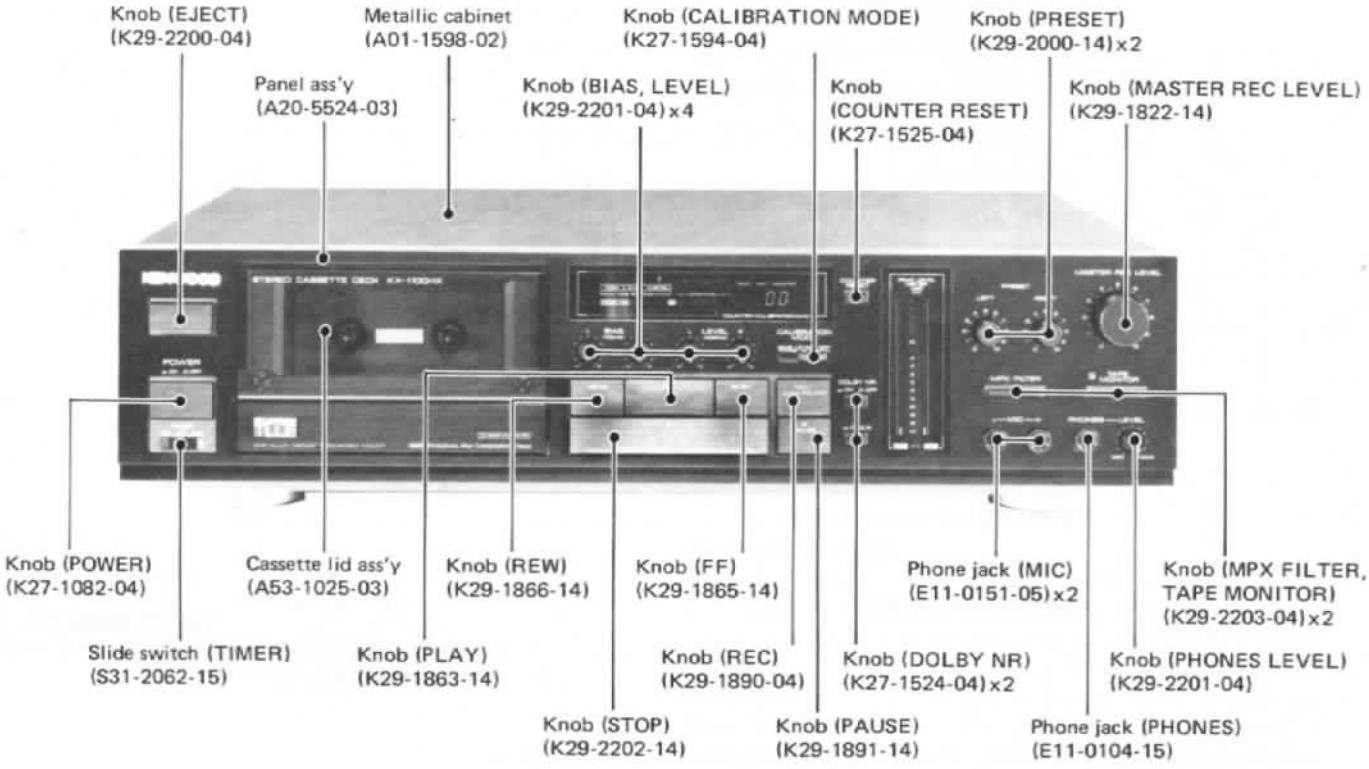
STEREO CASSETTE DECK

KX-1100HX

SERVICE MANUAL

KENWOOD

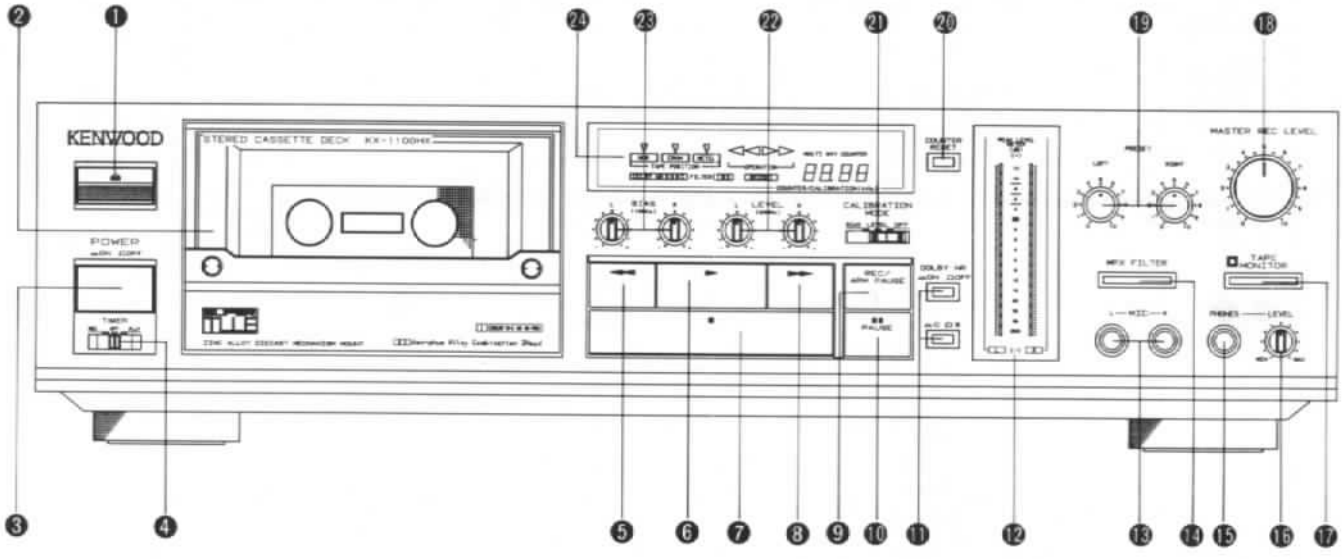


* Refer to parts list on page 35.

CONTENTS

CONTROLS, INDICATORS AND CONNECTORS

Numbers in front of names correspond those in the diagram. The name in the bracket shows the indication on the panel.



❶ Eject key (▲)
Pressing this key to open the cassette holder.

❷ Cassette holder
When the eject key is pressed, this holder opens. To close it, push the upper section of the holder until it locks.

❸ POWER switch
Press this switch to turn the power ON. Pressing again turns the power OFF.

❹ TIMER stand-by switch
Use this switch 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 **set to OFF when the timer is not used.**

❺ Rewind key (◀◀)
Press this key to rewind the tape from right to left at high speed; the rewind indicator (◁◁) lights.

❻ Play key (▶)
Press this key to forward the tape at fixed speed and start playback; the play indicator (▷) lights.

❼ Stop key (■)
Press this key to stop the tape travel.

❽ Fast forward key (▶▶)
Press to advance the tape rapidly (from left to right); the fast-forward indicator (▷▷) lights.

❾ REC/ARM PAUSE key
Press this key to start recording. It is not necessary to press the play key simultaneously since this unit provides the one-touch recording system. At this time, the record and play indicators light.
When this key is pressed again during recording, about 4 seconds non-recorded section is made and the tape travel will stop temporarily.

❿ PAUSE key (II)
To interrupt recording or playback momentarily, press this key. When this key is pressed during playback, the play indicator flickers and the playback is interrupted momentarily. When this key is pressed during recording, the record indicator lights and the play indicator blinks so that the recording is interrupted. To release the play-pause mode, press the play key and to release the record-pause mode, press the REC/ARM PAUSE key.

⓫ DOLBY NR swith
When playing back the Dolby-encoded cassette tape or when recording with Dolby NR circuit, set the ON/OFF switch to ON and set to B or C position. The selected NR indicator lights according to the circuit to be used.

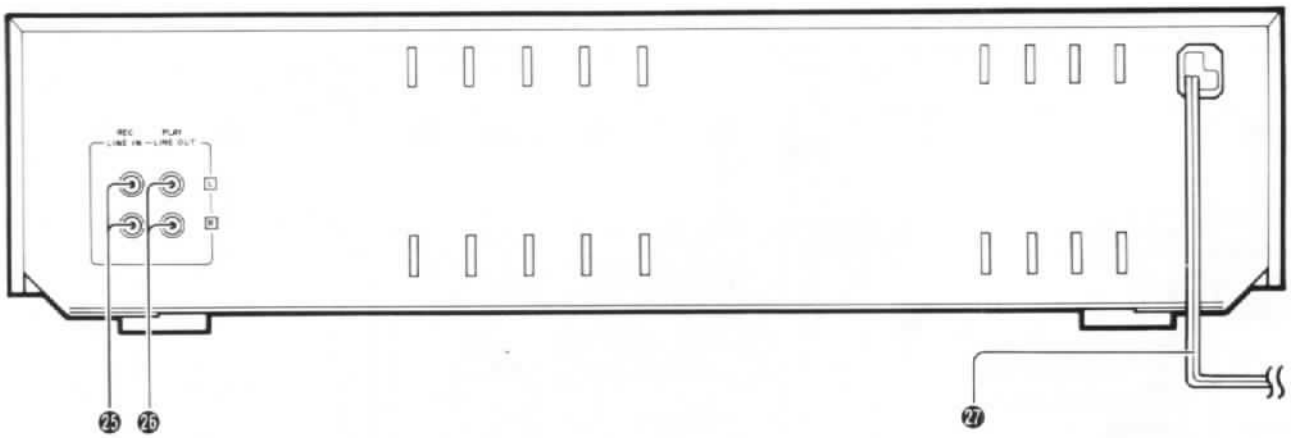
⓬ PEAK LEVEL METER
This indicates the peak values of the input levels when recording or output levels when playback. The peak values are held for approx. 2 seconds.

⓭ MIC jacks (L/R)
Plug the microphones into these jacks when recording with microphones; L for left channel and R for right channel. Use the low impedance (600 ohms) microphones.

Note:
When the microphones are connected, the signal input from the LINE IN terminals are automatically cancelled. Disconnect the microphones before recording from LINE sources.

⓮ MPX FILTER switch
Use this switch when recording FM broadcast using Dolby NR with this switch set to ON, the 19 kHz pilot signal and 38 kHz sub-carrier signal contained in the FM stereo broadcast signals are eliminated to prevent malfunctioning of the Dolby NR circuit.

CONTROLS, INDICATORS AND CONNECTORS



⑮ PHONES jack
Plug the stereo headphones into this jack to monitor recordings or tape playback.

⑯ PHONES LEVEL knob
Adjust the volume level for the headphones regardless of the recording input level.

⑰ MONITOR switch
Press this switch to monitor the recording sound. When it is pressed, the Tape indicator above and the [T] indicator on the display window light so that the recorded sound can be monitored. When the Tape indicator above it is not lit, the [S] indicator lights in the display window so that the input (before recording) sound can be monitored.

⑱ MASTER REC LEVEL control knob
Adjust the recording input level with this knob. Left and right channel levels are varied simultaneously.

⑲ PRESET record level knobs
The signals for the left and right channels are adjusted independently with these knobs.

⑳ COUNTER RESET key
Press this key to reset the linear tape counter to [0000].

㉑ CALIBRATION MODE switch
Use to adjust the proper bias and sensitivity levels according to the cassette tape to be used.

㉒ LEVEL control knobs
Depending on the tape to be used, recording signal current for each L and R channel can be adjusted continuously. (0.4 kHz)

㉓ BIAS control knobs
Depending on the tape to be used, bias current (10 kHz) for each L/R channel can be adjusted continuously.

㉔ Display window
According to the operation mode, each indicator lights or blinks.
AUTO TAPE SELECTOR: [NOR] ; [CrO_2] ; [METAL]
DOLBY NR indicator: [B] ; [C]
FILTER indicator:
[T], [S] indicator:
OPERATION indicator, RECORD indicator:
MULTIWAY COUNTER indicators:

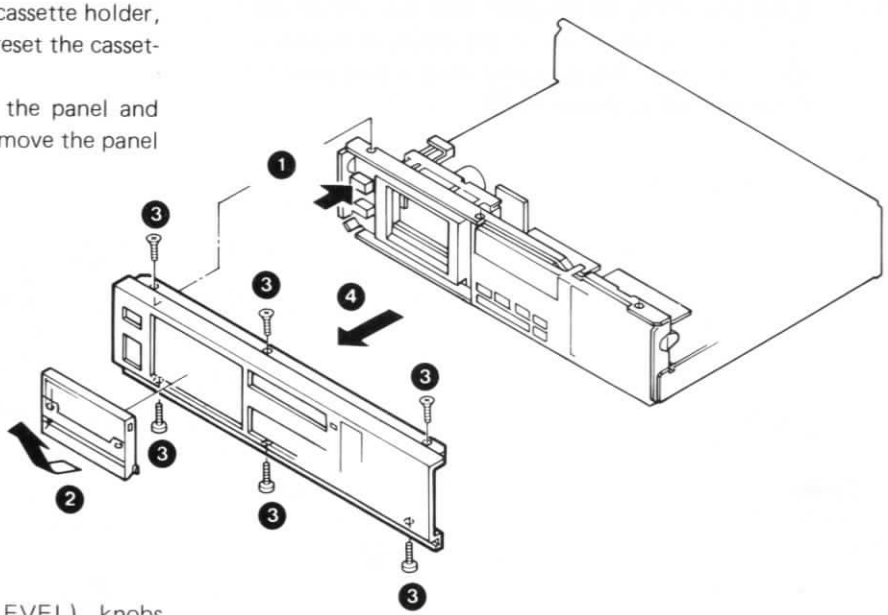
㉕ LINE IN terminals
Connect the Tape Rec terminals of your amplifier, etc. to these terminals using provided audio cables.

㉖ LINE OUT terminals
Connect the Tape Play or AUX terminals of your amplifier, etc. to these terminals using provided audio cables.

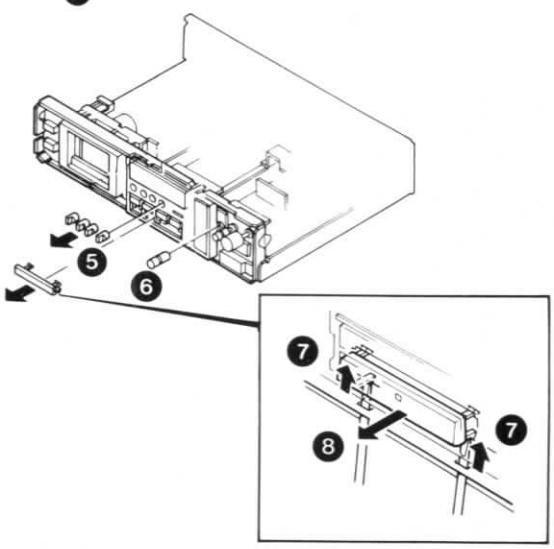
㉗ Power cord
Plug this into the wall outlet or AC outlet of the amplifier, etc.

DISASSEMBLY FOR REPAIR

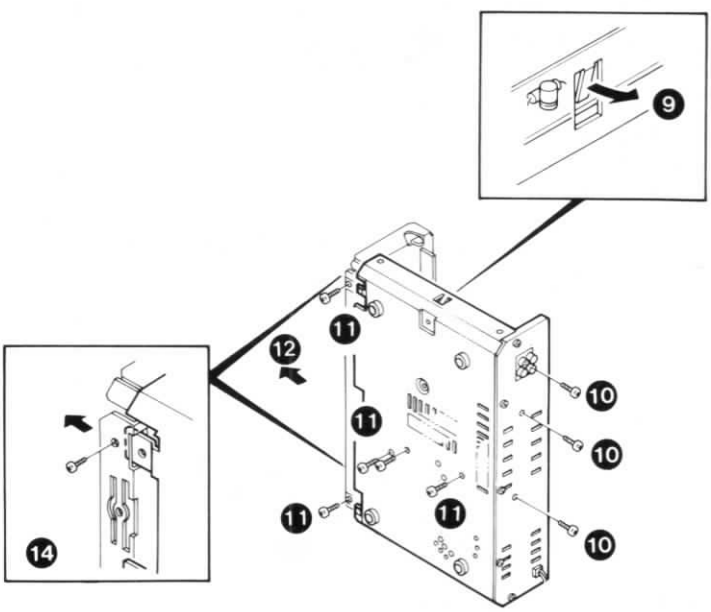
1. Press EJECT knob (❶) to pull out the cassette holder, remove the cassette lid (❷), and then reset the cassette holder.
2. Remove 3 screws on the upper part of the panel and 3 screws on the lower part (❸), and remove the panel (❹).



3. Remove 4 CALIBRATION (BIAS, LEVEL) knobs (❺) and PRESET (L) knobs (❻).
4. Insert (–) screw driver to the escutcheon hole (❼), and pull out STOP knob toward you (❽).

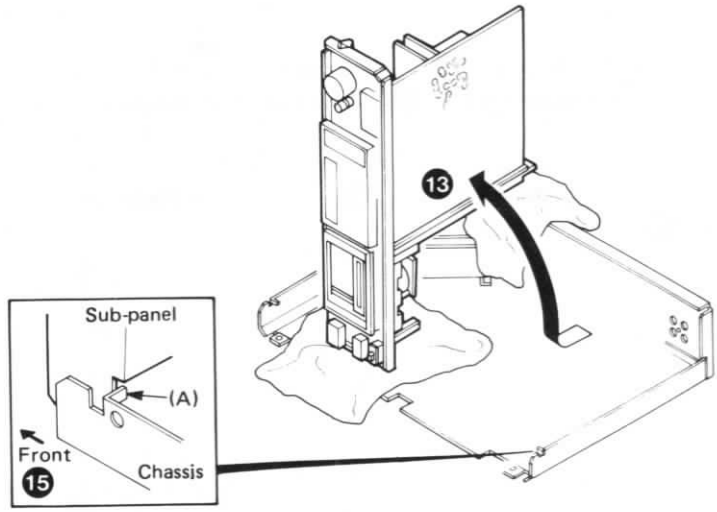


5. Bend the chassis claw outward (❾).
6. Remove 3 screws (❿) on the rear of the panel and 5 screws (⓫) on the chassis, and then pull out the sub-panel assembly slightly toward you and set it upright (⓬, ⓭).

