

TOSHIBA

VHS

Video Cassette Recorder

M-43

OWNER'S MANUAL



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OTHERS

Welcome to the high quality picture world created by the TOSHIBA M-43. Read this manual carefully before use, and enjoy the various convenient functions of this VCR.

PLEASE READ

CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

AVIS
RISQUE DE CHOC ELECTRIQUE
NE PAS OUVRIR



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

WARNING: TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE. DANGEROUS HIGH VOLTAGES ARE PRESENT INSIDE THE ENCLOSURE. DO NOT OPEN THE CABINET. REFER SERVICING TO QUALIFIED PERSONNEL ONLY.

The VCR is not disconnected from the AC power source as long as it is connected to the wall outlet, even if the VCR itself has been turned off.

USER-INSTALLER CAUTION: YOUR AUTHORITY TO OPERATE THIS FCC CERTIFIED EQUIPMENT COULD BE VOIDED IF YOU MAKE CHANGES OR MODIFICATIONS NOT EXPRESSLY APPROVED BY THIS PARTY RESPONSIBLE FOR COMPLIANCE TO PART 15 OF THE FCC RULES.

Note to CATV system installer:

This reminder is provided to call the CATV system installer's attention to Article 820-40 of the NEC that provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building, as close to the point of cable entry as practical.

Copyright

It is permissible to record television programs, film video tapes and other material only in the event that third party copyrights and other rights are not violated.

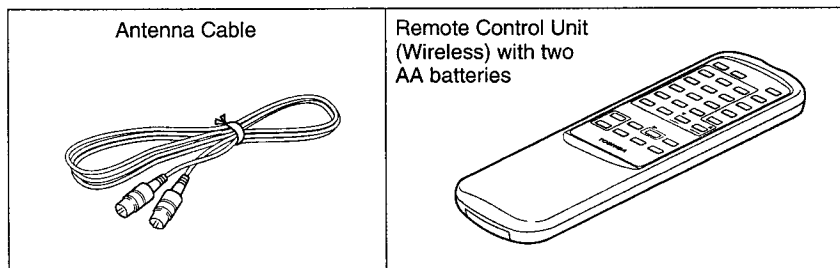
In the spaces provided below, record the Model and Serial No. located at the rear of your video cassette recorder.

Model No. _____ Serial No. _____

Retain this information for future reference.

Accessories

Check to make sure that you have all of the following accessories before disposing of the packing materials.



INTRODUCTION

Important Precautions

Save Original Packing Materials

The original shipping carton and packing materials will come in handy if you ever have to ship your VCR. For maximum protection repack the set as it was originally packed at the factory.

Moisture Condensation

Never operate this unit immediately after moving it from a cold location to a warm location. When the VCR is exposed to such a change in temperature, moisture may condense on the cylinder inside the machine. If the VCR is operated as it is, the tape may stick to the tape head and cause damage to the tape and/or the deck. In order to prevent this potential damage, the dew detector is incorporated inside the VCR. When moisture is present inside the VCR, the DEW indicator in the display panel will blink. Under these circumstances, do not operate the VCR for about 2 hours. Leave the power cord connected so that the VCR can dry out.
Please make sure that the DEW indicator is not on whenever you operate the VCR.

Compatibility

This video cassette recorder (VCR) is compatible with any other VCR bearing the VHS logo. HQ VHS equipment is also compatible with existing non-HQ VHS equipment.

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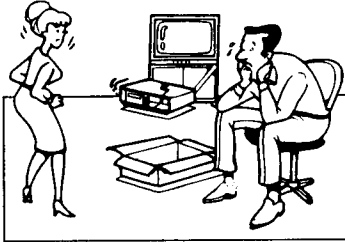
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IMPORTANT SAFEGUARDS

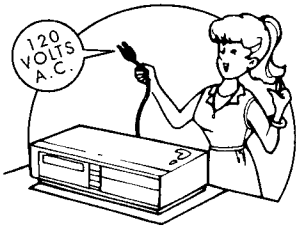
CAUTION: PLEASE READ AND OBSERVE ALL WARNINGS AND INSTRUCTIONS GIVEN IN THE OWNER'S MANUAL FOR THIS UNIT AND THOSE MARKED ON THE UNIT. RETAIN THIS BOOKLET FOR FUTURE REFERENCE.

This set has been designed and manufactured to assure personal safety. However, improper use can result in electric shock or fire hazard. The safeguards incorporated in this unit will protect you if you observe the following procedures for installation, use and servicing. This unit is fully transistorized and does not contain any parts that can be repaired by the user.

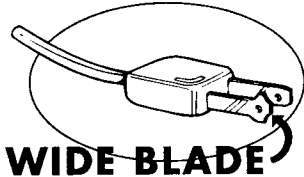
DO NOT REMOVE THE CABINET COVER, OR YOU MAY BE EXPOSED TO DANGEROUS VOLTAGES. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.



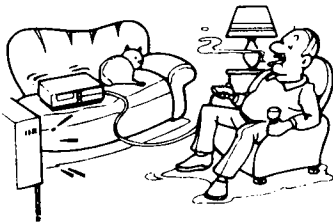
1. After unpacking this video product, read the owner's manual carefully, and follow all the operating and other instructions.



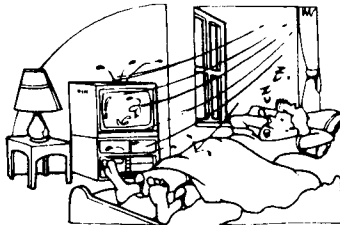
2. This video product should be operated only from the type of power source indicated on the marking labels. If you are not sure of the type of power supply to your home, consult your sales person or your local power company. For video products intended to operate from battery power, or other sources, refer to the operating instructions.



3. This video 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 should still fail to fit, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the polarized plug.



4. Slots and vents in the cabinet are provided for ventilation and to ensure reliable operation of the video product and to protect it from overheating and these vents must not be blocked or covered. The vents should never be blocked by placing the video product on a bed, sofa, rug or other similar surface. This video product should never be placed near or over a radiator or heat register. This video product should not be placed in a built-in installation such as a bookcase or rack unless proper ventilation is provided or the manufacturer's instructions have been adhered to.



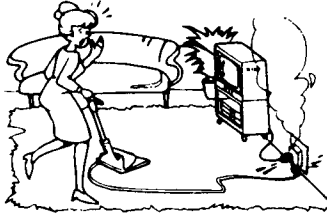
5. Do not expose this video product to rain or use near water. For example, near a bath tub, wash bowl, kitchen sink, or laundry tub, in a wet basement, or near a swimming pool and the like.



