

# Service Manual

Dolby NR-Equipped  
Stereo Cassette Deck

Cassette Deck

## RS-BX727

**Simplified**

\*  **DOLBY B-C NR HX PRO**

Colour

(K) ... Black Type

Area

Suffix for Model No.	Area	Colour
(EB)	Great Britain.	(K)
(EG)	Germany and Italy./ Europe.	



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- Please file and use this simplified manual together with the service manual for Model No. RS-BX707, Order No. AD9106170C2.
- This service manual indicates the main differences between Original RS-BX707.

## ■ CHANGE IN REPLACEMENT PARTS LIST (on pages 32, 38~40, 42.)

**Notes:** • Mentioned in this parts list is only those different from Model No. RS-BX707 (EG).

All other parts are the same as for RS-BX707 (EG).

- Important safety notice:

Components identified by  $\Delta$  mark have special characteristics important for safety. Furthermore, special parts which have purposes of fire-retardant (resistors), high-quality sound (capacitors), low-noise (resistors), etc. are used. When replacing any of components, be sure to use only manufacturer's specified parts shown in the parts list.

Ref. No.	Change of Part No.		Part Name & Description	Remarks
	RS-BX707 (EG)	➡ RS-BX727 (EB, EG)		
TRANSISTOR(S)				
Q505~507	KSB564ACYGTA	2SB621A-R	TRANSISTOR	
Q510	KSB564ACYGTA	2SB621A-R	TRANSISTOR	
Q606	KSB564ACYGTA	2SB621A-R	TRANSISTOR	
Q903	KSB564ACYGTA	2SB621A-R	TRANSISTOR	
SENSOR(S)				
Z701	—	RCDHC-278	REMOTE SENSOR	Addition

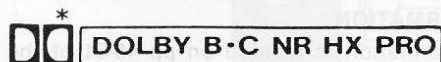
# Technics



# Service Manual

Dolby NR-Equipped  
Stereo Cassette Deck

Cassette Deck  
**RS-BX707**



Color

(K)... Black Type



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## RS-TR555 MECHANISM SERIES (AR350)

## SPECIFICATIONS

### ■ CASSETTE DECK SECTION

Deck system	Stereo cassette deck
Track system	4-track, 2-channel
Recording system	AC bias
Bias frequency	80 kHz
Erasing system	AC erase
Heads	

Recording head [Permalloy (Combination)]×1  
Playback head [Permalloy (Combination)]×1  
Erasing head (Double-gap ferrite)×1

### Motors

Capstan drive (Quartz DD motor)×1  
Reel table drive (DC motor)×1  
Cassette holder open/close (DC motor)×1

Tape speed	4.8 cm/sec. (1 $\frac{7}{8}$ ips)
Wow and flutter	0.05% (WRMS) ±0.14% (DIN)

### Fast forward and rewind time

Approx. 100 seconds with C-60 cassette tape

### Frequency response (Dolby NR off)

<b>NORMAL</b>	30 Hz~17 kHz, ±3 dB 20 Hz~18 kHz (DIN)
<b>CrO<sub>2</sub></b>	30 Hz~18 kHz, ±3 dB 20 Hz~19 kHz (DIN)
<b>METAL</b>	30 Hz~19 kHz, ±3 dB 20 Hz~20 kHz (DIN)

S/N (signal level=max recording level, CrO<sub>2</sub> type tape)

<b>NR off</b>	57 dB (A weighted)
<b>Dolby B NR on</b>	66 dB (CCIR)
<b>Dolby C NR on</b>	74 dB (CCIR)

### Input sensitivity and impedance

<b>LINE IN</b>	60 mV/47 kΩ
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### Output voltage and impedance

<b>LINE OUT</b>	400 mV/800 Ω
<b>HEADPHONES</b>	125 mV/8 Ω
	(Load impedance 8 Ω~600 Ω)

### ■ GENERAL

<b>Power consumption</b>	20 W
<b>Power supply</b>	AC 50 Hz/60 Hz, 230 V~240 V
<b>Dimensions (W×H×D)</b>	430×135×300 mm (16 $\frac{15}{16}$ "×5 $\frac{3}{16}$ "×11 $\frac{13}{16}$ " )
<b>Weight</b>	5.0 kg (11 lb.)

