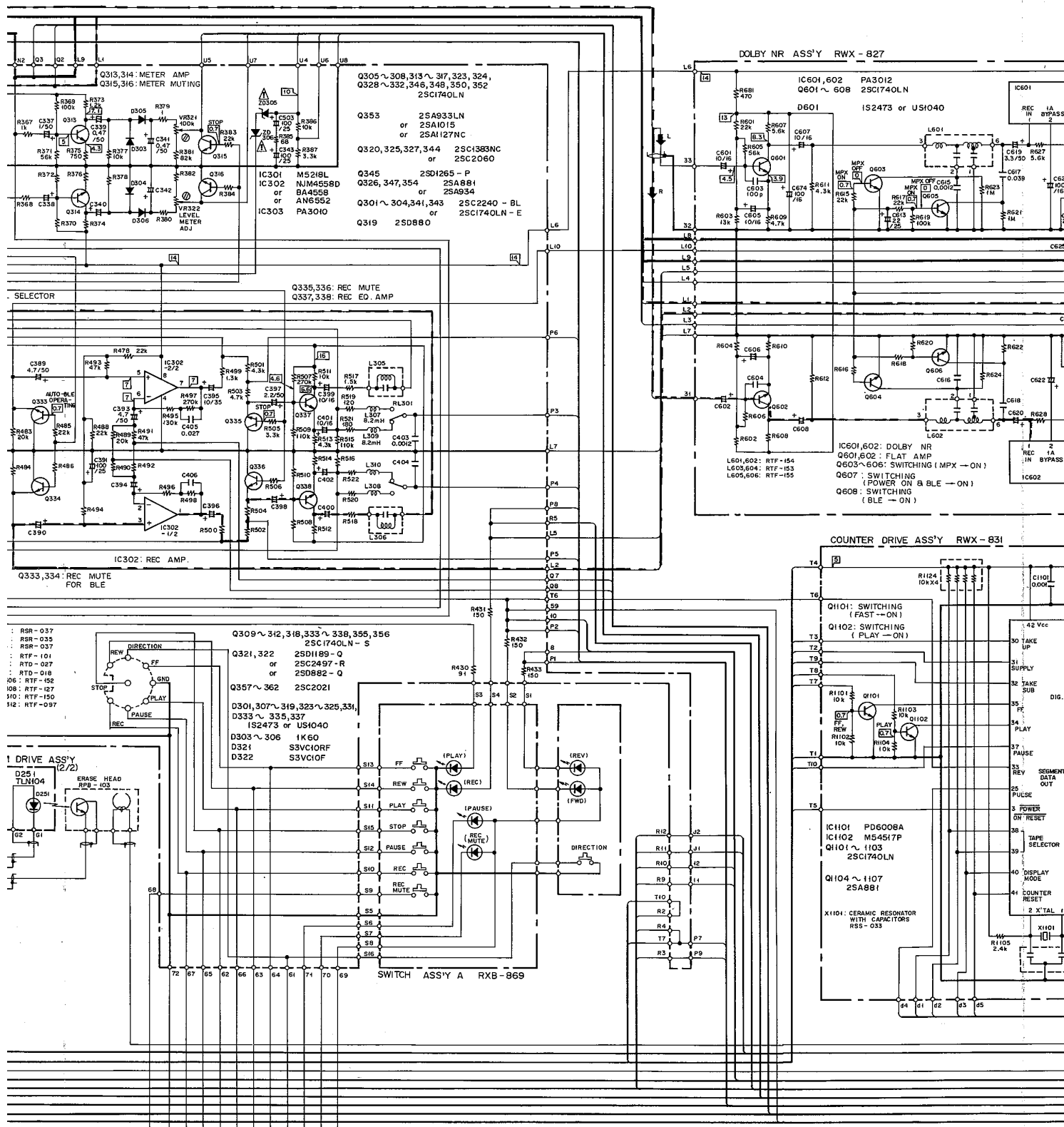






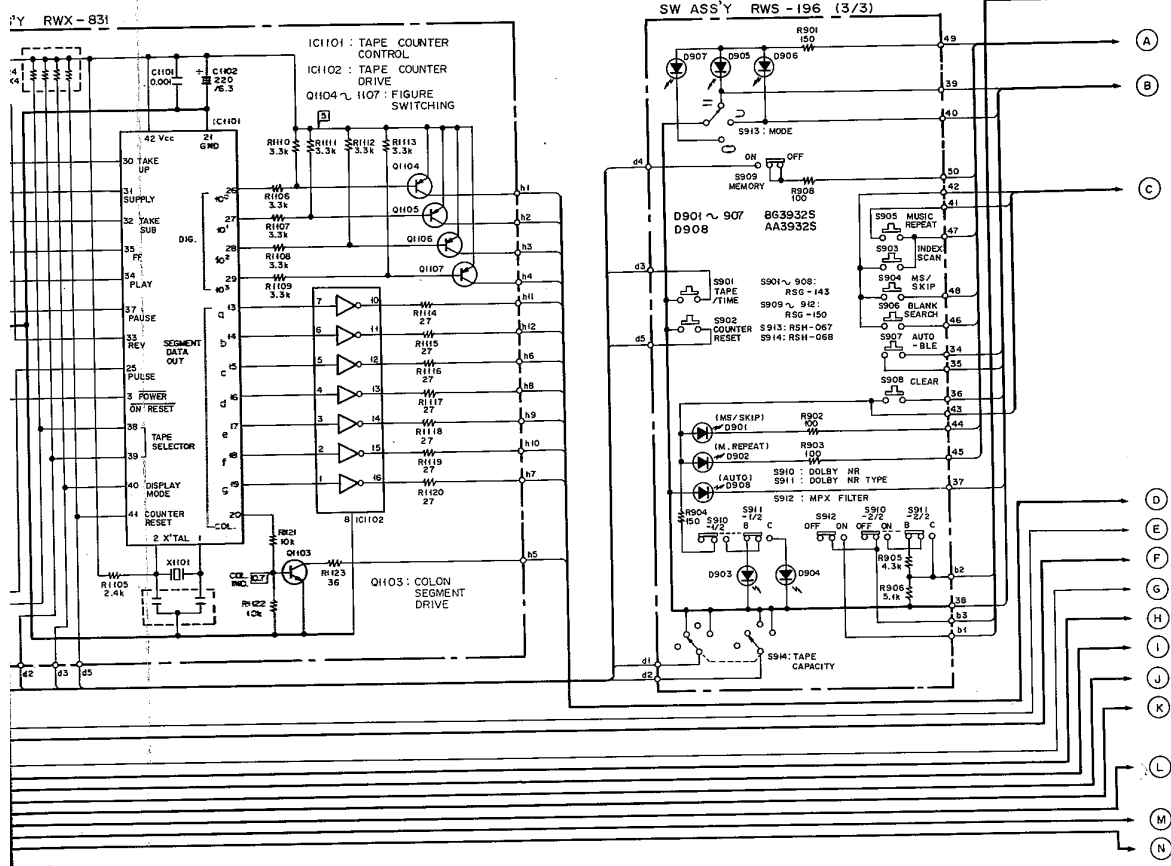
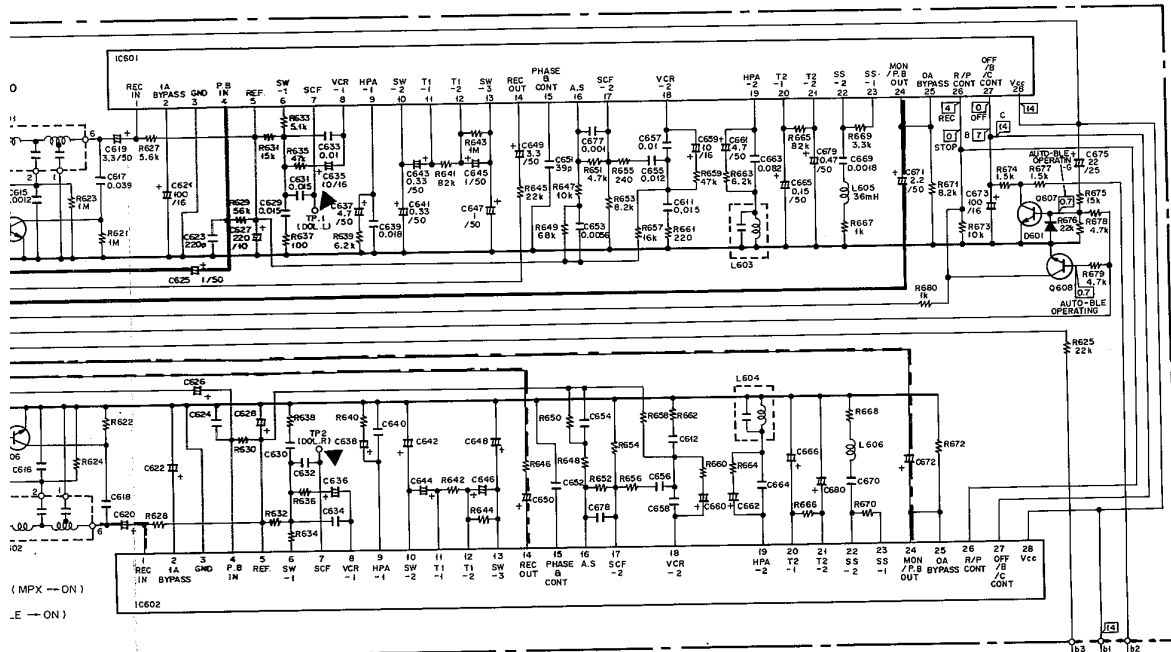
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NOTE:

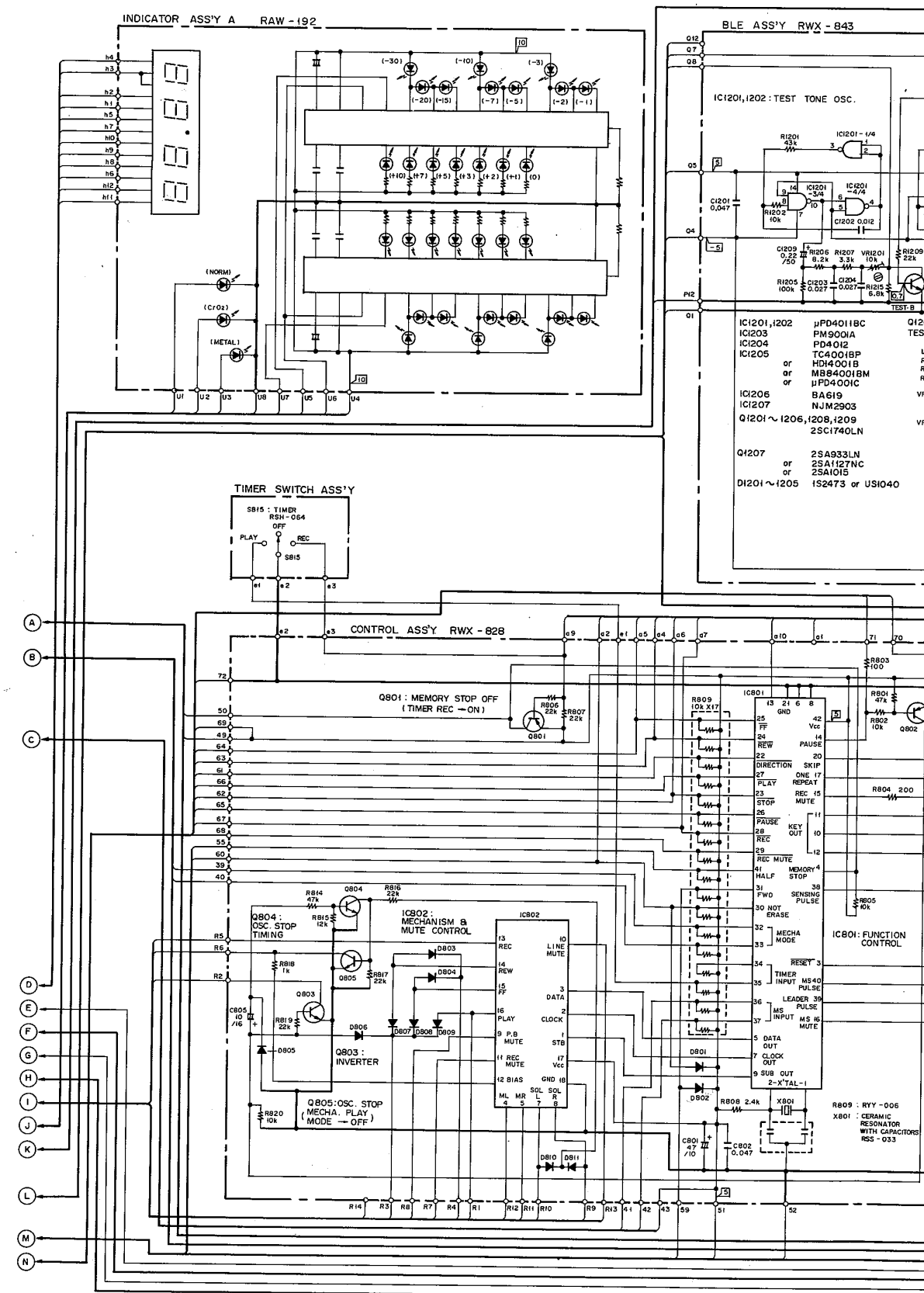
The indicated semiconductors are representative ones only.
Other alternative semiconductors may be used and are
listed in the parts list.

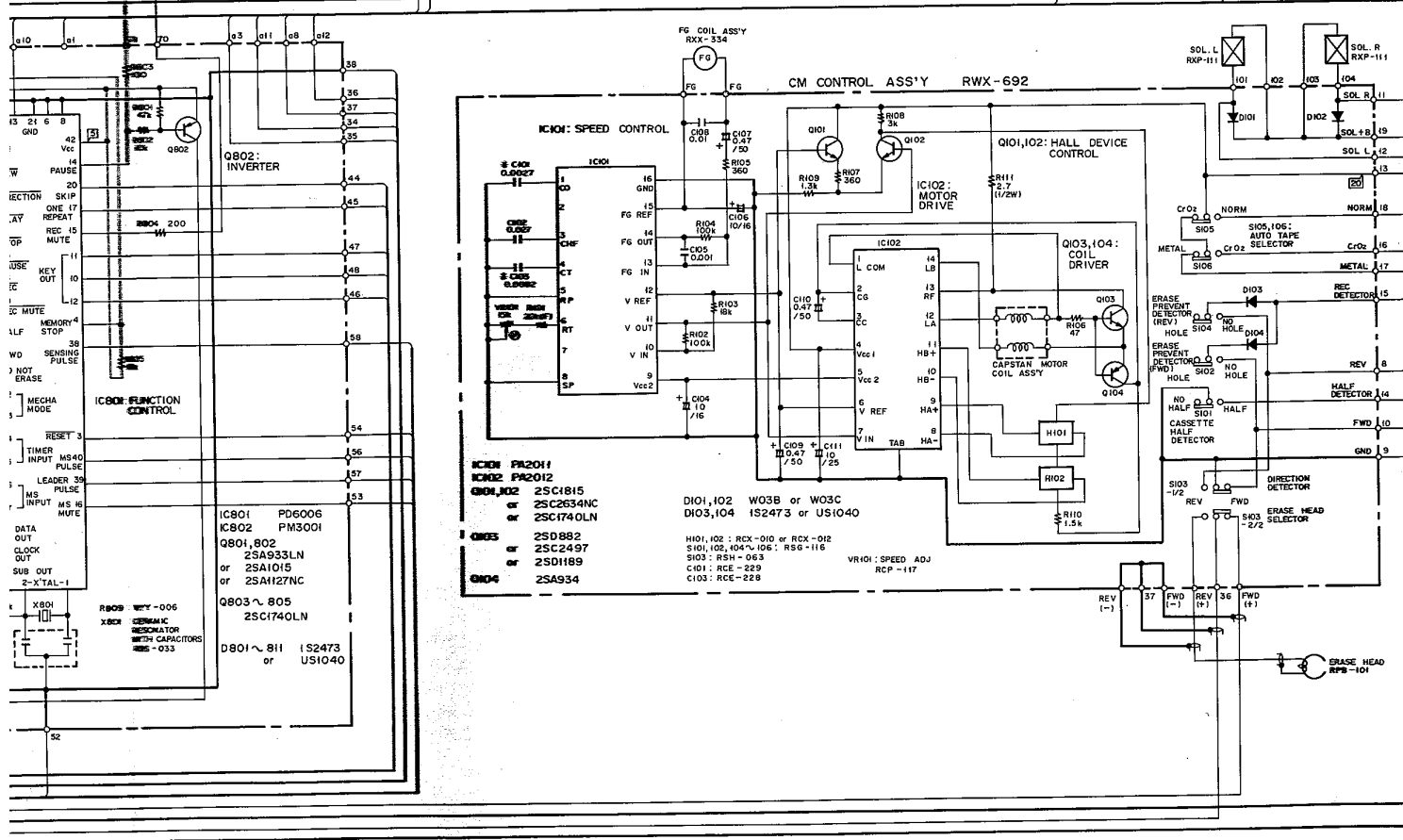
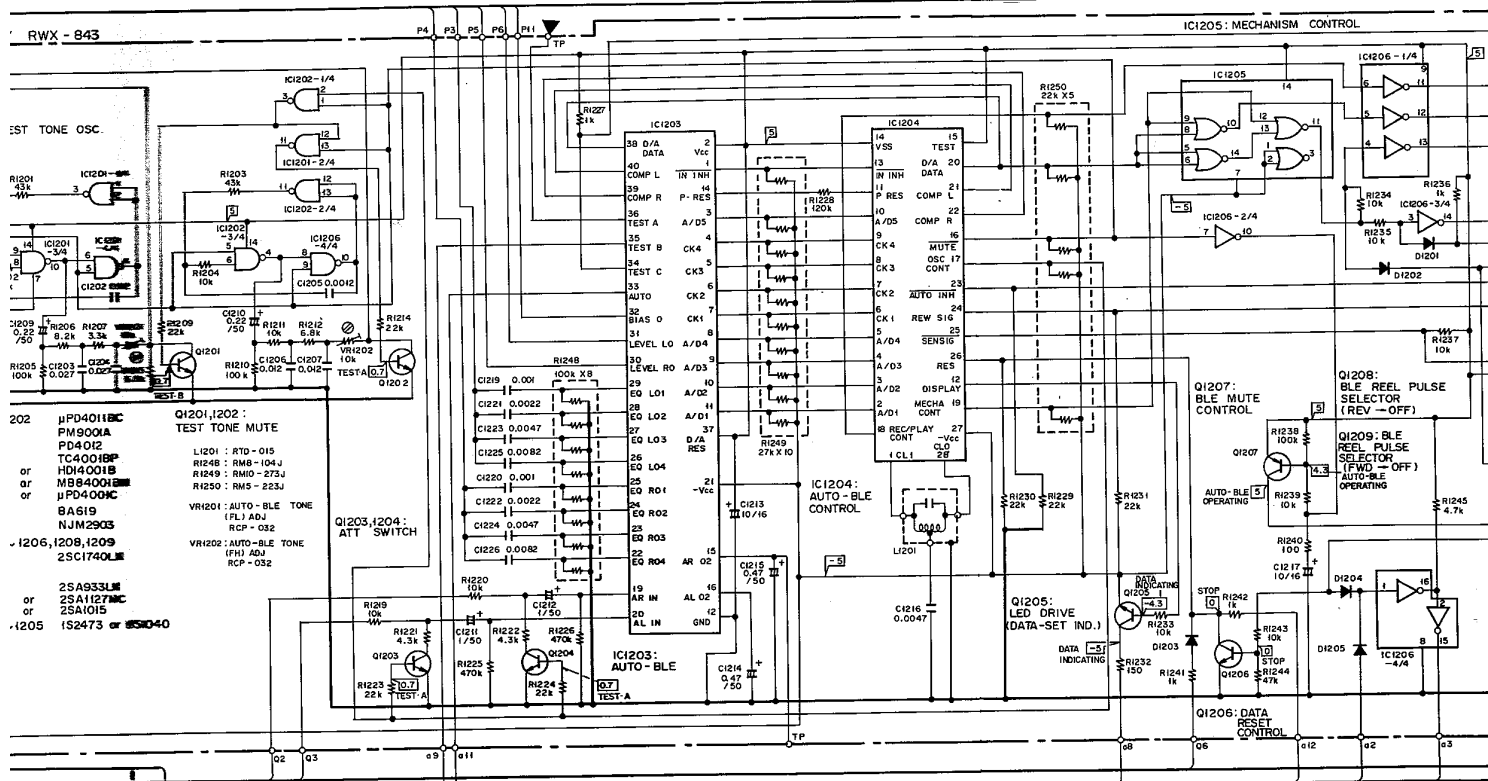