6. Unplug the video product from wall outlet before cleaning. Use only a soft damp cloth and never use benzine, thinner or other solvents for cleaning.



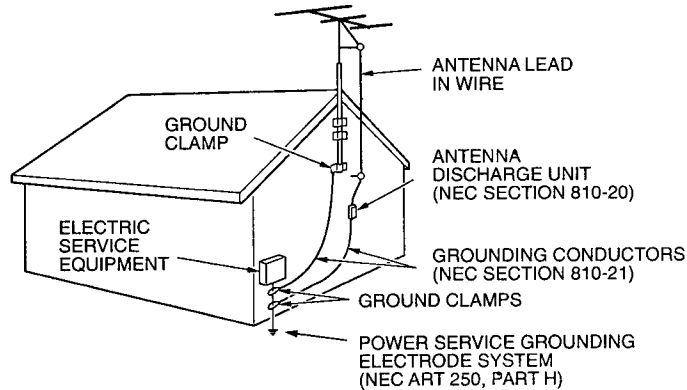
7. Do not allow anything to rest on the power cord. Do not locate this video product where the cord will be walked on.



8. Do not overload wall outlets and extension cords as this can result in fire or electric shock.

9. If an outside antenna or cable system is connected to the video product, be sure the antenna or cable system is grounded so as to provide some protection against voltage surges and built-up static charges. Section 810 of the National Electrical Code, ANSI/NFPA No.70, provides information with regard 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.

**EXAMPLE OF ANTENNA
GROUNDING AS PER
NATIONAL ELECTRICAL CODE**



S2898A

NEC - NATIONAL ELECTRICAL CODE

10. An outside antenna system should not be located in the vicinity of overhead power lines or 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 such power lines or circuits as contact with them might be fatal.



11. For added protection for this video product receiver 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 video product due to lightning and power-line surges



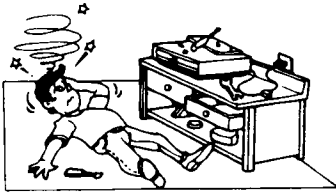
12. An appliance and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the appliance and cart combination to overturn.

13. Never push objects of any kind into this video 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 video product.
14. Do not use attachments not recommended by the video product manufacturer as they may cause hazards.
15. Do not place this video product on an unstable cart, stand, tripod, bracket, or table. The video product may fall, causing serious injury to a child or adult, and serious damage to the appliance. Use only with a cart, stand, tripod, bracket, or table recommended by the manufacturer, or sold with the video product.



16. Unplug this video product from the wall outlet and refer servicing to qualified service personnel under the following conditions:
 - A. When the power-supply cord is damaged.
 - B. If liquid has been spilled, or objects have fallen into the video product.
 - C. If the video product has been exposed to rain or water.
 - D. If the video product does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions as an improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the video product to its normal operation.
 - E. If the video product has been dropped or the cabinet has been damaged.
 - F. When the video product exhibits a distinct change in performance.

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



17. Upon completion of any service or repairs, request the service technicians assurance that only Factory Authorized Replacement Parts that have the same characteristics as the original parts were used, and that routine safety checks have been performed to determine that the video product is in safe operating condition. Unauthorized parts may result in fire, electrical shock, or other hazards.

Features

1. Convenient Functions

1) Counter Function

The tape counter displays the amount of recorded tape. By setting the counter, you can return to any point on the tape easily.

- **Zero Return:** Rewinds or fast forwards the tape to the point where the counter reads "0:00:00" and stops the tape near that point.

2) On-Screen Display

- With the on-screen display, the current VCR function mode or the currently selected TV or CATV channel can be easily confirmed. Settings of timer recording can be also confirmed with the on-screen display.

3) Programmable Timer Recording

6 programs for recording up to 2 weeks is possible.

4) Auto Playback

When a tape without a safety tab is loaded, the following operations start automatically.

- **Full Auto Playback:** If a cassette without a safety tab is loaded when the VCR is turned off, the VCR will automatically turn on and the tape will play back. At the end of the tape, it will automatically rewind to the beginning, and the cassette will eject. Then the VCR will automatically turn off.
- **Auto Playback:** This operation automatically plays back the tape when a cassette without a safety tab is inserted with the VCR power on. When the tape reaches the end, it will automatically rewind to the beginning, and then will stop.
- **Auto Rewind:** This operation automatically rewinds the tape when tape reaches the end.

5) Auto Power On

When a tape is loaded with the VCR power off, power will automatically turn on.

2. Special Effects

- **Picture Search:**
Scans programs while fast forwarding or rewinding the tape, enabling you to watch the picture during this operation.
- **Still Frame:**
Freezes the picture temporarily while playing back the tape.
- **Slow playback:**

3. Others

- **181 Channel Cable Compatible FS (Frequency Synthesized) Tuner:** This FS tuner automatically selects with the highest accuracy, all receivable channels such as those for UHF, VHF and CATV.
- **Multi-Function Fluorescent Indicator Panel**
- **Infrared Remote Control Unit:** The VCR can be operated with the supplied wireless remote control unit for up to a distance of about 23 feet (7 meters.)

INSTALLATION

TV Antenna and VCR Connections

To connect the VCR to a VHF or UHF antenna (Fig. 1), follow the steps below.
 Remove the VHF and/or UHF cables from your TV terminals and reconnect them to the VCR terminals as shown in the diagrams below.

Note
 For VHF or UHF connections follow procedure ①, if you have a 75 ohm coaxial cable, follow procedure ② if you have a 300 ohm twin lead connector (i.e. use an optional 300 - 75 ohm transformer).

