 ,6			2SC945(A)(Q,P)	TRANSISTOR		
BIAS OSC UNIT (X87-1270-01)						
C1 ,2			CK45FB1H561K	CERAMIC 560PF K		
C3 ,4			C91-0357-05	POLYSTY 150PF J		
C5 ,6			C91-0860-05	POLYSTY 470PF K		
C7 ,8			CF92FV1H393J	MF 0.039UF J		
C9 ,10			CF92FV1H223J	MF 0.022UF J		
C11 ,12			CF92FV1H103J	MF 0.010UF J		
C13			CE04KW1V100M	ELECTRO 10UF 35WV		

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C14			CC45FSL2H100D	CERAMIC 10PF D		
C15			CQ93HP2A103J	MYLAR 0.010UF J		
C16			CE04KW1E101M	ELECTRO 100UF 25WV		
C17			CF92FV1H102J	MF 1000PF J		
C18			CF92FV1H182J	MF 1800PF J		
C19			CE04KW1H3R3M	ELECTRO 3.3UF 50WV		
C20			CE04KW1E101M	ELECTRO 100UF 25WV		
C21			CE04KW1V100M	ELECTRO 10UF 35WV		
C22			CK45FF1H103Z	CERAMIC 0.010UF Z		
C24 ,25			CK45FF1H103Z	CERAMIC 0.010UF Z		
C26			CE04KW1V100M	ELECTRO 10UF 35WV		
C27			CK45FF1H103Z	CERAMIC 0.010UF Z		
L1 ,2			L32-0369-05	BIAS OSCILATING COIL		
L3			L32-0378-05	OSCILATING COIL		
R14			RD14GB2E100JTS	FL-PROOF RD 10 J 1/4W		
R15			R92-0508-05	FUSE RESIST 22 G 1/4W		
VR1 ,2			R12-3127-05	TRIMMING POT.(10K)		
D1			1SS133	DIODE		
D1			1SS176	DIODE		
IC1			UPC1297CA	IC(DOL HX PRO SYSTEM)		
Q1 ,2			2SD863(E,F)	TRANSISTOR		
MECHANISM ASS'Y (D40-0871-05)						
5	1C		D03-0251-08	REEL DISK ASSY		
6	1B		D10-2326-08	LEVER (REC)		
7	1B		D10-1614-08	LEVER (DETECT)		
8	2A		D10-1616-08	PINCH ROLLER ASSY (R)		
9	1A		D10-1617-08	LEVER		
10	1B	*	D10-2246-08	LEVER		
11	1A		D10-1619-08	LEVER (LOCK)		
12	2B		D10-1620-08	LEVER		
13	1A		D10-1621-08	PINCH ROLLER ASSY (L)		
14	1B		D10-1622-08	SLIDER ASSY (HEAD BASE)		
15	2C		D10-1623-08	SLIDER ASSY (BRAKE)		
16	1B		D13-0080-08	GEAR ASSY (CAM)		
17	1B		D15-0241-08	PULLEY ASSY		
18	1B		D16-0128-08	BELT		
19	1A		D90-0012-04	STEEL BALL (/3)		
20	1B		D90-0020-04	STEEL BALL (/2)		
21	2A	*	E31-7210-08	CONNECTING WIRE(6P)REC HEAD		
22	2A		E31-7087-08	CONNECTING WIRE(6P)PB HEAD		
23	2A		E31-7088-08	CONNECTING WIRE(2P)ERASE HEAD		
28	1A		G01-0484-08	TORSION SP		
29	2B		G01-1601-08	COMPRESSION SP (T)		
30	1C		G01-1602-08	COMPRESSION SP		
31	2A		G01-1816-08	COMPRESSION SP		
32	2B		G01-1817-08	COMPRESSION SP (S)		
33	2B		G01-1818-08	TENSION SP		
34	1B		G01-1819-08	TORSION SP		
35	2B		G01-1820-08	TORSION SP		
36	1A		G01-1821-08	TORSION SP		
37	1B		G01-1822-08	TORSION SP		
38	1B	*	G02-0932-08	FLAT SPRING (PAD MOTOR)		

