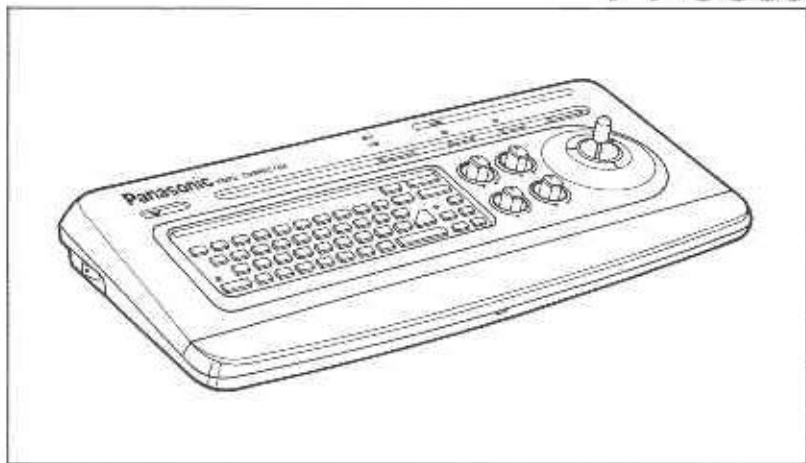


Operating Instructions

Panasonic
PV-CC50



Video Corrector

Before attempting to connect, operate or adjust this product,
please read these instructions completely.

INTRODUCTION

Congratulations! You have just purchased the accessory to your Panasonic VCRs and Movies which can enhance your recorded tapes in two ways. The Video Corrector allows you to adjust the white balance, color intensity, tint and sharpness of tapes being dubbed. The Character Generator allows you to create titles on recordings while taping or dubbing.

The character generator can create 72 kinds of characters; 26 capital and small letters (A-Z/a-z), numbers (0-9), and characters (comma, period, question mark, apostrophe, colon, slash, dash, exclamation point, ■, and & sign). In addition, letters, numbers, and characters may be displayed in these four sizes:

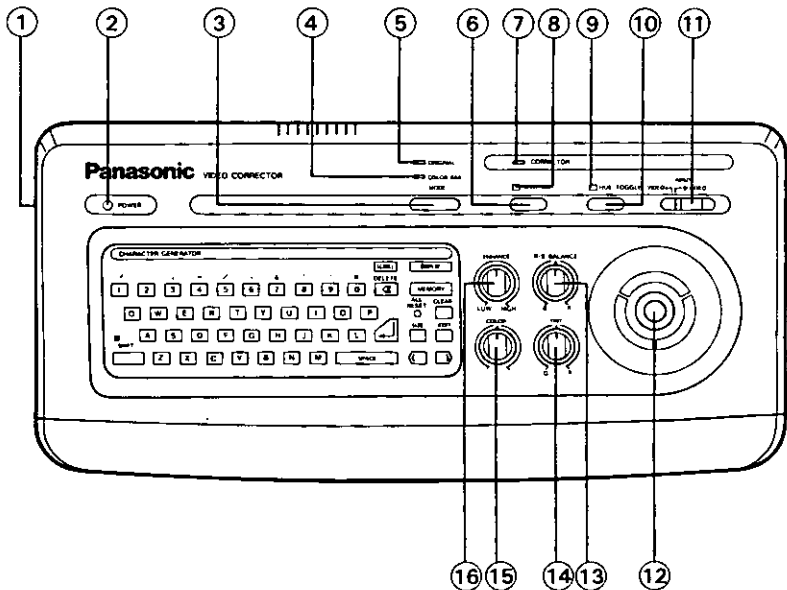
Aa Aa Aa Aa

The titler can contain up to 8 pages of memory with backup to store your titles for up to one week when not using external power.

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LOCATION AND DESCRIPTION OF FEATURES

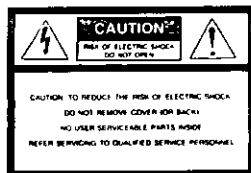


Equipment subject to minor appearance and specification changes.

WARNING:

TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS EQUIPMENT TO RAIN OR MOISTURE.

