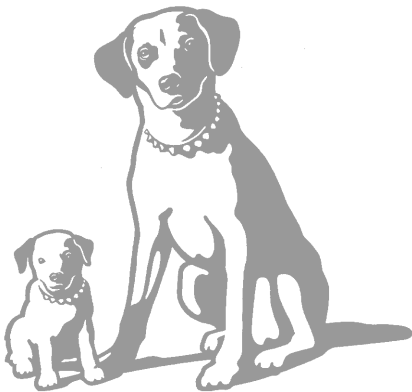


Pro809

# USER'S GUIDE

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# TRUST

**PRO8**<sup>®</sup> C A M C O R D E R

## Product Registration

Please fill out the product registration card and return it immediately. Returning this card allows us to contact you if needed.

Keep your sales receipt to obtain warranty parts and service and for proof of purchase. Attach it here and record the serial and model numbers in case you ever need them. The numbers are located on the bottom of your camcorder.

**Model No:** Pro809

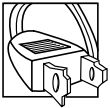
**Serial No:** \_\_\_\_\_

**Purchase Date:** \_\_\_\_\_

**Purchased From:** \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

## SAFETY PRECAUTIONS



Your video camcorder's AC adapter/charger will operate on 100-240 volts AC, 50/60 Hz, and has a polarized plug. Because one blade of the plug is wider than the other, the plug fits in the wall socket only one way. Do not defeat the safety feature of this plug. If you need an extension cord, use a polarized extension cord.

**CAUTION:** TO PREVENT ELECTRIC SHOCK, MATCH WIDE BLADE OF PLUG TO WIDE SLOT, FULLY INSERT.

**ATTENTION:** POUR ÉVITER LES CHOCS ÉLECTRIQUES, INTRODUIRE LA LAME LA PLUS LARGE DE LA FICHE DANS LA BORNE CORRESPONDANTE DE LA PRISE ET POUSSER JUSQU'AU FOND.

**CAUTION:** TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE THE COVER (OR BACK). NO USER-SERVICEABLE PARTS ARE INSIDE. IF YOU SPILL LIQUID ON THE CAMCORDER OR ADAPTER/CHARGER, DISCONNECT THE AC ADAPTER/CHARGER'S POWER CORD TO PREVENT POSSIBLE FIRE OR SHOCK HAZARD AND CONSULT AUTHORIZED SERVICE PERSONNEL. MOISTURE CAN DAMAGE INTERNAL PARTS. REFER ALL SERVICE TO AUTHORIZED RCA CAMCORDER SERVICENTER PERSONNEL ONLY.

# SAFETY PRECAUTIONS (continued)

**CAUTION:** READ “IMPORTANT SAFETY INSTRUCTIONS FOR AC ADAPTER/CHARGER” *ON THE NEXT PAGE* BEFORE USING THE AC ADAPTER/CHARGER.

**CAUTION:** MAINTAIN ELECTRICAL SAFETY. POWERLINE-OPERATED EQUIPMENT OR ACCESSORIES CONNECTED TO THIS UNIT SHOULD BEAR THE UL LISTING MARK OR, IF PURCHASED AND USED IN CANADA, THE CSA CERTIFICATION MARK ON THE ACCESSORIES THEMSELVES AND SHOULD NOT HAVE BEEN MODIFIED SO AS TO DEFEAT THE SAFETY FEATURES. THIS WILL HELP AVOID ANY POTENTIAL HAZARD FROM ELECTRIC SHOCK OR FIRE. IF IN DOUBT, CONTACT QUALIFIED SERVICE PERSONNEL.

**WARNING:** TO REDUCE THE RISK OF FIRE OR SHOCK HAZARD, DO NOT EXPOSE CAMCORDER OR AC ADAPTER/CHARGER TO RAIN OR MOISTURE.

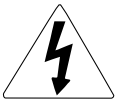
## CAUTION

RISK OF ELECTRIC SHOCK  
DO NOT OPEN



## MISE EN GARDE

RISQUE DE CHOC ELECTRIQUE  
NE PAS OUVRIR



The symbol of a lightning flash within a triangle is intended to alert the user to the presence of

uninsulated “dangerous voltage” within the product’s enclosure and which may be of sufficient magnitude to constitute a risk of electric shock.



An exclamation point within a triangle is intended to alert the user to the presence of

important operating and maintenance (service) instructions in the literature accompanying the product.

**CAUTION:** AVOID OPERATING YOUR CAMCORDER IMMEDIATELY AFTER MOVING IT FROM A COLD LOCATION TO A WARM LOCATION. GIVE THE CAMCORDER 1-1/2 TO 2 HOURS TO REACH A STABLE TEMPERATURE BEFORE INSERTING A VIDEO CASSETTE. WHEN MOVED FROM A COLD AREA TO A WARM LOCATION, MOISTURE MAY CONDENSE ON THE HEAD DRUM INSIDE THE MACHINE. THIS MOISTURE COULD CAUSE THE TAPE TO STICK TO THE HEADWHEEL AND DAMAGE THE HEADWHEEL OR TAPE.

# IMPORTANT SAFETY INSTRUCTIONS

## Important Safety Instructions for AC Adapter/Charger

Before using the AC adapter/charger, read all instructions and cautionary markings on (1) AC adapter/charger, (2) battery, and (3) product using battery.

**Caution:** To reduce risk of injury, charge only rechargeable batteries type AV608, AV8MM, or AV8MSH. Other types of batteries may burst causing personal injury and damage.

Do not expose the adapter/charger to moisture of any kind.

Use of an attachment not recommended or sold by the battery charger manufacturer may result in a risk of fire, electric shock, or injury to persons.

To reduce risk of damage to electric plug and cord, pull out the cord with the plug rather than the cord when disconnecting the adapter/charger from the wall outlet.

Make sure the cord is located so that it will not be stepped on, tripped over, or otherwise subjected to damage or stress.

Use of an improper extension cord could result in a risk of fire and electric shock. If an extension cord must be used, make sure that:

1. Pins on the plug of the extension cord are the same number, size, and shape as those of the plug on the adapter/charger.

2. Extension cord is properly wired and in good electrical condition, and

3. Wire size below is met:

Minimum AWG Size	Length of Extension Cord (Feet)
18	Equal to or less than 100
16	Equal to or less than 150

Do not operate adapter/charger with a damaged cord or plug. Replace it immediately.

Do not operate adapter/charger if it has received a sharp blow, been dropped, or otherwise damaged in any way. Take it to a qualified serviceman.

Do not disassemble adapter/charger.

Take it to an Authorized RCA Camcorder Servicenter when service or repair is required. Incorrect reassembly may result in a risk of electric shock.

To reduce risk of electric shock, unplug adapter/charger from outlet before attempting any maintenance or cleaning.

Be sure to save these operating instructions for future reference.

**CAUTION:** FCC REGULATIONS STATE THAT ANY UNAUTHORIZED CHANGES OR MODIFICATIONS TO THIS EQUIPMENT MAY VOID THE USER'S AUTHORITY TO OPERATE IT.

**CAUTION:** THE UNAUTHORIZED RECORDING OF TELEVISION PROGRAMS AND OTHER MATERIALS MAY INFRINGE THE RIGHTS OF OTHERS.

# IMPORTANT SAFEGUARDS

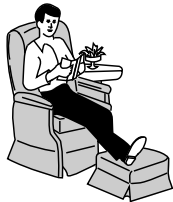
In addition to the careful attention devoted to quality standards in the manufacture of your product, safety is a major factor in the design of every instrument. However, safety is your responsibility too.

These pages list important information that will help to assure your enjoyment and proper use of a camcorder, adapter/charger, and accessory equipment. Please read them carefully before operating your products.

## Installation

### 1. Read and Follow Instructions—

All the safety and operating instructions should be read before the product is operated. Follow all operating instructions.



**2. Retain Instructions—**The safety and operating instructions should be retained for future reference.

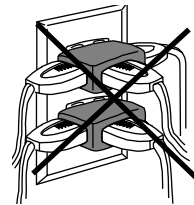
**3. Heed Warnings—**Comply with all warnings on the product and in the operating instructions.

**4. Polarization—**This product is equipped with a polarized alternating-current line plug (a plug having one blade wider than the other). This plug will fit into the power outlet only one way. This is a safety feature. If you are unable to insert the plug fully into the outlet, try reversing the plug. If the plug still fails to fit, contact your electrician to replace your obsolete outlet. To prevent electric shock, do

not use this polarized plug with an extension cord, receptacle, or other outlet unless the blades can be fully inserted without blade exposure. If you need an extension cord, use one with a polarized plug.

**5. Power Sources—**This product should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supply to your home, consult your dealer or local power company. For products intended to operate from battery power, or other sources, refer to the operating instructions.

**6. Overloading—**Do not overload wall outlets, extension cords, or integral convenience receptacles as this can result in a risk of fire or electric shock. Overloaded AC outlets, extension cords, frayed power cords, damaged or cracked wire insulation, and broken plugs are dangerous. They may result in a shock or fire hazard.



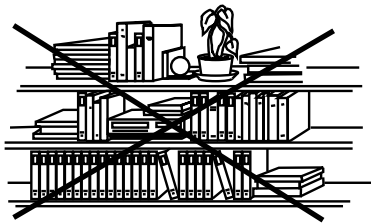
Periodically examine the cord, and if its appearance indicates damage or deteriorated insulation, have it replaced by your service technician.

**7. Power-Cord Protection—**Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the product.

(continued on next page)

# IMPORTANT SAFEGUARDS (continued)

**8. Ventilation**—Slots and openings in the products are provided for ventilation to ensure reliable operation of the product and to protect them from overheating. These openings must not be blocked or covered. The openings should never be blocked by placing the product on a bed, sofa, rug, or other similar surface. This product should not be placed in a built-in installation such as a bookcase or rack unless proper ventilation is provided or the product manufacturer’s instructions have been followed.



**9. Attachments**—Do not use attachments unless recommended by the product manufacturer as they may cause hazards.

**Caution:** Maintain electrical safety. Powerline operated equipment or accessories connected to this unit should bear the UL listing mark or CSA certification mark on the accessory itself and should not be modified so as to defeat the safety features. This will help avoid any potential hazard from electrical shock or fire. If in doubt, contact qualified service personnel.

**10. Water and Moisture**—Do not use this product near water—for example, near a bath tub, wash bowl, kitchen sink or laundry tub, in a wet basement, or near a swimming pool and the like.

**11. Accessories**—Do not place this product on an unstable cart, stand, tripod, bracket, or table. The product may fall, causing serious injury to a child or adult as well as serious damage to the product. Use this product only with a cart, stand, tripod, bracket, or table recommended by the manufacturer or sold with the product. Any mounting of the product should follow the manufacturer’s instructions and use a mounting accessory recommended by the manufacturer.

**11A** A product and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the product and cart combination to overturn.

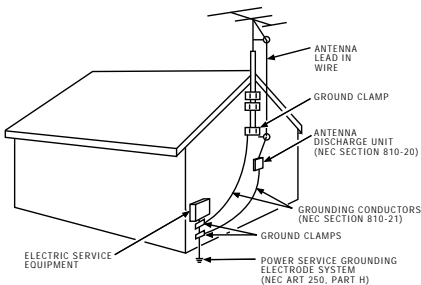


(continued on next page)

# IMPORTANT SAFEGUARDS (continued)

**12. Outdoor Antenna Grounding**—If an outside antenna or cable system is connected to the product, be sure the antenna or cable system is grounded so as to provide some protection against voltage surges and built-up static charges. Article 810 of the National Electrical Code, ANSI/NFPA No. 70 (Section 54 of Canadian Electrical Code, Part 1) provides information with respect to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna-discharge unit, size of grounding conductors, location of antenna-discharge unit, connection to grounding electrodes, and requirements for the grounding electrode. See example below as per National Electrical Code, ANSI/NFPA 70.

## Example of Antenna Grounding



**13. Power Lines**—An outside antenna system should not be located in the vicinity of overhead power lines, other electric light or power circuits, or where it can fall into such power lines or circuits. When installing an outside antenna system, extreme care should be taken to keep from touching or approaching such power lines or circuits as contact with them might be fatal. Installing an outdoor antenna can be hazardous and should be left to a professional antenna installer.

## Use

**14. Cleaning**—Unplug this product from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.

**15. Object and Liquid Entry**—Never push objects of any kind into this product through openings as they may touch dangerous voltage points or “short-out” parts that could result in a fire or electric shock. Never spill liquid of any kind on the product.

(continued on next page)

# IMPORTANT SAFEGUARDS (continued)

**16. Lightning**—For added protection for this product during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the antenna or cable system. This will prevent damage to the product due to lightning and power line surges.



## Service

**17. Servicing**—Do not attempt to service this product yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.

**18. Conditions Requiring Service**—Unplug this product from the wall outlet and refer servicing to qualified service personnel under the following conditions.

- A. When the power-supply cord or plug is damaged.
- B. If liquid has been spilled, or objects have fallen into the product.
- C. If the product has been exposed to rain or water.

D. If the product does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions. Improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the product to its normal operation.

E. If the product has been dropped in any way.

F. When the product exhibits a distinct change in performance—this indicates a need for service.

**19. Replacement Parts**—When replacement parts are required, have the service technician verify that the replacements he uses have the same safety characteristics as the original parts. Use of replacements specified by the product manufacturer can prevent fire, electric shock, or other hazards.

**20. Safety Check**—Upon completion of any service or repairs to this product, ask the service technician to perform safety checks recommended by the manufacturer to determine that the product is in safe operating condition.

**21. Wall or Ceiling Mounting**—The product should be mounted to a wall or ceiling only as recommended by the manufacturer.

**22. Heat**—The product should be situated away from heat sources such as radiators, heat registers, stoves, or other products (including amplifiers) that produce heat.



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## Optional Accessories

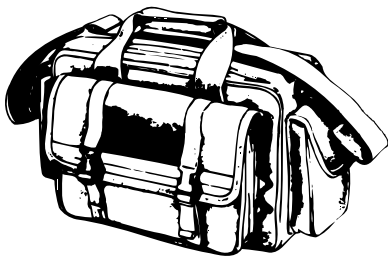
We invite you to take a look at some great ideas for sparking creativity and adding to the fun of using your 8mm camcorder. These pages have a selection of accessories to help make your memorable moments look and sound even better.

These accessories are designed to make the process of recording and watching your videos more enjoyable.

### To order accessories, contact your local Dealer.

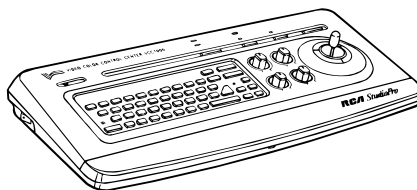
If a dealer is not nearby, all accessories are available through toll-free ordering or by using the order form *on page 5*.

#### AC025A Soft Carrying Case



Custom compact soft case designed especially to provide protection and utility for your 8mm camcorder and most accessories. Rugged fabric lined with soft non-abrasive material and generous padding. Has three outside pockets with storage for lens filters, adapters, batteries, and tapes.

#### VCC1000 Video Color Control Center

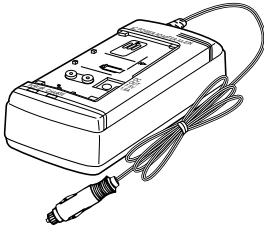


The VCC1000 is two accessories in one. The color control center allows you to adjust the color intensity, tint, white balance, and sharpness of tapes being dubbed. This is especially helpful when the original tape was produced in poor lighting conditions or poor color settings. The second feature – the character generator – lets you create titles that can be recorded on your tapes. This lets you add a professional and/or personal touch to your home videos.

All specifications and descriptions of accessories are subject to change without notice.

## Optional Accessories (continued)

### 1CVA356 Car Cord Adapter/Charger



**Caution:** Do not use any other car cord adapter/charger with this camcorder.

This car cord adapter/charger lets you operate your camcorder from a car, truck, or RV by plugging it into the vehicle's cigarette lighter socket. It will also charge the battery supplied with your camcorder or the AV8MM or AV8MSH long play batteries.

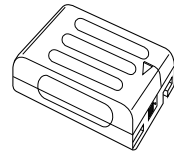
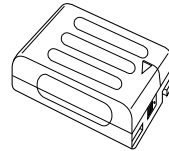
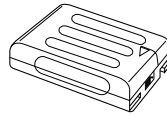
It is specially designed to convert power from a 24-volt or 12-volt battery to operate the camcorder.

### AH25 Y- Adapter



This Y-adapter lets you connect your camcorder's mono audio cable to a stereo TV or VCR.

### AV608, AV8MM, and AV8MSH — Rechargeable Batteries



These rechargeable nickel-cadmium batteries are specifically designed for long life.

