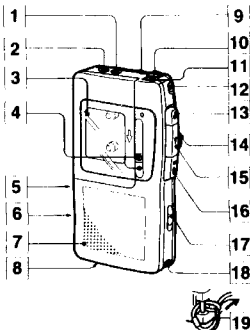


Parts Identification

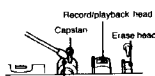


- 1 MIC (microphone) (PLUG IN POWER) jack
- 2 EAR (earphone) jack
- 3 Cassette holder
- 4 TAPE COUNTER and counter reset button
- 5 TAPE SPEED selector (left side)
- 6 DC IN 3 V (external power input) jack (left side)
- 7 Speaker
- 8 Battery compartment (rear)
- 9 BATT (battery) indicator
- 10 VOL (volume) control
- 11 Built-in microphone
- 12 PAUSE switch
- 13 (RE) button
- 14 CUE << (fast forward)/REVIEW >> (rewind) control
- 15 (playback) button
- 16 (stop/eject) button
- 17 VOR (voice operated recording) switch
- 18 Handstrap catch
- 19 Handstrap

Maintenance

Cleaning the heads

Clean the tape heads after every 10 hours of use to enjoy optimum sound. Moisten a cotton swab or a soft cloth with alcohol and wipe the parts shown in the illustration.



Cleaning the casing

Clean the casing with a soft cloth slightly moistened with water or a mild detergent solution. Do not use alcohol, benzene or thinner as they may damage the finish.

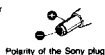
Specifications

Type	MANICULATED (normal position type)
Recording system	2-track 1-channel monaural
Speaker	Approx. 4 cm (1 1/2 inches) dia.
Tape speed	2.4 cm/s (1 1/4 ips), 1.2 cm/s (1/2 ips)
Frequency response	200 - 4,000 Hz (at 2.4 cm position)
Input	Microphone jack (impedance) (PLUG IN POWER) sensitivity 0.4 mV for 3 volt ohm or lower impedance microphone
Output	Earphone jack (impedance) for 8-300 ohm earphone 150 mW (at 10 % harmonic distortion)
Power output	Sony SUMS (NS) Approx. 6 hours
Battery life (recording)	Sony AM3 (IN) Approx. 18 hours
Power requirements	Supplied rechargeable batteries (Ni-CA) Approx. 5 hours 3 V DC, two size AA (R6) batteries Two Sony rechargeable batteries (Ni-CA) DC IN 3V jack accepts: • Supplied AC power adaptor/battery charger for use on 120 V AC, 60 Hz • Sony DCC70 car battery cord (optional) for use with 12V car battery
Dimensions	Approx. 87.5 x 124 x 27 mm (width) (2 1/4 x 5 x 1 1/8 inches) including parts and controls
Weight	Approx. 100 g (3.5 oz) incl. batteries
Accessories supplied	Handstrap (1) AC power adaptor/battery charger (1) Rechargeable battery (Ni-CA) (2)
Design and specifications subject to change without notice.	

Optional accessories

Microcassette MC-30, MC-60, 3MC-60
Earphone ME-B1, ME-LQ
Connecting cord RK-004 (miniplug to miniplug with attenuator)
Electric condenser microphone ECM-44, etc.
Car battery cord DCC-70

Note: Use only the recommended AC power adaptor or car battery cord manufacturer by Sony. Polarity of the plugs of other manufacturers may be different.



Troubleshooting Guide

Should any problem persist after you have made these checks, consult your nearest Sony service facility.

