JVC

Supplementary SERVICE MANUAL

MODEL

CD-1636/C
CD-1635MarkII

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

PORTABLE STEREO CASSETTE DECK

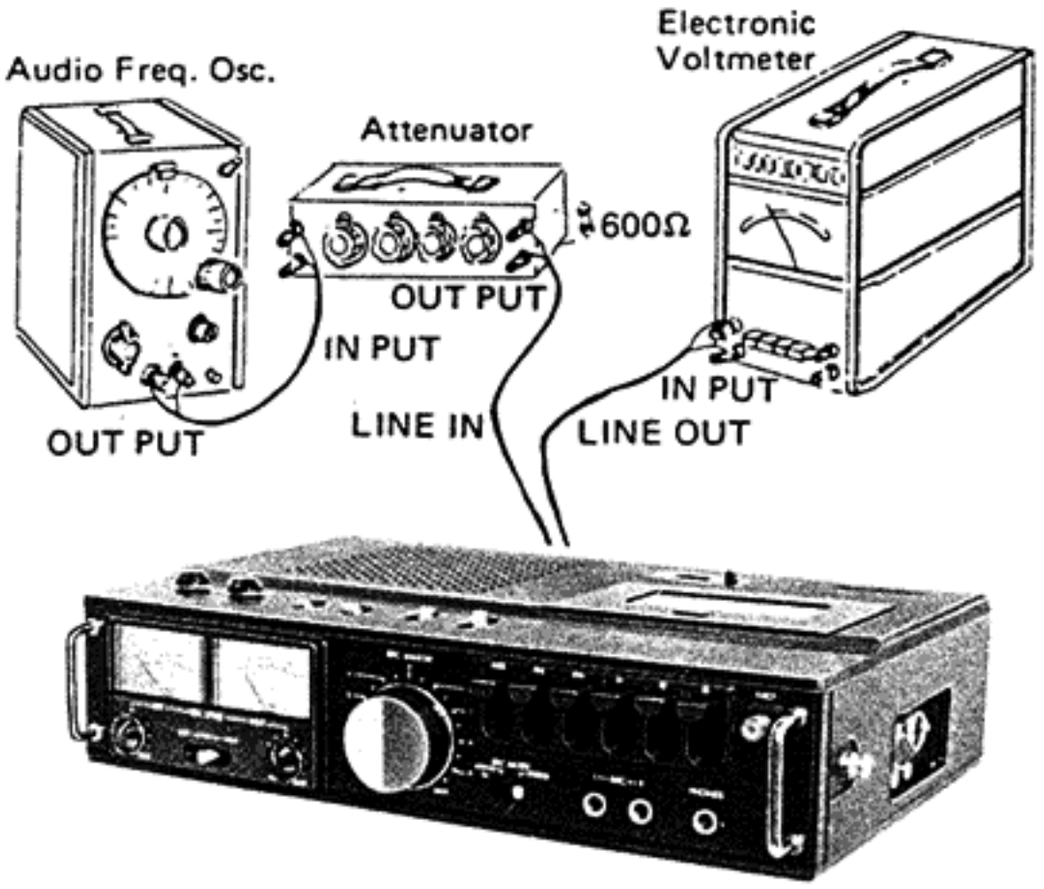
No. 4145-2
March 1978

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
   TKD SA – for "CrO2" position
   } or equivalent
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

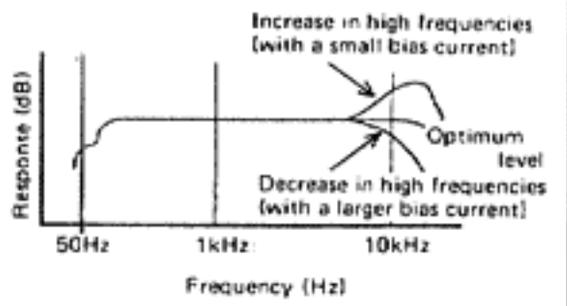
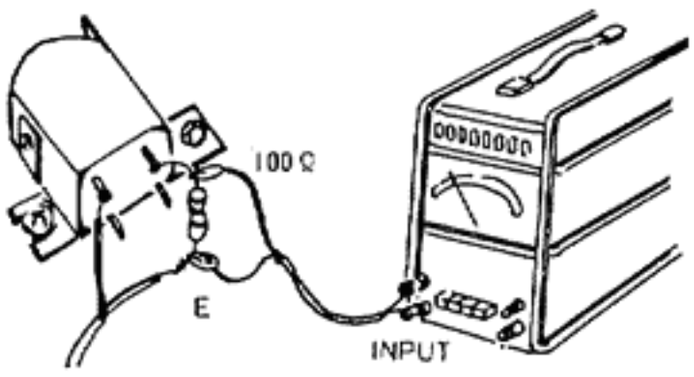
[II] Electrical circuit adjustment procedure

