

SERVICE MANUAL


SPECIFICATIONS

## Recording system

2-track 2-channel monaural
Baud rate
Speaker diameter
Maximum $2,400 \mathrm{bps}$
Fast forward/rewind time
Approximately 2 min. (using a
Sony CHF-60 cassette tape)
Frequency response
50 to $10,000 \mathrm{~Hz}$
Input SAVE jack (minijack)
SAVE jack (minijack)
Input impedance 10 kohms
Output
Other jack LOAD jack (minijack)
Battery life REMOTE jack (special minijack)
Approximately 2.5 hours of con-
tinuous operation
Power requirements
Four batteries, IEC designation
R6 (size AA)
R6 (size AA)
DC IN 6 V jack accepts:
the following optional Sony ac
power adaptors

| where used | ac power adaptor | input voltage of the adaptor |
| :---: | :---: | :---: |
| UK model | AC-15A (available in the United Kingdom) | $240 \mathrm{~V} \mathrm{ac}$, |
| AEP model | AC-122 (available in European countries) | 220 V ac (110. 127 or 240 V ac adjustable) 50 Hz |

Dimensions $\quad 140 \times 49 \times 177 \mathrm{~mm}(\mathrm{w} / \mathrm{h} / \mathrm{d})$
( $55 / 8 \times 1 \frac{1}{16} \times 7$ inches) (including
projecting parts and controls)

| Tape Transport Mechanism Type | MT-SDC500-06 |
| :--- | :--- |

- The ADS (Auto Data Selector) system easi-
ly locates the beginning of the programs saved on a cassette.
- Saving data and programs is simple-just insert the cassette and press the SAVE button. The Automatic Gain Control system adjusts and maintains the recording level.
- The automatic shut-off mechanism turns the recorder off at the end of the tape in both the SAVE and LOAD modes.
- The tape transport mechanism allows fast forward and rewind functions to be performed even during remote control operation MOTOR OFF command).
- The speaker monitor system lets you check saving and loading operation aurally.
- The SDC-500 can be used as a high-speed interface. (Up to 2,400 bits per second can be transmitted depending on the personal computer used.)
- Two different power sources: house current (using the optional ac power adaptor) or batteries.

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## LOCATION AND FUNCTION OF CONTROLS



SECTION 1
BLOCK DIAGRAM


- Follow the disassembly procedure in the numerical order given.




## SECTION 3

## ADJUSTMENTS

3-1. MECHANICAL ADJUSTMENT AND MEASUREMENT

## PRECAUTION

1. Clean the following parts with a denatured-alcohol-moistened swab:

| SAVE/LOAD head | pinch roller |
| :--- | :--- |
| erase head | rubber belts |
| capstan | idlers |

2. Demagnetize the SAVE/LOAD head with a head demagnetizer. (Do not bring the head demagnetizer close to the erase head.)
3. Do not use a magnetized screwdriver for the adjustments.
4. After the adjustments, apply suitable locking compound to the parts adjusted.
5. The adjustments should be performed with the rated power supply voltage unless otherwise noted.
Torque Measurement

| Torque | Meter Reading | Torque Meter |
| :--- | :---: | :---: |
| Load <br> (Playback) | $23-53 \mathrm{~g} \cdot \mathrm{~cm}$ <br> $(0.32-0.74 \mathrm{oz} \cdot \mathrm{inch})$ | $\mathrm{CQ}-102 \mathrm{C}$ |
| Fast Forward <br> and Rewind | $52.5-90 \mathrm{~g} \cdot \mathrm{~cm}$ <br> $(0.73-1.25 \mathrm{oz} \cdot$ inch $)$ | $\mathrm{CQ}-201 \mathrm{~B}$ |
| Back Tension | $2-5 \mathrm{~g} \cdot \mathrm{~cm}$ <br> $(0.028-0.069 \mathrm{oz} \cdot \mathrm{inch})$ | $\mathrm{CQ}-102 \mathrm{C}$ |

## Tape Tension Measurement

| Meter | Meter Reading |
| :---: | :---: |
| CQ-403A | More than $110 \mathrm{~g}(3.88 \mathrm{oz})$ |



## Head Height Adjustment

1. Prepare an adjustment cassette as shown below.

2. In LOAD (playback) mode and viewing from the front, adjust the head heights to eliminate tape curl and tape twist at portions shown by arrow.


