

# JVC

## Supplementary

# SERVICE MANUAL

MODEL

**CD-1636/C**

**CD-1635 Mark II**

**(CD-1635-2A/B/E/U)**

PORTABLE STEREO CASSETTE DECK

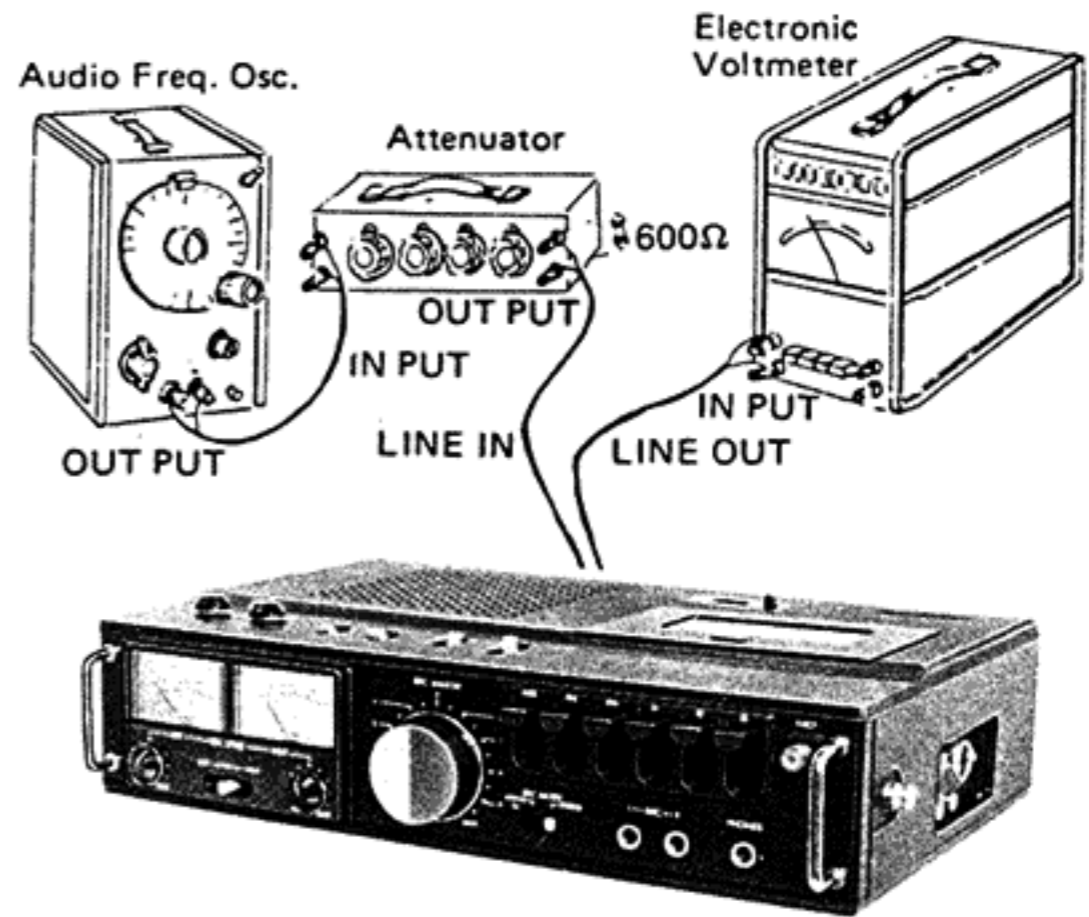


# Main Adjustments

## [I] Equipment and measuring instruments used for adjustment.

### Electrical adjustment

- 1) Electronic voltmeter
- 2) Audio frequency oscillator  
(range; 50–20kHz and output 0dB with impedance 600Ω)
- 3) Attenuator
- 4) Standard tapes for REC/PB  
Maxell UD – for "NORM" position } or equivalent  
TKD SA – for "CrO2" position }
- 5) Reference tapes for playback (JVC Test Tape)  
VTT-658 (for head azimuth adj.)  
VTT-664 (for Reference level 1kHz)  
VTT-675N (for playback frequency response)
- 6) Resistors  
100Ω (for measurement of the bias current)  
600Ω (for attenuator matching)



