JVC

# Supplementary SERVICE MANUAL

MODEL

# CD-1636/C
# CD-1635MarkII

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

PORTABLE STEREO CASSETTE DECK

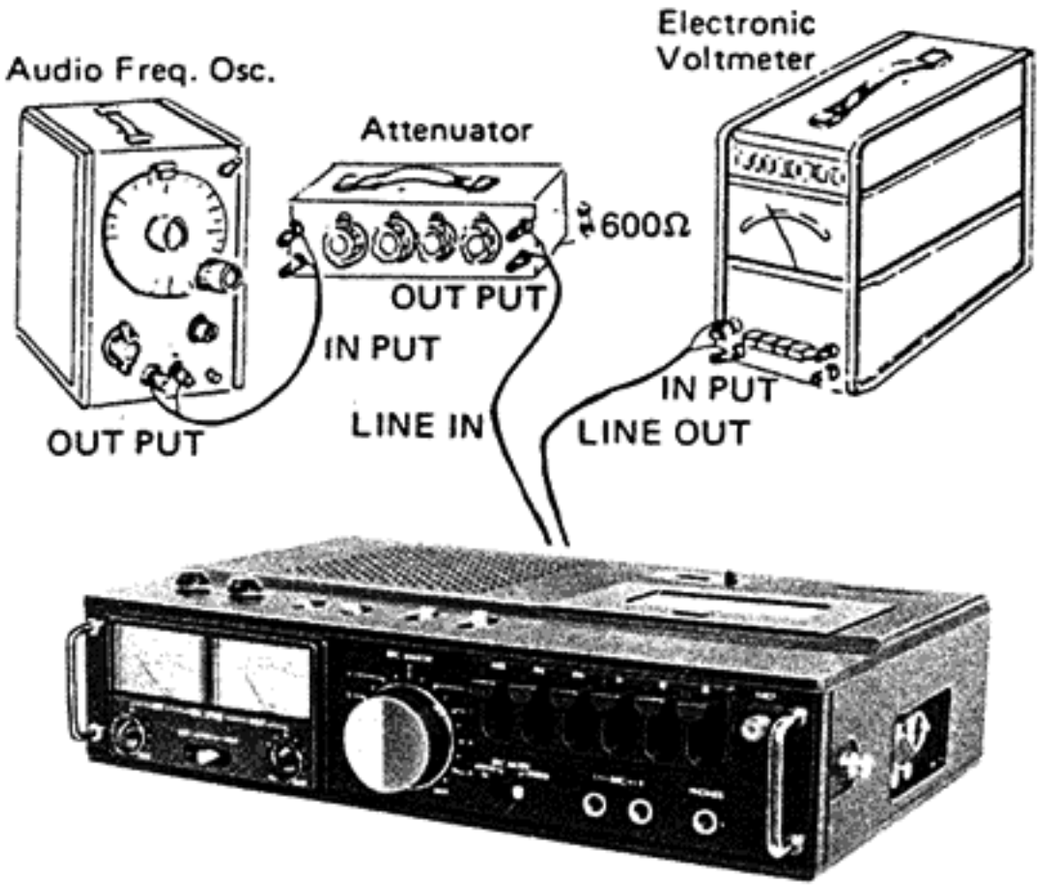
No. 4145-2
March 1978

# 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

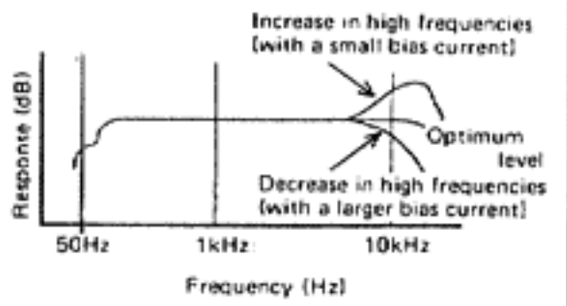
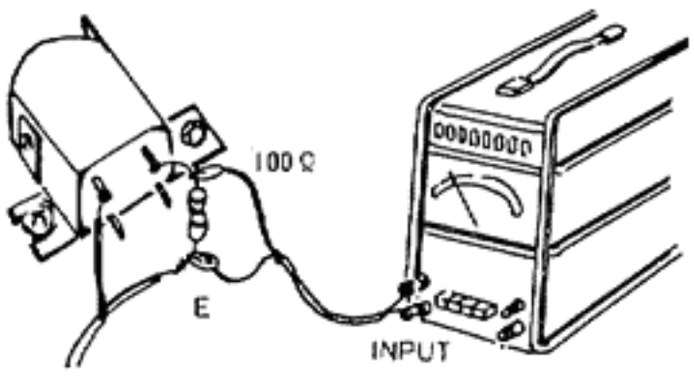
## [II] Electrical circuit adjustment procedure

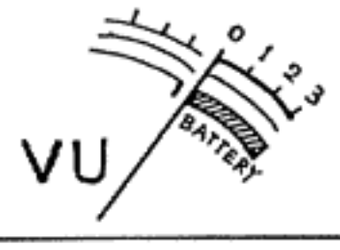
Adjustment should be performed in the order of steps 1,2,3.

