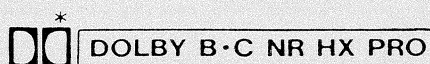


Service Manual

Dolby NR-Equipped
Stereo Cassette Deck

Cassette Deck
RS-B655



Color

(K)... Black Type



Area

| Country Code | Area | Color |
|--------------|------------------------|-------|
| (E, E5) | Continental Europe. | (K) |
| (EB) | Great Britain. | |
| (EG) | F.R. Germany and Italy | |

* HX Pro headroom extension originated by Bang Olufsen and manufactured under license from Dolby Laboratories Licensing Corporation. "DOLBY", the double-D symbol, and "HX PRO" are trademarks of Dolby Laboratories Licensing Corporation.

MECHANISM SERIES: AR350

SPECIFICATIONS

CASSETTE DECK SECTION

| | |
|--|-----------------------------------|
| Deck system | Stereo cassette deck |
| Track system | 4-track, 2-channel |
| Heads | |
| Rec/play | Permalloy head |
| Erasing | Double-gap ferrite head |
| Motors | |
| Capstan | Quartz direct drive DC motor |
| Reel table drive | DC motor |
| Recording system | AC bias |
| Bias frequency | 80 kHz |
| Erasing system | AC erase |
| Tape speed | 4.8 cm/sec. (1 $\frac{7}{8}$ ips) |
| Frequency response | |
| NORMAL | 20 Hz~18 kHz |
| CrO ₂ | 20 Hz~16 kHz (DIN) |
| METAL | 20 Hz~17 kHz (DIN) |
| | 20 Hz~19 kHz |
| | 20 Hz~18 kHz (DIN) |
| S/N (signal level=max recording level, CrO ₂ : type tape) | |
| Dolby C NR on | 74 dB (CCIR) |
| Dolby B NR on | 66 dB (CCIR) |
| Dolby NR off | 56 dB (A weighted) |

Wow and flutter 0.05% (WRMS)
±0.15% (DIN)

Fast forward and rewind times

Approx. 90 seconds with C-60 cassette tape

Input sensitivity and impedance

MIC 0.25 mV/400Ω~10 kΩ
LINE 60 mV/47 kΩ

Output voltage and impedance

LINE 400 mV/800Ω
HEADPHONES 125 mV/8Ω
(8Ω~600Ω)

GENERAL

Power consumption 21 W

Power supply

For Great Britain AC 240V, 50/60Hz
For others AC 220V, 50/60Hz

Dimensions (W × H × D)

430 × 135 × 290 mm
(16 $\frac{15}{16}$ " × 5 $\frac{1}{8}$ " × 11 $\frac{13}{32}$ ")

Weight

4.9 kg (10.8 lb.)

Note:

Specifications are subject to change without notice.
Weight and dimensions are approximate.

Technics

Matsushita Electric Industrial Co., Ltd.

Central P.O. Box 288, Osaka 530-91, Japan

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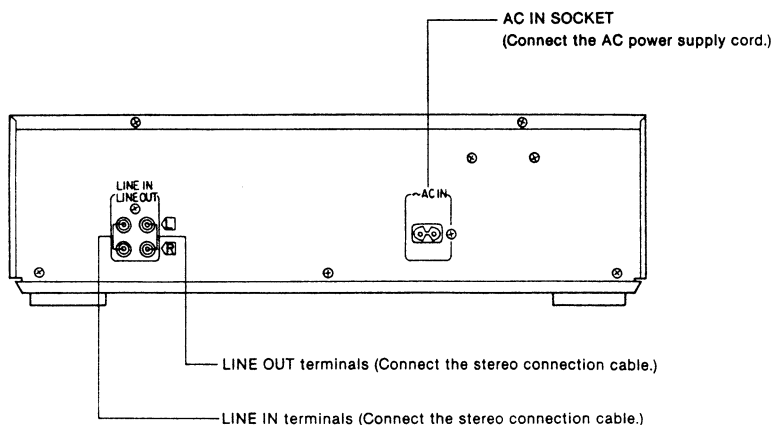
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TECHNICAL INFORMATION

※ This technical information is located on pp 45-51 of the RS-B555 Service Manual (Order No. AD8907231C5). Therefore, refer to that Service Manual.

CONNECTIONS

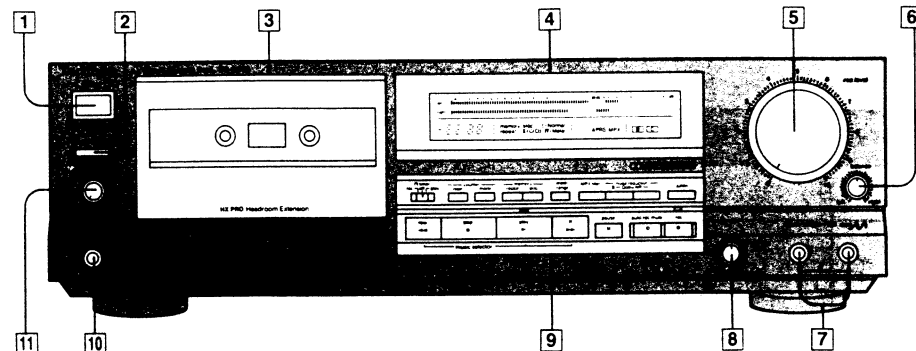


ACCESSORIES

• Stereo connection cables

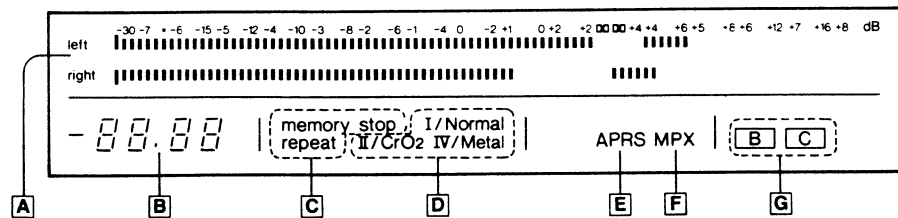
• AC power supply cord

FRONT PANEL CONTROLS AND FUNCTIONS



- 1 Power "standby \downarrow /on" switch (power "standby \downarrow /on")**
This switch switches ON and OFF the secondary circuit power only. The unit is in the "standby" condition when this switch is set to the "standby(\downarrow)" position. Regardless of the switch setting, the primary circuit is always "live" as long as the power cord is connected to an electrical outlet.
- 2 Eject button (\blacktriangle eject)**
This button can be used to open the cassette holder.
- 3 Cassette holder**
- 4 Display section**
- 5 Recording-level control (rec level)**
This control can be used to regulate the recording level and the peak level.
- 6 Recording-balance control (balance)**
Use this control to balance the left and right sound levels during recording.
- 7 Microphone jacks (mic)**
- 8 Bias-adjustment control (bias adjust)**
The frequency response for each tape type can be equalized by using this control.
- 9 Operation section**
- 10 Headphones jack (phones)**
- 11 Headphones volume control (phones level)**

Display Section



- A Input level meter (peak level)**
During playback, this meter indicates the level of the recorded sound. During recording, it indicates the level being recorded, adjusted by the recording-level control.
- B Tape/Linear counter**
Indicates the amount of tape movement or elapsed time.
- C Memory-mode indicators (memory stop/repeat)**
Each indicator illuminates to show which of the memory mode was set by the memory-mode buttons.
- D Tape-select indicators**
The type of tape being used will be automatically detected and the indicator will illuminate.

E APRS indicator (APRS)

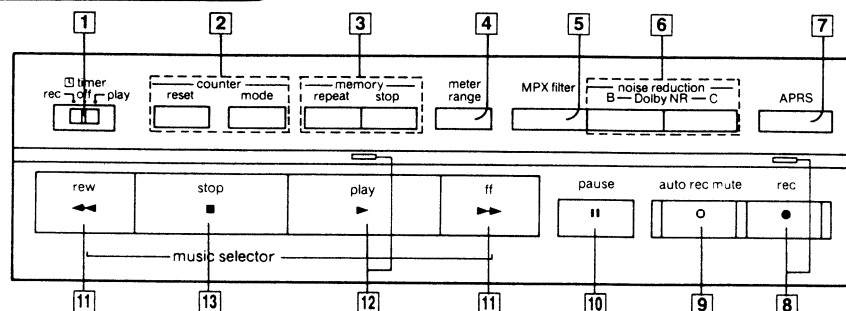
Illuminates to indicate that the "APRS" is set to "on" in the recording stand-by mode.

F Multiplex filter indicator (MPX)

Illuminates to indicate that the multiplex filter is set to "on".

G Dolby noise-reduction indicators (B, C)

Each indicator illuminates to show the type of Dolby noise-reduction system selected by pressing one of the Dolby noise-reduction buttons.

**1 Timer switch (timer)**

This switch is used to automatically begin a tape recording or tape playback at a certain time, selected by a timer (not included).

2 Counter buttons (counter reset/mode)

mode: This button can be used to select the tape/linear counter indication.

reset: This button can be used to reset the tape/linear counter indication to "0000".

3 Memory-mode buttons (memory repeat/stop)

stop: This button can be used to rewind the tape to the preset "0000" point when the rewind (◀) button is pressed.

repeat: This button can be used to set this unit to the "A-B repeat" mode.

4 Meter-range selector (meter range)

This selector can be used to select the meter-range display of the input level meter.

5 Multiplex filter switch (MPX filter)

This switch can be used during the recording of an FM stereo broadcast that employs Dolby noise reduction so as to prevent misoperation of the Dolby noise reduction.

6 Dolby noise-reduction buttons (noise reduction)

These buttons are used to reduce the hissing noise heard from the tape. This unit is provided with both the B-type and C-type noise-reduction systems.

7 APRS button (APRS)

This button can be used to hold the peak level while monitoring the input sound.

The "APRS" can only be used in the recording stand-by mode.

8 Record button and indicator (rec)

This button can be used to change the tape deck to the recording stand-by mode.

This indicator illuminates to indicate that this tape deck is in the recording stand-by mode, or is recording.

9 Automatic-record-muting button (auto rec mute)

This button can be used to make a silent interval on the tape being recorded on tape deck.

10 Pause button (pause)

This button can be used to temporarily stop the tape playback or recording of tape deck.

11 Rewind/fast-forward/search buttons (rew/ff)

These buttons can be used to fast forward or rewind the tape, or to easily search for the tune's beginning of the tape quickly.

12 Playback button and indicator (play)

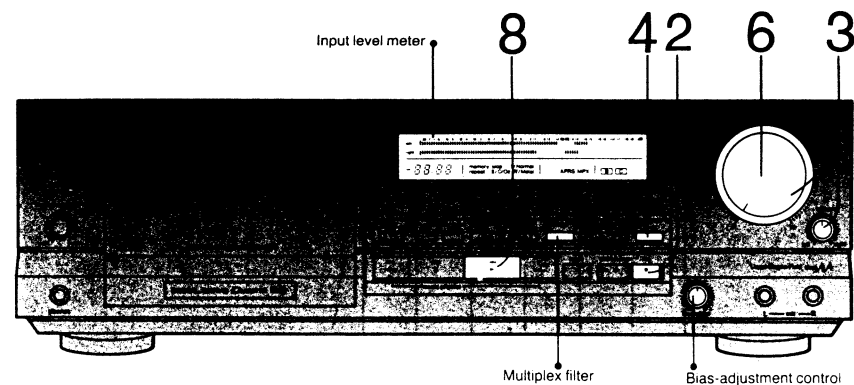
This button can be used to start the playback or recording of the cassette.

(The tape will then begin moving in the left-to-right direction.)

When this indicator illuminates steadily, it indicates that this tape deck is in the playback mode or the recording mode. When it flashes continually, this is an indication that this tape deck is in the pause mode or the recording stand-by mode.

13 Stop button (stop)

This button can be used to stop tape movement.

RECORDING WITH HIGH TONE QUALITY**APRS function**

Because the dynamic range of cassette tape is narrower than the dynamic range of a digital source, the recording will be too noisy if the recording level setting is too low, and, conversely, the recorded sound will be distorted if the setting is too high.

It was for this reason that it has always been recommended that the signals to be recorded be first (before recording) input to the cassette deck and the recording level then be set while watching the level meter, but, for former conventional level meter equipped with the peak-hold function, it was necessary to re-adjust and input the signals again if the level setting was too high or too low.

This unit, however, is equipped with the **APRS: Advanced Precise Recording-level System**, which holds and displays the maximum peak of the input signal level, so that once the peak level of the source is held, there is no necessity to re-input the source signals, and the optimum recording level can be set.

•The APRS function can be used only during the recording-standby mode.

1 Prepare for recording as described in steps 1 to 6 of the "Recording" section.**2 Press the record button.**

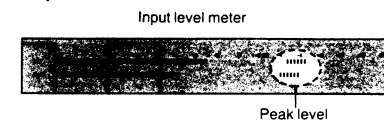
(The recording indicator will illuminate and the playback indicator will flash continuously; the unit will be in the recording stand-by mode.)

3 Set the recording-level control and the recording-balance control to the suitable position for the sound source.**4 Press the APRS button.**

(The APRS indicator will illuminate.)

5 Play the sound source to be recorded, from beginning to end.

[The peak level (the highest level of the input signal) of the sound source will be displayed and held on the input-level meter.]

**Note:**

The range within which the peak level can be held is -8 dB to $+16$ dB. Note that the APRS indicator will flash continuously if the peak level of the sound source is input at a level that exceeds the maximum recording level ($+16$ dB). If that happens, press the APRS button to cancel the APRS function, and then reset the recording level and set the APRS once again. Also note that the peak level cannot be held to less than -8 dB.

6 Using the recording-level control, adjust the peak level to the desired setting.

The peak level will move to the right when the recording-level control is turned to the right, and will move to the left when the recording-level control is turned to the left.

•The recording-balance control cannot be used to adjust the peak level.

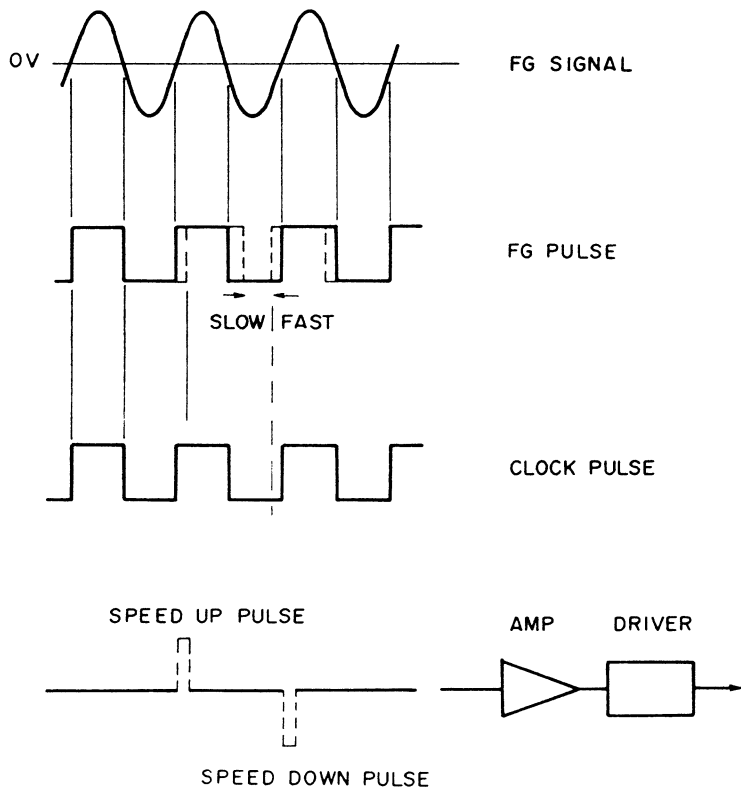
7 Begin playing the sound source from the beginning once again.**8 Press the playback button.**

(The playback indicator will illuminate steadily, and the recording will begin.)

The APRS indicator will switch OFF, and the indication of the input-level meter will return to the ordinary peak-hold mode.

OUTLINE OF THE DIRECT DRIVE MOTOR SYSTEM

The capstan motor is actuated by the DD motor digital servo system. The FG pulse is generated after the detection of the zero crosspoint, and the reference signal generated from the quartz oscillator is compared with this FG pulse. From this comparison, the accelerated and reduced speed pulses are generated, causing the driving coil to function.

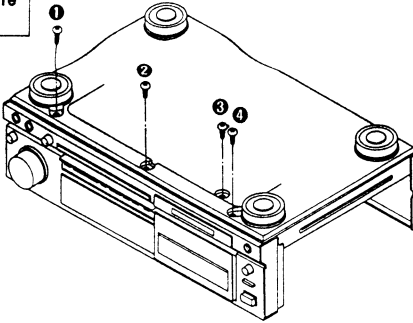
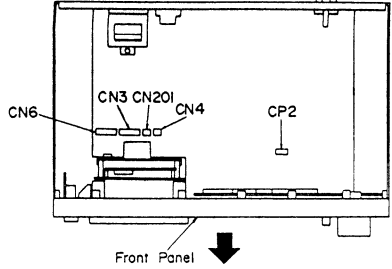
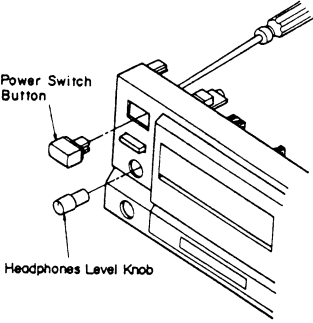
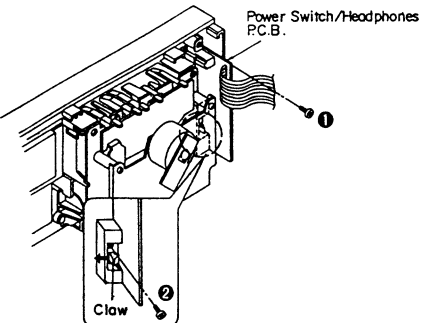
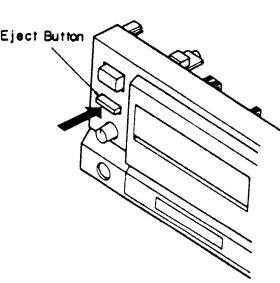
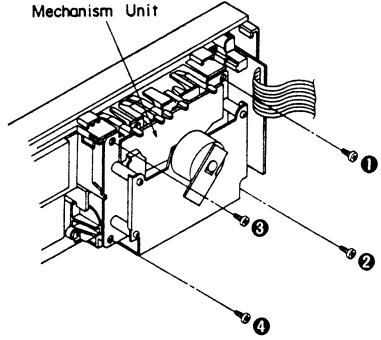