CD-1636/C  
CD-1635-2A/B/E/U

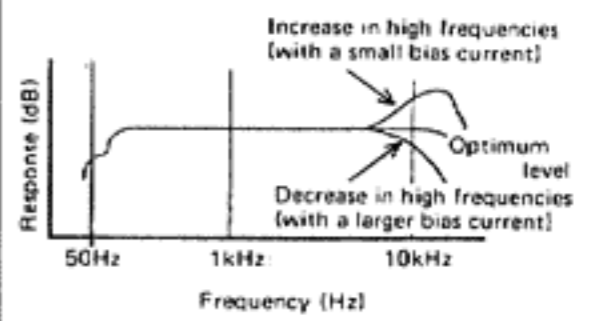
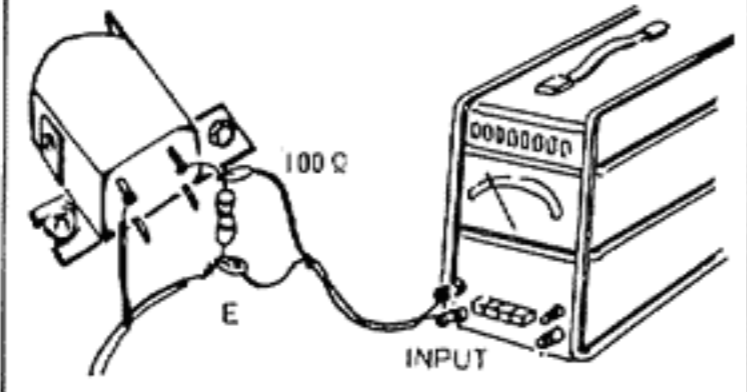
## [II] Electrical circuit adjustment procedure

Adjustment should be performed in the order of steps 1,2,3.


### Playback system

Step	Item	Adjustment	Adjusting point	Standard Value	Remarks
1	Level meter deflection	<ol style="list-style-type: none"> <li>1. Set the deck in the record mode.</li> <li>2. Input 1kHz signals to MIC or LINE IN jacks (with a level of -60dBs (0.78mV) approx. for MIC input or -10dBs (240mV) approx. for LINE IN input.) Adjust the recording volume controls so that the voltage across LINE OUT is -3.5dBs (518mV).</li> <li>3. Adjust two semi-fixed variable resistors R134(L-ch) R234(R-ch) so that the level meters indicate zero VU.</li> </ol>	R134 R234	VU meter reading: 0	Perform the adjustment when the parts are replaced.
2	Play back level	Adjust R115 and R215 to obtain zero VU meter reading using reference tape VTT-664 (old ref. no. TMT-6009). Set equalizer switch in "NORMAL" position and turn off ANRS switch when adjusting play back level.	R115 R215	VU meter reading: 0	<ol style="list-style-type: none"> <li>1. Adjust reproduction level when heads are replaced.</li> <li>2. Make this adjustment after making sure level meter deflection angle is correct.</li> </ol>
3	Checking the playback frequency response	Play back the VTT-675N test tape. Check to see if the outputs at the frequencies conform to the standard levels.		Standard frequency: 1kHz "NORM" position; +2.5dB±3dB at 63Hz 0±3dB at 10kHz "CrO2" position +2.5dB±3dB at 63Hz -4.5dB±3dB at 10kHz	The 1kHz output with the equalizer switch set to NORMAL refers to CrO2 position.