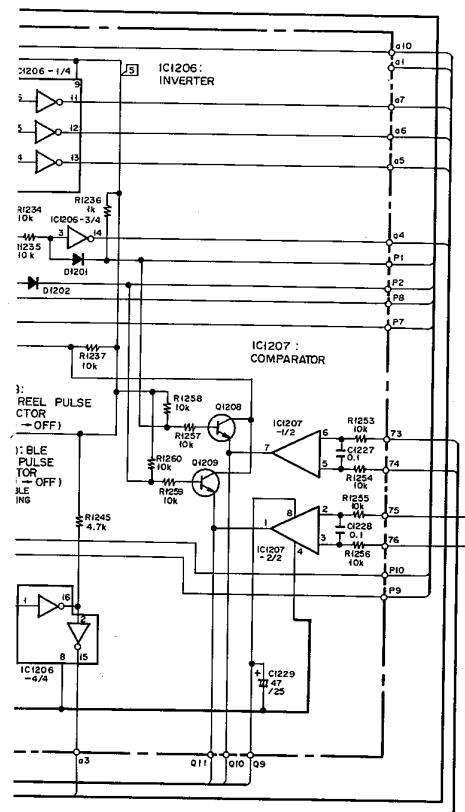
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SWITCHES

CM CONTROL ASS'Y

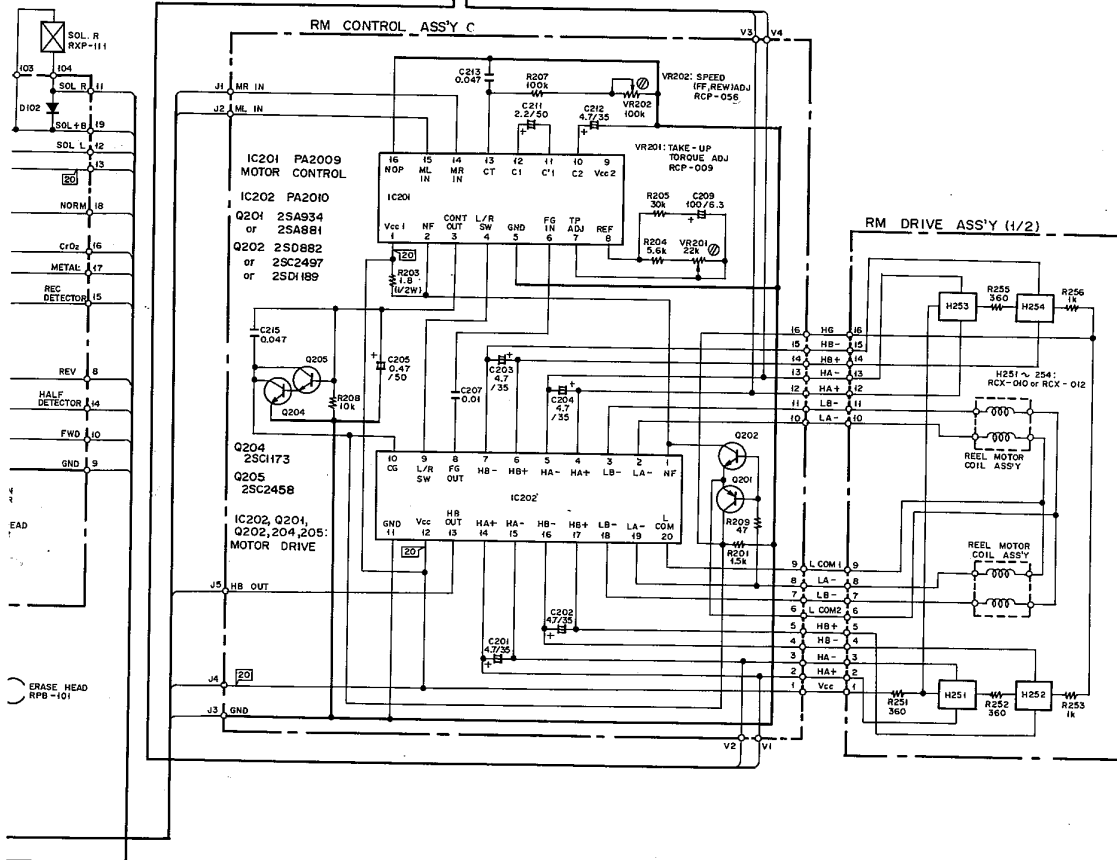
S101 : CASSETTE HALF DETECTOR NO HALF - HALF
 S102 : ERASE PREVENT DETECTOR (FWD) HOLE - NO HOLE
 S103-1/2 : DIRECTION DETECTOR FWD - REV
 S103-2/2 : ERASE HEAD SELECTOR FWD - REV
 S104 : ERASE PREVENT DETECTOR (REV) HOLE - NO HOLE
 S105 : AUTO TAPE SELECTOR HIGH - NORM
 S106 : AUTO TAPE SELECTOR METAL - CrO2

TIMER SWITCH ASS'Y

S815 : TIMER

REC - OFF - PLAY

The underlined indicates the switch position.



10. ADJUSTMENTS

10.1 MECHANICAL ADJUSTMENT

10.1.1 Pinch Roller Pressure Check

*Use a tension gauge (GGK-047)

Mode	Specification rating	Measuring conditions
Playback mode	250g ~ 400g	Slowly pull the pinch roller away from the capstan, and read the value the moment the pinch roller stops turning.