Fig. 1 VHF or UHF Reception Areas

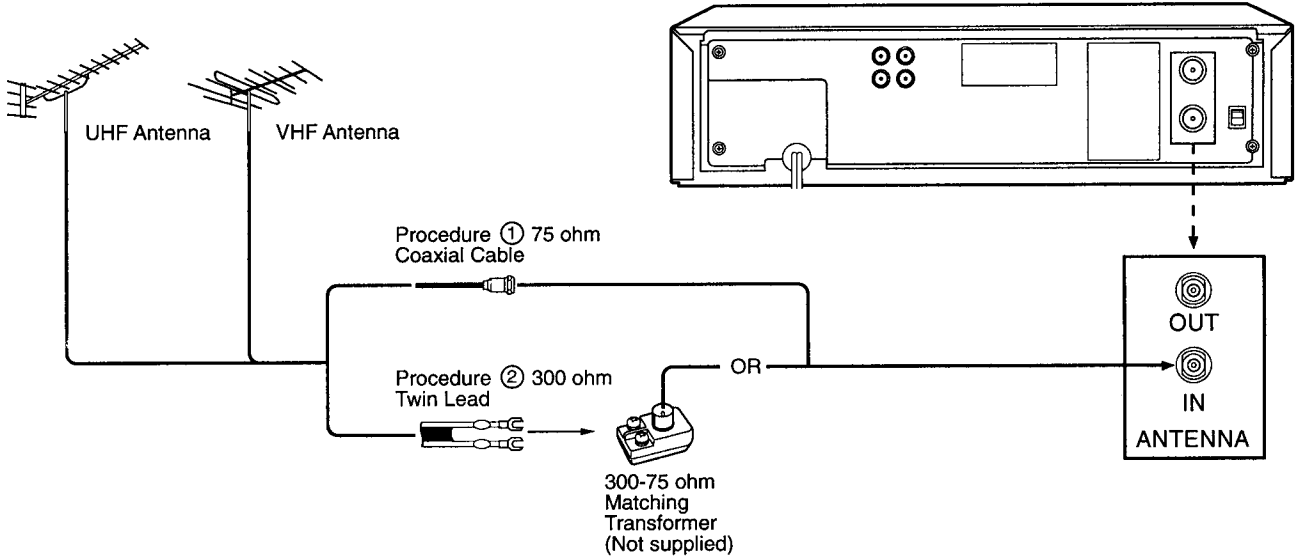
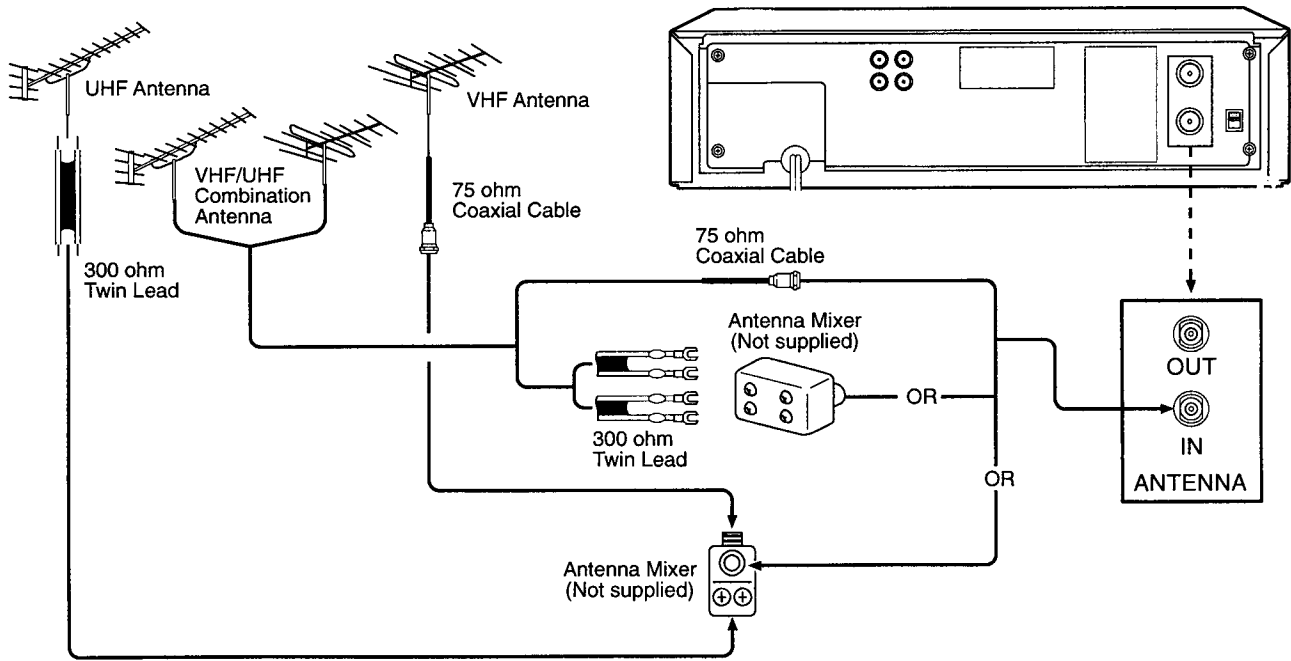