3-578-138-01 ( $t=0.1$ )
3-578-138-11 $t=0.2$
3-578-138-21 ( $t=0.3$ )
Shim, head height adjustment

SDC-500

3-2. ELECTRICAL ADJUSTMENTS


## SDC-500

## ADS SENS Level Adjustment

No adjustment is required for this adjustment. When replacing SAVE/LOAD head, confirm that the following symptom is not generated in ADS operation.

- Tape stops running at recorded portion of the tape.
- Tape does not stop running when blank portion on tape passes on the head.
If these failures are found, make the adjustment as follows.


## Procedures:

1. Insert the test tape AMS-110 and rewind it. Set tape counter to " 000 ".
2. When ADS (CUE) operation or ADS (REV) operation is made, adjust RV301 so that tape stops running at four portions shown in figure below.

Contents on AMS 110
tape counter indication ADS (CUE) operation

ADS (REV) operation

```
level at
IC301 (7) pin
```



Adjustment Location:


SECTION 4
41. schematic diagram DIAGRAMS


## 0 SDC-500



4-2. MOUNTING DIAGRAM

- Conductor Side -



## SECTION 5

EXPLODED VIEWS
The construction parts of an assembled
part are indicated with a collation
number in the remark column.
tems marked " * " are not stocked since they are seldom required for routine pated when ordering these items.
5-1.
Part No. Description
*X-3595-607-1 BRACKET ASSY, BUTTON BASE

$$
\begin{array}{ll}
* X-3595-601-1 & \text { BRACKET ASSY, BUTT } \\
* 3-595-620-01 & \text { BASE, PUSH BUTTON } \\
* 3-595-648-01 & \text { LINK, BUTTON }
\end{array}
$$

$$
\begin{aligned}
* 3-595-620-01 & \text { BASE, PUSH BUUTTON } \\
* 3-595-648-01 & \text { LIN, BUTON } \\
3-595-615-01 & \text { SPRING, COMPRESSIO } \\
3-595-606-01 & \text { RIITON }
\end{aligned}
$$

$$
\begin{aligned}
& \text { 3-595-615-01 SPRING, COMPRE } \\
& \text { 3-595-606-01 BUTTON, STOP }
\end{aligned}
$$

$$
\begin{array}{ll}
3-595-606-01 & \text { BUTTON, STOP } \\
3-595-616-01 & \text { LEVER (SA), BUTTON } \\
3-595-609-01 & \text { LEVER (L), BUTTON }
\end{array}
$$

$$
\begin{array}{ll}
3-595-616-01 & \text { LEVER (SA), BUTTON } \\
3-595-609-01 & \text { LEVER (L), BUTTON } \\
3-595-613-01 & \text { LEVER (S), BUTTON }
\end{array}
$$

$$
\begin{array}{ll}
3-595-609-\text { LEVER (L), BUTIUN } \\
3-595-613-01 & \text { LEVER (S), BUTTON } \\
3-595-611-01 & \text { LEVER (R), BUTTON }
\end{array}
$$

$$
\begin{array}{ll}
3-595-611-01 & \text { LEVER (R), BUTIN } \\
3-595-610-01 & \text { LEVER (F), BUTTON }
\end{array}
$$

$$
\begin{aligned}
& \text { 3-595-610-01 LEVER (F), BUTTON } \\
& 3-59-612-01 \text { LEVER (M), BUTTON }
\end{aligned}
$$

$$
\begin{aligned}
3-595-612-01 & \text { LEVER (M), BUT } \\
\text { *3-595-614-01 } & \text { SHAFT, BUTTON } \\
3-595-623-01 & \text { KNOB. VOLUME }
\end{aligned}
$$