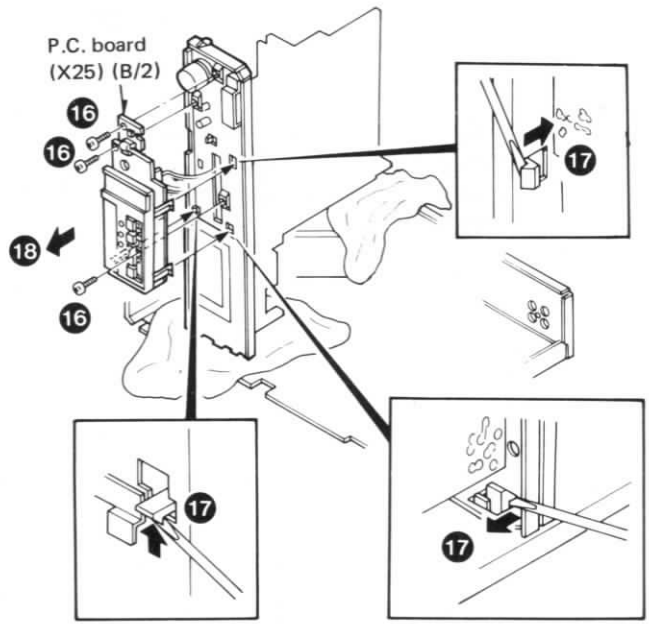


DISASSEMBLY FOR REPAIR

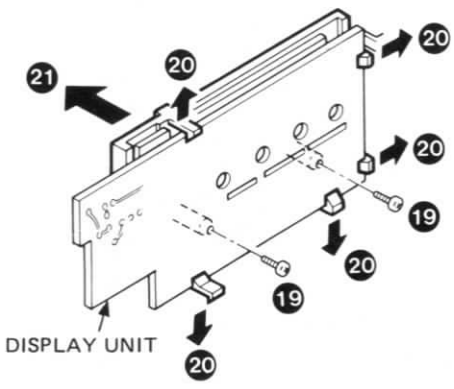
Note : When assembling the sub-panel assembly and chassis, insert the chassis's claw to the inside as shown in ⑭ , and press the sub-panel into a projection of the chassis (A) as shown in ⑮ .

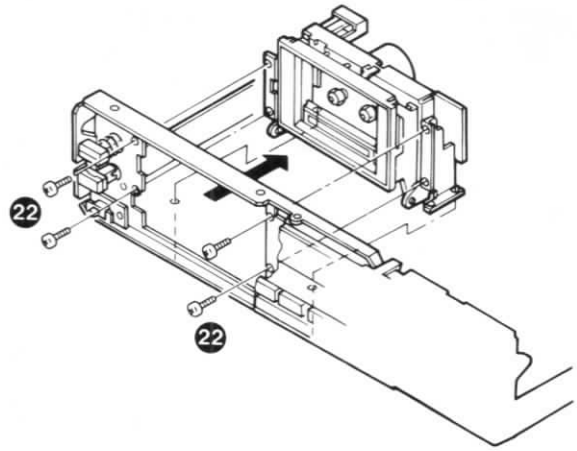


7. Remove 3 screws which fasten the display unit (⑯), remove 3 hooks fixed on the sub-panel (⑰), and then pull out the display unit toward you (⑱).

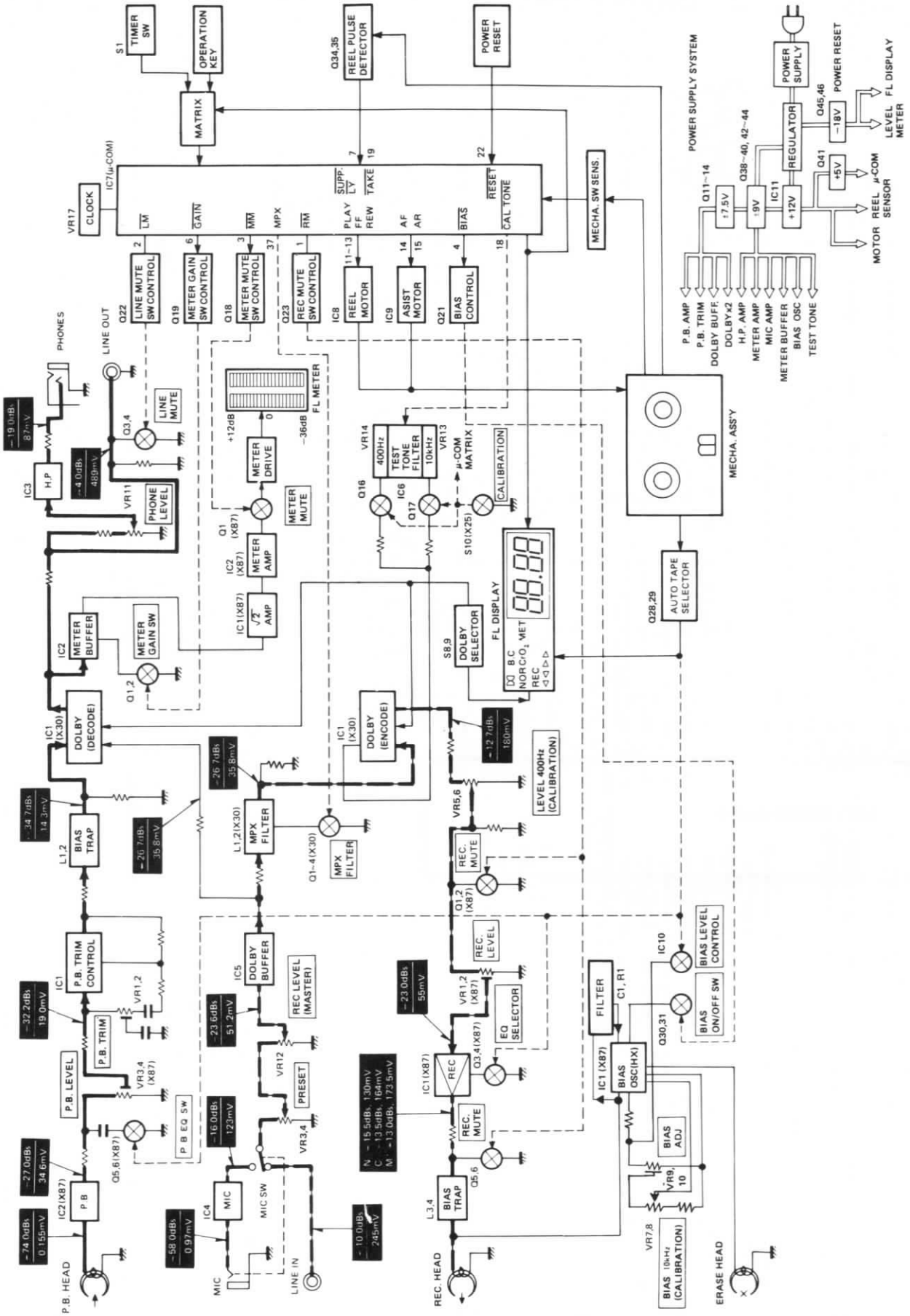


8. Remove 2 screws which fasten the display unit and escutcheon (⑲).
9. Remove 5 hooks (⑳), and disassemble the display unit and escutcheon (㉑).
10. Remove 4 screws on both ends of front side of the sub-panel (㉒), and remove the mechanism assembly to the rear side.

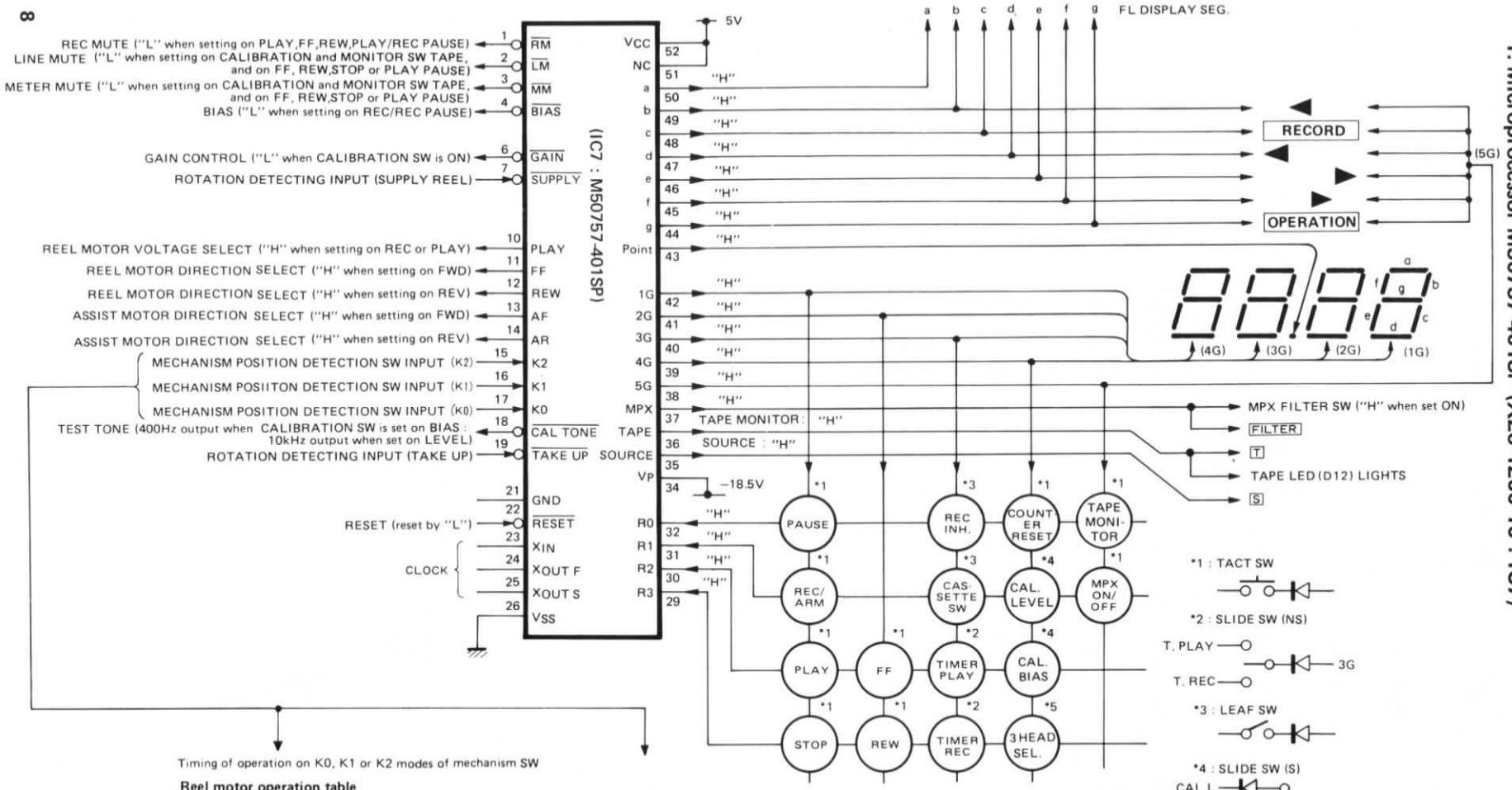




BLOCK/LEVEL DIAGRAM



1. Microprocessor M50757-401SP (X26-1200-10 : IC7)



Timing of operation on K0, K1 or K2 modes of mechanism SW

Reel motor operation table

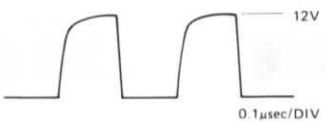
SW Mode / Function	MODE SW K2	K1	K0	REEL MOTOR
STOP	OFF	ON	ON	OFF
PLAY	ON	OFF	ON	FWD
PAUSE	ON	ON	OFF	OFF
FF/REW	OFF	OFF	ON	FWD/REV
CUE/REV	ON	ON	OFF	FWD/REV

Assist motor operation table

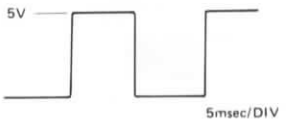
	→	FF REW	STOP	← →	PAUSE	← →	PLAY	←
K0	OFF	ON	ON	OFF	OFF	ON	ON	OFF
K1	OFF	OFF	ON	ON	ON	ON	OFF	OFF
K2	OFF	OFF	OFF	OFF	ON	ON	ON	ON

When shifting the current operation to one on right hand of the table, the assist motor rotates in FWD direction. When shifting to the right, the motor rotates in REV direction.

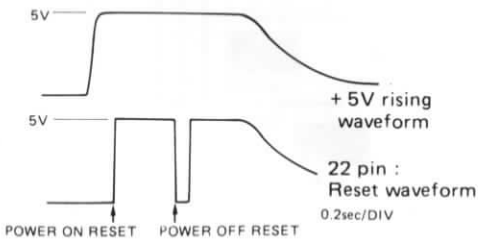
Clock waveform (25 pin)



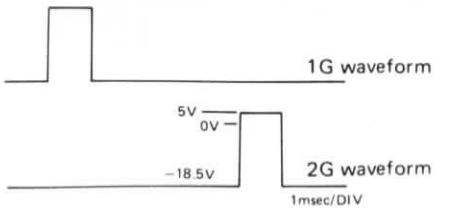
Reel pulse waveform (19 pin)



Digit signal waveform (41,42 pin)



Reset waveform (22 pin)



CIRCUIT DESCRIPTION

2. Description of components

CASSETTE UNIT (X26-1200-10)

<table>
<tr><th>Components</th><th>Use/Function</th><th>Operation/Condition/Interchangeability</th></tr>
<tr><td>Q1, Q2</td><td>METER GAIN SW</td><td>Controlled by Q19. ON when CALIBRATION SW (S10 : X25-2460-11) is ON to increase the gain or the replay system by approximately 19.5dB. (refer to Q19)</td></tr>
<tr><td>Q3, Q4</td><td>LINE MUTE SW</td><td>Controlled by Q22. (refer to Q22)
• ON when MONITOR SW is set on TAPE and STOP,FF,REW or PLAY PAUSE.
• Instant ON when operating MONITOR SW (on PLAY or REC).
• ON when setting on CALIBRATION.
• ON when setting on POWER ON/OFF.</td></tr>
<tr><td>Q5, Q6</td><td>REC MUTE SW</td><td>Controlled by Q23. OFF when setting on REC and ON when setting on other modes (including REC PAUSE). (refer to Q23)</td></tr>
<tr><td>Q11, Q13</td><td>+7.4V power supply</td><td>Power supply to stabilize the signal system amplifier.(PB amp, PLAY TRIM CONT)</td></tr>
<tr><td>Q12, Q14</td><td>−7.4V power supply</td><td>Power supply to stabilize the signal system amplifier. (PB amp, PLAY TRIM CONT)</td></tr>
<tr><td>Q15</td><td>Impedance converter for test mode</td><td>To lower output impedance using the emitter follower.
To output 400Hz square-wave from CAL TONE control terminal when CALIBRATION SW (S10) is set on LEVEL and 10kHz square-wave when set on BIAS, and input it to Q15 base.</td></tr>
<tr><td>Q16, Q17</td><td>Select SW for test tone</td><td>Controlled by CALIBRATION SW (S10)
<table>
<tr><td>CAL.SW</td><td>OFF</td><td>LEVEL</td><td>BIAS</td></tr>
<tr><td>Q16</td><td>ON</td><td>OFF</td><td>ON</td></tr>
<tr><td>Q17</td><td>ON</td><td>ON</td><td>OFF</td></tr>
</table></td></tr>
<tr><td>Q18</td><td>METER MUTE control</td><td>To out put "L" from $\overline{MM}$ control terminal of 3 pin of mocroprocessor IC7 when set on modes other than PLAY, REC, MONITOR (SOURCE), REC PAUSE (SOURCE only) or CALIBRATION, setting Q18 ON. To apply "H" to Q1 (X87-1020-00) base, setting Q1 ON.</td></tr>
<tr><td>Q19</td><td>METER GAIN control</td><td>To output "L" from $\overline{GAIN}$ control terminal of 6 pin of microprocessor IC7 when CALIBRATION SW (S10 : X25-2460-11) is ON, setting Q19 ON.
To apply "H" to Q1, Q2 bases, setting Q1, Q2 ON.</td></tr>
<tr><td>Q20</td><td>DOLBY ON/OFF SW</td><td>ON when CALIBRATION SW is set on BIAS or LEVEL position.</td></tr>
<tr><td>Q21, 30, 31</td><td>BIAS oscillator control and SW</td><td>To output "L" from $\overline{BIAS}$ control terminal of 4 pin of microprocessor IC7 when set on REC (including REC PAUSE) and "H" when set on other modes, to control as follows :
<table>
<tr><td>MODE</td><td>REC/REC PAUSE</td><td>OTHER MODES</td></tr>
<tr><td>Q21</td><td>ON</td><td>OFF</td></tr>
<tr><td>Q30</td><td>ON</td><td>OFF</td></tr>
<tr><td>Q31</td><td>OFF</td><td>ON</td></tr>
</table></td></tr>
<tr><td>Q22</td><td>LINE MUTE control</td><td>To output "L" from $\overline{LM}$ control terminal of 2 pin of microprocessor IC7 when MONITOR SW is set on TAPE, and on STOP,FF,REW or PLAY PAUSE, and on CALIBRATION, setting Q22 ON. To apply "H" to Q3, Q4 bases, setting Q3, Q4 ON.</td></tr>
<tr><td>Q23</td><td>REC MUTE control</td><td>To output "L" from $\overline{RM}$ control terminal of 1 pin of microprocessor IC7 when set on PLAY, FF, REW, PLAY PAUSE or REC PAUSE, setting Q23 ON.
To apply "H" to Q5, Q6 bases, setting Q5, Q6 ON.</td></tr>
<tr><td>Q24</td><td>Reel motor driving control voltage control</td><td>ON when set on PLAY or REC. To output "H" from PLAY control terminal of No. 10 pin of microprocessor IC7, setting Q24 ON and voltage on 4 pin of IC8 at 3.9V. OFF when set on other modes.
To set voltage on 4 pin of IC8 at 5.4~6.0V.</td></tr>
<tr><td>Q25 ~ Q27</td><td>Reset</td><td>To input "L" to $\overline{RESET}$ of 22 pin of microprocessor IC7 when POWER ON/OFF, resetting the microprocessor.</td></tr>
<tr><td>Q28, Q29</td><td>AUTO TAPE SEL. control</td><td>
<table>
<tr><td>TAPE</td><td>NORMAL</td><td>CrO_2</td><td>METAL</td></tr>
<tr><td>Q28</td><td>OFF</td><td>ON</td><td>OFF</td></tr>
<tr><td>Q29</td><td>OFF</td><td>OFF</td><td>ON</td></tr>
</table></td></tr>
</table>

CIRCUIT DESCRIPTION

Components	Use/Function	Operation/Condition/Interchangeability
Q32, Q33	BIAS oscillating level select SW	Controlled by AUTO TAPE SEL. Q28, Q29. TAPE / NORMAL / CrO_2 / METAL Q32 / OFF / ON / OFF Q33 / ON / OFF / OFF
Q34, Q35	Rotation DET. AMP.	To obtain switching signals (5 pulse/rotation) proportional to rotation speed of the reel base through the mechanism and shape their waveforms.
Q38 ~ Q40	+9V power supply	Power supply to stabilize the signal system amp.
Q41	+5V power supply	Power supply to stabilize Hi voltages in microprocessor and fluorescent display circuit.
Q42 ~ Q44	−9V power supply	Power supply to stabilize the signal system amp.
Q45, Q46	−18V power supply	Power supply to stabilize Lo voltages in the fluorescent display circuit.
IC1	PLAY TRIM CONTROL (Replay F special adjustment)	Tone control amplifier (high band) used in the amplifier, performing high-pass adjustment for Replay F special.
IC2	BUFF. AMP.	Meter buffer amp.
IC3	Headphone AMP.	
IC5	BUFF. AMP.	For MPX FILTER.
IC6	Filter for test tone	
IC7	Microprocessor	Refer to description on terminals of microprocessor M50757-401SP.
IC8	Reel motor driving	
IC9	Assist motor driving	
IC10	Bias control	
IC11	+12V power supply	Power supply to stabilize MOTOR system.