Fig. 2 Combined VHF/UHF Reception Areas



VCR and TV Connections

Connection to TV Antenna Terminals

Fig. 1 VHF (75 ohm/300 ohm) or VHF (75 ohm) Terminal Connection

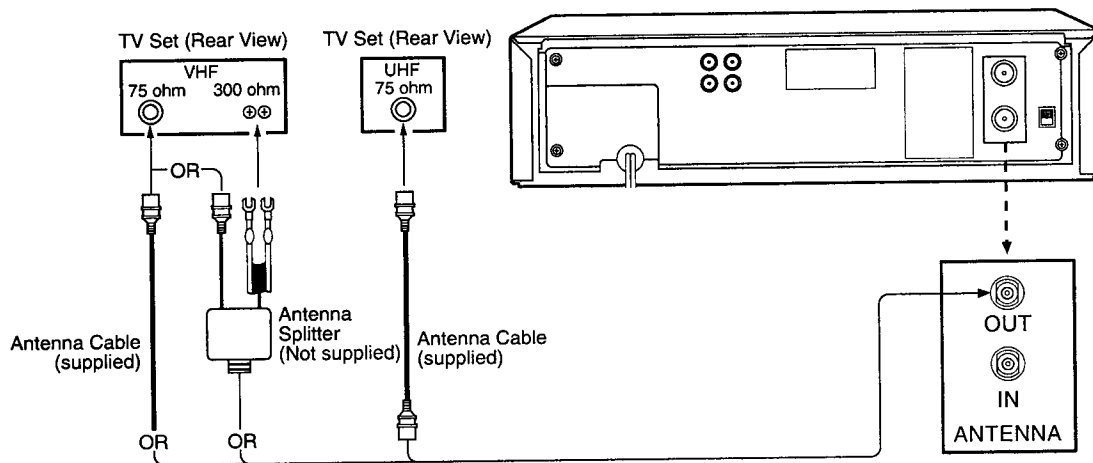
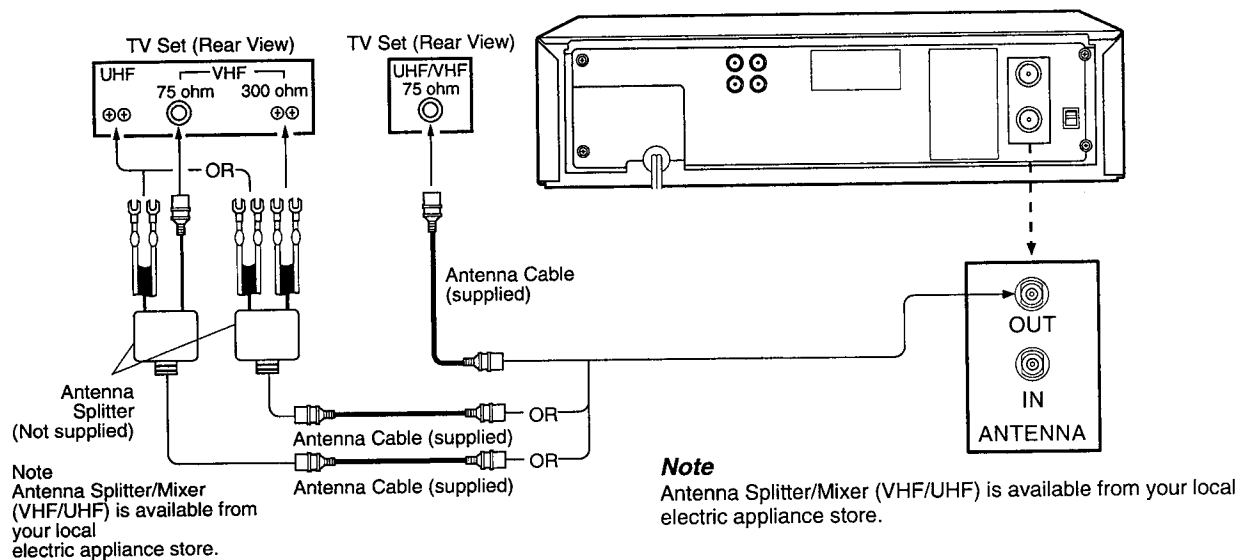
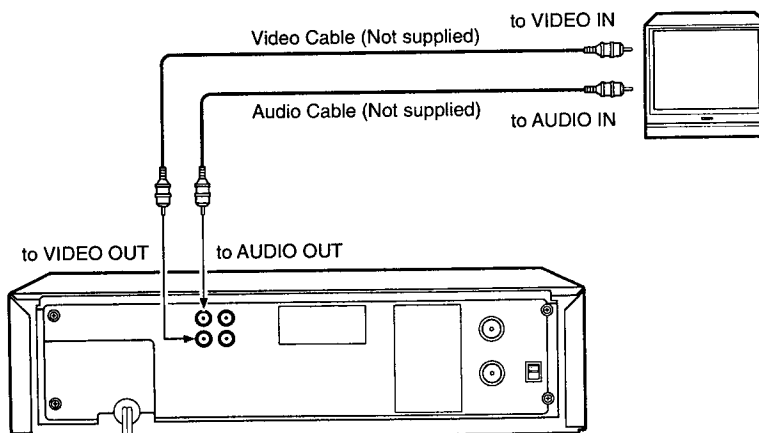


Fig. 2 VHF/UHF (75 ohm/300 ohm or 300 ohm/300 ohm) or VHF/UHF (75 ohm) Terminal Connection



Connection to TV with "VIDEO IN" and "AUDIO IN" Connections

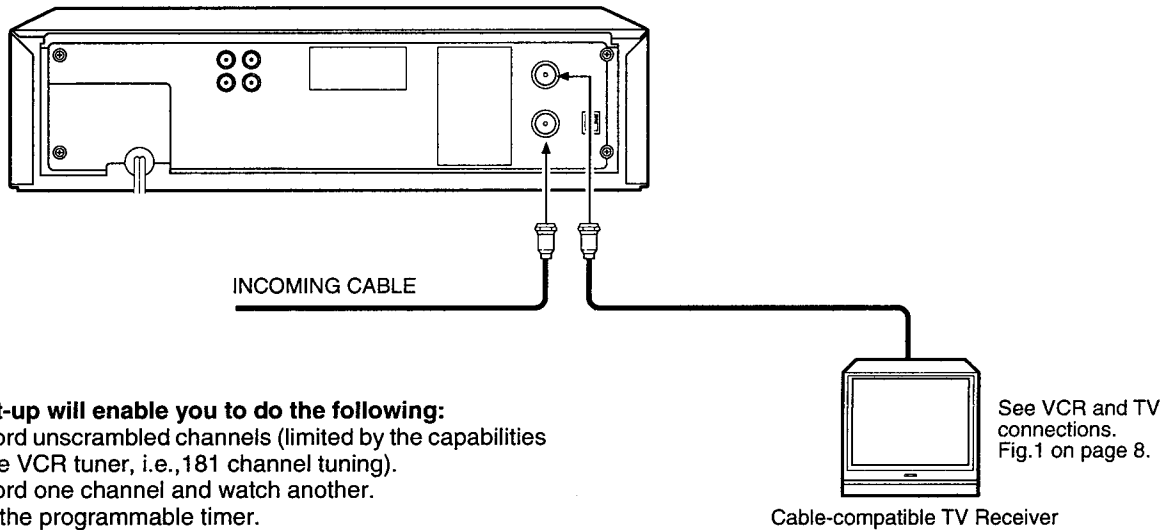


CATV Connections

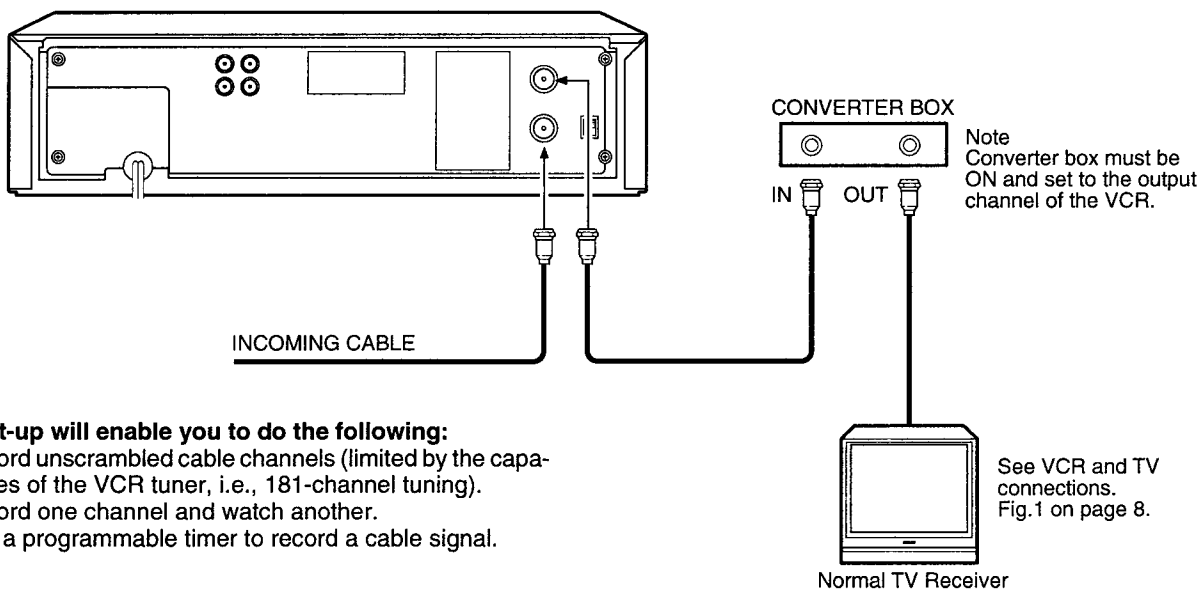
There are several different systems of cable television used today.