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39 40	1A 1C		G02-0388-08 G02-0389-08	FLAT SPRING (HEAD) FLAT SPRING (CASSETTE)		
44	1B		H12-0106-08	(LEAF SW)		
48 49 50 51 52	2C 2B 1B 1A 1A	* *	J21-3786-08 J21-3787-08 J21-5512-08 J21-5354-08 J21-3790-08	MOUNTING HARDWARE (SWITCH) MOUNTING HARDWARE (MOTOR) MOUNTING HARDWARE (PAD MOTOR) MOUNTING HARDWARE (ERASE HEAD) MOUNTING HARDWARE (HEAD BLOCK)		
53 54 55 56 57	2C 1A 1B 2C 2B		J31-0268-08 J31-0269-08 J31-0270-08 J31-0271-08 J42-0139-08	COLLAR COLLAR COLLAR COLLAR BUSHING		
-			J61-0307-05	WIRE BAND		
61 62 63 64 65	2A 1C 1B 1B, 2B 2C		N14-0142-08 N19-0336-08 N19-0994-08 N19-0995-08 N19-0996-08	NUT (ADJUSTMENT) FLAT WASHER FLAT WASHER (/1.8X /3.8X TO.5) FLAT WASHER (/2.1X /4.5X TO.1) FLAT WASHER		
A C D D E	2B 1A 2B 2B 1C		N30-2612-46 N84-3004-46 N09-1241-08 N10-2026-46 N09-1593-08	PAN HEAD MACHINE SCREW SCREW SCREW (M2X 3) HEXAGON NUT (M2.6) SCREW (M2X 5)		
E F G H J	1B 1C 2A 1B, 1C 1C, 2C		N24-3025-45 N09-1594-08 N09-1596-08 N09-1228-08 N09-1240-08	E TYPE RETAINING RING (/2.5) SCREW (M2X 4) SCREW SCREW (M2.5X 6) SCREW (M2.5X 4)		
K L M N P	1C 1A, 2A 2C 2B 1A, 1B	* *	N09-1230-08 N09-2606-08 N30-2030-46 N09-1232-08 N09-1971-08	SCREW (M2.5X 20) SCREW (M2X 10) PAN HEAD MACHINE SCREW SCREW (M2.6X 3) SCREW (M2.5X 10)		
Q Q R S Y	2A 2B 1B 1A, 2A 1A	* *	N09-1233-08 N10-2020-46 N09-2703-08 N24-3020-45 N09-1595-08	SCREW (M2X 4) HEXAGON NUT (M2) SCREW (M2.5X 10) E TYPE RETAINING RING (/2) SCREW		
Z	1C		N24-3030-45	E TYPE RETAINING RING (/3)		
69 70 71	1C 1C 2C		S46-1017-08 S46-1019-08 S46-1051-08	LEAF SWITCH LEAF SWITCH LEAF SWITCH		
75 76 77 78 79	1A 2A 1B 2A 2B	* *	T32-0313-05 T34-0314-05 T42-0537-08 T42-0467-08 T43-0048-08	ERASE HEAD REC/PLAY HEAD DC MOTOR ASSY (PAD) DC MOTOR ASSY (REEL) DD MOTOR ASSY (CAPSTAN)		
85	2C		W02-0684-08	SENSOR UNIT		

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SPECIFICATIONS

Track system: 4-Track, 2-channel stereo
Recording system: AC Bias System
Heads: Record/play × 1
Erase × 1
Motors: Capstan × 1
Reel × 1
Mechanism drive × 1
Wow & flutter: 0.025% (W.R.M.S.)
±0.055% (DIN)
Fast-winding time: About 80 seconds (C-60)
Frequency response (±3 dB) —20 dB recording:
Normal tape: 20 – 18,000 Hz
CrO2 tape: 20 – 19,000 Hz
Metal tape: 20 – 22,000 Hz
Signal-to-noise ratio 74 dB (Dolby C-type NR ON)
67 dB (Dolby B-type NR ON)
59 dB (Dolby NR OFF)
Harmonic distortion 0.6% (at 1 kHz,
0 VU with metal tape)
Input sensitivity/Impedance
LINE IN: 77.5 mV/50 k ohms
MIC: 0.3 mV/600 ohms
Output level/Impedance
LINE OUT: 490 mV/2 k ohms
Headphones: 3 mW/8 ohms

General
Power consumption: 30 W
Dimensions: W: 440 mm (17-5/16")
H: 127 mm (5")
D: 321 mm (12-5/8")
Weight (Net): 6.7 kg (14.7 lb)

Note:
We follow a policy of continuous advancements in development.
For this reason these specifications may be changed without
notice.

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

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Kenwood strebt ständige Verbesserungen in der Entwicklung an.
Daher bleiben Änderungen der technischen Daten jederzeit vorbehalten.
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