Recording system

Step	Item	Adjustment	Adjusting point	Standard value	Remarks
1	Checking record/playback frequency response	Record 1kHz, 50Hz and 10kHz signals at an input level of 0VU -20dB. Play back the tape. Check to see that the 50Hz and 10kHz signal output deviations fall within the standard range, using the 1kHz signal output as a reference. (It is basically desirable that the 1kHz, 50Hz and 10kHz signal outputs are the same.)		Reference frequency; 1kHz With a normal tape 0±3dB at 50Hz 0±3dB at 10kHz With a chrome tape 0±3dB at 50Hz 0±3dB at 10kHz	This checking should be performed for normal and chrome tapes and for both right and left channels. Adjustment is performed with the semi-fixed resistors for bias current adjustment.
2	Recording bias	Record 1kHz, 50Hz and 10kHz signals at an input level of 0VU -20dB. Play back the tape. Adjust R555 and R557 (for a normal tape), R556 and R558 (for a chrome tape) until the indicated deviation of the 10kHz signal output from the 1kHz signal output becomes 0.	For normal tape R555,557  For chrome tape R556,558	Output deviation: 0	<p>1. Bias current adjustment for a cassette deck should generally be performed referring to the record/playback frequency response. This is because the frequency response of a cassette deck depends more greatly upon the bias current than does that of an open reel deck. The current measuring method described below is an alternative one.</p> <p>2. If the bias current is not properly adjusted, the record and playback characteristics become as shown below.</p> 
		<p>Alternative method</p> <ol style="list-style-type: none"> <li>Set the deck in the record mode.</li> <li>Connect a 100Ω resistor in series with ground wire of head (recording mode).</li> <li>Connect the Electronic voltmeter across the resistor, and measure its voltage.</li> </ol> <p>R/P HEAD (E. voltmeter)</p>  <p>If no measuring apparatus is available, check in the following way. Music sound is not sonorous in the high range on playback: bias current is too high. Music sound is also sonorous in the high range on playback but distorted: bias current is too low.</p>	NORM: R555,557  CrO2: R556,558 (BIAS ADJ)	Approx. 37mV  Approx. 47mV	



Step	Item	Adjustment	Adjusting point	Remarks
3	Recording level	<p>A: Adjustment for normal tape (Use JVC standard tape.)</p> <ol style="list-style-type: none"> <li>Set the deck in the "NORM" record mode.</li> <li>Input 1kHz signals to MIC or LINE IN jacks and set recording level to zero VU.</li> <li>Adjust R142 and R242 till play back level is zero VU when the tape is played back.</li> </ol> <p>B: Adjustment for CrO<sub>2</sub> tape (Use JVC standard tape.)</p> <ol style="list-style-type: none"> <li>Set the deck in the "CrO<sub>2</sub>" record mode.</li> <li>Input 1kHz signals to MIC or LINE IN jacks and set to recording level to zero VU.</li> <li>Adjust R138, and R238 till play back level is zero VU when the tape is played back.</li> </ol>	<p>R142,242 (REC LEVEL—NORM)</p> <p>R138,238 (REC LEVEL—CHROME)</p>	<ol style="list-style-type: none"> <li>This adjustment is necessary when heads are replaced.</li> <li>Make this adjustment after adjusting level meter deflection angle, play back level and recording bias current.</li> <li>Set EQ and BIAS switches according to type of tape used.</li> <li>Turn off ANRS switch.</li> </ol>
4	ANRS circuit	<ol style="list-style-type: none"> <li>Disconnect power connection receptacle of bias oscillator so that oscillator does not operate. (red wire)</li> <li>Set the deck in the record mode.</li> <li>Input 1kHz -10dBs (245mV) signals to LINE IN jacks adjust the recording volume controls so that the voltage across LINE OUT is -0.5dBs (732mV).</li> <li>Turn R335 and R435 (CONT GAIN) and R340 and R440 (DC BIAS) in the opposite direction to the marking.</li> <li>Adjust R324 and R424 so that level does not change when ANRS is turned on and off, and turn on ANRS.</li> <li>Input 1kHz, -50dBs (2.45mV) signals to LINE IN. (Attenuate input signal 40dB more.) Adjust R340 and R440 so that voltage across LINE OUT is -35dBs (13.8mV)</li> <li>Input 5kHz -30dBs (24.5mV) signals to LINE IN. Adjust R335 and R435 so that voltage across LINE OUT is -17dBs (109.5mV)</li> <li>Repeat steps (5) through (7).</li> <li>Turn ANRS switch in "Super" position when input 10kHz -10dBs (245mV) signals to LINE IN. Check output levels are -6.5dBs (367mV) ±2dB.</li> <li>Connect receptacle of bias oscillator disconnected in step (1).</li> <li>Play reference tape VTT-664 and adjust R302 and R402 so that level does not change when ANRS is turned on and off.</li> </ol>	<p>R324,424 (REC GAIN)</p> <p>R340,440 (DC BIAS)</p> <p>R335,435 (CONT GAIN)</p> <p>R302,402 (PB GAIN)</p>	
5	Battery check	<ol style="list-style-type: none"> <li>Apply exactly 6V to battery contacts and switch machine to play or fast forward.</li> <li>Set battery check switch in "CHECK" position and adjust so that meter pointer deflects to the beginning end of green area.</li> </ol>	R25	<p>Do not mistake one polarity for the other.</p> 

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