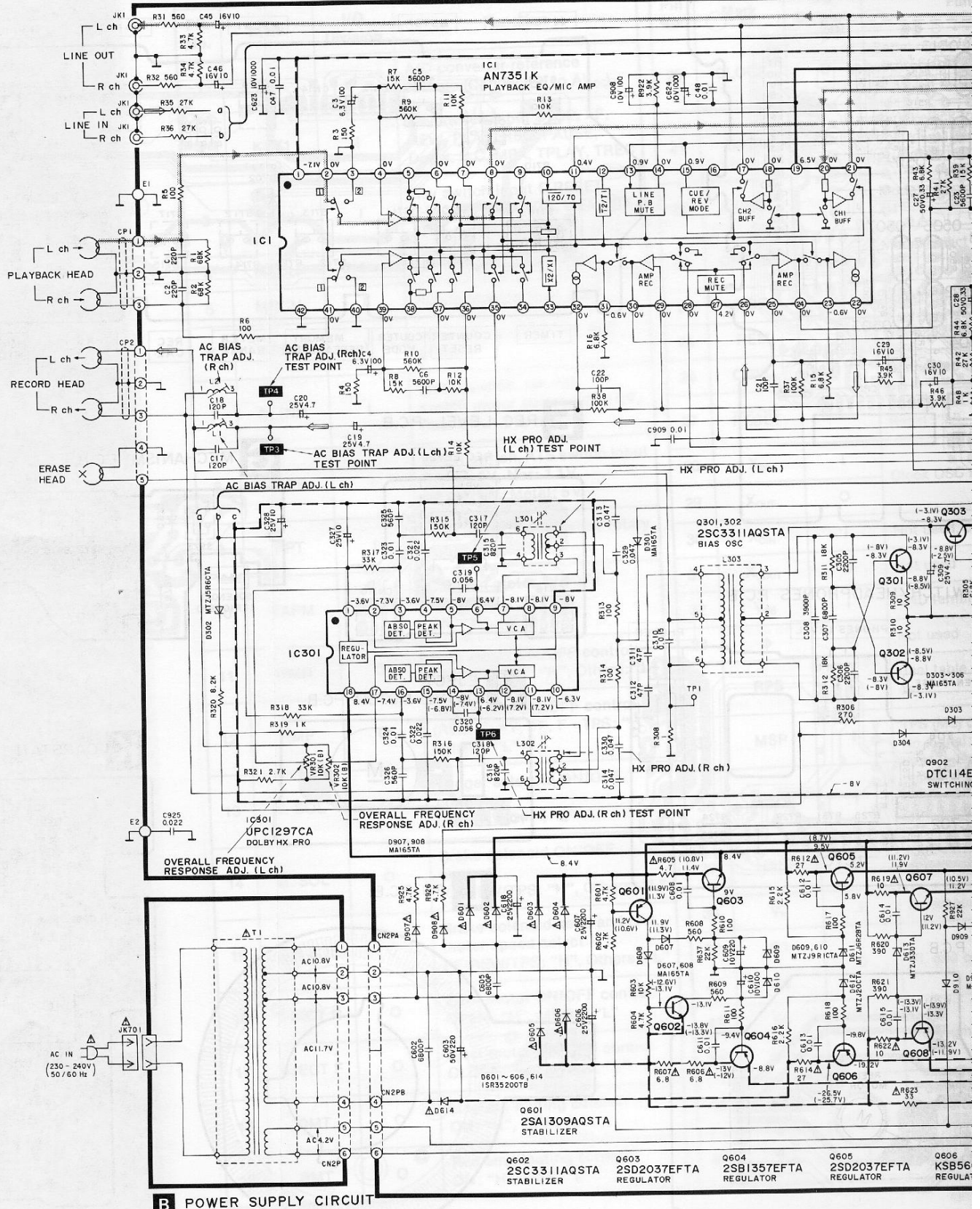
### Note:

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

# Technics



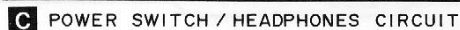
## A MAIN CIRCUIT











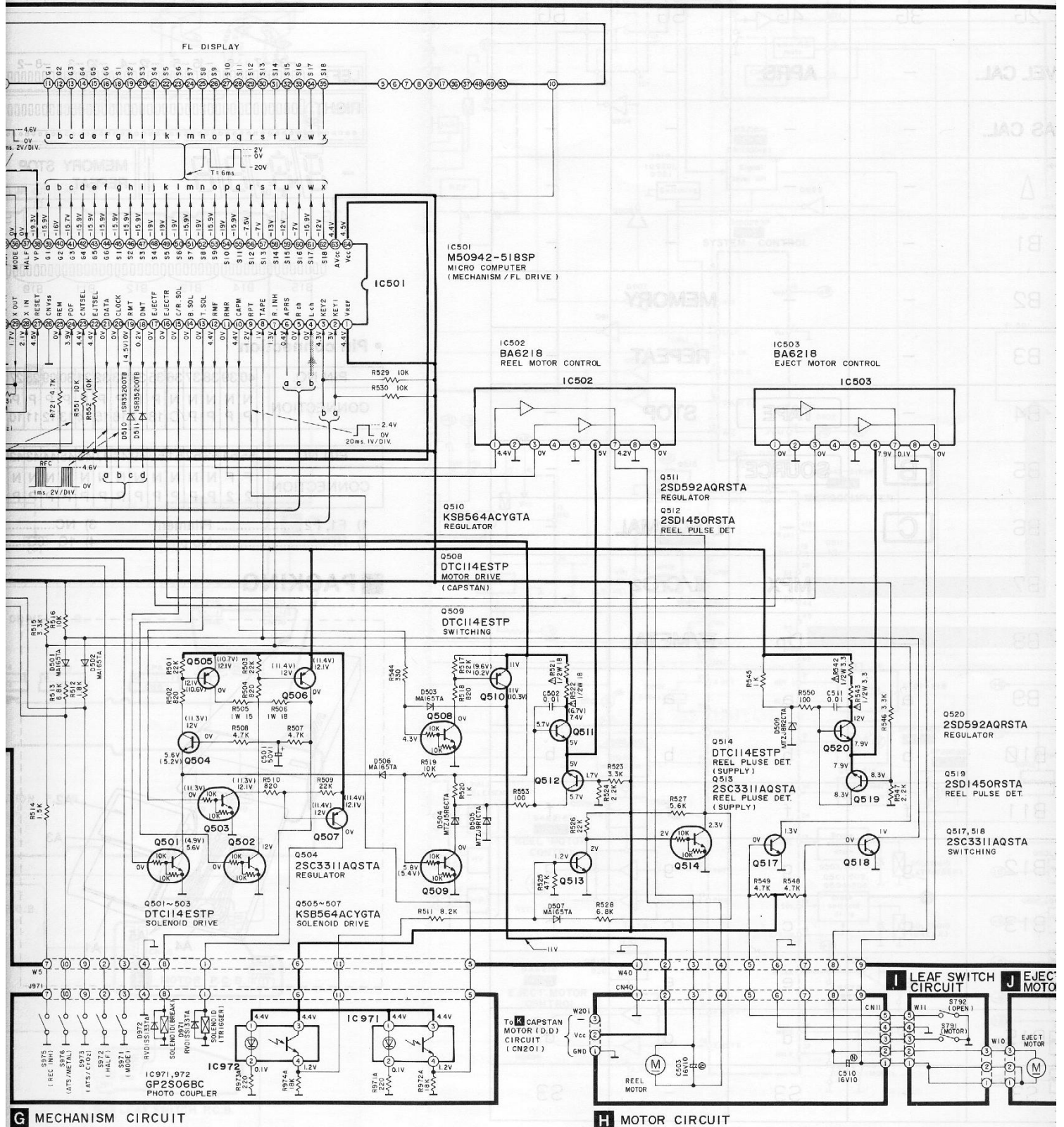






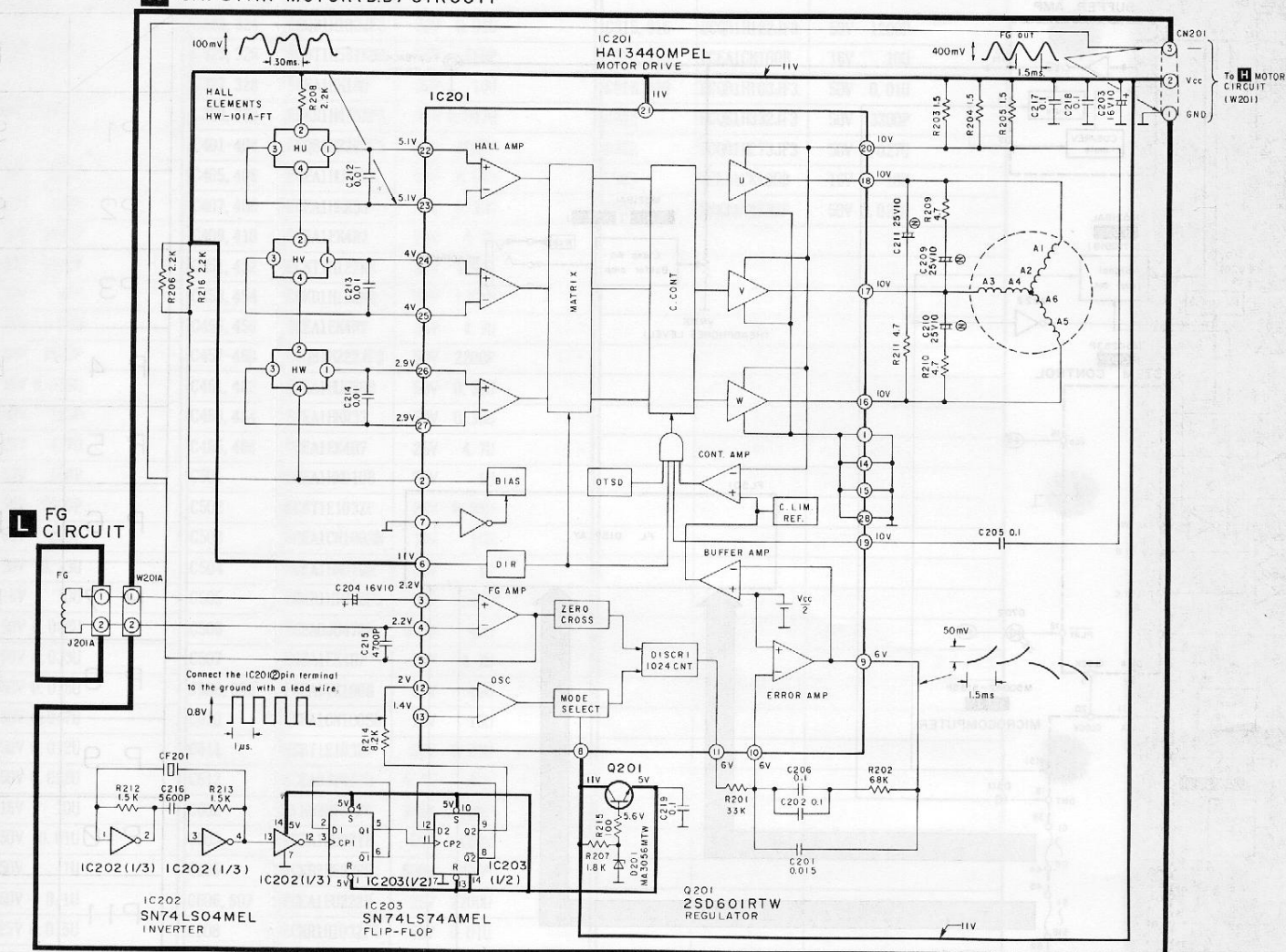








### K CAPSTAN MOTOR(D.D) CIRCUIT

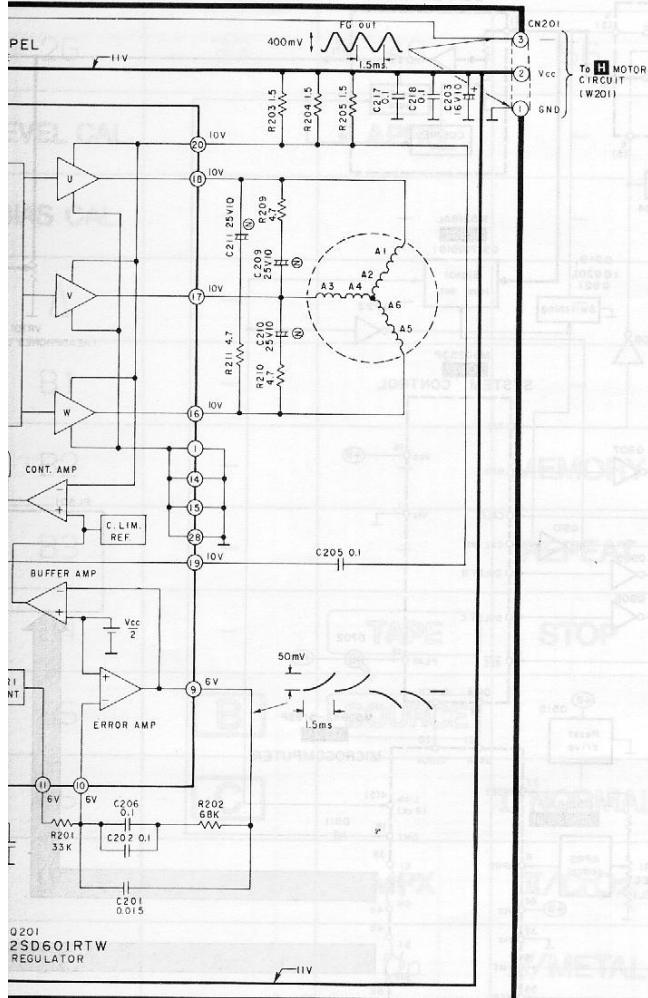


## • TROUBLESHOOTING OF DIRECT D

Problem	Possible Cause
1. The motor does not rotate.	1. No power supply. 2. The Hall element is not working (no current flow). 3. The ceramic (or) the coil is broken.
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. 2. Output of the Hall element is not correct.