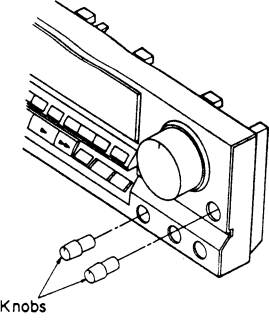
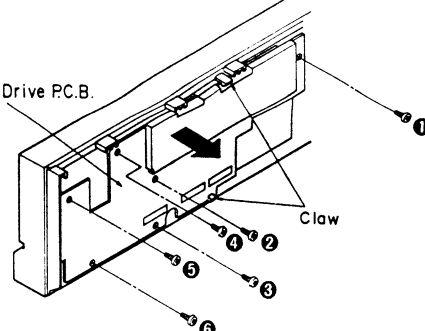
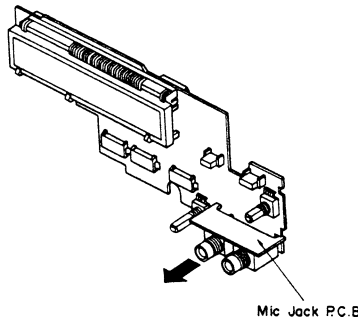
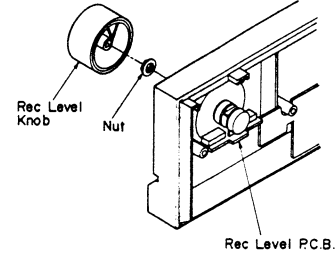
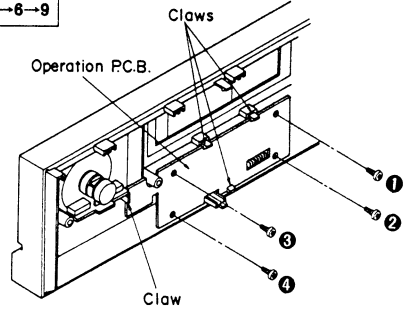
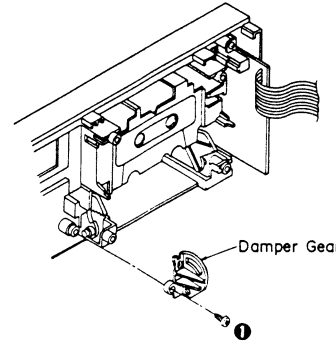
DISASSEMBLY INSTRUCTIONS

"ATTENTION SERVICER"

Some chassis components may have sharp edges. Be careful when disassembling and servicing.

| Ref. No. 1 | Removal of the cabinet | Ref. No. 2 | Removal of the main P.C.B. |
|-------------|---|--|----------------------------|
| Procedure 1 | <p>• Remove the 6 screws (1~6).</p> | <p>Procedure 1→2</p> <p>1. Remove the 7 screws (1~7). 2. Remove the rear panel from the projection of the bottom chassis.</p> | |
| | <p>3. Remove the 6 screws (8~13). 4. Remove the 1 connector (CP2). 5. Remove the 4 flat cables (CN3, CN4, CN6, CN201). 6. Remove the main P.C.B. in the direction of the arrow.</p> <p>How to remove the flat cable</p> <p>• Pull out the flat cable while pressing the connector.</p> <p>1. Lift the connector. 2. Pull out the flat cable.</p> | <p>• When checking the soldered surfaces of main P.C.B. and replacing the parts, do as show.</p> <p>1. Remove the 9 screws (1, 9, 7~8) in above figure. 2. Remove the 4 screws (10~13). 3. Remove the front panel in the direction of the arrow A.</p> <p>4. Remove the bottom board in the direction of the arrow B.</p> <p>5. Reinstall the front panel to the main P.C.B.</p> | |
| | <p>How to check the main P.C.B.</p> | | |

| | | |
|--------------------|--|--|
| Ref. No. 3 | Removal of the front panel | <ol style="list-style-type: none"> Remove the 1 connector (CP2). Remove the 4 flat cables (CN3, CN4, CN6, CN201). |
| Procedure 1→3 |  |  <ol style="list-style-type: none"> Remove the front panel in the direction of the arrow. |
| Ref. No. 4 | Removal of the power switch/headphones P.C.B. | |
| Procedure 1→3→4 |  <ol style="list-style-type: none"> Remove the power switch button by pushing it from behind the front panel. Pull out the headphones level knob. |  <ol style="list-style-type: none"> Remove the 2 screws (1, 2). Release the 1 claw. |
| Ref. No. 5 | Removal of the mechanism unit | |
| Procedure 1→3→5 |  <ol style="list-style-type: none"> Push the eject button. |  <ol style="list-style-type: none"> Remove the 4 screws (1~4). |

| | | |
|----------------------|--|--|
| Ref. No. 6 | Removal of the FL drive P.C.B. | |
| Procedure 1→3→6 |  <ol style="list-style-type: none"> Pull out the 2 knobs. |  <ol style="list-style-type: none"> Remove the 6 screws (1~6). Release the 2 claws. Remove the FL drive P.C.B. in the direction of the arrow. |
| Ref. No. 7 | Removal of the mic jack P.C.B. | Ref. No. 8 |
| Procedure 1→3→6→7 |  <ul style="list-style-type: none"> Remove the mic jack P.C.B. in the direction of the arrow. |  <ol style="list-style-type: none"> Pull out the rec level knob. Remove the 1 nut. |
| Ref. No. 9 | Removal of the operation P.C.B. | Ref. No. 10 |
| Procedure 1→3→6→9 |  <ol style="list-style-type: none"> Remove the 4 screws (1~4). Release the 4 claws. |  <ul style="list-style-type: none"> Remove the 1 screw (1). |

| | | |
|---------------------------|---------------------------------------|---|
| Ref. No. 11 | Removal of the cassette holder | <ol style="list-style-type: none"> 1. Remove the rib in the direction of the arrow. 2. Remove the cassette holder spring. 3. Pull out the cassette holder in the direction of the arrow. |
| Procedure 10→11 | | |

| | | |
|--------------------------------|--|--|
| Ref. No. 12 | Removal of the eject lever and eject button | <ol style="list-style-type: none"> 1. Push the claw in the direction of the arrow A. 2. Remove the eject lever in the direction of the arrow B. 3. Pull out the eject button. |
| Procedure 1→3→4→5→12 | | |

MEASUREMENT AND ADJUSTMENT METHODES

- Measurement Condition**
- Rec. level control; Maximum
 - Timer switch; Off
 - MPX filter switch: off
 - Bias-adjustment VR: Center

- Dolby NR switch; Off
- Make sure heads are clean
- Make sure capstan and pressure roller are clean
- Judgeable room temperature 20±5°C (68±9°F)

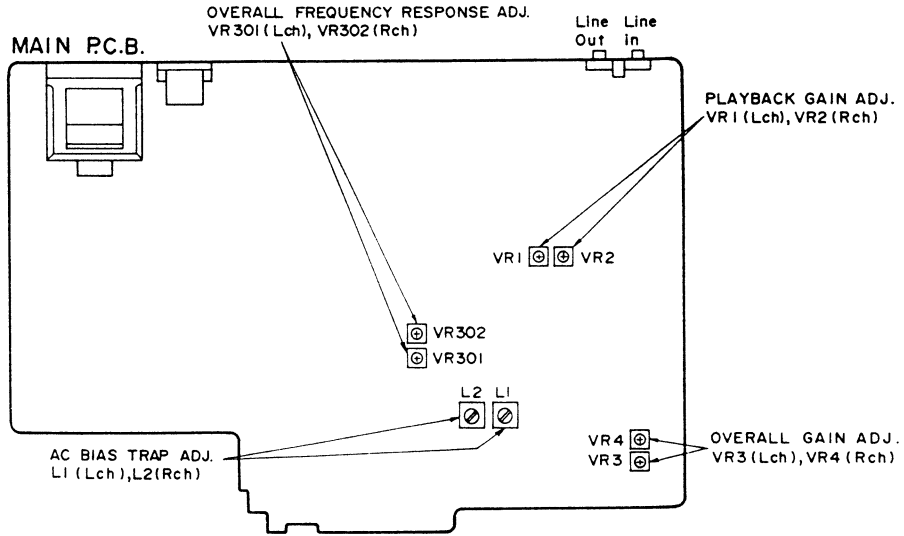
- Measuring Instrument**
- EVM (Electronic Voltmeter)
 - Oscilloscope
 - Digital frequency counter
 - AF oscillator

- ATT (Attenuator)
- DC voltmeter
- Resistor (600Ω)

- Test tape**
- Head azimuth adjustment (8kHz, -20dB); QZZCFM
 - Tape speed adjustment (3kHz, -10dB); QZZCWAT
 - Playback frequency response (315Hz, 12.5kHz, 10kHz, 8kHz, 4kHz, 1kHz, 250Hz, 125Hz, 63Hz, -20dB); QZZCFM

- Playback gain adjustment (315Hz, 0dB); QZZCFM
- Overall frequency response, Overall gain adjustment Normal reference blank tape; QZZCRA CrO₂ reference blank tape; QZZCRX Metal reference blank tape; QZZCRZ

Adjustment Points



HEAD AZIMUTH ADJUSTMENT

1. Playback the azimuth adjustment portion (8 kHz, -20 dB) of the test tape (QZZCFM). Vary the azimuth adjusting screw until the outputs of the L-CH and R-CH are maximized and the lissajous waveform, as illustrated, approaches 0 degrees.

Note: If L-CH and R-CH are not maximized at the same point, adjust to the point where the levels of each channel are maximized and equal.

2. Perform the same adjustment in the play mode.
3. After the adjustment, apply screwlock to the azimuth adjusting screw.

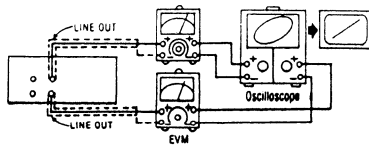


Fig. 1

Record/Playback Head



Fig. 2

PLAYBACK GAIN ADJUSTMENT

1. Playback the gain adjusted portion (315 Hz, 0 dB) of the test tape (QZZCFM).
2. Adjust VR1 (L-CH) and VR2 (R-CH) so that the output is within the standard value.

Standard value: 0.4V ± 0.5dB

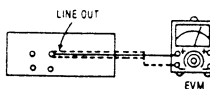


Fig. 3

PLAYBACK FREQUENCY RESPONSE

1. Playback the frequency response portion (315 Hz, 12.5 kHz ~ 63 Hz, -20 dB) of the test tape (QZZCFM).
2. Assure that the frequency response is within the range shown in Fig. 6 for both L-CH and R-CH.

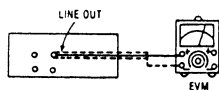


Fig. 4

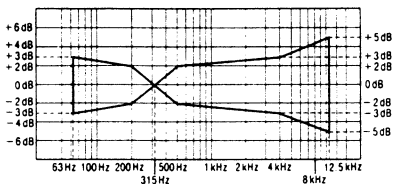
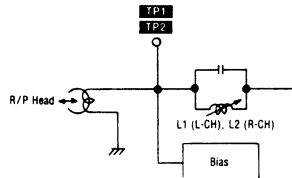


Fig. 5

AC BIAS TRAP ADJUSTMENT

1. Insert the Metal blank test tape (QZZCRZ) and set the unit to the Record mode.
2. Adjust L1 (L-CH) [[L2 (R-CH)]] so that the output voltage between TP1 (TP2) and GND is less than the minimum value.



OVERALL FREQUENCY RESPONSE

1. Insert the normal blank test tape (QZZCRA) and set the unit to the record pause mode.
2. Apply a reference input signal (1 kHz, -24 dB) through an attenuator.
3. Attenuate the signal by 20dB and adjust the frequency from 50 Hz ~ 10 kHz.
4. Record the frequency sweep.
5. Playback the recorded signal and assure that it is within the range shown in Fig. 8 in comparison to the reference frequency (1 kHz).

6. If it is not within the standard range, adjust VR301 (L-CH) and VR302 (R-CH) so that the frequency level is within the standard range.

- Level up in high frequency rangeIncrease the bias current.
- Level down in high frequency range ...Decrease the bias current.

7. Repeat steps 2~6 above using the CrO₂ tape (QZZCRX) and the metal tape (QZZCRZ) increasing the frequency range to 12.5 kHz (50 Hz ~ 12.5 kHz).
8. Assure that the level is within the range shown in Fig. 9.

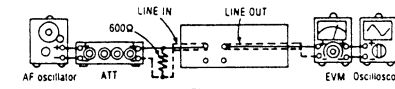


Fig. 10

Normal Overall frequency response chart (NR OUT)

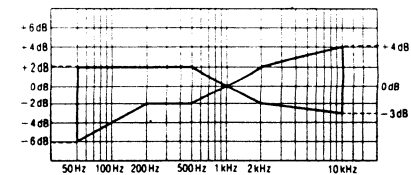


Fig. 8

CrO₂ Metal Overall frequency response chart (NR OUT)

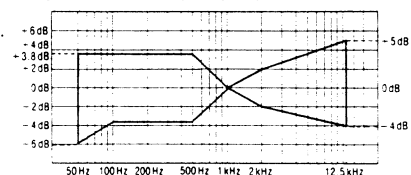


Fig. 9

OVERALL GAIN ADJUSTMENT

1. Insert the normal blank test tape (QZZCRA) and set the unit to the record pause mode.
2. Apply a reference input signal (1 kHz, -24 dB). Attenuate the output so that its level becomes 0.4 V.
3. Record this input signal.
4. Playback the signal recorded in step 3 above, and assure that the output is within the standard value.
5. If it is not within the standard value, adjust VR3 (L-CH) and VR4 (R-CH).
6. Repeat the step 2~5 above until the output is within the standard value.

Standard value: 0.4V ± 0.5dB

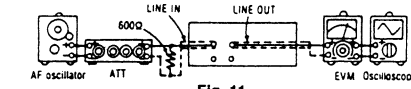


Fig. 11

TERMINAL FUNCTION OF IC'S

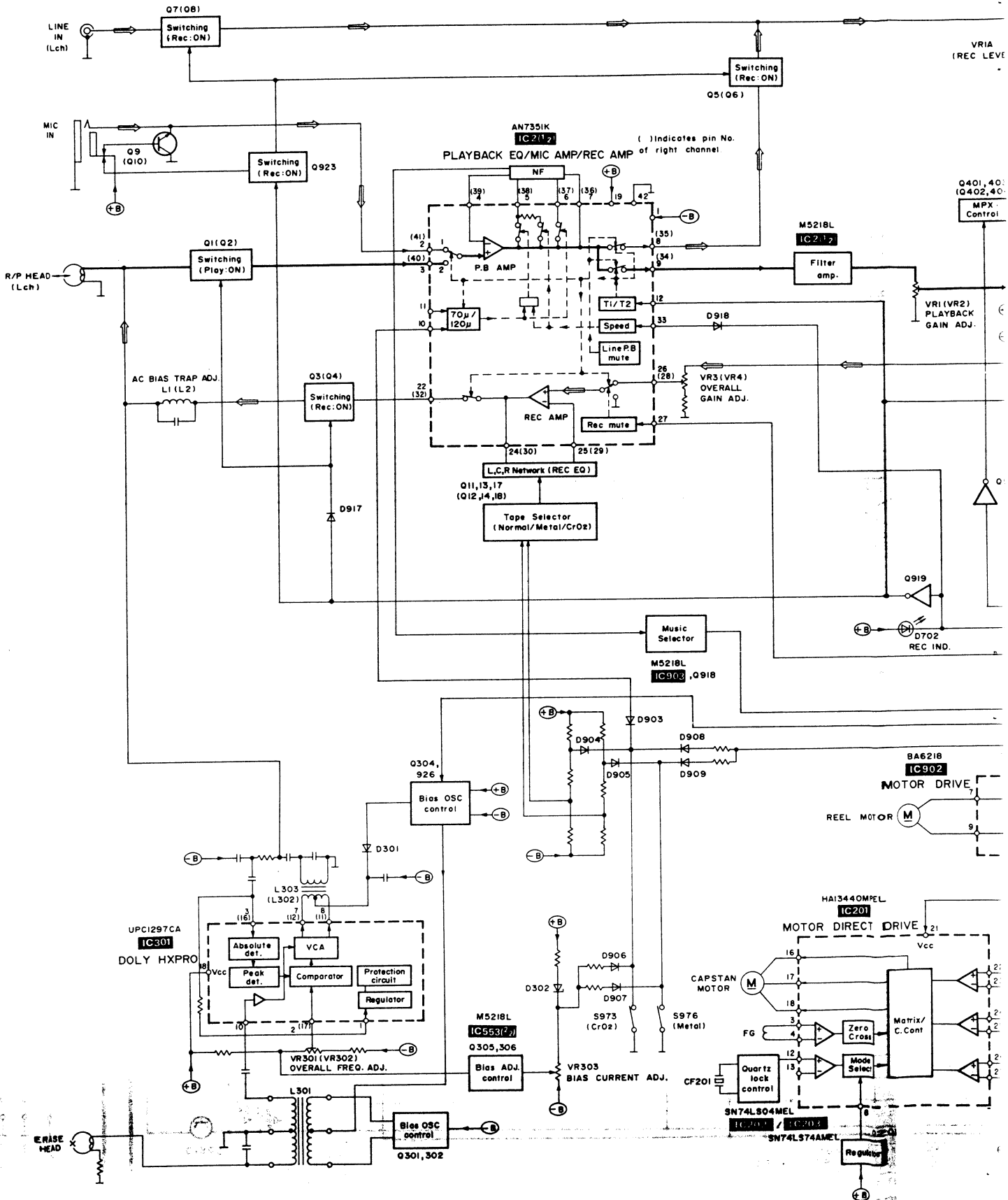
• IC901 (MB88511-224N): MICROCOMPUTER (This microcomputer is used for mechanical operation.)

| Pin No. | Mark | I/O Division | Function | Pin No. | Mark | I/O Division | Function |
|---------|-----------------|--------------|---|---------|--------------|--------------|--|
| 1 | DMT | O | Line out mute signal ("H"...ON, "L"...OFF) | 22 | DIRECT | I | CD direct operation det. signal |
| 2 | RMT | O | REC AMP mute signal ("H"...ON, "L"...OFF) | | | O | CD direct/LINE input select control signal ("H"...CD DIRECT, "L"...LINE INPUT) |
| 3 | BOS | O | BIAS OSC ON/OFF control signal ("H"...OFF, "L"...ON) | 23 | C | O | Dolby NR mode select signal NR OFF Dolby B Dolby C dbx C H H L L B H L H L |
| 4 | REC | O | REC LED ON/OFF control signal ("H"...OFF, "L"...ON) | 24 | B | | |
| 5 | PLAY | O | PLAY LED ON/OFF control signal ("H"...OFF, "L"...ON) | 25 | MPX | O | MPX coil ON/OFF control signal ("H"...MPX OFF, "L"...MPX ON) |
| 6 | EJECT F | O | Power eject motor open control signal ("H"...OPEN, "L"...CLOSE/STOP) | 26 | T/S | I | Two head/Three head select signal ("H"...THREE HEAD, "L"...TWO HEAD) |
| 7 | EJECT R | O | Power eject motor close control signal ("H"...CLOSE, "L"...OPEN/STOP) | | | O | Tape/Source monitor select control ("H"...TAPE MONITOR, "L"...SOURCE MONITOR) |
| 8 | CAPM | O | Capstan motor ON/OFF control signal ("H"...OFF (POWER OFF or ABNORMAL CONDITION), "L"...ON) | 27 | HALF | I | Cassette half det. SW terminal ("L"...ON) |
| 9 | SOL1 | O | Trigger solenoid ON/OFF control signal ("H"...OFF, "L"...ON) | 28 | MODE | I | Mechanism mode SW terminal |
| 10 | SOL2 | O | Brake solenoid ON/OFF control signal ("H"...OFF, "L"...ON) | 29 | ARM | I | Auto Rec Mute key signal ("L"...PUSH) |
| 11 | SOL2C | O | Brake solenoid hold ON/OFF control signal ("H"...OFF, "L"...ON (FF/REW/MS)) | 30 | AVss | — | Connected to GND |
| 12 | RP (REEL PULSE) | I | Reel pulse signal | 31 | AVR | — | Connected to GND |
| 13 | RMR | O | Reel motor reverse control signal ("H"...REW, "L"...STOP/PLAY/FF) | 32 | AVcc | — | Power supply terminal |
| 14 | RMF | O | Reel motor forward control signal ("H"...FF/PLAY, "L"...STOP/REW) | 33 | KEY 1 | I | Key SW Input (STOP/FF REW/PLAY/REC/PAUSE/dbx/C/B/MPX/TIMER REC/TIMER PLAY) |
| 15 | OSC | I | Single capstan/Dual capstan select signal ("H"...DUAL CAPSTAN, "L"...SINGLE CAPSTAN) | 34 | KEY 2 | I | Key SW Input (MEMORY REPEAT/MEMORY STOP/EJECT/MONITOR/CD DIRECT/OSC/TEST/REMOTE A/B) |
| | | O | Calibration OSC circuit ON/OFF control signal ("H"...OFF, "L"...ON) | 35 | ATS | I | Auto Tape Select SW Input (ATSC/ATSM/EJECT OPEN LEAF SW) |
| 16 | Ex | I | Clock OSC terminal (6MHz) | 36 | INH | I | REC INH SW Input (REC INH/EJECT MOTOR LEAF SW) |
| 17 | X | O | | | | | |
| 18 | RES | I | Reset signal ("L"...RESET) | 37 | B555 | I | Connected to GND |
| 19 | OSCF | O | Calibration OSC circuit (400 Hz/10 kHz) select signal ("H"...HIGH FREQ. (10 kHz), "L"...LOW FREQ. (400 Hz)) | 38 | DISP | O | Serial data signal of FL display (ACTIVE: "H") |
| 20 | POF | I | AC POWER detect signal | 39 | MSP | I | Music select det. signal ("H"...NO SIGNAL, "L"...ON SIGNAL) |
| 21 | Vss | — | GND | 40 | MEMORY PULSE | I | Memory Pulse signal |
| | | | | 41 | REMOCON | I | Remote control serial data ("L" for 50 ms. with counter "0000") |
| | | | | 42 | Vcc | — | Power supply terminal |