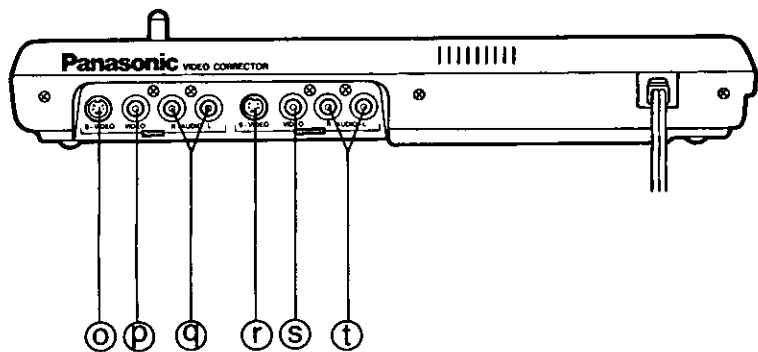
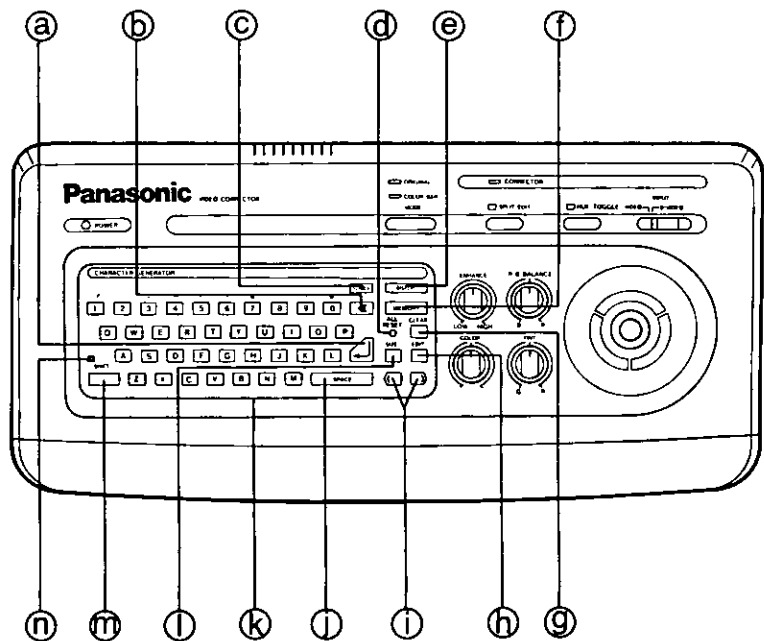
The following symbols/markings are located under the unit.



This symbol warns the user that uninsulated voltage within the unit may have sufficient magnitude to cause electric shock. Therefore, it is dangerous to make any kind of contact with any inside part of this unit.

This symbol alerts the user that important literature concerning the operation and maintenance of this unit has been included. Therefore, it should be read carefully in order to avoid any problems.

- ① **POWER**
Turns the POWER ON and OFF.
- ② **POWER INDICATOR**
Lights when the power is ON.
- ③ **MODE SELECTOR:** Press to select the "ORIGINAL" mode, bypassing the Video Corrector. Press again to select the "CORRECT" mode, to use the Video Corrector controls. Press a third time for the "COLOR BAR" mode, to adjust your TV's color reproduction.
- ④ **COLOR BAR INDICATOR**
Appears when the MODE SELECTOR is set to the "COLOR BAR" mode.
- ⑤ **ORIGINAL INDICATOR**
Appears when the MODE SELECTOR is set to the "ORIGINAL" mode. Video (and S-VIDEO) signals are throughput from one Video Input Source directly to another Video (S-VIDEO) Editing VCR.
- ⑥ **SPLIT/EDIT**
When pressed ON, the TV screen will show the original source image on the left and a color corrected image from the same source on the right side. Press this button and the DISPLAY button to enter into the EDIT mode.
- ⑦ **CORRECT INDICATOR**
Appears when the MODE SELECTOR is set to the "CORRECT" mode.
- ⑧ **SPLIT/EDIT INDICATOR**
Appears when the SPLIT/EDIT button is pressed ON.
- ⑨ **HUE TOGGLE INDICATOR**
Appears when the HUE TOGGLE key is pressed ON.
- ⑩ **HUE TOGGLE**
When pressed ON, the COLOR BALANCE lever is operable.
- ⑪ **INPUT**
Selects the signal source through the VIDEO IN or S-VIDEO INPUT Connector on the Video Corrector.
- ⑫ **COLOR BALANCE LEVER**
Adjust this lever to balance the colors in the image in relation to the white areas of the picture (called White Balance) to get the most natural color reproduction.
- ⑬ **R/B (RED/BLUE) BALANCE**
When the MODE SELECTOR is set to "CORRECT", this control lets you get the precise white balance.
- ⑭ **TINT**
When the MODE SELECTOR is set to "CORRECT", this control lets you adjust for the most natural fleshtones.
- ⑮ **COLOR**
When the MODE SELECTOR is set to "CORRECT", this control lets you adjust the intensity of colors.
- ⑯ **ENHANCE**
When the MODE SELECTOR is set to "CORRECT", using this control compensates for the loss of clarity in object outlines when dubbing tapes.



