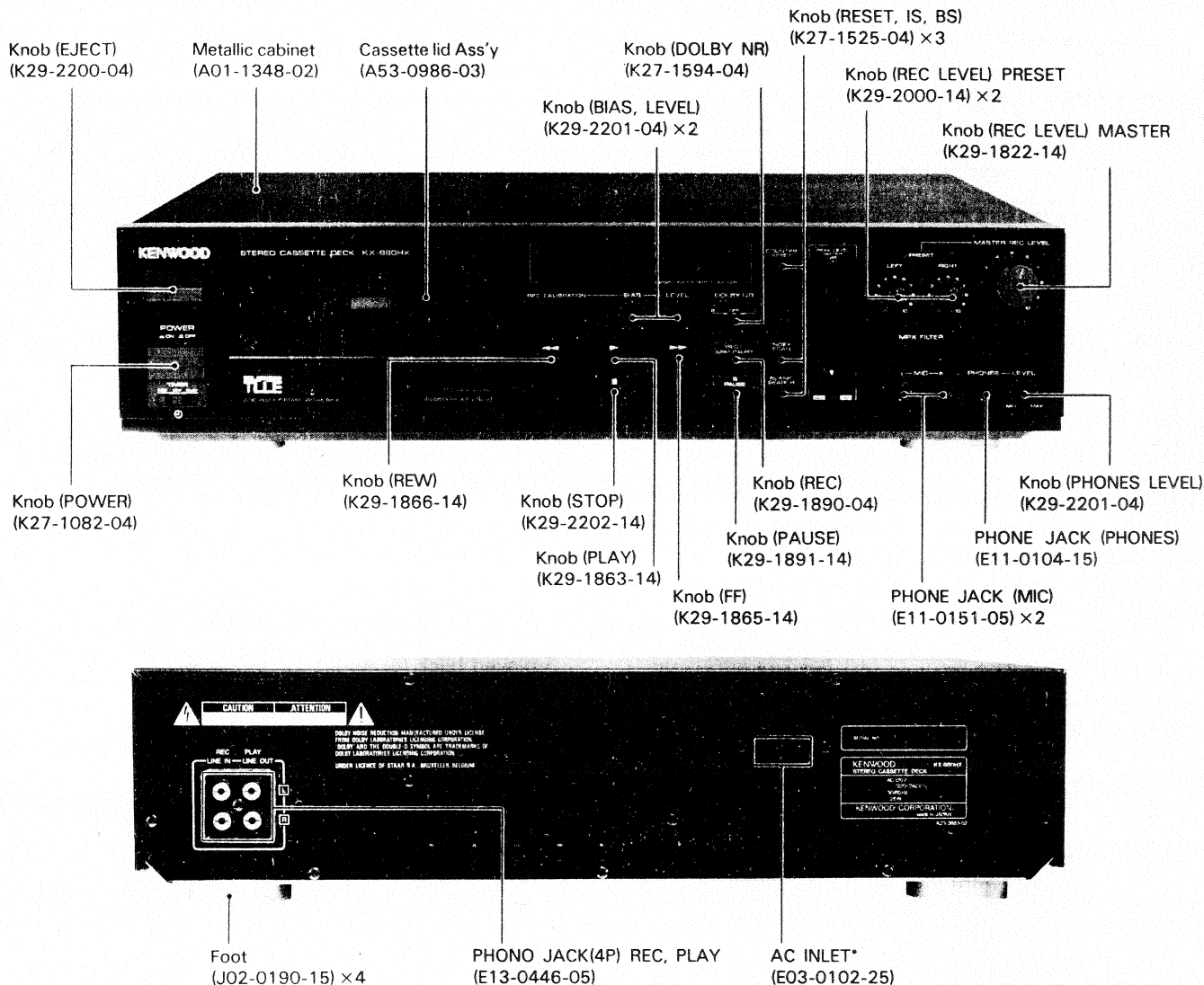


KX-880HX

SERVICE MANUAL



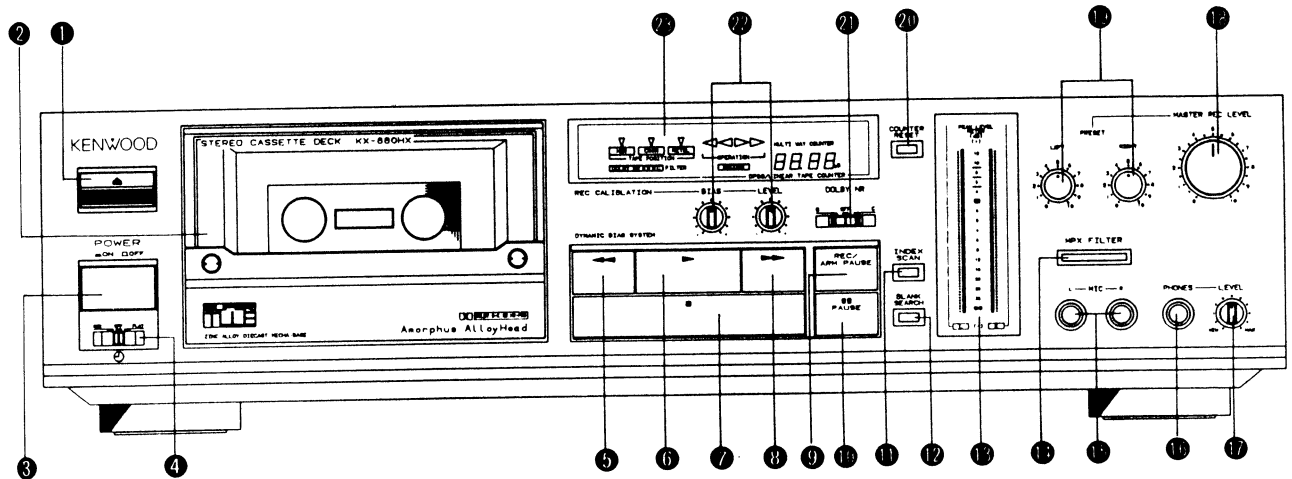
* Refer to parts list on page 33.

CONTENTS

| | | | |
|-------------------------------------|----|--------------------------------|------------|
| CONTROLS, INDICATORS AND CONNECTORS | 2 | PC BOARD (Component Side View) | 15 |
| DISASSEMBLY FOR REPAIR | 4 | PC BOARD (Foil Side View) | 19 |
| BLOCK LEVEL DIAGRAM | 6 | CIRCUIT DIAGRAM | 23 |
| CIRCUIT DESCRIPTION | 7 | EXPLODED VIEW (MECHANISM) | 31 |
| ADJUSTMENT | 11 | EXPLODED VIEW (UNIT) | 32 |
| REGLAGE | 12 | PARTS LIST | 33 |
| ABGLEICH | 13 | SPECIFICATION | Back cover |

CONTROLS, INDICATORS AND CONNECTORS

Numbers in front of names correspond that in the diagram.



1 Eject key (▲)

Pressing this key to open the cassette holder.

2 Cassette holder

Press the eject key is pressed, this holder opens. Press the left upper section of the holder until it locks to close it.

3 POWER switch

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

4 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.**

5 Rewind key (◀◀)

Press this key to rewind the tape from right to left at high speed.

6 Play key (▶)

Press this key to forward the tape at fixed speed and start playback; the play indicator (▶) will light up.

7 Stop key (■)

Press this key to stop the tape travel.

8 Fast forward key (▶▶)

Press to advance the tape rapidly from left to right.

9 REC/ARM PAUSE key

Press this key to start recording. It is not necessary to press the play key simultaneously since this unit is provided with one-touch recording system. At this time, the record and play indicators light up.

When this key is pressed again during recording, about 4 seconds non-recorded section is made and the tape travel will stop temporarily.

10 PAUSE key (||)

To interrupt recording or playback momentarily, press this key. When this key is pressed during playback, the play indicator blinks and the playback is interrupted momentarily. When this key is pressed during recording, the record indicator lights up 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.

11 INDEX SCAN key

Press this key to search the desired tune.

When this key is pressed, the beginning of each tune is played back for about 10 seconds.

12 BLANK SEARCH key

This key is used to search for blank sections of more than 1 minute between tunes or the end of the previously recorded section, etc.

13 PEAK LEVEL METERS

This indicates the peak values of the input levels when recording or output levels when playback.

14 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.

15 MIC jacks (L/R)

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

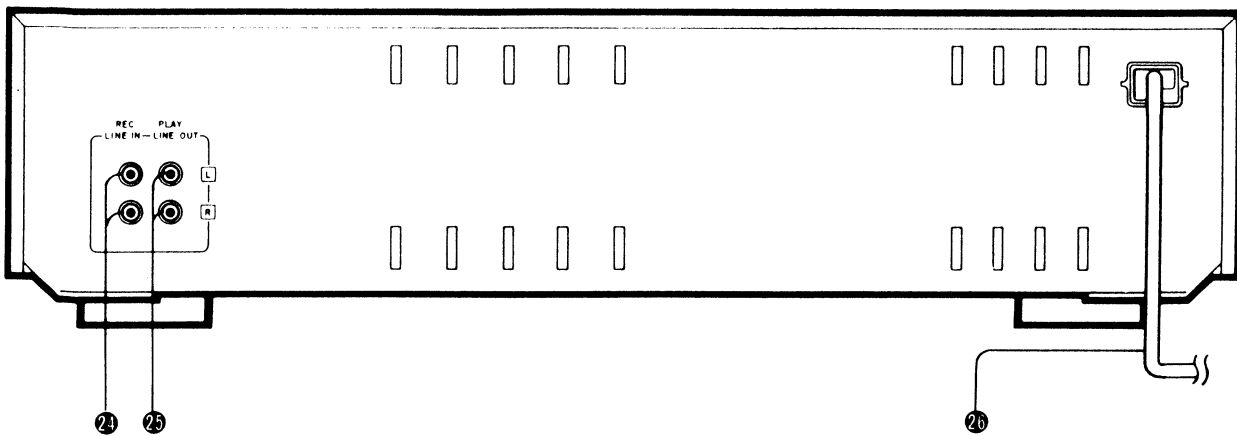
Note:

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

17 PHONES jack

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

CONTROLS, INDICATORS AND CONNECTORS



① PHONES LEVEL knob

Adjust the volume level for the headphones regardless of the recording input level.

② MASTER REC LEVEL control knob

Adjust the recording input level with this knob. Left and right channel levels are varied simultaneously.

③ PRESET record level knobs

The signals for the left and right channels are adjusted independently with these knobs.

④ COUNTER RESET key

Press this key to reset the linear tape counter to [:00].

⑤ DOLBY NR select switch

Set this switch to B or C position when playing back the tape recorded with Dolby NR circuit or when recording with Dolby NR circuit.

⑥ REC CALIBRATION ADJ. knob

Adjusting the recording level and bias knobs, enables recording and reproduction at a level matching the kind of the tape being used. This quality can also be demonstrated satisfactorily when using NR.

LEVEL adjustment:

This corrects the recording sensitivity response of the tape being used. First set so that the recording level is at OVU and make the recording. Then when making the reproduction, adjust the reproduction level so that it is the same as the recording level. If the reproduction level is lower than the recording level turn to (+), and if it is higher turn to (-).

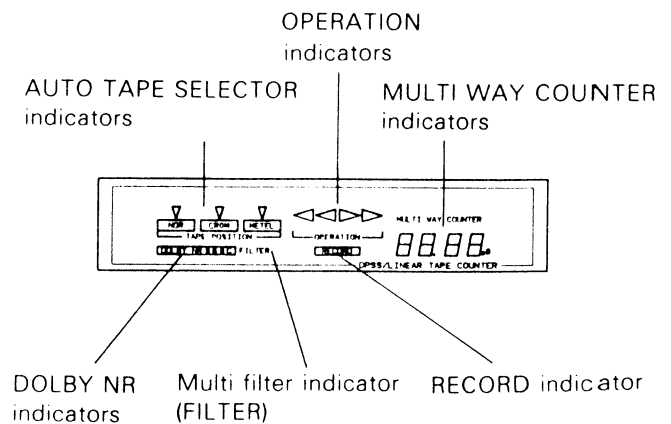
BIAS adjustment:

This corrects the recording response of the high-pitch range. Compare with the source tone and make adjustments to align with it. During reproduction, if the high-pitch range seems apt to be insufficient turn to (-), and it seems to be too much turn to (+).

The bias knob can also be adjusted and the sound quality changed in line with your preference.

⑦ Display window

According to the operation mode, each indicator lights up or flickers.



⑧ LINE IN REC terminals

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

⑨ LINE OUT PLAY terminals

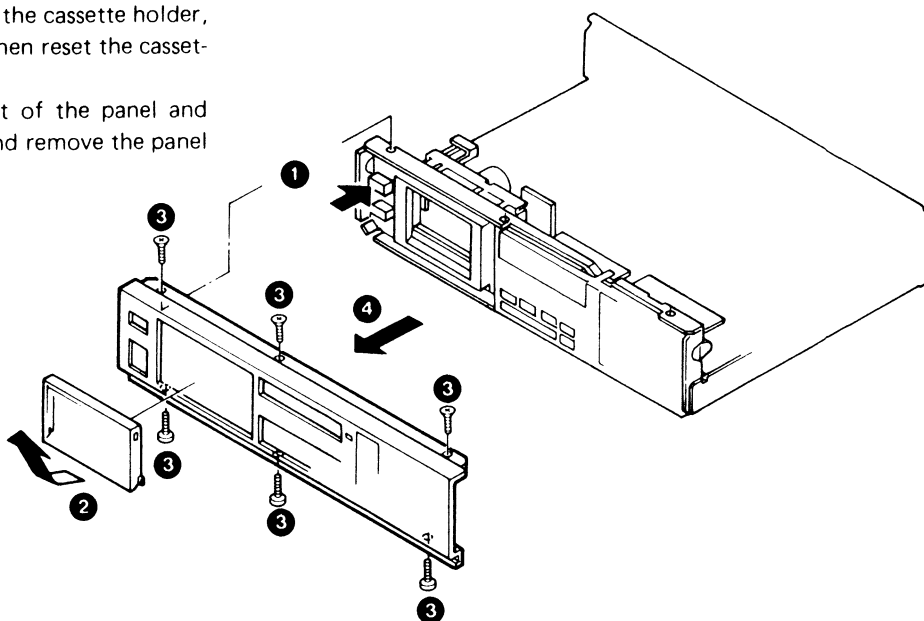
Connect the Tape Play or AUX terminals of your amplifier, etc. to these terminals using the audio cables provided.