AV608 — 1 hour 10 minutes

AV8MM — 1 hour 40 minutes

AV8MSH — 2 hours 20 minutes

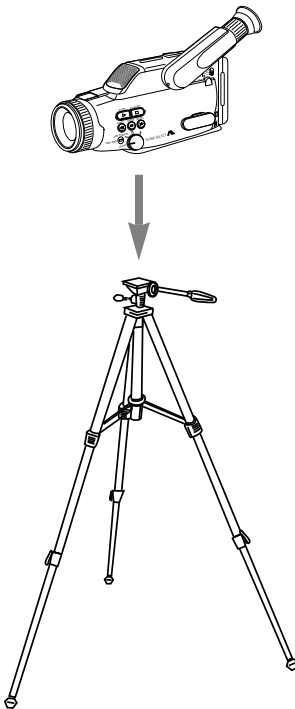
The length the battery powers the camcorder depends on how much you use zoom and pause. All three batteries can be recharged with the AC adapter/charger that came with your camcorder.

All specifications and descriptions of accessories are subject to change without notice.

## Optional Accessories (continued)

### AC088 Tripod

This tripod's fluid-effect head provides smooth camera pan and tilt. The grooved, tubular 3-section leg design folds down to 26" when not in use and weighs only 4 lbs. Rubber feet allow for sure footing.



**Cautions:** Before using a tripod, make sure it is stable enough to hold the camcorder without falling over.

When attaching your camcorder to a tripod, be careful not to force its screw into the camcorder's mounting hole.

The tripod screw should not protrude into the camcorder more than approximately three-eighth (3/8) inch. Forcing the screw could damage the mounting hole on the bottom of the camcorder.

All specifications and descriptions of accessories are subject to change without notice.

# Accessory Order Form

## Order Form for Camcorder Model Pro809

Description	Part No.	Price	Qty.	Total
Soft Camcorder Case	AC025A	\$ 59.95		
Tripod	AC088	\$ 39.95		
Y-Adapter	AH25	\$ 1.95		
Rechargeable Battery (1 Hr. 10 Mins)	AV608	\$ 49.95		
Rechargeable Battery (1 Hr. 40 Mins)	AV8MM	\$ 59.95		
Rechargeable Battery (2 Hrs. 20 Mins)	AV8MSH	\$ 79.95		
Video Color Control Center	VCC1000	\$ 349.00		
Car Adapter/Charger	1CVA356	\$ 79.95		
Power Connector	210922	\$ 21.50		
Audio/Video Cable	210923	\$ 10.00		
Replacement Remote	221307	\$ 39.95		
Shoulder Strap	221308	\$ 22.95		
AC Adapter/Charger	1CVA153	\$ 79.95		

Prices are subject to change without notice.

Total Merchandise (\$10 Minimum Order).....\$ \_\_\_\_\_

Sales Tax .....\$ \_\_\_\_\_

We are required by law to collect the appropriate sales tax for each individual state, county, and locality to which the merchandise is being sent.

Shipping, Handling, and Insurance .....\$ 5.00

**Total Amount Enclosed** .....\$ \_\_\_\_\_

Use VISA or MasterCard preferably. Money order or check must be in U.S. currency only. No COD or cash.

- Allow 8 weeks for delivery.
- All accessories are subject to availability.
- Where applicable, we will ship a superseding model.

Detach Here 

**Please complete other side also**




# Accessory Order Form (continued)

Charge your order on your VISA  
or MasterCard by  
filling in below


**USE YOUR CREDIT CARD**

**IMPORTANT:** Copy complete account number  
from your VISA card



My card expires:

**IMPORTANT:** Copy complete account number  
from your MasterCard



Copy Number  My card expires:    
above your name on MasterCard

---

**AUTHORIZED SIGNATURE**

Prices are subject to change without notice.



Print or type your name and  
address clearly. This will be  
your mailing label.

A complete and correct  
order will save you days  
of waiting.

Name: \_\_\_\_\_  
Street: \_\_\_\_\_  
\_\_\_\_\_ Apt: \_\_\_\_\_  
City: \_\_\_\_\_  
State: \_\_\_\_\_ Zip: \_\_\_\_\_

Please make sure that both sides of this form  
have been filled out completely.

Detach Here 

## Accessory Order Form (continued)

### To order accessories, contact your local Dealer.

If a dealer is not nearby, you can also follow the directions below to order by telephone or direct-by-mail.

### United States and Canada Orders

To place your order by phone, have your Visa or MasterCard ready and call the toll-free number listed below between 8AM and 8PM Eastern Standard Time.

**Use this number only to place an order for accessory items listed on this order form.**

**1 – 800 – 338 – 0376**

Most times your order will be shipped UPS within 72 hours of receipt. If ever it is not possible to ship within 30 days, we will notify you with an update on your order and an option to cancel.

To place your order by mail, detach and mail the completed order form with credit card information, money order, or check in U.S. currency (made payable to Thomson Consumer Electronics, Inc.) to the following address:

Video Accessories  
PO Box 8419  
Ronks, PA 17573

**For more information on these accessories (or current prices), write to the following address:**

Video Accessories Customer Service  
Thomson Consumer Electronics, Inc.  
Distributor & Special Products  
2000 Clements Bridge Rd  
Deptford, NJ 08096-2088

### International Orders

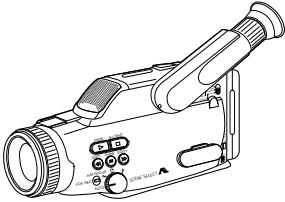
This offer is valid only in the 50 United States and Canada. For international orders, please send your request for a price quotation (not an order) to:

International Customer Service  
Thomson Consumer Electronics, Inc.  
Distributor & Special Products  
2000 Clements Bridge Rd  
Deptford, NJ USA 08096-2088

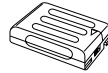
# First-Time Operation

## 1. Unpack the camcorder and accessories.

- Save the packing materials and box in case you ever need to ship or store your camcorder.
- The items shown below are packed with your camcorder. If any are missing or appear damaged, contact your dealer immediately.

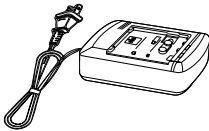


Camcorder: Model Pro809



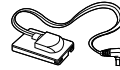
Rechargeable  
6-Volt Battery  
Stock No. AV608

**WARNING: NICKEL CADMIUM BATTERY MUST BE DISPOSED OF PROPERLY.**

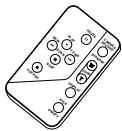


AC Adapter/Charger  
Stock No. 1CVA153

**Caution:** Do not use this adapter/charger for any other purpose other than charging the AV608, AV8MM, or AV8MSH battery pack or supplying power to the camcorder.



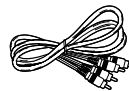
Power Connector  
Stock No. 210922



Remote Control  
Stock No. 221307



Shoulder Strap  
Stock No. 221308



Audio/Video Cable  
Stock No. 210923



### Lithium Cell Batteries for Remote and Clock

3-Volt Micro Lithium Cell Batteries. Replace only with Duracell No. DL2025 – available from most local drug stores. Use of other cells may present a risk of fire or explosion.

**Cautions:** Lithium cell batteries. Must be disposed of properly. Never handle punctured or leaking cells. May cause burns or personal injury.

Keep out of the hands of children. Can cause death or injury if swallowed. If swallowed, consult a physician immediately for emergency treatment.

The lithium cell used in this device may explode resulting in a fire or chemical burn if mistreated. Do not recharge, disassemble, heat above 212°F (100°C), or incinerate.

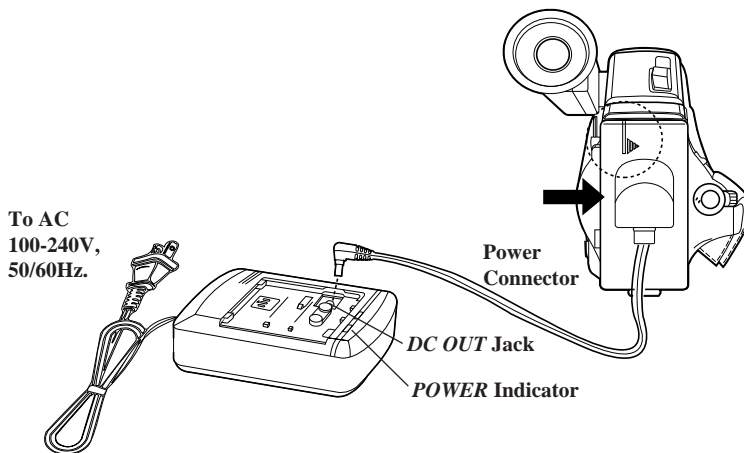
Never use metallic tweezers to hold the cell, and never short circuit the + and – sides of the cell.



## First-Time Operation (continued)

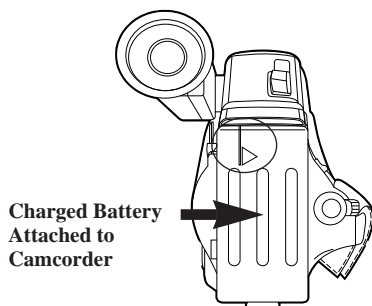
### 2. Attach a power supply.

#### A. Adapter/Charger



1. Plug in adapter/charger. The adapter/charger's *POWER* indicator will light.
2. Connect power connector's cable to *DC OUT* jack on adapter/charger.
3. Hold power connector flush against camcorder and slide in direction of arrow.

#### B. Charged Battery\*



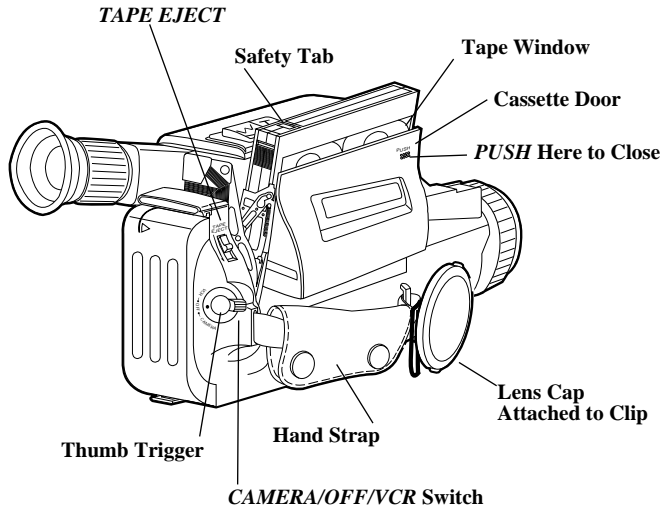
1. Make sure camcorder's *CAMERA/OFF/VCR* switch is in *OFF*.
2. Align battery with camcorder. Hold battery flush against camcorder, and slide in direction of arrow.

*Details are on  
pages 19-21.*

\*Battery must be charged before it can be used the first time.

(continued on next page)

## First-Time Operation (continued)



### 3. Insert a cassette.

1. Slide *TAPE EJECT* to open the cassette compartment.
2. Fully insert cassette with tape window facing out and safety tab facing up.
3. Gently close compartment door by pressing on area marked *PUSH*.

*Details are on page 25.*

### 4. Adjust handstrap.

1. Unsnap handstrap cover.
2. Insert your right hand and adjust strap to fit.
3. Snap handstrap cover shut.

### 5. Remove lens cap and attach it to the clip on the handstrap.

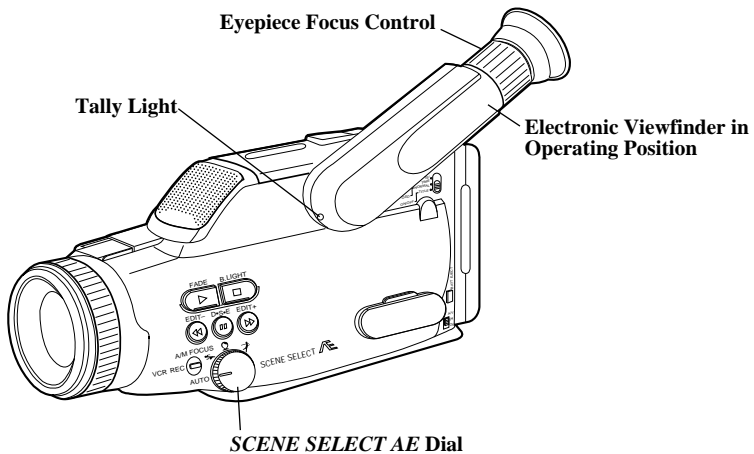
### 6. Place the *CAMERA/OFF/VCR* switch to *CAMERA*.

The camcorder will enter record pause and *STBY* will appear in the viewfinder.

The *CAMERA/OFF/VCR* switch tells the camcorder whether you want to record (*CAMERA*), play back tapes (*VCR*), or turn off the camcorder's power (*OFF*).

Some of the controls operate differently depending on the position of the *CAMERA/OFF/VCR* switch.

**Important Note:** The *DEW* indicator will flash in the viewfinder when there is excessive moisture in the camcorder. When the *DEW* indicator stops flashing, the camcorder is ready to operate.



### 7. Make sure **SCENE SELECT AE dial** is in **AUTO**.

The camcorder will adjust focus automatically and the shutter speed is set to 1/60 second.

### 8. Rotate viewfinder and adjust eyepiece focus control for your vision.

1. Rotate viewfinder into a comfortable viewing position.
2. If the image in the viewfinder is blurry, adjust the eyepiece focus control for your vision.

*Details are on page 31.*

### 9. Start and stop recording.

Start and stop recording by pressing and releasing the thumb trigger. You do not have to hold the thumb trigger to record.

The tally light will light and *REC* will appear in the viewfinder. when the camcorder is recording.

**Notes:** If you do not record within five minutes, the camcorder will automatically shut off to prevent excessive tape wear. If this happens, press the thumb trigger to turn on the camcorder.

Any material recorded on the tape will automatically be erased if you record over it.

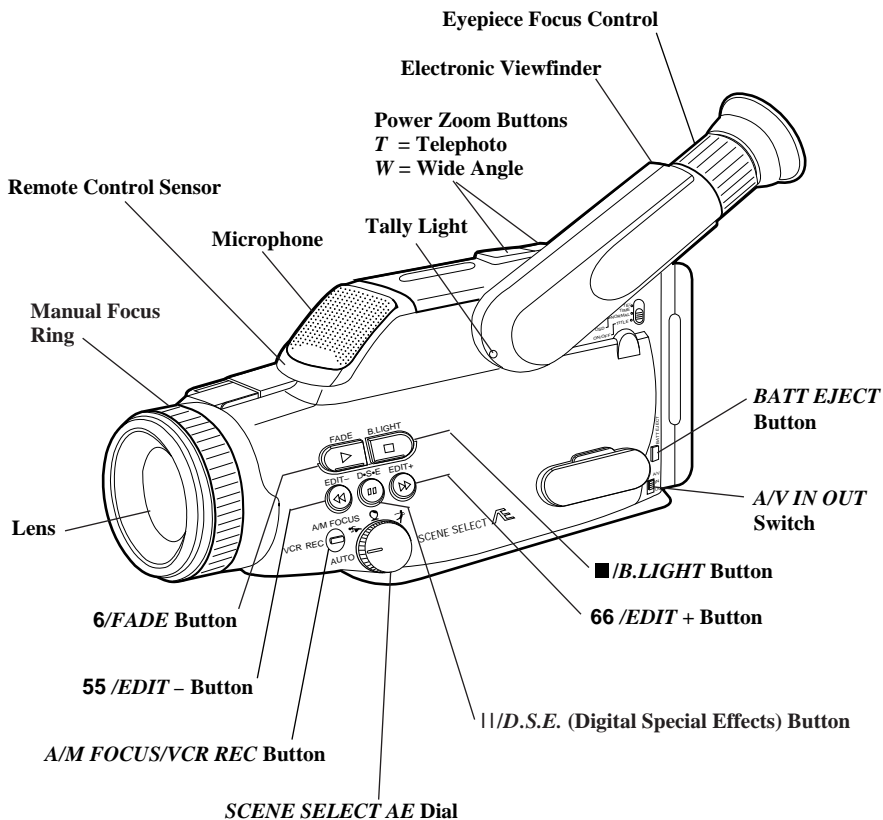
(continued on next page)

## First-Time Operation (continued)

### 10. Play back what you have recorded.

1. Press thumb trigger to stop recording.
2. Place *CAMERA/OFF/VCR* in *VCR*.
3. Press **55 /EDIT -** to rewind the tape.
4. Press **6/FADE** to play back the tape in the viewfinder.
5. Press **■ /B.LIGHT** when you are finished.
6. *Details on viewfinder playback are on pages 52-53.*

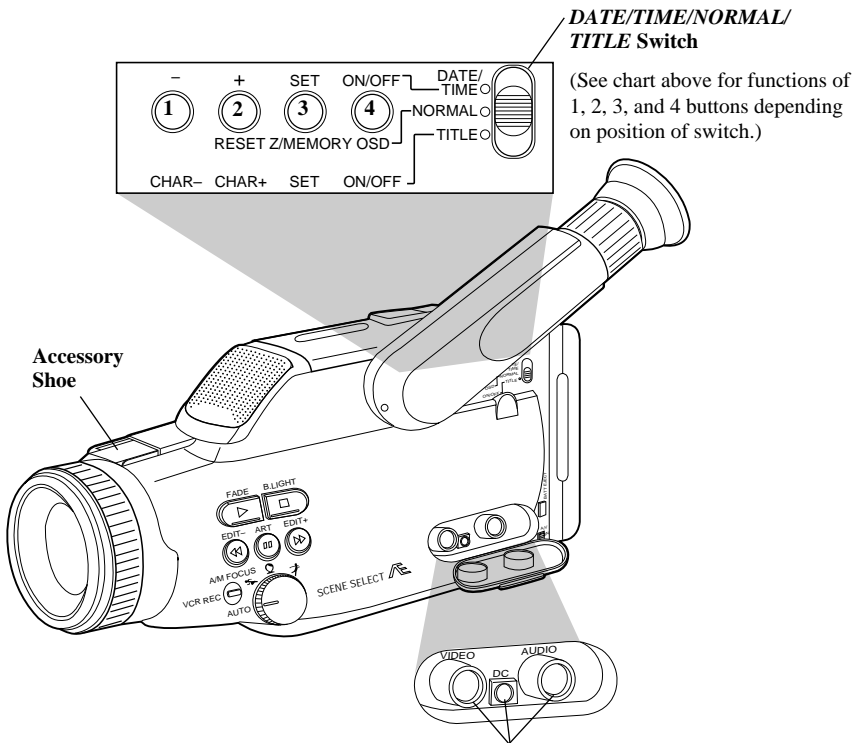
### 11. Review camcorder's operating controls.