- (a) RETURN**
When pressed, allows you to start a new line of text starting at the left-hand side of the screen.
- (b) DELETE**
When pressed, the character to the left of the flashing cursor is deleted, and the flashing cursor moves to this position.
- (c) SCROLL**
Pressing the SCROLL Button causes the current title page in Normal mode to be displayed and to begin scrolling from there to the end of page 8 (You may change scroll direction with the SHIFT Button).
Press SCROLL anytime to stop and start scrolling.
- (d) ALL RESET**
Used to clear all 8 pages of memory. To activate, press with a small pointed object such as a pen point.
- (e) DISPLAY (ON/OFF)**
When ON, titles can be created and/or called up from MEMORY for editing.
- (f) MEMORY**
When pressed, stored titles are retrieved. The flashing cursor (dot or character) will appear in the upper left corner. When the EDIT function is OFF, the memory key functions as a recall button recalling the titles you have composed in sequence, starting with page 1.
Note: 8 pages of titles can be retained and recalled.
- (g) CLEAR**
Used in Edit mode. Completely erases the page being displayed and moves the flashing cursor (dot) to the upper left corner to allow you to start over.
- (h) EDIT**
Used to create, edit and display titles. Press the SPLIT/EDIT, DISPLAY and this button to turn on the EDIT mode. Page number will appear in the upper right corner. To release from the EDIT mode, press this button again.
Note: If there is a blank page in memory, you will see several rows of dots across the screen. This allows you to create or change the title. When in the NORMAL (EDIT-OFF) mode the memorized titles are displayed without dots. No editing can be done when in the NORMAL mode.
- (i) CURSOR KEYS**
Located on the keyboard. Used to locate the position where you want to add or change the text.
- (j) SPACE**
When pressed, will leave spaces between words, characters, and numbers. Multiple presses leave multiple spaces.

(k) KEYBOARD

When keys are individually pressed and released, words and characters are generated and displayed on the title screen in the EDIT mode. The letters, numbers, and characters are arranged as a typewriter keyboard complete with shift (for capital letters and characters, and for changing the direction of SCROLL), space bar, and delete character functions.

Note: When a key is held down, individual letters, numbers, and characters will repeat themselves until the key is released.

(l) SIZE

Used in Edit mode. Allows you to change the size of characters and numbers. Each press of SIZE allows you to advance to one of the four sizes available. Dots are displayed for character positions not used.

(m) SHIFT

When pressed, a green light above the shift key is illuminated and you can capitalize letters and use the characters above the numbers on the keyboard.

Press again to turn the green light off and return to lower case characters. SHIFT also changes the direction of SCROLL.

(n) SHIFT INDICATOR

A green light above the word SHIFT illuminates when SHIFT is pressed.

(o) S-VIDEO INPUT CONNECTOR (DIN CONNECTOR)

For S-VIDEO input connection from another S-VHS VCR or an S-VHS Movie.

(p) VIDEO INPUT CONNECTOR

For video input connection from another VCR or other Video Source's output connector.

(q) AUDIO INPUT CONNECTOR (L/R)

For connection from another VCR or other Audio Source's output connector.

(r) S-VIDEO OUTPUT CONNECTOR (DIN CONNECTOR)

For S-VIDEO output connection to a TV with S-VIDEO input connector or another S-VHS VCR.

(s) VIDEO OUTPUT CONNECTOR

For video output connection to a monitor TV or another VCR.