DISPLAY UNIT (X25-2460-11)

Components	Use/Function	Operation/Condition/Interchangeability
Q1,Q2	Peak hold reset	To form a flip-flop circuit in Q1, Q2 and reset Q2 by turning it ON every three seconds.
Q3,Q4	Peak hold control	ON when CALIBRATION SW (S10) is set on BIAS or LEVEL, cancelling the peak hold circuit.
IC1	Level meter driving	2 ch dynamic.

DOLBY UNIT (X30-1230-01, -02)

Components	Use/Function	Operation/Condition/Interchangeability
Q1~Q4	MPX FILTER SW	To output "H" from MPX control terminal of 37 pin of microprocessor IC7 when TIMER REC and MPX FILTER SW (S12 : X25-2460-11) is ON, setting Q1~Q4 and FILTER ON.
IC1	DOLBY B/C AMP.	Functions as DECODE and ENCODE.

METER AMP. UNIT (X87-1020-00)

Components	Use/Function	Operation/Condition/Interchangeability
Q1	METER MUTE SW	On when set on modes other than PLAY, REC, MONITOR (SOURCE), REC PAUSE (SOURCE only) or CALIBRATION. Refer to Q18 (X87-1020-00).
IC1	1/2 exponent compression AMP.	To output double wave rectified voltages proportional to 1/2 exponent of AC input signals.
IC2	DC AMP.	To amplify IC1 output voltages to required level.

CIRCUIT DESCRIPTION

REC/PLAYBACK AMP. UNIT (X87-1030-05)

Components	Use/Function	Operation/Condition/Interchangeability
Q1,Q2	REC MUTE SW	To output "L" from $\overline{RM}$ control terminal of 1 pin of microcomputer (X26-1200-10) when set on PLAY, FF, REW, PLAY PAUSE or REC PAUSE, setting Q23 (X26-1200-10) ON. To apply "H" to Q1, Q2 bases, setting Q1, Q2 ON.
Q3,Q4	Equalizer select SW (for METAL)	OFF when set on METAL TAPE and ON when setting on NORMAL/CrO_2 tape.
Q5,Q6	REC/PLAY equalizer select SW	Controlled by AUTO TAPE SEL. (X26-1200-10) of Q28, Q29. OFF when setting on NORMAL tape (120μs) and ON when setting on CrO_2 /METAL tape.
IC1	Recording equalizer AMP.	
IC2	Playback equalizer AMP.	

BIAS OSC UNIT (X87-1190-03)

Component	Use/Function	Operation/Condition/Compatibility
IC1	HX-PRO IC	
Q1	Bias oscillator	Bias oscillator for erase head.
Q2	Bias oscillator control	Bias oscillator level control for recording.

3. FDGS (Ferrite with Double-Gap Sendust) Head

Normally, the erase head uses ferrite as the core material. However, as the ferrite is made by sintering metal oxide particles, small holes should be formed on the surface of erase head.

Each of the small holes functions as a very small head and, when recorded tape is transported on the surface, electromotive forces are generated on the gaps of the very small heads. This results in the generation of new magnetic fields, causing demagnetization of residual magnetic flux on tape. This effect is referred to as the contact demagnetization.

The reason why the contact demagnetization results in attenuation of high frequencies is that the high-frequency component of the residual magnetic flux on tape is recorded in shallower portion of the magnetic layer of tape. To reduce the contact demagnetization, it is desirable to select the erase head material that does not contain small holes and that has low coercive force so that the effect of very small heads is not efficient. This problem is solved by adhering the Sendust layer on the surface of ferrite core (**Fig. 1**).

The effect is clearly shown in **Fig. 2**. While the high-frequency component degrades after repeated playback using a ferrite head, such degradation is very small with an FDGS head.

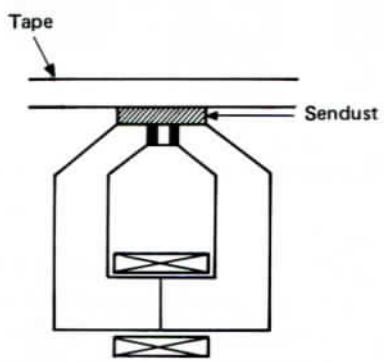


Fig. 1

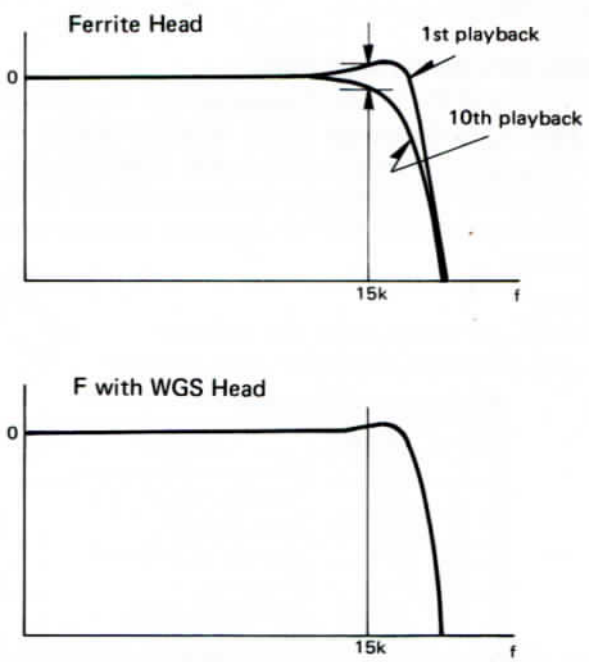


Fig. 2

CIRCUIT DESCRIPTION

4. DOLBY HX-PRO SYSTEM

- **Improvement of Bias with the Dolby HX-PRO System**

The DOLBY HX-PRO system is designed to vary the AC bias so that the bias components which are affected by the audio signal can be compensated sequentially. This system is used to control the bias in the servo system so that the effective bias amount (consisting of the "AC bias" and "audio signal") which is actually applied to the head is controlled at a fixed level.

When this system is used, the low and high frequency adjustments, which respectively require an appropriate compromise so that the optimum recording frequency response of a single frequency is obtained, are made quite easily.

Also, the output drop due to self-bias at high frequencies is eliminated. This results in a flat response over a widened high frequency range. **Fig. 3** shows an example of the improvement in the frequency response.

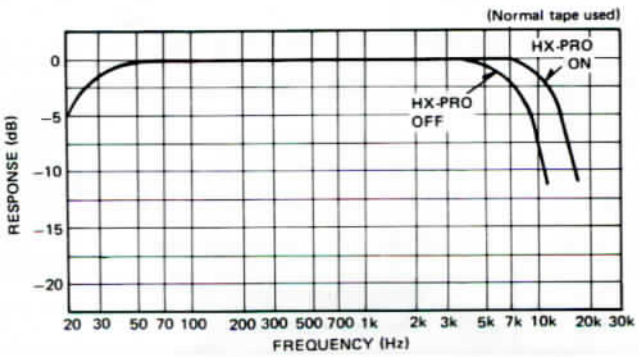


Fig. 3 Improvement example of the tape output frequency response with Dolby HX-PRO

5. Outline of μPC1297CA (X87-1190-03 : IC1)

- **Dolby HX-PRO System and Construction/Operation of the μPC1297CA**

The system construction diagram is shown in **Fig. 4** and the outline of operation is shown in **Fig. 5**. The effective bias is detected at the edge of the tape head. The high-frequency components (more than 10kHz) are extracted from the detected signal by the filter, and converted into a DC voltage. The resultant voltage is compared with the reference voltage for setting the bias amount, and the AC bias is controlled by the VCA (Voltage Controlled Amplifier) circuit so that a constant bias is obtained. By switching the reference voltage, the bias level can be set for each type of tape used.

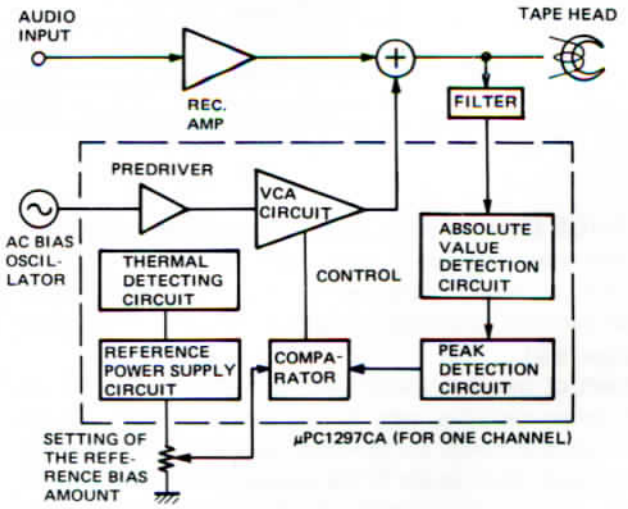


Fig. 4 System configuration of Dolby HX-PRO

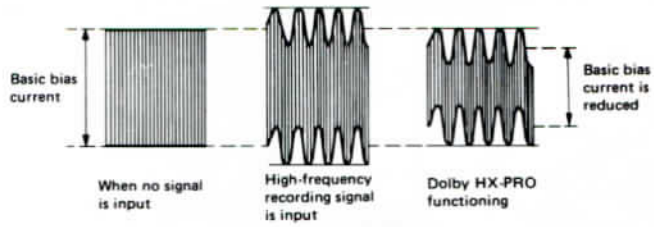


Fig. 5 Operation principle of Dolby HX-PRO

- **Dolby HX-PRO System Circuit**

The μPC1297CA is an IC which control the effective bias amount that is applied to the recording head in the tape deck. "HX" stands for Headroom Extension. With this system, the dynamic range is greatly extended to the high frequencies, while the high frequency response range is improved.

Features

- Wider power voltage range. Vcc = 8~18V.
- Two-channel Dolby HX-PRO system provided.
- Lower 2nd harmonics distrotion. –70dB TYP.
- Bias level can be set for each type of head used.
- Thermal detecting protection circuit built-in.
- Packaged in an 18-pin shrink DIP (dual inline package).

Explanation of pin name

Pin No.	Symbol	Pin name	Pin No.	Symbol	Pin name
1	VST	Reference power supply pin	10	VIN(O)	Bias oscillator input pin
2	VR1	Comparator reference pin 1	11	VOUT22	VCA output pin 21
3	VIN(R)1	Signal input pin 1	12	VOUT21	VCA output pin 22
4	PH1	Peak hold capacitor pin 1	13	COUT2	Comparator output pin 2
5	CIN1	Comparator input pin 1	14	CIN2	Comparator input pin 2
6	COUT1	Comparator output pin 1	15	PH2	Peak hold capacitor pin 2
7	VOUT11	VCA output pin 11	16	VIN(R)2	Signal input pin 2
8	VOUT12	VCA output pin 12	17	VR2	Comparator reference pin 2
9	GND	GND (ground) pin	18	Vcc	Power supply pin

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, CALIBRATION: CENTER				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	MTT-114, TCC-153 10kHz,-10dB	(B)	PLAY	Azimuth adjustment screw	Adjust the azimuth adjustment screw so that the output voltage is maximized in both forward and reverse direction.	(a)
II DC MOTOR							
(1)	TAPE SPEED	MTT-111, TCC-110 3kHz	(B)	PLAY	Trimming potentiometer 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 (X87-1020-00,X87-1030-05,X26-1200-10)							
<1>	PLAYBACK LEVEL	MTT-150	(B)	PLAY	VR3 (L) VR4 (R) (X87-1030 B/2)	Output level: -1.2dBs	
		MTT-256				Output level: -4.0dBs	
		MTT-256U, TCC-160				Output level: 0dBs	
<2>	PLAY TRIM CONTROL	MTT-256 MTT-256U, TCC-160 315Hz,10kHz	(B)	PLAY	VR1 (L) VR2 (R) (X26-1200-10)	Adjust the variable resistors so that the level of 10kHz is 0.2dBs to the level of 315kHz.	
<3>	BIAS CURRENT	(A) 1kHz, -30dBs 10kHz, -30dBs	(B)	Adjust REC and BALANCE so that the REC monitor output becomes -24dBs at 1kHz, then record and reproduce signal of 1kHz and 10kHz in alternation.	VR 9(L) VR10(R) (X26-1200-10)	Adjust the bias current adjusting VR so that the playback level of the 10kHz signal is +0.5dBs higher than that of the 1kHz signal when recoding 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) (X87-1030 A/2)	Adjust the variable resistors so that a playback level of -24dBs is obtained.	
<5>	FL METER(L)	(A) 1kHz, -10dBs	–	REC PAUSE Adjust REC and LEVEL VR so that the monitor output is -4.7dBs at 1kHz.	VR1 (X87-1020-00)	0dB FL segment is completely lit.	
	FL METER(R)				VR13 (X26-1200-10)		
<6>	CLOCK ADJ	–	TP3/TP4	CALIBRATION SW: BIAS	VR17 (X26-1200-10)	10kHz	(c)
<7>	TEST TONE	–	TP3	1) CALIBRATION SW: LEVEL	VR14 (X26-1200-10)	-32.2dBs	(d)
			TP3	2) CALIBRATION SW: BIAS	VR15 (X26-1200-10)	-32.5dBs	
			TP4	3) CALIBRATION SW: BIAS	VR16 (X26-1200-10)	-32.2dBs	

