

## ELECTRICAL ADJUSTMENTS

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ELECTRICAL ADJUSTMENTS

Some disassembly is required to access the adjustment locations. Refer to the "Disassembly Section" in this service publication for disassembly instructions.

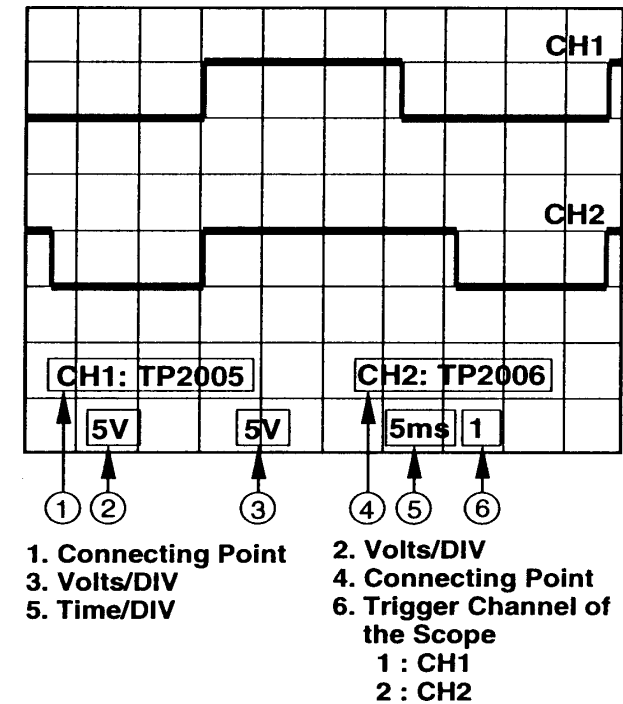


Fig. 1 - Adjustment Waveform Information

FUNCTION OF IMPORTANT TEST POINTS		
TP3001	Video Signal to Jack	
TP3002	REC/PB Video envelope signal	
TP6001	Service Test Point (inhibit sensors)	
TP6003	defeat Auto tracking function (connect to +5V(TP6009)) PG Shifter Adjustment Mode (connect to GND)	
TP6009	+5V	
TP6205	Head SW.	
TP6017	Mode Select SW. Position	Mode Position (A)
TP6018		Mode Position (B)
TP6019		Mode Position (C)

Test Point Information

- Test Point with a Test Pin.
- Ⓢ Test Point with a jumper wire across a hole in the P.C.B.
- Test Point with no Test Pin.