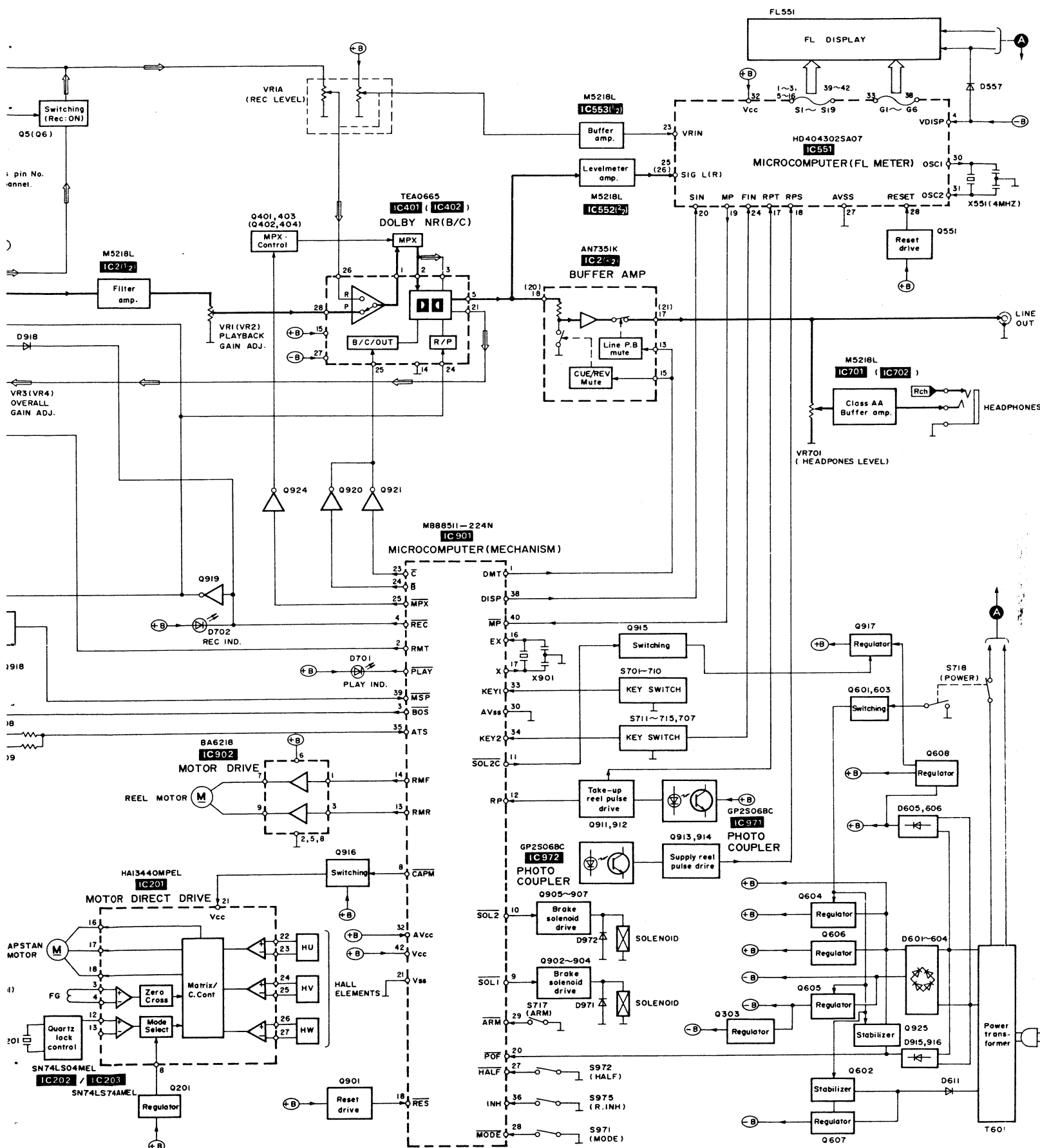
• IC551 (HD404302SA07): MICROCOMPUTER (This microcomputer is used for FL meter operation.)

| Pin No. | Mark | I/O Division | Function | Pin No. | Mark | I/O Division | Function |
|---------|-------|--------------|--|----------------------------|-------|--------------|---|
| 1 | S5 | O | Segment signal for FL display | 22 | AVcc | — | Power supply terminal |
| 2 | S6 | O | | 23 | VR IN | I | Rec level control (VR MAX...+5V) |
| 3 | S7 | O | | 24 | F IN | I | Function key terminal (COUNTER RESET/COUNTER MODE/APRS) |
| 4 | Vdisp | — | Pull down power supply terminal (-Vcc) | 25 | SIG L | I | LCH level signal |
| 5 | S8 | O | Segment signal for FL display | 26 | SIG R | I | RCH level signal |
| 6 | S9 | O | | 27 | AVss | — | Connected to GND |
| 7 | S10 | O | | 28 | RESET | I | Reset terminal (with Reset: "H") |
| 8 | S11 | O | | 29 | TEST | I | Test terminal |
| 9 | S12 | O | | 30 | OSC 1 | O | Clock OSC terminal (4MHz) |
| 10 | S13 | O | | 31 | OSC 2 | I | |
| 11 | S14 | O | | 32 | Vcc | I | Power supply terminal |
| 12 | S15 | O | | Grid signal for FL display | 33 | G1 | O |
| 13 | S16 | O | | | 34 | G2 | O |
| 14 | S17 | O | | | 35 | G3 | O |
| 15 | S18 | O | 36 | | G4 | O | |
| 16 | S19 | O | 37 | | G5 | O | |
| 17 | RPT | I | Reel pulse signal of tape up reel | 38 | G6 | O | |
| 18 | RPS | I | Reel pulse signal of supply reel | 39 | S1 | O | Segment signal for FL display |
| 19 | MP | O | Memory pulse signal ("L" for 50 ms. with counter "0000") | 40 | S2 | O | |
| 20 | DISP | I | Serial data signal (ACTIVE: "H") | 41 | S3 | O | |
| 21 | GND | — | GND terminal | 42 | S4 | O | |

BLOCK DIAGRAM

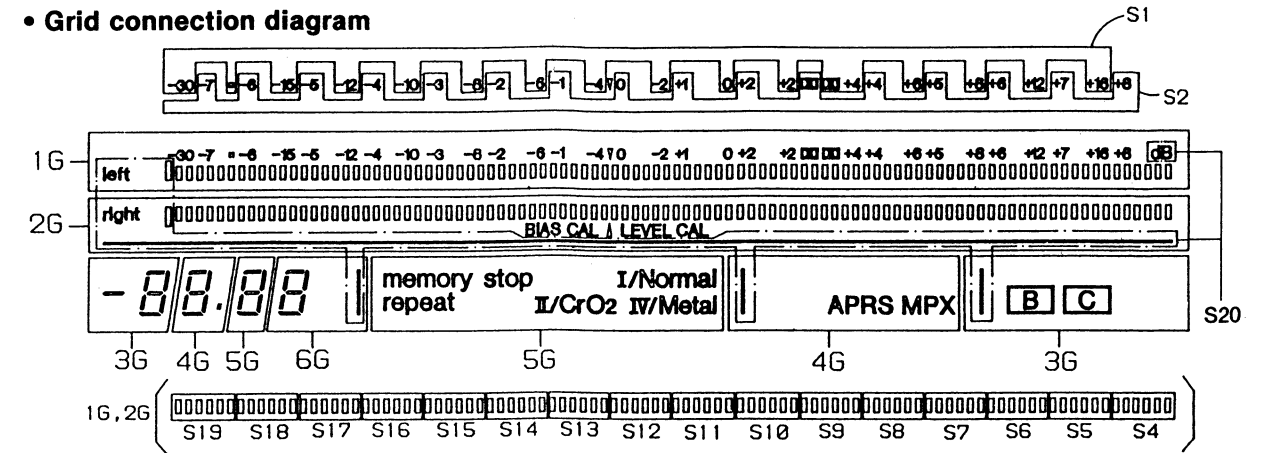


INTERNAL CONNECTION OF FL



Notes
 ● Playback signal
 ● Recording signal

Grid connection diagram



Anode connection table

| | 1G | 2G | 3G | 4G | 5G | 6G |
|----------|-----------------|-----------|----|------|-----------------------|----|
| S1 | S1 | LEVEL CAL | - | APRS | - | - |
| S2 | S2 | BIAS CAL | - | - | - | - |
| S3 | ▼ | ▲ | - | - | - | - |
| S4 | | | - | - | - | - |
| S5 | | | - | - | - | - |
| S6 | | | - | - | memory | - |
| S7 | | | - | - | repeat | - |
| S8 | | | - | - | stop | - |
| S9 | | | B | - | - | - |
| S10 | | | C | - | I / Normal | - |
| S11 | | | - | MPX | II / CrO ₂ | - |
| S12 | | | - | - | IV / Metal | - |
| S13 | | | a | a | a | a |
| S14 | | | b | b | b | b |
| S15 | | | f | f | f | f |
| S16 | | | g | g | g | g |
| S17 | | | c | c | c | c |
| S18 | | | e | e | e | e |
| S19 | | | d | d | d | d |
| S20 (dB) | left dB right | | | | - | |

Pin connection

| PIN NO. | 40 | 39 | 38 | 37 | 36 | 35 | 34 | 33 | 32 | 31 | 30 | 29 | 28 | 27 | 26 | 25 | 24 | 23 | 22 | 21 | 20 | 19 | 18 | 17 | 16 | 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | | |
|------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|---|---|---|---|---|---|---|---|---|---|---|
| CONNECTION | N | N | N | N | S | S | S | S | S | S | S | S | S | S | S | S | S | S | S | S | S | S | N | 6 | 5 | 4 | 3 | 2 | 1 | S | N | N | N | N | N | N | N | N | N | F | F | |
| | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | C | G | G | G | G | G | G | 20 | P | P | P | P | P | P | P | P | P | P | 1 | 1 |
| PIN NO. | 55 | 54 | 53 | 52 | 51 | 50 | 49 | 48 | 47 | 46 | 45 | 44 | 43 | 42 | 41 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CONNECTION | F | F | N | N | N | N | N | N | N | N | N | N | N | N | N | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 2 | 2 | P | P | P | P | P | P | P | P | P | P | P | P | P | | | | | | | | | | | | | | | | | | | | | | | | | | | |

SCHEMATIC DIAGRAM

(Parts list on pages 34, 35, 42~44.)

(This schematic diagram may be modified at any time with development of new technology.)

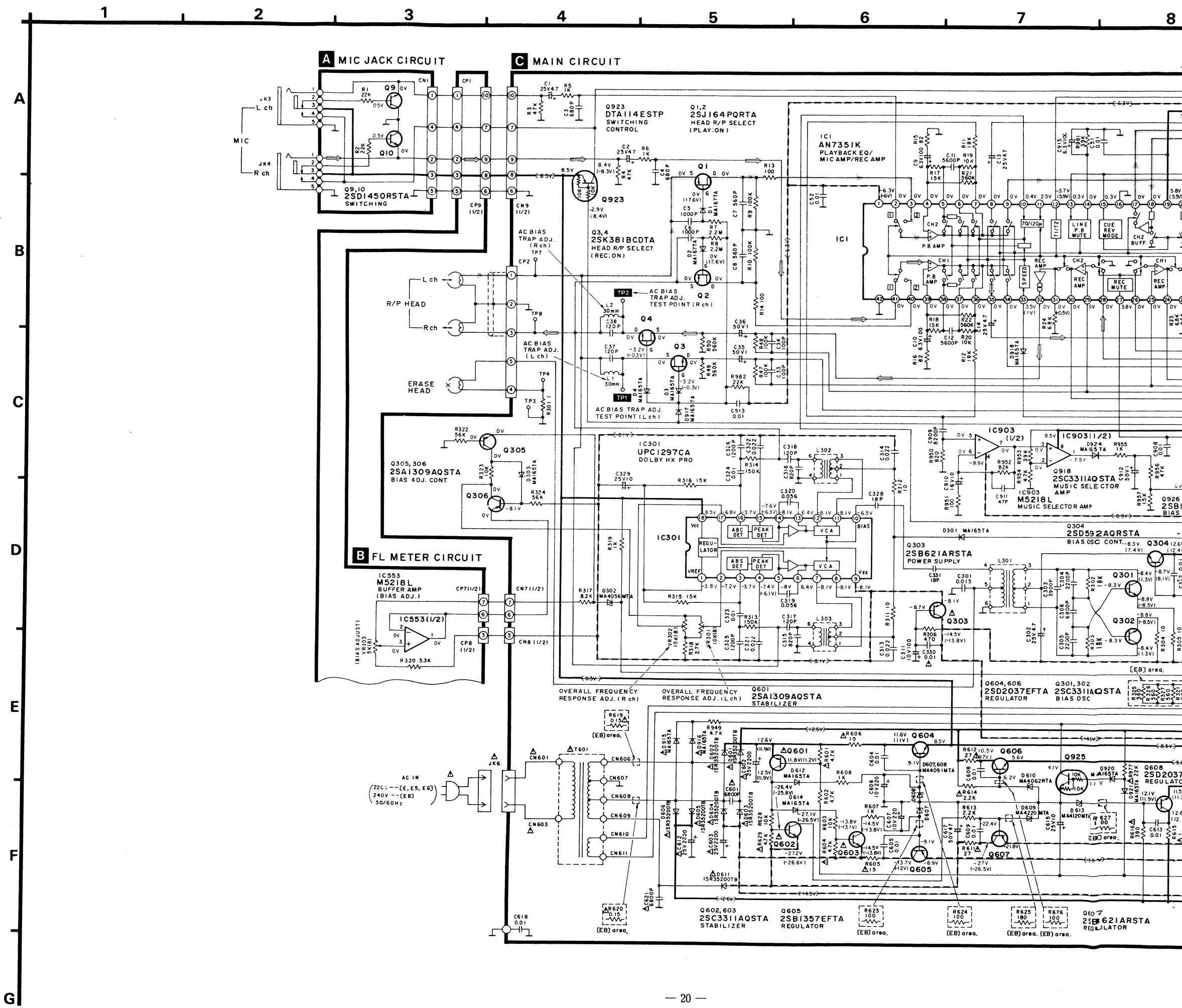
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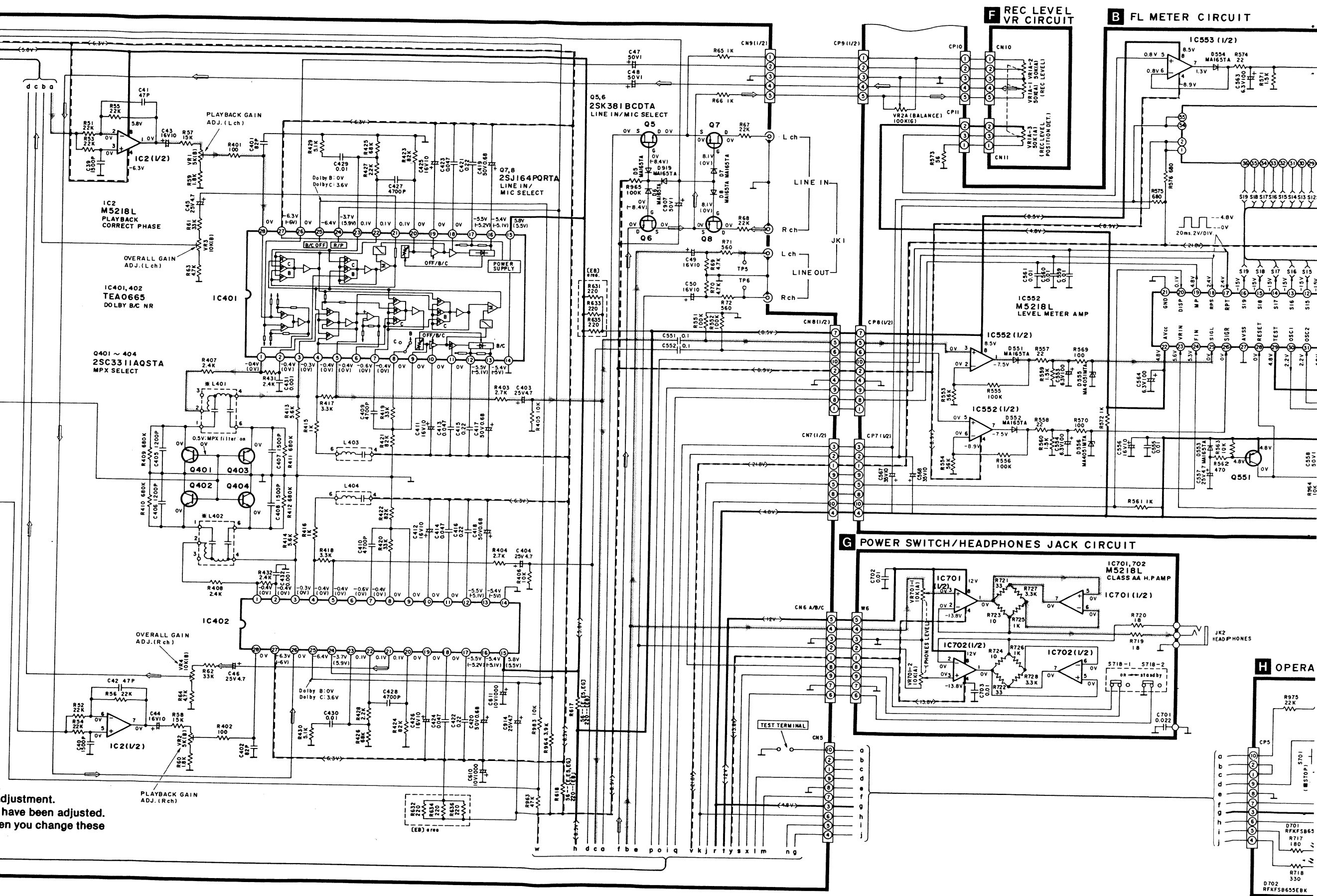
- S701 : Stop switch (stop) in "off" position.
- S702 : F.F. switch (ff) in "off" position.
- S703 : Rew switch (rew) in "off" position.
- S704 : Playback switch (Play) in "off" position.
- S705 : Record switch (rec) in "off" position.
- S706 : Pause switch (pause) in "off" position.
- S707 : Dolby noise-reduction switch (Dolby NRC) in "off" position.
- S708 : Dolby noise-reduction switch (Dolby NR B) in "off" position.
- S709 : Multiplex filter switch (MPX filter) in "off" position.
- S710 : Timer switch (timer) in "off" position.
- S711 : Counter reset switch (counter reset) in "off" position.
- S712 : Counter mode switch (counter mode) in "off" position.
- S713 : Meter range switch (meter range) in "off" position.
- S714 : Memory mode switch (memory repeat) in "off" position.
- S715 : Memory mode switch (memory stop) in "off" position.
- S716 : APRS switch (APRS) in "off" position.
- S717 : Automatic-record-muting switch (auto rec mute) in "off" position.
- S718 : Power switch (standby ϕ / on) in "on" position.
- S971 : Mode switch in "off" position.
- S972 : Cassette half detection switch in "off" position.
- S973 : ATS (CrO₂) switch in "off" position.
- S975 : Rec Inhibit switch in "off" position.
- S976 : ATS (Metal) switch in "off" position.