REGLAGE

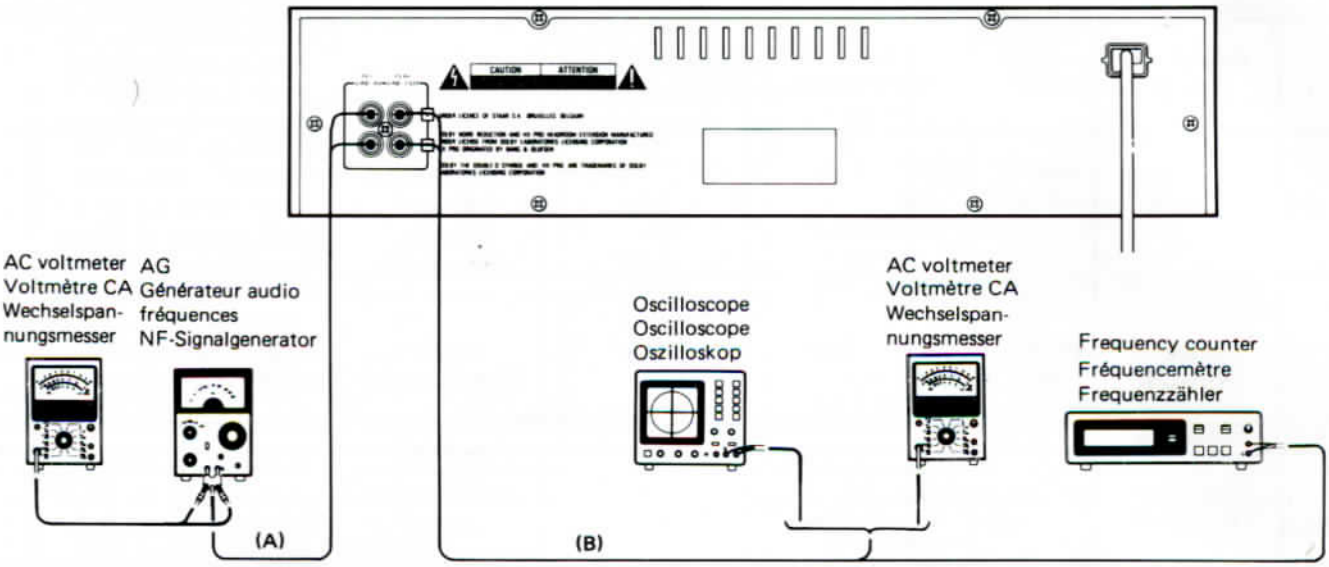
N°	ITEM	REGLAGE DE L'ENTREE	REGLAGE DE LA SORTIE	REGLAGE DU MAGNETO -PHONE A CASSETTE	POINTS DE L'ALIGNEMENT	ALIGNER POUR	FIG.
SECTION DU MAGNETOPHONE		TAPE: NORMAL, DOLBY: OFF, ENTREE: LINE, CALIBRAGE: MILIEU					0dBs=0,775V
I TETE D'ENREGISTREMENT/LECTURE							
[1]	DEMAGNETISATION	—	—	POWER: OFF Eloigner 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, TCC-153 10kHz, -10dB	(B)	PLAY	Vis d'azimut	Ajuster la vis de réglage de l'azimut de façon que la tension de sortie soit maximale à la fois en avant et en arrière, de la bande d'essai.	(a)
II MOTEUR CC							
(1)	VITESSE DE DEFILEMENT	MTT-111, TCC-110 3kHz	(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 (X87-1020-00,X87-1030-05,X26-1200-10))							
<1>	NIVEAU DE LECTURE	MTT-150	(B)	PLAY	VR3 (G) VR4 (D) (X87-1030 B/2)	Niveau de sortie: -1,2dBs	
		MTT-256				Niveau de sortie: -4,0dBs	
		MTT-256U, TCC-160				Niveau de sortie: 0dBs	
<2>	COMMANDE D'APAIRAGE DE LECTURE	MTT-256 MTT-256U TCC-160 315Hz, 10kHz	(B)	PLAY	VR1 (G) VR2 (D) (X26-1200-10)	Ajuster les résistances variables de manière à ce que le niveau de 10kHz soit 0,2dBs au niveau de 315kHz.	
<3>	COURANT DE POLARISATION	(A) 1kHz, -30dBs 10kHz, -30dBs	(B)	Régler REC et BALANCE de façon que la sortie de moniteur REC soit de -24dBs à 1kHz, puis enregistrer et reproduire des signaux de 1kHz et 10kHz en alternance.	VR 9(G) VR10(D) (X26-1200-10)	Ajuster le courant de polarisation en ajustant VR pour que le niveau de lecture du signal 10kHz soit de +0,5dBs 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) (X87-1030 A/2)	Ajuster les résistances variables de façon à obtenir un niveau de lecture de -24dBs.	
<5>	FL METER(G)	(A) 1kHz, -10dBs	—	REC PAUSE Ajuster REC et NIVEAU VR de façon à ce que la sortie moniteur soit de -4,7dBs à 1kHz.	VR1 (X87-1020-00)	Le segment de FL 0dB soit complètement allumé.	
	FL METER(D)				VR13 (X26-1200-10)		
<6>	MONTRE REGLAGE	—	TP3/TP4	CALIBRATION SW: BIAS	VR17 (X26-1200-10)	10kHz	(c)
<7>	TEST TONE	—	TP3	1) CALIBRATION SW: LEVEL	VR14 (X26-1200-10)	-32,2dBs	(d)
			TP3	2) CALIBRATION SW: BIAS	VR15 (X26-1200-10)	-32,5dBs	
			TP4	3) CALIBRATION SW: BIAS	VR16 (X26-1200-10)	-32,2dBs	

ABGLEICH

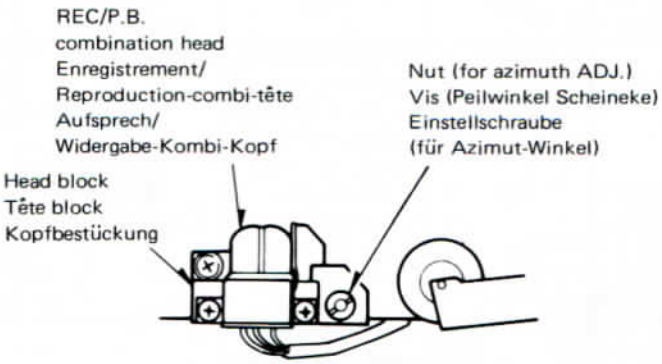
NR.	GEGENSTAND	EINGANGS-EINSTELLUNG	AUSGANGS-EINSTELLUNG	KASSETTENGERÄT-EINSTELLUNG	ABGLEICH PUNKTE	ABGLEICHEN FÜR	ABB.
CASSETTEN DECK ABTEILUNG		TAPE: NORMAL, DOLBY: OFF, EINGANG: LINE, KALIBREIRUNG: MITTE				0dBs=0.775V	
I AUFNAHME/WIEDERGABE-KOPF							
[1]	ENTMAGNETI-SIERUNG	–	–	POWER: OFF Den Kassettenfach 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, TCC-153 10kHz. -10dB	(B)	PLAY	Azimut-Einstellschraube	Die Azimut Justierschraube so einstellen,da die maximale Ausgangsspannung in Vorwärts-Reverserichtung und erzielt.	(a)
II GLEICHSTROMMOTOR							
(1)	BANDGESCH-WINDIGKEIT	MTT-111, TCC-110 3kHz	(B)	PLAY	Trimmer poten-tiometer am Gleichstrommotor	Die Bandgeschwindigkeit so justieren, da ein 3kHz Signal auf der Mitte des Bands erzeugt wird.	(b)
III GEDRUCKTE SCHALTPLATTE (X87-1020-00,X87-1030-05,X26-1200-10)							
<1>	WIEDERGABE-PEGEL	MTT 150 MTT 256 MTT 256U, TCC-160	(B)	PLAY	VR3 (L) VR4 (R) (X87-1030 B/2)	Ausgangspegel: -1,2dBs Ausgangspegel: -4,0dBs Ausgangspegel: 0dBs	
<2>	WIEDERGABE-TRIMMERREGLER	MTT-256 MTT-256U TCC-160 315Hz. 10kHz	(B)	PLAY	VR1 (L) VR2 (R) (X26-1200-10)	Die Regelwiderst nde so einstellen, da der pegel von 10kHz 0,2dBs zum pegel von 315kHz beträgt.	
<3>	LEERLAUFSTROM	(A) 1kHz. -30dBs 10kHz. -30dBs	(B)	REC und BALANCE so justieren, da der REC Monitorausgang -24dBs bei 1kHz wird, und danach abwechselnd Signale von 1kHz und 10kHz aufnehmen und wiedergeben.	VR 9 (L) VR10 (R) (X26-1200-10)	Den Vormagnetisierungsstrom-Regelwiederstand so einstellen, daß der Wiedergabepegel des 10kHz Signals um +0,5dBs höhen ist als der des 1kHz Signals, wenn ein 1kHz Signal und ein 10kHz Signal ab-wechselnd 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) (X87-1030 A/2)	Die Regelwiderst nde so justieren, da ein wiedergabepegel von -24dBs erzielt wird.	
<5>	FL METER(L) FL METER(R)	(A) 1kHz. -10dBs	–	REC PAUSE REC und PEGEL VR so einstellen,da der Monitorausgang bei 1kHz, -4,7dBs ist.	VR1 (X87-1020-00) VR13 (X26-1200-10)	Die Regelwiderst nde so justieren, da das 0dB Segment vollst ndig leuchtet.	
<6>	UHR ABGLEICH	–	TP3/TP4	CALIBRATION SW: BIAS	VR17 (X26-1200-10)	10kHz	(c)
<7>	TEST TONE	–	TP3	1) CALIBRATION SW: LEVEL	VR14 (X26-1200-10)	-32,2dBs	(d)
			TP3	2) CALIBRATION SW: BIAS	VR15 (X26-1200-10)	-32,5dBs	
			TP4	3) CALIBRATION SW: BIAS	VR16 (X26-1200-10)	-32,2dBs	