*If the measured value does not lie within the rated specification range, replace the pinch roller pressure spring.

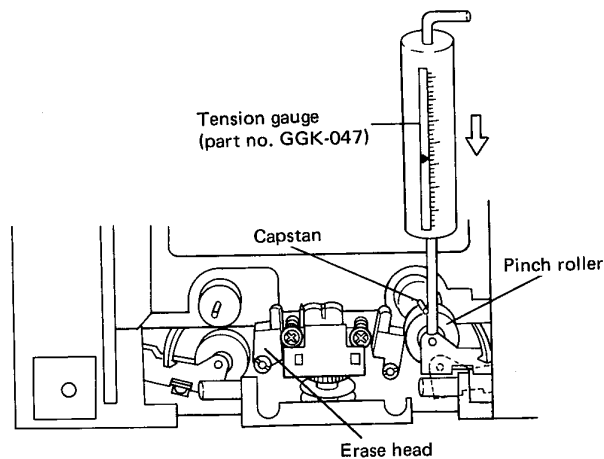


Fig. 10-1 Pinch roller pressure check

10.1.2 Head Azimuth Preliminary Adjustment

Mode	Adjustment location	Specifications
Stop mode when tape direction is "forward"	Head azimuth adjustment screw ①	Adjust gap A to 1.5mm (± 0.3 mm)
Stop mode when tape direction is "reverse"	Head azimuth adjustment screw ②	Adjust gap B to 1.5mm (± 0.3 mm)

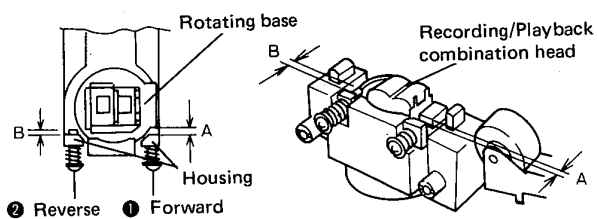


Fig. 10-2 Azimuth adjustment points

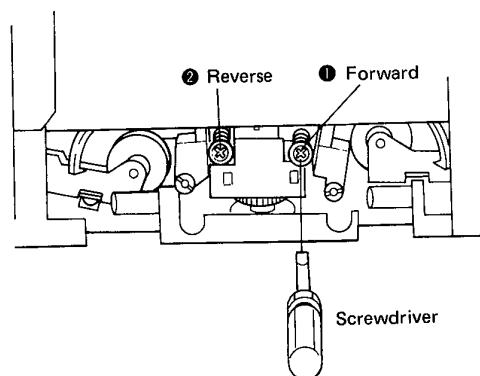


Fig. 10-3 Azimuth preadjustment

10.1.3 Tape Transport Adjustment

Mode	Adjustment location	Specifications
Forward direction playback mode	Adjustment nut ①	Tape curling at the erase and playback heads must conform with the following figures. Curling at the playback head: Less than 1/9 the tape width Curling at the erase head: Less than 1/5 the tape width.
Reverse direction playback mode	Adjustment nut ②	

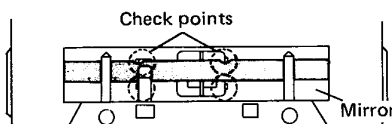


Fig. 10-4 Tape curling check points

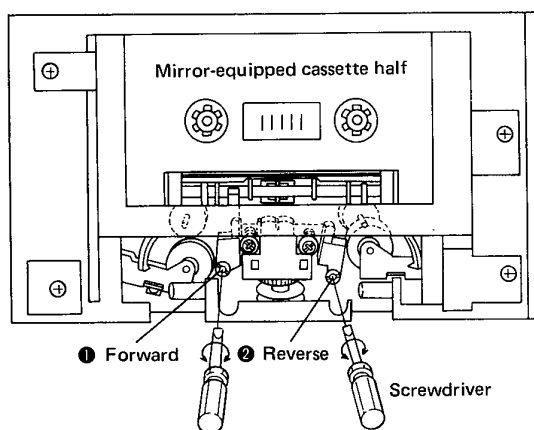


Fig. 10-5 Tape transport adjustment

10.1.4 FF and REW Rotational Speed Adjustment

*Use a frequency counter without a cassette half mounted in the cassette compartment.

Mode	Adjustment location	Specifications
Fast forward mode with tape in forward direction	VR202 (RM control assembly)	Adjust the frequency reading between MR HB out (5) and GND (3) on the RM control assembly to 36Hz $\pm$ 1Hz.

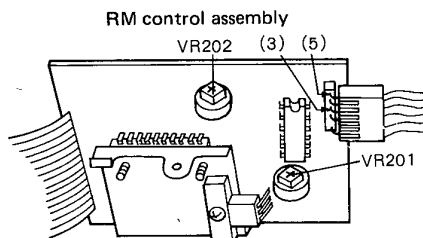


Fig. 10-6 FF/REW rotating speed adjustment

10.1.5 PLAY Take-Up Torque Adjustment

*Use a cassette-type torque meter.

Mode	Adjustment location	Specifications
Forward direction playback mode	VR102 (RM control assembly)	Take-up torque must be 35g-cm to 55g-cm by at least 10 seconds after PLAY mode has been started. Torque meter variation must not exceed 15g-cm.
Reverse direction playback mode	Check	

10.1.6 FAST (FF & REW) Torque Check

*Use a cassette-type torque meter.

Mode	Specifications rating	Remarks
Fast forward mode and rewinding mode	70g-cm ~130g-cm	Take-up torque

10.1.7 Back-Tension Torque Check

*Use a cassette-type torque meter.

Mode	Specifications rating	Remarks
Forward & reverse direction playback mode	2g-cm ~ 5g-cm	Supply reel base back-tention torque

10.1.8 Tape Speed Adjustment

*Use a frequency counter and the STD-301 test tape.

Mode	Adjustment location	Specification
Forward direction playback mode	VR101 (CM control assembly)	Playback frequency must be $3005 \pm 10\text{Hz}$ at the beginning of the STD-301 test tape.
Reverse direction playback mode	Check	Playback frequency must be $3000 \pm 30\text{Hz}$ at the beginning of the STD-301 test tape.

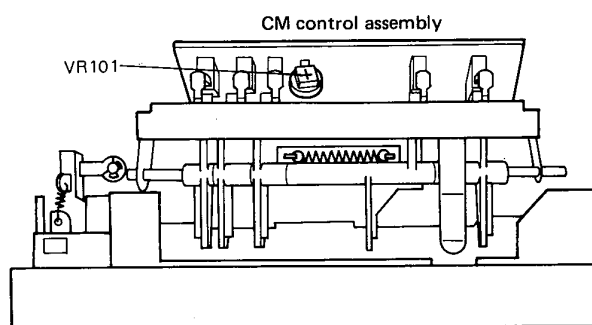


Fig. 10-7 Tape speed adjustment

10.1.9 Cassette Pocket Damper Adjustment

Adjustment location	Specifications
Damper cylinder adjustment screw	The door must open smoothly without going through a two-stage motion, and without any bouncing back when fully opened.

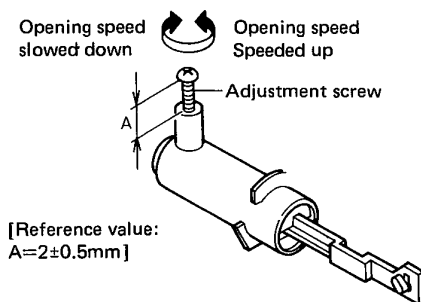


Fig. 10-8 Cassette pocket damper adjustment

10.1.10 Door Position Adjustment

Check 1	The dimensional ratio of A to B, and C to D must be within the 0.5 to 2 range (The dimensions taken when facing the deck from the front).
Check 2	The difference between E and G must not be greater than $\pm 0.4\text{mm}$, and all dimensions E, F, and G must be at least 0.5mm (the dimensions taken when facing the deck from the front).
If the above specifications are not met, remove the door and adjust the pocket frame with a screwdriver at the position indicated in the following diagram.	