⑩ Power cord

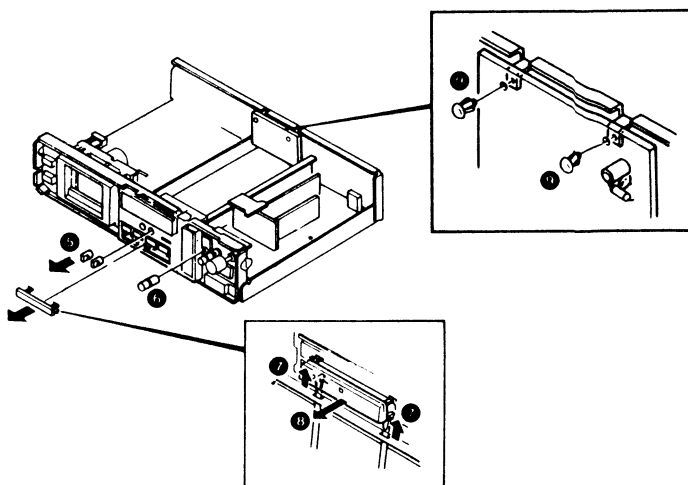
Plug this into the wall outlet or AC outlet of the amplifier, etc.

DISASSEMBLY FOR REPAIR

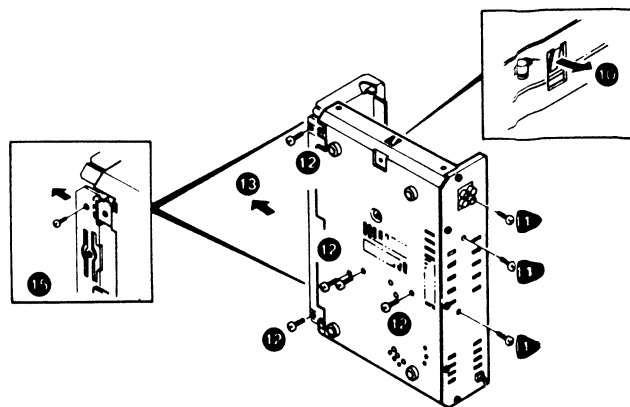
1. Press EJECT knob (❶) to pull out the cassette holder, remove the cassette lid (❷), and then reset the cassette holder.
2. Remove 3 screws on the upper part of the panel and 3 screws on the lower part (❸), and remove the panel (❹).



3. Remove 4 CALIBRATION (BIAS, LEVEL) knobs (❺) and PRESET (L) knob (❻).
4. Insert (—) screw driver to the escutcheon hole (❼), and pull out STOP knob toward you (❽).
5. Remove 2 push rivet (❾) which fix the PC board to the rear panel.

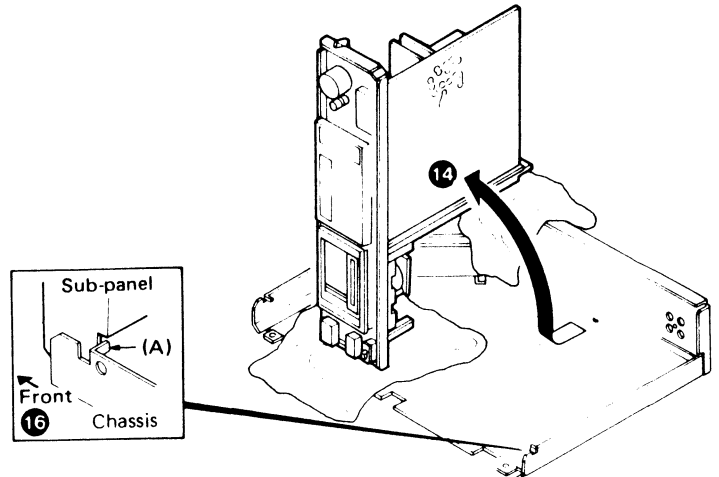


6. Bend the chassis claw outward (❿).
7. Remove 3 screws (⓫) on the rear of the panel and 5 screws (⓬) on the chassis, and then pull out the sub-panel assembly slightly toward you and set it upright (⓭ , ⓮).

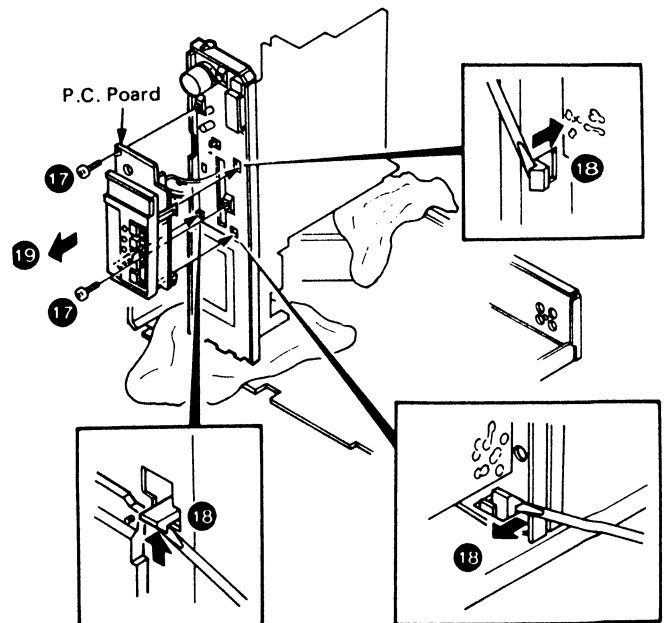


DISASSEMBLY FOR REPAIR

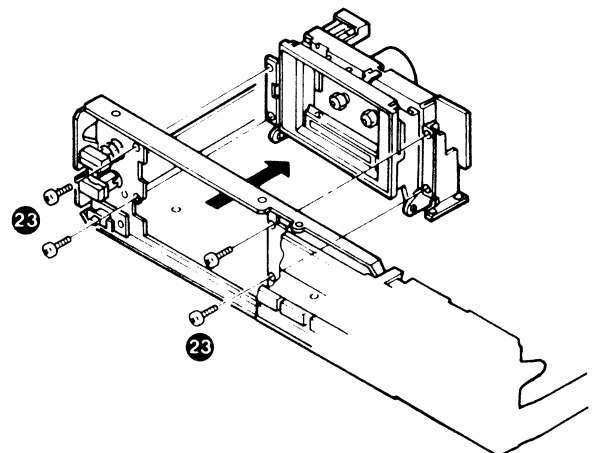
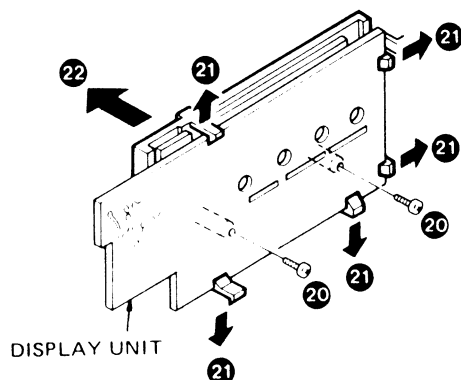
Note : When assembling the sub-panel assembly and chassis, insert the chassis's claw to the inside as shown in 15, and press the sub-panel into a projection of the chassis (A) as shown in 16.



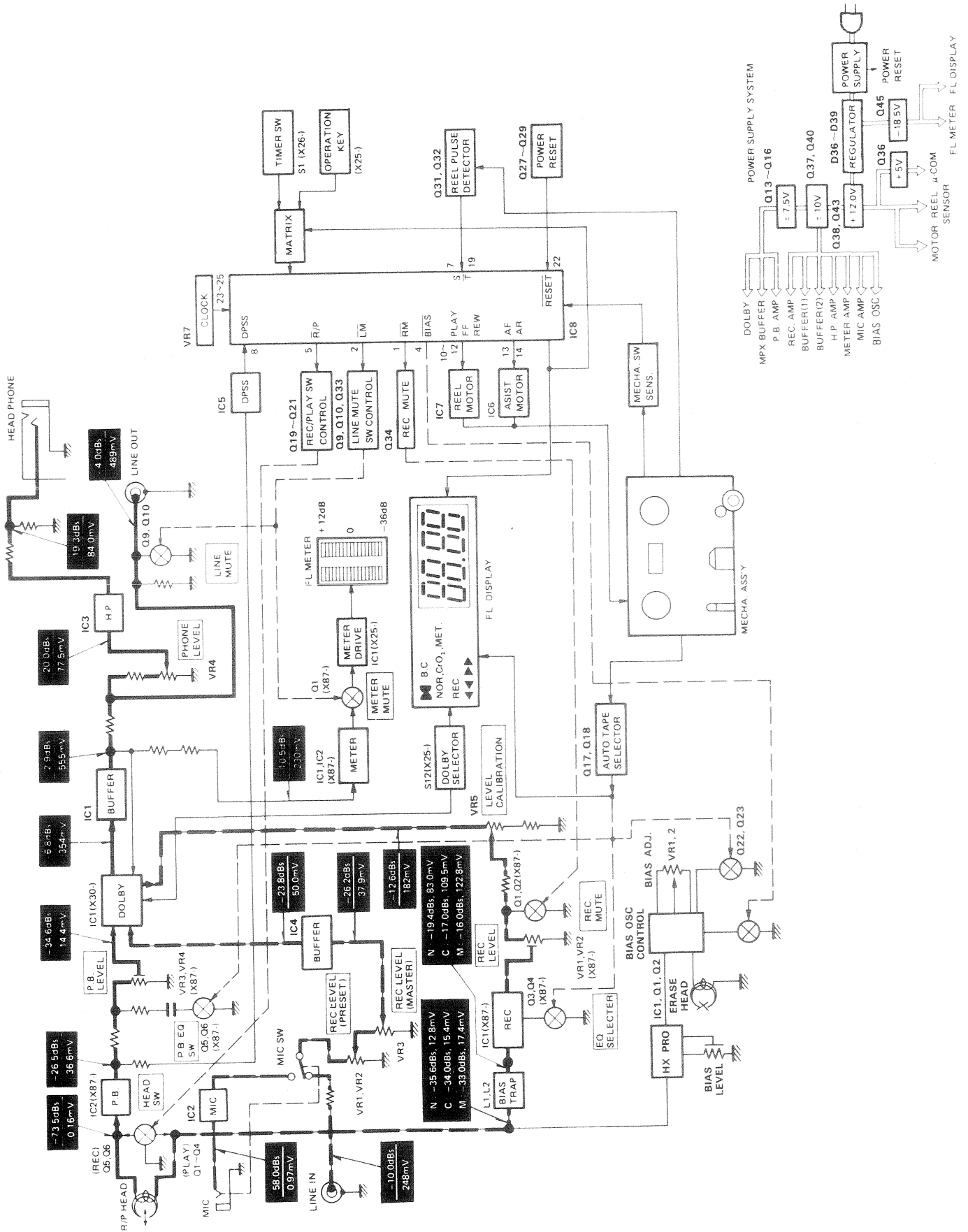
8. Remove 2 screws which fasten the display unit (17), remove 3 hooks fixed on the sub-panel (18), and then pull out the display unit toward you (19).



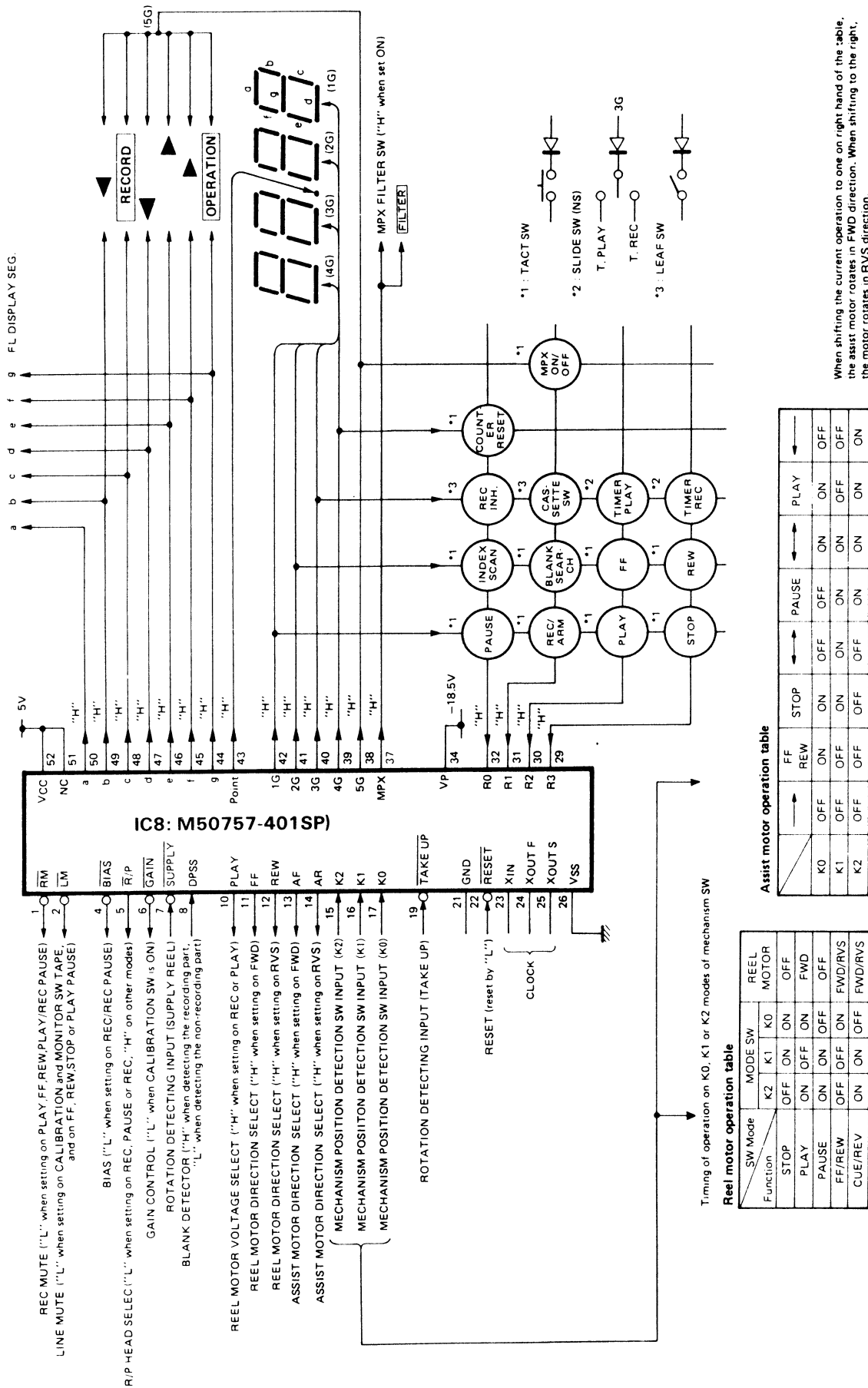
9. Remove 2 screws which fasten the display unit and escutcheon (20).
10. Remove 5 hooks (21), and disassemble the display unit and escutcheon (22).
11. Remove 4 screws on both ends of front side of the sub-panel (23), and remove the mechanism assembly to the rear side.