Trouble	Cause and/or remedy
Cassette cannot be inserted	• Cassette is inserted improperly. See "Cassette Insertion". • The (F) button is depressed.
The (F) button cannot be depressed	• No cassette in the cassette holder. • The cassette inserted has had the label removed. See "Cassette Insertion".
The (F) or (V) button cannot be locked	• The tape is completely rewound towards the arrow direction on the cassette holder. • After the automatic shut-off the PAUSE switch is on. Slide the PAUSE switch in the opposite direction of the arrow.
The (F) or (V) button is locked, but playback/recording does not start	• Slide the PAUSE switch in the opposite direction of the arrow.
No sound from the speaker	• Incorrect polarity of batteries • Weak batteries • The earphone is plugged in. • The VOL control is turned down completely.
Weak or distorted sound	Weak batteries
Sound drops out, loss of high frequencies, or excessive noise	Dirty heads. See "Maintenance".
"Tape speed" is excessively fast or slow while playing back	Improper setting of the TAPE SPEED selector.
Recording cannot be made or is unsatisfactory	• Weak batteries • Dirty record/playback head. See "Maintenance". • Improper setting of the VOR switch. Set it to "OFF" or "ON". • Dirty erase head. See "Maintenance".
Unsatisfactory erasing	

LIMITED WARRANTY

SONY CORPORATION OF AMERICA / SONY LTD. warrants this product against defects in material or workmanship as follows:

1. One period of 30 days from the date of retail purchase. SONY shall at its sole and absolute option either repair the defective product or at its charge to replace the defective product with the same model or an equivalent model at its charge through a SONY SERVICE CENTER.
2. To obtain warranty service during the above 30-day period, you must take the product to the dealer or product contact to one of the SONY SERVICE CENTERS located in the United States.
3. After the first 30-day period, SONY will supply, at no charge, new or rebuilt replacements for defective parts or a portion of the product if the dealer or dealer of retail purchase is unable to remove and/or replace these parts available from your SONY authorized service facility or SONY SERVICE CENTER at any expense.

Proof of purchase in the form of a valid receipt or receipted invoice, which indicates that the product is within the warranty period, must be presented to obtain warranty service. SONY suggests that the purchaser retain the dealer's dated bill of sale as evidence of the date of retail purchase.

The warranty does not cover consequential damage, and damage is part of the product, including the warranty, which results from use of the product, misuse, abuse, modification, maintenance or connection to an improper voltage supply.

The warranty is void if the serial number appears on the product. This warranty is valid only in the United States of America.

REPAIR OR REPLACEMENT AS PROVIDED UNDER THIS WARRANTY IS THE EXCLUSIVE REMEDY OF THE CONSUMER. SONY SHALL NOT BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES FOR NEGLIGENCE OF ANY EXPRESS OR IMPLIED WARRANTY ON THIS PRODUCT EXCEPT TO THE EXTENT INDICATED BY APPLICABLE LAW. ANY REMEDY, WARRANTY, OR MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE ON THIS PRODUCT IS LIMITED TO THE EXTENT OF THE WARRANTY OF THIS WARRANTY.

Some states do not allow the exclusion or limitation of incidental or consequential damages or the limitation on the length of the written warranty, so the above limitation or exclusion may not apply to you. In addition, if you enter into a separate contract with the Sony Partnership, we warrant 90 days of the date of sale, the limitation on how long an implied warranty lasts does not apply to you. This warranty gives you specific legal rights, and you may also have other rights which may vary from state to state.

Please refer to the list of SONY SERVICE CENTERS for the SONY SERVICE CENTER nearest you.

For your convenience, Sony Corporation of America has established the Customer Information Center to supply you with product or service information.

SONY CUSTOMER INFORMATION CENTER
201-930-SONY (7886)