# First-Time Operation (continued)

## 11. Review camcorder's operating controls. (continued)

<i>DATE/TIME/NORMAL/TITLE Switch</i>			
Switch Position	Function of Buttons		
DATE/TIME NORMAL TITLE	1	ON/OFF	Displays and removes date/time display in viewfinder
	2	SET	Sets the date and time digits
	3	+	Enters the date and time digits
	4	-	Enters the date and time digits
DATE/TIME NORMAL TITLE	1	OSD	Turns on-screen displays on or off
	2	Z/MEMORY	Turns zero memory feature on or off
	3	RESET	Resets the time counter
	4		No Function
DATE/TIME NORMAL TITLE	1	ON/OFF	Displays and removes title display in viewfinder
	2	SET	Sets the title characters
	3	CHAR+	Enters characters for title
	4	CHAR-	Enters characters for title



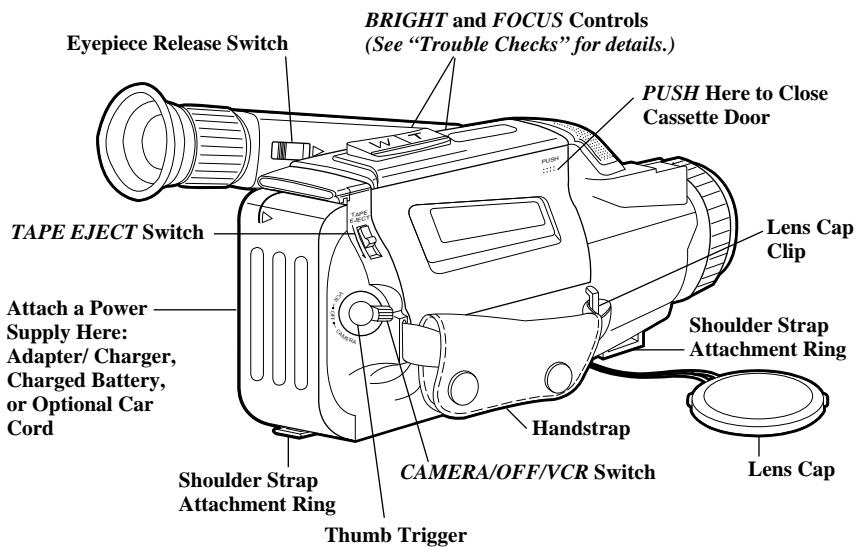
*DATE/TIME/NORMAL/TITLE Switch*

(See chart above for functions of 1, 2, 3, and 4 buttons depending on position of switch.)

**AUDIO, VIDEO, and DC Jacks**  
(Located behind small cover)

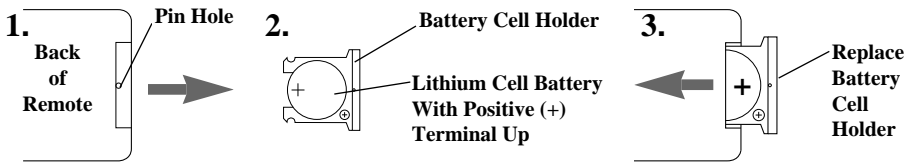
(continued on next page)

## 11. Review camcorder's operating controls. (continued)



# Remote Control

## Install Remote Battery Cell



1. Turn remote over and insert a pin or straightened paper clip in the pin hole to remove the battery holder.
2. Insert battery cell in battery holder so positive (+) terminal faces up.
3. Replace battery holder.

**Notes:** Never place anything heavy on top of the remote or lay it upside down.

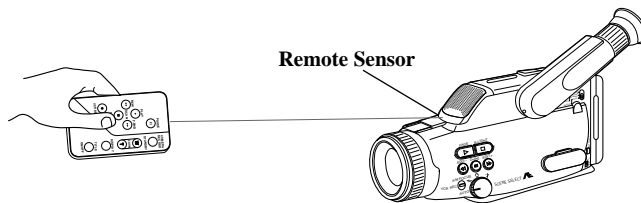
Replace battery when camcorder fails to respond to remote.

Remove the battery from the remote if it will not be used for a month or more. This will prevent possible damage from battery leakage. If leakage occurs, wipe up the liquid inside the compartment and replace the battery.

**Cautions:** Lithium cell battery. Replace only with Duracell No. DL2025. Use of other cells may present a risk of fire or explosion. Must be disposed of properly. Never handle a punctured or leaking cell. May cause burns or personal injury. Keep out of the hands of children. Can cause death or injury if swallowed. If swallowed, consult a physician immediately for emergency treatment.

The lithium cell used in this device may explode resulting in a fire or chemical burn if mistreated. Do not recharge, disassemble, heat above 212°F (100°C), or incinerate. Never use metallic tweezers to hold the cell, and never short circuit the + and - sides of the cell.

## Remote Sensor



The remote operates the camcorder by infrared light, so it is protected from electrical and sound interference.

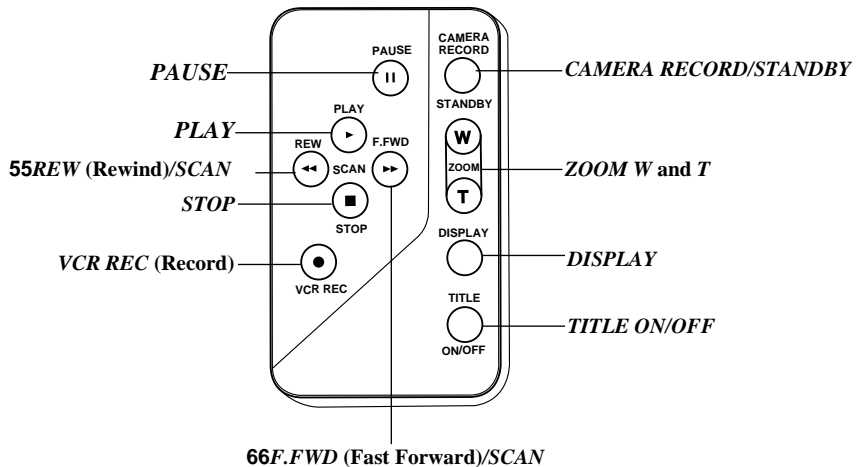
However, the remote must be aimed directly at the camcorder's remote sensor. There cannot be any obstructions between them.

**Note:** The camcorder may not respond to the remote control if the camcorder's remote sensor is exposed to direct sunlight or strong artificial light.

### Location and Function of Remote Buttons

A brief description of the functions of the remote buttons is given here. Some buttons perform the same function as the corresponding controls on your camcorder. You can use whichever is more convenient at the time.

**Note:** An RCA VCR that is set to respond to *VCR 2* on the VCR's remote may respond to this remote when it is used to operate the camcorder.



#### **CAMERA RECORD/STANDBY (Same as Thumb Trigger on Camcorder)**

- Press and release *CAMERA RECORD/STANDBY* (*CAMERA/OFF/VCR* in *CAMERA*) to start and stop recording.

#### **DISPLAY**

- Press *DISPLAY* to turn the viewfinder displays on or off.

#### **66F.FWD (Fast Forward)/SCAN**

- Press and hold **66F.FWD/SCAN** (*CAMERA/OFF/VCR* in *CAMERA*) to visually search the recorded material forward. Release **66F.FWD/SCAN** to record at that point on the tape.
- Press **66F.FWD/SCAN** (*CAMERA/OFF/VCR* in *VCR*) to fast forward the tape.
- Press and hold **66F.FWD/SCAN** during playback (*CAMERA/OFF/VCR* in *VCR*) to visually search the tape forward at a high speed. Release **66F.FWD/SCAN** to return to normal playback.



## Remote Control (continued)

### **PAUSE**

- Press **PAUSE** during playback to stop the tape for stop-action viewing.
- Press **PAUSE** again to return to normal playback.
- *Details on pages 52-53.*

### **PLAY**

- Press **PLAY** when the camcorder's **CAMERA/OFF/VCR** switch is in **VCR** to begin playback.

### **55REW (Rewind)/SCAN**

- Press and release **55REW/SCAN** quickly (**CAMERA/OFF/VCR** in **CAMERA**) to view the last three seconds of recorded material.
- Press and hold **55REW/SCAN** (**CAMERA/OFF/VCR** in **CAMERA**) to visually search the recorded material in reverse. Release **55REW/SCAN** to record at that point on the tape.
- Press **55REW/SCAN** (**CAMERA/OFF/VCR** in **VCR**) to rewind the tape.
- Press and hold **55REW/SCAN** during playback (**CAMERA/OFF/VCR** in **VCR**) to visually search the tape in reverse at a higher speed. Release **55REW/SCAN** to return to normal playback.

### **STOP**

- Press **STOP** (**CAMERA/OFF/VCR** in **VCR**) to stop playback, rewinding, or fast forwarding.
- **STOP** has no effect when **CAMERA/OFF/VCR** switch is in **CAMERA**. To stop recording, press **CAMERA RECORD/STANDBY**.

### **TITLE ON/OFF**

- Press **TITLE ON/OFF** to display and remove the titler graphics in the viewfinder.

### **VCR REC (Record)**

- Press **VCR REC** (**CAMERA/OFF/VCR** in **VCR**) to record on the camcorder from the audio/video jacks.

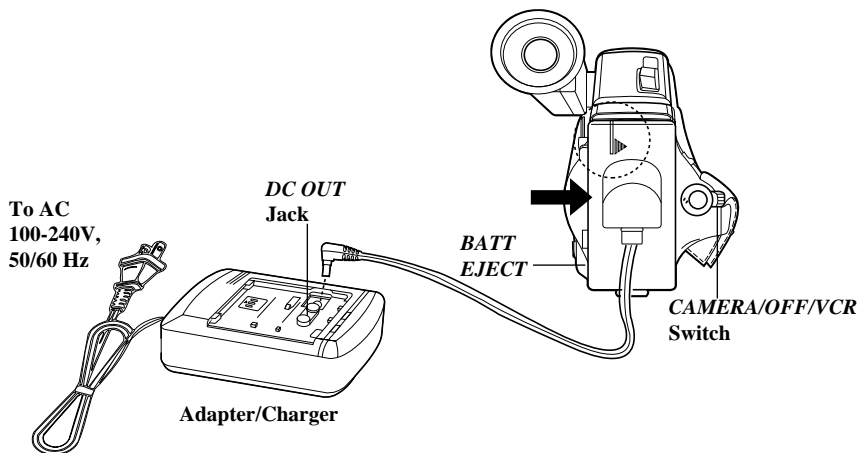
### **ZOOM (W and T)**

- Press and hold **W ZOOM** to move the lens in the wide-angle direction.
- Press and hold **T ZOOM** to move the lens in the telephoto direction.

# Powering Your Camcorder

## Using the Adapter/Charger to Power Your Camcorder

The adapter/charger's power connector attaches to the camcorder, and lets you power your camcorder directly from standard household power. The adapter/charger operates on 100-240 volts, 50/60 Hz.



### To Attach the Adapter/Charger

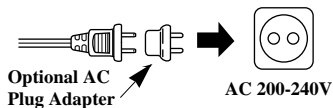
1. Make sure *CAMERA/OFF/VCR* is in *OFF*.
2. Plug the adapter/charger's plug into the nearest AC outlet (100-240V, 50/60Hz). Adapter/charger's *POWER* indicator will light.
3. Connect power connector's cable to *DC OUT* jack on adapter/charger.
4. Hold power connector flush against camcorder and slide it to the right as shown.

### To Remove the Adapter/Charger

1. Unplug the adapter/charger from the wall outlet.
2. Press and hold *BATT EJECT* while sliding the power connector to the left and off the camcorder.

### Using an Optional Plug Adapter

An optional plug adapter may be required in some countries.

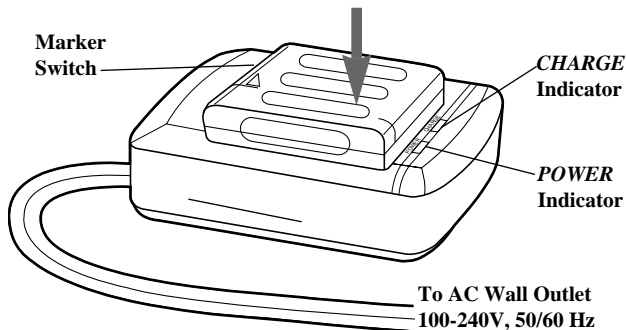


1. Plug the adapter/charger's plug into the AC plug adapter.
2. Plug the AC plug adapter into an AC outlet.

### Using the Battery to Power Your Camcorder

The battery must be charged before it can be used the first time. Initial charging will take approximately one hour. When fully charged, the battery should supply about 45-55 minutes of operating time (depending on how much you use zoom and pause).

**Note:** Use the small marker switch on the top of the battery as a reminder to help you remember to recharge the battery. It has no other function.



**Caution:** When a battery is attached to the adapter/charger, do not turn the adapter/charger upside down. The battery may fall off and be damaged or cause injury.

### Charging the Battery

If the power connector is attached to the adapter/charger, remove its plug.

1. Plug the adapter/charger into the nearest AC outlet (100-240V, 50/60Hz).
2. Place the battery on the adapter/charger, and press it in place.
3. The adapter/charger's *CHARGE* indicator will light.

When the *CHARGE* indicator turns off, the battery is fully charged.

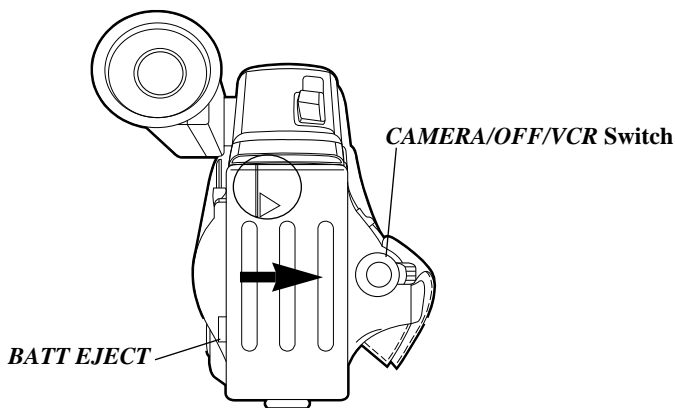
If *POWER* on the adapter/charger starts flashing, remove the plug from the outlet for about 30 seconds. Then reattach it. If after several attempts, *POWER* continues to flash, your battery cannot take a charge and must be replaced.

- POWER* will also flash if a hot battery is attached to the adapter/charger. Attaching an extremely hot battery is not recommended. Allow it to cool down before attaching it.
4. Slide the charged battery off the adapter/charger and attach it to the camcorder *as shown on the next page*.

(continued on next page)

## Powering Your Camcorder (continued)

### Using the Battery to Power Your Camcorder (continued)



#### To Attach Battery

If the power connector is attached to the camcorder, remove it before attaching the battery.

- Hold the battery flush against the camcorder and slide it to the right as shown.

Make sure it is firmly attached to the camcorder.

#### Remove the Battery

Press and hold *BATT EJECT* while sliding the battery to the left and off the camcorder.

#### Battery Safety Precautions

Do not short the battery's terminals.

Do not attempt to disassemble or modify the battery. There are no user-serviceable parts inside.

Use the battery only with specified adapter/chargers and camcorders.

Throwing the battery into a fire or exposing the battery to excessive heat – over 149° F (65° C) could be hazardous.