BLOCK / LEVEL DIAGRAM



CIRCUIT DESCRIPTION



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 RVS direction.

CIRCUIT DESCRIPTION

CIRCUIT DESCRIPTION

Description of Components

Display Unit (X25-2450-01)

| Components | Use/Function | Operations/Condition/Interchangeability |
|------------|----------------------------------|---|
| Q1, 2 | Peak-hold reset | A flip-flop circuit is formed and, in 3 seconds, Q 2 goes ON momentarily, resetting the peak holding. |
| IC1 | F _L level meter drive | 2-CH dynamic |

Cassette Unit (X26-1182-71)

| Components | Use/Function | Operations/Condition/Interchangeability | | | | | | | | | | | | |
|--|---------------------------------------|---|-----------------------------|--------------------|---------------------------------------|---------------------------------------|-----|-----------------------------------|---|-----|-----|-----|-----|-----|
| Q1-4 | Head changeover switch | OFF during REC and REC PAUSE | | | | | | | | | | | | |
| Q5, 6 | Head changeover switch | ON during REC and REC PAUSE | | | | | | | | | | | | |
| Q9, 10 | LINE MUTE switch | During PLAY, REC and REC PAUSE, the LM terminals at microprocessor IC8 pin 2 goes "H" turning Q33 OFF and turning Q9 and Q10 OFF. | | | | | | | | | | | | |
| Q13, 15 | +7.7 V supply | Regulated power supply for PB amp | | | | | | | | | | | | |
| Q14, 16 | +7.7 V supply | Regulated power supply for PB amp | | | | | | | | | | | | |
| Q17, 18 | AUTO TAPE SEL control | The statuses depend on the tape detector switch in the mechanism: | | | | | | | | | | | | |
| | | <table border="1"> <tr> <td></td> <td>NOR</td> <td>CrO₂</td> <td>METAL</td> </tr> <tr> <td>Q17</td> <td>OFF</td> <td>OFF</td> <td>ON</td> </tr> <tr> <td>Q18</td> <td>OFF</td> <td>ON</td> <td>OFF</td> </tr> </table> | | NOR | CrO ₂ | METAL | Q17 | OFF | OFF | ON | Q18 | OFF | ON | OFF |
| | | | NOR | CrO ₂ | METAL | | | | | | | | | |
| Q17 | OFF | OFF | ON | | | | | | | | | | | |
| Q18 | OFF | ON | OFF | | | | | | | | | | | |
| <table border="1"> <tr> <td></td> <td>REC, REC PAUSE</td> <td>OTHERS</td> </tr> <tr> <td>Q19</td> <td>OFF</td> <td>ON</td> </tr> <tr> <td>Q20</td> <td>OFF</td> <td>ON</td> </tr> <tr> <td>Q21</td> <td>ON</td> <td>OFF</td> </tr> </table> | | REC, REC PAUSE | OTHERS | Q19 | OFF | ON | Q20 | OFF | ON | Q21 | ON | OFF | | |
| | REC, REC PAUSE | OTHERS | | | | | | | | | | | | |
| Q19 | OFF | ON | | | | | | | | | | | | |
| Q20 | OFF | ON | | | | | | | | | | | | |
| Q21 | ON | OFF | | | | | | | | | | | | |
| Q19-21 | REC/PLAY control | During REC and REC PAUSE, the R/P terminal at microprocessor IC8 pin 5 goes "L", turning Q21 ON. | | | | | | | | | | | | |
| | | <table border="1"> <tr> <td></td> <td>REC, REC PAUSE</td> <td>OTHERS</td> </tr> <tr> <td>Q19</td> <td>OFF</td> <td>ON</td> </tr> <tr> <td>Q20</td> <td>OFF</td> <td>ON</td> </tr> <tr> <td>Q21</td> <td>ON</td> <td>OFF</td> </tr> </table> | | REC, REC PAUSE | OTHERS | Q19 | OFF | ON | Q20 | OFF | ON | Q21 | ON | OFF |
| | | | REC, REC PAUSE | OTHERS | | | | | | | | | | |
| Q19 | OFF | ON | | | | | | | | | | | | |
| Q20 | OFF | ON | | | | | | | | | | | | |
| Q21 | ON | OFF | | | | | | | | | | | | |
| <table border="1"> <tr> <td></td> <td>NOR</td> <td>CrO₂</td> <td>METAL</td> </tr> <tr> <td>Q22</td> <td>ON</td> <td>ON</td> <td>OFF</td> </tr> <tr> <td>Q23</td> <td>ON</td> <td>OFF</td> <td>OFF</td> </tr> </table> | | NOR | CrO ₂ | METAL | Q22 | ON | ON | OFF | Q23 | ON | OFF | OFF | | |
| | NOR | CrO ₂ | METAL | | | | | | | | | | | |
| Q22 | ON | ON | OFF | | | | | | | | | | | |
| Q23 | ON | OFF | OFF | | | | | | | | | | | |
| Q22, 23 | Bias level control | The statuses depend on the tape detector switch in the mechanism: | | | | | | | | | | | | |
| | | <table border="1"> <tr> <td></td> <td>NOR</td> <td>CrO₂</td> <td>METAL</td> </tr> <tr> <td>Q22</td> <td>ON</td> <td>ON</td> <td>OFF</td> </tr> <tr> <td>Q23</td> <td>ON</td> <td>OFF</td> <td>OFF</td> </tr> </table> | | NOR | CrO ₂ | METAL | Q22 | ON | ON | OFF | Q23 | ON | OFF | OFF |
| | | | NOR | CrO ₂ | METAL | | | | | | | | | |
| Q22 | ON | ON | OFF | | | | | | | | | | | |
| Q23 | ON | OFF | OFF | | | | | | | | | | | |
| <table border="1"> <tr> <td></td> <td>REC, REC PAUSE</td> <td>OTHERS</td> </tr> <tr> <td>Q24</td> <td>ON</td> <td>OFF</td> </tr> <tr> <td>Q25</td> <td>OFF</td> <td>ON</td> </tr> <tr> <td>Q26</td> <td>ON</td> <td>OFF</td> </tr> </table> | | REC, REC PAUSE | OTHERS | Q24 | ON | OFF | Q25 | OFF | ON | Q26 | ON | OFF | | |
| | REC, REC PAUSE | OTHERS | | | | | | | | | | | | |
| Q24 | ON | OFF | | | | | | | | | | | | |
| Q25 | OFF | ON | | | | | | | | | | | | |
| Q26 | ON | OFF | | | | | | | | | | | | |
| Q24-26 | Bias oscillation control | During REC and REC PAUSE, the BIAS terminal at microprocessor IC8 pin 4 goes "L", turning the transistors as follows: | | | | | | | | | | | | |
| | | <table border="1"> <tr> <td></td> <td>REC, REC PAUSE</td> <td>OTHERS</td> </tr> <tr> <td>Q24</td> <td>ON</td> <td>OFF</td> </tr> <tr> <td>Q25</td> <td>OFF</td> <td>ON</td> </tr> <tr> <td>Q26</td> <td>ON</td> <td>OFF</td> </tr> </table> | | REC, REC PAUSE | OTHERS | Q24 | ON | OFF | Q25 | OFF | ON | Q26 | ON | OFF |
| | | | REC, REC PAUSE | OTHERS | | | | | | | | | | |
| | | Q24 | ON | OFF | | | | | | | | | | |
| Q25 | OFF | ON | | | | | | | | | | | | |
| Q26 | ON | OFF | | | | | | | | | | | | |
| <table border="1"> <tr> <td></td> <td>Immediately after power ON</td> <td>Immediately after power OFF</td> </tr> <tr> <td>Q27</td> <td>ON "L" for specified period, then OFF</td> <td>ON "L" for specified period, then OFF</td> </tr> <tr> <td>Q28</td> <td>OFF for specified period, then ON</td> <td>After OFF for specified period, ON, then ON</td> </tr> <tr> <td>Q29</td> <td>ON</td> <td>OFF</td> </tr> </table> | | Immediately after power ON | Immediately after power OFF | Q27 | ON "L" for specified period, then OFF | ON "L" for specified period, then OFF | Q28 | OFF for specified period, then ON | After OFF for specified period, ON, then ON | Q29 | ON | OFF | | |
| | Immediately after power ON | Immediately after power OFF | | | | | | | | | | | | |
| Q27 | ON "L" for specified period, then OFF | ON "L" for specified period, then OFF | | | | | | | | | | | | |
| Q28 | OFF for specified period, then ON | After OFF for specified period, ON, then ON | | | | | | | | | | | | |
| Q29 | ON | OFF | | | | | | | | | | | | |
| When turning power ON/OFF, "L" is applied to RESET at microprocessor IC8 pin 22 to reset the microprocessor. | | | | | | | | | | | | | | |
| Q30 | Reel motor drive voltage control | During REC and PLAY, goes ON setting the voltage at reel motor drive IC7 pin 4 to +4.0 V. The voltage is 5.7 to 6.2 V in other modes. | | | | | | | | | | | | |
| Q31, 32 | Rotation detector amp | 5 rotation pulses per reel rotation are supplied from the mechanism. This amp shapes these pulses into a waveform suitable for the microprocessor. | | | | | | | | | | | | |
| Q33 | LINE MUTE drive | Controlled by output LM from microprocessor IC8 pin 2. | | | | | | | | | | | | |
| | | <table border="1"> <tr> <td></td> <td>REC/PLAY/REC PAUSE</td> <td>OTHERS</td> <td>Power ON/OFF</td> </tr> <tr> <td>Q33</td> <td>OFF</td> <td>ON</td> <td>ON</td> </tr> </table> | | REC/PLAY/REC PAUSE | OTHERS | Power ON/OFF | Q33 | OFF | ON | ON | | | | |
| | REC/PLAY/REC PAUSE | OTHERS | Power ON/OFF | | | | | | | | | | | |
| Q33 | OFF | ON | ON | | | | | | | | | | | |
| Q34 | REC MUTE drive | During REC, output RM at microprocessor IC8 pin 1 goes "H", turning Q34 OFF. In other modes, Q34 is ON, turning Q1 and Q2 of the REC amp unit on Q12 (X87-1030-04 A/2). | | | | | | | | | | | | |

| Components | Use/Function | Operations/Condition/Interchangeability |
|------------|-----------------------------|--|
| Q35 | DPSS amp sensitivity switch | During PLAY, goes ON to increase the DPSS amp sensitivity. During CUE and REVIEW, goes OFF to decrease the DPSS amp sensitivity. |
| Q36 | +5 V supply | Regulated power supply of HI voltage for microprocessor and FL display. |
| Q37-39 | +9 V supply | Regulated power supply for signal amps (Q37 for control, Q39 for constant current, Q38 for error detection). |
| Q40-42 | +9 V supply | Regulated power supply for signal amps. Together with Q37 to Q39, form the tracking power supply. |
| Q43, 44 | +12 V supply | Regulated power supply for mechanism power and other +ve power systems. |
| Q45, 46 | +16.5 V supply | Regulated power supply of LO voltage for FL display circuit. |
| IC1 | Output buffer amp | |
| IC2 | MIC amp | |
| IC3 | P-CUES amp | |
| IC4 | Dolby filter, buffer amp | |
| IC5 | DPSS amp | Pin 1 outputs "L" when non-recorded blank is detected, and "H" when recorded signal is detected. |
| IC6 | Assist motor drive | |
| IC7 | Reel motor drive | |
| IC8 | Microprocessor | |

Dolby Unit (X30-1270-00)

| Components | Use/Function | Operations/Condition/Interchangeability |
|------------|-------------------------------|---|
| Q1-4 | Dolby filter ON/OFF switch | ON when filter is ON. |
| IC1 | Dolby B/C encoder/decoder amp | |

Meter Amp Unit (X87-1020-00)

| Components | Use/Function | Operations/Condition/Interchangeability |
|------------|---------------------------------|---|
| Q1 | METER MUTE switch | OFF during PLAY, REC and REC PAUSE, and ON in other modes. |
| IC1 | 1/2-exponential compressing amp | Outputs the DC voltage proportional to the AC input signal by 1/2 exponent. |
| IC2 | DC amp | Amplifies the IC1 output voltage to the required level. |

Record/Play Amp Unit (X87-1030-04)

| Components | Use/Function | Operations/Condition/Interchangeability |
|------------|------------------------------|---|
| Q1, 2 | REC MUTE switch | During PLAY, FF, PLAY PAUSE and REC PAUSE, the RM control terminal at microprocessor IC7 (X26-1182-71) pin 1 outputs "L", turning Q34 (X26-1182-71) ON. This applies "H" to the bases of Q1 and Q2, turning Q1 and Q2 ON. |
| Q3, 4 | Equalizer switch (for METAL) | Controlled by AUTO TAPE SEL (X26-1182-71) of Q17 and Q18. OFF with METAL tape, and ON with NORMAL and CrO ₂ tapes. |
| Q5, 6 | Play equalizer switch | Controlled by AUTO TAPE SEL (X26-1182-71) of Q17 and Q18. OFF with NORMAL tape (120 μs), and ON with CrO ₂ and METAL tapes (70 μs). |
| IC1 | Record equalizer amp | |
| IC2 | Play equalizer amp | |

BIAS OSC UNIT (X87-1190-00)

| 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. |

CIRCUIT DESCRIPTION

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. 1 shows an example of the improvement in the frequency response.