(t) AUDIO OUTPUT CONNECTOR (L/R)

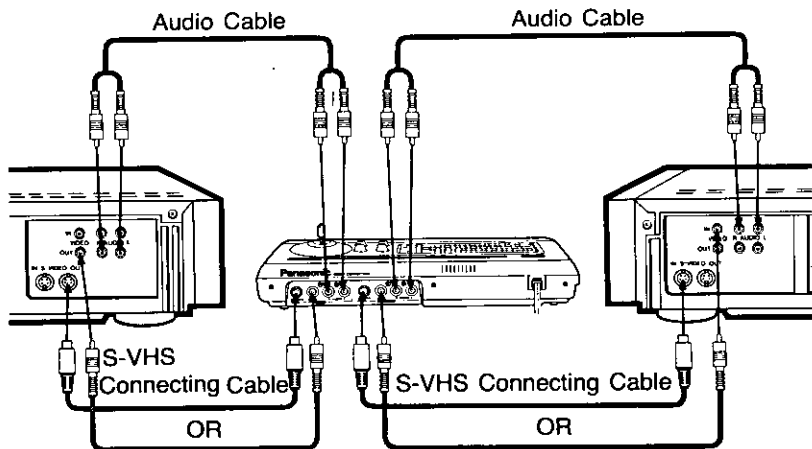
For connection to an audio input connector on a monitor TV or another VCR.

ALL YOU CAN DO WITH YOUR VIDEO CORRECTOR

- Adjust the color, tint and white balance of dubbed tapes.
- Enhance the picture quality of dubbed tapes.
- Adjust your TV's color reproduction using the Video Corrector's Color Bar.
- On a divided TV screen, view the original picture and the corrected version during picture adjustments.

HOW TO CONNECT THE VIDEO CORRECTOR TO THE VCRs BEFORE DUBBING TAPES

Be sure to turn the VIDEO CORRECTOR and the VCRs OFF before connecting them.



A. VCR 1 — VIDEO CORRECTOR:

1. Connect VIDEO OUT (or S-VIDEO OUT) on VCR 1 to VIDEO IN (OR S-VIDEO IN) on the VIDEO CORRECTOR.
2. Connect the AUDIO OUT (L/R) on VCR 1 to AUDIO IN (L/R) on the VIDEO CORRECTOR.★

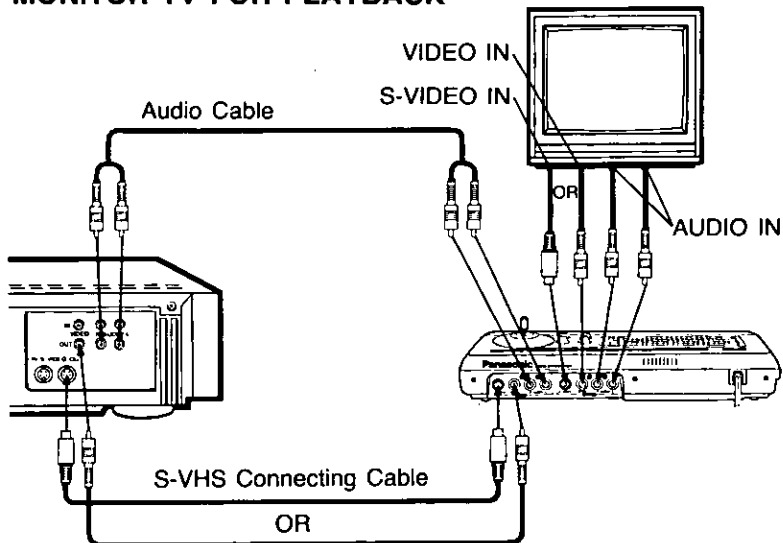
B. VIDEO CORRECTOR — VCR 2:

1. Connect VIDEO OUT (or S-VIDEO OUT) on the VIDEO CORRECTOR to VIDEO IN (or to S-VIDEO IN) on VCR 2.
2. Connect AUDIO OUT (L/R) on the VIDEO CORRECTOR to VCR 2.★
3. Connect VCR 2 to a Monitor TV.

If VCR 1 or VCR 2 are non-stereo, connection may be made to either the R or L Channel of AUDIO IN/OUT on the VIDEO CORRECTOR.

★ You may connect the AUDIO OUT terminal on VCR 1 to the AUDIO IN terminal on VCR 2, bypassing the VIDEO CORRECTOR, in place of both steps 2 above.