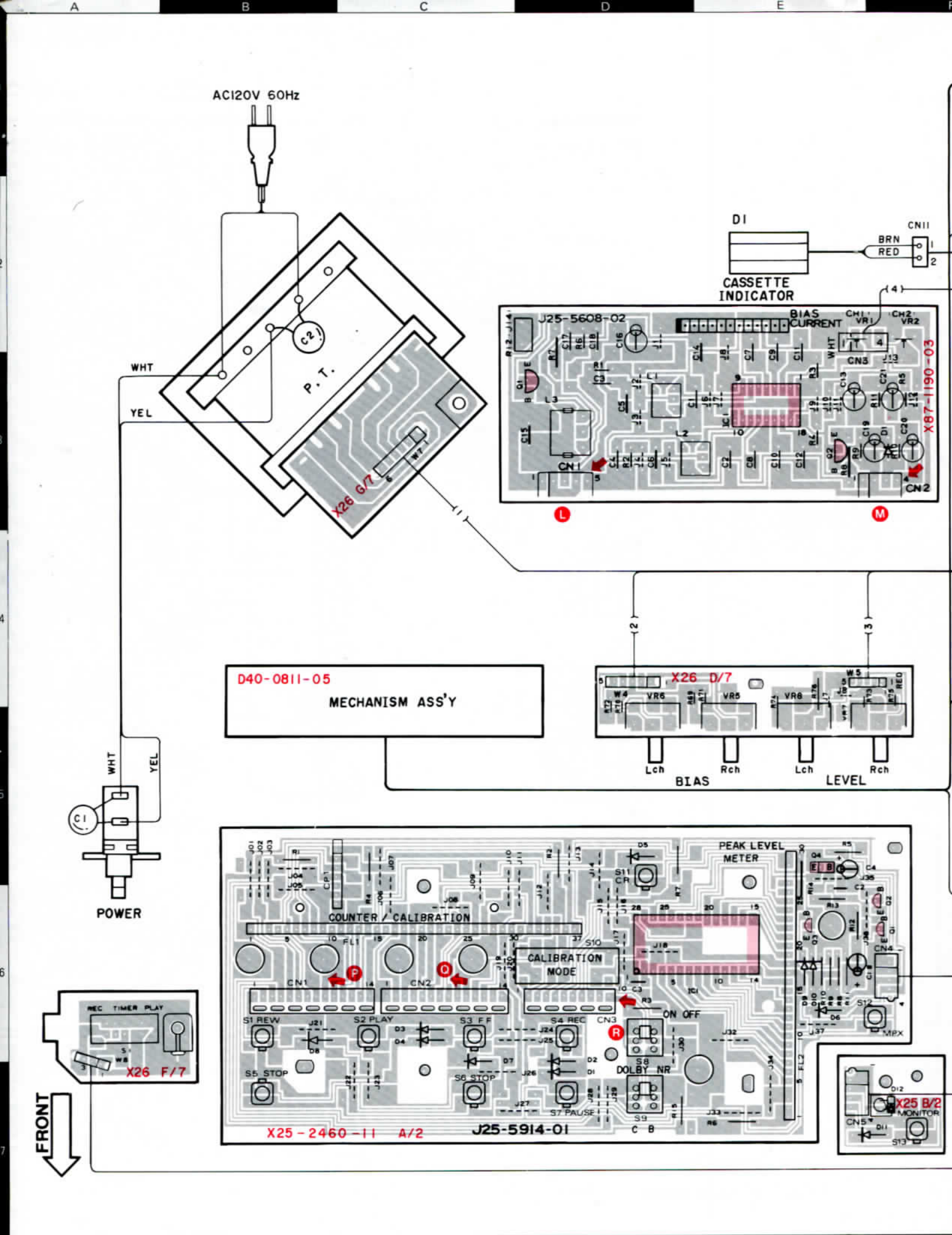
ADJUSTMENT/REGLAGE/ABGLEICH

SYSTEM CONNECTIONS/RACCORDEMENTS DU SYSTEME/SYSTEM-ANSCHLUSSE

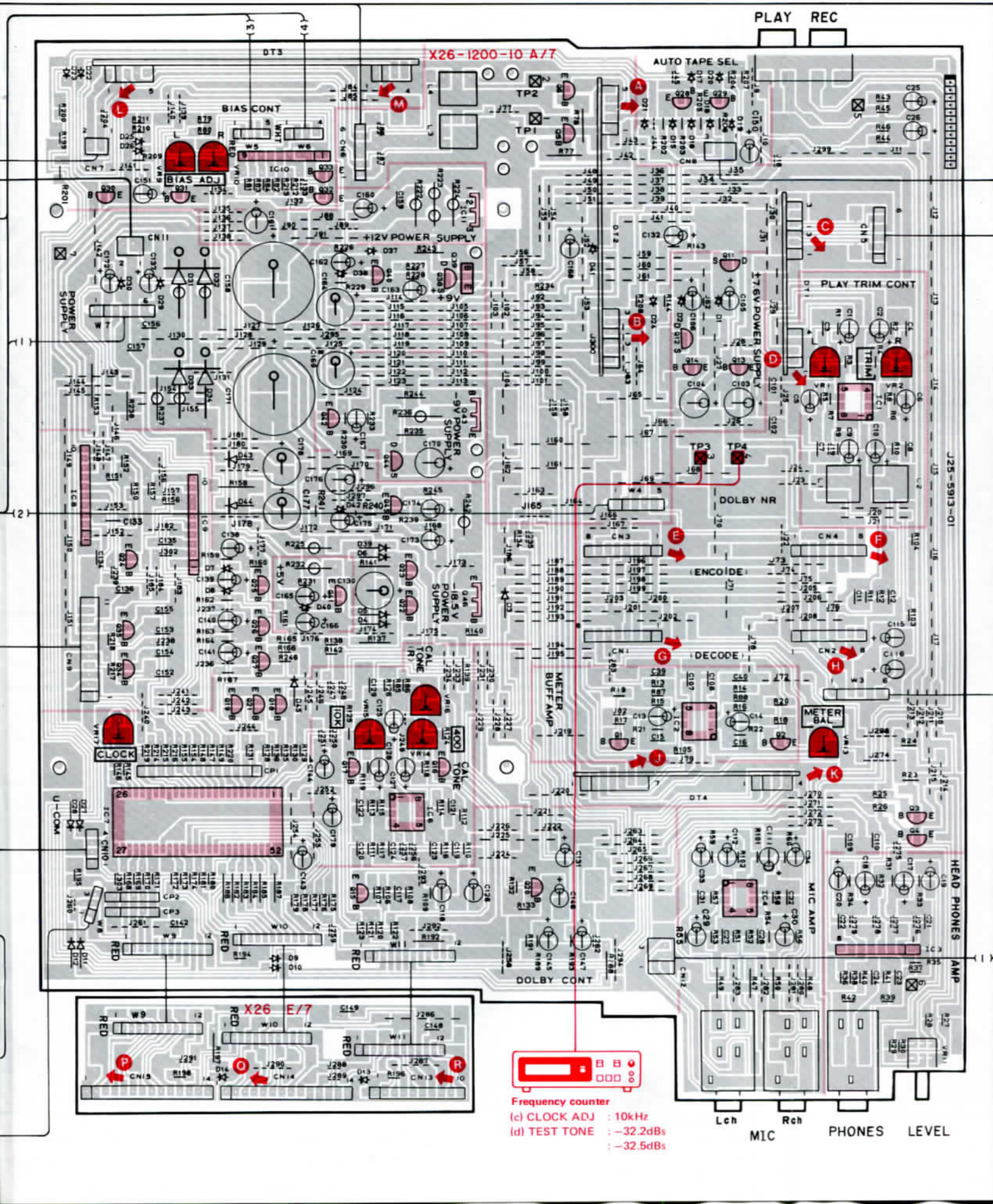


(a) AZIMUTH

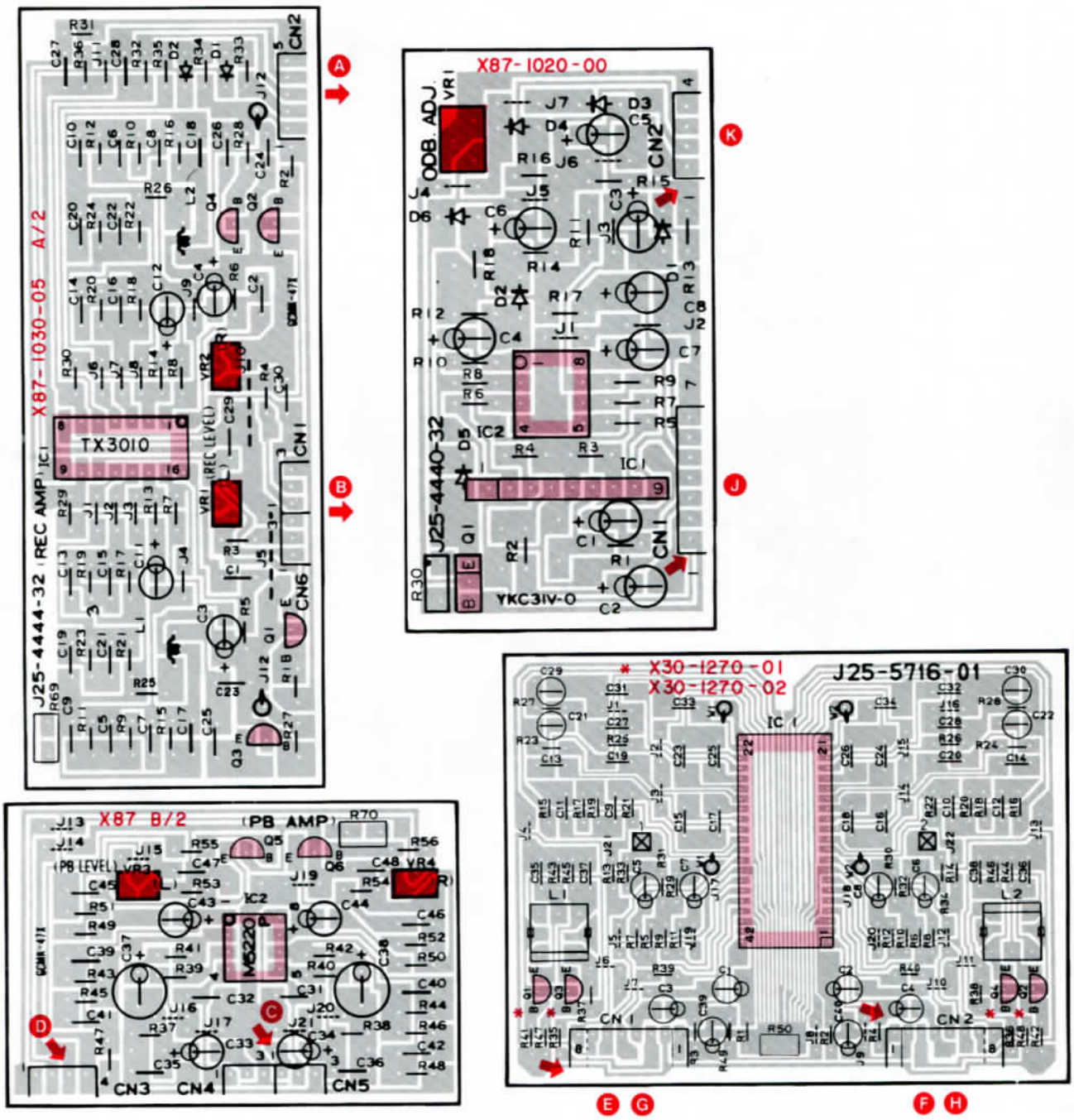



AC120V 60Hz
P.T.
C2
WHT
YEL
X26 G/7
DI
CNII
BRN
RED
CASSETTE
INDICATOR
J25-5608-02
BIAS
CURRENT
CH1
CH2
VR1
VR2
CN3
CN1
CN2
X87-1190-03
L
M
D40-0811-05
MECHANISM ASS'Y
X26 D/7
VR6
VR5
VR8
VR7
W5
W4
Lch
Rch
Lch
Rch
BIAS
LEVEL
WHT
YEL
C1
POWER
PEAK LEVEL
METER
COUNTER / CALIBRATION
CALIBRATION
MODE
CN1
CN2
CN3
CN4
S1 REW
S2 PLAY
S3 FF
S4 REC
S5 STOP
S6 STOP
S7 PAUSE
S8
DOLBY NR
ON OFF
S10
S11
S12
MPX
X25 B/2
MONITOR
CN5
REC TIMER PLAY
X26 F/7
FRONT
X25-2460-11 A/2
J25-5914-01

PC BOARD (COMPONENT SIDE VIEW)



W)



KX-1100HX (K)

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

(X25-2460-11)

IC1

1	−18.5V

	B	C	E
Q1, 2	—	—	−18.5V
Q4	—	—	−18.5V

(X26-1200-10)

IC1

1 ~ 3	0V
4	−7.6V
5 ~ 7	0V
8	7.6V

	B	C	E
Q13	8.2V	9.3V	7.6V
Q14	−8.2V	−9.6V	−7.6V
Q15	—	9.3V	—
Q18, 19	—	—	5V
Q20	—	—	−9.6V
Q21 ~ 23	—	—	5V
Q25, 26	0.6V	0V	0V
Q27	0V	5V	0V
Q31 ~ 33	—	—	−10.2V
Q39	10V	12V	9.4V
Q40	5.8V	10	5.2V
Q41	5.6V	10.7V	5V
Q42	−0.6V	−10.8V	0V
Q43	—	−22.4V	−10.2V
Q45	−5.7V	−18.8V	−5V
Q46	−18.8V	−41.2V	−18.2V

IC2, 3

1 ~ 3	0V
4	−9.6V
5 ~ 7	0V
8	9.3V

	G	S	D
Q11	8.2V	8.2V	9.3V
Q12	−9.6V	−9.6V	−8.2V
Q38	10V	10V	12V
Q44	−19V	−19V	−10.8V

IC4

1 ~ 3	0V
4	−9.6V
5 ~ 7	0V
8	9.0V

IC5

1 ~ 3	0V
4	−7.9V
5 ~ 7	0V
8	7.2V

IC6

1 ~ 3	0V
4	−9.6V
5 ~ 7	0V
8	9.3V

IC7

21	0V
26	0V
34	−18.2V
51, 52	5V

IC8, 9

1	0V
7, 8	12V

IC11

1	22.3V
2	0V
3	12V

(X30-1270-01)

IC1

1	9.3V
2	0V
3	−8.7V
4 ~ 12	0V
13, 14	−9.6V
15	0V
16, 17	−9.5V
18 ~ 25	0V
26, 27	−9.5V
28	0V
29, 30	−9.7V
31 ~ 37	0V
38	3.5V
39 ~ 41	0V
42	−10V

(X30-1270-02)

IC1

1	9.3V
2	0V
3	−8.7V
4	0V
5	SOURCE : 0V TAPE : 3.3V
6 ~ 12	0V
13, 14	−9.7V
15	0V
16, 17	−9.6V
18 ~ 25	0V
26, 27	−9.6V
28	0V
29, 30	−9.7V
31 ~ 37	0V
38	3.5V
39 ~ 41	0V
42	−10V

(X87-1020-00)

IC1

2	0V
3	0.6V
4 ~ 6	0V
7	0.6V
8	0V
9	9.3V

IC2

1	0V
4	−10V
7	0V
8	9.3V

(X87-1030-05)

IC1

1 ~ 5	0V
6	−10V
7, 8	0V
9	M : −9.7V C : 0V N : 7.5V
10	0V
11	9.3V
12 ~ 16	0V

IC2

1 ~ 3	0V
4	−7.5V
5 ~ 7	0V
8	7.5V

(X87-1190-03)

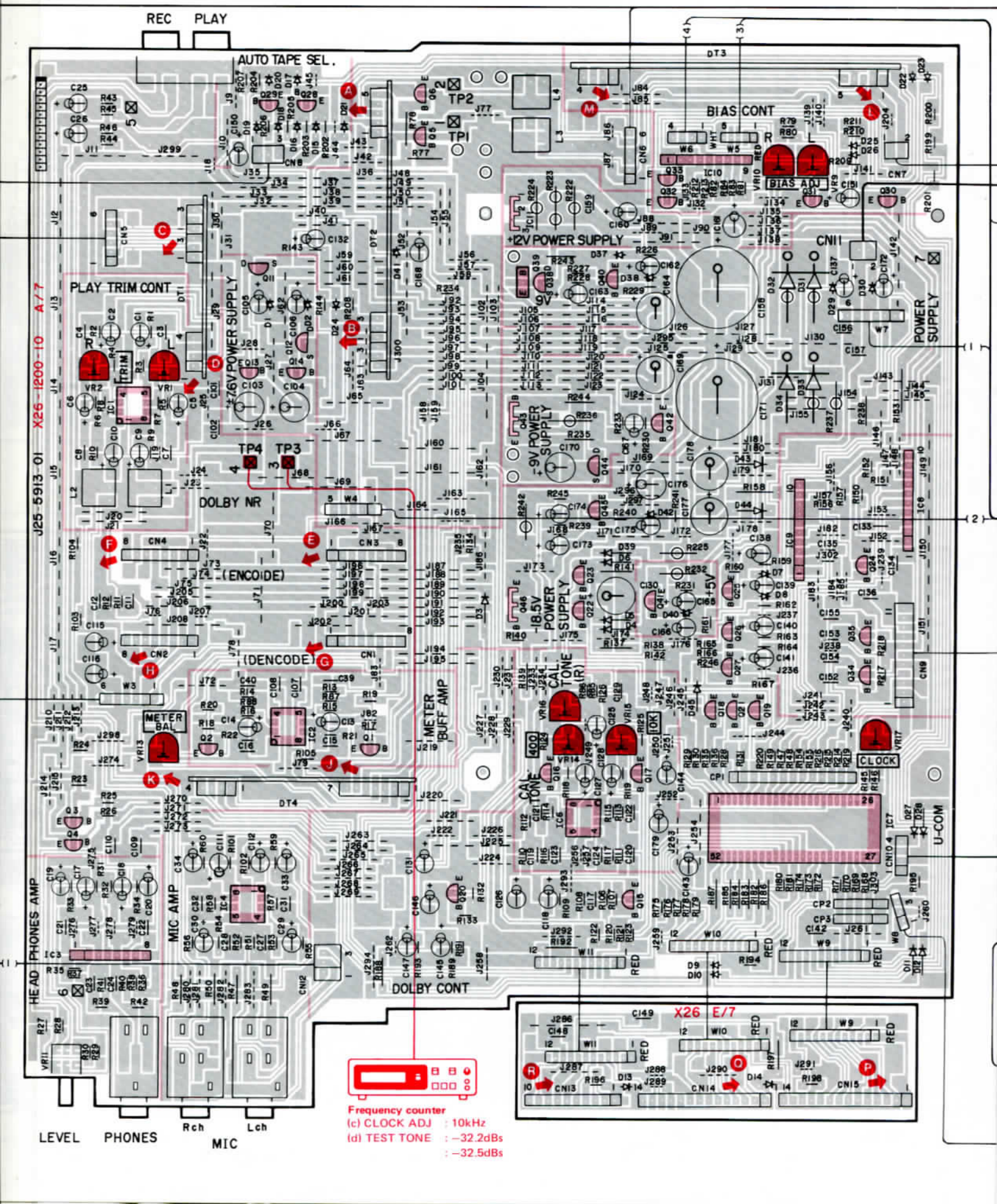
IC1

1	−5.8V
2	−9.7V
3	−5.8V
4	−9.1V
5	−9.6V
6	−8.7V
7, 8	−4.2V
9	−10V
10	−8.4V
11, 12	−4.2V
13	−8.7V
14	−9.6V
15	−9.1V
16	−5.8V
17	−9.7V
18	9.3V

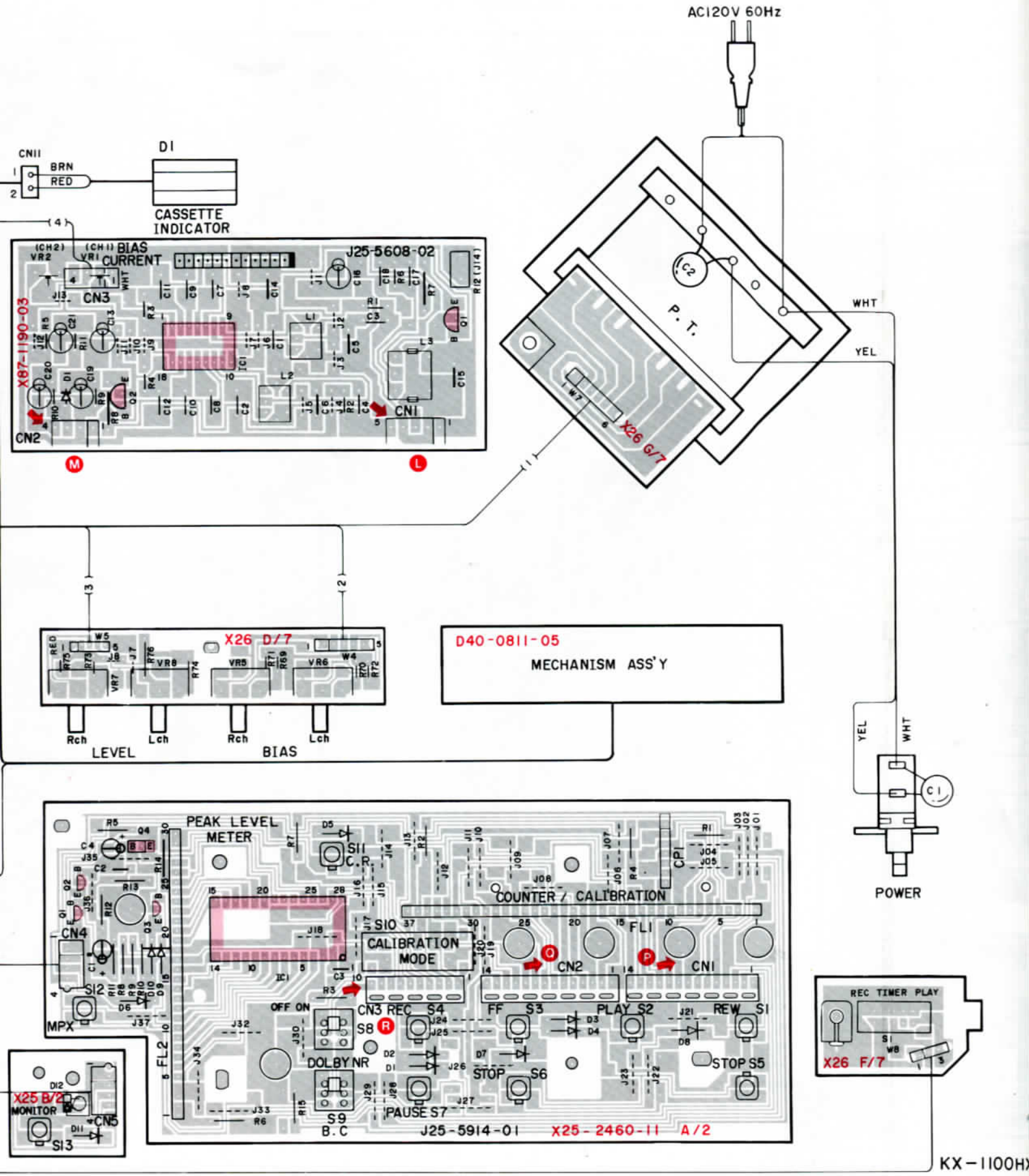
	B	C	E
Q1	−9.7V	M : 4.8V C : −1.2V N : −4.2V	−9.9V
Q2	M : 6.3V C : 0V N : −3.3V	9.3V	M : 5.8V C : −0.6V N : −3.9V

X87-1020-00
ODB. ADJ
J25-4440-32
YKC31V-0
J25-5716-01 * X30-1270-01
X30-1270-02
IC1
CN2
CN1
X87-1030-05
J25-4444-32(REC AMP)
TX3010
(PB AMP) X87 B/2
M5220P
CN5
CN4
CN3
X26 C/7
X26 B/7
DOLBY BUFF AMP
FRONT
MASTER REC LEVEL
LEFT
RIGHT
PRESET
HEADPHONES AMP

PC BOARD (FO


REC
PLAY
AUTO TAPE SEL.
BIAS CONT
BIAS ADJ
+12V POWER SUPPLY
PLAY TRIM CONT
+7.6V POWER SUPPLY
+9V POWER SUPPLY
-18.5V POWER SUPPLY
+5V
POWER SUPPLY
DOLBY NR
(ENCOIDE)
(DENCODE)
METER BAL
METER BUFF AMP
CAL. TONE (R)
CAL. TONE
CLOCK
MIC AMP
HEAD PHONES AMP
DOLBY CONT
U-COM
J25-5913-01 X26-1200-10 A/7
X26 E/7
Frequency counter
(c) CLOCK ADJ : 10kHz
(d) TEST TONE : −32.2dBs
: −32.5dBs
LEVEL
PHONES
Rch
Lch
MIC

L SIDE VIEW)



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

(X25-2460-11)

IC1

1	−18.5V

	B	C	E
Q1, 2	—	—	−18.5V
Q4	—	—	−18.5V

(X26-1200-10)

IC1

1 ~ 3	0V
4	−7.6V
5 ~ 7	0V
8	7.6V

IC2, 3

1 ~ 3	0V
4	−9.6V
5 ~ 7	0V
8	9.3V

IC4

1 ~ 3	0V
4	−9.6V
5 ~ 7	0V
8	9.0V

IC5

1 ~ 3	0V
4	−7.9V
5 ~ 7	0V
8	7.2V

IC6

1 ~ 3	0V
4	−9.6V
5 ~ 7	0V
8	9.3V

IC7

21	0V
26	0V
34	−18.2V
51, 52	5V

IC8, 9

1	0V
7, 8	12V

IC11

1	22.3V
2	0V
3	12V

	B	C	E
Q13	8.2V	9.3V	7.6V
Q14	−8.2V	−9.6V	−7.6V
Q15	—	9.3V	—
Q18, 19	—	—	5V
Q20	—	—	−9.6V
Q21 ~ 23	—	—	5V
Q25, 26	0.6V	0V	0V
Q27	0V	5V	0V
Q31 ~ 33	—	—	−10.2V
Q39	10V	12V	9.4V
Q40	5.8V	10	5.2V
Q41	5.6V	10.7V	5V
Q42	−0.6V	−10.8V	0V
Q43	—	−22.4V	−10.2V
Q45	−5.7V	−18.8V	−5V
Q46	−18.8V	−41.2V	−18.2V

	G	S	D
Q11	8.2V	8.2V	9.3V
Q12	−9.6V	−9.6V	−8.2V
Q38	10V	10V	12V
Q44	−19V	−19V	−10.8V

(X30-1270-01)

IC1

1	9.3V
2	0V
3	−8.7V
4 ~ 12	0V
13, 14	−9.6V
15	0V
16, 17	−9.5V
18 ~ 25	0V
26, 27	−9.5V
28	0V
29, 30	−9.7V
31 ~ 37	0V
38	3.5V
39 ~ 41	0V
42	−10V

(X30-1270-02)

IC1

1	9.3V
2	0V
3	−8.7V
4	0V
5	SOURCE : 0V TAPE : 3.3V
6 ~ 12	0V
13, 14	−9.7V
15	0V
16, 17	−9.6V
18 ~ 25	0V
26, 27	−9.6V
28	0V
29, 30	−9.7V
31 ~ 37	0V
38	3.5V
39 ~ 41	0V
42	−10V