Outline of μ PC1297CA (X87-1190-01:IC1)

Dolby HX-PRO System and Construction/Operation of the μ PC1297CA

The system construction diagram is shown in Fig. 2 and the outline of operation is shown in Fig. 3. 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.

Dolby HX-PRO System Circuit

The μ PC1297CA 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. $V_{CC} = 8 \sim 15 \sim 18V$.
- Two-channel Dolby HX-PRO system provided.

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 | COU2 | Comparator output pin 2 |
| 5 | CIN1 | Comparator input pin 1 | 14 | CIN2 | Comparator input pin 2 |
| 6 | COU1 | 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 |

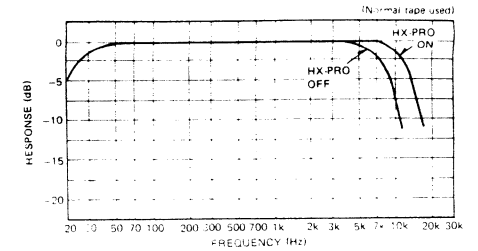


Fig. 1 Improvement example of the tape output frequency response with Dolby HX-PRO

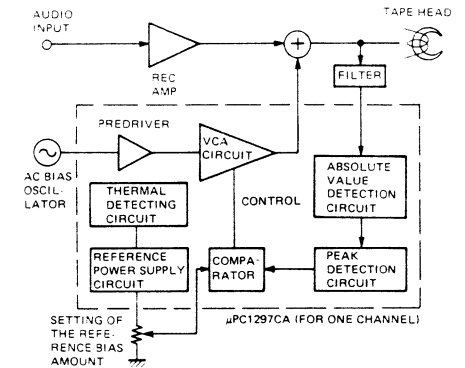


Fig. 2 System configuration of Dolby HX-PRO

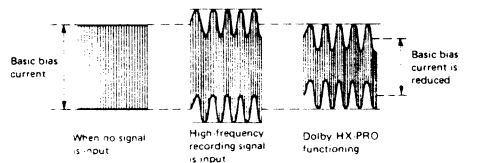


Fig. 3 Operation principle of Dolby HX-PRO

- Lower 2nd harmonics distortion. $-70dB$ 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).

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 dampened 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 | (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 | | | | | | | |
| 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 | BIAS CURRENT | (A) 1kHz, -30dBs 10kHz, -30dBs | (B) | Adjust REC LEVEL VR (MASTER, PRESET) 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) (X87-119) | 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. | |
| 3 | RECORD LEVEL | (A) 1kHz, 30dBs | (B) | Record and reproduce a 1kHz signal under the conditions set in <2> | VR1 (L) VR2 (R) (X87-103 A/2) | Adjust the variable resistors so that a playback level of -24dBs is obtained. | |
| 4 | FL PEAK LEVEL METER | (A) 1kHz, 10dBs | (B) | REC PAUSE Adjust REC and LEVEL VR so that the monitor output is -4dBs at 1kHz. | VR1 (X87-102) | 0dB LED segment is completely lit. | |
| IV μ-COM CLOCK ADJ | | | | | | | |
| 1 | CLOCK ADJ | - | TP3 | - | VR7 (X26-118) | 138Hz | (c) |

REGLAGE

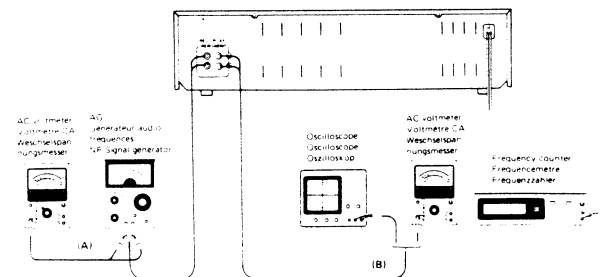
| N° | ITEM | REGLAGE DE L'ENTREE | REGLAGE DE LA SORTIE | REGLAGE DU MAGNETOPHONE A CASSETTE | POINTS DE L'ALIGNEMENT | ALIGNER POUR | FIG. |
|---|------------------------------------|--|----------------------|---|--|--|------|
| SECTION DU MAGNETOPHONE TAPE: NORMAL, DOLBY: OFF, ENTREE: LINE, CALIBRAGE: 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, capstan, galet presseur | Nettoyer la tête d'ENREGISTREMENT/LECTURE la tête d'effacement, le capstan et le galet presseur avec un coton-tige légèrement imbibé d'alcool. | |
| 3 | AZIMUT | (A) MTT 114, TCC 153 10kHz, 10dB | (B) | PLAY | Vis d'azimut | Sortie maximale. | (a) |
| II MOTEUR CC | | | | | | | |
| 1 | VITESSE DE DEFILLEMENT | (A) 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 | | | | | | | |
| 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 | COURANT DE POLARISATION | (A) 1kHz, -30dBs 10kHz, -30dBs | (B) | Régler REC LEVEL VR (MASTER, PRESET) 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. | VR1 (G) VR2 (D) (X87-119) | Ajuster le courant de polarisation en ajustant VR pour que le niveau de lecture du signal 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. | |
| 3 | NIVEAU D'ENREGISTREMENT | (A) 1kHz, 30dBs | (B) | Enregistrer et reproduire un signal de 1kHz dans les conditions précisées en <2> | VR1 (G) VR2 (D) (X87-103 A/2) | Ajuster les résistances variables de façon à obtenir un niveau de lecture de -24dBs. | |
| 4 | INDICATEUR DE NIVEAU DE CRETE A FL | (A) 1kHz, 10dBs | (B) | REC PAUSE Ajuster REC et NIVEAU VR de façon à ce que la sortie moniteur soit de -4dBs à 1kHz. | VR1 (X87-102) | Le segment de FL 0dB soit complètement allumé. | |
| IV μ-COM MONTRE REGLAGE | | | | | | | |
| 1 | MONTRE REGLAGE | - | TP3 | - | VR7 (X26-118) | 138Hz | (c) |

ABGLEICH

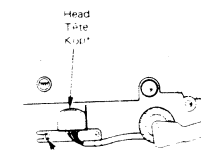
ADJUSTMENT/REGLAGE/ABGLEICH

| NR. | GEGENSTAND | EINGANGS-EINSTELLUNG | AUSGANGS-EINSTELLUNG | KASSETTENCERAT-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 | ENTMAGNETISIERUNG | - | - | POWER: OFF Den Kassettenfachdeckel oben herausziehen. | AUFNAHME/WIEDERGABE-Kopf | Entmagnetisierung von dem AUFNAHME, WIEDERGABE-Kopf mit einem Tonkopf-Entmagnetisierungsdrössel. | |
| 2 | REINIGUNG | - | - | PLAY | AUFNAHME/WIEDERGABE-Kopf, Löschkopf, Tonwelle und Andruckrolle. | AUFNAHME, WIEDERGABE-Kopf, Löschkopf, Tonwelle und Andruckrolle mit einem feuchten mit Alkohol befeuchteten Wattebausch reinigen. | |
| 3 | AZIMUT-EINSTELLUNG | (A) MTT 114, TCC 158 10kHz, 10dB | (B) | PLAY | Azimuth-Einstellschraube | Maximaler Ausgang | (A) |
| II GEHÖRHÖRMOTOR | | | | | | | |
| 1 | BANDGESCHWINDIGKEIT | (A) MTT 111, TCC 110 3kHz | (B) | PLAY | Trimmerpotentiometer am 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 | LEERLAUFSTROM | (A) 1kHz, -30dBs 10kHz, -30dBs | (B) | REC PEGEL VR (MASTER, PRESET) 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) (X87-119) | Den Vormagnetisierungsstrom-Regelwiderstand so einstellen, daß der Wiedergabepegel des 10kHz Signals um -0,5dB höher ist als der des 1kHz Signals, wenn ein 1kHz Signal und ein 10kHz Signal abwechselnd aufgenommen wurde. | |
| 3 | AUFNAHMEPEGEL | (A) 1kHz, -30dBs | (B) | Ein 1kHz Signal unter den in Punkt 2) beschriebenen Bedingungen aufnehmen und reproduzieren. | VR1 (L) VR2 (R) (X87-103 A/2) | Die Regelwiderstände so justieren, daß ein Wiedergabepegel von 24dBs erzielt wird. | |
| 4 | FL SPITZEN-PEGELMESSER | (A) 1kHz, -10dBs | (B) | REC PAUSE REC und PEGEL VR so einstellen, daß der Monitorausgang bei 1kHz, -4dBs ist. | VR1 (X87-1020) | Die Regelwiderstände so justieren, daß das 0dB Segment vollständig leuchtet. | |
| IV z. COM CHR ABGLEICH | | | | | | | |
| 1 | CHR ABGLEICH | - | TP3 | - | VR7 (X26-118) | 138Hz | (e) |