- Resistance are in ohms (Ω), 1/4 watt unless specified otherwise.
- 1K=1,000 (Ω), 1M=1,000k (Ω)
- Capacity are in micro-farads (μ F) unless specified otherwise.
- All voltage values shown in circuitry are under no signal condition and playback mode with volume control at minimum position otherwise specified.

- ()Voltage values at record mode.
- For measurement use EVM.
- Important safety notice
- Components identified by Δ mark have special characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts.
- (\leftarrow +B \rightarrow) indicates +B (bias).
- (\leftarrow -B \rightarrow) indicates -B (bias).
- (\leftarrow) indicates the flow of the playback signal.
- (\rightarrow) indicates the flow of the record signal.

- * Caution!**
 IC and LSI are sensitive to static electricity.
 Secondary trouble can be prevented by taking care during repair.
 * Cover the parts boxes made of plastics with aluminum foil.
 * Ground the soldering iron.
 * Put a conductive mat on the work table.
 * Do not touch the legs of IC or LSI with the fingers directly.

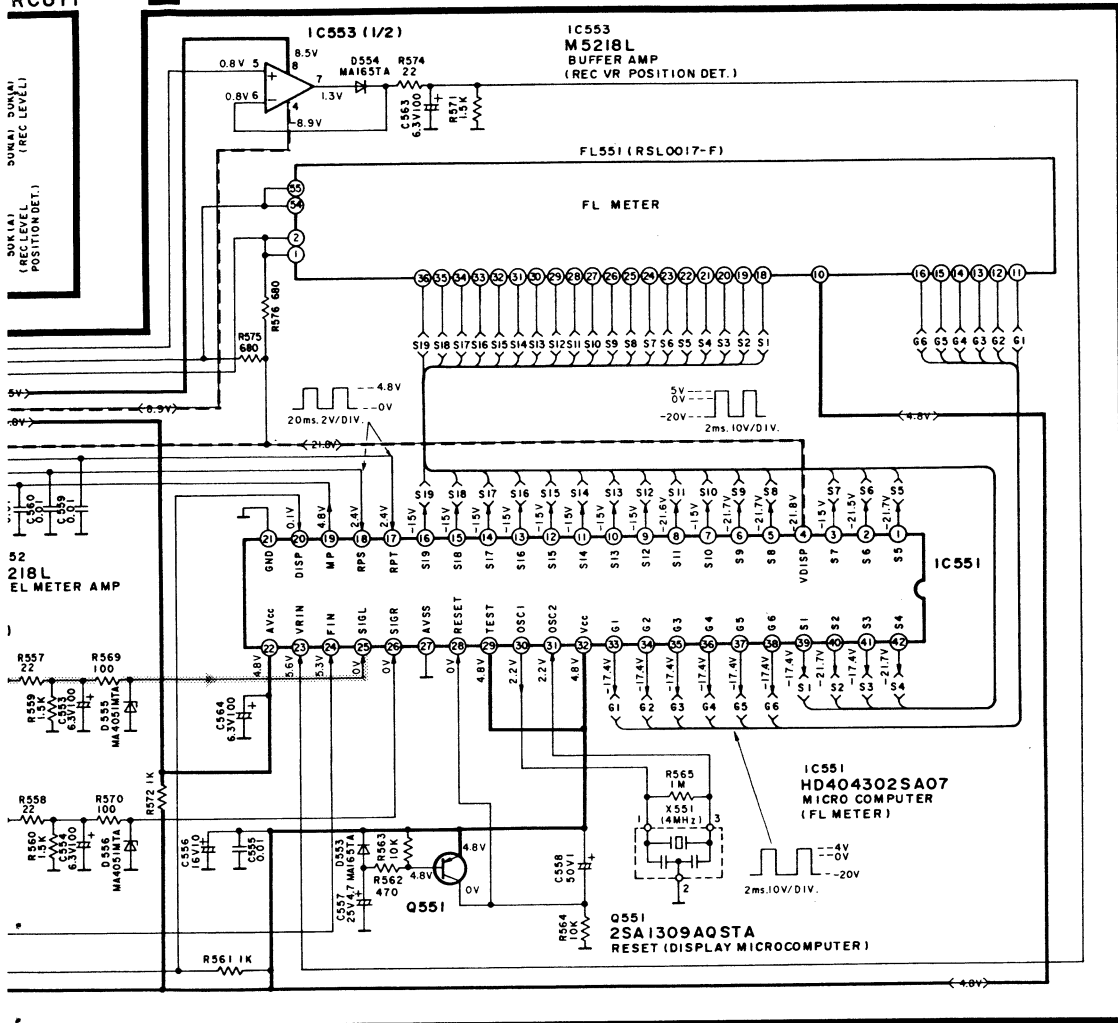




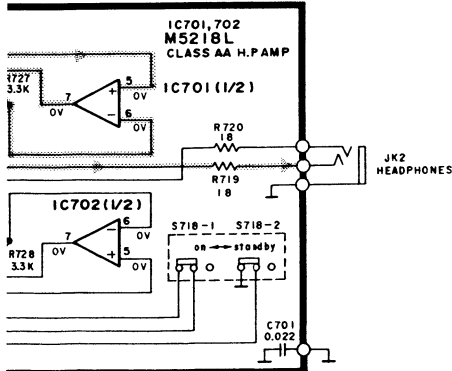
※ These are the parts for MPX effect adjustment.
 When these parts are supplied, they have been adjusted.
 Thus it does not need to readjust when you change these parts.

LEVEL CIRCUIT

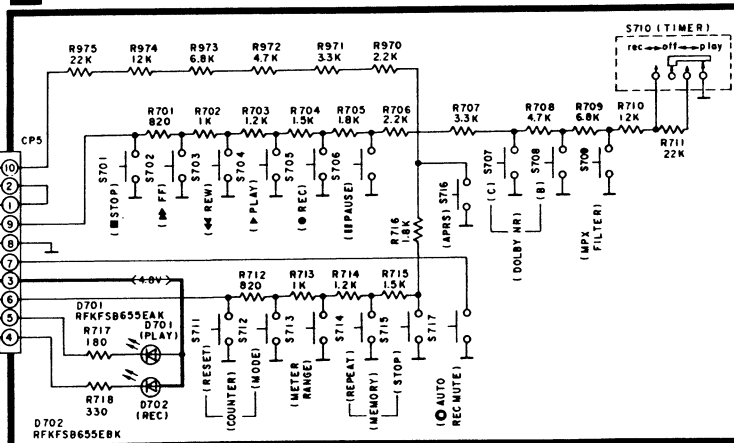
B FL METER CIRCUIT



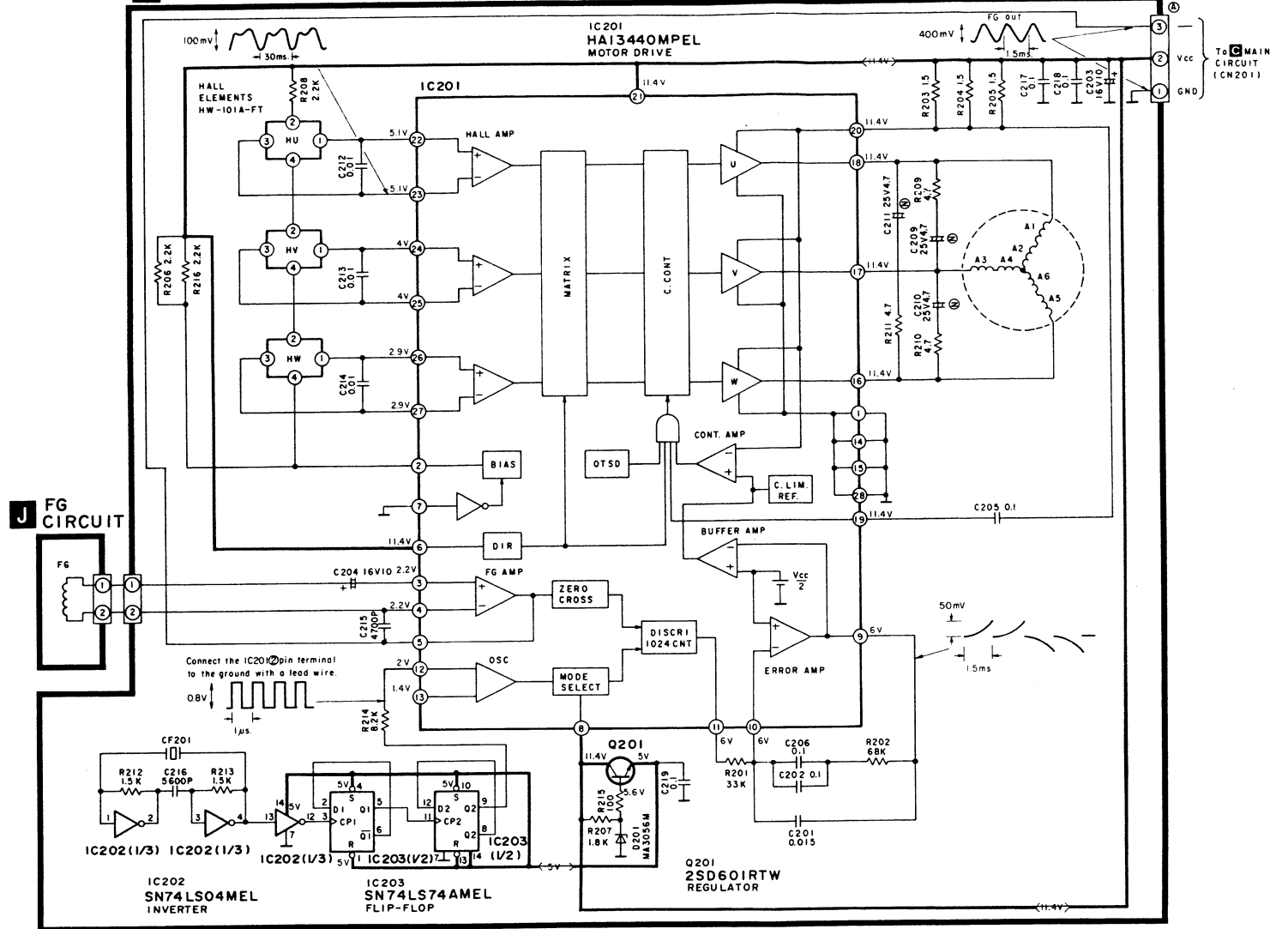
ES JACK CIRCUIT



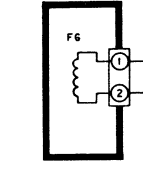
H OPERATION SWITCH CIRCUIT



I CAPSTAN MOTOR (D.D) CIRCUIT



J FG CIRCUIT

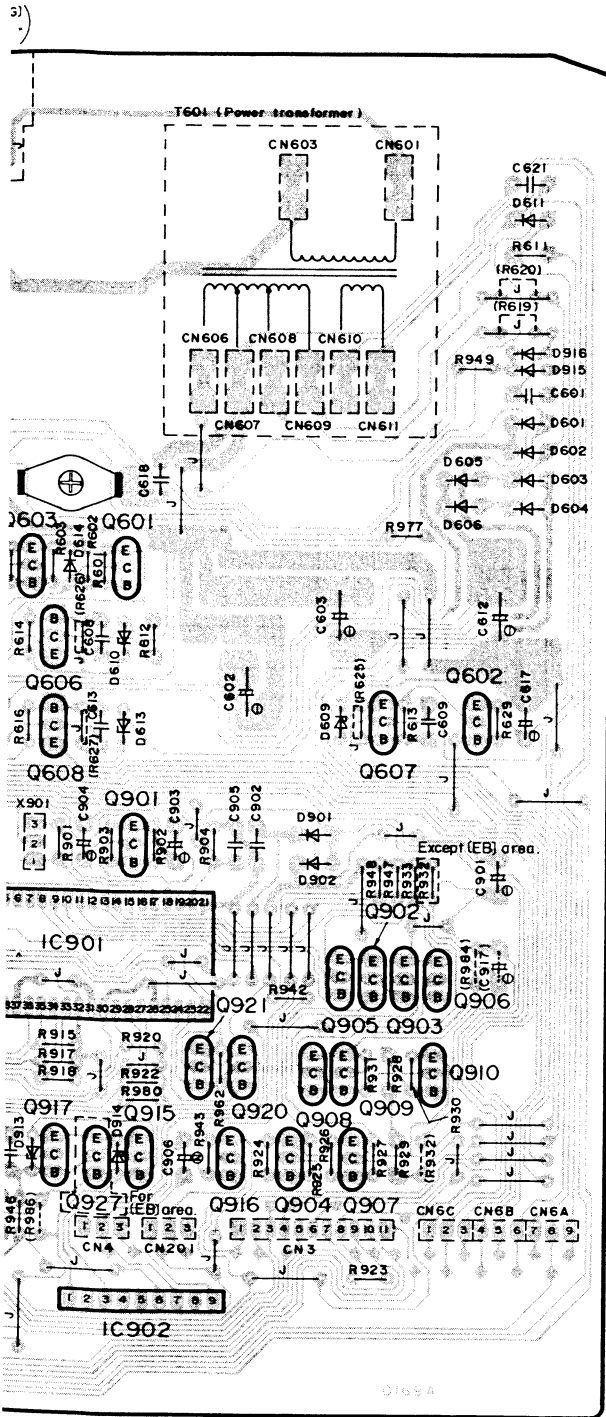


TROUBLESHOOTING OF DIRECT DRIVE MOTOR

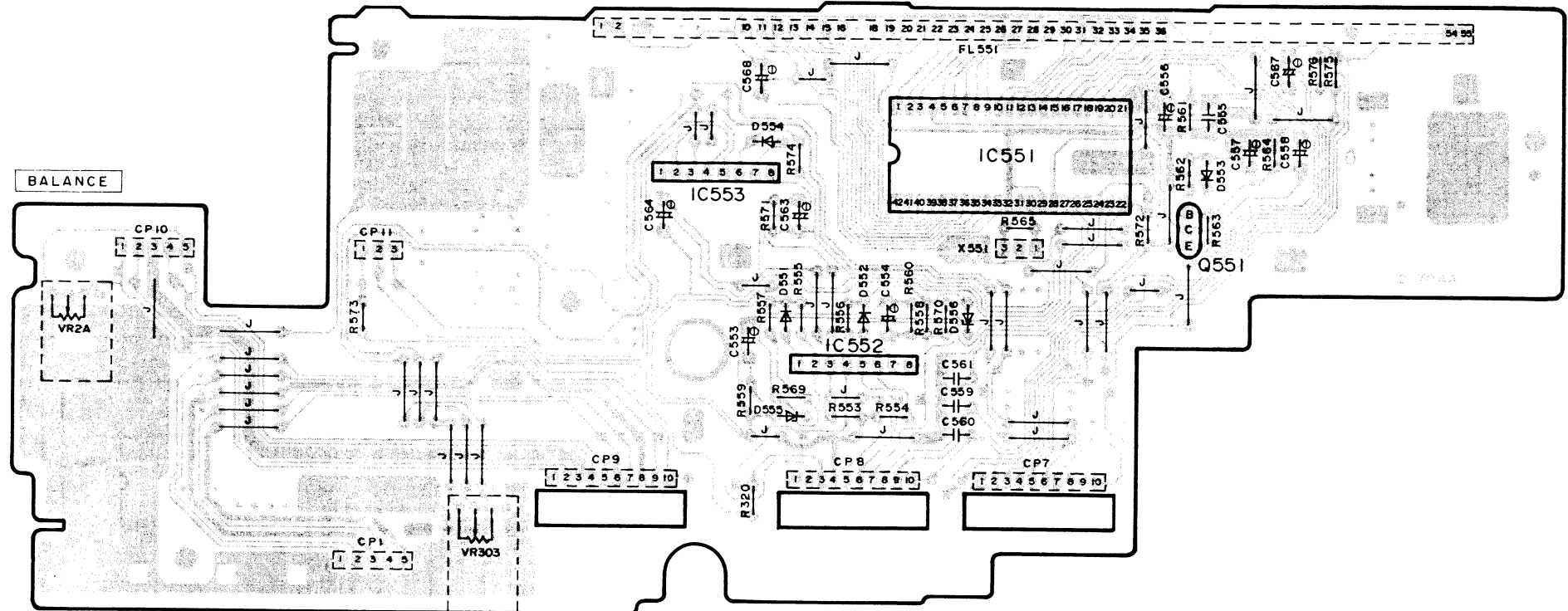
| Problem | Possible Cause | Check Points |
|--|---|---|
| 1. The motor does not rotate. | 1. No power supply (+12V) 2. The Hall element has failed (Current does not flow). 3. The ceramic (or crystal) does not oscillate. | • Check the voltage applied to the connector. • Check the DC potential on IC pins ②~⑦. * Check the waveform of IC pin ⑬. |
| 2. The motor does not rotate properly. (When pressed, it stops at certain angles. Sometimes it does not rotate even if power is ON.) | 1. The coil is broken or not properly soldered. 2. Output of the Hall element is not proper. | * Check the conductance of the coil. If normal, the resistances between IC pins ⑩~⑬, ⑭~⑮, ⑯~⑰ will reach 20 ohms. • Check the waveform of IC pins ②~⑦. |
| 3. The motor is out of control. | 1. The FG coil is broken. | • Check the waveform of IC pin ⑤. • Check if the FG coil is broken. |
| 4. Abnormal wow | 1. Same as those described for problem 2. | |

Note: Check the points marked with an asterisk (*) by removing the DD motor control P.C.B. and then connecting IC pin ② to GND with a lead wire. (After the DD motor control P.C.B. is removed, current will start flowing through the coil, heating the IC.)