$$
\begin{array}{cl}
\text { *3-595-614-01 } & \text { SHAFT, BUTTON } \\
3-555-623-01 & \text { KNOB, VOLUME } \\
3-595-674-01 & \text { PANEI CONTROI }
\end{array}
$$

$$
\begin{array}{ll}
3-595-623-01 & \text { RNOB, VOLUME } \\
3-595-624-01 & \text { PANEL, CONTROL, VOLUME } \\
\text { X-3595-612-1 } \\
\text { SPRING (1FFT) ASCY }
\end{array}
$$

$$
\begin{array}{ll}
3-595-624-01 & \text { PANEL, CONTROL, VOL } \\
\text { X-3595-612-1 } & \text { SPRING (LEFT) ASSY } \\
3-309-442-00 & \text { TERMINAL BOARD, BA }
\end{array}
$$

$$
\begin{aligned}
3-309-442-00 & \text { TERMINAL BOARD, BATTERY (A) } \\
\star 3-595-607-01 & \text { PLATE, BLIND }
\end{aligned}
$$

$$
\begin{aligned}
\text { *3-595-607-01 } & \text { PLATE, BLIND } \\
3-703-357-06 & \text { PIN, PARALLEL (DIA. } 1.6 \times 14 \\
3-595-653-01 & \text { BUSHING. BUTTON LEVER }
\end{aligned}
$$

$$
3-595-653-01 \text { BUSHING, BUTTON LEVER }
$$

$$
3-595-605-01 \text { BUTTON, MUTE }
$$

$$
\begin{array}{ll}
3-595-604-01 & \text { BUTION, FF } \\
\text { RUTON }
\end{array}
$$

$$
\begin{array}{ll}
3-595-603-01 & \text { BUTTON, REW } \\
3-595-602-01 & \text { BUTTON, LOAD }
\end{array}
$$

$$
\begin{array}{ll}
\text { 3-595-602-01 BUTTON, LOAD } \\
3-595-601-01 & \text { BUTTON, SAVE }
\end{array}
$$

$$
\begin{array}{lll}
24 & 3-595-601-01 & \text { BUTTON, SAVE } \\
25 & 3-595-654-01 & \text { PLATE, BLIND, DECK }
\end{array}
$$

$$
\begin{array}{lll}
25 & 3-595-654-01 & \text { PLATE, BLIND, DECK } \\
26 & \mathrm{x}-3595-613-1 & \text { LID ASSY, CASSETTE }
\end{array}
$$

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40

(5)

REMARKS

| Part No. | Description |
| :---: | :---: |
| 3-321-022-01 | lever, eject |
| 3-318-215-01 | SPRING |
| X-3595-616-1 | CABINET (FRONT) ASSY |
| X-3595-609-1 | SPRING (RIGHT) ASSY |
| 3-309-406-00 | TERMINAL BOARD (B), BATTERY |
| 3-309-407-00 | TERMINAL BOARD (C), BAJTERY |
| 3-309-408-00 | TERMINAL BOARD (D), BATTERY |
| 3-309-443-00 | SPRING, LEAF |
| 3-595-618-01 | LID, battery case |
| 3-595-663-01 | RIBBON, BATTERY |
| 3-595-621-11 | CABINET (REAR) |
| 3-595-656-01 | PAPER, SHIELD |
| 3-318-204-81 | SCREW (M1.7×3), TAPPING |
| 3-318-204-31 | SCREW (M1.7X6), TAPPING |
| 7-685-132-14 | SCREW +P 2.6X5 TYPE2 NON-SLIT |
| 7-685-136-19 | SCREW +P 2.6X12 TYPE2 NIN-SLIT |
| 7-685-103-14 | SCREW +P $2 \times 5$ TYPE2 NON-SLIT |
| 3-318-204-21 | SCREW (M1.7×6), TAPPING |
| 7-623-610-01 | EYELET, 1.5×2.5 |
| 3-701-439-11 | WASHER ( $\mathrm{t}=0.25$ ) |
| 7-685-134-14 | SCREW +P 2.6X8 TYPE2 NON-SLIT |
| 7-685-105-14 | TPG +P 2X8, TYPE 2, NON-SLIT |
| 7-688-001-01 | W 2, SMALL |
| 3-595-655-01 | SPRING, COMPRESSION |
| *1-614-430-11 | PC BOARD, SWITCH |
| *1-614-429-11 | PC BOARD, AUDIO |