3. The motor is out of control.	1. The FG coil is broken.
4. Abnormal wow.	1. Same as those of the motor.

**Note:** Check the points marked with an asterisk (\*) to GND with a lead wire. (After the DD motor heating the IC.)

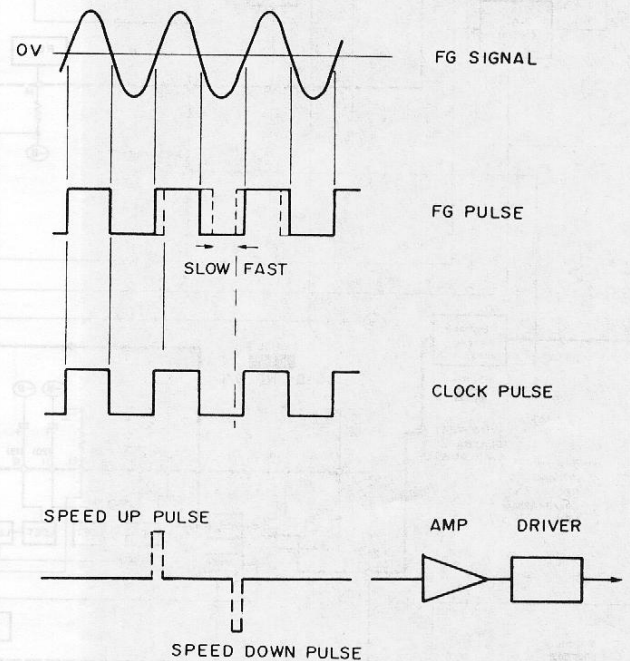




## ■ TROUBLESHOOTING OF DIRECT DRIVE MOTOR

## • 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.



## • 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.	<ul style="list-style-type: none"> <li>• Check the voltage applied to the connector.</li> <li>• Check the DC potential on IC201 pins ⑫~⑰.</li> <li>* Check the waveform of IC201 pin ⑫.</li> </ul>
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.	<ul style="list-style-type: none"> <li>* Check the conductance of the coil. If normal, the resistances between IC201 pins ⑮~⑰, ⑰~⑱, ⑮~⑱ will reach 20 ohms.</li> <li>• Check the waveform of IC201 pins ⑫~⑰.</li> </ul>
3. The motor is out of control.	1. The FG coil is broken.	<ul style="list-style-type: none"> <li>• Check the waveform of IC201 pin ⑤.</li> <li>• Check if the FG coil is broken.</li> </ul>
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 IC201 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.)