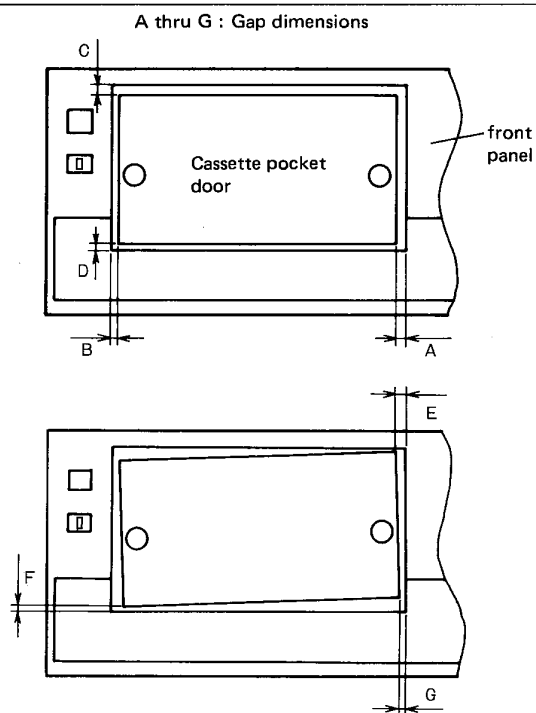
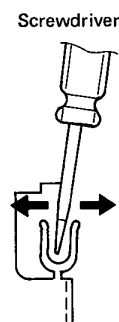


Fig. 10-9 Door position

Adjustment of dimensions A and B (single position)



Adjustment of dimensions C, D, E, F, and G (single positions on left and right hand sides)

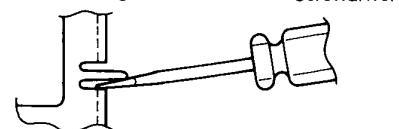


Fig. 10-10 Door position adjustment

10.2 ELECTRICAL ADJUSTMENTS

Adjustment Conditions

1. Commence electrical adjustments only after all mechanical adjustments have been completed.
2. Also make sure that the heads have been cleaned and demagnetized.
3. Let the tape deck warm up for a few minutes before commencing actual adjustments.
4. Assume signal level of $0\text{dBv} = 1\text{Vrms}$.
5. Connect a $50\text{k}\Omega$ load resistance to the OUTPUT terminals (any resistance in the $47\text{k}\Omega$ to $52\text{k}\Omega$ range is acceptable).
6. Set the OUTPUT level control to maximum position unless otherwise specified.
7. Set the control switches to the following positions unless otherwise specified.

TIMER : OFF
 MEMORY : OFF
 DOLBY NR : OFF
 MPX FILTER : OFF
 MODE : "—" display
 AUTO-BLE : CLEAR

(with DATA SET indicator off)

Test Tape

STD-331B* : For playback system adjustments
 STD-608A : NORMAL blank tape
 STD-603 : CrO_2 blank tape
 STD-604 : METAL blank tape

*The recording levels for STD-331A and STD-331B differ. Whereas the STD-331A reference level is 333Hz , 250nwb/m , the corresponding STD-331B level is 315Hz , 160nwb/m .

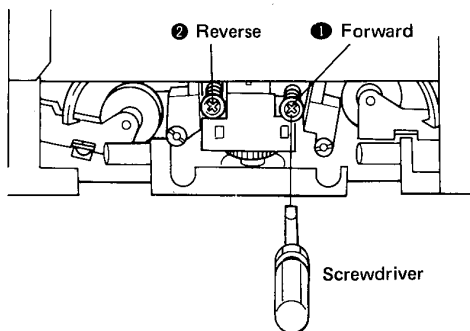


Fig. 10-11 Head azimuth adjustment

Adjustment Sequence

Adjustments must always be made in the following order.

1. Head azimuth adjustment
2. Tape transport adjustment
3. Tape touch check (PLAY)
4. Playback equalizer adjustment
5. Playback level adjustment
6. Level meter 0dB check
7. Erase current adjustment
8. Recording bias adjustment (1)
9. Recording level adjustment
10. Recording bias adjustment (2)
11. Tape touch check (REC)
12. Overall frequency response check and adjustment
13. Built-in BLE oscillator adjustment
14. Leader tape detector level adjustment

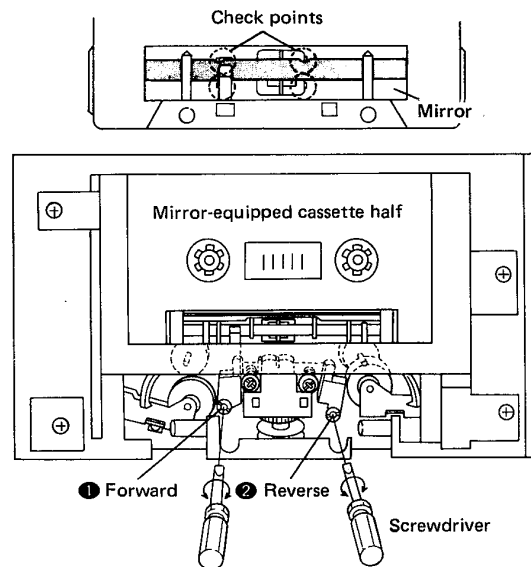


Fig. 10-12 Tape transport adjustment

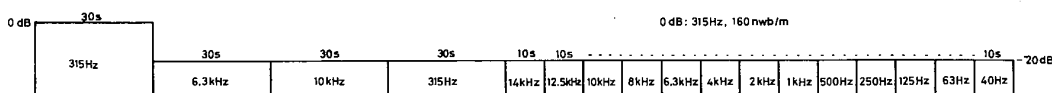


Fig. 10-13 STD-331B test tape

1. Head Azimuth Adjustment ● Turn VR303 and VR304 (playback level ADJ) up to maximum levels, and adjust VR301 and VR302 (playback EQ ADJ) to the mechanical center position.						
	Mode	Input signal & test tape	Adjustment location	Measuring location	Adjustment value	Remarks
	Play back (forward and reverse)	Play the 10kHz/–20dB portion of the STD-331B test tape	Head azimuth adjustment screw ① & ② (see Fig. 10-11)	Left and right OUTPUT terminals	Maximum playback signal level	Screw ① for FWD Screw ② for REV
2. Tape Transport Adjustment ● Use a mirror-equipped cassette half to check the tape transport condition. Adjust if the rated specifications are not met.						
	Mode	Input signal & test tape	Adjustment location	Rated specifications		Remarks
1	Playback (forward and reverse)	Mirror-equipped cassette half	Adjustment nuts ① & ② (see Fig. 10-12)	Absence of tape curling at the playback head and erase head tape guides during playback mode.		Nut ① for FWD Nut ② for REV
2	When transport is adjusted, repeat the “Head azimuth adjustment”.					
3. Tape Touch Check (PLAY)						
	Mode	Input signal & test tape	Measuring location	Rated specifications		Remarks
1	Playback (forward and reverse)	Play the 10kHz/–20dB portion of the STD-331B test tape	Left and right OUTPUT terminals	When the supply reel is braked lightly by hand, the playback signal level increase must not exceed 1.5dB.		Back-tension method
2				When the cassette half is displaced upward, the playback signal level increase must not exceed 1.5dB.		Head protrusion variation method
3	If the rated specifications for items 1 and 2 are not satisfied, repeat the “Tape transport adjustment”.					
4. Playback Equalizer Adjustment						
	Mode	Input signal & test tape	Adjustment location	Measuring location	Adjustment value	
1	Forward playback	Play the 315Hz/–20dB and 10kHz/–20dB portions of the STD-331B test tape	VR301 (left ch.) VR302 (right ch.)	Left and right OUTPUT terminals	Adjust the 10kHz level to 0dB in respect to the 315Hz playback level.	
2	Reverse playback		Check		Check the 10kHz level to 0^{+2}_{-0} dB in respect to the 315Hz playback level.	
3	Forward playback	Play the 315kHz/–20dB and 14kHz/–20dB portions of the STD-331B test tape	Check		Check the 14kHz level to 0 ± 2 dB in respect to the 315Hz playback level.	
4	Reverse playback		Check		Check the 14kHz level to 0^{+4}_{-2} dB in respect to the 315Hz playback level.	
5	See Fig. 10-14 for the permitted playback frequency response zone.					

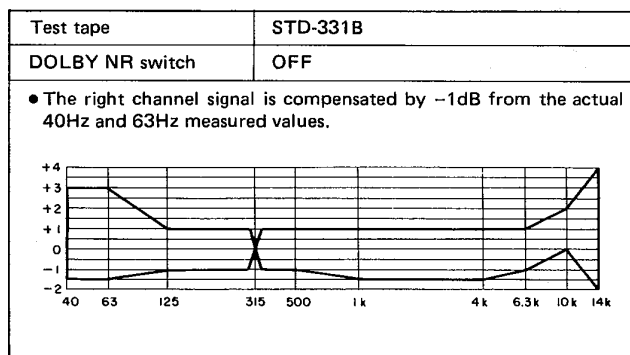


Fig. 10-14 Permitted playback frequency response zone

5. Playback Level Adjustment

● Since the playback Dolby level and AUTO-BLE operating level are set by this adjustment, make sure the adjustments are accurate.