We recommend that you consult your cable TV company to make sure that the cable is connected properly to match the cable TV system you want to use.

To Record and Watch Unscrambled Channels



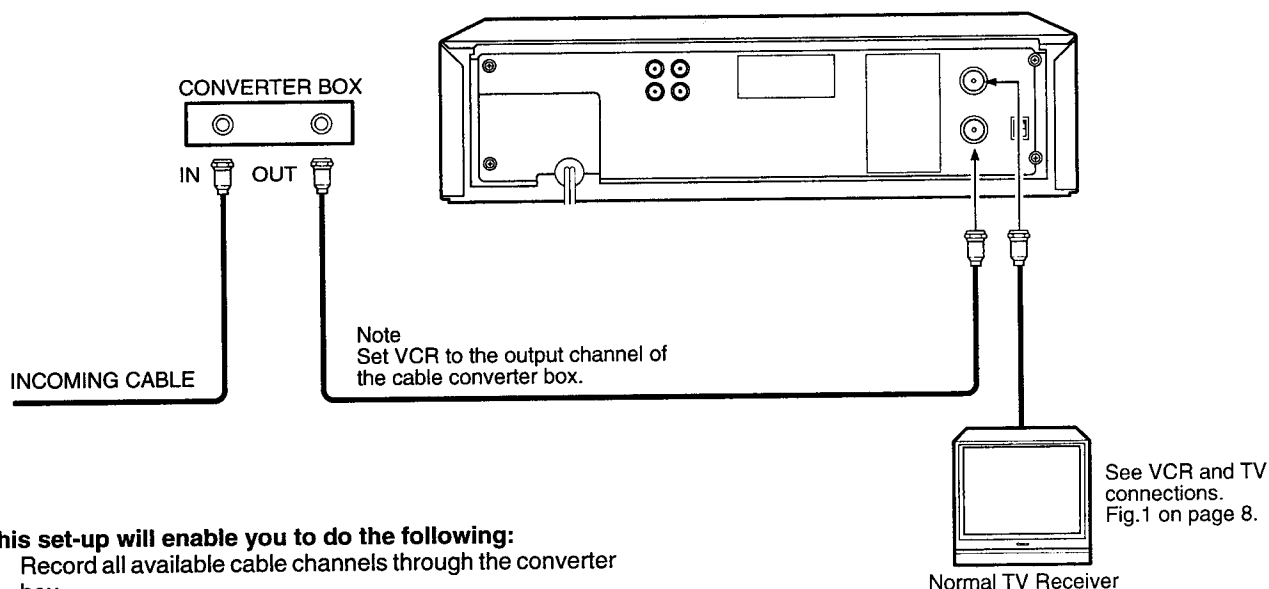
To Record an Unscrambled Channel and Watch Another Channel (Scrambled or Unscrambled)



Notes

- This set-up will not allow you to record scrambled channels.
- When in playback or when using the VCR tuner ("VCR" is selected with the **TV/VCR** button on the remote control unit), the converter box must be set to channel 3 or 4.
- When the TV position is selected with the **TV/VCR** button, the converter box can tune into any available channel.

To Record and Watch the Same channel (Unscrambled/Scrambled)



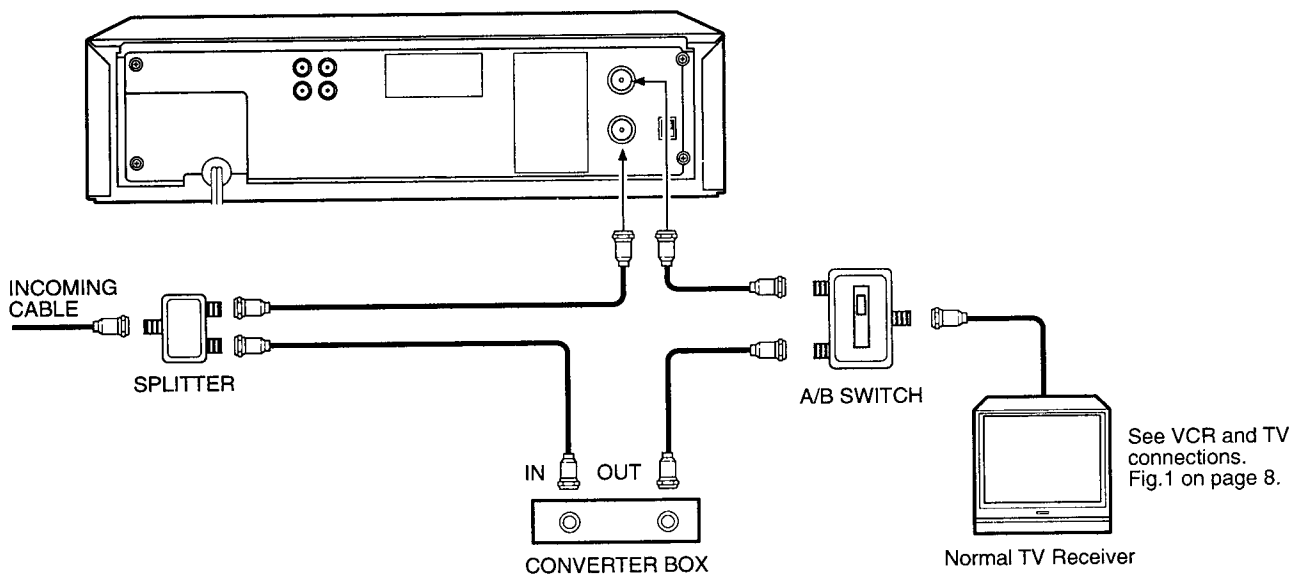
This set-up will enable you to do the following:

- Record all available cable channels through the converter box.
- Use the programmable timer or record only the channel selected at the converter box.

Note

This set-up will not allow you to record one channel and watch another.