REMARKS

NOTE
The mechanical parts with no reference number in
supplied.



| REMARKS | No. | Part No. | Description |
| :---: | :---: | :---: | :---: |
|  | 110 | 3-306-836-02 | CAP, REEL, T |
|  | 111 | 3-321-024-01 | SPRING, COMPRESSION |
|  | 112 | 3-318-241-01 | SPRING, COMPRESSION |
|  | 113 | X-3318-204-1 | GEAR ASSY, REW |
|  | 114 | 3-701-437-21 | WASHER ( $t=0.5$ ) |
|  | 115 | 3-570-615-00 | POLY-WASHER (DIA.1.2) |
|  | 116 | 3-318-265-01 | GEAR (B), FR |
|  | 117 | 3-318-204-81 | SCREW (M1.7×3), TAPPING |

REMARKS
REMARKS
54.


| No. |  | Part No. |  |
| :--- | :--- | :--- | :--- |
| 151 | $x-3595-606-1$ | Description |  |
| 152 | CHASSIS ASSY, HEAD |  |  |
| $153-318-294-01$ | PLATE, LOCK |  |  |
| 153 | $3-318-248-01$ | SPRING, TENSION |  |
| 154 | $x-3595-605-1$ | LEVER ASSY, SWITCH |  |
| 155 | $3-547-669-00$ | SPRING, TENSION |  |
| 156 | $3-595-639-01$ | LEVER, STOP |  |
| 157 | $3-318-296-01$ | LEVER, SHUT-OFF |  |
| 158 | $3-318-336-01$ | SPRING, TENSION |  |
| 159 | $x-3318-208-1$ | LEVER ASSY, FR |  |
| 160 | $7-627-850-07$ | SCREW, PRECISION +P $1.4 \times 2$ |  |
| 161 | $3-318-288-01$ | ARM, FF |  |
| 162 | $3-318-243-01$ | SPRING, TENSION |  |
| 163 | $3-318-250-01$ | SPRING, TENSION |  |

REMARKS | No. | Part No. | Description | REMARKS |
| :--- | :--- | :--- | :--- |
| 164 | $3-595-637-01$ | LEVER, FF |  |
| 165 | $3-318-276-01$ | SPRING, |  |
| 166 | $3-318-251-01$ | SPRING, TENSION |  |
| 167 | $3-595-638-01$ | LEVER, REW |  |
| 168 | $3-318-277-01$ | SPRING, REW |  |
| 169 | $3-565-927-00$ | SPRING, TENSION |  |
| 170 | $3-595-636-01$ | LEVER, LOAD |  |
| 171 | $3-318-246-01$ | SPRING, TENSION |  |
| 172 | $7-624-101-01$ | RING, RETAINING E-1.2 |  |
| 173 | $x-3595-604-1$ | LEVER ASSY, SAVE |  |
| 174 | $3-318-247-01$ | SPRING, TENSION | $110-114$ |
| 175 | $x-3595-617-1$ | CHASSIS ASSY, SUB |  |
| 176 | $\star 3-318-267-01$ | LEVER, CR |  |

## SECTION 6

## ELECTRICAL PARTS LIST

NOTE
Items marked " * " are not stocked since
they are seldom required for routine
ervice. Some delay should be antici-
pated when ordering these items.
If there are two or more same circuits in a set such as a stereophonic machine, only typical circuit parts may be indicated and apacitors and resistors in other same circuits may be omitted.