	Mode	Input signal & test tape	Adjustment location	Measuring location	Adjustment value
1	Forward playback	Play the 315Hz/0dB portion of the STD-331B test tape.	VR303 (left ch.) VR304 (right ch.)	TP.1 (left ch.) TP.2 (right ch.) (Dolby NR ass'y)	-7.7dBv (412.1mV)
2	Reverse playback		Check		-7.7dBv±0.5dB

6. Level Meter 0dB Adjustment

	Mode	Input signal & test tape	Adjustment location	Measuring location	Adjustment value	Remarks
1	Recording pause	Apply a 315Hz/-10dBv (316mV) signal to the LINE INPUT terminals.	INPUT level control	TP.1 (left ch.) TP.2 (right ch.)	-7.7dBv (412.1mV)	INPUT level control position setting
2			VR321 (left ch.) VR322 (right ch.)	After turning VR321 and VR322 full around counterclockwise, slowly turn them back clockwise and stop at the position where level meter "0" dB indicator segment comes on.		
3		Vary the input level	Check	The input level required to turn the "+5" dB display segment on is -5dBv ±3dB.		
4			Check	The input level required to turn the "-10" dB display segment on is -20 dBv ±5dB.		

Adjustment control	Adjustment item
VR301, 302	Playback equalizer
VR303, 304	Playback level
VR305	METAL erase current
VR306	METAL bias
VR307, 308	NORM recording level
VR309, 310	CrO ₂ recording level
VR311, 312	METAL recording level
VR313, 314	CrO ₂ bias
VR315, 316	NORM (FWD) bias
VR317, 318	NORM (REV) bias
VR319	Leader tape detector level
VR321, 322	Level meter 0dB
VR1201	AUTO-BLE FL (1kHz)
VR1202	AUTO-BLE FH (10kHz)

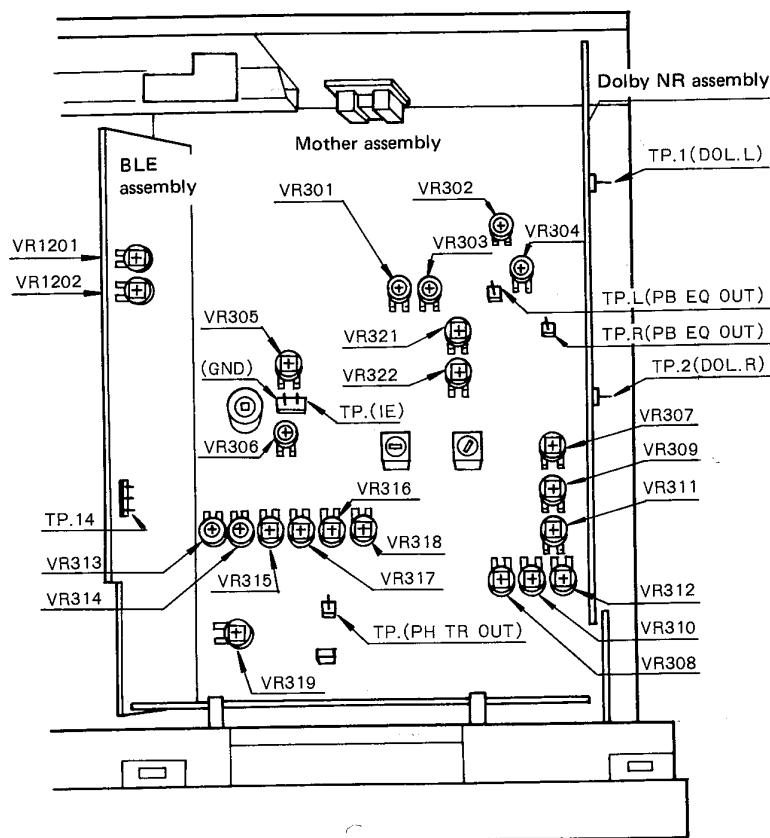


Fig. 10-15 Adjustment locations

7. Erase Current Adjustment

	Mode	Input signal & test tape	Adjustment location	Measuring location	Adjustment Value	Remarks
1	Forward recording	Load the STD-604 test tape with no input signal applied. (The auto tape selector is set to METAL position)	VR305	TP. (IE to GND)	160mV	Measure the voltage generated at R429 (1Ω) by the erase current.
2	Reverse recording		Check		140mV~180mV	
3	If voltage does not lie in the 140mV to 180mV range during the reverse recording mode, adjust so that the voltage lies within this range during both forward recording and reverse recording.					

8. Recording Bias Adjustment (1)

• Set the OUTPUT level control to maximum position, and VR313 and VR314 (CrO₂ bias ADJ) to the mechanical center positions.

	Mode	Input signal & test tape	Adjustment location	Measuring location	Adjustment value	Remarks
1	Recording pause	Apply 6.3kHz/-20dBv (100mV) to LINE INPUT terminals	INPUT level control	Left and right OUTPUT terminals	-14dBv (199.5mV)	INPUT level control position setting
2	Forward recording	Record on the STD-608A test tape (and monitor the playback simultaneously at TP.L and TP.R)	VR315 (left ch.) VR316 (right ch.)	TP.L (left ch.) TP.R (right ch.) (PB EQ OUT) The 3-head configuration used for AUTO-BLE* purposes enables simultaneous monitoring of playback signal. Note, however that the playback signal does not appear at the LINE OUTPUT terminals. *AUTO-BLE stands for Automatic Bias Level Equalizer tuning system.	After turning VR315 and VR316 fully counterclockwise, turn back clockwise and stop at a position where the measured value is 2.5dB lower than the maximum output level after passing the maximum position.	
3	Reverse recording		VR317 (left ch.) VR318 (right ch.)		After turning VR317 and VR318 fully counterclockwise, turn back clockwise and stop at a position where the measured value is 2.5dB lower than the maximum output level after passing that maximum position.	
4	Forward recording	Record on the STD-604 test tape (and monitor the playback simultaneously at TP.L and TP.R)	VR306		After turning VR306 fully counterclockwise, turn back clockwise and stop at a position where the measured value is 2dB lower than the maximum output level after passing that maximum position.	

9. Recording Level Adjustment

	Mode	Input signal & test tape	Adjustment location	Measuring location	Adjustment value	Remarks
1	Recording pause	Apply 315Hz/-10dB (316mV) to LINE INPUT terminals	INPUT level control	TP.1 (left ch.) TP.2 (right ch.) (Dolby NR ass'y)	-7.7dBv (412.1mV)	INPUT level control position setting
2	Recording /playback	Record the signal on the STD-608A test tape, and then play that section of the tape.	VR307 (left ch.) VR308 (right ch.)		-7.7dBv (412.1mV) (playback level)	Repeat the recording and playback, and adjust accordingly.
3	Recording /playback	Record the signal on the STD-603 test tape, and then play that section of the tape.	VR309 (left ch.) VR310 (right ch.)		-7.7dBv (412.1mV) (playback level)	
4	Recording /playback	Record the signal on the STD-604 test tape, and then play that section of the tape.	VR311 (left ch.) VR312 (right ch.)		-7.7dBv (412.1mV) (playback level)	
5	VR307, VR309, and VR311 (left channel) and VR308, VR310, and VR312 (right channel) are to be adjusted in the specified adjustment order. If any single control is adjusted separately, always check (and adjust) the other controls which follow it in the adjustment procedure order.					

10. Recording Bias Adjustment (2)

- Set the OUTPUT level control to maximum position, and set the LINE INPUT terminal input level to a constant value of -30dBv (31.6mV).

	Mode	Input signal & test tape	Adjustment location	Measuring location	Adjustment value	Remarks
1	Forward re-cording pause	Apply $315\text{Hz}/-30\text{dBv}$ to LINE INPUT terminals	INPUT level control	Left and right OUTPUT terminals	-24dBv (63.1mV)	INPUT level control position setting
2	Forward re-cording/playback	Record 315Hz and 10kHz signals onto the STD-608A test tape, and then play those recorded sections.	VR315 (left ch.) VR316 (right ch.)		Repeat the recording and playback, and adjust accordingly until the 10kHz playback level is $+0.5\text{dB}$ in respect to the 315Hz signal.	
3	Reverse re-cording/playback		VR317 (left ch.) VR318 (right ch.)			
4	Forward re-cording/playback	Record 315Hz and 10kHz signals onto the STD-603 test tape, and then play those recorded sections.	VR313 (left ch.) VR314 (right ch.)		Repeat the recording and playback, and adjust accordingly until the 10kHz playback level is 0dB in respect to the 315Hz signal.	
5	Forward re-cording/playback	Record 315Hz and 10kHz signals onto the STD-604 test tape, and then play those recorded sections.	VR306		Repeat the recording and playback, and adjust accordingly until the 10kHz playback level is $+0.5\text{dB}$ in respect to the 315Hz signal.	