Fig. 2 - Test Point Identification/Information

## ELECTRICAL ADJUSTMENTS (Continued)

## Main C.B.A. (Model: A, B)

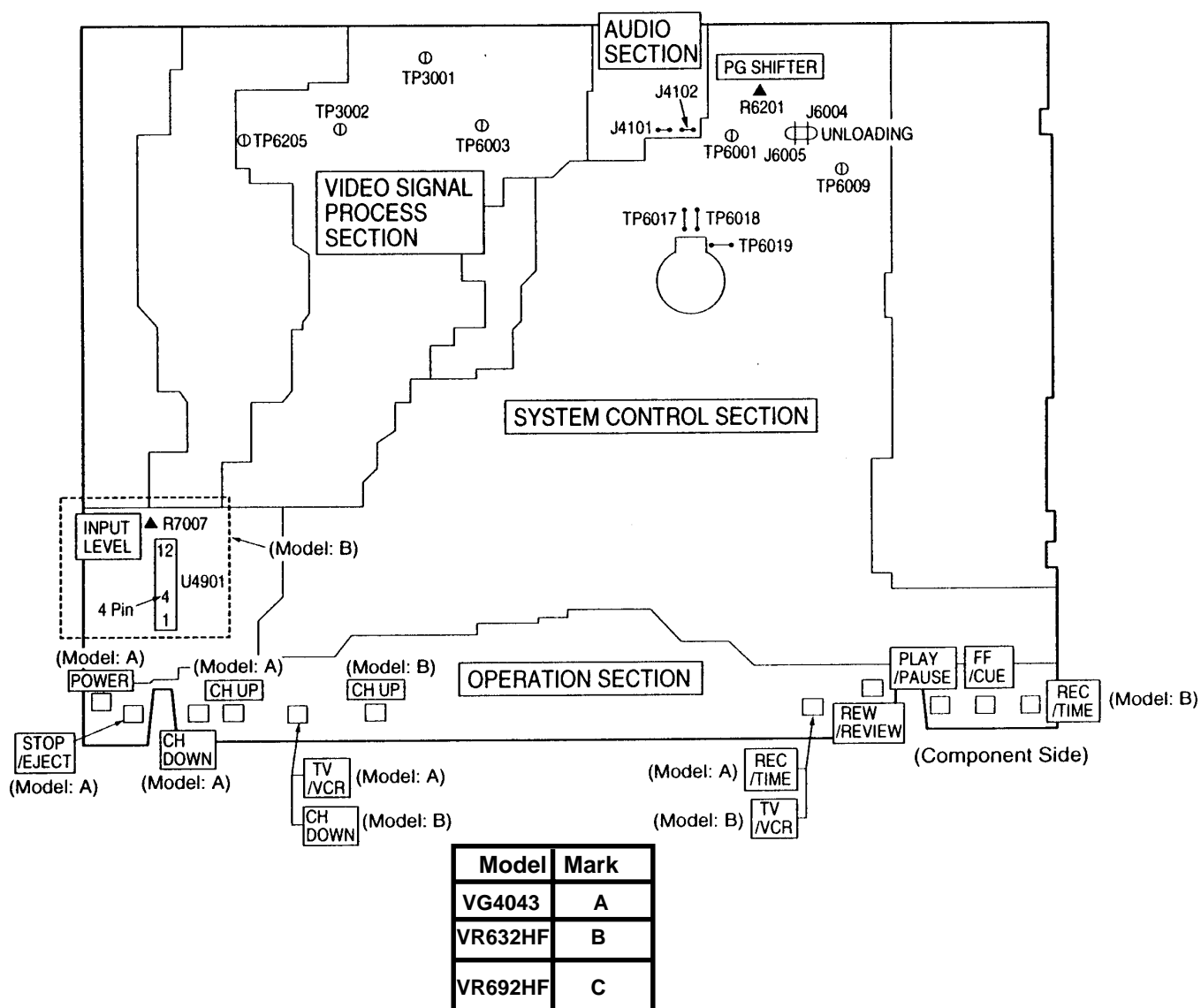


Fig. 3 - Main Circuit Board Test Point/Control Location (Component Side)

ELECTRICAL ADJUSTMENTS (Continued)

Main C.B.A. (Model: C)