**Playback system**

| Step | Item | Adjustment | Adjusting point | Standard Value | Remarks |
|---|---|---|---|---|---|
| 1 | Level meter deflection | 1. Set the deck in the record mode.<br>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.)<br>Adjust the recording volume controls so that the voltage across LINE OUT is -3.5dBs (518mV).<br>3. Adjust two semi-fixed variable resistors R134(L-ch) R234(R-ch) so that the level meters indicate zero VU. | R134<br>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<br>R215 | VU meter reading: 0 | 1. Adjust reproduction level when heads are replaced.<br>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<br>"NORM" position;<br>+2.5dB±3dB at 63Hz<br>0±3dB at 10kHz<br>"CrO2" position<br>+2.5dB±3dB at 63Hz<br>-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.<br>Play back the tape.<br>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<br>With a normal tape<br>0±3dB at 50Hz<br>0±3dB at 10kHz<br>With a chrome tape<br>0±3dB at 50Hz<br>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.<br>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<br>R555,557<br><br>For chrome tape<br>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.<br>2. If the bias current is not properly adjusted, the record and playback characteristics become as shown below.<br>  |
| | | Alternative methode<br>1. Set the deck in the record mode.<br>2. Connect a 100Ω resistor in series with ground wire of head (recording mode).<br>3. Connect the Electronic voltmeter across the resistor, and measure its voltage.<br>R/P HEAD (E. voltmeter)<br>  <br>If no measuring apparatus is available, check in the following way.<br>Music sound is not sonorous in the high range on playback: bias current is too high.<br>Music sound is also sonorous in the high range on playback but distorted: bias current is too low. | NORM:<br>R555,557<br><br>CrO2:<br>R556,558<br>(BIAS ADJ) | Approx. 37mV<br><br>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.)<br>2. Be sure to employ a shielded wire.<br>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.)<br>1. Set the deck in the "NORM" record mode.<br>2. Input 1kHz signals to MIC or LINE IN jacks and set recording level to zero VU.<br>3. Adjust R142 and R242 till play back level is zero VU when the tape is played back.<br>B: Adjustment for $CrO_2$ tape (Use JVC standard tape.)<br>1. Set the deck in the "$CrO_2$" record mode.<br>2. Input 1kHz signals to MIC or LINE IN jacks and set to recording level to zero VU.<br>3. Adjust R138, and R238 till play back level is zero VU when the tape is played back. | R142,242 (REC LEVEL—NORM)<br><br>R138,238 (REC LEVEL—CHROME) | 1. This adjustment is necessary when heads are replaced.<br>2. Make this adjustment after adjusting level meter deflection angle, play back level and recording bias current.<br>3. Set EQ and BIAS switches according to type of tape used.<br>4. Turn off ANRS switch. |
| 4 | ANRS circuit | 1. Disconnect power connection receptacle of bias oscillator so that oscillator does not operate. (red wire)<br>2. Set the deck in the record mode.<br>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).<br>4. Turn R335 and R435 (CONT GAIN) and R340 and R440 (DC BIAS) in the opposite direction to the marking.<br>5. Adjust R324 and R424 so that level does not change when ANRS is turned on and off, and turn on ANRS.<br>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)<br>7. Input 5kHz -30dBs (24.5mV) signals to LINE IN. Adjust R335 and R435 so that voltage across LINE OUT is -17dBs (109.5mV)<br>8. Repeat steps (5) through (7).<br>9. Turn ANRS switch in "Super" position when input 10kHz -10dBs (245mV) signals to LINE IN. Check output levels are -6.5dBs (367mV) ±2dB.<br>10. Connect receptacle of bias oscillator disconnected in step (1).<br>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)<br>R340,440 (DC BIAS)<br>R335,435 (CONT GAIN)<br>R302,402 (PB GAIN) | |
| 5 | Battery check | 1. Apply exactly 6V to battery contacts and switch machine to play or fast forward.<br>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.<br>  |

JVC
VICTOR COMPANY OF JAPAN, LIMITED
RADIO & RECORDING MACHINE DIVISION 804 Futoo-cho,Kohoku-ku, Yokohama, Japan

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