**ATTENTION:** THE PRODUCT THAT YOU HAVE PURCHASED USES A RECHARGEABLE BATTERY. AT THE END OF ITS USEFUL LIFE, UNDER VARIOUS STATE AND LOCAL LAWS, IT MAY BE ILLEGAL TO DISPOSE OF THIS BATTERY INTO THE MUNICIPAL WASTE STREAM. CHECK WITH YOUR LOCAL SOLID WASTE OFFICIALS FOR DETAILS IN YOUR AREA FOR RECYCLING OPTIONS OR PROPER DISPOSAL.



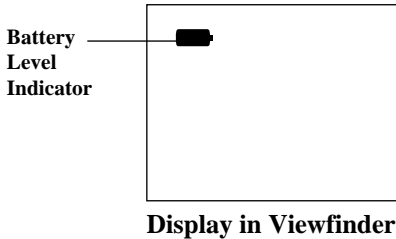
Ni - Cd




## Powering Your Camcorder (continued)

### Using the Battery to Power Your Camcorder (continued)

#### Checking Battery Power (Battery Level Indicator)

The battery level indicator shows how much recording time is left on the battery. This indicator will not be recorded on the tape.



- When the battery is fully charged, the display shows  in the viewfinder.
- After several minutes, the display shows .
- When the battery level display  starts flashing, it is time to recharge the battery.

**Caution:** The camcorder will shut off when the battery reaches empty. The battery should still eject the cassette when you slide *TAPE EJECT*. If it does not, do not attempt to force the cassette compartment open. This will damage the camcorder.

Wait at least three seconds after attaching the battery before inserting a cassette.

#### Proper Care and Storage of Your Battery

Do not operate the battery at temperatures below 14°F (-10°C) or above 95°F (35°C). The battery may be damaged if operated at temperatures above 122°F (50°C). Operation time will decrease at extremely low temperatures.

Charge the battery at a temperature of 32°F-95°F (0°C-35°C) to prevent damage.

After repeated chargings and use, the operation time will gradually decrease. When operation time becomes too short to be useful, it is time to replace the battery.

(continued on next page)

## Powering Your Camcorder (continued)

### Using the Optional Thomson Car Cord Adapter/Charger

The optional 1CVA356 car cord adapter/charger allows you to power your camcorder from the cigarette lighter socket of a car, truck, or RV. It converts 24- and 12-volts to a 6-volt output. The 1CVA356 can also charge the battery that came with your camcorder and the (long play) batteries.

**Notes:** Consult instructions enclosed with the 1CVA356 for details.

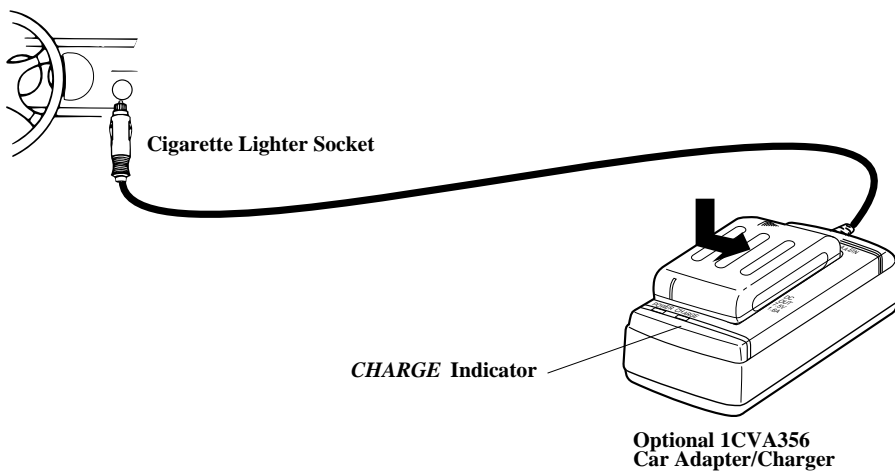
The vehicle's engine does not have to be running when using the car cord.

*Optional accessories are shown on pages 2-4.*

**Cautions:** The 1CVA356 is designed to be used only with vehicles having negative ground electrical systems.

Do not use any other car cord. It may damage your camcorder.

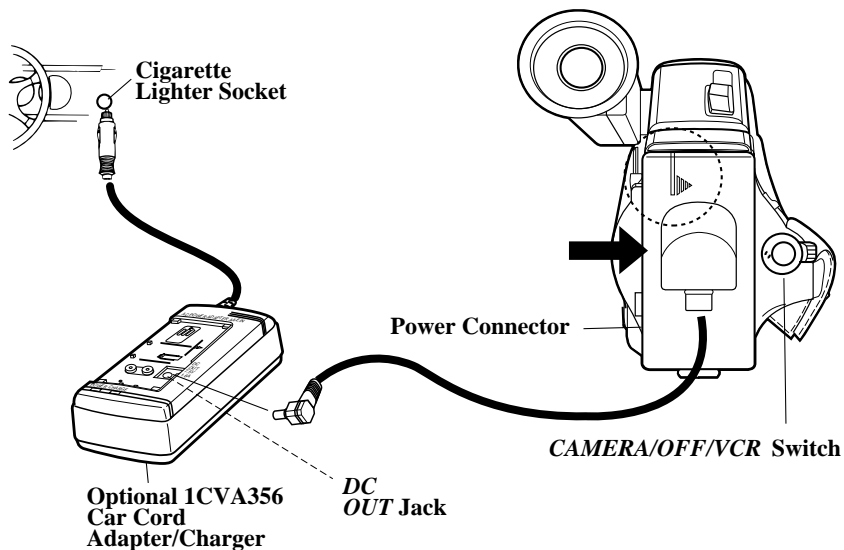
### Use 1CVA356 Car Cord Adapter/Charger to Charge a Battery



1. If the power connector's plug is attached to adapter/charger, remove it.
2. Attach the battery *as shown*.
3. The *CHARGE* indicator will light while the battery is being charged. When the *CHARGE* indicator turns off, the battery is charged.

## Powering Your Camcorder (continued)

### Use 1CVA356 Car Cord Adapter/Charger to Power Camcorder



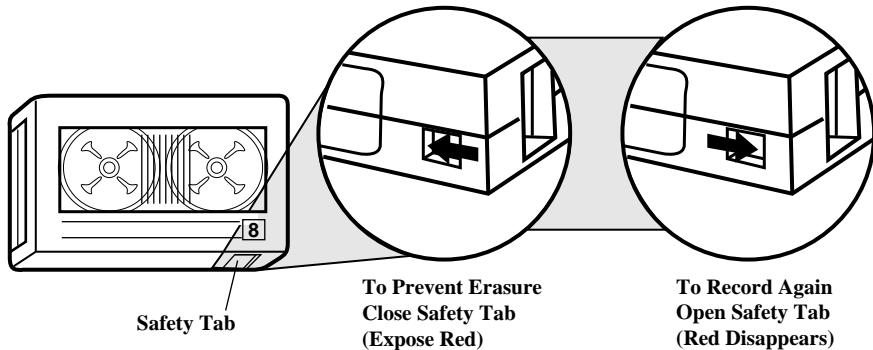
1. Slide camcorder's *CAMERA/OFF/VCR* switch to *OFF*, and remove battery if it is attached.
2. Hold power connector flush against the back of camcorder and slide it to the right *as shown*.
3. Insert power connectors's small plug into *DC OUT* jack of car cord adapter/charger.
4. Insert plug of car cord adapter/charger into vehicle cigarette lighter's socket.
5. Place *CAMERA/OFF/VCR* in *CAMERA*.

## Video Cassettes

We recommend our cassettes be used with your camcorder. Use of poor quality or damaged tapes can contaminate the video heads, resulting in snow or no picture during playback. Head cleaning is not covered under warranty. It is considered normal maintenance. Playing one of our new tapes for approximately 30 minutes will often satisfactorily clean the heads and improve your picture.

### Erase Protection – Safety Tab

You can use your video cassettes over and over again. To erase a previous recording, just record over it.



### Recording and Playback Speed and Times

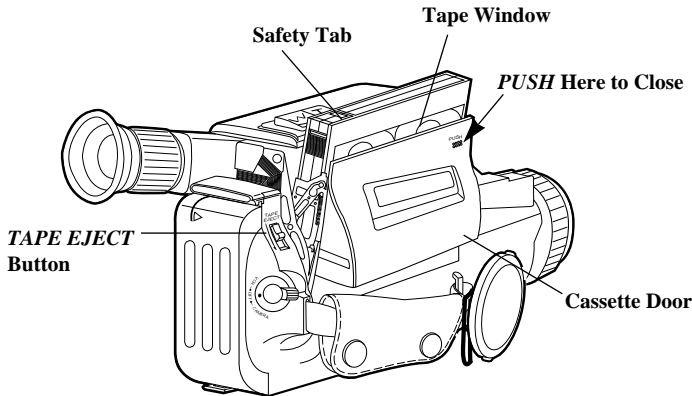
The camcorder records in standard speed (SP). Listed below are the maximum SP recording times for some popular 8mm cassettes.

The camcorder plays back in standard speed (SP) and long play (LP). The camcorder automatically selects the playback speed.

Cassette	Recording Time
P6-15	15 Minutes
P6-20	20 Minutes
P6-45	45 Minutes
P6-60	60 Minutes
P6-90	90 Minutes
P6-120	2 Hours
P6-150	2 1/2 Hours



### Inserting and Removing Cassettes



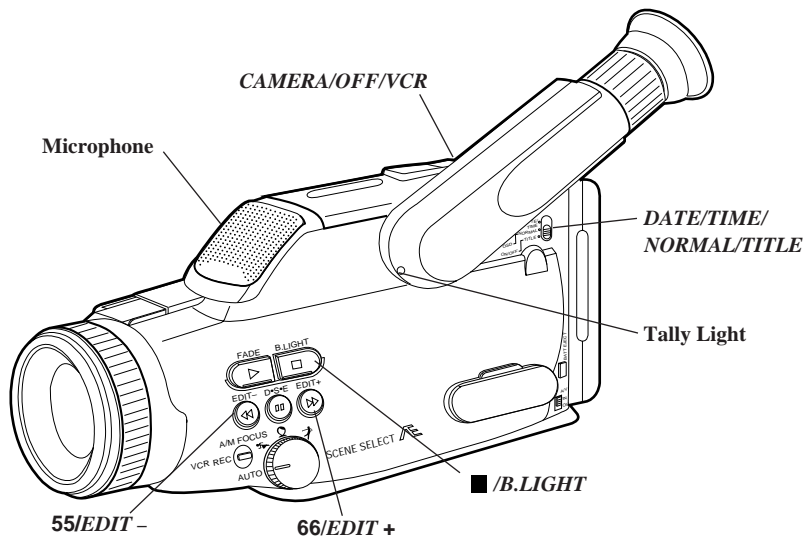
**Caution:**  
Insert the cassette with the safety tab up and tape window facing out. The cassette should slide easily in the compartment. Do not force it.

1. Slide *TAPE EJECT* to open the cassette compartment.
2. Fully insert cassette with safety tab facing up and tape window facing out.
3. Gently close compartment door by pressing on area marked *PUSH*.
4. When you are finished with a cassette, rewind it, remove it from the camcorder, and label it.

### Cassette Care and Storage

- Close the safety tab to prevent accidental erasure.
- Do not use a cassette if it has been damaged or exposed to moisture.
- Do not touch or cover the small holes in the cassette or use cassettes with damaged or spliced tape.
- Store cassettes vertically in their protective cases at normal room temperatures. Excessive heat or cold may damage your cassettes.
- Keep the cassette away from strong magnetic fields such as electric motors and other devices.

# Recording Features



## Display On/Off Feature

When the *DATE/TIME/NORMAL/TITLE* switch is in *NORMAL*, you can turn the normal viewfinder displays on or off.

- Press *OSD* on the camcorder (*DISPLAY* on the remote) to turn the viewfinder displays off.
- Press the button again to turn the viewfinder displays on.

## Quick Review

Press and release *55/EDIT -* (*55REW/SCAN* on remote) when the camcorder is in record pause to review the last few seconds of a recording.

The camcorder will play back the last few seconds of the recording, return the tape to its previous position, and return to record pause.

**Note:** Do not press and hold *55/EDIT -* (*55REW/SCAN* on remote) or the camcorder will go into edit search.

## Edit Search

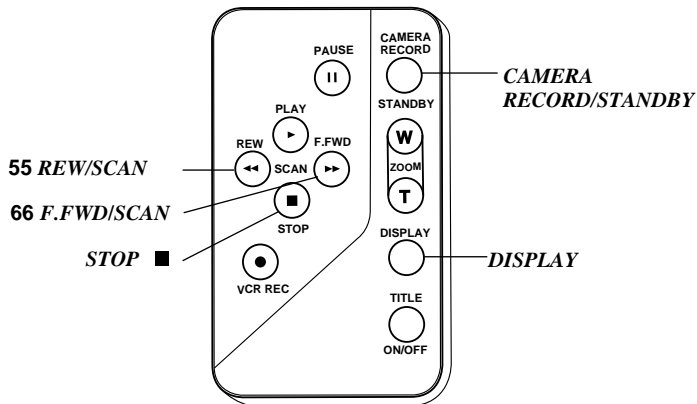
Edit search uses *66/EDIT +* or *55/EDIT -* (*55REW/SCAN* or *66 F.FWD/SCAN* on remote) to precisely position the tape while the camcorder is in record pause.

- Press and hold *55/EDIT -* (*55REW/SCAN* on remote) to visually search the recorded tape in reverse.
- Press and hold *66/EDIT +* (*66 F.FWD/SCAN* on remote) to visually search forward on the recorded tape.

Release the button for the camcorder to return to record pause at that point on the tape.

## Tally Light

The tally light on the front of the viewfinder lights when the camcorder is recording and flashes if there is an operation warning. See "*Trouble Checks*" for details.



### Tape Positioning

When *CAMERA/OFF/VCR* is in *VCR* and the camcorder is stopped, you can quickly fast forward or rewind the tape.

- Press **66/EDIT** + (**66F.FWD/SCAN** on remote) to fast forward the tape. Press ■/*B.LIGHT* (*STOP* on remote) to stop fast forwarding.
- Press **55/EDIT** – (**55REW/SCAN** on remote) to rewind the tape to the beginning. Press ■/*B.LIGHT* (*STOP* on remote) to stop rewinding.

**Note:** Press and hold the button during rewind or fast forward to visually search the tape. Release to continue rewinding or fast forwarding.

### Microphone

The microphone picks up the sound during a recording. It is more sensitive to sounds coming from the direction the lens is pointed.

### Automatic Iris and White Balance

The camcorder automatically adjusts the iris and white balance for the recording conditions.

### Flying Erase Head

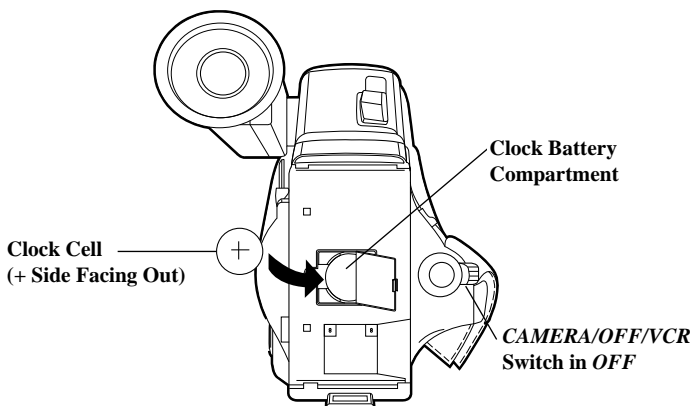
A separate erase head is mounted on the spinning headwheel (hence the term “flying”).

This allows you to make clean edits without the “glitches” or “rainbow noise” that may occur.

## Date and Time Display

### Install the Lithium Cell Battery

The time indicator will flash for approximately five seconds after the *CAMERA/OFF/VCR* switch is set to *CAMERA* when the battery needs replacing. The cell should last approximately one year.



1. Make sure camcorder is turned off, and remove any power supply attached to the camcorder.
2. Open the clock cell compartment.
3. Insert the clock cell into the clock compartment with the “+” terminal facing out.
4. Close the clock cell compartment.

### To remove battery

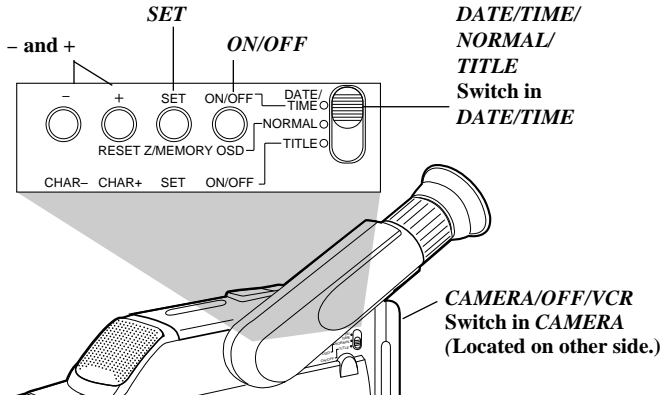
To remove cell, place a non metallic pointed object behind the cell and lift it out of the compartment.