HOW TO CONNECT THE VIDEO CORRECTOR TO A MONITOR TV FOR PLAYBACK



1. Connect VCR 1 to the VIDEO CORRECTOR as described under A, steps 1 and 2.
2. Connect VIDEO OUT (or S-VIDEO OUT) on the VIDEO CORRECTOR to the MONITOR TV VIDEO IN (or S-VIDEO IN) terminal.
3. Connect AUDIO OUT on the VIDEO CORRECTOR to the MONITOR TV AUDIO IN terminal.

For S-VHS VCR's use an S-VHS Connecting Cable when making connections to the VIDEO CORRECTOR. If the Monitor TV also has an S-VHS jack, use an S-VHS Connecting Cable to connect it to the VIDEO CORRECTOR.

HOW TO ADJUST THE PICTURE

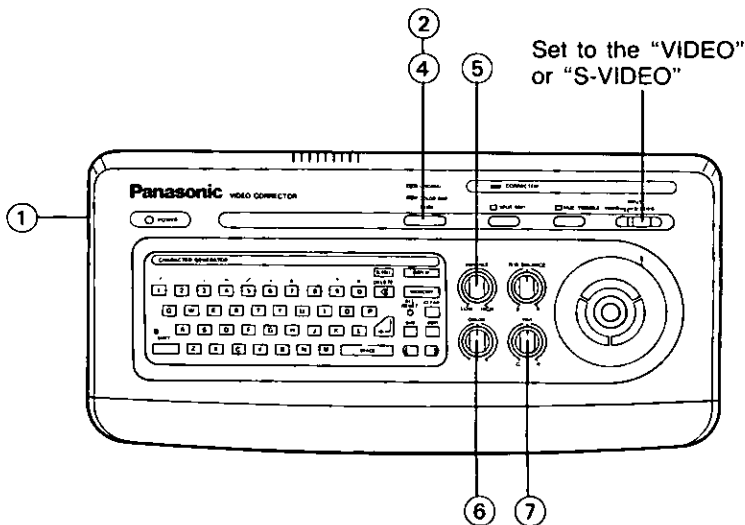
Be sure the **INSTALLATION** on page 7 or 8 has been completed before proceeding to step 1 below and select the **INPUT** switch to "VIDEO" or "S-VIDEO" according to the input source.

For TV's picture adjustments

1. Press **POWER ON** for the Source VCR (and the Editing VCR) and the **VIDEO CORRECTOR**.
2. Press the **MODE SELECTOR** on the **VIDEO CORRECTOR** until the "COLOR BAR INDICATOR" lights. The **COLOR BAR** screen appears on your TV.
3. Adjust the **PICTURE CONTROLS** on your TV to balance the TV image reproduction.

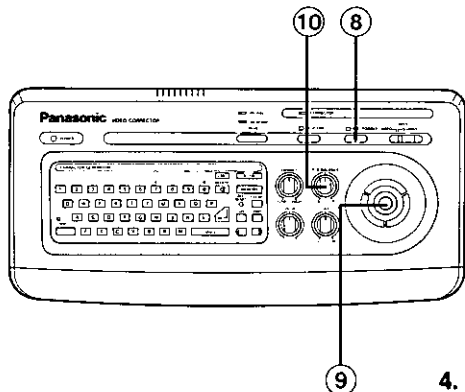
For picture adjustments

4. Press the **MODE SELECTOR** on the **VIDEO CORRECTOR** until the "CORRECT INDICATOR" lights.
5. Use the **ENHANCE CONTROL** to control the clarity of object outlines.
6. Use the **COLOR CONTROL** to adjust the intensity of color.
7. Use the **TINT CONTROL** to adjust for the most accurate fleshtones.



For the White Balance Adjustment

8. Press the HUE TOGGLE button on the VIDEO CORRECTOR so that the HUE TOGGLE indicator lights.
9. Adjust the COLOR BALANCE LEVER to balance the colors in the image to get the most natural color reproduction.
10. Use the R/B BALANCE CONTROL to get the precise white balance.



SPLIT SCREEN

During picture adjustments, you can view both the original picture and the corrected version at the same time on a divided screen.

1. Press POWER ON on the Source VCR (and the Editing VCR) and the VIDEO CORRECTOR.
2. Press the MODE SELECTOR on the VIDEO CORRECTOR until the "CORRECT INDICATOR" lights.
3. Press the SPLIT button so that the SPLIT indicator and the divided TV screen appear.