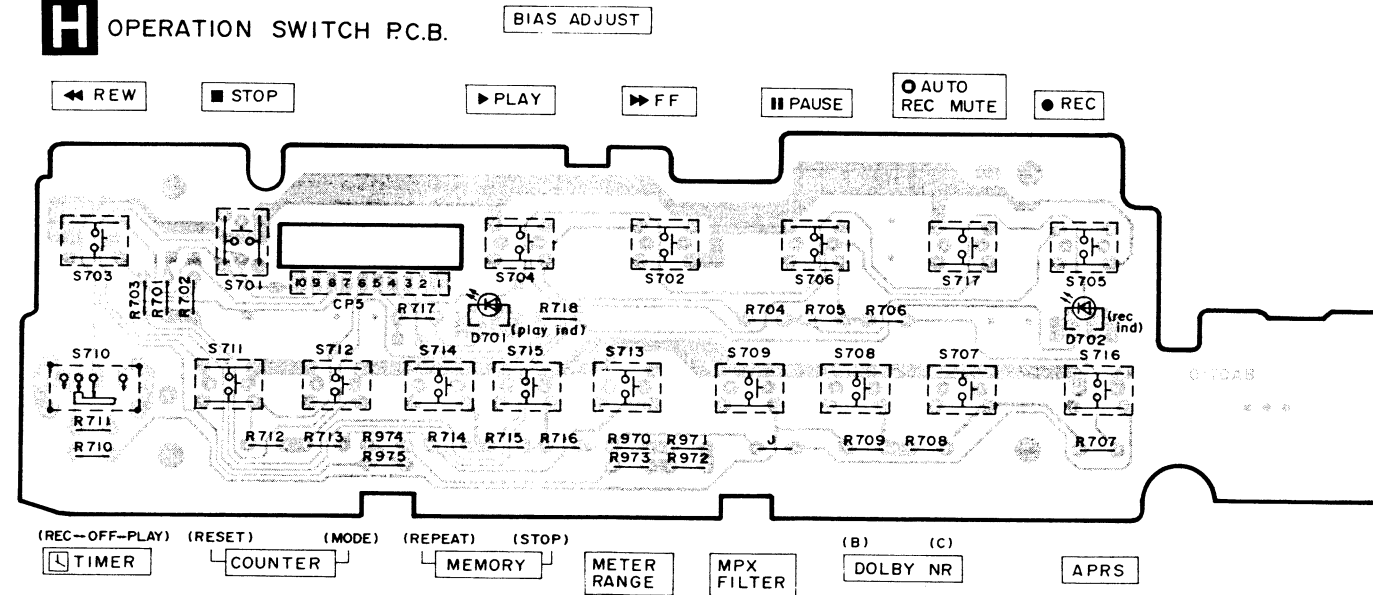
7 8 9 10 11 12 13 14 15 16



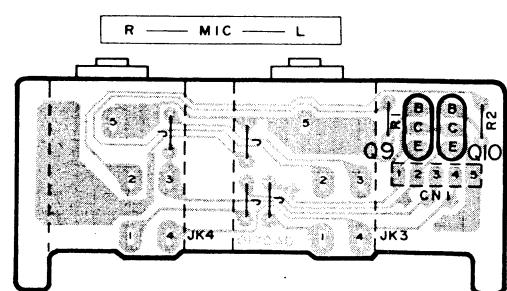
B FL METER P.C.B.



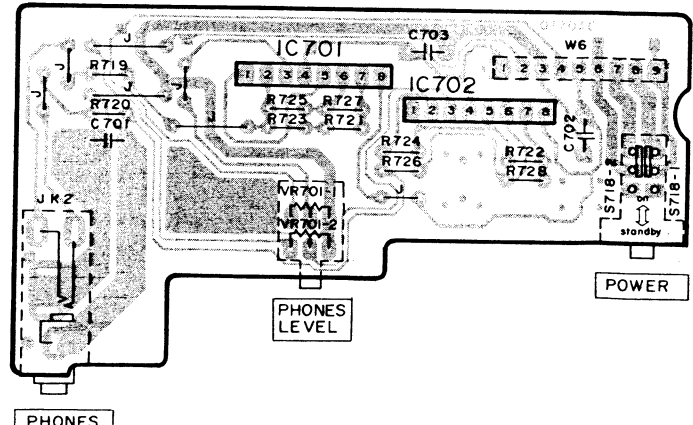
H OPERATION SWITCH P.C.B.



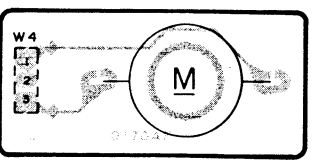
A MIC JACK P.C.B.



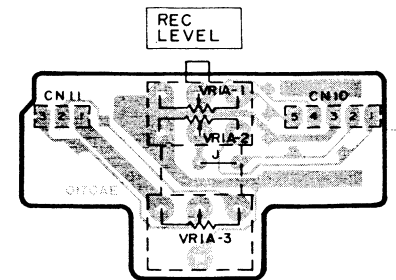
G POWER SWITCH/HEADPHONES JACK P.C.B.



E REEL MOTOR P.C.B.

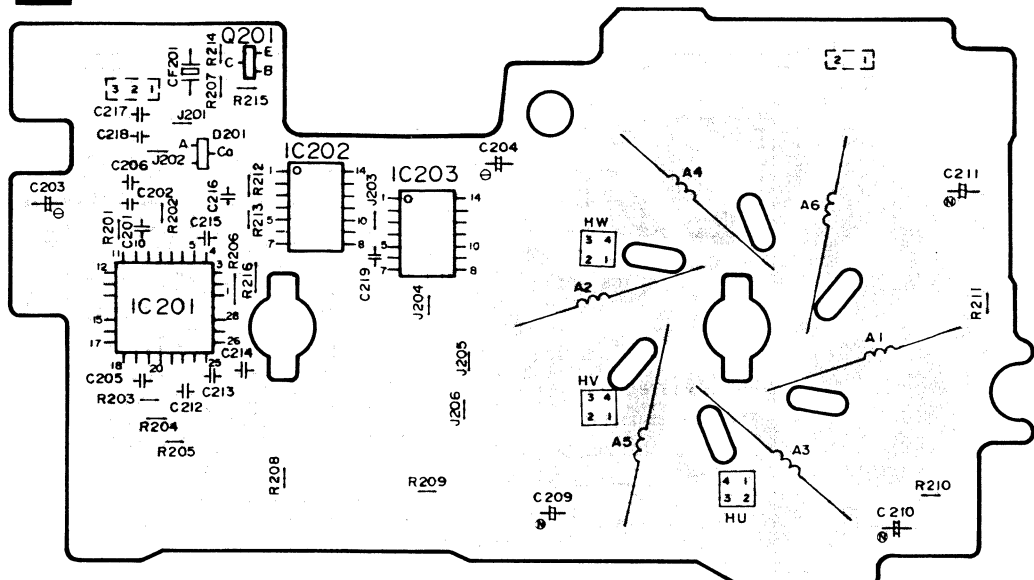


F REC LEVEL VR P.C.B.

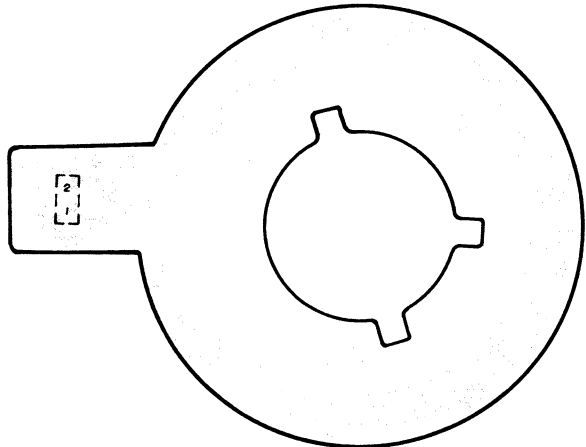


Capacitors and Resistors indicated by (C) or (R) are only in the EB (Great Britain) area.

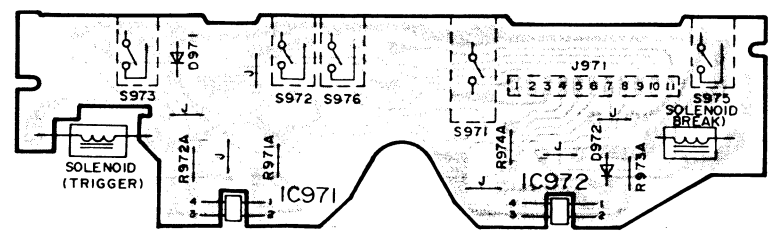
I CAPSTAN MOTOR (D.D) P.C.B.



J FG P.C.B.

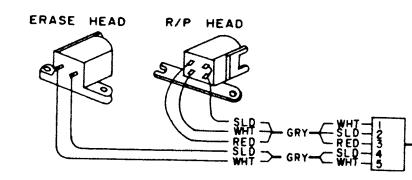
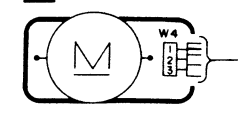


D MECHANISM P.C.B.

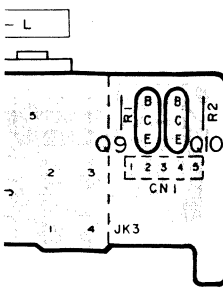
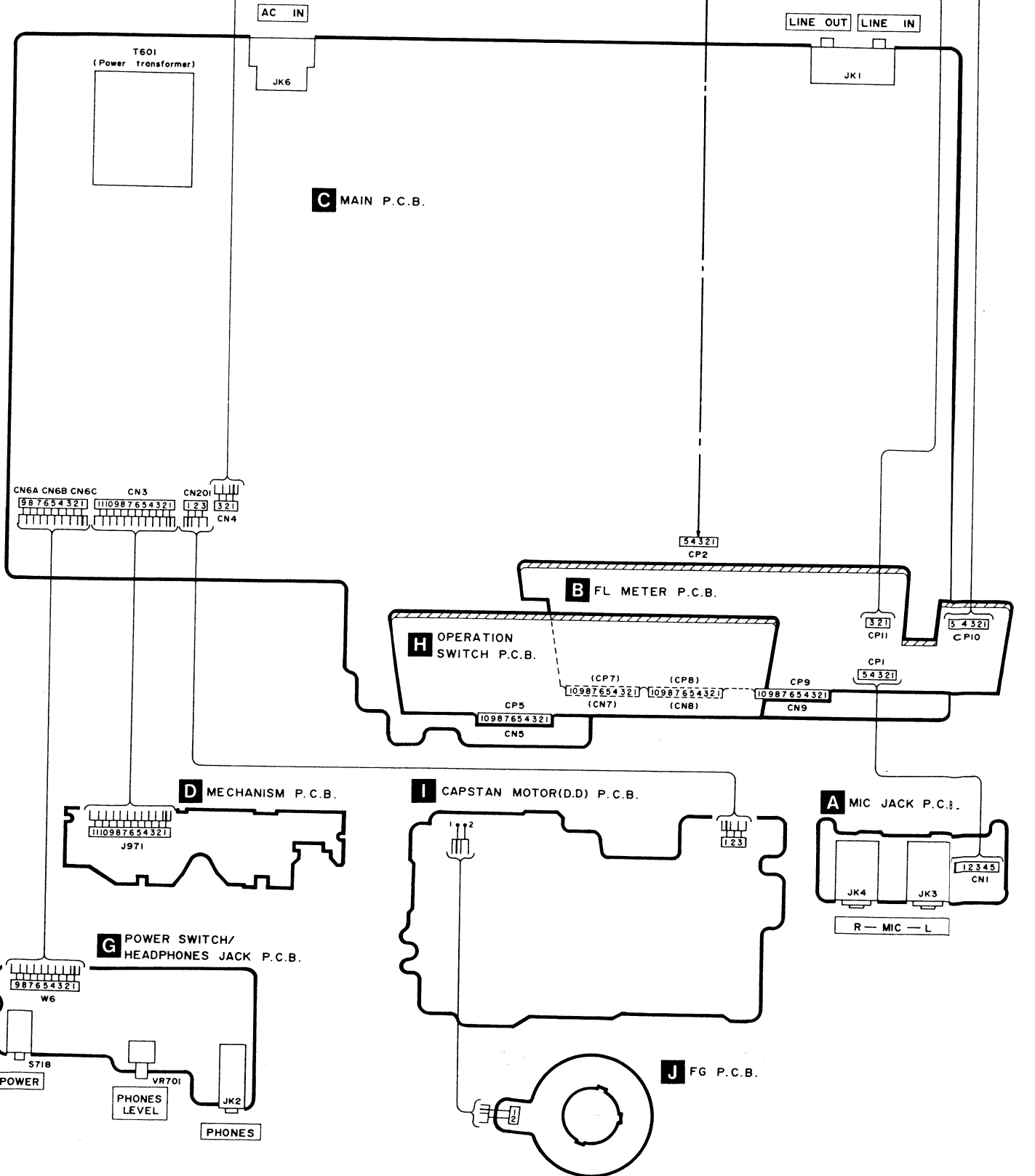
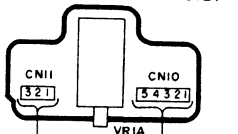


WIRING CONNECTION DIAGRAM

E REEL MOTOR P.C.B.



F REC LEVEL VR P.C.B.



REPLACEMENT PARTS LIST

Notes : • Important safety notice:
 Components identified by Δ mark have special characteristics important for safety. When replacing any of these components use only manufacturer's specified parts.
 • The parenthesized indications in the Remarks column specify the areas. (Refer to the cover page for area.)
 Parts without these indications can be used for all areas.

| Ref. No. | Part No. | Part Name & Description | Remarks | Ref. No. | Part No. | Part Name & Description | Remarks |
|-----------|--------------|-------------------------|----------|-----------|--------------|-------------------------|----------|
| | | INTEGRATED CIRCUIT(S) | | Q905 | DTA114ESTP | TRANSISTOR | |
| | | | | Q906 | DTC114ESTP | TRANSISTOR | |
| | | | | Q907 | 2SB1030RSTTA | TRANSISTOR | Δ |
| | | | | Q908 | DTC114YSTP | TRANSISTOR | |
| | | | | Q909 | 2SC3311AQSTA | TRANSISTOR | |
| | | | | Q910 | 2SB1030RSTTA | TRANSISTOR | Δ |
| | | | | Q911 | 2SC3311AQSTA | TRANSISTOR | |
| | | | | Q912 | DTC114ESTP | TRANSISTOR | |
| | | | | Q913 | 2SC3311AQSTA | TRANSISTOR | |
| | | | | Q914 | DTC114ESTP | TRANSISTOR | |
| | | | | Q915 | DTC114YSTP | TRANSISTOR | |
| | | | | Q916 | 2SB1030RSTTA | TRANSISTOR | |
| | | | | Q917 | 2SD692A | TRANSISTOR | |
| | | | | Q918 | 2SC3311AQSTA | TRANSISTOR | |
| | | | | Q919-921 | DTA114ESTP | TRANSISTOR | |
| | | | | Q923, 924 | DTA114ESTP | TRANSISTOR | |
| | | | | Q925 | DTC114ESTP | TRANSISTOR | |
| | | | | Q926 | 2SB1030RSTTA | TRANSISTOR | |
| | | | | Q927 | 2SC3311AQSTA | TRANSISTOR | (EB) |
| | | | | | | DIODE(S) | |
| Q1, 2 | ZSJ164PQRTA | TRANSISTOR | | D1, 2 | MA1677A | DIODE | |
| Q3-6 | ZSK381BCDTA | TRANSISTOR | | D3-8 | MA1657A | DIODE | |
| Q7, 8 | ZSJ164PQRTA | TRANSISTOR | | D201 | MA3056MTW | DIODE | |
| Q9, 10 | ZSD145ORSTA | TRANSISTOR | | D301 | MA1657A | DIODE | |
| Q11-14 | ZSC3311AQSTA | TRANSISTOR | | D302 | MA4056MTA | DIODE | |
| Q17, 18 | ZSA1309AQSTA | TRANSISTOR | | D303 | MA1657A | DIODE | |
| Q201 | ZSD601RTW | TRANSISTOR | | D551-554 | MA1657A | DIODE | |
| Q301, 302 | ZSC3311AQSTA | TRANSISTOR | | D555, 556 | MA4051MTA | DIODE | |
| Q303 | ZSB621ARSTA | TRANSISTOR | Δ | D601-606 | 1SR35200TB | DIODE | Δ |
| Q304 | ZSD592A | TRANSISTOR | | D607, 608 | MA4091MTA | DIODE | |
| Q305, 306 | ZSA1309AQSTA | TRANSISTOR | | D609 | MA4220M | DIODE | |
| Q401-404 | ZSC3311AQSTA | TRANSISTOR | | D610 | MA4062HTA | DIODE | |
| Q551 | ZSA1309AQSTA | TRANSISTOR | | D611 | 1SR35200TB | DIODE | Δ |
| Q601 | ZSA1309AQSTA | TRANSISTOR | Δ | D612 | MA1657A | DIODE | |
| Q602, 603 | ZSC3311AQSTA | TRANSISTOR | Δ | D613 | MA4120M | DIODE | |
| Q604 | ZSD2037EFTA | TRANSISTOR | | D614 | MA1657A | DIODE | |
| Q605 | ZSB1357EFTA | TRANSISTOR | | D615 | MA4330MTA | DIODE | |
| Q606 | ZSD2037EFTA | TRANSISTOR | | D701 | RFNFSB655EAK | L. E. D ASS'Y | |
| Q607 | ZSB621ARSTA | TRANSISTOR | | D702 | RFNFSB655EBK | L. E. D ASS'Y | |
| Q608 | ZSD2037EFTA | TRANSISTOR | | D901, 902 | 1SR35200TB | DIODE | |
| Q609 | ZSC3311AQSTA | TRANSISTOR | Δ | D903 | MA1657A | DIODE | Δ |
| Q901 | ZSA1309AQSTA | TRANSISTOR | Δ | D904-909 | MA1657A | DIODE | |
| Q902 | DTA114ESTP | TRANSISTOR | | D910 | MA4051MTA | DIODE | |
| Q903 | DTC114ESTP | TRANSISTOR | | D911, 912 | MA1657A | DIODE | |
| Q904 | 2SB1030RSTTA | TRANSISTOR | Δ | D913 | MA4056H | DIODE | |