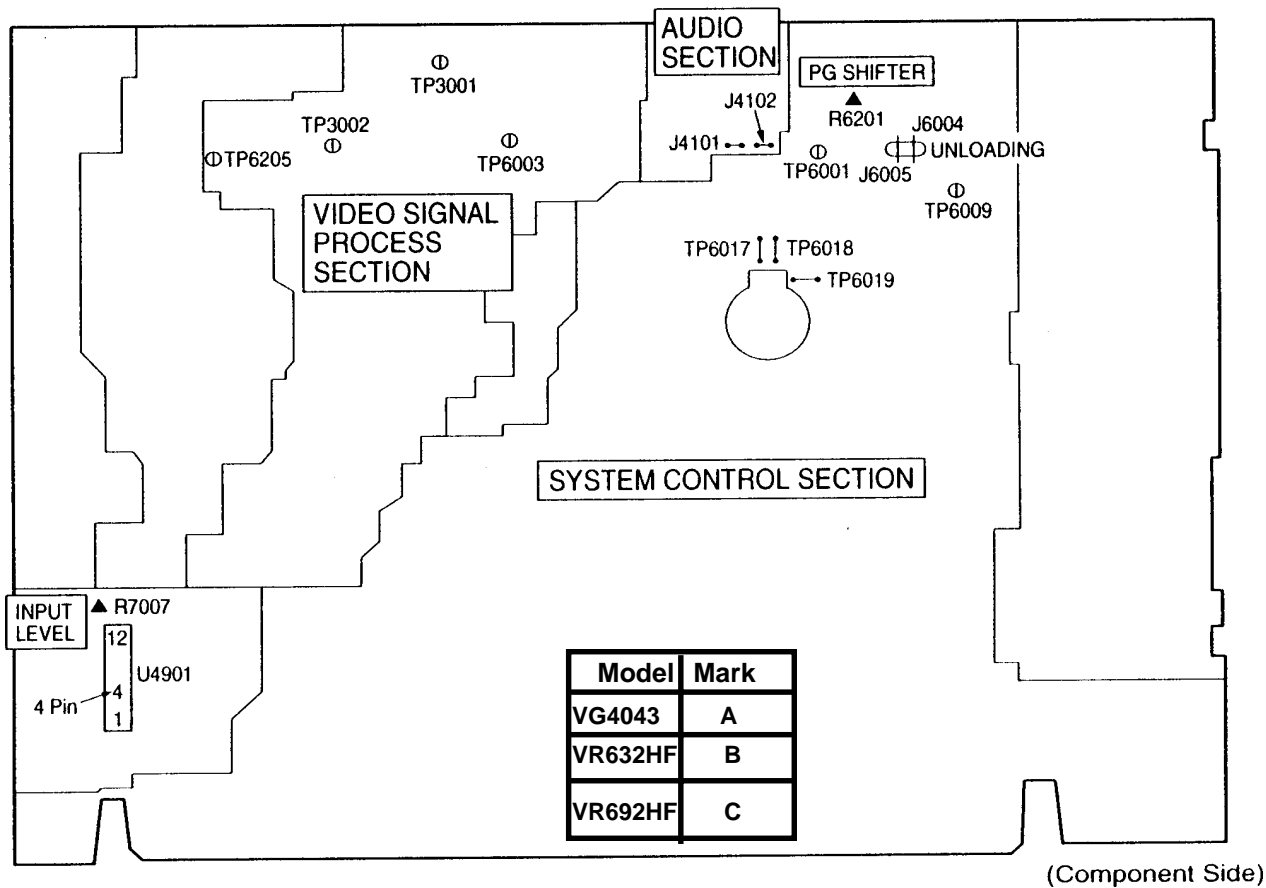
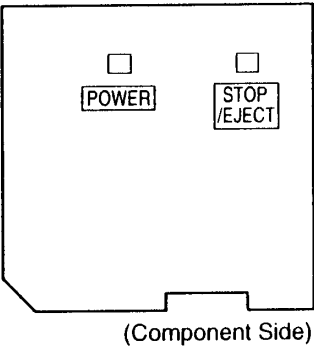


Fig. 4 - Main Circuit Board Test Point/Control Location (Component Side)

Operation C.B.A. (Model: B)



Model	Mark
VG4043	A
VR632HF	B
VR692HF	C

Operation C.B.A. (Model: C)

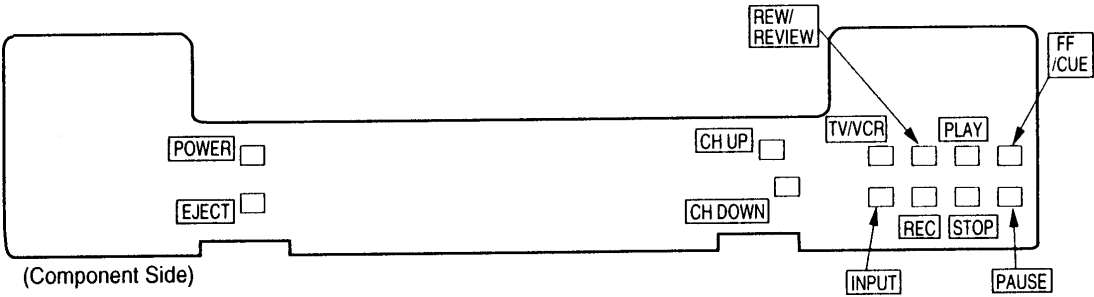


Fig. 5 - Operation Circuit Board Test Point/Control Location (Component Side)

**ELECTRICAL ADJUSTMENTS (Continued)****PG Shifter Adjustment (Fig. 6)**

Test Point:	TP6205 (V Head SW)	VCR Main CBA
	TP3001 (Video Out)	VCR Main CBA
Observe:	Oscilloscope	
Adjust:	R6201 (PG Shifter)	VCR Main CBA

This adjustment determines the video head switching point during playback. Misadjustment may cause head switching noise and/or vertical jitter.