Address	Address	Address
Florida 12000 South Boulevard Road Tampa, FL 33619 (813) 844-1669	Illinois 1000 North Capital Avenue Chicago, IL 60610 (312) 865-0049	Massachusetts 1000 North Capital Avenue Chicago, IL 60610 (312) 865-0049
California 1000 North Capital Avenue Chicago, IL 60610 (312) 865-0049	Michigan 1000 North Capital Avenue Chicago, IL 60610 (312) 865-0049	Minnesota 1000 North Capital Avenue Chicago, IL 60610 (312) 865-0049
Colorado 1000 North Capital Avenue Chicago, IL 60610 (312) 865-0049	Montana 1000 North Capital Avenue Chicago, IL 60610 (312) 865-0049	Nebraska 1000 North Capital Avenue Chicago, IL 60610 (312) 865-0049
Georgia 1000 North Capital Avenue Chicago, IL 60610 (312) 865-0049	Nevada 1000 North Capital Avenue Chicago, IL 60610 (312) 865-0049	New Jersey 1000 North Capital Avenue Chicago, IL 60610 (312) 865-0049
Alabama 1000 North Capital Avenue Chicago, IL 60610 (312) 865-0049	New Mexico 1000 North Capital Avenue Chicago, IL 60610 (312) 865-0049	New York 1000 North Capital Avenue Chicago, IL 60610 (312) 865-0049
Arizona 1000 North Capital Avenue Chicago, IL 60610 (312) 865-0049	North Carolina 1000 North Capital Avenue Chicago, IL 60610 (312) 865-0049	Ohio 1000 North Capital Avenue Chicago, IL 60610 (312) 865-0049
Arkansas 1000 North Capital Avenue Chicago, IL 60610 (312) 865-0049	North Dakota 1000 North Capital Avenue Chicago, IL 60610 (312) 865-0049	Oklahoma 1000 North Capital Avenue Chicago, IL 60610 (312) 865-0049
Delaware 1000 North Capital Avenue Chicago, IL 60610 (312) 865-0049	South Carolina 1000 North Capital Avenue Chicago, IL 60610 (312) 865-0049	Pennsylvania 1000 North Capital Avenue Chicago, IL 60610 (312) 865-0049
District of Columbia 1000 North Capital Avenue Chicago, IL 60610 (312) 865-0049	South Dakota 1000 North Capital Avenue Chicago, IL 60610 (312) 865-0049	Rhode Island 1000 North Capital Avenue Chicago, IL 60610 (312) 865-0049
Hawaii 1000 North Capital Avenue Chicago, IL 60610 (312) 865-0049	Tennessee 1000 North Capital Avenue Chicago, IL 60610 (312) 865-0049	Texas 1000 North Capital Avenue Chicago, IL 60610 (312) 865-0049
Idaho 1000 North Capital Avenue Chicago, IL 60610 (312) 865-0049	Utah 1000 North Capital Avenue Chicago, IL 60610 (312) 865-0049	Vermont 1000 North Capital Avenue Chicago, IL 60610 (312) 865-0049
Indiana 1000 North Capital Avenue Chicago, IL 60610 (312) 865-0049	Virginia 1000 North Capital Avenue Chicago, IL 60610 (312) 865-0049	Washington 1000 North Capital Avenue Chicago, IL 60610 (312) 865-0049
Iowa 1000 North Capital Avenue Chicago, IL 60610 (312) 865-0049	West Virginia 1000 North Capital Avenue Chicago, IL 60610 (312) 865-0049	Wisconsin 1000 North Capital Avenue Chicago, IL 60610 (312) 865-0049
Kansas 1000 North Capital Avenue Chicago, IL 60610 (312) 865-0049	Wyoming 1000 North Capital Avenue Chicago, IL 60610 (312) 865-0049	Mississippi 1000 North Capital Avenue Chicago, IL 60610 (312) 865-0049