**Cautions:** Lithium cell battery. Replace only with Duracell No. DL2025. Use of other cells may present a risk of fire or explosion. Must be disposed of properly. Never handle a punctured or leaking cell. May cause burns or personal injury. Keep out of the hands of children. Can cause death or injury if swallowed. If swallowed, consult a physician immediately for emergency treatment.

The lithium cell used in this device may explode resulting in a fire or chemical burn if mistreated. Do not recharge, disassemble, heat above 212°F (100°C), or incinerate. Never use metallic tweezers to hold the cell, and never short circuit the + and – sides of the cell.

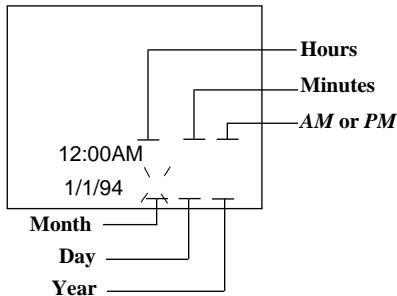
## Date and Time Display (continued)

### Setting the Time and Date Display in the Viewfinder



Make sure the lithium battery cell is installed and a power source is connected to the camcorder.

1. Place *CAMERA/OFF/VCR* switch in *CAMERA*.
2. Place *DATE/TIME/NORMAL/TITLE* switch in *DATE/TIME*.
3. Press *SET* to display a flashing cursor on the month.  
The flashing cursor lets you know which part of the display you are setting.
5. Press *SET*. The flashing cursor will move to the next part of the display.
6. Repeat steps 3 and 4 until you have entered the correct month, day, year, hour, minute, and *AM* or *PM*.
7. After you select *AM* or *PM*, press *SET* to remove the flashing cursor from the viewfinder and start the camcorder's internal clock.



### Correcting the Date or Time

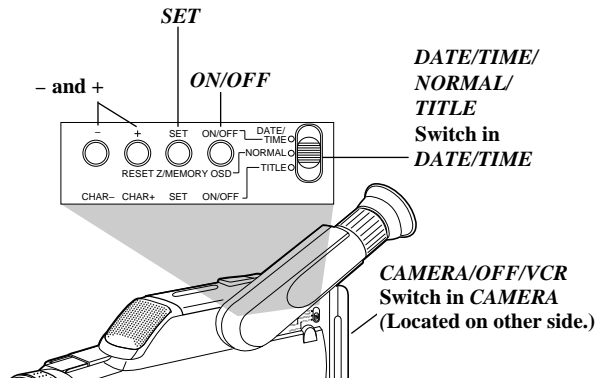
To correct the date or time after the clock has been started, place *DATE/TIME/NORMAL/TITLE* switch in *DATE/TIME*. Repeatedly press *SET* to place the flashing cursor on the digit you want to correct. Then enter the correct digit using the + or - button.

4. Press + or - to enter the correct digit. Press and hold + or - to rapidly advance the digits.

## Date and Time Display (continued)

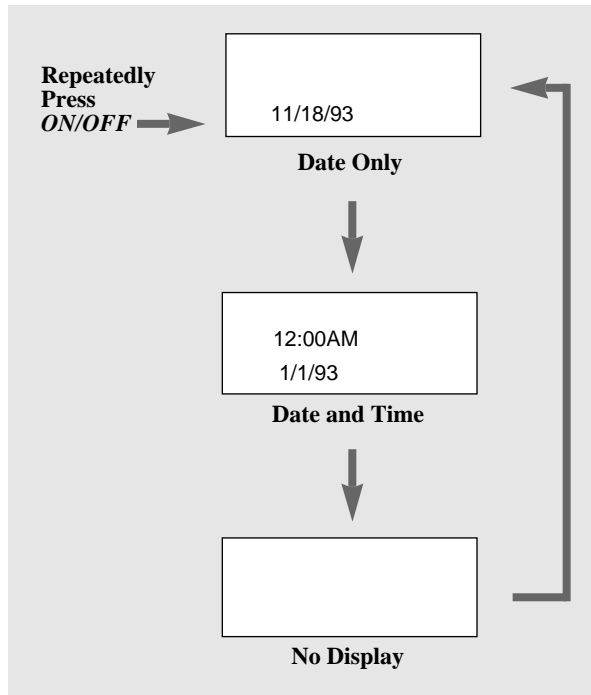
### Recording Date and Time (or Date) on Your Tape

The time and date (or date only) can be recorded on your tape. Whenever one of the displays appears in the viewfinder, it will be recorded. The *DATE/TIME/NORMAL/TITLE* switch must be set to *DATE/TIME*.



Install the lithium battery cell and set the time and date as described on pages 28-29.

1. Place *CAMERA/OFF/VCR* switch in *CAMERA*.
2. Place *DATE/TIME/NORMAL/TITLE* switch in *DATE/TIME*.
3. Repeatedly press *ON/OFF* to display the date, date and time, or no display in the viewfinder.

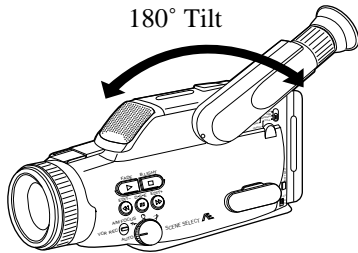


## Electronic Viewfinder

The camcorder's electronic viewfinder is a miniature black-and-white monitor that displays the picture seen by the lens.

### Tilt Adjustment

For convenient viewing, you can rotate the viewfinder about 180°.

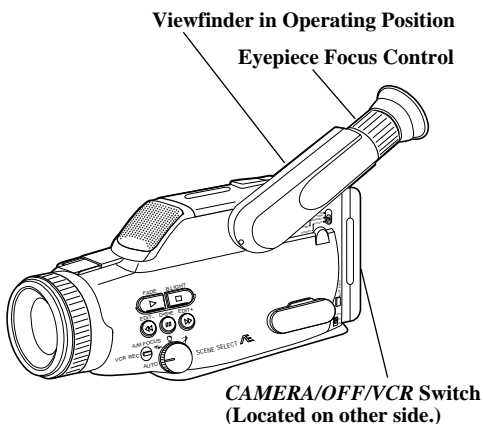


**Caution:** Do not force the viewfinder to rotate completely around. This will damage the viewfinder and/or the camcorder.

**Caution:** When carrying the camcorder with the shoulder strap, rotate the viewfinder to the front to prevent possible damage to the viewfinder from bumping against your body as you move.

### Eyepiece Focus Control

The eyepiece focus control lets you set the focus of the viewfinder for your personal vision. If you wear eyeglasses, you can probably operate the camcorder without them.

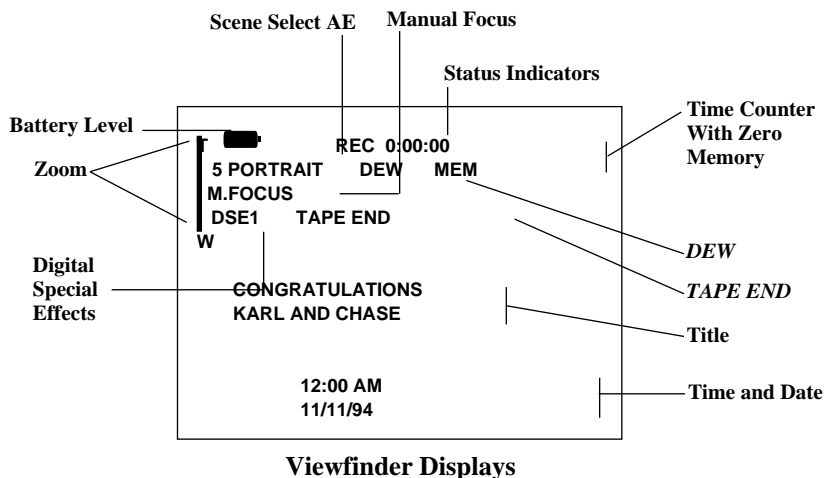


1. Attach a power supply to the camcorder. Place the *CAMERA/OFF/VCR* switch to *CAMERA*.
2. Rotate the viewfinder into operating position, and adjust the eyepiece focus control for your vision. Focus on one of the on-screen displays (such as the time counter).

The eyepiece focus control does not affect the focus of the picture actually recorded by the camcorder.

## Displays in Viewfinder

Several displays that aid in the operation of the camcorder appear in the viewfinder. The only displays that are recorded on the tape when they appear in the viewfinder are the title, date and time, or date only.



### Battery Level Indicator

This indicator shows the amount of time left for the rechargeable battery. *Details are on page 21.*

### DEW Indicator

DEW flashes when there is excessive moisture in the camcorder. Remove the cassette and leave the cassette compartment open for at least two hours. When DEW stops flashing, the camcorder is ready to operate.

### Digital Special Effects

The mode selected with the D•S•E button appears here. *Details are on page 40.*

### Manual Focus Indicator

Press *A/M FOCUS* to turn auto focus on and off.

- *M.FOCUS* appears when manual focus is turned on.
- No indicator appears when auto focus is turned on.

### SCENE SELECT AE Indicators

The indicator for the mode selected with the *SCENE SELECT AE* dial appears here. No indicator appears when the dial is set to *AUTO*. *Details are on page 34.*



## Displays in Viewfinder (continued)

### Status Indicators

The following status displays appear to let you know what the camcorder is doing.

- *REC* appears during recording.
- *PAUSE* appears during record pause.
- *STBY* appears during record pause.
- *PLAY* appears during playback.
- *FF* appears during fast forward.
- *REW* appears during rewind.
- *STOP* appears when the camcorder is stopped.

### TAPE and TAPE END Displays

- *TAPE* appears when you try to record and the cassette's safety tab has been closed.
- *TAPE* flashes when there is no cassette in the camcorder.
- *TAPE END* flashes when there is approximately five minutes of recording time left on the cassette.
- *TAPE END* appears during playback when the end of the cassette is reached.

### Time and Date

Repeatedly press *ON/OFF* when the *TIME/DATE/NORMAL/TITLE* switch is in *TIME/DATE* to display the time and date or date only.

- These displays will be recorded on the tape whenever they appear in the viewfinder.
- *Details are on pages 28-30.*

### Time Counter With Zero Memory

Repeatedly press *OSD* when *TIME/DATE/NORMAL/TITLE* is in *NORMAL* to display the time counter.

- Press *Z/MEMORY* to turn zero memory on or off. *MEM* appears below the time counter when zero memory is turned on.
- *Details are on pages 41 and 44-47.*

### Title

Repeatedly press *ON/OFF* when *TIME/DATE/NORMAL/TITLE* is in *TITLE* to display the title.

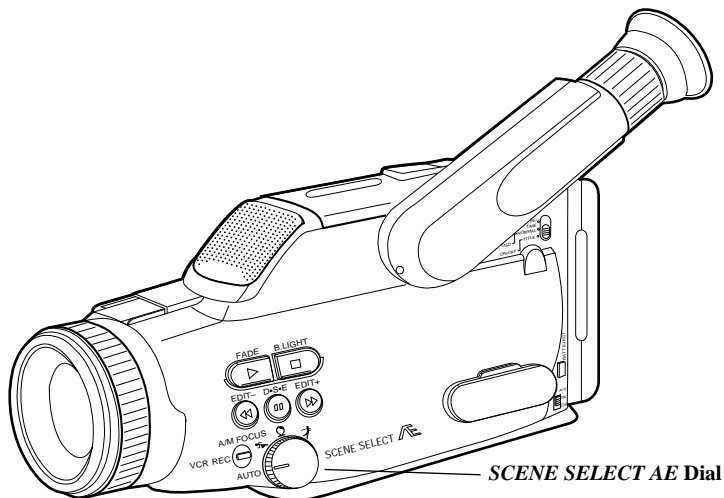
- The title will be recorded whenever it appears in the viewfinder.
- *Details are on pages 42-43.*

### Zoom




The zoom indicator shows the position of the motorized zoom lens. *T* indicates telephoto and *W* indicates wide angle.

## SCENE SELECT AE Modes

The *SCENE SELECT AE* dial lets you select four different recording modes. Turn the dial to select the mode for the effect you want. The indicator for the mode you select will appear in the viewfinder. Set the dial to *AUTO* for normal recording.

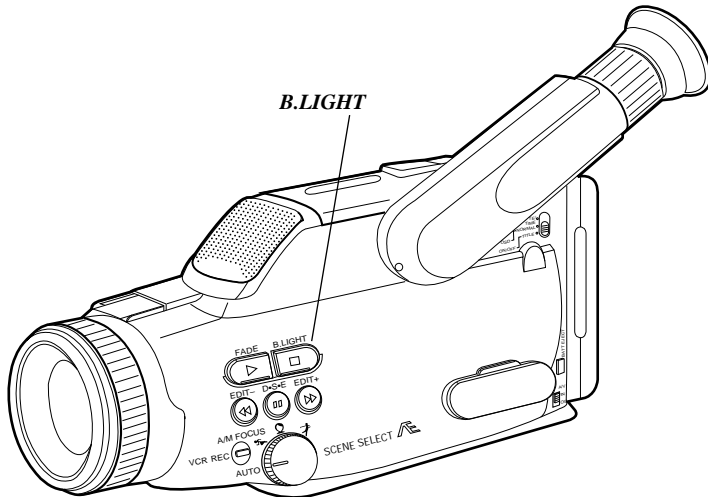


SCENE SELECT AE Dial

Mode	Indicator	Uses
<i>AUTO</i>	None	Use for normal recording. The shutter speed is set to 1/60 second.
Sports 	<i>SPORTS</i>	Use to record fast moving action with less blurring when you plan on playing back the recording on a VCR using special effects, such as pause and slow motion. Shutter speed is automatically selected between 1/60 and 1/250 second.
Portrait 	<i>PORTRAIT</i>	Use to record a still subject – such as a person or flower, when zooming in, or when there is something between the camcorder and subject. Reduces depth-of-field so background becomes blurry while subject remains clearly focused. Focus is locked in auto.
High-Speed Shutter 	<i>HSS</i>	Use outdoors and in well-lit situations to record fast-moving action with less blurring when you plan on playing back the recording on a VCR using special effects, such as pause and slow motion. Can capture faster action than sports mode. Shutter speed is automatically selected between 1/250 and 1/1000 second.

## Backlight

Use this feature to record a subject that is darker than the surrounding scene.



### To Add More Light

Press and hold *B.LIGHT* to add more light when recording:

- A subject that is standing in a shadowed area.
- A subject that is standing in front of a window.
- A subject that is wearing white clothing standing in front of a white background.
- A subject that has a light source behind them.

Release *B.LIGHT* when the light conditions change.

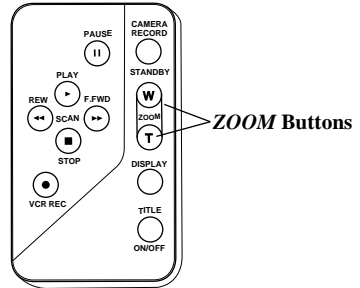
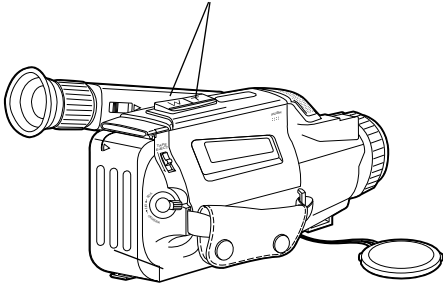
# Zooming

The motorized zoom lens allows you to zoom in or out by pressing a button.

## Power Zoom Buttons

W = Wide Angle

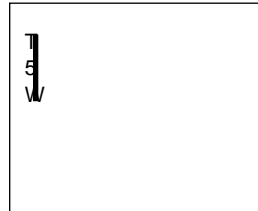
T = Telephoto



## Using Power Zoom Buttons

- Press “W” to move the lens in the wide-angle direction.
- Press “T” to move the lens in the telephoto (close-up) direction.

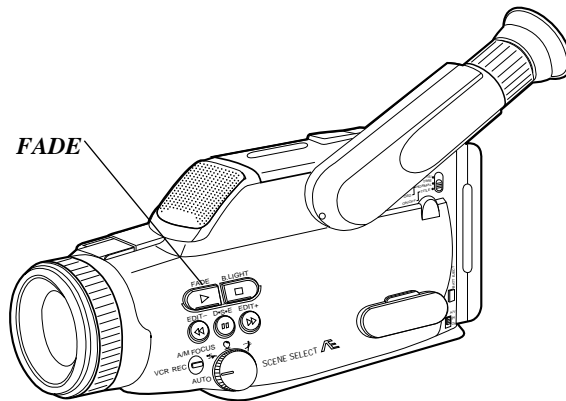
The zoom indicator appears in the viewfinder.



**Zoom Indicator  
in Viewfinder**

## Fading In and Out of Scenes

You can add a professional touch to your recordings when you fade in and out of scenes. Both the picture and sound will gradually appear or disappear. The speed of the fade is automatically controlled by the camcorder.