1. Connect the channel-1 scope probe (1.0 V/div.; 0.1 msec/div.) to TP3001 and the channel-2 scope probe (5V/div.) to TP6205. Trigger from channel-2.
2. Play back the color bar section of the VHS alignment tape.
3. Connect a jumper between TP6003 and ground.
4. Adjust the *PG Shifter* (R6201) so that the leading edge of the head switching pulse is placed 6H +/- 1 H (1H = one horizontal line) before the start of the vertical sync pulse.
5. Change the scope setting from (+) slope to (-) slope and confirm that the switching point is 6H +/- 1 H before the start of vertical sync.

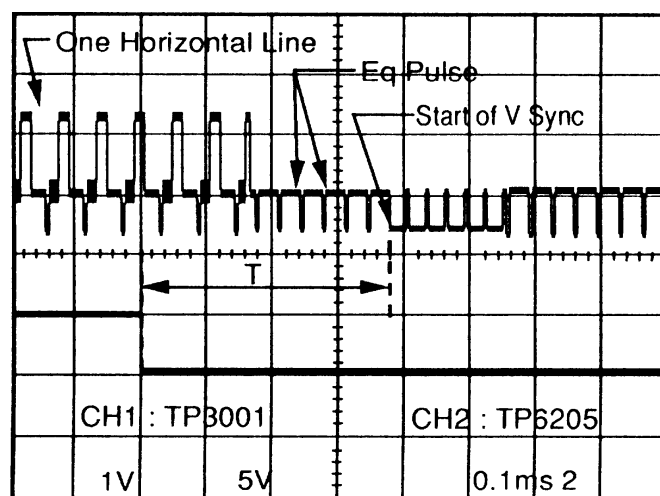


Fig. 6- PG Shifter Adjustment

**Bias Level Adjustment (Fig. 7)**

Test Point:	Audio Output Jack	Rear Panel
Observe:	AC Millivolt Meter	
Adjust:	J4101/J4102	Main CBA

Perform this adjustment procedure when replacing the audio/control head assembly.

1. Connect the AC millivolt meter to the audio output jack on the rear panel of the instrument.
2. Apply a color bar video signal to the video input jack.
3. Apply a 1kHz/89mVp-p audio signal to the audio input jack.
4. Insert a blank tape and make an SLP recording of the applied signals.

5. Apply a 5kHz/89mVp-p audio signal to the audio input jack.
6. Make an SLP recording of the applied signals.
7. Play back the recorded signals and confirm that the levels of the 1kHz and 5kHz signals are equal within +40%/-50%. If the signal levels are within the specification, no adjustment is necessary. If the signals are not within the specification, add or remove jumpers J4101/J4102 as described in Fig. 7 and then repeat the measurement procedure.

INITIAL CONDITION		FOIL PATHS MAINTAINED		
		J4101 AND J4102	J4101 ONLY	J4102 ONLY
BIAS LEVEL	GREATER THAN SPEC.	CUT FOIL PATH OF J4102	-----	PLACE JUMPER FOR J4101 OR CUT FOIL PATH OF J4102 OR PLACE JUMPER FOR J4101 PLUS CUT FOIL PATH OF J4102
	LESS THAN SPEC.	CUT FOIL PATH OF J4101	PLACE JUMPER FOR J4102 OR CUT FOIL PATH OF J4101 OR PLACE JUMPER FOR J4102 PLUS CUT FOIL PATH OF J4101	-----

Note :  
This BIAS LEVEL is set by adjusting a combination of two foil path (J4101/J4102).

Fig. 7 - Bias Level Adjustment

**Input Level Adjustment (VR632HF/VR692HF)**

Test Point:	U4901-4	Main CBA
Observe:	AC Millivolt Meter	
Adjust:	R7007 (MPX Input)	Main CBA

Incorrect adjustment will cause poor separation of the left and right stereo channels.

1. Connect the AC millivolt meter to pin 4 of U4901.
2. Connect an MTS/SAP stereo signal generator to the RF input on the VCR. Set the generator signal as follows:

**MONO/300Hz +/-5Hz/100% Modulation**

3. Tune the VCR to the appropriate channel (same as that provided by the signal generator) and adjust the *MPX Input Signal Level* control (R7007) so that the voltage at pin 4 of U4901 is 245 +/- 8mVrms.

**Note:** If the generator cannot produce 100% modulation, multiply the specification provided in step three (3) by the modulation level used (available).

## ELECTRICAL ADJUSTMENTS (Continued)

**EXAMPLE:** 30% (Modulation) X 150 +/-5mVrms  
(Specification) = 45 +/- 1.5mVrms (New  
Specification) ■