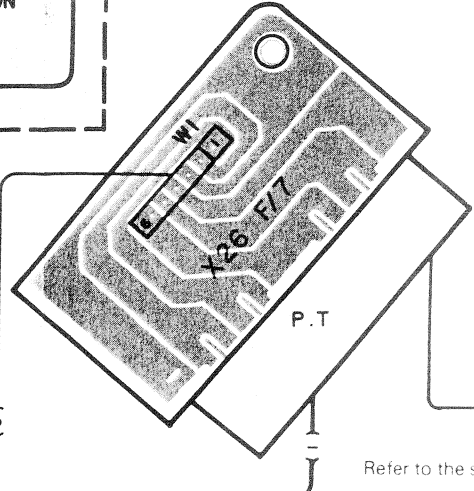
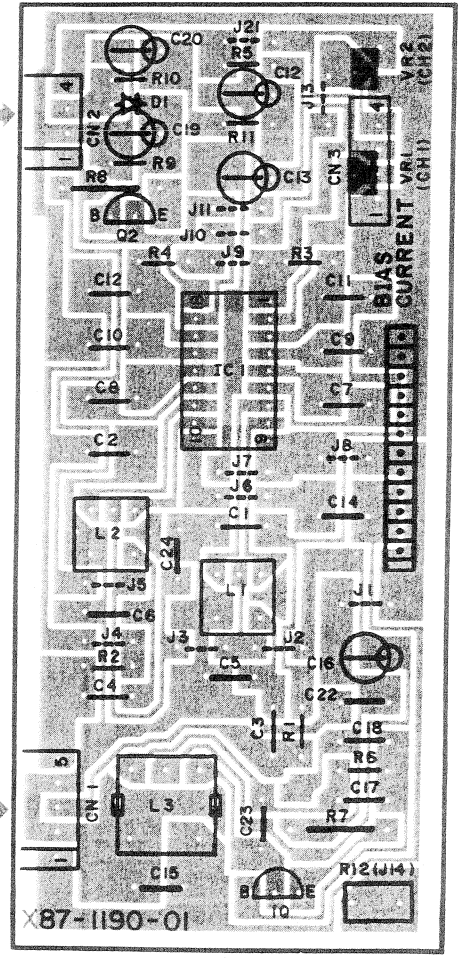
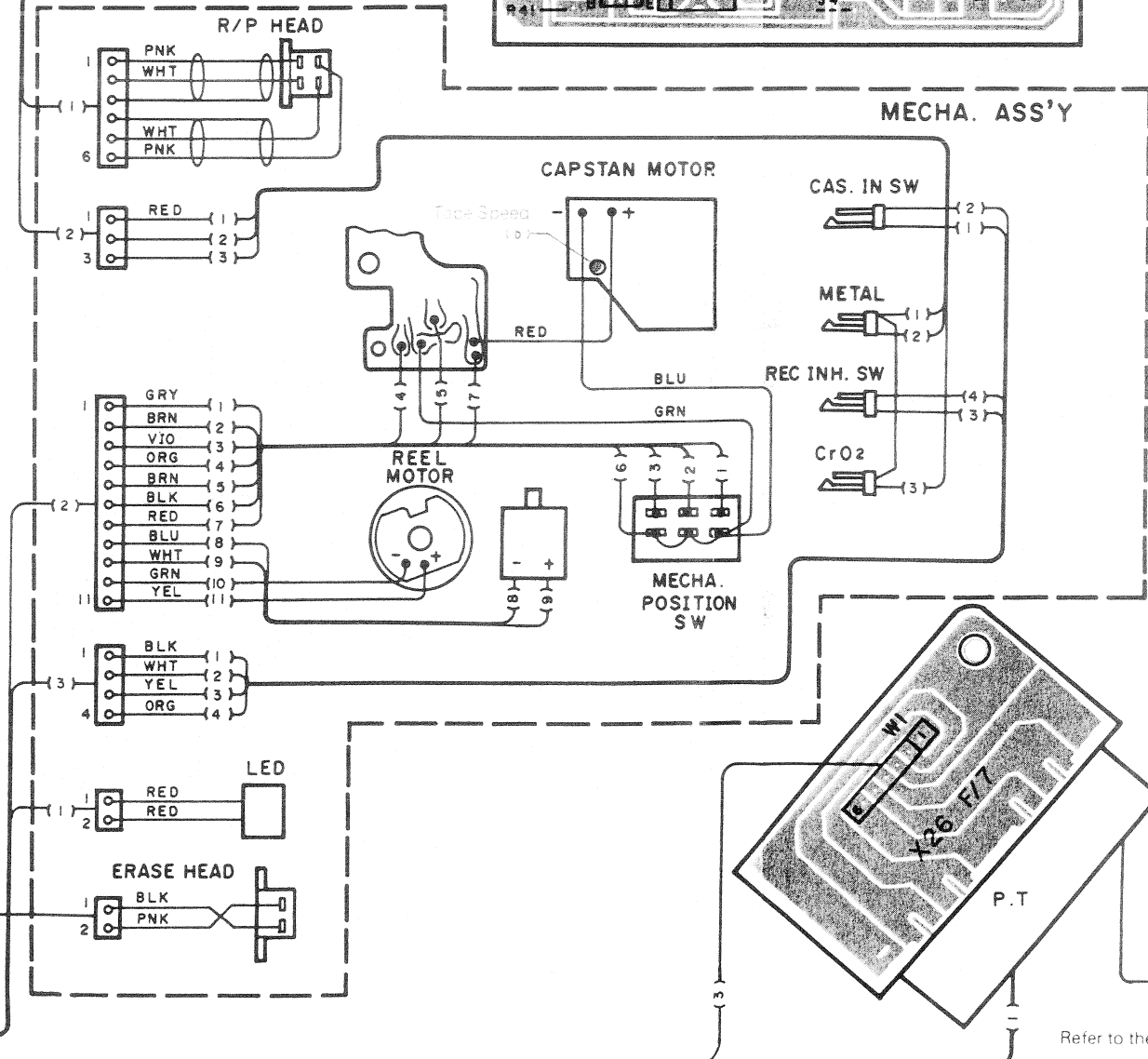
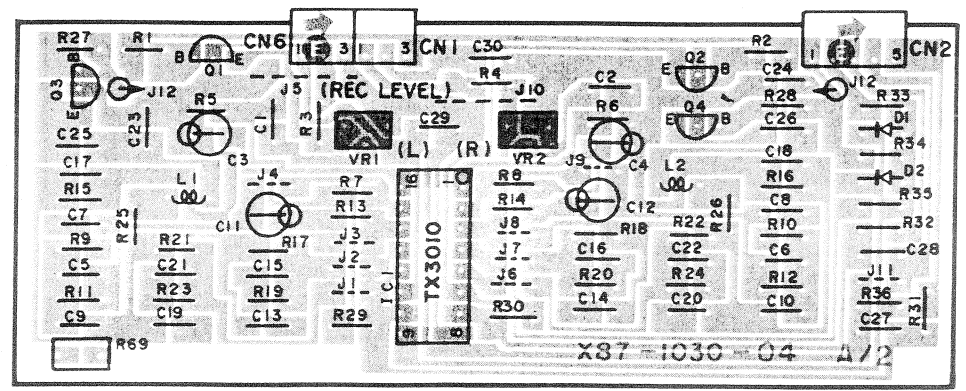
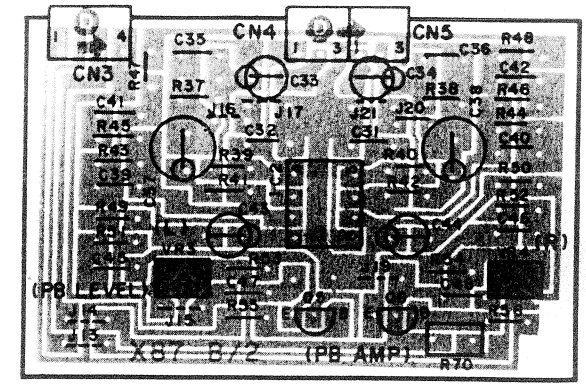
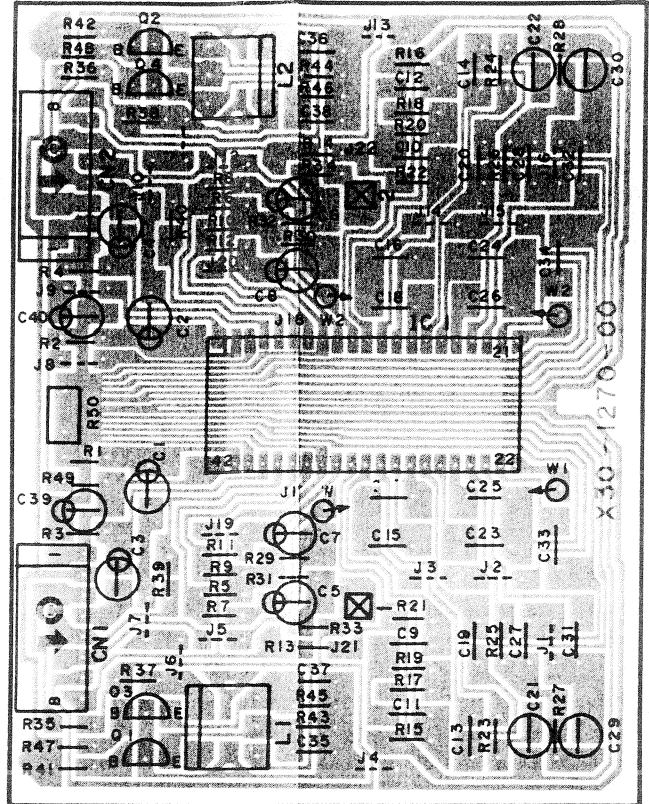
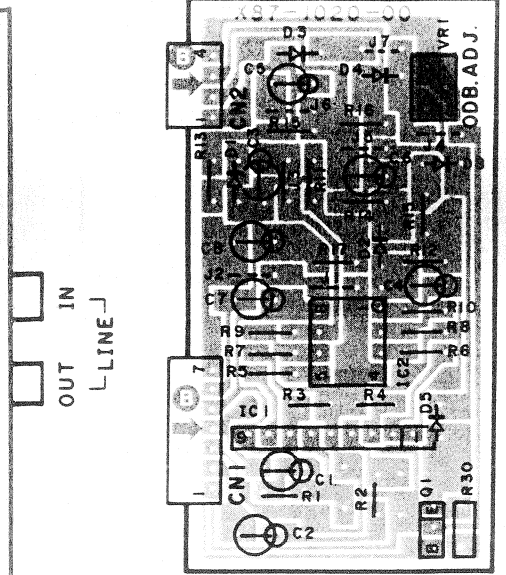
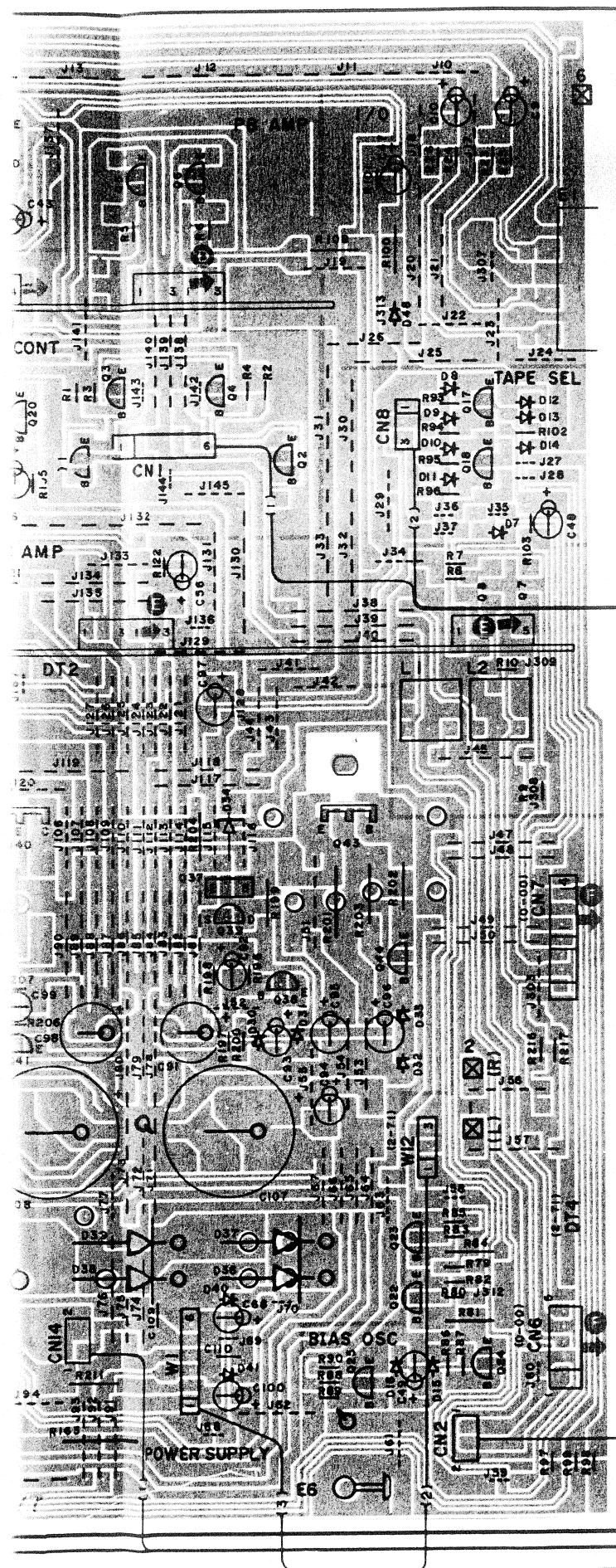
SYSTEM CONNECTION



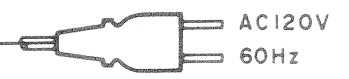
(a) AZIMUTH



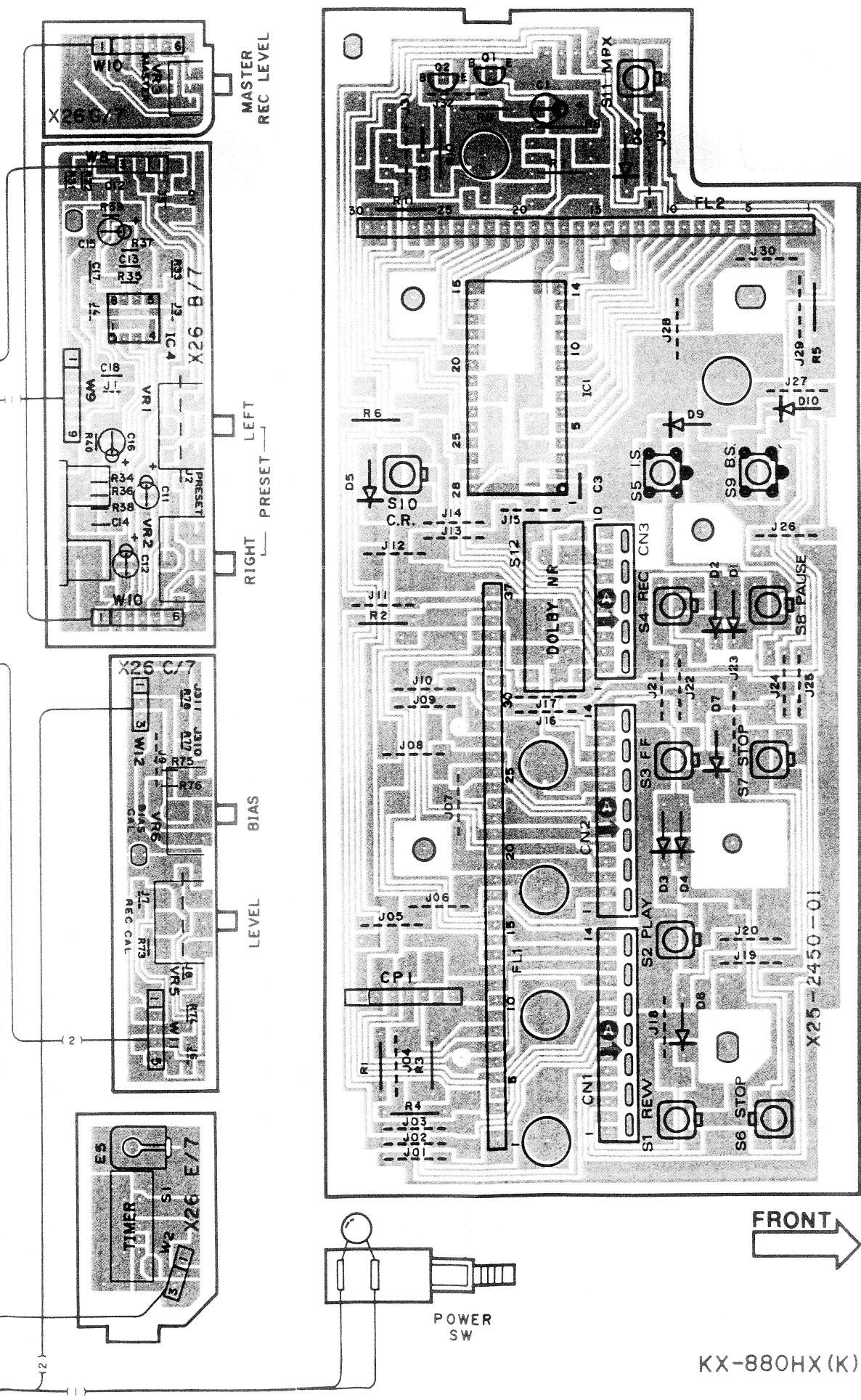
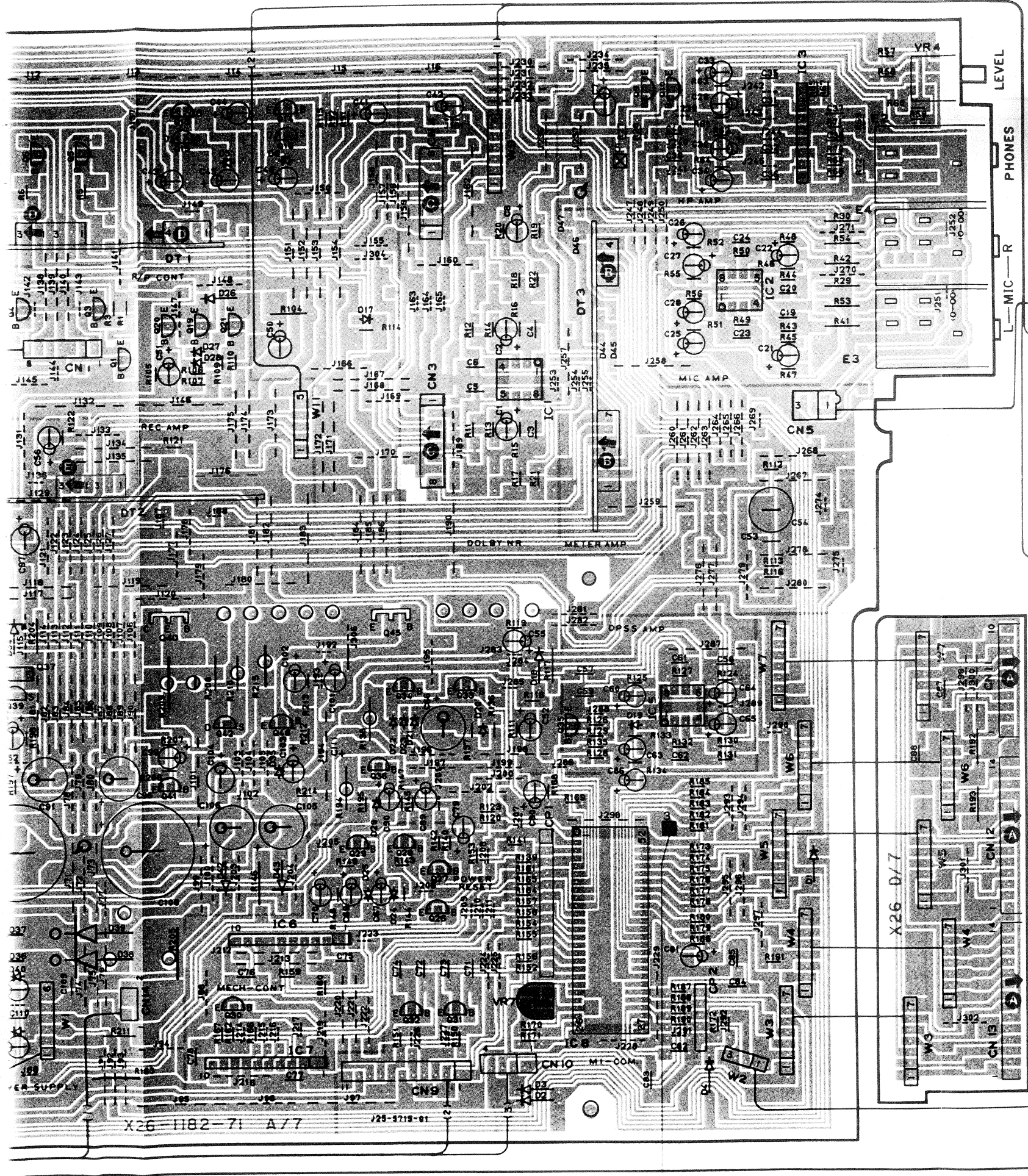
(a) Azimuth screw
Zur Einstellung
Kopfazimutschraube