Louisiana 1000 North Capital Avenue Chicago, IL 60610 (312) 865-0049	Montenegro 1000 North Capital Avenue Chicago, IL 60610 (312) 865-0049	Nebraska 1000 North Capital Avenue Chicago, IL 60610 (312) 865-0049
Maine 1000 North Capital Avenue Chicago, IL 60610 (312) 865-0049	Norway 1000 North Capital Avenue Chicago, IL 60610 (312) 865-0049	North Carolina 1000 North Capital Avenue Chicago, IL 60610 (312) 865-0049
Maryland 1000 North Capital Avenue Chicago, IL 60610 (312) 865-0049	Poland 1000 North Capital Avenue Chicago, IL 60610 (312) 865-0049	Ohio 1000 North Capital Avenue Chicago, IL 60610 (312) 865-0049
Massachusetts 1000 North Capital Avenue Chicago, IL 60610 (312) 865-0049	Romania 1000 North Capital Avenue Chicago, IL 60610 (312) 865-0049	Oklahoma 1000 North Capital Avenue Chicago, IL 60610 (312) 865-0049
Michigan 1000 North Capital Avenue Chicago, IL 60610 (312) 865-0049	Slovakia 1000 North Capital Avenue Chicago, IL 60610 (312) 865-0049	Oregon 1000 North Capital Avenue Chicago, IL 60610 (312) 865-0049
Minnesota 1000 North Capital Avenue Chicago, IL 60610 (312) 865-0049	Slovenia 1000 North Capital Avenue Chicago, IL 60610 (312) 865-0049	Pennsylvania 1000 North Capital Avenue Chicago, IL 60610 (312) 865-0049
Mississippi 1000 North Capital Avenue Chicago, IL 60610 (312) 865-0049	Spain 1000 North Capital Avenue Chicago, IL 60610 (312) 865-0049	Rhode Island 1000 North Capital Avenue Chicago, IL 60610 (312) 865-0049
Montana 1000 North Capital Avenue Chicago, IL 60610 (312) 865-0049	Sweden 1000 North Capital Avenue Chicago, IL 60610 (312) 865-0049	Tennessee 1000 North Capital Avenue Chicago, IL 60610 (312) 865-0049
Nebraska 1000 North Capital Avenue Chicago, IL 60610 (312) 865-0049	Switzerland 1000 North Capital Avenue Chicago, IL 60610 (312) 865-0049	Texas 1000 North Capital Avenue Chicago, IL 60610 (312) 865-0049
Nevada 1000 North Capital Avenue Chicago, IL 60610 (312) 865-0049	Taiwan 1000 North Capital Avenue Chicago, IL 60610 (312) 865-0049	Utah 1000 North Capital Avenue Chicago, IL 60610 (312) 865-0049
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New Jersey 1000 North Capital Avenue Chicago, IL 60610 (312) 865-0049	Trinidad and Tobago 1000 North Capital Avenue Chicago, IL 60610 (312) 865-0049	Virginia 1000 North Capital Avenue Chicago, IL 60610 (312) 865-0049
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New York 1000 North Capital Avenue Chicago, IL 60610 (312) 865-0049	Ukraine 1000 North Capital Avenue Chicago, IL 60610 (312) 865-0049	West Virginia 1000 North Capital Avenue Chicago, IL 60610 (312) 865-0049
North Carolina 1000 North Capital Avenue Chicago, IL 60610 (312) 865-0049	United States 1000 North Capital Avenue Chicago, IL 60610 (312) 865-0049	Wisconsin 1000 North Capital Avenue Chicago, IL 60610 (312) 865-0049
North Dakota 1000 North Capital Avenue Chicago, IL 60610 (312) 865-0049	Yugoslavia 1000 North Capital Avenue Chicago, IL 60610 (312) 865-0049	