11. Tape Touch Check (REC)

11. Tape Touch Check (REC)					
	Mode	Input signal & test tape	Measuring location	Rated specifications	Remarks
1	Recording pause	Apply 15kHz/~30dBv to LINE INPUT terminals	Left and right OUTPUT terminals	Adjust the INPUT level control to obtain a -24dBv level (63.1mV).	INPUT level control position setting
2	Recording /playback	Record the signal on the STD-608A test tape, and then play that section of the tape.		Lightly brake the supply reel by hand during recording mode, and check that the playback level increase is less than 2dB.	Back-tension method
3	Recording /playback	Record the signal on the STD-608A test tape, and then play that section of the tape.		The increase in playback level as a result of displacing the cassette half upwards during recording mode must be less than 2dB.	Head protrusion variation method
4	If the rated specifications for step 2 and 3 are not satisfied, repeat the "Tape transport adjustment".				
5	Also check in the same way with the STD-603 and STD-604 test tapes.				
6	After completing the adjustments up to this stage, secure the azimuth adjustment screw securely into position with "screw lock".				

12. Overall Frequency Response Check and Adjustment

- Set the OUTPUT level control to maximum position, and set the LINE INPUT terminal input level to a constant value of -30dBv (31.6mV).

● Set the OUTPUT level control to maximum position, and set the LINE INPUT terminal input level to maximum.

	Mode	Input signal & test tape	Adjustment location	Measuring location	Adjustment	Remarks
1	Recording pause	Apply 315Hz/-30dBv to LINE INPUT terminals.	INPUT level control	Left and right OUTPUT terminals	-24dBv (63.1mV)	INPUT level control position setting
2	Record 315Hz -15kHz signals (-30dBv input) onto the STD-608A test tape, and then play the recorded signals back to check that the permitted frequency response zone (for STD-608A) shown in Fig. 10-16 is satisfied. If the results do not conform with the rated specifications, adjust in the following way.					
3	Forward re-cording/playback	Record 315Hz -15kHz signals (-30dBv input) onto the STD-608A test tape, and then play the recorded signals.	VR315 (left ch.) VR316 (right ch.)	Left and right OUTPUT terminals		Repeat the recording and playback (adjusting where necessary) until the permitted frequency response zone (for STD-608A) shown in Fig. 10-16 is satisfied.
4	Reverse re-cording/playback		VR317 (left ch.) VR318 (right ch.)			
5	Record 315Hz -15kHz signals (-30dBv input) onto the STD-603 test tape, and then play the recorded signals back to check that the permitted frequency response zone (for STD-603) shown in Fig. 10-17 is satisfied. If the results do not conform with the rated specifications, adjust in the following way.					
6	Recording /playback	Record 315Hz -15kHz signals onto the STD-603 test tape, and then play the recorded signals.	VR313 (left ch.) VR314 (right ch.)	Left and right OUTPUT terminals		Repeat the recording and playback (adjusting where necessary) until the permitted frequency response zone (for STD-603) shown in Fig. 10-17 is satisfied.
7	Record 315Hz -15kHz signals (-30dBv input) onto the STD-604 test tape, and then play the recorded signals back to check that the permitted frequency response zone (for STD-604) shown in Fig. 10-18 is satisfied. If the results do not conform with the rated specifications, adjust in the following way.					
8	Recording /playback	Record 315Hz -15kHz signals (-30dBv input) onto the STD-604 test tape, and then play the recorded signals.	VR306	Left and right OUTPUT terminals		Repeat the recording and playback (adjusting where necessary) until the permitted frequency response zone (for STD-604) shown in Fig. 10-18 is satisfied.

	Mode	Input signal & test tape	Adjustment location	Measuring location	Adjustment value	Remarks
9		Since the VR315 thru VR318 adjustments (NORM bias) effect the VR313, VR314 (CrO ₂ bias) and VR306 (METAL bias) adjustments, always check (and readjust) those controls which follow in order if a particular control is readjusted.				

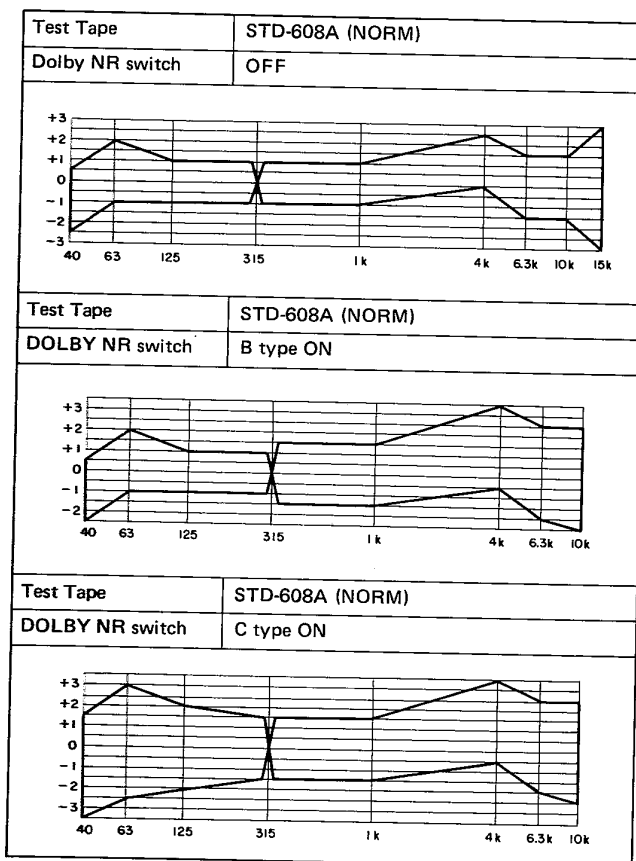


Fig. 10-16 Permitted recording/playback frequency response zone (NORM)

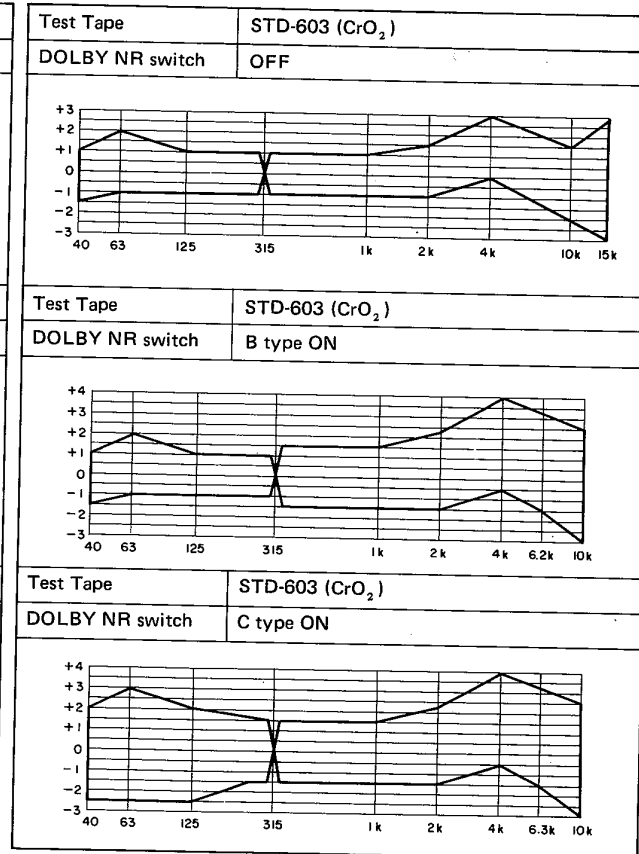
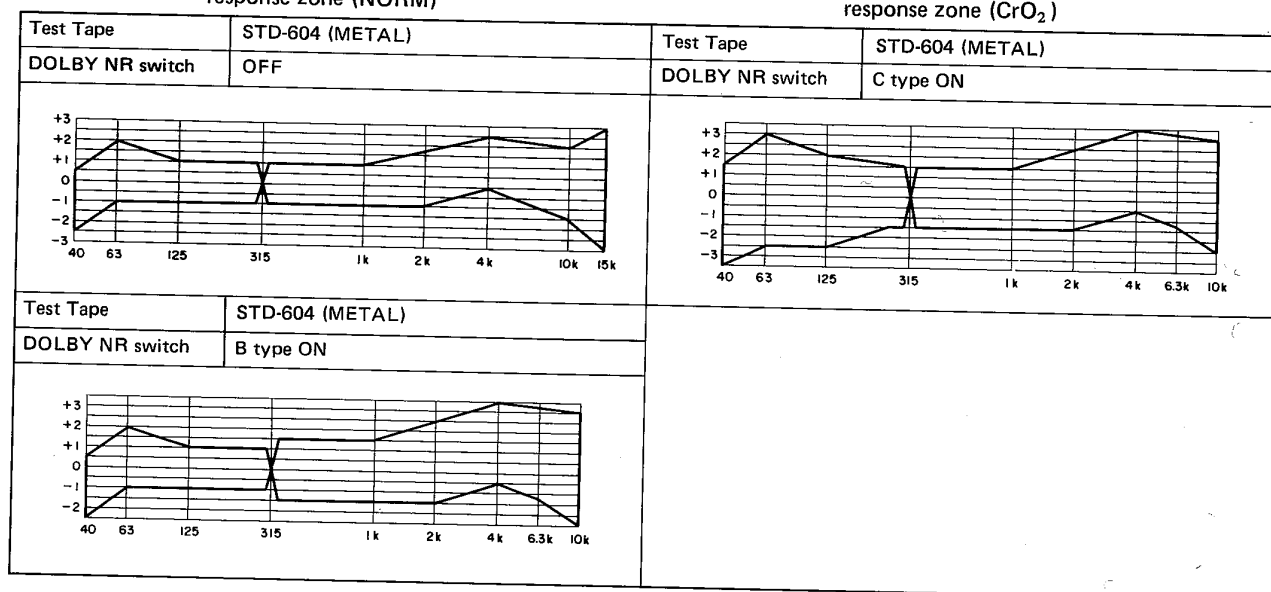
Fig. 10-17 Permitted recording/playback frequency response zone (CrO₂)