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



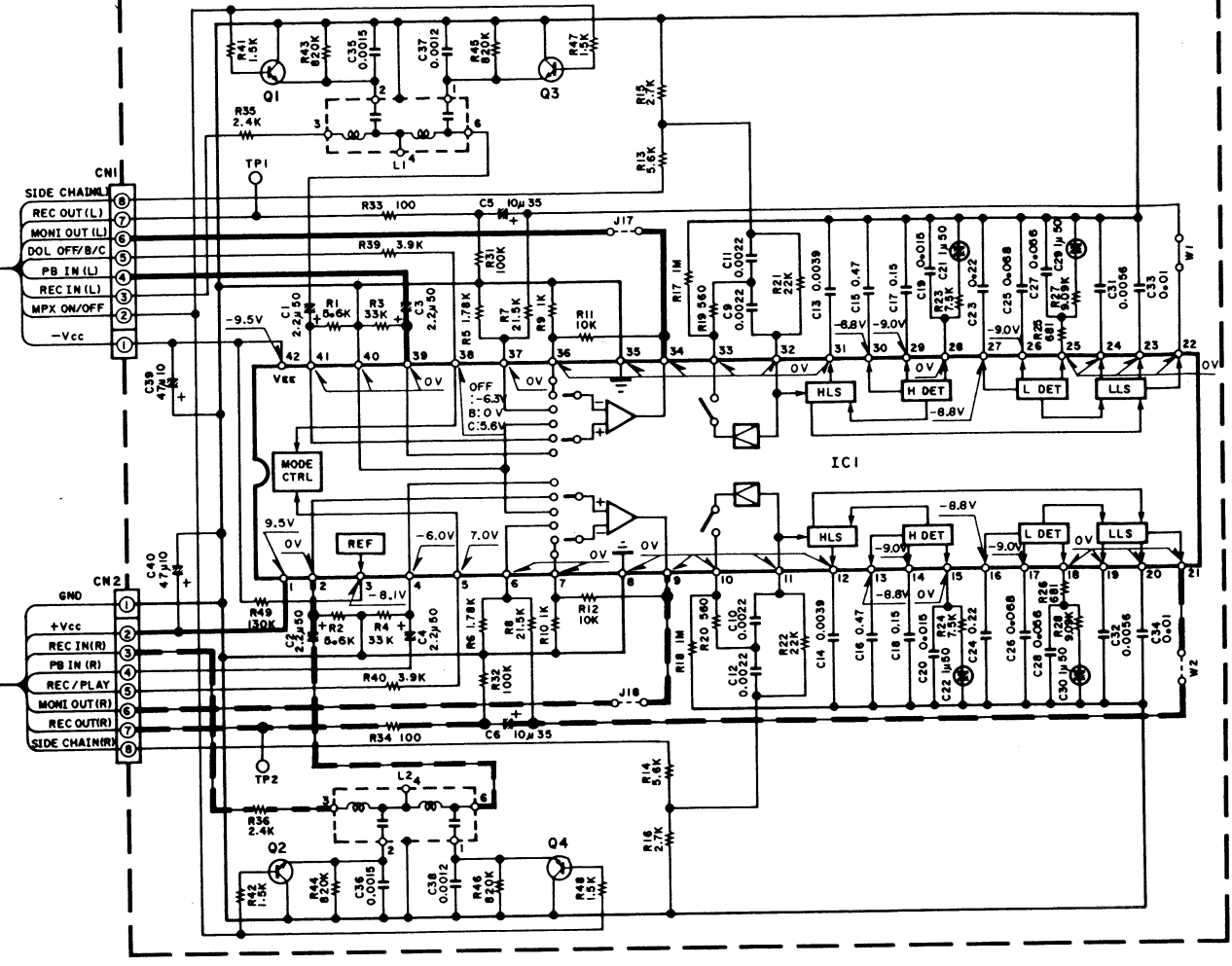
KX-880HX (K)



KX-880HX (K)

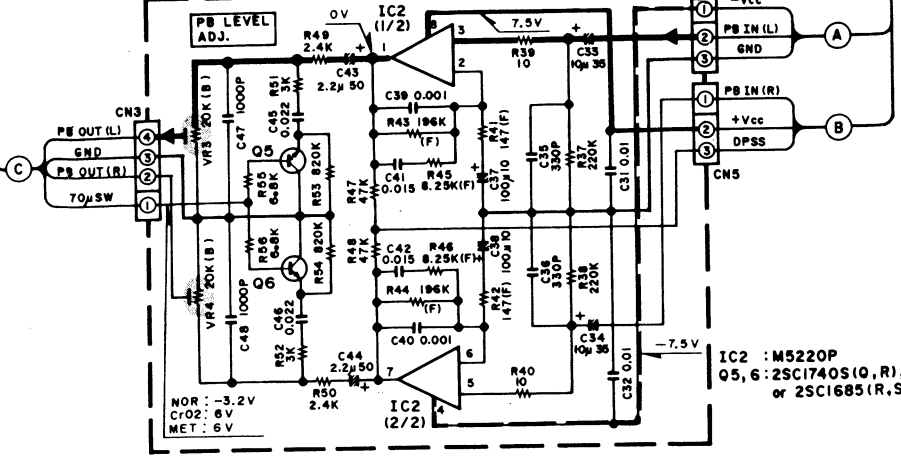
A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
P

DOLBY NR UNIT (X30-1270-00)



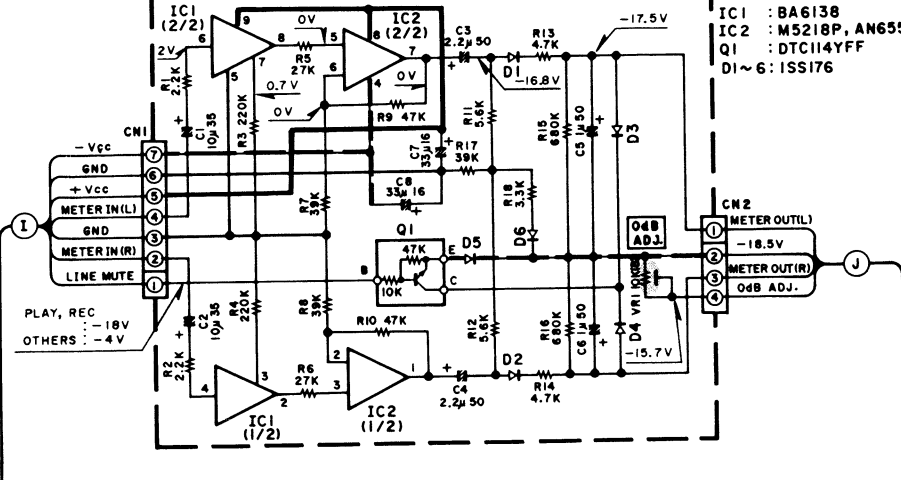
IC1 : CX20188
Q1~4 : 2SC1740S(I, R) or 2SC945(A)(Q, P)

REC/PLAY AMP UNIT (PB AMP) (X87-1030-04) (B/2)



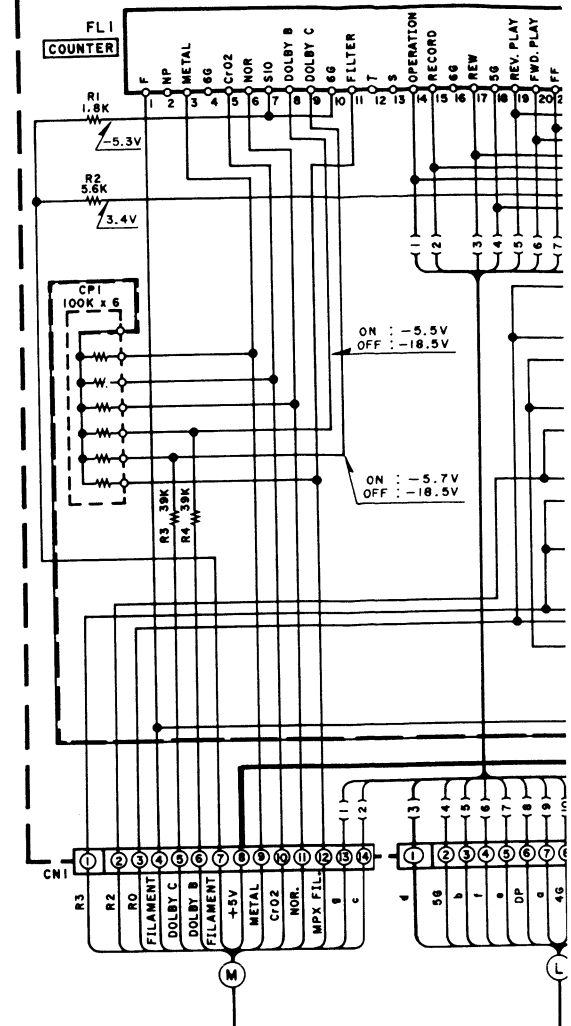
IC2 : M5220P
Q5, 6 : 2SC1740S(I, R), 2SC945(A)(Q, P) or 2SC1685(R, S)

METER AMP UNIT (X87-1020-00)

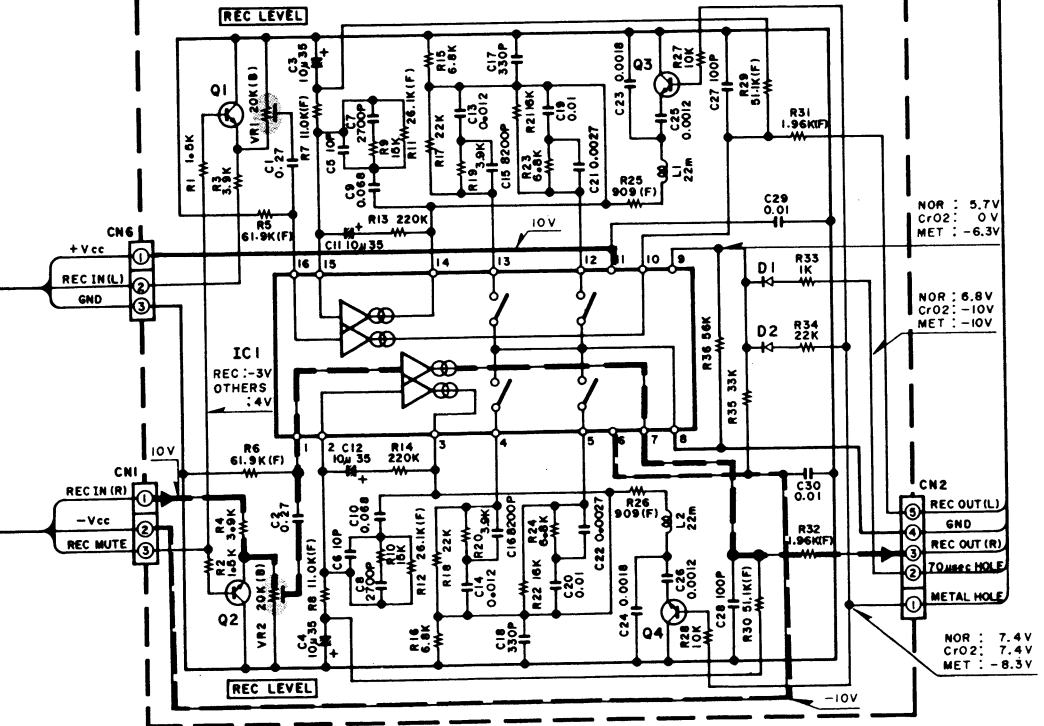


IC1 : BA6138
IC2 : M5218P, AN6556 or NJM4558D
Q1 : DTCI4YFF
D1~6 : ISS176

DISPLAY UNIT (X25-2450-01)