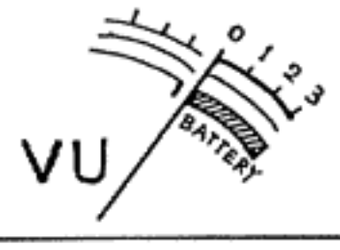
Adjustment should be performed in the order of steps 1,2,3.

Playback system

Step	Item	Adjustment	Adjusting point	Standard Value	Remarks
1	Level meter deflection	1. Set the deck in the record mode. 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). 3. Adjust two semi-fixed variable resistors R134(L-ch) R234(R-ch) so that the level meters indicate zero VU.	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	1. Adjust reproduction level when heads are replaced. 2. Make this adjustment after making sure level meter deflection angle is correct.
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	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. 2. If the bias current is not properly adjusted, the record and playback characteristics become as shown below. 
		Alternative methode 1. Set the deck in the record mode. 2. Connect a 100Ω resistor in series with ground wire of head (recording mode). 3. Connect the Electronic voltmeter across the resistor, and measure its voltage. R/P HEAD (E. voltmeter)  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.	NORM: R555,557 CrO2: R556,558 (BIAS ADJ)	Approx. 37mV Approx. 47mV	1. In order to distinguish the ground terminal of the head from its live terminal, touch the terminals with a finger while the deck is in the playback mode. The VU meters deflect when the ground terminal during recording is touched. (For a record/playback head, the polarity is reversed according to whether recording or playback.) 2. Be sure to employ a shielded wire. 3. Be sure to connect resistor to head terminal not PCB side.

Step	Item	Adjustment	Adjusting point	Remarks
3	Recording level	A: Adjustment for normal tape (Use JVC standard tape.) 1. Set the deck in the "NORM" record mode. 2. Input 1kHz signals to MIC or LINE IN jacks and set recording level to zero VU. 3. Adjust R142 and R242 till play back level is zero VU when the tape is played back. B: Adjustment for CrO_2 tape (Use JVC standard tape.) 1. Set the deck in the "CrO_2" record mode. 2. Input 1kHz signals to MIC or LINE IN jacks and set to recording level to zero VU. 3. Adjust R138, and R238 till play back level is zero VU when the tape is played back.	R142,242 (REC LEVEL—NORM) R138,238 (REC LEVEL—CHROME)	1. This adjustment is necessary when heads are replaced. 2. Make this adjustment after adjusting level meter deflection angle, play back level and recording bias current. 3. Set EQ and BIAS switches according to type of tape used. 4. Turn off ANRS switch.
4	ANRS circuit	1. Disconnect power connection receptacle of bias oscillator so that oscillator does not operate. (red wire) 2. Set the deck in the record mode. 3. 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). 4. Turn R335 and R435 (CONT GAIN) and R340 and R440 (DC BIAS) in the opposite direction to the marking. 5. Adjust R324 and R424 so that level does not change when ANRS is turned on and off, and turn on ANRS. 6. 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) 7. Input 5kHz -30dBs (24.5mV) signals to LINE IN. Adjust R335 and R435 so that voltage across LINE OUT is -17dBs (109.5mV) 8. Repeat steps (5) through (7). 9. Turn ANRS switch in "Super" position when input 10kHz -10dBs (245mV) signals to LINE IN. Check output levels are -6.5dBs (367mV) ±2dB. 10. Connect receptacle of bias oscillator disconnected in step (1). 11. Play reference tape VTT-664 and adjust R302 and R402 so that level does not change when ANRS is turned on and off.	R324,424 (REC GAIN) R340,440 (DC BIAS) R335,435 (CONT GAIN) R302,402 (PB GAIN)	
5	Battery check	1. Apply exactly 6V to battery contacts and switch machine to play or fast forward. 2. Set battery check switch in "CHECK" position and adjust so that meter pointer deflects to the beginning end of green area.	R25	Do not mistake one polarity for the other. 

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