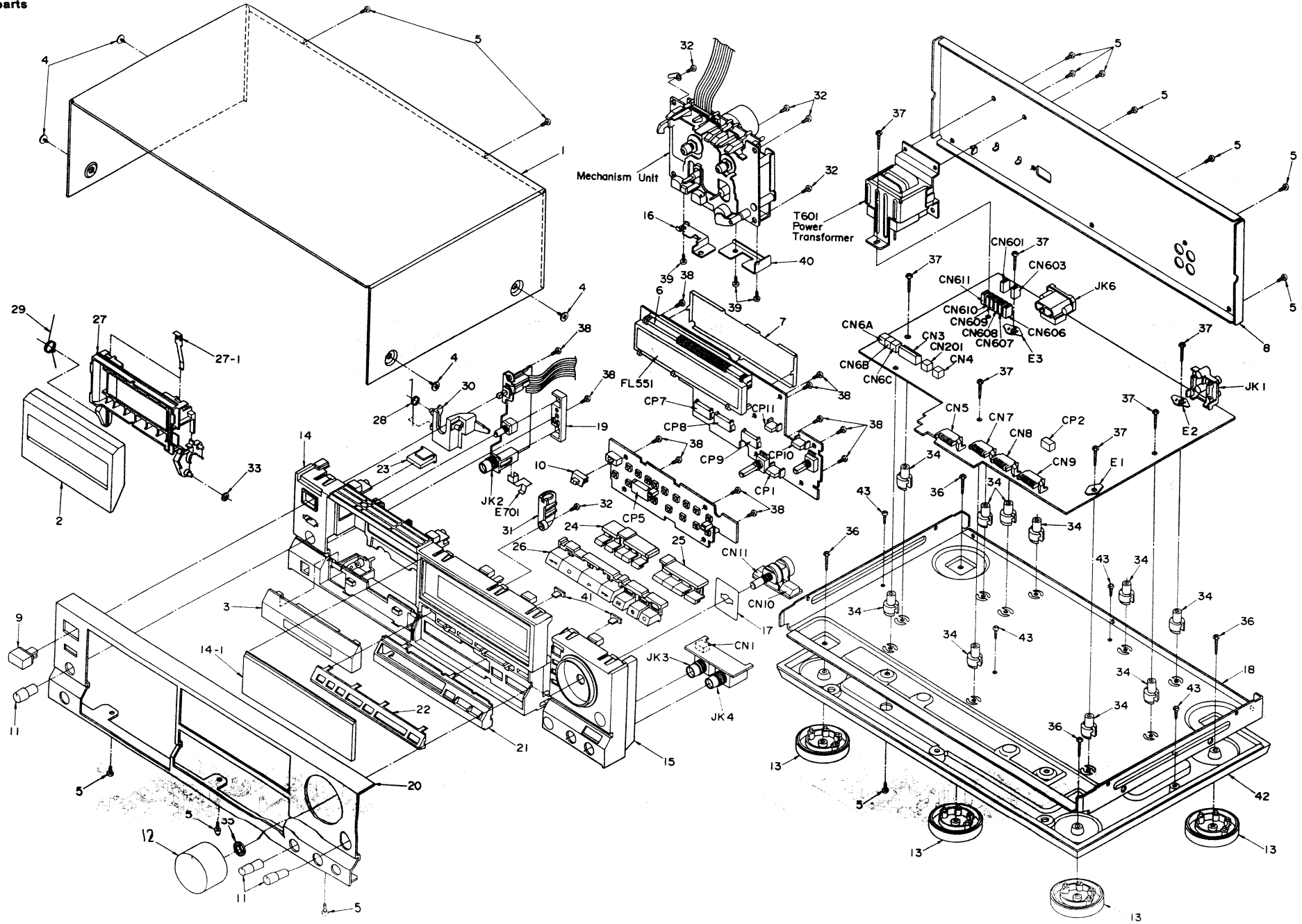
| Ref. No. | Part No. | Part Name & Description | Remarks | Ref. No. | Part No. | Part Name & Description | Remarks |
|------------|--------------|--------------------------|----------------------|-----------|--------------|----------------------------|----------|
| D914 | MA4091MTA | DIODE | | S712 | EVQQTG05R | SW, COUNTER MODE | |
| D915, 916 | MA1657A | DIODE | Δ | S713 | EVQQTG05R | SW, METER RANGE | |
| D917-921 | MA1657A | DIODE | | S714 | EVQQTG05R | SW, MEMORY REPEAT | |
| D924 | MA1657A | DIODE | | S715 | EVQQTG05R | SW, MEMORY STOP | |
| D971, 972 | 1SS133 | DIODE | | S716 | EVQQTG05R | SW, APS | |
| | | VARIABLE RESISTOR(S) | | S717 | EVQQTG05R | SW, AUTO REC MUTE | |
| | | | | S718 | SSH1230 | SW, POWER | |
| | | | | S971 | RSHIA89Z | SW, MODE | |
| VR1, 2 | EVNDXA00B53 | V. R. PLAYBACK GAIN ADJ. | | S972 | RSHIA90Z | SW, HALF | |
| VR1A | EWGU2A029A54 | V. R. REC. LEVEL CONTROL | | S973 | RSHIA90Z | SW, ATS | |
| VR2A | EVJ02SF06G15 | V. R. BALANCE CONTROL | | S975 | RSHIA90Z | SW, REC INHIBIT | |
| VR3, 4 | EVNDXA00B14 | V. R. OVERALL GAIN ADJ. | | S976 | RSHIA90Z | SW, ATS | |
| VR301, 302 | EVNDXA00B14 | V. R. OVERALL FREQ. ADJ. | | | | CONNECTOR(S) AND SOCKET(S) | |
| VR303 | EVJ02VF04B53 | V. R. BIAS CURRENT ADJ. | | | | | |
| VR701 | EVU57A043A14 | V. R. HEADPHONES CONTROL | | | | | |
| | | COIL(S) | | CN1 | SJT30545JQ | CONNECTOR(5P) | |
| | | | | CN3 | SJSD1105 | CONNECTOR(11P) | |
| LL, 2 | RL20003 | COIL | | CN4 | RJSIA1703 | CONNECTORCONNECTOR(3P) | |
| LL, 4 | SLQK272-1YT | COIL | | CN5 | RJU003K010M | SOCKET(10P) | |
| L301 | SL09B4-K | COIL | | CN6A-6C | RJSIA1703 | CONNECTOR(3P) | |
| L302, 303 | SL09B1-K | COIL | | CN7-9 | RJU003K010M | SOCKET(10P) | |
| L401, 402 | QLM3210K | COIL | | CN10 | SJT30545JQ | CONNECTOR(5P) | |
| L403, 404 | SLM1B8-K | COIL | | CN11 | SJT30345JQ | CONNECTOR(3P) | |
| | | TRANSFORMER(S) | | CN201 | RJSIA1703 | CONNECTOR(3P) | |
| | | | | CN201A | RJS2T42A | CONNECTOR(2P) | |
| T601 | RTPLK48007-V | POWER TRANSFORMER | (EB) Δ | CN601 | RJSIA1101 | SOCKET(1P) | Δ |
| T601 | RTPLK4E008-V | POWER TRANSFORMER | (E, E5, EG) Δ | CN603 | RJSIA1101 | SOCKET(1P) | Δ |
| | | | | CN606-611 | RJSIA1101 | SOCKET(1P) | |
| | | OSCILLATOR(S) | | CP1 | SJS50578JQ | SOCKET(5P) | |
| | | | | CP2 | SJTD513 | CONNECTOR(5P) | |
| | | | | CP5 | RJT003K010 | CONNECTOR(10P) | |
| | | | | CP7-9 | RJT003K010 | CONNECTOR(10P) | |
| X551 | EFOCC4004T4 | CERAMIC FILTER | | CP10 | SJS50578JQ | SOCKET(5P) | |
| X901 | EFOCC6004T4 | CERAMIC FILTER | | CP11 | SJS50378JQ | SOCKET(3P) | |
| | | DISPLAY TUBE | | | | GND PART(S) | |
| | | | | | | | |
| FL551 | RSL0017-F | DISPLAY TUBE (FL METER) | | E1-3 | SNE1004-1 | GND PLATE | |
| | | SWITCH(ES) | | E701 | SUSD165 | GND SPRING | |
| | | | | | | JACK(S) | |
| S701 | EVQQTG05R | SW, STOP | | | | | |
| S702 | EVQQTG05R | SW, F. F. | | JK1 | SJF3069N | TERMINAL BOARD | |
| S703 | EVQQTG05R | SW, REV. | | JK2 | SJJ146B | JACK, HEADPHONES | |
| S704 | EVQQTG05R | SW, PLAYBACK | | JK3, 4 | RJ365SD01 | JACK, MIC | |
| S705 | EVQQTG05R | SW, RECORD | | JK6 | SJS9236 | AC INLET | Δ |
| S706 | EVQQTG05R | SW, PAUSE | | | | CERAMIC FILTER(S) | |
| S707 | EVQQTG05R | SW, DOLBY NR C | | | | | |
| S708 | EVQQTG05R | SW, DOLBY NR B | | CF201 | RSXA3M74S01 | CERAMIC FILTER | |
| S709 | EVQQTG05R | SW, MPX FILTER | | | | JAMPER(S) | |
| S710 | SSS166 | SW, TIMER | | | | | |
| S711 | EVQQTG05R | SW, COUNTER RESET | | J201-206 | ERJ6GEYDROOV | CHIP JAMPER | |

Notes : • Important safety notice:
 Components identified by Δ mark have special characteristics important for safety. When replacing any of these components use only manufacturer's specified parts.
 • The parenthesized indications in the Remarks column specify the areas. (Refer to the cover page for area.)
 Parts without these indications can be used for all areas.

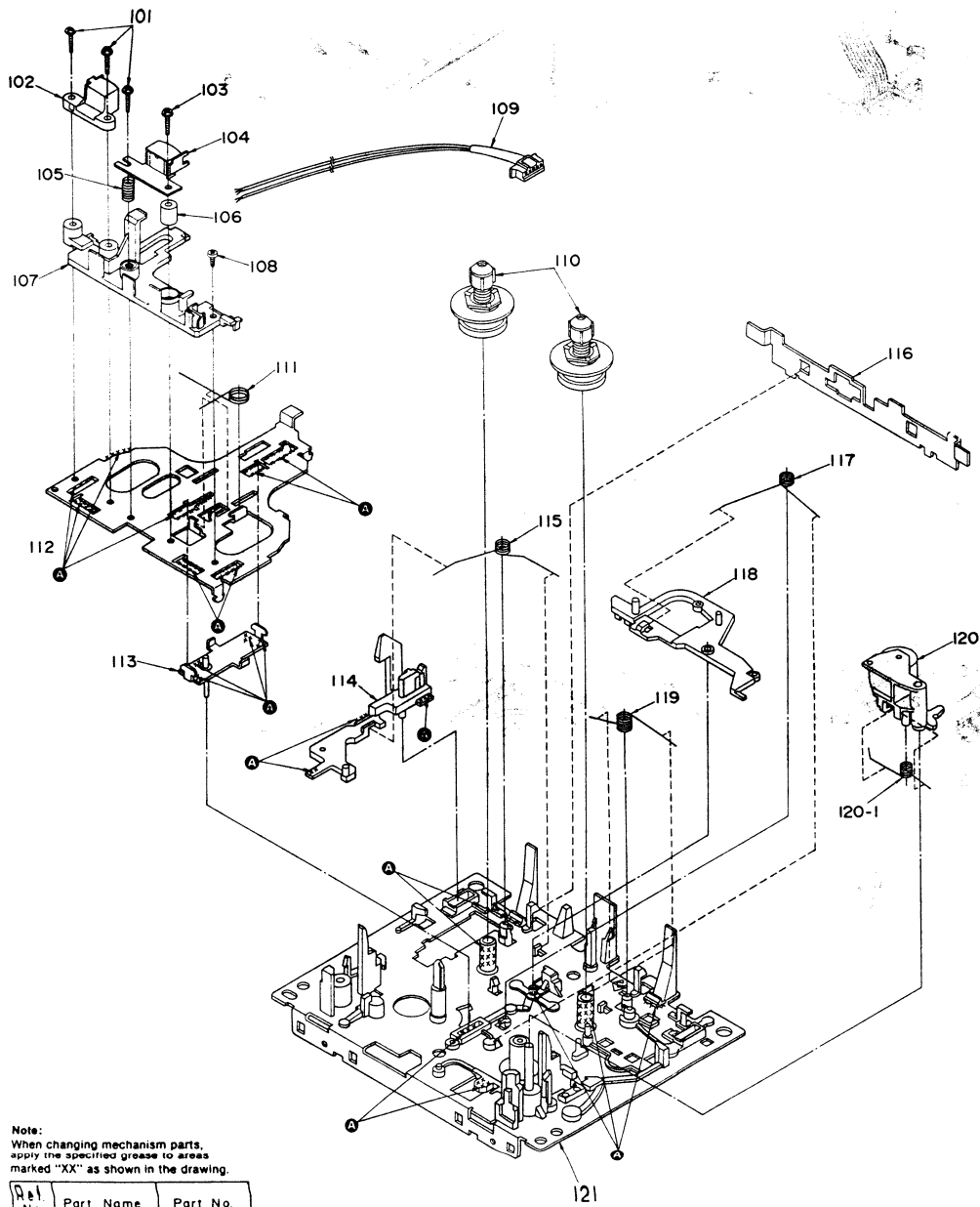
| Ref. No. | Part No. | Part Name & Description | Remarks | Ref. No. | Part No. | Part Name & Description | Remarks |
|----------|--------------|-------------------------|---------|----------|------------|-------------------------|----------------------|
| | | CABINET AND CHASSIS | | 40 | RSC0076 | SHIELD PLATE | |
| | | | | 41 | RL0030 | PANEL LIGHT | |
| | | | | 42 | RK0009 | BOTTOM BOARD | |
| 1 | RK0036-K | CABINET | | 43 | XTB3-10G | SCREW | |
| 2 | RYF0027 | CASSETTE LID | | | | PACKING MATERIAL | |
| 3 | RYQ0027 | ORNAMENT | | | | | |
| 4 | SNE2129-1 | SCREW | | P1 | RP00255 | CARTON BOX | |
| 5 | XTB3-8JFZ1 | SCREW | | P2 | RP0178 | PAD, FRONT/BACK | |
| 6 | RM0021 | FL HOLDER | | P3 | SPS5185 | PAD, ACCESSORIES | |
| 7 | RSC0048 | SHIELD PLATE | | P4 | SPP756 | PROTECTION COVER | |
| 8 | RG0024-A | REAR PANEL | (E) | | | ACCESSORIES | |
| 8 | RG0024-C | REAR PANEL | (E5) | A1 | RQF0239 | INSTRUCTION MANUAL | (EG) |
| 8 | RG0024-E | REAR PANEL | (EB) | A1 | RQF0240 | INSTRUCTION MANUAL | (E, E5) |
| 8 | RG0024-L | REAR PANEL | (EG) | A1 | RQF0241 | INSTRUCTION MANUAL | (EB) |
| 9 | RGU0030 | BUTTON, POWER | | A2 | SFDAC05E03 | POWER CORD | (E, E5, EG) Δ |
| 10 | RGV0022 | KNOB, TIMER | | A2 | SJA193-1 | POWER CORD | (EB) Δ |
| 11 | RGW0032 | KNOB, BALANCE LEVEL | | A3 | SJP2249-3 | STEREO CONNECTION CABLE | |
| 12 | RGW0033 | KNOB, REC LEVEL | | | | | |
| 13 | RKA0009-1 | FOOT | | | | | |
| 14 | RFKNSB655EAK | FRONT GRILLE ASS'Y (1) | | | | | |
| 14-1 | RK0038 | TRANSPARENT PLATE | | | | | |
| 15 | RFKNSB655EBK | FRONT GRILLE ASS'Y (2) | | | | | |
| 16 | RM0040 | BRACKET | | | | | |
| 17 | RM0056 | SHIELD PLATE | | | | | |
| 18 | RM0026-1 | CHASSIS | | | | | |
| 19 | RM0022 | ORNAMENT | | | | | |
| 20 | RFKNSB655E-K | FRONT PANEL ASS'Y | | | | | |
| 21 | RG0117 | ORNAMENT, BUTTON (A) | | | | | |
| 22 | RG0118 | ORNAMENT, BUTTON (B) | | | | | |
| 23 | RGU0130 | BUTTON, EJECT | | MECH1 | RAA0802 | MECHANISM ASS'Y | |
| 24 | RGU0131 | BUTTON, COUNTER | | | | | |
| 25 | RGU0132 | BUTTON, NOISE REDUCTION | | | | | |
| 26 | RGU0133 | BUTTON, OPERATION | | | | | |
| 27 | RKF0020A-3 | CASSETTE HOLDER | | PWB1 | REPO306A | MAIN P. C. B. ASS'Y | (E, E5, EG) |
| 27-1 | QBP2006A | SPRING, TAPE PRESSURE | | PWB1 | REPO306B | MAIN P. C. B. ASS'Y | (EB) |
| 28 | RME0032 | SPRING | | PWB2 | REPO307A | SUB P. C. B. ASS'Y | |
| 29 | RME0034 | SPRING | | | | | |
| 30 | RML0086 | EJECT LEVER | | | | | |
| 31 | RM0153 | DAMPER GEAR ASS'Y | | | | | |
| 32 | XTB3-10JFZ | SCREW | | | | | |
| 33 | SJD444-1 | WASHER | | | | | |
| 34 | SHE187-2 | HOLDER | | | | | |
| 35 | SNE4021-1 | NUT | | | | | |
| 36 | XTB3-16G | SCREW | | | | | |
| 37 | XTB3-20J | SCREW | | | | | |
| 38 | XTB3-8JFZ | SCREW | | | | | |
| 39 | XTB26-4FFZ | SCREW | | | | | |

EXPLODED VIEWS

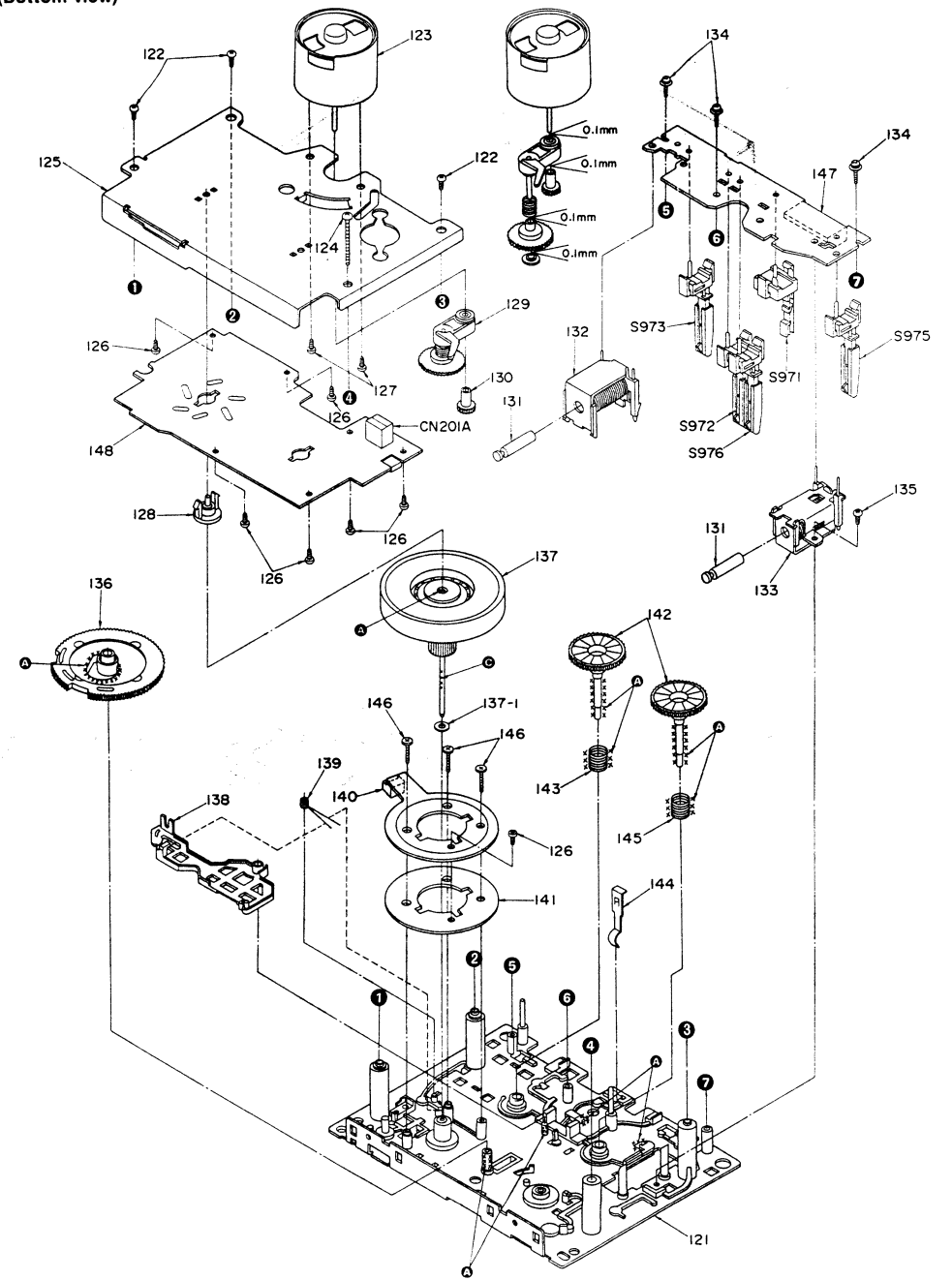
• Cabinet parts



• Mechanical parts
(Top view)



(Bottom view)



Note:
When changing mechanism parts,
apply the specified grease to areas
marked "XX" as shown in the drawing.

| Part No | Part Name | Part No. |
|---------|--------------|----------|
| A | FL0IL AK-152 | SZZ0L18 |
| G | FL0IL947P | RZZ0L02 |