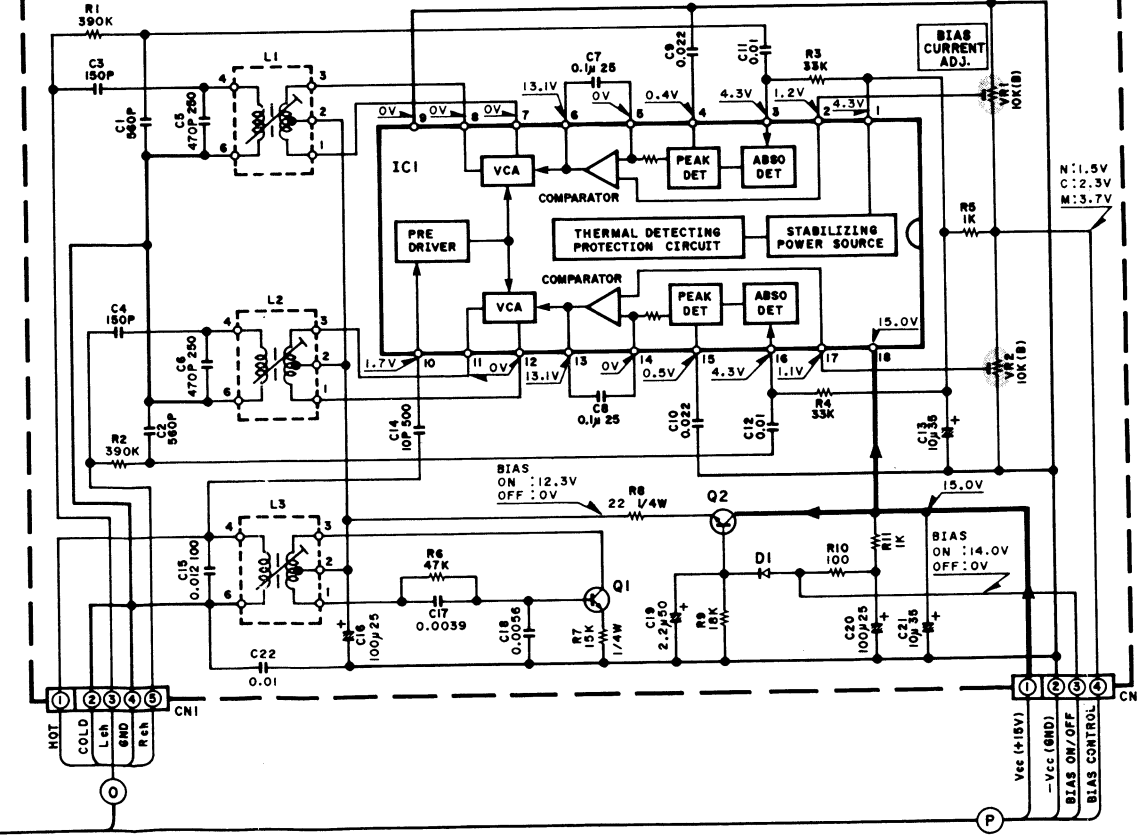


REC/PLAY AMP UNIT (REC AMP) (X87-1030-04) (A/2)

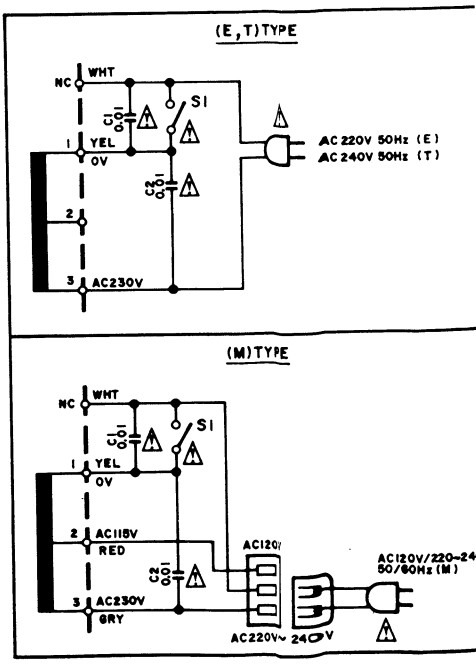


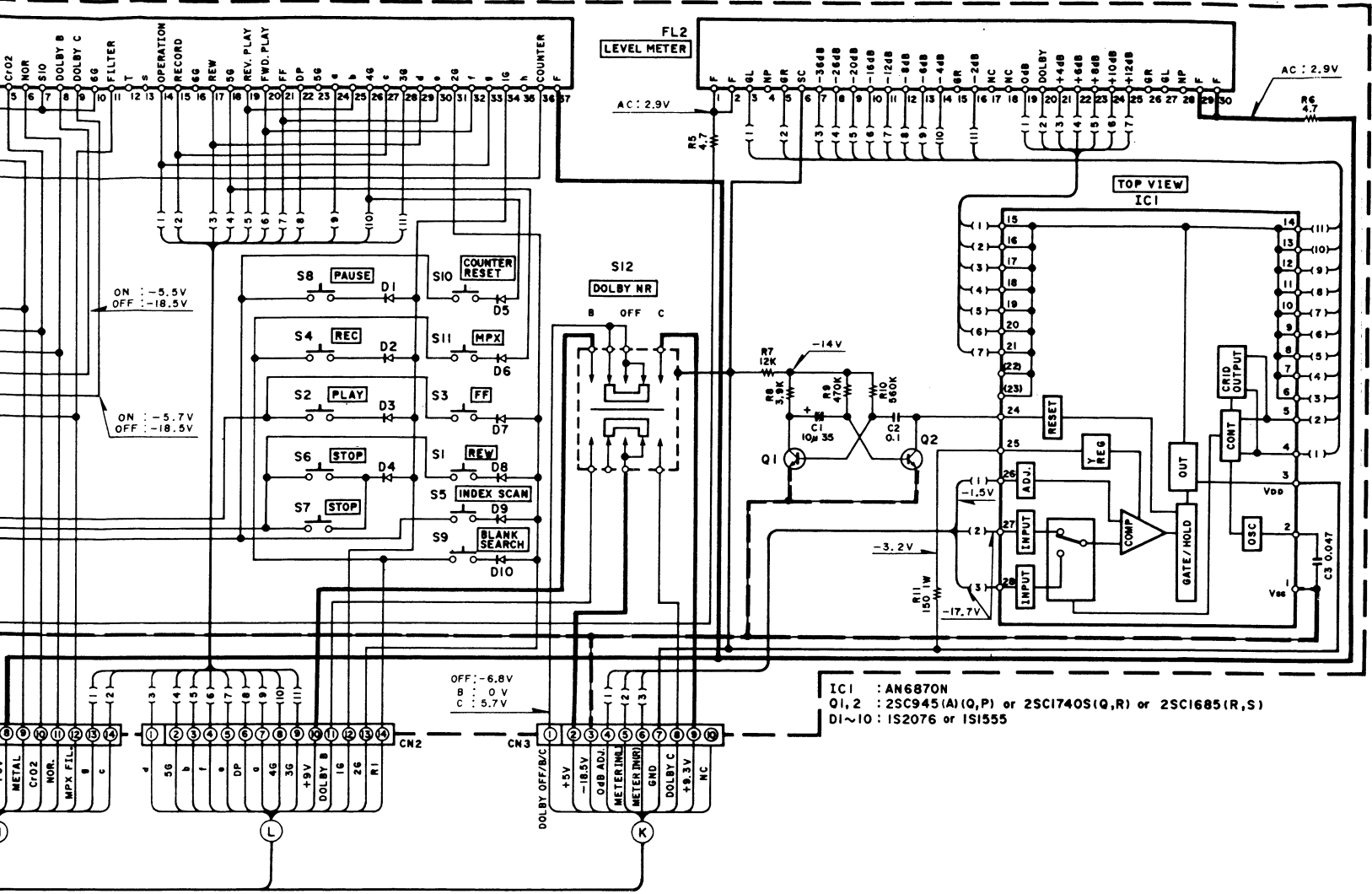
IC1 : TX5010N
Q1~4 : 2SC1740S(Q, R) or 2SC945(A)(Q, P) or 2SC1685(R, S)
D1, 2 : ISS176

BIAS OSC UNIT (X87-1190-01)

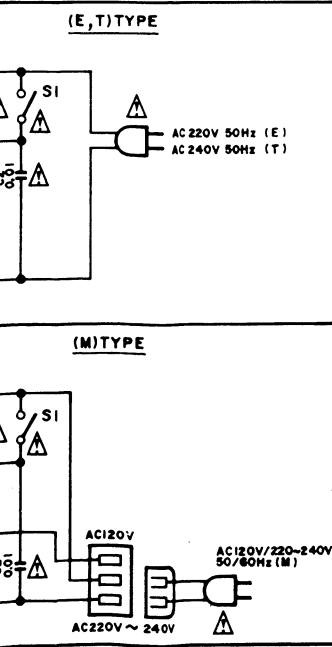


IC1 : μ PC1297CA
Q1, 2 : 2SD863(E, F)
D1 : ISS176 or ISS133





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



IC1 : AN6870N
 Q1, 2 : 2SC945 (A) (Q,P) or 2SC1740S (Q,R) or 2SC1685 (R,S)
 D1~10 : IS2076 or IS1555

- | | | | |
|--------------|--|--------------|--|
| 2SA733 (A) | | BA6138 | |
| 2SA954 | | | |
| 2SA992 | | | |
| 2SC1685 | | AN6556 | |
| 2SC1845 | | M5218P | |
| 2SC2003 | | M5218P-A | |
| 2SC2878 | | M5220P | |
| 2SC945 (A) | | | |
| 2SD1302 | | | |
| 2SD863 | | | |
| 2SB772-1 | | | |
| | | M5218L | |
| 2SD1266 | | | |
| | | CX20188 | |
| DTC114YFF | | | |
| | | 2SK163 | |
| | | 2SK364 | |
| 2SA933S | | | |
| 2SC1740S | | BA6209 | |
| | | BA6229 | |
| NJM4558D | | | |
| NJM4558D (A) | | UPC1297CA | |
| AN6870N | | | |
| | | M50757-401SP | |
| TX3010N | | | |

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

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

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

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.

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



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-880HX | | | | | | |
| 201 | 1D | | A01-1348-02 | METALLIC CABINET | | |
| 202 | 2D | * | A20-5375-03 | PANEL ASSY | | |
| 203 | 2D | * | A53-0986-03 | CASSETTE LID ASSY | | |
| 204 | 1E | | A53-0629-33 | CASSETTE HOLDER ASSY | | |
| 208 | 2D | | B07-1411-02 | ESCUTCHEON (L MTR, DISP, KNØB) | | |
| - | | | B46-0121-03 | WARRANTY CARD | P | |
| - | | | B46-0122-13 | WARRANTY CARD | E | |
| - | | | B46-0143-03 | WARRANTY CARD | T | |
| - | | * | B50-8588-00 | INSTRUCTION MANUAL (ENGLISH) | | |
| - | | * | B50-8589-00 | INSTRUCTION MANUAL (FRENCH) | PME | |
| - | | * | B50-8590-00 | INSTRUCTION MANUAL (SPANISH) | M | |
| - | | * | B50-8591-00 | INSTRUCTION MANUAL (G, D, I) | E | |
| △ C1 .2 | | | C91-0023-05 | CERAMIC 0.01UF AC250V | M | |
| △ C1 .2 | | | C91-0647-05 | CERAMIC 0.01UF P | PTE | |
| 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 CARD | | |
| △ 219 | 1F | | E30-0459-05 | AC POWER CORD | E | |
| △ 219 | 1F | | E30-0780-05 | AC POWER CORD | P | |
| △ 219 | 1E | | E30-1305-15 | AC POWER CORD (INLET) | M | |
| △ 219 | 1F | | E30-1416-05 | AC POWER CORD | T | |
| 223 | 1E | | G01-1741-04 | TORSION COIL SPRING (LEVER) | | |
| 224 | 1E | | G01-1742-04 | TORSION COIL SPRING (CASET HOLD) | | |
| - | | * | H01-7701-04 | ITEM CARTON CASE | | |
| - | | * | H10-1827-12 | POLYSTYRENE FRAMED FIXTURE | | |
| - | | * | H10-1828-12 | POLYSTYRENE FRAMED FIXTURE | | |
| - | | | H20-0417-14 | PROTECTION COVER (460X370X360) | M | |
| - | | | H20-0224-04 | PROTECTION BAG (800X400X0.03) | PTE | |
| - | | | H25-0232-04 | PROTECTION BAG (235X350X0.03) | | |
| 229 | 2E, 2F | | J02-0190-15 | FOOT | | |
| 230 | 2F | | J19-2536-05 | UNIT HOLDER (PCB) | | |
| 232 | 2E | | J21-3326-05 | JACK MOUNTING HARDWARE (PHONES) | | |
| △ 235 | 1F | | J42-0083-05 | POWER CORD BUSHING | PTE | |
| - | | | J61-0307-05 | WIRE BAND | | |
| 239 | 2D | | K27-1082-04 | KNØB (BUTTON) POWER | | |
| 240 | 2D | | K27-1594-04 | KNØB (BUTTON) DOLBY NR | | |
| 242 | 2E | | K27-1525-04 | KNØB (BUTTON) COUNTER RESET | | |
| 243 | 2D | | K29-1822-14 | KNØB (BUTTON) MASTER REL. LEVEL | | |
| 244 | 2D | | K29-1833-14 | KNØB (BUTTON) PLAY | | |
| 245 | 2E | | K29-1865-14 | KNØB (BUTTON) FF | | |
| 246 | 2D | | K29-1866-14 | KNØB (BUTTON) REV | | |
| 247 | 2E | | K29-1890-04 | KNØB (BUTTON) REC | | |
| 248 | 2E | | K29-1891-14 | KNØB (BUTTON) PAUSE | | |
| 249 | 2D | | K29-2000-14 | KNØB (BUTTON) PRESET | | |
| 250 | 2D | | K29-2200-04 | KNØB (BUTTON) EJECT | | |
| 251 | 2D | | K29-2201-04 | KNØB (BUTTON) STOP LEVEL | | |
| 252 | 2E | | K29-2202-14 | KNØB (BUTTON) STOP | | |
| 253 | 2D | | K29-2203-04 | KNØB (BUTTON) MPX FILTER | | |

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 component.