(X87-1020-00)

IC1

2	0V
3	0.6V
4 ~ 6	0V
7	0.6V
8	0V
9	9.3V

IC2

1	0V
4	−10V
7	0V
8	9.3V

(X87-1030-05)

IC1

1 ~ 5	0V
6	−10V
7, 8	0V
9	M : −9.7V C : 0V N : 7.5V
10	0V
11	9.3V
12 ~ 16	0V

IC2

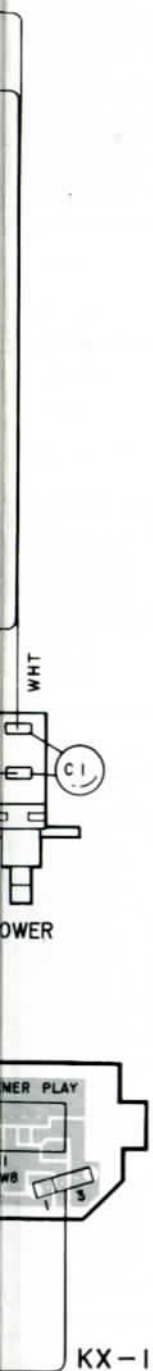
1 ~ 3	0V
4	−7.5V
5 ~ 7	0V
8	7.5V

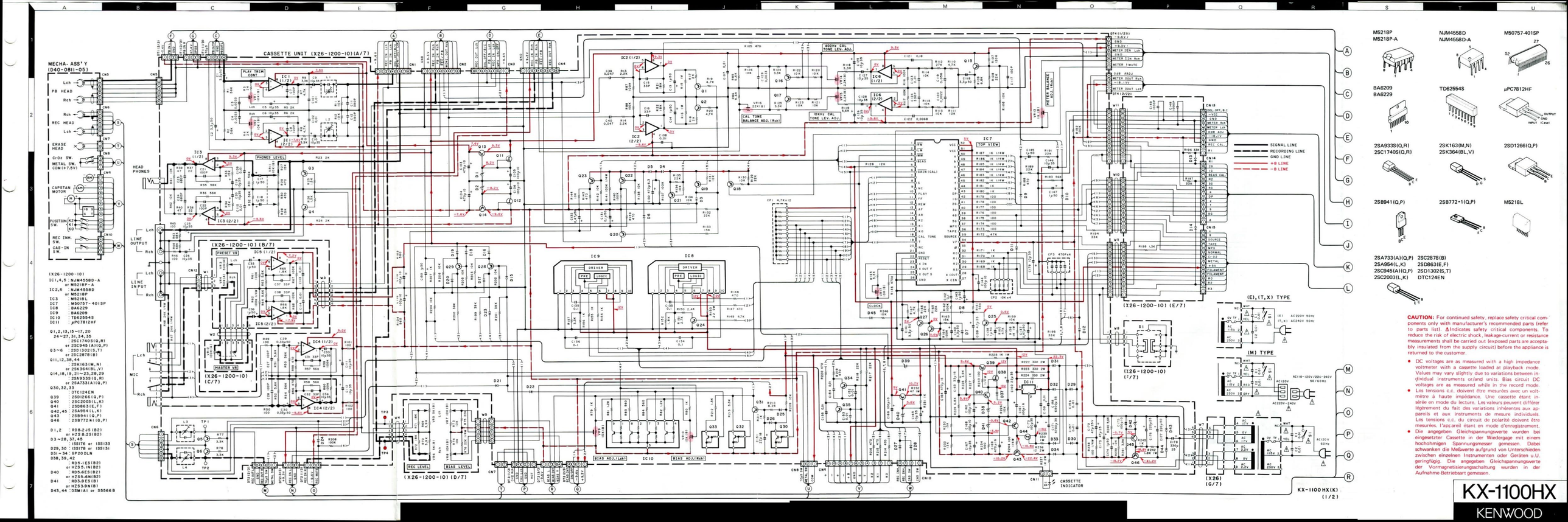
(X87-1190-03)

IC1

1	−5.8V
2	−9.7V
3	−5.8V
4	−9.1V
5	−9.6V
6	−8.7V
7, 8	−4.2V
9	−10V
10	−8.4V
11, 12	−4.2V
13	−8.7V
14	−9.6V
15	−9.1V
16	−5.8V
17	−9.7V
18	9.3V

	B	C	E
Q1	−9.7V	M : 4.8V C : −1.2V N : −4.2V	−9.9V
Q2	M : 6.3V C : 0V N : −3.3V	9.3V	M : 5.8V C : −0.6V N : −3.9V

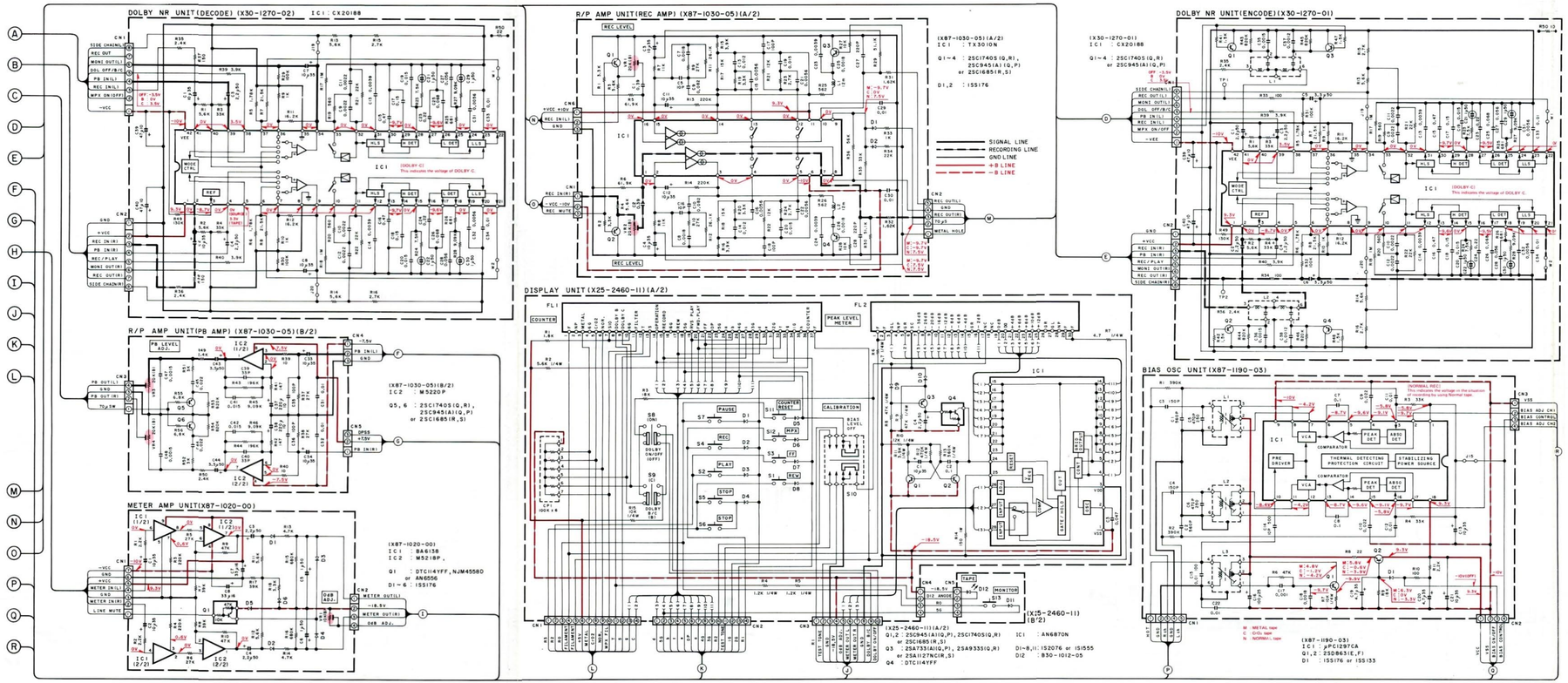


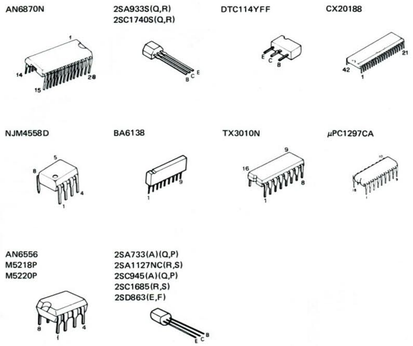


CAUTION: For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list). △Indicates safety critical components. To reduce the risk of electric shock, leakage-current or resistance measurements shall be carried out (exposed parts are acceptably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

- DC voltages are as measured with a high impedance voltmeter with a cassette loaded at playback mode. Values may vary slightly due to variations between individual instruments or/and units. Bias circuit DC voltages are as measured while in the record mode.
- Les tensions c.c. doivent être mesurées avec un voltmètre à haute impédance. Une cassette étant insérée en mode 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 angegeben Gleichspannungswerte wurden bei eingesetzter Cassette in der Wiedergage mit einem hochohmigen Spannungsmesser gemessen. Dabei schwanken die Meßwerte aufgrund von Unterschieden zwischen einzelnen Instrumenten oder Geräten u.U. geringfügig. Die angegeben Gleichspannungswerte der Vormagnetisierungschaltung wurden in der Aufnahme-Betriebsart gemessen.

KX-1100HX
KENWOOD





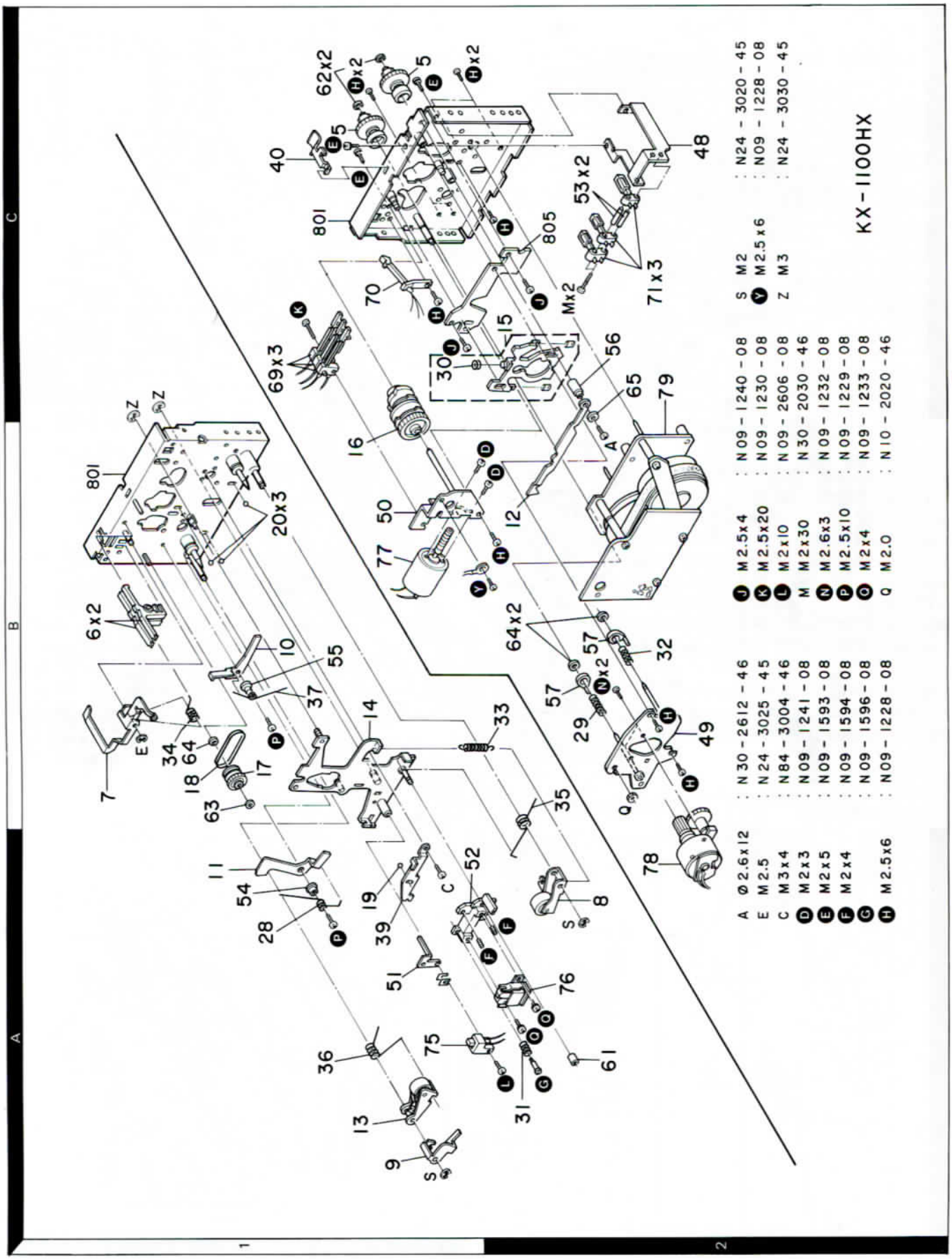
CAUTION: For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list). ⚠Indicates safety critical components. To reduce the risk of electric shock, leakage-current or resistance measurements shall be carried out (exposed parts are acceptably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

- DC voltages are as measured with a high impedance voltmeter with a cassette loaded at playback mode. Values may vary slightly due to variations between individual instruments or/and units. Bias circuit DC voltages are as measured while in the record mode.
- Les tensions c.c. doivent être mesurées avec un voltmètre à haute impédance. Une cassette étant insérée en mode 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 angegeben Gleichspannungswerte wurden bei eingesetzter Cassette in der Wiedergage mit einem hochohmigen Spannungsmesser gemessen. Dabei schwanken die Meßwerte aufgrund von Unterschieden zwischen einzelnen Instrumenten oder Geräten u.U. geringfügig. Die angegeben Gleichspannungswerte der Vormagnetisierungsschaltung wurden in der Aufnahme-Betriebsart gemessen.

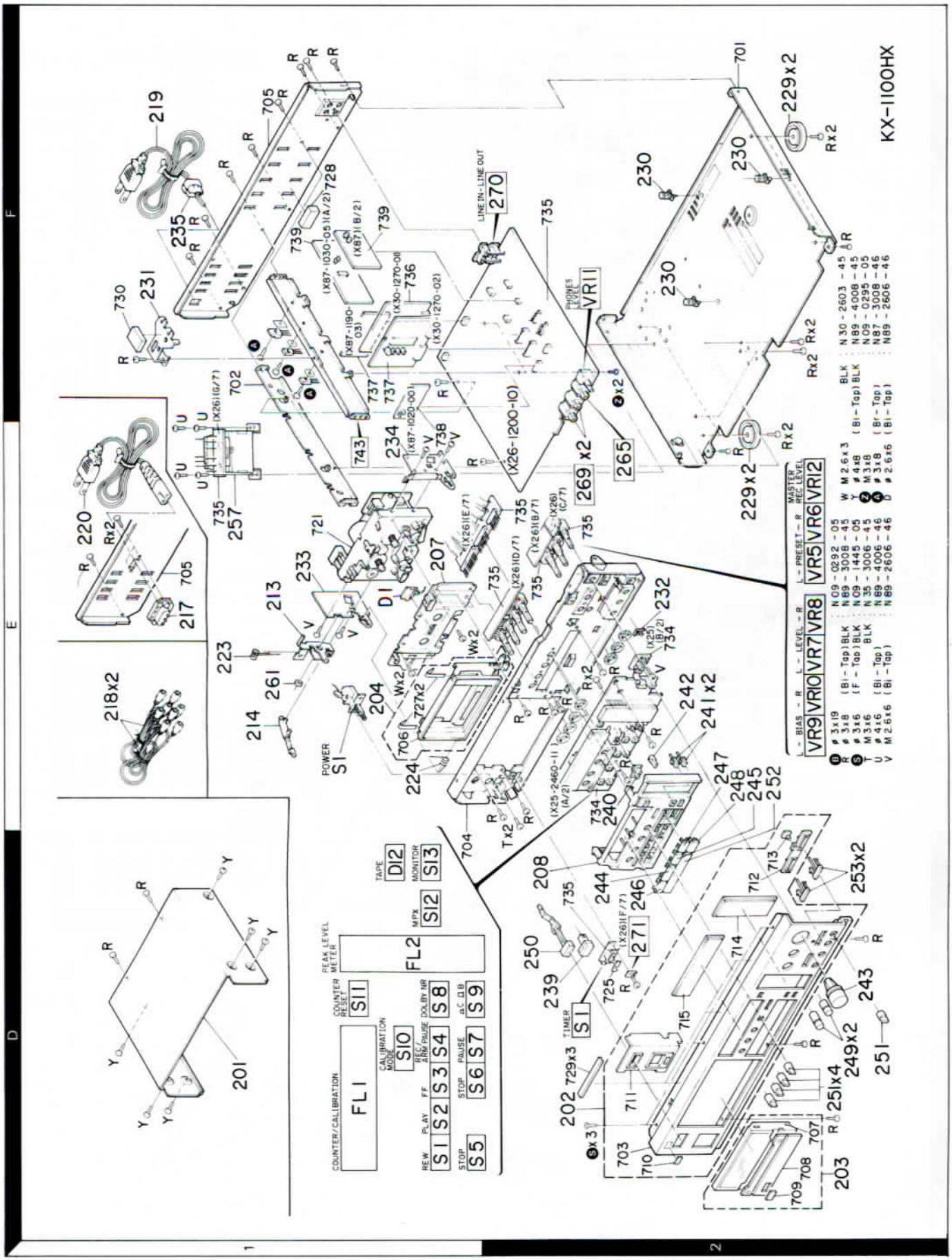
KX-1100HX

KENWOOD

EXPLODED VIEW (MECHANISM)