Sony District Service Offices

Western Zone	Central Zone	Eastern Zone
Western Zone Sony Service Company 2120 Sunset Boulevard Culver City, CA 90230 (310) 447-2424	Central Zone Sony Service Company 1400 North Capital Avenue Chicago, IL 60610 (312) 865-0049	Eastern Zone Sony Service Company 1000 North Capital Avenue Chicago, IL 60610 (312) 865-0049
Northwestern District Sony Service Company 1200 North Capital Avenue Chicago, IL 60610 (312) 865-0049	Southwestern District Sony Service Company 1200 North Capital Avenue Chicago, IL 60610 (312) 865-0049	Southeastern District Sony Service Company 1200 North Capital Avenue Chicago, IL 60610 (312) 865-0049
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SONY

Microcassette-corder

M-660V

PROPERTY OF THE
NATIONAL TECHNICAL DEPT.

Operating Instructions

Before operating the unit, please read this manual thoroughly and retain it for future reference. FILE 507

Owner's Record

The model number is located at the bottom and the serial number is located in the battery compartment. Record the serial number in the space provided below. Refer to these numbers whenever you call upon your Sony dealer regarding this product.

Model No. M-660V Serial No.

WARNING

To prevent fire or shock hazard, do not expose the unit to rain or moisture.

Features

- Compact size and easy operation
- VOR (voice operated recording) system economizes on tapes, batteries and your time.
- You can start recording directly from the playback mode. This function is convenient to correct a previously recorded portion.
- Automatic shut-off mechanism
- Rechargeable batteries and an AC power adaptor/battery charger are supplied.

What is VOR (voice operated recording) system?

With this system, recording starts only when sound is picked up and stops automatically when sound is no longer detected.

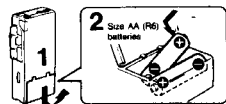
Precautions

- On power sources
 - Operate the unit only on 3V DC.
 - For battery operation, use two size AA (R6) batteries or the supplied rechargeable batteries (Ni-CA).
 - For AC operation, use the supplied AC power adaptor/battery charger. Do not use any other type.
 - When the internal batteries are not to be used, remove them to avoid damage caused by battery leakage and corrosion.
- On location
 - Do not leave the unit in a location near heat sources, or in a place subject to direct sunlight, excessive dust, or mechanical shock.
 - Since a strong magnet is used for the speaker, keep personal credit cards using magnetic coding or spring-wound watches away from the unit to prevent possible damage from the magnet.
- On operation
 - If the unit has not been used for a long time, set it in the playback mode to warm it up for a few minutes before inserting a cassette.
 - Should any solid object or liquid fall into the unit, remove the batteries or disconnect the AC power adaptor, and have the unit checked by qualified personnel before operating it any further.
 - Use only the "microcassette" with this unit.
 - Two tape speeds can be selected for recording with the TAPE SPEED selector: 2.4 cm or 1.2 cm.

Match the playback speed to the recording speed. Select the 2.4cm tape speed for recording. If you play back the recorded tape with another unit. Otherwise, the sound quality may be changed.

If you have any question or problem concerning your unit that is not covered in this manual, please consult the nearest Sony dealer.

Sony Corporation 1990 Printed in Japan

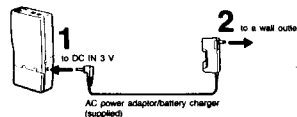
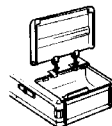


When to replace the batteries

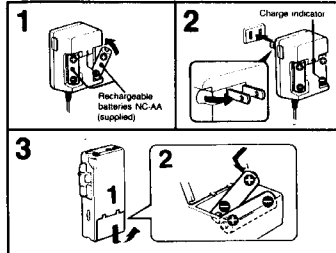
When the batteries become weak, the BATT indicator will glow faintly and sound will become distorted or unstable. In this case, replace both batteries with new ones.
For battery life, see "Specifications".

Note on the battery case

If the battery compartment lid is detached by an accidental drop, excessive force etc., attach it as illustrated.



The supplied AC power adaptor/battery charger can be used as either both an AC power adaptor or a battery charger.

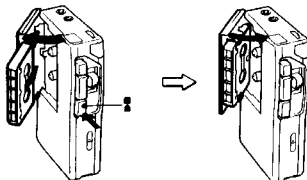


Be sure to charge the batteries for approximately 4 hours (as a battery charger only) or for approximately 8 hours (as an AC power adaptor as well) before using the batteries.
After charging for 4 or 8 hours, the unit can be used for recording for approximately 5 hours.
Be sure to remove the batteries from the battery charger to avoid overcharging (more than 16 hours) when charging has been completed. Charging and operation should be attempted in temperature ranges 5°C to 40°C (40°F to 104°F). The rechargeable batteries can be charged about 500 times.