REPLACEMENT PARTS LIST

| Ref. No. | Part No. | Part Name & Description | Remarks | Ref. No. | Part No. | Part Name & Description | Remarks |
|----------|--------------|-------------------------|---------|----------|----------|-------------------------|---------|
| | | MECHANISM PARTS LIST | | 148 | REPO268A | STATER P. C. B. ASS'Y | |
| 101 | QHJ1361A | SCREW | | | | | |
| 102 | SJH96-1 | E HEAD | | | | | |
| 103 | RHE52012A | SCREW | | | | | |
| 104 | RJH4C35GZAM | R/P HEAD | | | | | |
| 105 | QBC1278A | SPRING | | | | | |
| 106 | RHZ2782A | SPACER | | | | | |
| 107 | RMD50132C | HEAD SPACER | | | | | |
| 108 | XTN2+5F | SCREW | | | | | |
| 109 | REX0075 | LEAD WIRE BLOCK | | | | | |
| 110 | RXG0001 | REEL TABLE | | | | | |
| 111 | RJW1392A | SPRING | | | | | |
| 112 | RMA0047B | HEAD BASE | | | | | |
| 113 | RXQ0078 | MAIN ROD ASS'Y | | | | | |
| 114 | RMD012-2 | EJECT ROD (L) | | | | | |
| 115 | RMD018-1 | SPRING | | | | | |
| 116 | RJBS022 | LEVER | | | | | |
| 117 | RMD020 | SPRING | | | | | |
| 118 | RKL0007 | BRAKE LEVER | | | | | |
| 119 | RJW1422A | SPRING | | | | | |
| 120 | RXP0004 | PINCH ROLLER ARM | | | | | |
| 120-1 | RJW1402B | SPRING | | | | | |
| 121 | RFKRS8555E-K | CHASSIS ASS'Y | | | | | |
| 122 | XTN26-7J | SCREW | | | | | |
| 123 | MMH-6F4RAB8 | REEL MOTOR | | | | | |
| 124 | XTN26-26F | SCREW | | | | | |
| 125 | RMA0048A | FLYWHEEL PLATE | | | | | |
| 126 | XTN2+3F | SCREW | | | | | |
| 127 | XSN26-3 | SCREW | | | | | |
| 128 | RMR0141 | THRUST BEARING | | | | | |
| 129 | RXG0009 | GEAR ASS'Y | | | | | |
| 130 | RXG0034 | REEL MOTOR GEAR | | | | | |
| 131 | RJB4282 | MOVING IRON CORE | | | | | |
| 132 | RSJ0003 | SOLENOID | | | | | |
| 133 | RXQ0011 | BRAKE SOLENOID | | | | | |
| 134 | XTW2+8S | SCREW | | | | | |
| 135 | XTN26-4F | SCREW | | | | | |
| 136 | RXG0030 | MAIN GEAR | | | | | |
| 137 | RXFD008 | FLYWHEEL | | | | | |
| 137-1 | RJW1392A | WASHER | | | | | |
| 138 | RJLD0037 | LEVER | | | | | |
| 139 | RJW1472A | SPRING | | | | | |
| 140 | RJS2772A | CONNECTOR (2P) | | | | | |
| 141 | RXQ0037 | PG YOKE | | | | | |
| 142 | RXG0003 | REEL TABLE GEAR | | | | | |
| 143 | RJQ1122A | SPRING | | | | | |
| 144 | RUS609Z | TAPE PRESSURE SPRING | | | | | |
| 145 | RJQ1112A | SPRING | | | | | |
| 146 | RHE52042A | SCREW | | | | | |
| 147 | RJS1172A | CONNECTOR (11P) | | | | | |

RESISTORS & CAPACITORS

Notes : * Capacity value are in microfarads (uF) unless specified otherwise, P=Pico-farads (pF) F=Farads (F)
 * Resistance values are in ohms, unless specified otherwise, 1K=1,000 (OHM) . 1M=1,000k(OHM)

| Ref. No. | Part No. | Values & Remarks | Ref. No. | Part No. | Values & Remarks | Ref. No. | Part No. | Values & Remarks |
|------------------|--------------|------------------|-----------|--------------|------------------------|-----------|--------------|-----------------------|
| RESISTORS | | | | | | | | |
| R1, 2 | ERDS2TJ223T | 1/4W 22K | R304, 305 | ERDS2TJ100T | 1/4W 10 | R602 | ERDS2TJ472T | 1/4W 4.7K |
| R3, 4 | ERDS2TJ473T | 1/4W 47K | R306 | ERDS2TJ471T | 1/4W 470 | R603 | ERDS2TJ103T | 1/4W 10K |
| R5, 6 | ERDS2TJ102T | 1/4W 1K | R307 | ERDS2TJ222T | 1/4W 2.2K | R604 | ERDS2TJ472T | 1/4W 4.7K Δ |
| R7, 8 | ERDS2TJ225T | 1/4W 2.2M | R308 | ERDS2TJ472T | 1/4W 4.7K | R605 | ERDS1FVJ150T | 1/2W 15 (E. ES, EG) Δ |
| R9, 10 | ERDS2TJ104T | 1/4W 100K | R311, 312 | ERDS2TJ100T | 1/4W 10 | R606 | ERD2FCVG150T | 1/4W 15 (EB) Δ |
| R11, 12 | ERDS2TJ183T | 1/4W 18K | R313, 314 | ERDS2TJ154T | 1/4W 150K | R607, 608 | ERDS1FVJ100T | 1/2W 10 (E. ES, EG) Δ |
| R13, 14 | ERDS2TJ101T | 1/4W 100 | R315, 316 | ERDS2TJ153T | 1/4W 15K | R609 | ERD2FCVG100T | 1/4W 10 (EB) Δ |
| R15, 16 | ERDS2TJ820T | 1/4W 82 | R317 | ERDS2TJ822T | 1/4W 8.2K | R610, 612 | ERDS1FVJ270T | 1/2W 27 (E. ES, EG) Δ |
| R17, 18 | ERDS2TJ153T | 1/4W 15K | R318 | ERDS2TJ272T | 1/4W 2.7K | R611, 612 | ERD2FCVG270T | 1/4W 27 (EB) Δ |
| R19, 20 | ERDS2TJ103T | 1/4W 10K | R319 | ERDS2TJ102T | 1/4W 1K | R613 | ERDS2TJ222T | 1/4W 2.2K Δ |
| R21, 22 | ERDS2TJ564T | 1/4W 560K | R320 | ERDS2TJ332T | 1/4W 3.3K | R614 | ERDS2TJ222T | 1/4W 2.2K |
| R23, 24 | ERDS2TJ682T | 1/4W 6.8K | R321 | ERDS1FVJ121T | 1/2W 120 (E. ES, EG) Δ | R615 | ERDS2TJ180T | 1/4W 1.0 Δ |
| R25, 26 | ERDS2TJ223T | 1/4W 22K | R322 | ERDS1FVJ561T | 1/2W 560 (EB) Δ | R616 | ERDS2TJ391T | 1/4W 390 Δ |
| R27, 28 | ERDS2TJ103T | 1/4W 10K | R323 | ERDS2TJ563T | 1/4W 56K | R617, 618 | ERDS2TJ221T | 1/4W 220 (EB) |
| R29, 30 | ERDS2TJ472T | 1/4W 4.7K | R324 | ERDS2TJ563T | 1/4W 56K | R619, 620 | ERQ16NKR15E | 1/6W 0.15 (EB) Δ |
| R31, 32 | ERDS2TJ392T | 1/4W 3.9K | R325-327 | ERDS1FVJ561T | 1/2W 560 (EB) | R621, 618 | ERDS2TJ560T | 1/4W 56 (E. ES, EG) |
| R33, 34 | ERDS2TJ102T | 1/4W 1K | R401, 402 | ERDS2TJ101T | 1/4W 100 | R619, 620 | ERQ16NKR15E | 1/6W 0.15 (EB) Δ |
| R35, 36 | ERDS2TJ820T | 1/4W 82 | R403, 404 | ERDS2TJ272T | 1/4W 2.7K | R623, 624 | ERDS2TJ101T | 1/4W 100 (EB) |
| R39, 40 | ERDS2TJ121T | 1/4W 120 | R405, 406 | ERDS2TJ103T | 1/4W 10K | R625 | ERDS2TJ181T | 1/4W 180 (EB) |
| R41, 42 | ERDS2TJ392T | 1/4W 3.9K | R407, 408 | ERDS2TJ242 | 1/4W 2.4K | R626, 627 | ERDS2TJ101T | 1/4W 100 (EB) |
| R43, 44 | ERDS2TJ152T | 1/4W 1.5K | R409-412 | ERDS2TJ684T | 1/4W 680K | R628 | ERDS2TJ103T | 1/4W 10K |
| R45, 46 | ERDS2TJ272T | 1/4W 2.7K | R413, 414 | ERDS2TJ562T | 1/4W 5.6K | R629 | ERDS2TJ472T | 1/4W 4.7K Δ |
| R47, 48 | ERDS2TJ104T | 1/4W 100K | R415, 416 | ERDS2TJ102T | 1/4W 1K | R630 | ERD2FCVG100T | 1/4W 10 (EB) Δ |
| R49, 50 | ERDS2TJ564T | 1/4W 560K | R417, 418 | ERDS2TJ332T | 1/4W 3.3K | R631-636 | ERDS2TJ221T | 1/4W 220 (EB) |
| R51-56 | ERDS2TJ223T | 1/4W 22K | R419, 420 | ERDS2TJ333T | 1/4W 33K | R637, 638 | ERDS2TJ391T | 1/4W 390 Δ |
| R57, 58 | ERDS2TJ153T | 1/4W 15K | R421-424 | ERDS2TJ823T | 1/4W 82K | R701 | ERDS2TJ821T | 1/4W 820 |
| R59, 60 | ERDS2TJ182T | 1/4W 1.8K | R425, 426 | ERDS2TJ683T | 1/4W 68K | R702 | ERDS2TJ102T | 1/4W 1K |
| R61, 62 | ERDS2TJ333T | 1/4W 33K | R427, 428 | ERDS2TJ222T | 1/4W 2.2K | R703 | ERDS2TJ122T | 1/4W 1.2K |
| R63, 64 | ERDS2TJ472T | 1/4W 4.7K | R429, 430 | ERDS2TJ512 | 1/4W 5.1K | R704 | ERDS2TJ152T | 1/4W 1.5K |
| R65, 66 | ERDS2TJ102T | 1/4W 1K | R431, 432 | ERDS2TJ242 | 1/4W 2.4K | R705 | ERDS2TJ182T | 1/4W 1.8K |
| R67, 68 | ERDS2TJ223T | 1/4W 22K | R551, 552 | ERDS2TJ104T | 1/4W 100K | R706 | ERDS2TJ222T | 1/4W 2.2K |
| R69, 70 | ERDS2TJ472T | 1/4W 4.7K | R553, 554 | ERDS2TJ563T | 1/4W 56K | R707 | ERDS2TJ332T | 1/4W 3.3K |
| R71, 72 | ERDS2TJ561T | 1/4W 560 | R555, 556 | ERDS2TJ104T | 1/4W 100K | R708 | ERDS2TJ472T | 1/4W 4.7K |
| R201 | ERJ6GEYJ333V | 1/10W 33K | R557, 558 | ERDS2TJ220T | 1/4W 22 | R709 | ERDS2TJ682T | 1/4W 6.8K |
| R202 | ERJ6GEYJ683V | 1/10W 68K | R559, 560 | ERDS2TJ152T | 1/4W 1.5K | R710 | ERDS2TJ123T | 1/4W 12K |
| R203-205 | ERJ6GEYJ1R5V | 1/10W 1.5 | R561 | ERDS2TJ102T | 1/4W 1K | R711 | ERDS2TJ223T | 1/4W 22K |
| R206 | ERJ8GEYJ222V | 1/8W 2.2K | R562 | ERDS2TJ471T | 1/4W 470 | R712 | ERDS2TJ821T | 1/4W 820 |
| R207 | ERJ6GEYJ182V | 1/10W 1.8K | R563, 564 | ERDS2TJ103T | 1/4W 10K | R713 | ERDS2TJ102T | 1/4W 1K |
| R208 | ERJ6GEYJ222V | 1/10W 2.2K | R565 | ERDS2TJ105T | 1/4W 1M | R714 | ERDS2TJ122T | 1/4W 1.2K |
| R209-211 | ERJ6GEYJ4R7V | 1/10W 4.7 | R568, 570 | ERDS2TJ101T | 1/4W 100 | R715 | ERDS2TJ152T | 1/4W 1.5K |
| R212, 213 | ERJ6GEYJ152V | 1/10W 1.5K | R571 | ERDS2TJ152T | 1/4W 1.5K | R716 | ERDS2TJ182T | 1/4W 1.8K |
| R214 | ERJ6GEYJ822V | 1/10W 8.2K | R572 | ERDS2TJ102T | 1/4W 1K | R717 | ERDS2TJ181T | 1/4W 180 |
| R215 | ERJ6GEYJ101V | 1/10W 100 | R573 | ERDS2TJ560T | 1/4W 56 | R718 | ERDS2TJ331T | 1/4W 330 |
| R216 | ERJ8GEYJ222V | 1/8W 2.2K | R574 | ERDS2TJ220T | 1/4W 22 | R719, 720 | ERDS2TJ180 | 1/4W 18 |
| R301 | ERDS2TJ180T | 1/4W 1.0 | R575 | ERDS2TJ681T | 1/4W 680 | R721, 722 | ERDS2TJ330T | 1/4W 33 |
| R302, 303 | ERDS2TJ183T | 1/4W 18K | R576 | ERDS2TJ681T | 1/4W 680 | R723, 724 | ERDS2TJ100T | 1/4W 10 |
| R601 | ERDS2TJ472T | 1/4W 4.7K Δ | R601 | ERDS2TJ472T | 1/4W 4.7K Δ | | | |

| Ref. No. | Part No. | Values & Remarks | Ref. No. | Part No. | Values & Remarks | Ref. No. | Part No. | Values & Remarks |
|-----------|--------------|----------------------|----------|-------------|------------------|-----------|---------------|------------------|
| R725, 726 | ERDS2TJ102T | 1/4W 1K | R958 | ERDS2TJ103T | 1/4W 10K | C39, 40 | ECQB1H152JZ3 | 50V 1500P |
| R727, 728 | ERDS2TJ332T | 1/4W 3.3K | R959 | ERDS2TJ152T | 1/4W 1.5K | C41, 42 | ECBT1H470J5 | 50V 47P |
| R901 | ERDS2TJ105T | 1/4W 1M | R960 | ERDS2TJ472T | 1/4W 4.7K | C43, 44 | ECEA1K100B | 16V 10U |
| R902 | ERDS2TJ103T | 1/4W 10K | R961 | ERDS2TJ821T | 1/4W 820 | C45, 46 | ECEA1EK4R7B | 25V 4.7U |
| R903 | ERDS2TJ471T | 1/4W 470 | R962 | ERDS2TJ183T | 1/4W 18K | C47, 48 | ECEA1H8010B | 50V 1U |
| R904 | ERDS2TJ103T | 1/4W 10K | R963 | ERDS2TJ473T | 1/4W 47K | C49, 50 | ECEA1K100B | 16V 10U |
| R905 | ERDS2TJ182T | 1/4W 1.8K | R964 | ERDS2TJ392T | 1/4W 3.9K | C51, 52 | ECQV1H032F | 50V 0.01U |
| R906 | ERDS2TJ682T | 1/4W 6.8K | R965 | ERDS2TJ104T | 1/4W 100K | C201 | ECUV1E153MB | 25V 0.015U |
| R907 | ERDS2TJ103T | 1/4W 10K | R970 | ERDS2TJ222T | 1/4W 2.2K | C202 | ECUV1E104KB | 25V 0.01U |
| R908 | ERDS2TJ392T | 1/4W 3.9K | R971 | ERDS2TJ332T | 1/4W 3.3K | C203, 204 | ECEV1CA100R | 16V 10U |
| R909 | ERDS2TJ271T | 1/4W 2.7K | R971A | ERDS2TJ271T | 1/4W 2.7K | C205, 206 | ECUV1E104KB | 25V 0.01U |
| R910 | ERDS2TJ103T | 1/4W 10K | R972 | ERDS2TJ472T | 1/4W 4.7K | C209-211 | ECEV1EN4R7R | 25V 4.7U |
| R911 | ERDS2TJ392T | 1/4W 3.9K | R972A | ERDS2TJ183T | 1/4W 18K | C212-214 | ECUV1H1032FN | 50V 0.01U |
| R912 | ERDS2TJ272T | 1/4W 2.7K | R973 | ERDS2TJ682T | 1/4W 6.8K | C215 | ECUV1H472KB | 50V 4700P |
| R913 | ERDS2TJ561T | 1/4W 56K | R973A | ERDS2TJ271T | 1/4W 270 | C216 | ECUV1E562K8N | 25V 5600P |
| R914 | ERDS2TJ102T | 1/4W 1K | R974 | ERDS2TJ123T | 1/4W 12K | C217-219 | ECUV1E104KB | 25V 0.01U |
| R915 | ERDS2TJ103T | 1/4W 10K | R974A | ERDS2TJ183T | 1/4W 18K | C301 | ECQP1153JZ | 100V 0.015U |
| R916 | ERDS2TJ332T | 1/4W 3.3K | R975 | ERDS2TJ223T | 1/4W 22K | C302 | ECEA1EK4R7B | 25V 4.7U |
| R917, 918 | ERDS2TJ103T | 1/4W 10K | R977 | ERDS2TJ223T | 1/4W 22K Δ | C303 | ECKT1H932KB | 50V 3900P |
| R919, 920 | ERDS2TJ223T | 1/4W 22K | R978 | ERDS2TJ473T | 1/4W 47K | C304, 305 | ECKT1H222KB | 50V 2200P |
| R922 | ERDS2TJ472T | 1/4W 4.7K | R979 | ERDS2TJ272T | 1/4W 2.7K | C306 | ECKT1H682KB | 50V 6800P |
| R923 | ERDS2TJ152T | 1/4W 1.5K | R980 | ERDS2TJ472T | 1/4W 4.7K | C310 | ECKD1H472KB | 50V 4700P |
| R924 | ERDS2TJ223T | 1/4W 22K Δ | R981 | ERDS2TJ392T | 1/4W 3.9K | C311 | ECEA1U101B | 10V 100U |
| R925 | ERDS2TJ821T | 1/4W 820 | R982 | ERDS2TJ223T | 1/4W 22K | C312 | ECKT1H032F | 50V 0.01U |
| R926 | ERDS2TJ223T | 1/4W 22K Δ | R983 | ERDS2TJ103T | 1/4W 10K | C313, 314 | ECKT1H223ZF | 50V 0.022U |
| R927 | ERDS2TJ821T | 1/4W 820 | R984 | ERDS2TJ472T | 1/4W 4.7K (EB) | C315, 316 | ECBT1H821KB5 | 50V 820P |
| R928 | ERG1SJ150 | 1W 15 Δ | R985 | ERDS2TJ222T | 1/4W 2.2K (EB) | C317, 318 | ECBT1H121KB5 | 50V 120P |
| R929 | ERG1SJ180E | 1W 18 Δ | R986 | ERDS2TJ332T | 1/4W 3.3K (EB) | C319, 320 | ECQV1H563JZ3 | 50V 0.056U |
| R930 | ERDS2TJ223T | 1/4W 22K Δ | R987 | ERDS2TJ822T | 1/4W 8.2K | C321, 322 | ECQB1H223JZ3 | 50V 0.022U |
| R931 | ERDS2TJ821T | 1/4W 820 | R988 | ERDS2TJ473T | 1/4W 47K | C323, 324 | ECQB1H032JZ3 | 50V 0.01U |
| R932 | ERDS2TJ472T | 1/4W 4.7K (EB) | R989 | ERDS2TJ822T | 1/4W 8.2K | C325, 326 | ECKT1H222KB | 50V 1200P |
| R932 | ERDS2TJ103T | 1/4W 10K (E. ES, EG) | R990 | ERDS2TJ473T | 1/4W 47K | C328 | ECBT1H80J5 | 50V 18P |
| R933 | ERDS2TJ472T | 1/4W 4.7K | | | | C329 | ECEA1EK100B | 25V 10U |
| R935 | ERDS2TJ682T | 1/4W 6.8K | | | | C330 | ECKT1H032F | 50V 0.01U Δ |
| R936 | ERDS2TJ223T | 1/4W 22K | | | | C331 | ECBT1H180J5 | 50V 18P |
| R938 | ERDS2TJ682T | 1/4W 6.8K | | | | C401, 402 | ECBT1H820KB5 | 50V 82P |
| R939 | ERDS2TJ223T | 1/4W 22K | | | | C403, 404 | ECEA1EK4R7B | 25V 4.7U |
| R940, 941 | ERDS2TJ562T | 1/4W 5.6K | | | | C405, 406 | ECKT1H122KB | 50V 1200P |
| R942 | ERDS2TJ821T | 1/4W 820 | | | | C407, 408 | ECKT1H152KB | 50V 1500P |
| R943 | ERDS2TJ223T | 1/4W 22K | | | | C409, 410 | ECQV1H224JZ3 | 50V 4700P |
| R944, 945 | ERDS1FVJ180T | 1/2W 18 Δ | | | | C411, 412 | ECEA1CK100B | 16V 10U |
| R946 | ERDS2TJ102T | 1/4W 1K | | | | C413, 414 | ECQV1H473JZ3 | 50V 0.047U |
| R947, 948 | ERDS2TJ103T | 1/4W 10K | | | | C415, 416 | ECQV1H224JZ3 | 50V 0.22U |
| R949 | ERDS2TJ472T | 1/4W 4.7K | | | | C417-420 | ECEA1H8R68B | 50V 0.68U |
| R950 | ERDS2TJ821T | 1/4W 820 | | | | C421, 422 | ECQV1H1032JZ3 | 50V 0.01U |
| R951 | ERDS2TJ101T | 1/4W 100 | | | | C423, 424 | ECQV1H473JZ3 | 50V 0.047U |
| R952 | ERDS2TJ823T | 1/4W 82K | | | | C425, 426 | ECEA1CK100B | 16V 10U |
| R953 | ERDS2TJ393T | 1/4W 39K | | | | C427, 28 | ECQB1H822JZ3 | 50V 8200P |
| R954 | ERDS2TJ472T | 1/4W 4.7K | | | | | | |