To Record an Unscrambled Channel and Watch Only Unscrambled or Scrambled Channels



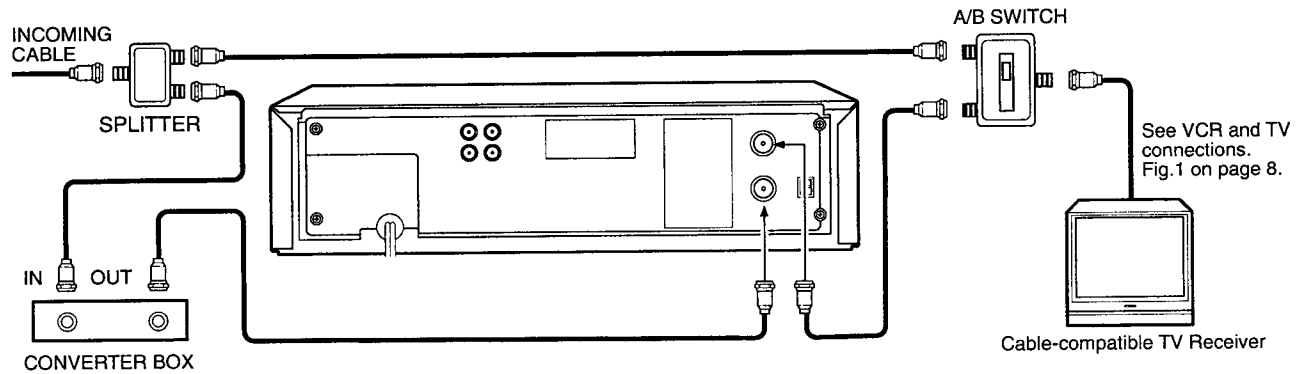
This set-up will enable you to do the following:

- Record an unscrambled cable channel.
- Monitor all cable channels from converter box when A/B switch is in "B" position.
- Watch one channel and record another.
- Use VCR remote control when A/B switch is in "A" position.
- Use programmable timer to record cable signal.

Notes

- This set-up will not allow you to record scrambled channels.
- Select the channel to watch on the converter.
- Set the TV channel selector to the output of the converter and VCR.

To Record and Watch the Same Channel (Scrambled or Unscrambled)
To Record one Unscrambled Channel and Watch Another Unscrambled Channel



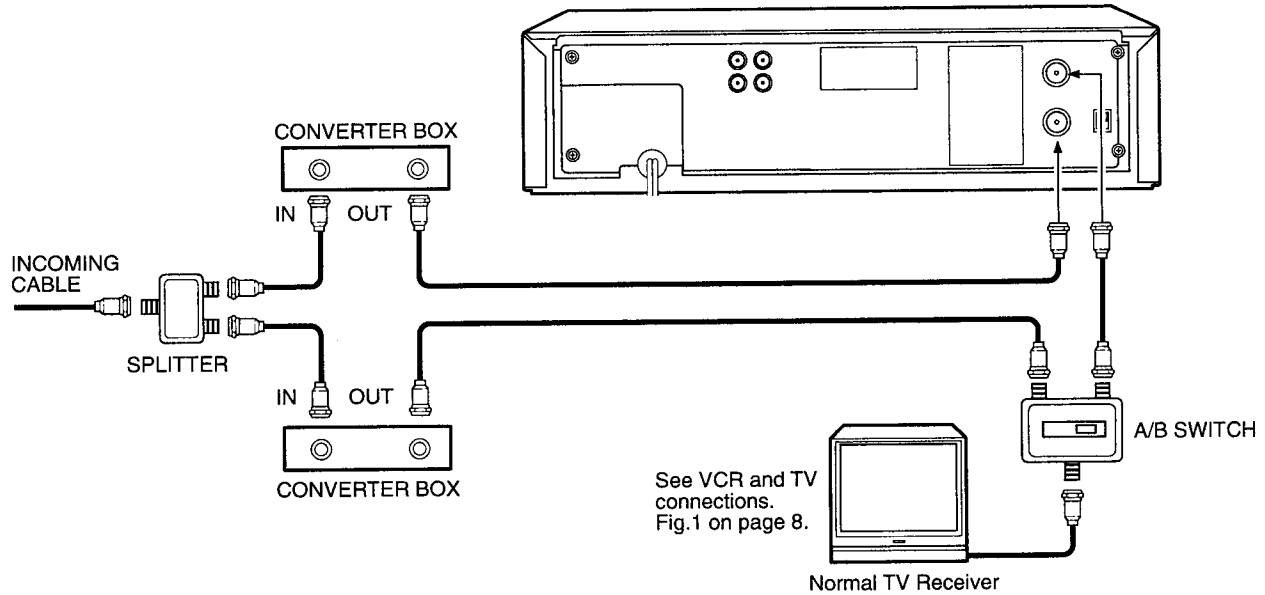
This set-up will enable you to do the following:

- Record all cable channels from the converter box.
- Record one scrambled channel and watch another unscrambled channel.
- Use the TV remote control when the A/B switch is in the "A" position.
- Use the programmable timer to record only the channel selected on the converter box. (Converter box power must be ON.)

Notes

- Set the VCR channel selector to the output channel of the converter.
- Select the channel to be recorded on the converter.
- Set the TV channel selector to the output channel or VCR (3 or 4).

To Record and Watch a Scrambled or Unscrambled Channel



This set-up will enable you to do the following:

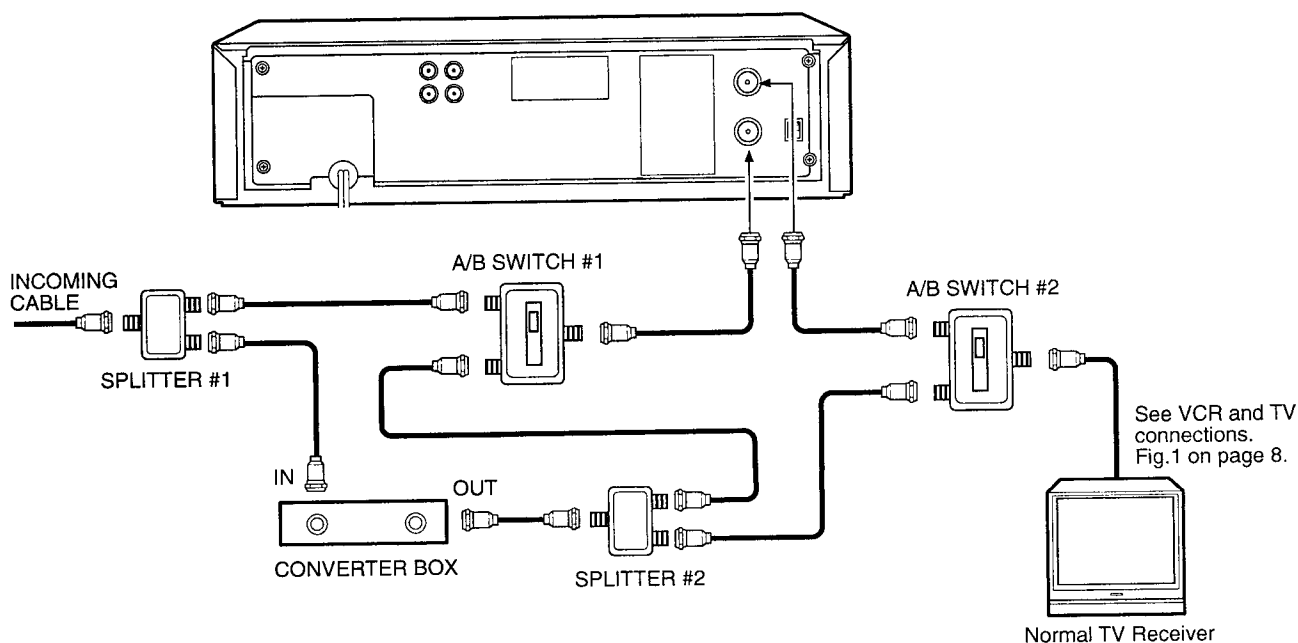
- Record any cable channel.
- Record one channel and watch another.
- Use programmable timer to record only the channel selected at the converter box.

Notes

- Set the TV channel selector to the output channel of the VCR and the converter box (3 or 4).
- Set the VCR channel selector to the output channel of converter box.

To Record and Watch the Same Channel (Scrambled/Unscrambled)

To Record One Unscrambled Channel and Watch Another Unscrambled Channel



This set-up will enable you to do the following:

- Record an unscrambled cable channel (A/B switch # 1 in "A" position).
- Record all cable channels from the converter box (through splitter # and A/B switch #1 "B" position).
- Record one channel while watching another.
- Use the programmable timer when A/B switch #1 is in the "A" position.

Notes:

"Unscrambled" Cable Channels

Cable companies usually include "Unscrambled" channels in their basic subscription service. Depending on the tuning capability of your TV (how many cable channels your TV is capable of tuning to) you may not need a cable converter box (supplied by the cable company) to view "unscrambled" cable channels on your TV set.

"Scrambled" Channels

Extra (optional) pay cable channels, like HBO and Cinemax in some localities, are often "scrambled" by the cable company. To view these channels on your TV, you must use the cable converter (decoder) box supplied by the cable company.

Cable Converter Box (supplied by Cable Company)

Until recently, all television and VCR receivers were equipped with 68 channel tuners capable of tuning the 12 standard VHF channels (2-13) and the 56 UHF channels (14-69). Since cable television systems do not use the UHF band, once they began expanding beyond 12 channel capacity (some cable companies transmit up to 100 channels) some form of converter became necessary to enable their subscribers to tune in the additional channels. This "cable converter box" rebroadcasts the programs to your TV set or VCR on one designated channel, usually channel 2, 3, or 4. When you use a converter box, you will normally change channels using the channel selector on the box. Some cable converters have built-in decoders that translate "scrambled" pay TV channels (i.e. HBO) so they can be used by your TV set.

Notes:

- Set the VCR and TV channel selector to the output of the converter.
- Select the channel to record at the converter.

Cable Compatible

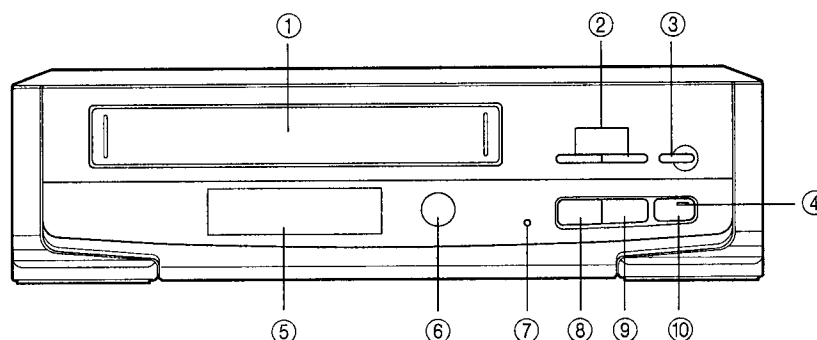
Either TV or VCR when cable is connected can tune to unscrambled cable channels, without the use of a cable converter box. There is a limitation to the tuning mechanism of the TV or VCR. This is usually as 105 channel tuning, 117 channel tuning, 133 channel tuning.

Frequency Conversion

This simply means the ability to change one frequency to another (e.g. when Channel 7 is selected, the converter box takes the Channel 7 information and outputs this on Channel 3 frequency; when Channel 11 is selected, the converter box takes the Channel 11 information and outputs this on Channel 3 frequency.) The converter box and the VCR use this principle of frequency conversion.

CONTROLS

Front Panel



① **CASSETTE LOADING SLOT**

② **CHANNEL ▼/▲ buttons**

Tunes up/down a TV channel with automatic line tuning. Also, used to enter data for clock adjustment and timer recording. During playback, these buttons are also used to perform manual tracking adjustment.

③ **RECORD button (REC/OTR)**

Press to start recording. Repeatedly press to select a desired duration for the one-touch timer recording.

④ **POWER INDICATOR**

Lights up when the **POWER/TIMER SET** button is pressed. It will blink when moisture condensation is detected.

⑤ **DISPLAY PANEL**

⑥ **REMOTE SENSOR**

This receives the infrared beam transmitted from the remote control unit. See the section titled "REMOTE CONTROL UNIT" for details.

⑦ **RESET button**

Clears all the user-programed data and resumes the factory-preset initial values.

⑧ **EJECT/STOP button**

Press to stop all the tape related functions. When the VCR is in stop mode, use this button to eject the cassette.

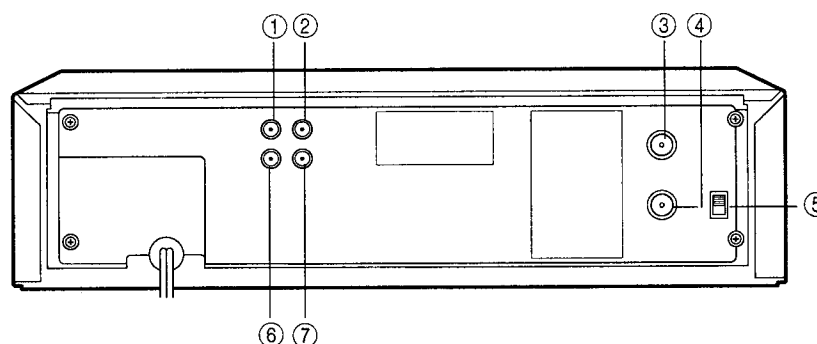
⑨ **PLAY button**

Press to start playback of a pre-recorded tape.