ORIGINAL IMAGE CORRECTED IMAGE

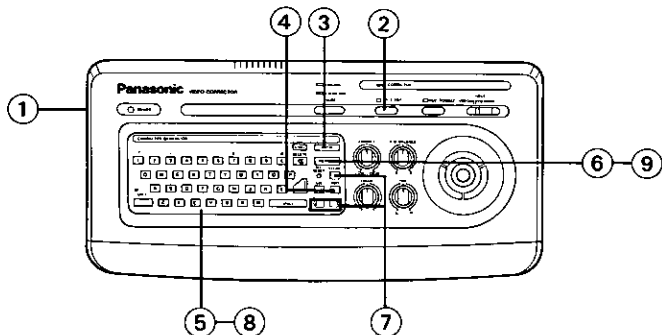
4. Use the PICTURE CONTROLS on the VIDEO CORRECTOR to adjust for your favorite colors. For White Balance Adjustment follow STEPS 8-10 above.

HOW TO CREATE TITLES

Be sure to push the ALL RESET button when composing a title for the first time, otherwise random characters may appear on the title screen.

1. Turn POWER ON.
2. Press SPLIT/EDIT to ON.
3. Press DISPLAY ON/OFF to ON.
4. Press EDIT to ON. Look for a dot pattern on the TV screen. Each dot represents available locations for a character and provides a visual reference to the character size that is selected.
5. Noting the cursor position, compose your title using the keyboard buttons and appropriate function buttons (i.e., MEMORY, CURSOR, CLEAR, SIZE).
 - The MEMORY key is used to save the partly edited or completely composed title in memory, or to recall what you have stored.
 - CURSOR keys are used to locate the position where you want to add or change the text, using the keyboard.
6. Press MEMORY to store your title. (The next page of titles will automatically appear.)
7. To edit by changing a few characters of the title on a page, use the CURSOR keys to move the cursor to the area, and type in new text.

To replace or create an entire page, press CLEAR and the cursor will be re-positioned in the upper left corner.
8. Edit or compose your title.
9. Press MEMORY again to store your title, and repeat Steps 5-8.



HOW TO RECALL YOUR STORED TITLES

1. Turn POWER ON.
Be sure that the SPLIT/EDIT is OFF.

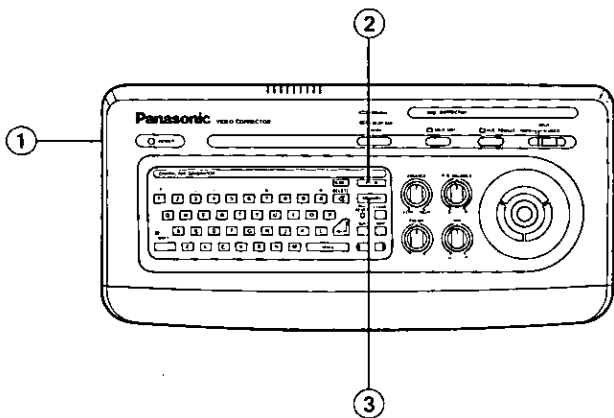
2. Press DISPLAY ON/OFF to ON.

NOTE: When EDIT is OFF, the keyboard is inoperable. If dots are showing in the title, press EDIT again, to turn it OFF. The "PAGE INDICATION" is not displayed when the EDIT mode is OFF.

3. Press MEMORY.

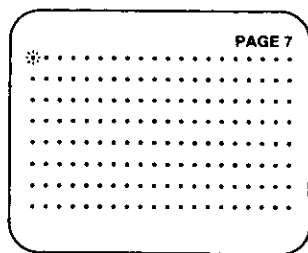
NOTE: Keep pressing MEMORY to display your titles in sequence. Remember, you have up to 8 pages of memory that you can recall.

NOTE: The electric back-up system retains the titles in memory for about a week in the event of power failure. No back-up battery is required.