| Ref. No. | Part No. | Values & Remarks | Ref. No. | Part No. | Values & Remarks |
|-----------|--------------|------------------|-----------|--------------|------------------|
| C555 | ECKT1H103ZF | 50V 0.01U | C619, 620 | ECKT1H103ZF | 50V 0.01U Δ |
| C556 | ECEA1CK100B | 16V 10U | C621 | ECKT2H682PEL | 500V 6800P Δ |
| C557 | ECEA1EK4R7B | 25V 4.7U | C701 | ECKT1H223ZF | 50V 0.022U |
| C558 | ECEA1HND10B | 50V 1U | C702, 703 | ECKT1H103ZF | 50V 0.01U |
| C559-561 | ECBT1C103MS5 | 16V 0.01U | C901 | ECEAJU222B | 6.3V 2200U |
| C563, 564 | ECEAJU101B | 6.3V 100U | C902 | ECKT1H103ZF | 50V 0.01U |
| C567 | ECEA1VK100B | 35V 10U | C903 | ECEA1HND10B | 50V 1U |
| C568 | ECEA1VK100B | 35V 10U | C904 | ECEA1EK4R7B | 25V 4.7U |
| C601 | ECKT2H682PEL | 500V 6800P | C905 | ECKT1H103ZF | 50V 0.01U |
| C602, 603 | ECEA1EU222E | 25V 2200U Δ | C906 | ECEA1CN100SB | 16V 10U |
| C604, 605 | ECKT1H103ZF | 50V 0.01U | C907 | ECEA1HND10B | 50V 1U |
| C606, 607 | ECEA1AU221B | 10V 220U | C908 | ECKT1H103ZF | 50V 0.01U |
| C608, 609 | ECKT1H103ZF | 50V 0.01U | C909 | ECQB1H822J3 | 50V 8200P |
| C610, 611 | ECEA1AU102B | 10V 1000U | C910 | ECEA1CK100B | 16V 10U |
| C612 | ECEA1EU222E | 25V 2200U Δ | C911 | ECBT1H470J5 | 50V 47P |
| C613 | ECKT1H103ZF | 50V 0.01U | C912 | ECEA1HND10B | 50V 1U |
| C615 | ECEA1EK100B | 25V 10U | C913 | ECKT1H103ZF | 50V 0.01U |
| C617 | ECEA1HM470B | 50V 47U | C914 | ECEA1EK4R7B | 25V 4.7U |
| C618 | ECKT1H103ZF | 50V 0.01U | C915 | ECEAJU101B | 6.3V 100U |
| C619, 620 | ECKT1H103ZF | 50V 0.01U Δ | C916 | ECKT1H103ZF | 50V 0.01U |
| C621 | ECKT2H682PEL | 500V 6800P Δ | C917 | ECEA1HND10B | 50V 1U (EB) |
| C701 | ECKT1H223ZF | 50V 0.022U | C918 | ECKT1H103ZF | 50V 0.01U |

Cassette Deck

DEUTSCH

RS-B555
RS-B655

MESSUNGEN UND EINSTELL METHODEN

Tonkopf-Azimuteinstellung

1. Spielen Sie auf dem Testband (QZZCFM) den Teil für die Azimuteinstellung (8kHz, -20dB) ab. Drehen Sie die Azimuteinstellschraube so lange, bis die Abgaben des L-K und R-K den Höchstwert erreichen, und die Lissajossge wellenfigur sich, wie abgebildet, 0 Grad nähert.
2. Nehmen Sie denselben Einstellvorgang in der Wiedergabestellung vor.

Anmerkung:

When L-K and R-K nicht auf demselben Punkt ihren Höchstwert erreichen, stellen Sie beide Kanäle auf den jeweiligen Höchstwert und gleichen dann aus.

Prüfung des Pegelunterschiedes bei Vorwärts- und Rückwärtsdrehung

3. Den Abschnitt für Verstärkungseinstellung (315Hz, 0dB) des Prüfbandes (QZZCFM) wiedergeben und sicherstellen, daß der Pegelunterschied bei Vorwärts- und Rückwärtsdrehung kleiner als 1dB ist.
4. Nach der Einstellung Schrauben-Sicherungsmittel an die Azimuth-Einstellschraube geben.

Einstellung der Wiedergabeverstärkungsregelung

1. Spielen Sie auf dem Testband (QZZCFM) den Teil für die Einstellung der Verstärkungsregelung (315Hz, 0dB) ab.
2. Stellen Sie VR1 (L-K) [VR2 (R-K)] so ein, daß die Abgabe den Normwert erfüllt.

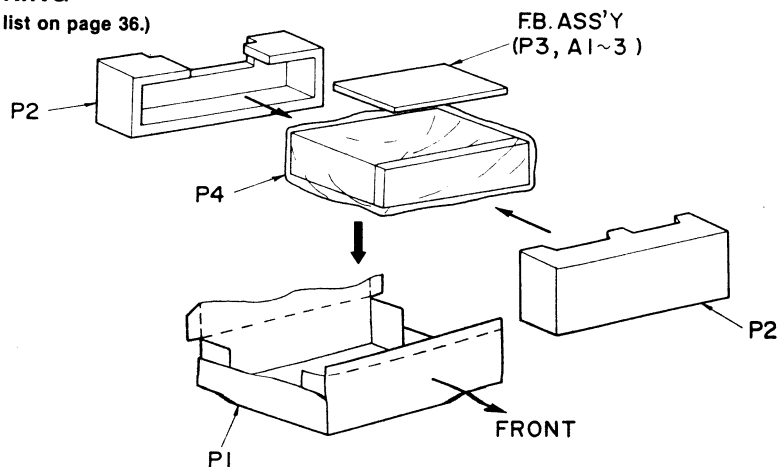
Wiedergabefrequenzaang

1. Spielen Sie auf dem Testband (QZZCFM) den Teil für den Frequenzgang (315Hz, 12,5kHz~63Hz, -20dB) ab.
2. Achten Sie darauf, daß der Frequenzgang für beide Kanäle (L-K, R-K) in dem in Abb.5 gezeigten Bereich liegt.

Wechselstrom-Vorndgnetisierungseinstellung

1. Das unbespielte Metalltestband (QZZCRZ) einlegen, und das Gerät auf Aufnahme Schalten.
2. L1 (L-CH) (L2 (R-CH)) so einstellen, daß die Ausgangsspannung zwischen TP1 (TP2) und GND geringer als der Minimalwert ist.

PACKING
(Parts list on page 36.)



Service Manual

Cassette Deck RS-B655

Supplement

Dolby NR-Equipped
Stereo Cassette Deck

Color

(K)...Black Type

DOLBY B-C NR HX PRO

*HX Pro headroom extension originated by Bang Olufsen and manufactured under license from Dolby Laboratories Licensing Corporation. "DOLBY", the double-D symbol, and "HX PRO" are trademarks of Dolby Laboratories Licensing Corporation.

Area

| Country Code | Area | Color |
|--------------|-----------------------|-------|
| (E, E5) | Continental Europe. | (K) |
| (EB) | Great Britain. | |
| (EG) | F.R. Germany & Italy. | |

Please file and use this supplement manual together with the service manual for Model No. RS-B655, Order No. AD8907232C2.

Note:

- This supplement has been issued to correct an error in the "Replacement Parts List" on page 36.

DELETION

REPLACEMENT PARTS LIST (Page 36 of service manual.)

Note:

- Please remove the MECHANISM UNIT ASS'Y and the PRINTED CIRCUIT BOARD ASS'Y from the parts list because they are out of object in the replacement parts lists.

| Ref. No. | Change of Part No. | Part Name & Description | Remarks |
|-------------------------------|--------------------|-------------------------|----------|
| | ORIGINAL | | |
| MECHANISM UNIT | | | |
| MECH1 | RAA0802 | MECHANISM ASS'Y | Deletion |
| PRINTED CIRCUIT BOARDS | | | |
| PWB1 (E, E5, EG) | REP0306A | MAIN P.C.B. ASS'Y | Deletion |
| PWB1 (EB) | REP0306B | MAIN P.C.B. ASS'Y | Deletion |
| PWB2 | REP0307A | SUB P.C.B. ASS'Y | Deletion |

Gesamtfrequenzgang

- Legen Sie das normale Leertestband (QZZCRA) ein und stellen das Gerät auf Aufnahme-/Pause-Betrieb.
- Geben Sie über einen Lautstärkereglер ein Bezugseingabesignal (1 kHz, -24 dB) ein.
- Stellen Sie das Signal auf 20 dB und justieren die Frequenz von 50 Hz~10 kHz.
- Nehmen Sie das Wobbelnsignal auf.
- Geben Sie das aufgenommene Signal wieder und achten darauf, daß dieses sich im Vergleich zur Bezugsfrequenz (1 kHz) in dem in Abb. 8 aufgezeichneten Bereich befindet.
- Sollte das Signal nicht im Normbereich liegen, justieren Sie VR301 (L-K) und VR302 (R-K), so daß der Frequenzpegel mit der Norm übereinstimmt.
- Wiederholen Sie die Schritte 2~6 und verwenden das CrO₂ Band (QZZCRX) und das Metallband (QZZCRZ). Der Frequenzbereich wird auf 12.5 kHz (50 Hz~12.5 kHz) angehoben.
- Achten Sie darauf, daß sich der Frequenzpegel in dem in Abb. 9 aufgezeigten Bereich befindet.

Einstellung der Gesamtverstärkungsregelung

- Legen Sie das normale Leertestband (QZZCRA) ein und stellen das Gerät auf Aufnahme-/Betrieb.
- Legen Sie ein Bezugseingabesignal (1 kHz, -24 dB) an. Stellen Sie das Ausgangssignal auf einen Pegel von 0.4 V ein.
- Nehmen Sie das Eingabesignal auf.
- Geben Sie das in Schritt 3 oben aufgenommene Signal wieder und achten Sie darauf, daß das Ausgangssignal mit dem Normwert übereinstimmt.
- Sollte der Wert nicht innerhalb der Norm liegen, justieren Sie VR3 (L-K) und VR4 (R-K).
- Wiederholen Sie die Schritte 2~5 von oben so lange, bis das Ausgangssignal im Normbereich liegt.

Technics

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Printed in Japan
K890908250HK

FRANÇAIS

METHODES DES MESURES ET REGLAGES

Reglage Azimutal de la tete

1. Faire jouer la portion du réglage de l'azimuth (8kHz, -20dB) de la bande d'essai (QZZCFM). Ajuster la vis de la mise au point azimutale jusqu'à ce que les sorties du canal de gauche et du canal de droite soient maximisées et que la forme d'onde de Lissajous, comme il est illustré, approche de 0 degré.

Nota:

Si le canal de gauche et canal de droite ne sont pas maximisés au même point, régler le point où les niveaux de chaque canal sont maximisés et égaux.

2. Effectuer le même réglage sur le mode d'audition.

Vérification de la différence de niveau pour les deux sens de rotation

3. Introduire une bande métal vierge prévue pour les essais (QZZCPZ) et vérifier que la différence de niveau pour les deux sens de rotation est inférieure à 1dB.
4. Après cela, mettre une goutte de vernis de blocage sur la vis de réglage de l'azimut.

Reglage de L'amplification de Lecture

1. Faire jouer la partie réglée de l'amplification (315Hz, 0dB) de la bande d'essai (QZZCFM).

2. Régler la platine 1: VR1 (canal de gauche) [VR2 (canal de droite)] de telle sorte que la sortie soit en deçà de la valeur standard.

Reponse en Frequence de la Lecture

1. Faire jouer la partie de la réponse en fréquence (315Hz, 12.5kHz, -63Hz, -20dB) de la bande d'essai (QZZCFM).

2. S'assurer que la réponse en fréquence soit en deçà de la plage montrée dans la Fig. 5, à la fois pour le canal de gauche et le canal de droite.

Réglage du bouchon de polarisation

1. Introduire la cassette d'essai vierge (QZZCRZ) et régler l'appareil pour l'enregistrement.
2. Régler L1 (L-CH) et (L2 (R-CH) de sorte que la tension entre TP1 (TP2) et la masse (GND) soit inférieure à la valeur minimale.

Reponse en Frequence Totale

1. Introduire la bande d'essai vierge normale (QZZCRA) et régler l'appareil sur le mode d'intermission d'un disque.
2. Appliquer un signal d'entrée de référence (1kHz, -24dB) par l'intermédiaire d'un atténuateur.
3. Diminuer le signal de 20dB et régler la fréquence de 50Hz~10kHz.
4. Enregistrer le balayage de fréquence.
5. Faire jouer le signal enregistré et s'assurer qu'il soit en deçà de la plage montrée à la Fig. 8 en comparaison à la fréquence de référence (1kHz).

6. S'il n'est pas en deçà de la plage standard, régler VR301 (canal de gauche) et VR302 (canal de droite) de telle sorte que le niveau de fréquence soit en deçà de la plage standard.
7. Répéter les étapes 2~6 ci-dessus en utilisant la bande CrO₂ (QZZCRX) et la bande métallisée (QZZCRZ) en augmentant la plage de fréquence à 12.5kHz (50Hz~12.5kHz).
8. S'assurer que le niveau soit en deçà de la plage montrée à la Fig. 9.

Reglage de L'amplification Totale

1. Introduire la bande d'essai vierge normale (QZZCRA) et régler l'appareil sur le mode d'intermission d'un disque.
2. Appliquer un signal d'entrée de référence (1kHz, -24dB). Diminuer la sortie de telle sorte que son niveau devienne de 0.4V.
3. Enregistrer ce signal d'entrée.

4. Faire jouer le signal enregistré à l'étape 3 ci-dessus, et s'assurer que la sortie en deçà de la valeur standard.
5. Si elle n'est pas en deçà de la valeur standard, régler VR3 (canal de gauche) et VR4 (canal de droite).
6. Répéter les étapes 2~5 ci-dessus jusqu'à ce que la sortie soit en deçà de la valeur standard.

ESPAÑOL

METODOS DE AJUSTE Y MEDIDA

Ajuste Azimutal de Cabeza

1. Reproducir la porción de ajuste azimutal (8kHz, -20dB) de la cinta de prueba (QZZCFM). Variar el tornillo de ajuste azimutal hasta que las salidas del CH-I y CH-D se maximicen y forma de onda de lissajous, como ilustrado, se acerque a grado 0.

Nota:

Si CH-I y CH-D no son maximizados en el mismo punto, ajustar al punto donde los niveles de cada canal sean maximizados e igualados.

2. Efectuar el mismo ajuste en la modalidad de reproducción.

Comprobación de la diferencia de nivel de giro hacia adelante y hacia atrás

3. Reproduzca la parte del ajuste de ganancia (315Hz, 0dB) de la cinta de prueba (QZZCFM) y luego asegúrese de que la diferencia de nivel de giro hacia adelante y hacia atrás sea menor que 1 dB.
4. Después del ajuste, aplique pintura de fijación al tornillo de ajuste del azimut.

Ajuste de Ganancia de Reproduccion

1. Reproducir la porción ajustada de ganancia (315Hz, 0dB) de la cinta de prueba (QZZCFM).
2. Ajustar la Platina 1: VR1 (CH-I) [[VR2 (CH-D)]] de manera que la salida esté dentro del valor estándar.

Respuesta de Frecuencia de Reproduccion

1. Reproducir la parte de respuesta de frecuencia de reproducción (315Hz, 12.5kHz~63Hz, -20dB) de la cinta de prueba (QZZCFM).
2. Asegurarse de que la respuesta de frecuencia esté dentro de la gama mostrada en la Fig. 5 para ambos CH-I y CH-D.

Ajuste del Circuito Trampa de Polarizacion

1. Introduzca la cinta virgen de metal (QZZCRZ) para pruebas y ponga el aparato en el modo de grabación.
2. Ajuste L1 (canal izq.) ((L2 (canal der.)) de manera que la tensión de salida entre TP1 (TP2) y GND (Tierra) sea menor que el valor mínimo.

Respuesta de Frecuencia Total

1. Poner una cinta virgen normal (QZZCRA) y poner la unidad en la modalidad de Pausa de Grabación.
2. Aplicar la señal de entrada de referencia (1kHz, -24dB) a través de un atenuador.
3. Atenuar la señal por 20dB y ajustar la frecuencia de 50Hz~10kHz.
4. Grabar el barrido de frecuencia.
5. Reproducir la señal grabada y asegurarse de que esté dentro de la gama mostrada en la Fig. 8 en comparación con la frecuencia de referencia (1kHz).
6. Si no está dentro de la gama de frecuencia, ajustar VR301 (CH-I) y VR302 (CH-D) de manera que el nivel de frecuencia esté dentro de la gama estándar.
7. Repetir los pasos 2~8 de arriba utilizando la cinta CrO₂ (QZZCRX) y la cinta metálica (QZZCRZ) incrementando la gama de frecuencia a 12.5kHz (50Hz~12.5kHz).
8. Asegurarse de que el nivel esté dentro de la gama mostrada en la Fig. 9.

Ajuste de Ganancia Total

1. Insertar la cinta de prueba en blanco normal (QZZCRA) y poner la unidad en modalidad de pausa de Grabación.
2. Aplicar la señal de entrada de referencia (1kHz, -24dB). Atenuar la salida de manera que su nivel se haga 0.4V.
3. Grabar la señal de entrada.
4. Reproducir la señal grabada en el paso 3 de arriba y asegurarse de que la salida esté dentro del valor estándar.
5. Si no está dentro del valor estándar, ajustar VR3 (CH-I) y VR4 (CH-D).
6. Repetir el paso 2~5 de arriba hasta que la salida esté dentro del valor estándar.