Fig. 10-18 Permitted recording/playback frequency response zone (METAL)

13. Built-In BLE Oscillator Adjustment

13. Built-In BLE Oscillator Adjustment						
	Mode	Input signal & test tape	Adjustment location	Measuring location	Adjustment value	Remarks
1	Connect TP. 14 on the BLE assembly to ground for a brief moment (thereby switching the AUTO BLE IC to TEST A mode).					
2	Recording	Load the STD-608A	VR1201	TP. 2	-7.7dBv (412.1mV)	TEST A mode is 1kHz
3	Switch the tape deck from stop, rewind, and then stop mode again (thereby switching the AUTO BLE IC to TEST B mode).					
4	Recording	Load the STD-608A	VR1202	TP. 2	-18dBv (125.9mV)	TEST B mode is 10 kHz
5	Press the CLEAR button with the deck in stop mode (thereby cancelling TEST mode).					
6	Press the AUTO-BLE button (for AUTO-BLE operation with the STD-608A test tape). After completing AUTO-BLE, proceed to step 7.					
7	Recording pause	Apply 315Hz/-10dBv to LINE INPUT terminals	INPUT level control	TP. 2	-7.7dBv (412.1mV)	INPUT level control position setting
8	Recording /playback	Record onto the STD-608A test tape, and then play the recorded signal.	Measure	TP. 2	Measure deviation in the playback level in respect to -7.7dBv. Example: Measured value of -7.2dBv denotes deviation of +0.5dB.	
9	After pressing the CLEAR button, connect TP. 14 to ground briefly (to set TEST A mode).					
10	Recording	Load the STD-608A	VR1201	TP. 2	Compensate for the deviation measured in step 8. Example: Set to -7.2dBv if deviation is +0.5dB.	
11	Press the CLEAR button with the deck in stop mode (thereby cancelling TEST mode).					
12	Press the AUTO-BLE button (for AUTO-BLE operation with the STD-608A test tape). After completing AUTO-BLE, proceed to step 13.					
13	Recording /playback	Record 10kHz and 315Hz (-30dBv input) signals onto the STD-608A test tape, and then play the recorded signals back.	Measure	TP. 2	Measure the deviation in playback level of the 10kHz signal in respect to the 315Hz signal.	
14	Press the CLEAR button with the deck in stop mode. Then after connecting TP. 14 briefly to ground, switch to rewind mode, and then back to stop mode (thereby switching to TEST B mode).					
15	Recording	Load the STD-608A	VR1202	TP. 2	Compensate for the deviation measured in step 13.	
16	Press the CLEAR button with the deck in stop mode.					

14. Leader Tape Detector Level Adjustment

	Mode	Input signal & test tape	Adjustment location	Measuring location	Adjustment value	Remarks
1	Disconnect the CN304 connector.					
2	Stop	Apply a 2kHz/-17dBv (0.4Vp-p) signal to the TP (PH TR OUT) terminals.	VR319	Pin 4 of IC303 (PA3010)	DC10.5V±0.25V	
3	Reconnect the CN304 connector.					
4	Playback	Load a cassette half which is without any tape.	The position marked "A" in Fig. 10-20.	TP. (PH TR OUT)	If the waveform (square wave) at the measured location is greater than 0.6Vp-p, connect the section indicated by "A" in Fig. 10-20.	

Adjustment control	Adjustment item
VR301, 302	Playback equalizer
VR303, 304	Playback level
VR305	METAL erase current
VR306	METAL bias
VR307, 308	NORM recording level
VR309, 310	CrO ₂ recording level
VR311, 312	METAL recording level
VR313, 314	CrO ₂ bias
VR315, 316	NORM (FWD) bias
VR317, 318	NORM (REV) bias
VR319	Leader tape detector level
VR321, 322	Level meter 0dB
VR1201	AUTO-BLE FL (1kHz)
VR1202	AUTO-BLE FH (10kHz)

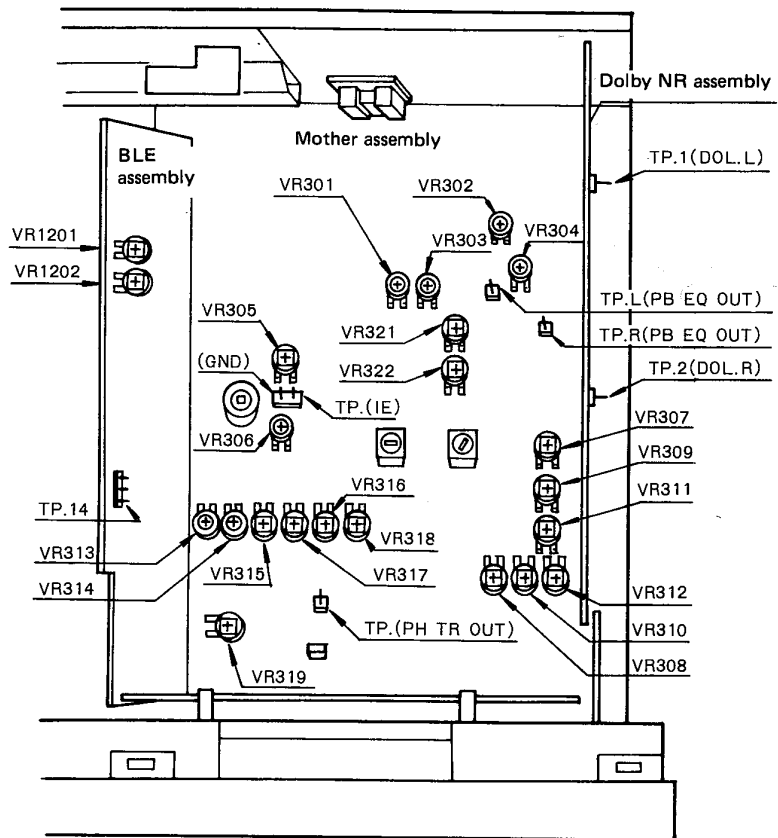


Fig. 10-19 Adjustment locations

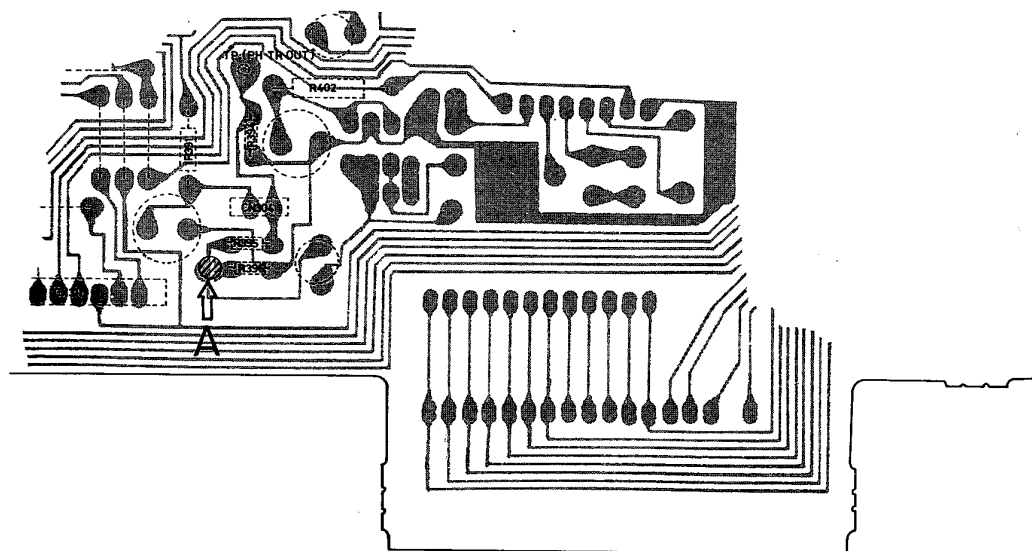


Fig. 10-20 Adjustment location (on foil side of Mother assembly)