### Fade In

1. Place the camcorder in record pause.
2. Press and hold *FADE*.
3. Simultaneously press the thumb trigger to start recording and release *FADE*.

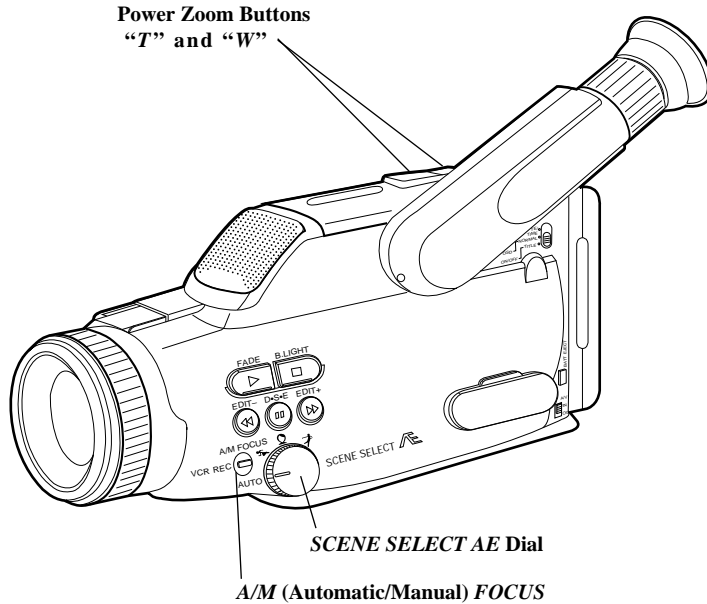
The picture and sound will gradually fade in.

### Fade Out

1. During recording, press and hold *FADE* until the picture fades out.
2. Press the thumb trigger to stop recording.

The picture and sound will gradually fade out.

# Focusing Your Camcorder



## Auto Focus

The camcorder will focus automatically whenever *M.FOCUS* does not appear in the viewfinder.

- If *M.FOCUS* appears, press *A/M FOCUS* to turn on auto focus.

The camcorder will automatically focus on the subject in the center of the viewfinder.

Auto focus will operate on the telephoto "T" side from approximately 3.6 feet to infinity.

Auto focus will operate on the wide-angle "W" side 3/8 inches from the lens surface to infinity

### Manual Focus

Under certain conditions, such as those listed below, you may need to focus manually.

1. Press *A/M FOCUS* to turn on manual focus. *M.FOCUS* appears in the viewfinder.
2. Press zoom button *T* to zoom in on your subject.
3. Turn the focus ring until the subject is clearly focused.
4. When you are finished, press *A/M FOCUS* to turn on auto focus. *M.FOCUS* disappears from the viewfinder.

To maintain proper focus throughout the zoom range, zoom in on your subject before adjusting the focus.

### Conditions that May Require Manual Focus

The following conditions may require the use of manual focusing during recording.

- When a subject has a close foreground and a background far away.
- When two subjects at different distances overlap.
- A subject with distinct horizontal stripes, low contrast, or small pattern.
- A subject not in the center of the viewfinder.
- Subjects with shiny surfaces or sharp angles.
- Recording in snow, fog, or other low-light situations.
- Recording through a window.
- Recording using accessory lens.

### Macro Focus

The macro-focus feature lets you focus on objects as close as 3.9 inches from the camcorder lens in full wide angle position.

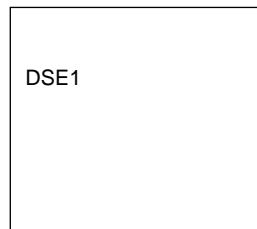
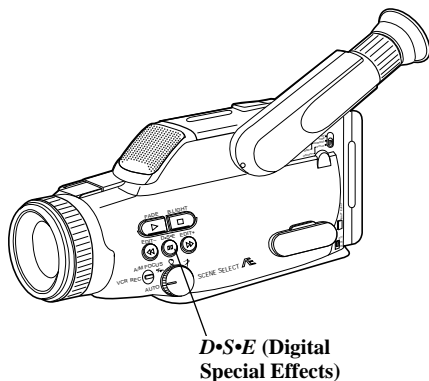
1. Make sure *M.FOCUS* does not appear in the viewfinder. If it does, press *A/M FOCUS* to remove it.
2. Press and hold zoom button “*W*” until the lens is completely zoomed out.
3. Position the subject in the center of the viewfinder.

**Notes:** Zooming is not possible when using macro focus. To change the size of the subject, move the camcorder’s lens closer or farther away from it.

For best results, increase illumination when recording using macro focus.

## Digital Special Effects

The digital special effects feature lets you select one of three digital effects while recording.



**Digital Special Effects  
Indicator in Viewfinder**

### To Use Digital Special Effects

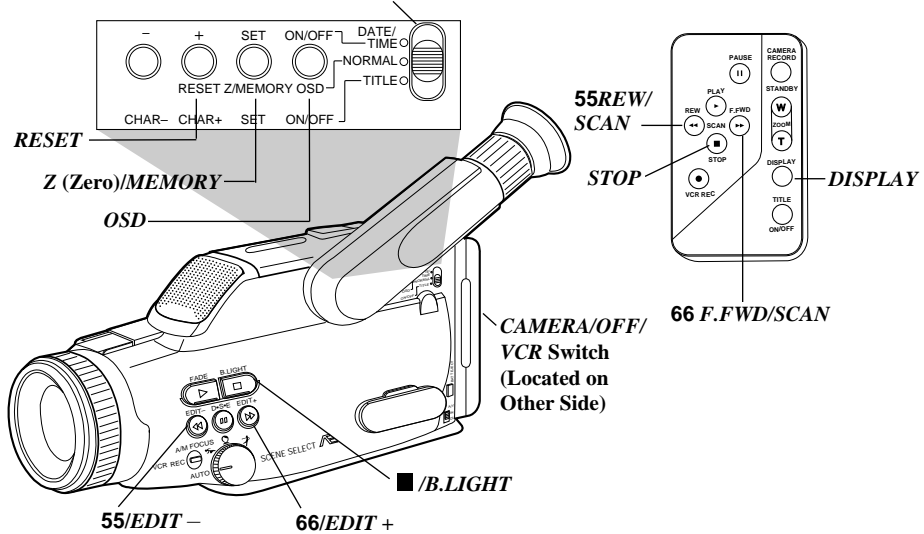
1. Place *CAMERA/OFF/VCR* in *CAMERA*.
2. Press *D•S•E* to give the picture you are recording a digital effect. *DSE1* appears in the viewfinder.
3. Press *D•S•E* again to increase the digital effect of the picture you are recording. *DSE2* appears in the viewfinder.
4. Press *D•S•E* again to add even more digital effects to the picture you are recording. *DSE3* appears in the viewfinder.
5. Press *D•S•E* to return to normal recording. No indicator appears in the viewfinder.



# Time Counter

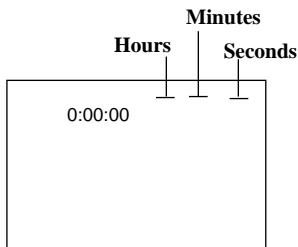
The time counter shows actual time elapsed when recording or playing back a tape. It helps you quickly locate the end of recorded segments.

## DATE/TIME/NORMAL/TITLE in NORMAL



## To Use Time Counter

1. Place **CAMERA/OFF/VCR** in **VCR**.
2. Place **DATE/TIME/NORMAL/TITLE** in **NORMAL**.
3. Press **OSD** (**DISPLAY** on remote) to display the time counter in the viewfinder.
4. Insert the cassette, and press **55/EDIT -** (**55 REW/SCAN** on remote) to rewind the tape.
5. Press **RESET** to reset the time counter to 0:00:00.
6. Press **66/EDIT +** (**66 F.FWD/SCAN** on remote) and fast forward the tape until the time counter reads the amount of time of your recorded segment. For example, 0:10:00 will appear for ten minutes.
7. Press **B.LIGHT** (**STOP** on remote) to stop the tape. This is the approximate end of your recording.
8. Press **OSD** to remove the time counter from the viewfinder.



**Time Counter  
In Viewfinder**

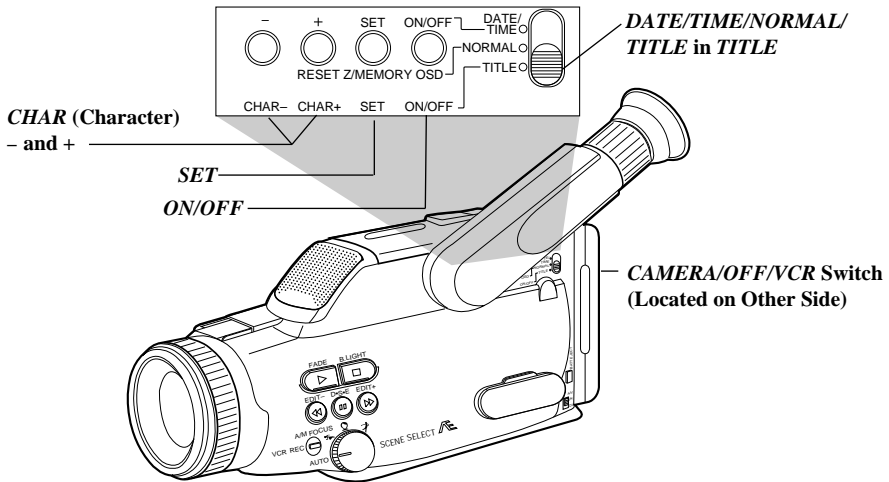
It will not be recorded on the tape.

**Notes:** If you rewind the tape farther back than a counter reading of "0:00:00", a minus will appear in front of the counter.

The time counter is automatically reset to "0:00:00" each time a cassette is inserted.

## Titler

The title can be displayed and recorded at any time. The built-in character register contains 47 characters for creating titles on two lines with up to 16 characters per line.



### Creating a Title

1. Attach a power source and place *CAMERA/OFF/VCR* in *CAMERA*.
2. Place *DATE/TIME/NORMAL/TITLE* in *TITLE*.
3. Press *SET* to move the flashing cursor to the place you want to begin.
4. Select the first character by pressing *CHAR +* or *CHAR -* until the character you want appears. See the “Chart of Characters” on the next page for the characters available in the titler’s register.
5. After you have selected the first character, press *SET* to move the flashing cursor to next position.
6. Repeat steps 4 and 5 until you have completed the title.

**Note:** To correct a character, press *SET* to place the cursor over it and then press *CHAR +* or *CHAR -* to enter the correct character.

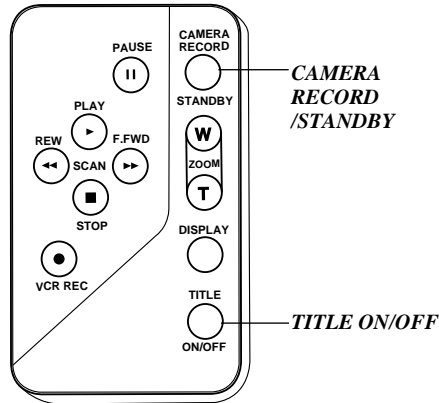
If you want to delete a character, press *CHAR +* or *CHAR -* until the blank space appears.

7. Press *ON/OFF* to store the title and remove it from the viewfinder when you are finished.

**Important Note:** Place *TIME/DATE/NORMAL/TITLE* in *NORMAL* to remove the titler graphics from the viewfinder for normal recording.

### Delete a Title

Display the title and press *SET* to place the cursor over the character you want to delete. Then press *CHAR +* or *CHAR -* to enter the blank space (-). Press *SET* to place the cursor over the next character you want to delete and enter the blank space (-). Continue until all the characters are deleted.



## Recording Titles on a Tape in the Camcorder

1. Attach a power source and place *CAMERA/OFF/VCR* in *CAMERA*.
2. Locate the place on the tape where you want to record the title.
 

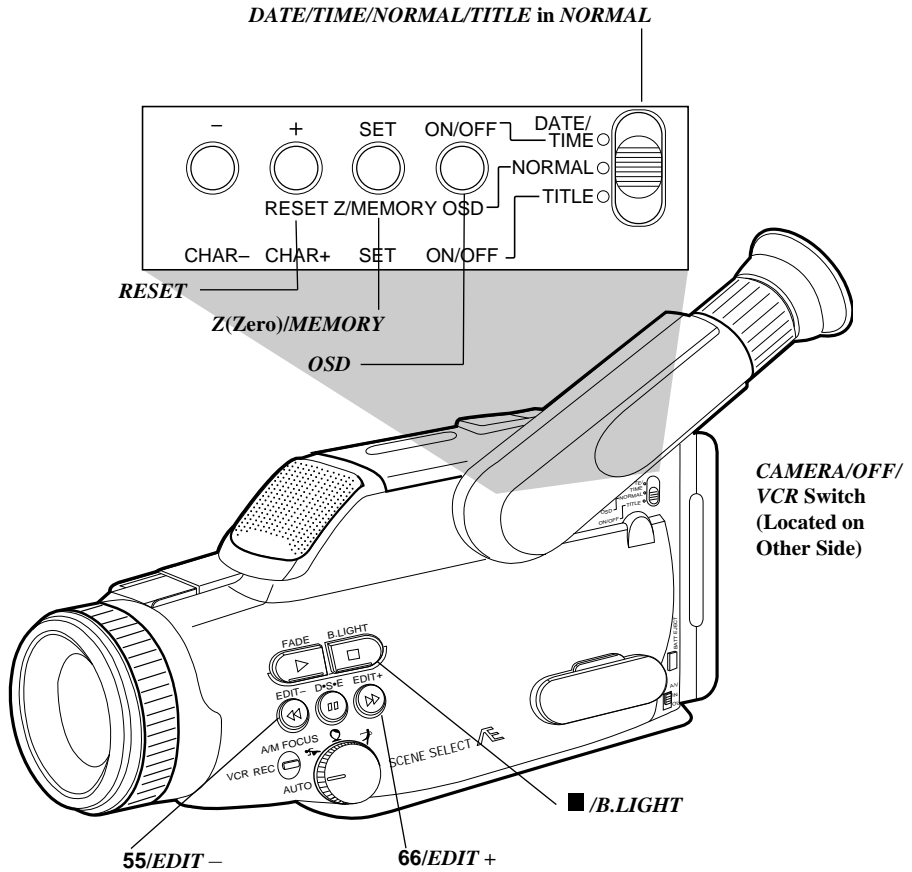
**Note** If you record a title on a pre-recorded tape, the audio and video will be erased where the title is inserted. There will also be a three-to-four second pause of blank tape before the existing audio and video return.
3. Place *DATE/TIME/NORMAL/TITLE* in *TITLE*.
4. Press *ON/OFF* (*TITLE ON/OFF* on remote) to display the title in viewfinder.
5. Press the thumb trigger (*CAMERA RECORD/STANDBY* on remote) to start recording the title.
6. Press *ON/OFF* to remove the titler graphics from the viewfinder. The camcorder will now record as normal. If you do not want to continue recording, press the thumb trigger (*CAMERA RECORD/STANDBY* on remote) to stop recording.

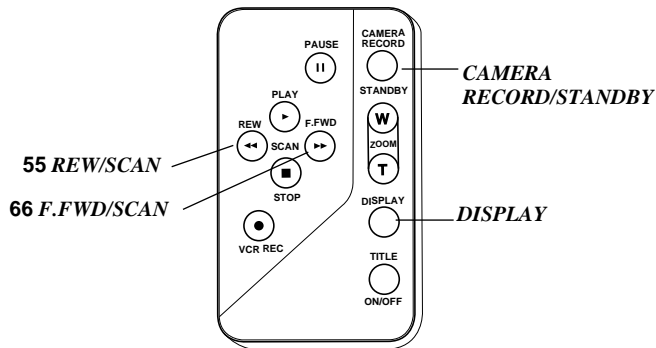
### Chart of Characters in Titler's Register

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	
T	U	V	W	X	Y	Z	0	1	2	3	4	5	6	7	8	9	?	'	-
; : < > . / , ! Blank Space (-)																			
										→ ←									

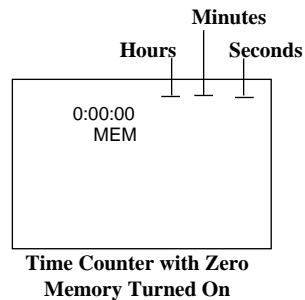
# Edit Insert Using the Camcorder

Edit insert lets you record new audio and video from the camcorder to a previously recorded tape in the camcorder.





1. Place *CAMERA/OFF/VCR* in *CAMERA*.
2. Press **55/EDIT** – or **66/EDIT** + (**55REW/SCAN** or **66 F.FWD/SCAN** on remote) to locate the place you want the insert to end.
3. Place *DATE/TIME/NORMAL/TITLE* in *NORMAL*.
4. Press *OSD* (**DISPLAY** on remote) to display the time counter in the viewfinder.
5. Press *RESET* to set the time counter to *0:00:00*.
6. Press **55/EDIT** – (**55REW/SCAN** on remote) to locate the place you want the insert to start.
7. Press *Z/MEMORY* to turn on zero memory and store the insert ending point in memory. *MEM* flashes under the time counter.