CAPACITORS:
MF: $\mu \mathrm{F}, \mathrm{PF}: \mu \mu \mathrm{F}$.
RESISTORS
All resistors are in ohms
F : nonflammable
COILS
MMH : mH, UH : $\mu \mathrm{H}$
SEMICONDUCTORS
In each case, $\cup: \mu$, for example:
UA...: $\mu A . .$. , UPA...: $\mu P A . .$. , UPC...: $\mu P C$,
UPD.... $\mu$ PD...
ELECTRICAL PARTS
Ref.No. Part No. Description 901 *1-614-430-11 PC BOARD, SWITCH


## ELECTRICAL PARTS

| Ref.No. | Part No. | Description |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| R126 | 1-247-805-00 | CARBON | 82 | 5\% | 1/6W |
| R127 | 1-247-807-00 | CARBON | 100 | 5\% | 1/6W |
| R128 | 1-247-815-00 | CARBON | 220 | 5\% | 1/6W |
| R129 | 1-247-869-00 | Carbon | 39K | 5\% | 1/6W |
| R301 | 1-247-895-00 | CARBON | 470K | 5\% | 1/6W |
| R302 | 1-247-839-00 | CARBON | 2.2 K | 5\% | 1/6W |
| R303 | 1-247-841-00 | CARBON | 2.7 K | 5\% | 1/6W |
| R304 | 1-247-899-00 | CARBON | 680 K | 5\% | 1/6W |
| R305 | 1-247-895-00 | CARBON | 470K | 5\% | 1/6W |
| R306 | 1-247-899-00 | CARBON | 680 K | 5\% | 1/6W |
| R307 | 1-247-843-00 | CARBON | 3.3 K | 5\% | 1/6W |
| R309 | 1-247-839-00 | CARBON | 2.2 K | 5\% | 1/6W |
| R601 | 1-247-857-00 | CARBON | 12K | 5\% | 1/6W |
| R602 | 1-247-865-00 | CARBON | 27k | 5\% | 1/6W |
| R603 | 1-247-845-00 | CARBON | 3.9 K | 5\% | 1/6W |
| R604 | 1-247-857-00 | CARBON | 12K | 5\% | 1/6W |
| RV101 | 1-230-658-11 | RES, VAR, SLIDE 10k |  |  |  |
| RV301 | 1-230-682-11 | RES, ADJ, CARBON 1 MRES, ADJ, CARBON 10 K |  |  |  |
| RV601 | 1-228-994-00 |  |  |  |  |
| S101 | 1-570-085-11 | SWITCH, SLIDE (LOAD/SAVE SELECT) <br> SWITCH, PUSH (1 KEY)(MUTE) <br> SWITCH, SLIDE (MONITOR) |  |  |  |
| S102 | 1-570-084-11 |  |  |  |  |
| \$103 | 1-570-086-11 |  |  |  |  |
| S104 | 1-570-097-11 | SWITCH, LEAF (FF/REW) |  |  |  |
| S105 | 1-570-097-11 | SWITCH, LEAF (POWER) |  |  |  |
| S106 | 1-570-083-11 | SWITCH, SLIDE (PHASE) |  |  |  |
| SP101 | 1-503-423-11 | SPEAKER, PIEZOELECTRIC BUZZER |  |  |  |
| T101 | 1-433-246-00 | TRANSFORMER, BIAS OSC |  |  |  |
| TH601 | 1-806-881-11 | THERMISTOR (POSITIVE) <br> THERMISTOR 5 k |  |  |  |
| TH602 | 1-800-070-XX |  |  |  |  |

## ACCESSORY \& PACKING MATERIAL

## Part No. Description

2-260-606-00 BAG, PROTECTION (FOR SET)
3-595-643-01 CUSHION (LEFT)
3-595-644-01 CUSHION (RIGHT)
3-701-626-00 BAG, POLYETHYLENE(FOR INSTRUCTION MANUAL)
3-760-176-11 MANUAL, INSTRUCTION
$\begin{array}{ll}3-760-176-11 & \text { MANUAL, INSTRUCTION } \\ 3-760-176-41 & \text { MANUAL, INSTRUCTION }\end{array}$