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 mentionnes 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	Destination 仕向	Remarks 備考
				KX-1100HX			
	201	1D		A01-1598-02	METALLIC CABINET		
	202	2D	*	A20-5524-03	PANEL ASSY		
	203	1E		A53-1025-03	CASSETTE LID ASSY		
	204	1F	*	A53-0629-33	CASSETTE HOLDER ASSY		
	207	1E	*	B03-2441-03	DRESSING PLATE ASSY		
	208	2D		B07-1411-02	ESCUTCHEON (LVL MTR.DISP)		
	-			B46-0092-03	WARRANTY CARD	K	
	-			B46-0096-13	WARRANTY CARD	X	
	-			B46-0122-13	WARRANTY CARD	E	
	-			B46-0143-03	WARRANTY CARD	T	
	-		*	B50-8882-00	INSTRUCTION MANUAL (ENGLISH)		
	-		*	B50-8883-00	INSTRUCTION MANUAL (FRENCH)	MEX	
	-		*	B50-8884-00	INSTRUCTION MANUAL (G.D.I)	E	
	-		*	B50-9045-00	INSTRUCTION MANUAL (SPANISH)	M	
	D1	1E		B30-0740-05	LED(SLF-201C)		
⚠	C1			C91-0023-05	CERAMIC 0.01UF AC250V	M	
⚠	C1			C91-0647-05	CERAMIC 0.01UF P	KTEX	
	213	1E		D10-1764-04	LEVER		
	214	1E		D39-0172-05	DAMPER ASSY		
⚠	217	1E		E03-0102-25	AC INLET	M	
	218	1E		E30-0505-05	AUDIO CORD		
⚠	219	1F		E30-0459-05	AC POWER CORD	E	
⚠	219	1F		E30-0780-05	AC POWER CORD	K	
⚠	219	1F		E30-1341-05	AC POWER CORD	X	
⚠	219	1F		E30-1416-05	AC POWER CORD	T	
⚠	220	1E		E30-1305-15	AC POWER CORD (INLET)	M	
	223	1E		G01-1741-04	TORSION COIL SPRING(LEVER)		
	224	1F		G01-1742-04	TORSION COIL SPRING		
	-		*	H01-7848-04	ITEM CARTON CASE		
	-			H10-3588-12	POLYSTYRENE FOAMED FIXTURE		
	-			H10-3589-12	POLYSTYRENE FOAMED FIXTURE		
	-			H20-0417-14	PROTECTION COVER(460X370X360)	M	
	-			H25-0224-04	PROTECTION BAG (800X400)	KTEX	
	-			H25-0232-04	PROTECTION BAG (235X350)		
	229	2E,2F		J02-0190-15	FOOT		
	230	2F		J19-2536-05	UNIT HOLDER		
	231	1F		J19-2572-04	UNIT HOLDER		
	232	2E		J21-3326-05	JACK MOUNTING HARDWARE		
	233	1E		J21-5093-03	MOUNTING HARDWARE ASSY (L)		
	234	1E		J21-5094-03	MOUNTING HARDWARE ASSY (R)		
⚠	235	1F		J42-0083-05	POWER CORD BUSHING	KTEX	
	-			J61-0307-05	WIRE BAND		
	239	2D		K27-1082-04	KNOB (BUTTON) POWER		
	240	2D		K27-1594-04	KNOB (LEVER) CALIBN MODE		
	241	2E		K27-1524-04	KNOB (BUTTON) DOLBY		
	242	2E		K27-1525-04	KNOB (BUTTON) COUNTER RESET		
	243	2D		K29-1822-14	KNOB MASTER REC LVL		
	244	2D		K29-1863-14	KNOB (BUTTON) PLAY		
	245	2D		K29-1865-14	KNOB (BUTTON) FF		

E: Scandinavia & Europe **K**: USA **P**: Canada
U: PX(Far East, Hawaii) **T**: England **M**: Other Areas
UE: AAFES(Europe) **X**: Australia

⚠ indicates safety critical components.

PARTS LIST

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

Ref. No. 参照番号	Address 位置	New Parts 新	Parts No. 部品番号	Description 部品名／規格	Destination 仕向	Remarks 備考
246	2D		K29-1866-14	KNOB (BUTTON) REW		
247	2E		K29-1890-04	KNOB (BUTTON) REC		
248	2E		K29-1891-14	KNOB (BUTTON) PAUSE		
249	2D		K29-2000-14	KNOB (PRESET)		
250	2D		K29-2200-04	KNOB (BUTTON) EJECT		
251	2D		K29-2201-04	KNOB BIAS.PHONE.LVL		
252	2E		K29-2202-14	KNOB (BUTTON) STOP		
253	2D		K29-2203-04	KNOB (BUTTON) MPX.MONITOR		
⚠ 257	1E		L01-4834-05	POWER TRANSFORMER		
261	1E		N19-0880-04	FLAT WASHER (LEVER)		
S	2D		N09-1445-05	SET SCREW (M3X8)		
⚠ S1	1E		S40-1066-05	PUSH SWITCH (POWER TYPE)		
75	1A	*	T32-0313-05	ERASE HEAD		
76	2A		T34-0314-05	RECORD/PLAYBACK HEAD		
DISPLAY UNIT (X25-2460-11)						
D12	1D		B30-1012-05	LED(SLP-981C-50) TAPE		
C1			CE04KW1V100M	ELECTRO 10UF 35WV		
C2			CF92FV1H104J	MF 0.10UF J		
C3			CF92FV1H473J	MF 0.047UF J		
C4			CE04KW1H2R2M	ELECTRO 2.2UF 50WV		
CP1			R90-0426-05	MULTI-COMP 100KX6 J 1/6W		
R14			RS14KB3A151J	FL-PROOF RS 150 J 1W		
S1 -7	1D		S40-1064-05	PUSH SWITCH (OPERATION KEY)		
S8 ,9	1D		S40-2330-05	PUSH SWITCH (DOLBY NR)		
S10	1D		S31-2097-05	SLIDE SWITCH (CALIBN MODE)		
S11 -13	1D		S40-1064-05	PUSH SWITCH(COUNT.MPX.MONITOR)		
D1 -8			1S1555	DIODE		
D1 -8			1S2076	DIODE		
D11			1S1555	DIODE		
D11			1S2076	DIODE		
FL1	1D		6-BT-33ZK	FLUORESCENT INDICATOR TUBE		
FL2	1D		BG-251ZK	FLUORESCENT INDICATOR TUBE		
IC1			AN6870N	IC(18PT LED LEVEL METER DR X2)		
Q1 ,2			2SC1685(R.S)	TRANSISTOR		
Q1 ,2			2SC1740S(Q.R)	TRANSISTOR		
Q1 ,2			2SC945(A)(Q.P)	TRANSISTOR		
Q3			2SA1127NC(R.S)	TRANSISTOR		
Q3			2SA733(A)(Q.P)	TRANSISTOR		
Q3			2SA933S(Q.R)	TRANSISTOR		
Q4			DTC114YFF	DIGITAL TRANSISTOR		
CASSETTE UNIT (X26-1200-10)						
C1 ,2			CE04KW1H3R3M	ELECTRO 3.3UF 50WV		
C3 ,4			CF92FV1H332J	MF 3300PF J		
C5 ,6			CE04KW1V100M	ELECTRO 10UF 35WV		
C7 ,8			CQ09FS1H101J	POLYSTY 100PF J		
C9 ,10			CE04KW1V100M	ELECTRO 10UF 35WV		
C11 ,12			CQ09FS1H391J	POLYSTY 390PF J		
C13 ,14			CE04KW1H010M	ELECTRO 1.0UF 50WV		
C15 ,16			CC45FSL1H330J	CERAMIC 33PF J		
C17 ,18			CE04KW1H010M	ELECTRO 1.0UF 50WV		
C19 ,20			CE04KW1V100M	ELECTRO 10UF 35WV		

E: Scandinavia & Europe K: USA P: Canada
U: PX(Far East, Hawaii) T: England M: Other Areas
UE: AAFES(Europe) X: Australia

⚠ indicates safety critical components.

PARTS LIST

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

Ref. No. 参照番号	Address 位置	New Parts 新	Parts No. 部品番号	Description 部品名／規格			Destination 仕向	Remarks 備考
C21 ,22			CC45FSL1H101J	CERAMIC	100PF	J		
C23 ,24			CK45FB1H681K	CERAMIC	680PF	K		
C25 ,26			CE04KW1V100M	ELECTRO	10UF	35WV		
C27 ,28			CC45FSL1H101J	CERAMIC	100PF	J		
C29 ,30			CE04KW1HR33M	ELECTRO	0.33UF	50WV		
C31 ,32			CC45FSL1H330J	CERAMIC	33PF	J		
C33 ,34			CE04KW1V100M	ELECTRO	10UF	35WV		
C35 ,36			CE04KW1H010M	ELECTRO	1.0UF	50WV		
C37 ,38			CC45FSL1H330J	CERAMIC	33PF	J		
C39 ,40			CF92FV1H473J	MF	0.047UF	J		
C101,102			CK45FF1H103Z	CERAMIC	0.010UF	Z		
C103,104			CE04KW1A471M	ELECTRO	470UF	10WV		
C105,106			CE04KW1A101M	ELECTRO	100UF	10WV		
C107-110			CK45FF1H103Z	CERAMIC	0.010UF	Z		
C111,112			CE04KW1V100M	ELECTRO	10UF	35WV		
C113,114			CK45FF1H103Z	CERAMIC	0.010UF	Z		
C115,116			CE04KW1A101M	ELECTRO	100UF	10WV		
C117			CC45FSL1H101J	CERAMIC	100PF	J		
C118			CE04KW1H3R3M	ELECTRO	3.3UF	50WV		
C119			CF92FV1H563J	MF	0.056UF	J		
C120			CF92FV1H222J	MF	2200PF	J		
C121			CF92FV1H184J	MF	0.18UF	J		
C122			CF92FV1H682J	MF	6800PF	J		
C123			CF92FV1H103J	MF	0.010UF	J		
C124			CC45FSL1H331J	CERAMIC	330PF	J		
C125-128			CE04KW1V100M	ELECTRO	10UF	35WV		
C129			CF92FV1H332J	MF	3300PF	J		
C130			CE04KW0J471M	ELECTRO	470UF	6.3WV		
C131			CE04KW1H0R1M	ELECTRO	0.1UF	50WV		
C132			CE04KW1HR47M	ELECTRO	0.47UF	50WV		
C133-136			C91-0700-05	CERAMIC	0.1UF	J		
C137			CE04KW1HR47M	ELECTRO	0.47UF	50WV		
C138			CE04KW1H010M	ELECTRO	1.0UF	50WV		
C139			CE04KW1V4R7M	ELECTRO	4.7UF	35WV		
C140,141			CE04KW1H3R3M	ELECTRO	3.3UF	50WV		
C142			C91-0700-05	CERAMIC	0.1UF	J		
C143			CE04KW1H010M	ELECTRO	1.0UF	50WV		
C144			CE04KW1A101M	ELECTRO	100UF	10WV		
C145			CE04KW1H010M	ELECTRO	1.0UF	50WV		
C146			CE04KW1V100M	ELECTRO	10UF	35WV		
C147			CE04KW1H010M	ELECTRO	1.0UF	50WV		
C148,149			CK45FB1H102K	CERAMIC	1000PF	K		
C150			CE04KW1H010M	ELECTRO	1.0UF	50WV		
C151			CE04KW1C220M	ELECTRO	22UF	16WV		
C152-157			CK45FF1H103Z	CERAMIC	0.010UF	Z		
C158			C90-1580-05	ELECTRO	6800UF	35WV		
C159			CK45FF1H103Z	CERAMIC	0.010UF	Z		
C160			CE04KW1V220M	ELECTRO	22UF	35WV		
C161			CE04KW1C101M	ELECTRO	100UF	16WV		
C162			CE04KW1A101M	ELECTRO	100UF	10WV		
C163			CE04KW1C330M	ELECTRO	33UF	16WV		
C164			CE04KW1C471M	ELECTRO	470UF	16WV		
C165			CE04KW1V100M	ELECTRO	10UF	35WV		
C166			CE04KW1A101M	ELECTRO	100UF	10WV		
C167			CE04KW1V100M	ELECTRO	10UF	35WV		

E: Scandinavia & Europe **K**: USA **P**: Canada
U: PX(Far East, Hawaii) **T**: England **M**: Other Areas
UE: AAFES(Europe) **X**: Australia

⚠ indicates safety critical components.

PARTS LIST

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

Ref. No. 参照番号	Address 位置	New Parts 新	Parts No. 部品番号	Description 部品名／規格	Destination 仕向	Remarks 備考
C168			CE04KW1A101M	ELECTRO 100UF 10WV		
C169			CE04KW1C471M	ELECTRO 470UF 16WV		
C170			CE04KW1V101M	ELECTRO 100UF 35WV		
C171			C90-1579-05	ELECTRO 4700UF 35WV		
C172,173			CE04KW1E470M	ELECTRO 47UF 25WV		
C174			CE04KW1H010M	ELECTRO 1.0UF 50WV		
C175			CE04KW1A101M	ELECTRO 100UF 10WV		
C176			CE04KW1E221M	ELECTRO 220UF 25WV		
C177			CE04KW1H221M	ELECTRO 220UF 50WV		
C178			CE04KW1E331M	ELECTRO 330UF 25WV		
C179			CE04KW1V100M	ELECTRO 10UF 35WV		
J65	2E		E11-0104-15	PHONE JACK (3P) HEAD PHONE		
J69	2E		E11-0151-05	PHONE JACK (2P) MIC		
J70	2F		E13-0482-05	PHONO JACK		
J71	2D		E23-0149-05	TERMINAL		
L1 -4			L39-0107-05	TRAP COIL		
Z	2F		N09-0295-05	HEXAGON HEAD BOLT(M3X8,+)		
RP1			R90-0452-05	MULTI-COMP 4.7KX12 J 1/4W		
RP2			R90-0233-05	MULTI-COMP 10KX4 J 1/6W		
RP3			R90-0178-05	MULTI-COMP 470PX4		
R153			RS14DB3D220J	FL-PROOF RS 22 J 2W		
R158			RS14DB3A102J	FL-PROOF RS 1.0K J 1W		
R222-224			RS14DB3D331J	FL-PROOF RS 330 J 2W		
R225			RS14DB3A102J	FL-PROOF RS 1.0K J 1W		
R232			RS14DB3A470J	FL-PROOF RS 47 J 1W		
R235			RS14DB3A331J	FL-PROOF RS 330 J 1W		
R236			RS14DB3D120J	FL-PROOF RS 12 J 2W		
R237			RS14DB3D102J	FL-PROOF RS 1.0K J 2W		
R238			R92-0228-05	FUSE RESIST 100 G 1/4W		
R242			RS14DB3A182J	FL-PROOF RS 1.8K J 1W		
R243,244			RD14AB2E101J	FL-PROOF RD 100 J 1/4W		
VR1 ,2			R12-3126-05	TRIMMING POT.(10KB)PLAY TRIM		
VR3 ,4	2E		R01-4032-05	POTENTIOMETER(47KB)BIAS ADJ		
VR5 ,6	2E		R01-2020-05	POTENTIOMETER(50KA)PRESET		
VR7 ,8	2E		R01-3039-05	POTENTIOMETER(5KB)LEVEL 400HZ		
VR9 ,10	2E		R12-3126-05	TRIMMING POT.(50KB)BIAS CUR		
VR11	2F		R10-3023-05	POTENTIOMETER(10KX2)PHONES LVL		
VR12	2E		R10-5020-05	POTENTIOMETER(100KX2)MSTR REC		
VR13			R12-1083-05	TRIMMING POT.(1KB)FL METER,R		
VR14,15			R12-1085-05	TRIMMING POT.(2.2KB)400HZ/10KH		
VR16			R12-3128-05	TRIMMING POT.(22KB)CAL TONE BL		
VR17			R12-3126-05	TRIMMING POT.(2.2KB)CLOCK ADJ		
S1	2D		S31-2062-15	SLIDE SWITCH (TIMER)		
D1 ,2			HZS8.2S(B2)	ZENER DIODE		
D1 ,2			RD8.2JS(B2)	ZENER DIODE		
D3 -28			1SS133	DIODE		
D3 -28			1SS176	DIODE		
D29 ,30			1SS131	DIODE		
D29 ,30			1SS178	DIODE		
D31 -34			GP20DLN	DIODE		
D37			1SS133	DIODE		
D37			1SS176	DIODE		

E: Scandinavia & Europe K: USA P: Canada
U: PX(Far East, Hawaii) T: England M: Other Areas
UE: AAFES(Europe) X: Australia

⚠ indicates safety critical components.