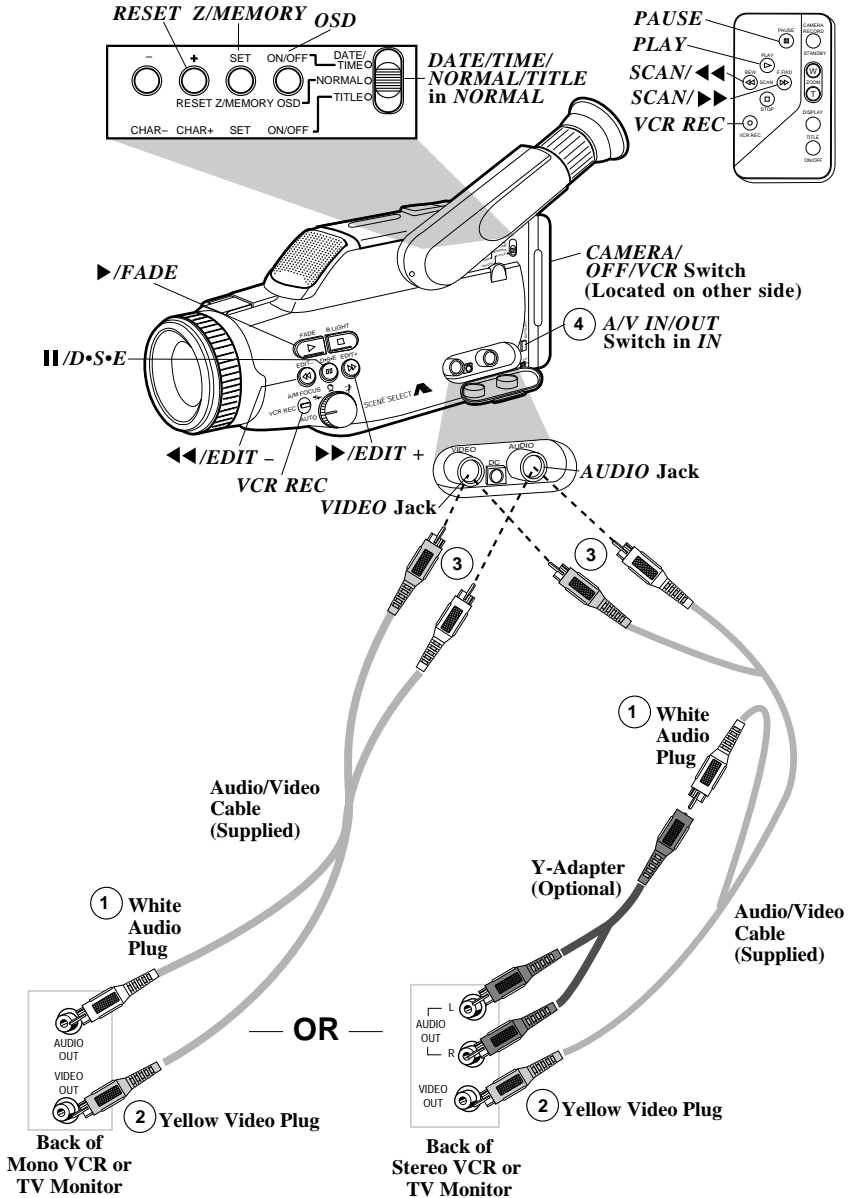
8. Press the thumb trigger on the camcorder (*CAMERA RECORD/STANDBY* on remote) to start recording the new insert.

The camcorder will stop recording at the zero memory point.

**Notes:** Zero memory is cancelled when insert recording is complete.

# Edit Insert from A Monitor TV or VCR

Edit insert lets you record new audio and video from the camcorder or another source, such as a TV or VCR, to a previously recorded tape in the camcorder. You will need the audio/video cable that came with your camcorder.



### Installation

- ① Attach the audio/video cable's white plug to the *AUDIO OUT* jack of the TV (or VCR).  
**Note:** If your TV (or VCR) has stereo *AUDIO* jacks, attach the white plug to the one labeled *MONO*. If one is not labeled *MONO*, you may need a Y-adaptor, such as AH25 shown on page 3, to hear both channels.
- ② Attach the audio/video cable's yellow plug to the *VIDEO OUT* jack on the TV (or VCR).
- ③ Attach the yellow plug on the other end of the audio/video cable to the *VIDEO* jack and the white plug to the *AUDIO* jack located behind the small cover on the side of the camcorder.
- ④ Place the *A/V* (audio/video) *IN/OUT* switch to *IN*.

### To Edit Insert From a TV or Another VCR

The source for audio and video during edit insert from a TV or VCR is the signal coming through the audio and video plugs of the audio/video cable.

If you connect only the video plug of the audio/video cable to a TV or VCR, you will have no sound on the dubbed portion.

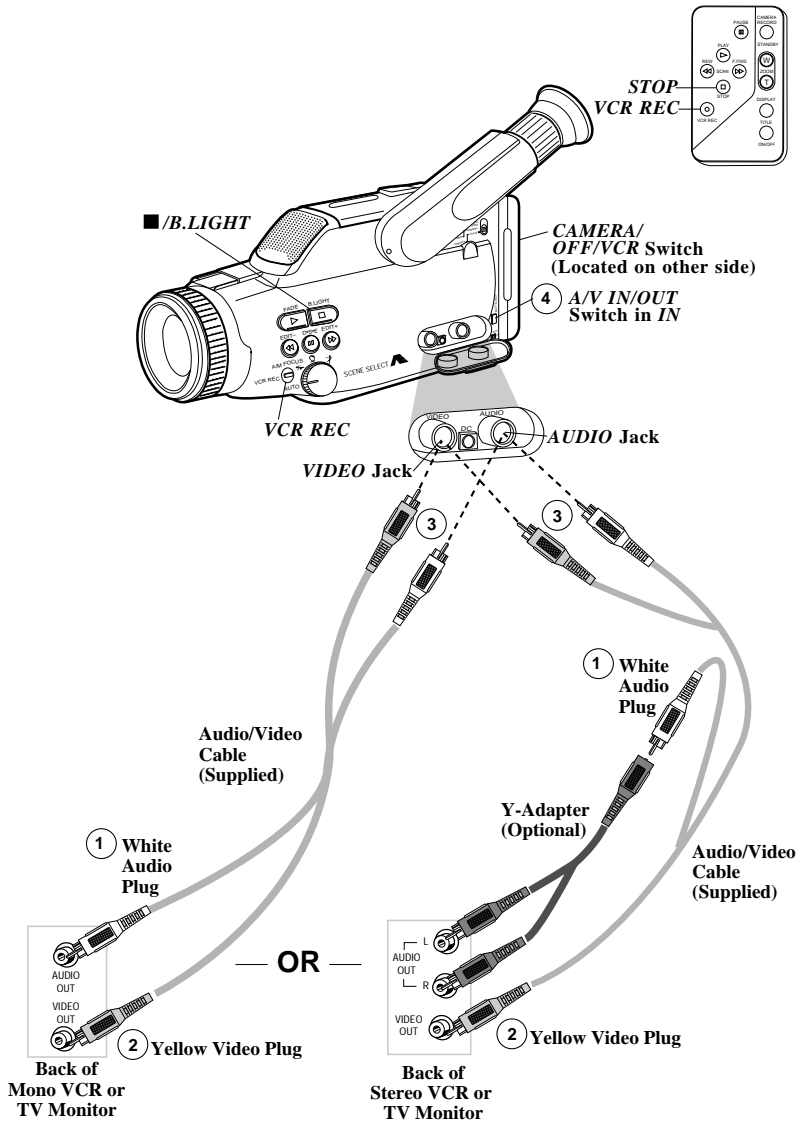
If you connect only the audio plug of the audio/video input cable to the TV or VCR, the camcorder will not dub.

1. Connect the camcorder to the TV or VCR as shown.
2. Place camcorder's *CAMERA/OFF/VCR* switch in *VCR*.
3. Insert the tape you want to insert new audio and video on in the camcorder.
4. Look into the viewfinder and use *6/FADE (PLAY on remote)*, *55/EDIT* – and *66/EDIT* +(*55 REW/SCAN* and *55 F.FWD/SCAN* on remote) to locate the place on the tape where you want edit insert to end.
5. Make sure *DATE/TIME/NORMAL/TITLE* switch is in *NORMAL*, and press *RESET* to reset the time counter to 0:00:00.
6. Use *6/FADE (PLAY on remote)*, then *55/EDIT* – (*55 REW/SCAN* on remote) , to locate the place on the tape where you want edit insert to begin, and press **■/D•S•E (PAUSE on remote)** to place the camcorder in play pause where you want to begin dubbing.
7. Press *VCR REC*, to place camcorder in record pause.
8. Press *Z/MEMORY* to turn on zero memory and store the insert ending point in memory. *MEM* flashes under the time counter.
9. Start the other component playing. Press **■/D•S•E (PAUSE on remote)** to start dubbing. The camcorder will stop recording at the zero memory point.

**Note:** Zero memory is cancelled when insert recording is complete.

# Recording from VCR or TV Monitor

To connect your camcorder to a TV (or VCR) with *AUDIO* and *VIDEO OUT* jacks, you will need the audio/video cable that came with your camcorder. If your TV is already connected to a VCR, you can attach the camcorder to the VCR and watch what the camcorder is recording on the TV.



(continued on next page)



## Recording from VCR or TV Monitor (continued)

### Installation

- ① Attach the audio/video cable's white plug to the *AUDIO OUT* jack of the TV (or VCR).  
**Note:** If your TV (or VCR) has stereo *AUDIO* jacks, attach the white plug to the one labeled *MONO*. If one is not labeled *MONO*, you may need a Y-adaptor, such as AH25 shown on page 3, to hear both channels.
- ② Attach the audio/video cable's yellow plug to the *VIDEO OUT* jack on the TV (or VCR).
- ③ Attach the yellow plug on the other end of the audio/video cable to the *VIDEO* jack and the white plug to the *AUDIO* jack located behind the small cover on the side of the camcorder.
- ④ Place the *A/V* (audio/video) *IN/OUT* switch to *IN*.

### To Record from a Monitor TV (or VCR)

1. A. Camcorder connected directly to TV monitor: Turn on the TV, and tune it to the channel you want to record.  
B. Camcorder connected to a VCR that is already connected to a TV: Turn on VCR and select channel you want to record, or place the cassette you want to copy in the VCR. If you are copying a tape, press the *PLAY* button on the VCR.  
**Note:** If you want to see what is being recorded, turn on the TV, and tune it to the channel you normally use to see the signal from the VCR.
2. Slide the camcorder's *CAMERA/OFF/VCR* switch to *VCR*, and insert a blank cassette. Press *VCR REC* to start recording.
3. Press ■/*B.LIGHT* (*STOP* on remote) when you are finished.

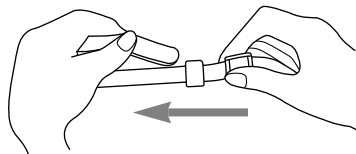
**Caution:** The unauthorized recording of television programs and other materials may infringe the rights of others.

## Attaching the Shoulder Strap

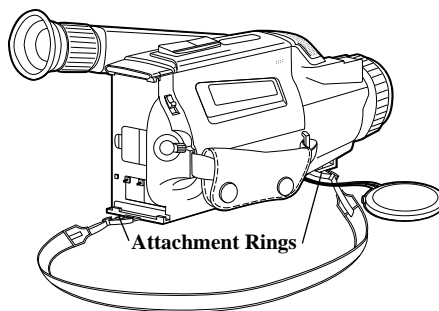
The shoulder strap packed with your camcorder is designed to let you carry the camcorder from your shoulder and — when you are ready to shoot — bring the camcorder to shooting position in one quick movement.

### To Attach the Shoulder Strap

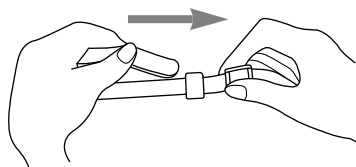
1. Unfasten one end of the strap from the buckle catch and slide the end of the strap out of the tension band. Make sure you leave the buckle on the strap.



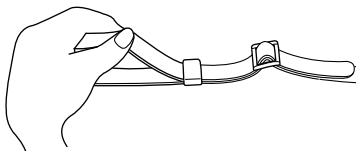
2. Thread each end of the strap through one of the shoulder strap attachment rings *as shown*.



3. Thread the strap back through the tension band and into the buckle. Make sure the strap is firmly attached before using it to carry the camcorder.



4. To adjust the length of the strap, pull a loop of the strap loose. Then pull the strap through the tension band or buckle firmly.



**Caution:** When carrying the camcorder with the shoulder strap, you may find it convenient to rotate the viewfinder to the front. This helps prevent possible damage to the viewfinder from bumping against your body as you move.

## Recording and Traveling Tips

- Do not bump or tap the microphone while recording – this sound will be recorded. Be aware of backgrounds. Background details may show up as visual “clutter”. Noises (especially TV sets, household appliances, traffic, etc.) can detract from the sound you record.
- Avoid long “still” shots of landmarks and scenic attractions. Include people and details. “Local color” gives travel videos lasting appeal. Consider recording a familiar or landmark scene from an unfamiliar vantage point.
- Try to make sure indoor scenes are well-lit. This improves picture quality and color reproduction.
- Practice recording under a variety of lighting conditions.
- Use the viewfinder to keep camcorder level or scenes will appear “tilted”.
- Include close-up shots of individuals when taping family outings or group functions.
- Make a video recording of your home and contents to store in a safe place in case of fire or theft.
- Do not move the camcorder rapidly from side-to-side while recording. A steady, gradual “pan” avoids blurring and “jitter”.

### Holding The Camcorder

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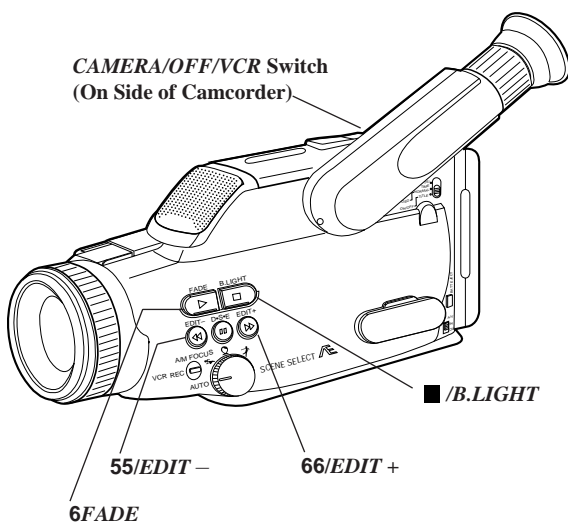
- To film at different angles, raise the viewfinder.
- Standing against a wall may give your recordings more stability.
- Use an optional tripod or monopod for stable images.
- Hold the camcorder horizontally. Keep your feet slightly apart and upper arms close to your body.
- When possible, rest your elbows on a table or other stable surface to help keep the camcorder steady.
- Do not pick up the camcorder by the viewfinder.

### Traveling Tips

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- Write down your camcorder’s serial number and keep it separate from the camcorder when traveling. If your camcorder is lost or stolen, you will be able to identify it.
- Use extra care to avoid damage to your camcorder and accessories when operating them at a beach or pool. Spray, sand, and dust should be avoided. If your lens has been exposed to the elements, clean it only with proper lens cleaning supplies.
- Carry your camcorder in a carrying case when traveling. *See page 2* for a case specially designed for this camcorder. An ordinary suitcase or carry bag does not offer the protection your camcorder needs. Treat your camcorder as carry on luggage to protect it from rough handling.

# Viewfinder Playback and Playback Features



## Viewfinder Playback

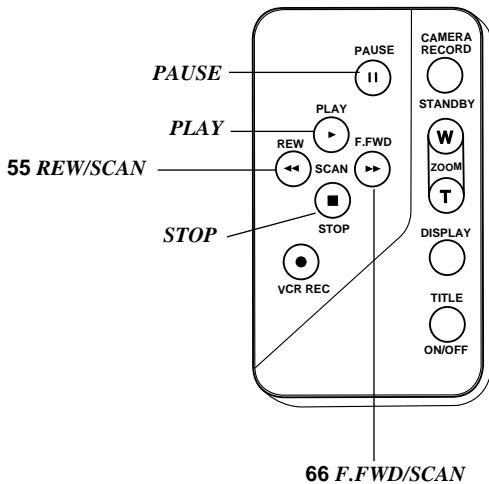
Viewfinder playback is the simplest way to watch tapes using the camcorder. This method is generally used only to review scenes immediately after recording because the display is in black and white.