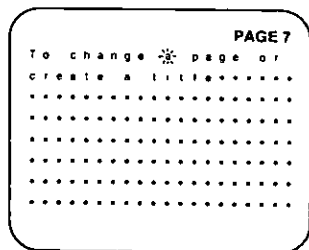


HOW TO EDIT A TITLE

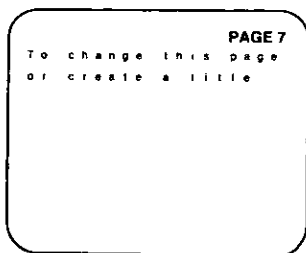
1. Turn POWER ON.
2. Press SPLIT/EDIT to ON.
3. Press DISPLAY ON/OFF to ON.
4. Press MEMORY to call up the title you want to change.
5. Press EDIT to ON.
(A dot pattern will be added to the page display.)
6. Press CLEAR to erase the current page and start over, or use the CURSOR LEFT/RIGHT buttons and/or the RETURN key to move the cursor to the place you wish to begin editing.
7. Compose or change your title.
8. Press MEMORY to store a new title. (The next page of titles will automatically appear.)



EDIT MODE



EDIT MODE



NORM MODE

HOW TO SCROLL TEXT

1. Turn POWER ON.
2. Press DISPLAY ON/OFF to ON.
3. Repeatedly press MEMORY until the page where scrolling is to begin appears.
4. Press SCROLL.

NOTE: You can view all 8 pages of titles stored in the memory, even if pages are blank, by using the SCROLL function. To pause the SCROLL, press the SCROLL button again. With SCROLL stopped, press the DISPLAY or MEMORY key to release the SCROLL mode. At the end of page 8, the title display automatically turns off. If the DISPLAY key is pressed, page 1 will appear.

5. To change the direction of scrolling during pause, press DISPLAY twice, then SHIFT, then SCROLL. If the SHIFT INDICATOR Light is ON, pressing the SCROLL button will move the titles down the screen, turn it off to scroll up.

HOW TO CLEAR ALL TITLES

To clear every title in memory at one time, use a thin object (such as a pen point or toothpick) to press ALL RESET.

CAUTION: This will erase all 8 pages of titles.

HOW TO RECORD TITLES ON VIDEO TAPES YOU ARE COPYING TO ANOTHER VCR

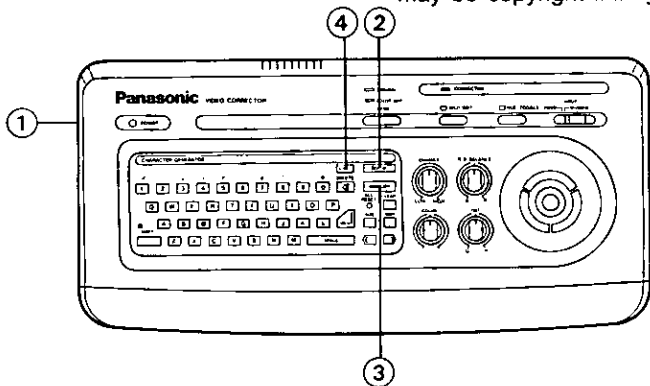
Be sure that the SPLIT/EDIT is OFF.

- Set up the Source VCR, and play the tape to the point where dubbing will begin.

Be sure to adjust the picture or prepare the page you want to record if adding titles.

- Place the Editing VCR in RECORD and advance tape to a suitable starting location.
- Make your duplicate as usual adding the titles.

NOTE: You are cautioned that the unauthorized exchanging and/or copying of copyrighted recordings may be copyright infringement.



SPECIFICATIONS

Power Source:	120 V AC, 60 Hz
Power Consumption:	Approx. 9 watts
Video Input/Output (RCA):	1.0 Vp-p, 75 ohm unbalanced
S-VIDEO Input/Output (DIN):	S-VIDEO CONNECTOR (SEPARATED YC CONNECTOR): Y CONNECTOR 1.0 Vp-p, 75 ohm unbalanced C CONNECTOR 0.286 Vp-p, 75 ohm unbalanced
Weight:	2.2 lbs. (1 kg)
Dimensions:	12-5/8" (W) × 2-1/2" (H) × 6-1/16" (D) 320 (W) × 64 (H) × 154 (D) mm

Designs and specifications are subject to change without notice.