PARTS LIST

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

Ref. No. 参照番号	Address 位置	New Parts 新	Parts No. 部品番号	Description 部品名／規格	Destination 仕向	Remarks 備考
D38 ,39			HZS5.1N(B2)	ZENER DIODE		
D38 ,39			RD5.1ES(B2)	ZENER DIODE		
D40			HZS5.6N(B2)	ZENER DIODE		
D40			RD5.6ES(B2)	ZENER DIODE		
D41			HZS3.9N(B)	ZENER DIODE		
D41			RD3.9ES(B)	ZENER DIODE		
D42			HZS5.1N(B2)	ZENER DIODE		
D42			RD5.1ES(B2)	ZENER DIODE		
D43 ,44			DSM1A1	DIODE		
D43 ,44			S5566B	DIODE		
D45			1SS133	DIODE		
D45			1SS176	DIODE		
IC1			M5218P-A	IC(OP AMP X2)		
IC1			NJM4558D-A	IC(OP AMP X2)		
IC2			M5218P	IC(OP AMP X2)		
IC2			NJM4558D	IC(OP AMP X2)		
IC3			M5218L	IC(OP AMP X2)		
IC4 ,5			M5218P-A	IC(OP AMP X2)		
IC4 ,5			NJM4558D-A	IC(OP AMP X2)		
IC6			M5218P	IC(OP AMP X2)		
IC6			NJM4558D	IC(OP AMP X2)		
IC7			M50757-401SP	IC(MICROPROCESSOR)		
IC8			BA6229	IC(MOTOR DRIVER)		
IC9			BA6209	IC(MOTOR DRIVER)		
IC10			TD62554S	IC(4CH TRANSISTOR ARRAY)		
IC11			UPC7812HF	IC(VOLTAGE REGULATOR/ +12V)		
Q1 ,2			2SC1740S(Q,R)	TRANSISTOR		
Q1 ,2			2SC945(A)(Q,P)	TRANSISTOR		
Q3 -6			2SC2878(B)	TRANSISTOR		
Q3 -6			2SD1302(S,T)	TRANSISTOR		
Q11 ,12			2SK163(M,N)	FET		
Q11 ,12			2SK364(BL,V)	FET		
Q13			2SC1740S(Q,R)	TRANSISTOR		
Q13			2SC945(A)(Q,P)	TRANSISTOR		
Q14			2SA733(A)(Q,P)	TRANSISTOR		
Q14			2SA933S(Q,R)	TRANSISTOR		
Q15 -17			2SC1740S(Q,R)	TRANSISTOR		
Q15 -17			2SC945(A)(Q,P)	TRANSISTOR		
Q18 ,19			2SA733(A)(Q,P)	TRANSISTOR		
Q18 ,19			2SA933S(Q,R)	TRANSISTOR		
Q20			2SC1740S(Q,R)	TRANSISTOR		
Q21 -23			2SA733(A)(Q,P)	TRANSISTOR		
Q21 -23			2SA933S(Q,R)	TRANSISTOR		
Q24 -27			2SC1740S(Q,R)	TRANSISTOR		
Q24 -27			2SC945(A)(Q,P)	TRANSISTOR		
Q28 ,29			2SA733(A)(Q,P)	TRANSISTOR		
Q28 ,29			2SA933S(Q,R)	TRANSISTOR		
Q30			DTC124EN	DIGITAL TRANSISTOR		
Q31			2SC1740S(Q,R)	TRANSISTOR		
Q31			2SC945(A)(Q,P)	TRANSISTOR		
Q32 ,33			DTC124EN	DIGITAL TRANSISTOR		
Q34 ,35			2SC1740S(Q,R)	TRANSISTOR		
Q34 ,35			2SC945(A)(Q,P)	TRANSISTOR		
Q38			2SK163(M,N)	FET		
Q38			2SK364(BL,V)	FET		

E: Scandinavia & Europe **K**: USA **P**: Canada
U: PX(Far East, Hawaii) **T**: England **M**: Other Areas
UE: AAFES(Europe) **X**: Australia

⚠ indicates safety critical components.

PARTS LIST

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

Ref. No. 参照番号	Address 位置	New Parts 新	Parts No. 部品番号	Description 部品名／規格	Destination 仕向	Remarks 備考
Q39			2SD1266(Q,P)	TRANSISTOR		
Q40			2SC2003(L,K)	TRANSISTOR		
Q41			2SD863(E,F)	TRANSISTOR		
Q42			2SA954(L,K)	TRANSISTOR		
Q43			2SB941(Q,P)	TRANSISTOR		
Q44			2SK163(M,N)	FET		
Q44			2SK364(BL,V)	FET		
Q45			2SA954(L,K)	TRANSISTOR		
Q46			2SB772*1(Q,P)	TRANSISTOR		
DOLBY NOISE REDUCTION UNIT (X30-1270-01) (X30-1270-02)						
C1 -4			CE04KW1H2R2M	ELECTRO 2.2UF 50WV		1
C1 ,2			CE04KW1V100M	ELECTRO 10UF 35WV		2
C3 ,4			CE04KW1H2R2M	ELECTRO 2.2UF 50WV		2
C5 ,6			CE04KW1H3R3M	ELECTRO 3.3UF 50WV		1
C7 ,8			CE04KW1V100M	ELECTRO 10UF 35WV		2
C9 -12			CF92FV1H222J	MF 2200PF J		
C13 ,14			CF92FV1H392J	MF 3900PF J		
C15 ,16			CF92FV1H474J	MF 0.47UF J		
C17 ,18			CF92FV1H154J	MF 0.15UF J		
C19 ,20			CF92FV1H153J	MF 0.015UF J		
C21 ,22			C90-1349-05	NP-ELEC 1UF 50WV		
C23 ,24			CF92FV1H224J	MF 0.22UF J		
C25 ,26			CF92FV1H683J	MF 0.068UF J		
C27 ,28			CF92FV1H563J	MF 0.056UF J		
C29 ,30			C90-1349-05	NP-ELEC 1UF 50WV		
C31 ,32			CF92FV1H562J	MF 5600PF J		
C33 ,34			CF92FV1H103J	MF 0.010UF J		1
C35 ,36			CF92FV1H152J	MF 1500PF J		1
C37 ,38			CF92FV1H122J	MF 1200PF J		1
C39 ,40			CE04KW1A470M	ELECTRO 47UF 10WV		
L1 ,2			L79-0189-05	LC FILTER		1
R5 ,6		*	RN14BK2C1781FTS	RN 1.78K F 1/6W		
R7 ,8		*	RN14BK2C2152FTS	RN 21.5K F 1/6W		
R9 ,10			RN14BK2C1001FTS	RN 1.00K F 1/6W		
R11 ,12		*	RN14BK2C1622FTS	RN 16.2K F 1/6W		
R23 ,24			RN14BK2C7501FTS	RN 7.50K F 1/6W		
R25 ,26			RN14BK2C6810FTS	RN 681.0 F 1/6W		
R27 ,28		*	RN14BK2C9091FTS	RN 9.09K F 1/6W		
R49		*	RN14BK2C1303FTS	RN 130K F 1/6W		
IC1		*	CX20188	IC(DOLBY B/C)		
Q1 -4			2SC1740S(Q,R)	TRANSISTOR		1
Q1 -4			2SC945(A)(Q,P)	TRANSISTOR		1
METER AMPLIFIER UNIT (X87-1020-00)						
C1 ,2			CE04KW1V100M	ELECTRO 10UF 35WV		
C3 ,4			CE04KW1H2R2M	ELECTRO 2.2UF 50WV		
C5 ,6			CE04KW1H010M	ELECTRO 1.0UF 50WV		
C7 ,8			CE04KW1C330M	ELECTRO 33UF 16WV		
VR1			R12-3057-05	TRIMMING POT.(10K) FL METER,L		
D1 -6			1SS176	DIODE		
IC1		*	BA6138	IC(PONT AMP X2)		
IC2			AN6556	IC(OP AMP X2)		
IC2		*	M5218P	IC(OP AMP X2)		
IC2			N.JM4558D	IC(OP AMP X2)		

E: Scandinavia & Europe K: USA P: Canada
U: PX(Far East, Hawaii) T: England M: Other Areas
UE: AAFES(Europe) X: Australia

⚠ indicates safety critical components.

PARTS LIST

* New Parts
Parts without **Parts No.** are not supplied.
Les articles non mentionnes 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	Destination 仕向	Remarks 備考
Q1			DTC114YFF	DIGITAL TRANSISTOR		
RECORD/PLAYBACK UNIT (X87-1030-05)						
C1 ,2		*	CF92FV1H394J	MF 0.39UF J		
C3 ,4			CE04KW1V100MEL	ELECTRO 10UF 35WV		
C5 ,6			CC45FSL1H100D	CERAMIC 10PF D		
C7 ,8			CF92FV1H182J	MF 1800PF J		
C9 ,10			CF92FV1H823J	MF 0.082UF J		
C11 ,12			CE04KW1V100MEL	ELECTRO 10UF 35WV		
C13 ,14			CF92FV1H123J	MF 0.012UF J		
C15 ,16			CF92FV1H562J	MF 5600PF J		
C17 ,18			CQ09FS1H101JZS	POLYSTY 100PF J		
C19 ,20			CF92FV1H153J	MF 0.015UF J		
C21 ,22			CF92FV1H562J	MF 5600PF 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		
C33 ,34			CE04KW1V100MEL	ELECTRO 10UF 35WV		
C35 ,36			CQ09FS1H101JZS	POLYSTY 100PF J		
C37 ,38		*	CE04KW1A221MEL	ELECTRO 220UF 10WV		
C39 ,40			CC45FSL1H330J	CERAMIC 33PF 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)REC/PB LEVEL		
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 (X87-1190-03)						
C1 ,2			CK45FR1H561K	CERAMIC 560PF K		
C3 ,4			CC45FSL1H151J	CERAMIC 150PF J		
C5 ,6			C91-0860-05	POLYSTY 470PF K		
C7 ,8			C91-0700-05	CERAMIC 0.1UF J		
C9 ,10			CK45FF1H223Z	CERAMIC 0.022UF Z		
C11 ,12			CK45FF1H103Z	CERAMIC 0.010UF Z		
C13			CE04KW1V100M	ELECTRO 10UF 35WV		

E: Scandinavia & Europe K: USA P: Canada
U: PX(Far East, Hawaii) T: England M: Other Areas
UE: AAFES(Europe) X: Australia

⚠ indicates safety critical components.

PARTS LIST

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

Ref. No. 参照番号	Address 位置	New Parts 新	Parts No. 部品番号	Description 部品名／規格	Destination 仕向	Remarks 備考
C14			CC45FSL2H100D	CERAMIC 10PF D		
C15			C093HP2A103J	MYLAR 0.010UF J		
C16			CE04KW1E101M	ELECTRO 100UF 25WV		
C17			CF92FV1H102J	MF 1000PF J		
C18			CF92FV1H182J	MF 1800PF J		
C19 ,20			CE04KW1V4R7M	ELECTRO 4.7UF 35WV		
C21			CE04KW1V100M	ELECTRO 10UF 35WV		
C22			CK45FF1H103Z	CERAMIC 0.010UF Z		
L1 ,2		*	L32-0369-05	BIAS OSCILATING COIL		
L3		*	L32-0378-05	OSCILATING COIL		
R7			RD14GB2E100J	FL-PROOF RD 10 J 1/4W		
R8			R92-0508-05	FUSE RESIST 22 G 1/4W		
D1			1SS133	DIODE		
D1			1SS176	DIODE		
IC1		*	UPC1297CA	IC(DOL HX PRO SYSTEM)		
Q1 ,2			2SD863(E,F)	TRANSISTOR		
CASSETTE MECHANISM ASS'Y (D40-0811-05)						
5	1C		D03-0251-08	REEL DISK ASSY		
6	1B		D10-0309-08	LEVER (REC)		
7	1B		D10-1614-08	LEVER		
8	2A		D10-1616-08	PINCH ROLLER ASSY (R)		
9	1A	*	D10-1617-08	LEVER		
10	1B	*	D10-1618-08	LEVER		
11	1A	*	D10-1619-08	LEVER		
12	2C	*	D10-1620-08	LEVER		
13	1A	*	D10-1621-08	PINCH ROLLER ASSY (L)		
14	1B	*	D10-1622-08	SLIDER ASSY		
15	2C	*	D10-1623-08	SLIDER ASSY (BRAKE)		
16	1B		D13-0080-08	GEAR ASSY (CAM)		
17	1B	*	D15-0241-08	PULLEY ASSY		
18		*	D16-0128-08	BELT		
19	1A		D90-0012-04	STEEL BALL (Ø3)		
20	1B		D90-0020-04	STEEL BALL (Ø2)		
24	1B	*	F99-0026-08	TUBE		
28	1A		G01-0484-08	TORSION COIL SPRING		
29	2B		G01-1601-08	COMPRESSION COIL SPRING (T)		
30	1C		G01-1602-08	COMPRESSION COIL SPRING		
31	2A	*	G01-1816-08	COMPRESSION COIL SPRING		
32	2B	*	G01-1817-08	COMPRESSION COIL SPRING (S)		
33	2B	*	G01-1818-08	TENSION COIL SPRING		
34	1B		G01-1819-08	TORSION COIL SPRING		
35	2A	*	G01-1820-08	TORSION COIL SPRING		
36	1A	*	G01-1821-08	TORSION COIL SPRING		
37	1B	*	G01-1822-08	TORSION COIL SPRING		
38	1B		G02-0387-08	FLAT SPRING (CASSETTE)		
39	1A	*	G02-0388-08	FLAT SPRING		
40	1C	*	G02-0389-08	FLAT SPRING		
44	1B		H12-0106-08	CARTON BOARD (LEAF SW)		
48	2C	*	J21-3786-08	MOUNTING HARDWARE (SW)		
49	2B	*	J21-3787-08	MOUNTING HARDWARE (MOTOR)		
50	1B	*	J21-3788-08	MOUNTING HARDWARE (B)		

E: Scandinavia & Europe K: USA P: Canada
U: PX(Far East, Hawaii) T: England M: Other Areas
UE: AAFES(Europe) X: Australia

⚠ indicates safety critical components.

PARTS LIST

* New Parts
Parts without **Parts No.** are not supplied.
Les articles non mentionnes 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	Destination 仕向	Remarks 備考
51	1A	*	J21-3789-08	MOUNTING HARDWARE		
52	2A	*	J21-3790-08	MOUNTING HARDWARE		
53	2C		J31-0268-08	COLLAR		
54	1A		J31-0269-08	COLLAR		
55	1B	*	J31-0270-08	COLLAR		
56	2C	*	J31-0271-08	COLLAR		
57	2B	*	J42-0139-08	POWER CORD BUSHING		
-			J61-0307-05	WIRE BAND		
			N24-3020-45	E TYPE RETAINING RING		
			N24-3025-45	E TYPE RETAINING RING		
			N24-3030-45	E TYPE RETAINING RING		
61	2A		N14-0142-08	NUT		
62	1C		N19-0336-08	FLAT WASHER		
63	1B	*	N19-0994-08	FLAT WASHER		
64	1B,2B	*	N19-0995-08	FLAT WASHER		
65	2C	*	N19-0996-08	FLAT WASHER		
D	1B		N09-1241-08	SCREW (M2X3)		
E	1C	*	N09-1593-08	SCREW (M2X5)		
F	1C	*	N09-1594-08	SCREW (M2X4)		
G	2A	*	N09-1596-08	SCREW		
H	1B		N09-1228-08	SCREW (M2.5X6)		
J	2C		N09-1240-08	SCREW (M2.5X4)		
K	1C		N09-1230-08	SCREW (M2.5X20)		
L	1B		N09-1456-08	SCREW (M2X3.2)		
N	2B		N09-1232-08	SCREW (M2.6X3)		
P	1A,1B		N09-1229-08	SCREW (M2.5X10)		
Q	2A		N09-1233-08	SCREW (M2X4)		
69	1C		S46-1017-08	LEAF SWITCH		
70	1C		S46-1019-08	LEAF SWITCH		
71	2C		S46-1051-08	LEAF SWITCH		
75	2A	*	T32-0309-05	ERASE HEAD		
76	2A	*	T34-0314-05	REC/PLAY HEAD		
77	1B	*	T42-0017-08	DC MOTOR ASSY		
78	2A	*	T42-0088-08	DC MOTOR ASSY		
79	2B	*	T43-0048-08	DD MOTOR ASSY		

E: Scandinavia & Europe **K**: USA **P**: Canada
U: PX(Far East, Hawaii) **T**: England **M**: Other Areas
UE: AAFES(Europe) **X**: Australia

⚠ indicates safety critical components.

KX-1100HX

SPECIFICATIONS

Type	Front Loading 3 Heads Stereo Cassette Deck with Dolby B·C NR System
Track System	4-Track, 2-Channel Stereo/Mono, Recording/Playback
Recording System	AC Bias System (Bias Frequency: 105 kHz)
Erasing System	AC System
Tape Speed	4.76 cm/sec (1-7/8 ips)
Heads	Record and Playback combination Head × 1 (Amorphous Alloy) Erase Head × 1 (Double Gap Ferrite with SENDUST GUARD)
Motors	Capstan Drive: FG Servo Direct Drive Motor Reel Drive: DC Motor Mechanism Drive: DC Motor
Fast Winding Time	Approx. 80 seconds with C-60 tape
Frequency Response:	
Normal Tape	20 Hz to 18,000 Hz, ±3 dB
CrO_2 Tape	20 Hz to 19,000 Hz, ±3 dB
Metal Tape	20 Hz to 22,000 Hz, ±3 dB
Signal to Noise Ratio:	
Dolby C Type NR ON	75 dB (Metal Tape)
Dolby B Type NR ON	68 dB (Metal Tape)
Dolby NR OFF	60 dB (Metal Tape)
Harmonic Distortion	Less than 0.6% (at 1 kHz, 0 VU with Metal Tape)
Wow and Flutter	0.025% (W.R.M.S.) ±0.055% (DIN)
Input Sensitivity/Impedance:	
LINE × 2	77.5 mV/50 kohms
Microphones × 2	0.3 mV/600 ohms
Output Level/Load Impedance:	
LINE × 2	0.49 V (0 VU)/2 kohms
Headphones × 1	0.85 mW/8 ohms
Power Consumption	35 watts
Dimensions	W: 440 mm (17-5/16") H: 111 mm (4-3/8") D: 322 mm (12-11/16")
Weight	6.3 kg (13.9 lb)
Supplied Accessories	Audio Connection Cables × 2
Reference Tapes	Normal: KENWOOD ND-60 CrO_2: KENWOOD CD-60 Metal: KENWOOD MD-60

Note:
We follow a policy of continuous advancements in development. For this reason 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 U.S.A. (K) standard, and provides information on regional circuit modification through use of alternate schematic diagrams, and information on regional component variations through use of parts list.

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

KENWOOD U.S.A. CORPORATION
2201 East Dominguez Street, Long Beach, CA 90810
550 Clark Drive, Mount Olive, NJ 07828, 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
Rembrucker-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 & LEE ELECTRONICS, LTD.
Wang Kee Building, 4th Floor, 34-37, Connaught Road, Central, Hong Kong