Notes

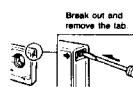
- Use the supplied two rechargeable batteries only with the supplied battery charger.
- If there is distortion of sound or excessive noise, or if the unit is operated improperly, stop the unit and recharge the two batteries together.
- The charge indicator remains lit until the batteries are removed, even if they are fully charged. When you use the battery charger as an AC power adaptor without the rechargeable batteries, the charge indicator does not light up.
- The battery will discharge even when not in use. Be sure to charge them before use.
- Recharge the two batteries together. Otherwise, the charging cannot be done.
- The charger becomes warm during charging. This is not a problem.
- Do not use or leave the charger in a location near heat sources or in a place subject to direct sunlight or excessive moisture.
- Unplug the charger from the wall outlet when it is not to be used for a long time.

Cassette Insertion

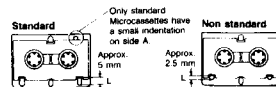


Notes on Microcassette

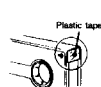
To protect cassettes from accidental erasure



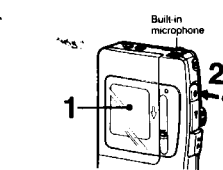
This unit uses only standard Microcassettes. Non standard cassettes cannot be used because their "L" dimension (see illustration) is different.



To reuse a cassette



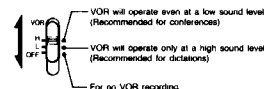
Recording with the built-in microphone



To select the desired tape speed

- For optimum sound (recommended for normal use):
A 90-minute recording can be made using both sides of the MC-60 Microcassette.
- For longer recording time:
A 120-minute recording can be made using both sides of the MC-60 Microcassette.

Recording only when sound is picked up (VOR system)



Quick review function

Simply push up the CUE <</> /REVIEW >>> control towards REVIEW >>> while recording.
When the control is released, playback begins for review of the recorded material.

To listen to the recorded sound

You can listen to the sound being recorded through the earphone (optional). (You cannot adjust the monitor volume.)

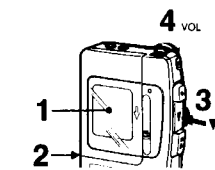
To stop the tape

Press the <</> /STOP button.

To stop the tape momentarily in the playback or recording mode

Slide the PAUSE switch in the direction of the arrow.

Playback



TAPE SPEED

The same tape speed as that used for recording.

To rapidly advance the tape, slide the CUE <</> /REVIEW >>> control to <</> CUE.

To rewind the tape, slide the CUE <</> /REVIEW >>> control to REWIND >>>.

When the earphone is plugged in

The speaker is automatically disconnected.

To skip over or repeat a certain portion during playback

Keep the CUE <</> /REVIEW >>> control pushed up or down with the <</> button depressed. When the control is released, playback begins.

To start recording directly from playback mode

During playback, simply depress the <</> button and the recorder will immediately change to the recording mode.

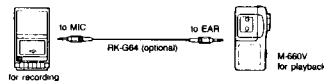
At the end of the tape

In recording or playback mode, tape stops at the end of the tape and the locked button will be released automatically (Automatic shut-off mechanism.)

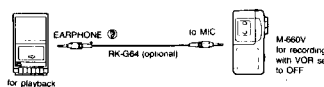
After advancing or rewinding the tape until its end, be sure to press the <</> /STOP button to release the CUE <</> /REVIEW >>> control.

Recording/Playback with Connected Equipment

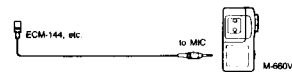
Dubbing onto another tape recorder



Recording from another tape recorder



Recording with an external microphone



- The built-in microphone is automatically deactivated.
- When connecting an external condenser microphone with "Plug-in power" system, the power is supplied from the MIC (PLUG IN POWER) jack of the unit, and you do not have to insert a battery in the microphone.