### To Play Back a Tape Through the Viewfinder

1. Place *CAMERA/OFF/VCR* in *VCR*.
2. Insert the cassette you want to play.
3. Press **6/FADE** (*PLAY* on remote) to play back the tape.  
*PLAY* appears in the viewfinder.
4. Press **■/B.LIGHT** (*STOP* on remote) when you are finished.



Display in Viewfinder



## Playback Features

### Stop Action Pause

- During playback, press **||/D•S•E** (*PAUSE* on remote) to “stop the action” and view one frame of the tape.

**Caution:** Pause is designed for momentary interruptions and should not be used for an extended period of time. If the camcorder remains in pause for more than five minutes, it will enter the stop mode.

- Press **||/D•S•E** (*PAUSE* on remote) again to return to normal playback.

### Visual Searching

- During playback, press and hold **55/EDIT** – (**55 REW/SCAN** on remote) if you want to visually search the tape in reverse.
- During playback, press and hold **66/EDIT** + (**66 REW/SCAN** on remote) if you want to visually search the tape forward.
- Release the button to return to normal playback.

**Notes:** During pause and search operations, it is normal for streaks to appear in the picture. The sound is muted during pause and search. When you reach the end of the tape during playback, the tape is automatically rewound.



## Playback on TV or VCR (continued)

### Installation

- ① Attach white plug on one end of the audio/video cable to *AUDIO IN* jack on the TV (or VCR).  
**Note:** If your TV (or VCR) has stereo *AUDIO IN* jacks, attach white plug to the one labeled *MONO*. If one is not labeled *MONO*, you may need a Y-adaptor, such as AH25, shown on page 3 to hear both channels.
- ② Attach the yellow plug to the *VIDEO IN* jack on the TV (or VCR).
- ③ Attach the white plug on the other end of the audio/video cable to the white *AUDIO* plug (located under the small cover) on the side of the camcorder.
- ④ Attach the yellow plug to the yellow *VIDEO* plug on the camcorder.
- ⑤ Place the *A/V* (audio/video) *IN/OUT* switch to *OUT*.

### Playback Operation and How to Copy Tapes on the VCR

1. A. Camcorder connected directly to TV: Turn on the TV and tune it to the video input channel.  
B. Camcorder connected to VCR that is already connected to TV: Turn on VCR and place it in the “line” or “camera mode”. (If your VCR does not have a “line” or “camera mode”, consult the VCR owner’s manual.) Operate the TV as you normally do to see the signal coming from the VCR.
2. Place *CAMERA/OFF/VCR* in *VCR* to turn on the camcorder.
3. Press **6/FADE** (*PLAY* on remote) to play the tape.
  - During playback, use the playback features on page 53.
4. To copy what the camcorder is playing, place a blank cassette in the VCR, and press the VCR’s *RECORD* button.
5. Press **■/B.LIGHT** (*STOP* on remote) when you are finished.

### Viewing What the Camcorder is Seeing (or Recording)

1. A. Camcorder connected directly to TV: Turn on the TV, and tune it to the video input channel.  
B. Camcorder connected to VCR that is already connected to TV: Turn on VCR and place it in the “line” or “camera mode”. (If your VCR does not have a “line” or “camera mode”, consult the VCR owner’s manual.) Operate the TV as you normally do to see the signal coming from the VCR.
2. Place *CAMERA/OFF/VCR* in *CAMERA*.  
**Note:** When the camcorder is used as a camera, turn the TV’s volume down to prevent a high-pitched squeal caused by feedback.
3. Press the thumb trigger (*CAMERA/RECORD STANDBY* on remote) to begin recording. You can watch what the camcorder is seeing (or recording) on the TV screen.

## Trouble Checks

Troubles sometimes are caused by simple “faults” that you can easily correct without the help of a service technician by first checking a few basic remedies.

Before you call or take your camcorder to an Authorized RCA Camcorder Servicer, look below for the type of trouble you are experiencing. Then perform the simple checks and adjustments listed for that trouble.

Trouble	Checks and Adjustments
No power	<ul style="list-style-type: none"> <li>• If using battery, it may need to be recharged.</li> <li>• Make sure adapter/charger is plugged into working outlet.</li> </ul>
Won't record or playback	<ul style="list-style-type: none"> <li>• Make sure adapter/charger is plugged into working outlet.</li> <li>• If <i>DEW</i> indicator appears in viewfinder, there is moisture in the camcorder. Remove the cassette from camcorder and let it dry naturally for at least one hour.</li> <li>• There may be no cassette in the camcorder.</li> <li>• Try ejecting and reinserting the cassette.</li> <li>• The cassette tape may be broken, try another cassette.</li> <li>• You may have reached end of cassette — try rewinding it.</li> </ul>
Won't playback	<ul style="list-style-type: none"> <li>• <i>CAMERA/OFF/VCR</i> switch must be in <i>VCR</i>.</li> </ul>
Won't record	<ul style="list-style-type: none"> <li>• Safety tab has been closed. (<i>See page 24.</i>)</li> <li>• <i>CAMERA/OFF/VCR</i> switch must be in <i>CAMERA</i>.</li> </ul>
No picture in viewfinder	<ul style="list-style-type: none"> <li>• Remove lens cap.</li> <li>• <i>CAMERA/OFF/VCR</i> switch must be in <i>CAMERA</i>.</li> </ul>
Tape stops during rewind or fast forward	<ul style="list-style-type: none"> <li>• Time-counter zero memory may be on. Whenever “<i>MEM</i>” appears under time-counter display, the camcorder will stop at “<i>0:00:00 MEM</i>”. Place <i>DATE/TIME/NORMAL/TITLE</i> in <i>NORMAL</i> and press <i>Z/MEMORY</i> to turn off zero memory.</li> <li>• Tape may be at the end or already rewind.</li> </ul>
Camcorder remains in “stop action”	<ul style="list-style-type: none"> <li>• Press <b>II</b> /<i>D•S•E</i> (<i>PAUSE</i> on remote) to return to normal playback.</li> </ul>
Viewfinder images out of focus	<ul style="list-style-type: none"> <li>• Try adjusting eyepiece focus control. <i>See page 31.</i></li> <li>• Lens is smudged and image appears unfocused.</li> <li>• The small <i>BRIGHT</i> and <i>FOCUS</i> controls on the viewfinder are set at the factory and should need no adjustment. If they require adjustment, carefully use a small plastic screwdriver to prevent damaging the delicate controls.</li> </ul>
Picture has digital effects	<ul style="list-style-type: none"> <li>• Repeatedly press <i>D•S•E</i> to remove special effects.</li> </ul>



## Trouble Checks (continued)

Trouble	Checks and Adjustments
Poor auto-focus operation	<ul style="list-style-type: none"> <li>• <i>M. FOCUS</i> appears in viewfinder. Press <i>A/M FOCUS</i> button to turn on auto focus. See pages 38-39.</li> <li>• Scene is dark. Auto-focus may not work under this condition. See pages 38-39 for details on manual focus.</li> </ul>
Date and/time (or date) were recorded on tape	<ul style="list-style-type: none"> <li>• Date and time (or date) are recorded on tape when they appear in viewfinder. Place <i>DATE/TIME/NORMAL/TITLE</i> switch in <i>DATE/TIME</i> and press <i>ON/OFF</i> to remove them from viewfinder.</li> </ul>
Date indicator flashes in viewfinder	<ul style="list-style-type: none"> <li>• Clock battery may need changing. See page 28.</li> <li>• Clock battery needs to be installed. See page 29.</li> </ul>
Date and/or time are incorrect	<ul style="list-style-type: none"> <li>• Clock battery needs changing. See page 28.</li> <li>• Time (including AM/PM) or date needs to be set. See page 29.</li> </ul>
Remote control will not operate camcorder	<ul style="list-style-type: none"> <li>• Aim remote at remote sensor on camcorder.</li> <li>• Remote must be within 13 feet from the camcorder.</li> <li>• Remote control cell may need replacing. See page 15.</li> <li>• <i>CAMERA/OFF/VCR</i> switch must be in <i>CAMERA</i> or <i>VCR</i>.</li> <li>• Camcorder's remote control sensor is exposed to direct sunlight or strong artificial light. This may interfere with operation of camcorder by remote.</li> </ul>
Camcorder will not record from audio/video cable	<ul style="list-style-type: none"> <li>• Check cable connections and make sure other component is playing. See pages 48-49.</li> <li>• Make sure <i>A/V IN/OUT</i> switch is in <i>IN</i>.</li> </ul>
Camcorder turns off during operation	<ul style="list-style-type: none"> <li>• Camcorder remained in pause for five minutes. Press thumb trigger to turn camcorder back on.</li> <li>• Battery needs recharging.</li> </ul>
Tally light flashes slowly or <i>D.EMG</i> , <i>C.EMG</i> , <i>L.EMG</i> , <i>S.EMG</i> , <i>R.EMG</i> appears in viewfinder when displays are on	<ul style="list-style-type: none"> <li>• Remove cassette, turn camcorder off, wait 10-15 seconds, turn camcorder back on, and reload tape.</li> </ul>
Picture looks unnatural or has a vertical smear	<ul style="list-style-type: none"> <li>• Use of fluorescent, sodium, or mercury light when recording using a <i>SCENE SELECT</i> mode may vary color.</li> <li>• Recording a very bright subject using high shutter speeds may cause smearing.</li> </ul>

# Care and Maintenance

## Proper Care and Storage

- Keep dust and grit from entering the camcorder's cassette door. Dust and grit are abrasive and will cause excessive wear to both the camcorder's recording/playback heads and cassettes.
- Before handling your camcorder, make sure your hands and face are free from any chemical products such as suntan lotion, as it may damage the finish.
- The camcorder can be damaged by improper storage or handling. Do not subject the camcorder to swinging, shaking, or dropping.
- Do not store the camcorder in temperatures below  $-22^{\circ}\text{F}$  ( $-30^{\circ}\text{C}$ ) or above  $149^{\circ}\text{F}$  ( $65^{\circ}\text{C}$ ).
- When the camcorder is not in use, always remove the cassette and AC adapter/charger or battery.
- Retain the original carton for future storage or shipping purposes.
- Always replace the lens cap on the lens when the camcorder is not in use.

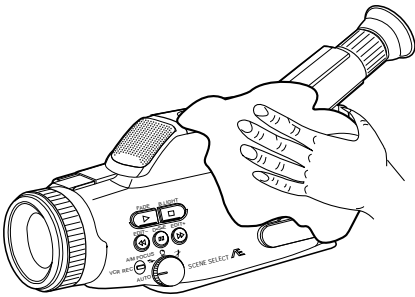
## Things to Avoid

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- Do not attempt to disassemble your camcorder. There are no user-serviceable parts inside.
- Avoid operating your camcorder immediately after moving it from a cold location to a warm location. Give the camcorder 1-1/2 to 2 hours to reach a stable temperature before inserting a cassette. When the camcorder is moved from cold to warm, condensation may cause the tape to stick to the headwheel and damage the headwheel or tape.
- Do not aim your camcorder at the sun or other bright objects.
- Do not leave your camcorder in direct sunlight for extended periods of time. The resulting heat buildup could permanently damage the camcorder's internal parts.
- Do not operate the camcorder in extremely humid environments.
- Do not operate the camcorder near the ocean as salt water or salt water spray may damage the internal parts of the camcorder.
- Do not operate the camcorder for extended periods in temperatures below  $40^{\circ}\text{F}$  ( $4^{\circ}\text{C}$ ) or above  $95^{\circ}\text{F}$  ( $35^{\circ}\text{C}$ ).
- Do not expose the camcorder or adapter/charger to rain or moisture. If either component becomes wet, turn off the power and take the unit to an Authorized RCA Camcorder Servicerenter.
- Do not use an adapter/charger or batteries other than the ones specified for the camcorder. Use of the wrong accessories may cause damage to the camcorder.

### Cleaning the Camcorder

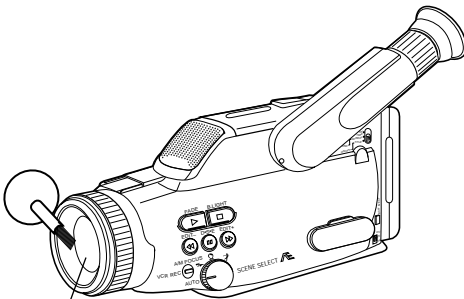
To clean the camcorder's exterior, remove any power source connected to the camcorder and gently wipe it with a clean soft cloth.



**Caution:** Use of strong cleaning products, such as those containing alcohol or benzine, may damage the camcorder.

### Cleaning the Camcorder's Lens

To clean the camcorder's lens, blow it with a blower brush, and then gently wipe the lens with cleaning tissue and commercially prepared cleaning solution designed for use on camera lens. Improper cleaning may scratch the lens.

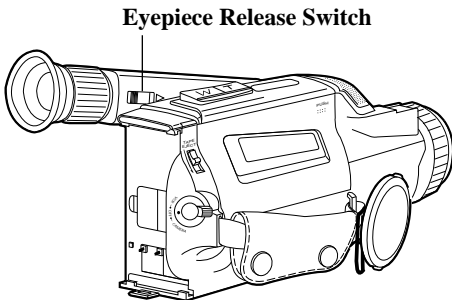


Lens

**Caution:** Do not touch the lens with your fingers. The oil from your skin can damage the lens.

### Cleaning the Camcorder's Viewfinder

The viewfinder eyepiece can be removed for cleaning.



1. Slide and hold eyepiece release switch while rotating eyepiece counterclockwise to remove.
2. Remove dust using a blower brush.
3. Place the eyepiece on the viewfinder and rotate clockwise to replace.

# Specifications

## General

Power requirement: 6VDC  
Power consumption: 6.4 W  
Weight: 800 grams  
(Without battery pack, lens hood, lens cap, and cassette)  
Dimensions: 3.9" (W) x 4.1" (H) x 9.6" (D)  
(100 x 105 x 246 mm)

## Camera Section

Scanning: 525 Lines/60 Fields/30 Frames  
Required Minimum Illumination: 2 lux  
Lens: F:1.4 8:1 (6.0~48.0mm)  
Image Sensor: 1/3" CCD  
Diameter: 37 mm

## Video Recorder Section

Record/Playback System:  
Two video record/playback heads  
One flying erase head  
Video Signal: EIA Standard NTSC Color  
Video Input: 1.0 Vp-p, 75 ohm  
Video Output: 1.0 Vp-p, 75 ohm  
Audio Input: -7.5 dBs  
Audio Output: -7.5 dBs

## Tripod Mount

One 1/4" x 20 threaded hole

## User Information

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a

particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Changes or modifications not expressly approved by the manufacturer may void the user's FCC authority to operate this camcorder.

This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus as set out in the interference-causing equipment standard entitled "Digital Apparatus", ICES-003 of the Department of Communications.

Cet appareil numérique respecte les limites de bruits radioélectriques applicables aux appareils numériques de Classe B prescrites dans la norme sur le matériel brouilleur: "Appareils Numériques", NMB-003 édictée par le ministre des Communications.

# Limited Warranty

## What your warranty covers:

- Any defect in material or workmanship.
- 90 days for labor charges.
- One year for parts.

The warranty period for rental units begins with the first rental.

## What we will do:

- Pay any Authorized RCA Camcorder Servicenter the labor charges to repair your camcorder.
- Pay any Authorized RCA Camcorder Servicenter for the new or, at our option, refurbished replacement parts required to repair your camcorder.

## How you get service:

- Check with your RCA Dealer or call 1-800-336-1900 for the Authorized RCA Camcorder Servicenter nearest you.

## If an Authorized RCA Camcorder Servicenter is conveniently near you:

- Take your camcorder to the Authorized RCA Camcorder Servicenter of your choice.
- Show the Servicenter Representative your sales receipt or other evidence of purchase date.
- Pick up your camcorder when repairs are completed.

## If an Authorized RCA Camcorder Servicenter is not located conveniently near you:

- Pack the camcorder so that it will not be damaged during shipping. (We recommend using the original carton and packing materials.) Include any cables and other accessories originally furnished with the camcorder.
- Include in the camcorder carton (1) a copy of your sales receipt or other

evidence of purchase date, (2) your name and address, and (3) a brief description of the problem.

- Ship the camcorder to an Authorized RCA Camcorder Servicenter.
- Pay any charges billed to you by the Servicenter for service not covered by the warranty.

## What your warranty *does not* cover:

- Customer instruction. (Your owner's manual clearly describes how to install, adjust, and operate your camcorder. Any additional information should be obtained from your Dealer.)
- Installation and related adjustments.
- Cleaning of video/audio heads.
- Damage from misuse or neglect.
- Batteries for clock or other features.
- A camcorder that has been modified or incorporated into other products or is used for institutional or other commercial purposes.
- A camcorder purchased or serviced outside the USA.

## How state law relates to this warranty:

- This warranty gives you specific legal rights, and you also may have other rights that vary from state to state.

## Product registration:

- Please complete and mail the *product registration card* packed with your camcorder. It will make it easier to contact you should it ever be necessary. The return of the card is not required for warranty coverage.

## If you purchased your camcorder outside the United States:

- See your Dealer for details.

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