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 | Destination 仕向 | Remarks 備考 |
|------------------|---------------|----------------|-------------------|-----------------------------------|-------------------|---------------|
| R209 | | | RS14KB3D150J | FL-PROOF RS 15 J 2W | | |
| R210 | | | RD14AB2E331J | FL-PROOF RD 330 J 1/4W | | |
| R211 | | | R92-0228-05 | FUSE RESIST 100 G 1/4W | | |
| R215 | | | RS14DB3A182J | FL-PROOF RS 1.8k J 1W | | |
| VR1 -2 | 2E | | R01-4032-05 | POTENTIOMETER 50K WREC LVL. PRES | | |
| VR3 | 2E | | R10-5020-05 | POTENTIOMETER 100K X2 WREC LVL | | |
| VR4 | 2E | | R10-3023-05 | POTENTIOMETER 10K X2 PHANES LVL | | |
| VR5 | 2E | | R06-2015-05 | POTENTIOMETER 5K X2 BIAS-CAL (BR) | | |
| VR6 | 2E | | R01-3043-05 | POTENTIOMETER 10K BIAS | | |
| VR7 | | | R12-3126-05 | TRIMMING POT. 100K (CLOCK ADJ) | | |
| S1 | 2D | | S31-2062-15 | SLIDE SWITCH (TIMER) | | |
| D1 -4 | | | 1SS133 | DIODE | | |
| D1 -4 | | | 1SS176 | DIODE | | |
| D5 -6 | | | HZ5B. 2S(B2) | ZENER DIODE | | |
| D5 -6 | | | RDB. 2JS(B2) | ZENER DIODE | | |
| D7 -11 | | | 1SS133 | DIODE | | |
| D7 -11 | | | 1SS176 | DIODE | | |
| D13 -22 | | | 1SS176 | DIODE | | |
| D13 -22 | | | HZ5S. 1N(B2) | ZENER DIODE | | |
| D23 | | | RDS. 1ES(B2) | ZENER DIODE | | |
| D23 | | | 1SS133 | DIODE | | |
| D24 -28 | | | 1SS176 | DIODE | | |
| D24 -28 | | | HZ5S. 6N(B2) | ZENER DIODE | | |
| D29 | | | RDS. 6ES(B2) | ZENER DIODE | | |
| D30 | | | HZ5S. 1N(B2) | ZENER DIODE | | |
| D30 | | | RDS. 1ES(B2) | ZENER DIODE | | |
| D31 | | | 1SS133 | DIODE | | |
| D31 | | | 1SS176 | DIODE | | |
| D32 | | | HZ5B. 2N(B2) | ZENER DIODE | | |
| D32 | | | RDB. 2ES(B2) | ZENER DIODE | | |
| D33 | | | HZ5S. 6N(B2) | ZENER DIODE | | |
| D33 | | | RDS. 6ES(B2) | ZENER DIODE | | |
| D34 | | | HZ5S. 9N(B) | ZENER DIODE | | |
| D34 | | | RDS. 9ES(B) | ZENER DIODE | | |
| D35 | | | HZ5S. 1N(B2) | ZENER DIODE | | |
| D35 | | | RDS. 1ES(B2) | ZENER DIODE | | |
| D36 -39 | | | GP20DLN | DIODE | | |
| D40 -41 | | | 1SS131 | DIODE | | |
| D40 -41 | | | 1SS178 | DIODE | | |
| D42 -43 | | | DSM1A1 | DIODE | | |
| IC1 | | | MS218P | IC (8P AMP X2) | | |
| IC2 | | | MS218P-A | IC (8P AMP X2) | | |
| IC2 | | | NJM4558D(A) | IC (8P AMP X2) | | |
| IC3 | | | MS218L | IC (8P AMP X2) | | |
| IC4 | | | MS218P-A | IC (8P AMP X2) | | |
| IC4 | | | NJM4558D(A) | IC (8P AMP X2) | | |
| IC5 | | | MS218P | IC (8P AMP X2) | | |
| IC5 | | | NJM4558D | IC (8P AMP X2) | | |
| IC6 | | | BA6209 | IC (MOTOR DRIVER) | | |
| IC7 | | | BA6229 | IC (MOTOR DRIVER) | | |
| IC8 | | | MS0757-4015P | IC (MICROPROCESSOR) | | |
| Q1 -6 | | | 2SC1845(F,E) | TRANSISTOR | | |
| Q9 -10 | | | 2SC2878(B) | TRANSISTOR | | |

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 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 | Destination 仕向 | Remarks 備考 |
|---|---------------|----------------|-------------------|-----------------------|-------------------|---------------|
| Q9 -10 | | | 2SD1302(S,T) | TRANSISTOR | | |
| Q13 | | | 2SC1740S(Q,R) | TRANSISTOR | | |
| Q13 | | | 2SC945(A)(Q,P) | TRANSISTOR | | |
| Q14 | | | 2SA733(A)(Q,P) | TRANSISTOR | | |
| Q14 | | | 2SA933S(Q,R) | TRANSISTOR | | |
| Q15 -16 | | | 2SK163(M,N) | FET | | |
| Q15 -16 | | | 2SK364(BL,V) | FET | | |
| Q17 -19 | | | 2SA733(A)(Q,P) | TRANSISTOR | | |
| Q17 -19 | | | 2SA933S(Q,R) | TRANSISTOR | | |
| Q20 | | | 2SA992(F,E) | TRANSISTOR | | |
| Q21 | | | 2SA733(A)(Q,P) | TRANSISTOR | | |
| Q21 | | | 2SA933S(Q,R) | TRANSISTOR | | |
| Q22 -25 | | | 2SC1740S(Q,R) | TRANSISTOR | | |
| Q22 -25 | | | 2SC945(A)(Q,P) | TRANSISTOR | | |
| Q26 | | | 2SA733(A)(Q,P) | TRANSISTOR | | |
| Q26 | | | 2SA933S(Q,R) | TRANSISTOR | | |
| Q27 -32 | | | 2SC1740S(Q,R) | TRANSISTOR | | |
| Q27 -32 | | | 2SC945(A)(Q,P) | TRANSISTOR | | |
| Q33 -34 | | | 2SA733(A)(Q,P) | TRANSISTOR | | |
| Q33 -34 | | | 2SA933S(Q,R) | TRANSISTOR | | |
| Q35 | | | 2SC1740S(Q,R) | TRANSISTOR | | |
| Q35 | | | 2SC945(A)(Q,P) | TRANSISTOR | | |
| Q36 | | | 2SD863(E,F) | TRANSISTOR | | |
| Q37 | | | 2SD1266(Q,P) | TRANSISTOR | | |
| Q38 | | | 2SC2003(L,K) | TRANSISTOR | | |
| Q39 | | | 2SK163(M,N) | FET | | |
| Q39 | | | 2SK364(BL,V) | FET | | |
| Q40 | | | 2SB772*1(Q,P) | TRANSISTOR | | |
| Q41 | | | 2SA954(L,K) | TRANSISTOR | | |
| Q42 | | | 2SK163(M,N) | FET | | |
| Q42 | | | 2SK364(BL,V) | FET | | |
| Q43 | | | 2SD1266(Q,P) | TRANSISTOR | | |
| Q44 | | | 2SC1740S(Q,R) | TRANSISTOR | | |
| Q44 | | | 2SC945(A)(Q,P) | TRANSISTOR | | |
| Q45 | | | 2SR772*1(Q,P) | TRANSISTOR | | |
| Q46 | | | 2SA954(L,K) | TRANSISTOR | | |
| DOLBY NOISE REDUCTION UNIT (X30-1270-00) | | | | | | |
| C1 -4 | | | CE04KW1H2R2M | ELECTOR | 2.2UF | 50WV |
| C5 -6 | | | CE04KW1U100M | ELECTOR | 10UF | 50WV |
| C7 -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 | | | CF90-1349-05 | 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 | | | CF90-1349-05 | NP-ELEC | 1UF | 50WV |
| C31 -32 | | | CF92FV1H562J | MF | 5600PF | J |
| C33 -34 | | | CF92FV1H103J | MF | 0.010UF | J |
| C35 -36 | | | CF92FV1H152J | MF | 1500PF | J |
| C37 -38 | | | CF92FV1H122J | MF | 1200PF | J |
| C39 -40 | | | CE04KW1A470M | ELECTOR | 47NF | 50WV |

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 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 |
|------------------|---------------|----------------|-------------------|---------------------------------|------------------------|--------------------|
| 9 | 2B | | D10-1616-08 | PINCH ARM | | |
| 10 | 2A | | U10-0321-08 | ARM ASSY | | |
| 11 | 2B | * | D10-2100-08 | HEAD BASE CALKED ASSY | | |
| 12 | 1A | | D10-0312-08 | LOCK PLATE | | |
| 13 | 2C | | D13-0080-08 | GEAR (LAMP) | | |
| 15 | 1B,2B | | D30-0012-08 | BRAKE (RUBBER) | | |
| 17 | 2A | | D90-0012-04 | STEEL BALL (Ø1) | | |
| 18 | 2A,2B | | D90-0020-04 | STEEL BALL (Ø2) | | |
| 19 | 2A | * | E31-4369-08 | CONNECTING WIRE (2P) HEAD | | |
| 20 | 2A | * | E31-3776-08 | CONNECTING WIRE (6P) R/P HEAD | | |
| 21 | 2A | * | G01-2199-08 | COMPRESSION SPRING (LOCK PLATE) | | |
| 22 | 2A | | G01-1919-08 | TORSION COIL SPRING | | |
| 23 | 2B | | G01-0483-08 | TENSION SPRING (R/P HEAD) | | |
| 24 | 2A | * | G01-2200-08 | TORSION SPRING | | |
| 25 | 2A | * | G01-2198-08 | COMPRESSION SPRING (AZIMUTH) | | |
| 26 | 1B | | G02-0095-08 | FLAT SPRING (CASSETTE) | | |
| 27 | 1C | | G02-0096-08 | FLAT SPRING (BACK TENSION) | | |
| 28 | 2A | | G02-0386-08 | FLAT SPRING (HEAD) | | |
| 36 | 2A | | J11-0059-08 | CLAMPER | | |
| 37 | 2A | | J13-0213-08 | SPACER (R/P HEAD) | | |
| 38 | 2A | | J13-0214-08 | SPACER (E HEAD) | | |
| 39 | 1C | | J21-3176-08 | MOUNTING HARDWARE (REEL DISK) | | |
| 40 | 1C | | J21-3177-08 | MOUNTING HARDWARE (LOCK LVR) | | |
| 41 | 1B | | J21-3785-08 | MOUNTING HARDWARE (FAF SW) | | |
| 44 | 2A | | J31-0269-08 | COLLAR | | |
| 45 | 1B | | J31-0268-08 | COLLAR | | |
| | | | J61-0307-05 | WIRE BAND | | |
| 47 | 2A | | N10-2090-46 | HEXAGON NUT (M9) | | |
| 48 | 2B | | N24-3020-45 | E TYPE RETAINING RING (PR ASSY) | | |
| 49 | 1A | | N24-3025-45 | E TYPE RETAINING RING | | |
| 50 | 1B | | N24-3030-45 | E TYPE RETAINING RING | | |
| 51 | 2A | * | N19-1123-08 | FLAT WASHER | | |
| 52 | 2A | * | N19-1122-08 | FLAT WASHER | | |
| 66 | 1B,1C | | N19-0335-08 | FLAT WASHER (Ø3.1) | | |
| 67 | 2A | | N19-0334-08 | FLAT WASHER (Ø1.8) REEL DISK | | |
| A | 1B,2B | | N09-1233-08 | SCREW (M2X4) | | |
| C | 1C | | N09-1228-08 | SCREW (M2.5X5) | | |
| E | 1C | | N09-1232-08 | SCREW (M2.6X3) | | |
| F | 1B | | N09-1240-08 | SCREW (M2.5X4) | | |
| G | 1C,2C | | N09-1241-08 | SCREW (M2X3) | | |
| H | 2A | * | N09-1971-08 | SCREW (M2.5X8) LOCK PLATE | | |
| J | 2C | | N09-1230-08 | SCREW (M2.5X20) | | |
| K | 2A | | N09-1323-08 | SCREW (M2.5X3.5) | | |
| L | 2A | * | N09-1970-08 | SCREW (M2) AZIMUTH | | |
| M | 1A | * | N09-1972-08 | SCREW (M2.5X8) DRESSING PLATE | | |
| SW1 | 1B | | S46-1051-08 | LEAF SWITCH (CRØ2-METAL) | | |
| SW3 | 1C | | S46-1017-08 | LEAF SWITCH (POSITION) | | |
| SW6 | 1B | | S46-1051-08 | LEAF SWITCH (REC) | | |
| SW7 | 1C | | S46-1019-08 | LEAF SWITCH (CASSTTE IN) | | |
| B1 | 2A | | T32-0304-05 | ERASE HEAD | | |
| B2 | 2A | | T34-0318-05 | REC/PLAY HEAD | | |
| M1 | 1C | * | T42-0467-08 | REEL MOTOR ASSY | | |
| M2 | 1C | | T42-0017-08 | 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.

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 |
|------------------|---------------|----------------|-------------------|-----------------------|------------------------|--------------------|
| M3 | 2C | * | T43-0054-08 | DD MOTOR (PAD) | | |
| 91 | 1B | * | W02-0905-08 | SENSOR 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.