PANASONIC
HAWAII, INC.
Ewa Beach P.O.Box 774
Honolulu, Hawaii
96808-0774

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Secaucus, New Jersey 07094

PANASONIC SALES COMPANY, DIVISION
OF MATSUSHITA ELECTRIC OF PUERTO RICO, INC. ("PSC")
San Gabriel Industrial Park
65th Infantry Avenue KM 9.5
Carolina, Puerto Rico 00630

PANASONIC Video Equipment Limited Warranty

Panasonic Company, PHI or PSC will repair this product, free of charge in the U.S.A. or Puerto Rico in the event of a defect in materials or workmanship as follows:

Parts (Except camera pick-up tube/ CCD Image Sensor) -- New or rebuilt parts in exchange for defective parts for one (1) year from the date of original purchase.

Camera Pick-Up Tube/CCD Image Sensor -- New pick-up tube/CCD Image Sensor in exchange for defective pick-up tube/CCD Image Sensor for six (6) months from the date of original purchase.

Batteries (If included) -- New rechargeable batteries in exchange for defective rechargeable batteries for ten (10) days from the date of original purchase. Non-rechargeable batteries are not warranted.

Tape (If included) -- New video cassette tape in exchange for a defective video cassette tape for five (5) days from the date of original purchase.

Labor -- Carry-in or mail-in service for ninety (90) days from the date of original purchase. After the labor warranty period is over, purchaser pays for all labor charges for removal and installation of parts and camera pick-up tube/CCD Image Sensor.

Carry-in or mail-in service in the continental U.S.A. can be obtained during the warranty period from a Matsushita Services Company (MSC) Factory Servicenter listed in the Servicenter Directory. Or call 800-447-4700, toll free, to locate an Authorized MSC Servicenter. Carry-in or mail-in service in Puerto Rico or Hawaii can be obtained during the warranty period by calling the telephone numbers listed in the Servicenter Directory.

This warranty is extended only to the original purchaser. A purchase receipt or other proof of date of original purchase will be required before warranty performance is rendered.

(See next page)

(Continue from last page.)

This warranty only covers failures due to defects in materials or workmanship which occur during normal use. It does not cover normal maintenance, including, but not limited to, video and audio head cleaning, or failures due to damage which occurs in shipment or failures which are caused by products not supplied by Panasonic Company, PHI or PSC, or failures which result from accident, misuse, abuse, neglect, mishandling, misapplication, alteration, faulty installation, set-up adjustments, improper antenna, inadequate signal pick-up, adjustment of consumer controls, modification or commercial use of the product or service by anyone other than a factory Servicenter or authorized Servicenter or damage that is attributable to acts of God.

LIMITS AND EXCLUSIONS

There are no express warranties except as listed above. PANASONIC COMPANY, PHI AND PSC SHALL NOT BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING FROM THE USE OF THIS PRODUCT, OR ARISING OUT OF ANY BREACH OF THIS WARRANTY. DURATION OF IMPLIED WARRANTIES, IF ANY, IS LIMITED TO ONE (1) YEAR. Some states do not allow the exclusion or limitation of incidental or consequential damages, or limitations on how long an implied warranty lasts, so the above exclusions or limitations may not apply to you.

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

If a problem with your product develops during your warranty period, you may contact your dealer or Servicenter. If the problem is not handled to your satisfaction, then write to the Consumer Affairs Division at the company address indicated above.

If you ship the product

Carefully pack and send it prepaid, adequately insured and preferably in the original carton.

Attach a postage-affixed letter, detailing the complaint, to the outside of the carton.

DO NOT send the product to the Executive or Regional Sales offices. They are NOT equipped to make repairs.

This equipment has been tested and found to comply with the limits for a Class B computing device in accordance with the specifications set forth in Subpart J of Part 15 of the FCC Rules. If this equipment does cause interference to radio or television reception which can be determined by turning the equipment on and off, use the equipment in another location and/or utilize an electrical outlet different from that used by the receiver.

The serial number of this product may be found on the surface of the unit. No others have the same serial number as yours. You should record the number and other vital information here and retain this book as a permanent record of your purchase to aid identification in case of theft.

Date of Purchase

Dealer Purchased From

Dealer Address

Dealer Phone No.

Model No. PV-CC50

Serial No.

Panasonic®

Panasonic Company
Division of Matsushita Electric
Corporation of America
One Panasonic Way, Secaucus,
New Jersey 07094

Panasonic Hawaii, Inc.
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P.O. Box 774
Honolulu, Hawaii 96808-0774

Panasonic Sales Company,
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San Gabriel Industrial Park
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Carolina, Puerto Rico 00630