⑩ **POWER/TIMER SET button**

Press to turn the VCR on and off. If held in for more than 2 seconds the VCR enters timer recording stand-by mode.

Rear Panel



① **AUDIO OUT JACK**

Audio signals being recorded or played back are available at this connector. Connect to the audio input of a TV receiver, another video recorder or other audio/video equipment.

② **AUDIO IN JACK**

Connect to the audio output from another video recorder or other audio sources for recording.

③ **RF OUT TERMINAL**

Connect this terminal to the TV set's VHF IN terminal or VHF/UHF IN terminal.

④ **ANTENNA IN TERMINAL**

For VHF reception, UHF reception or cable TV reception, connect this terminal to a VHF antenna, a UHF antenna or cable TV terminal.

⑤ **3-4 OUTPUT CHANNEL SELECTOR**

In order that signals received by the VCR can be converted into signals suitable for your TV set, move this switch to either 3CH or 4CH, whichever channel is unused in your area.

⑥ **VIDEO OUT JACK**

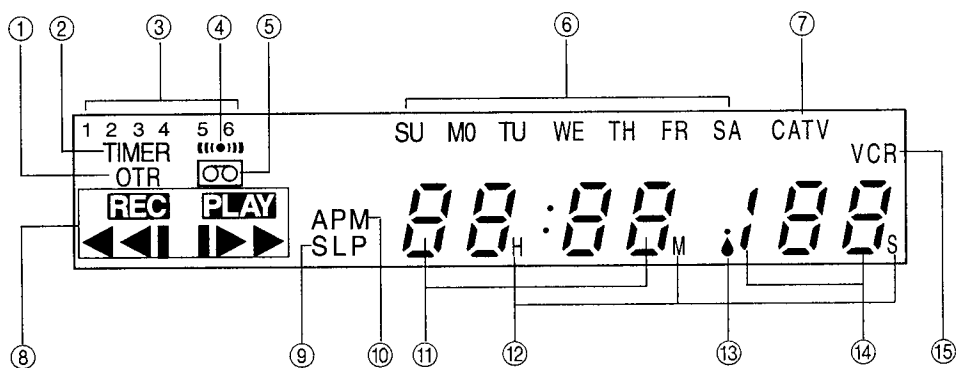
For external recording or monitoring, connect this jack to the VIDEO input of a VCR or TV set.

⑦ **VIDEO IN JACK**

To record from an external video source, such as a VCP, VCR or TV set, connect this jack to the VIDEO output jack of one of those sources.

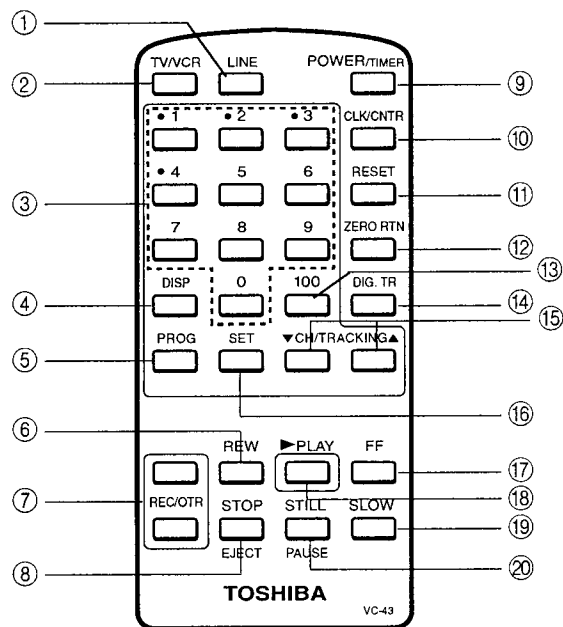
Multidisplay

- ① **ONE-TOUCH TIMER RECORDING INDICATOR [OTR]**
Illuminates when the One-Touch Timer Recording mode is selected.
- ② **TIMER SET INDICATOR [TIMER]**
Illuminates when the POWER SWITCH is pressed in for more than 2 second to indicate timer recording is ready.
- ③ **PROGRAM NUMBER INDICATOR [1/2/3/4/5/6]**
Indicates what numbers are programmed for timer recording.
- ④ **REMOTE CONTROL INDICATOR**
When the remote control is used the indicator will blink.
- ⑤ **CASSETTE LOADING INDICATOR []**
Illuminates when a cassette tape is loaded in the cassette slot.
- ⑥ **DAY OF THE WEEK INDICATOR [SU/MO/TU/WE/TH/FR/SA]**
Illuminates to indicate the current day of the week in the clock mode.
- ⑦ **TV/CATV MODE INDICATOR [TV/CATV]**
Indicates the reception mode of broadcast TV or cable cast TV.
- ⑧ **OPERATION MODE DISPLAY**
Indicates each operation mode.
- ⑨ **TAPE SPEED INDICATOR [SP/LP/SLP]**
Illuminates to indicate the tape speed for recording/playback.
- ⑩ **AM/PM INDICATOR [AM/PM]**
Indicates AM or PM for clock/timer display.
- ⑪ **CLOCK/COUNTER DISPLAY**
Functions as Clock and Real Time Tape Counter according to the mode selected.
- ⑫ **HOUR/MINUTE/SECOND INDICATOR**
- ⑬ **DEW INDICATOR []**
Illuminates to warn that moisture condensation is present inside the VCR. If the indicator is on, allow 2 hours or so for VCR to dry out.
- ⑭ **TV CHANNEL INDICATOR**
Indicates the TV channel selected using the built-in TV tuner of the VCR.
- ⑮ **VIDEO MODE INDICATOR [VCR]**
Illuminates when the Video mode is selected by the TV/VCR SWITCH.



Remote Control Unit

The buttons that are not followed by explanations have the same functions as the buttons similarly marked on the VCR.



- ① **LINE BUTTON**
Press to select the auxiliary position.
- ② **TV/VCR BUTTON**
To use the VCR tuner, press this button to select "VCR". To view the TV set, press this button so that the indication "VCR" disappears.
- ③ **NUMBER BUTTONS (1-9, 0)**
To select channels directly, press these buttons. Press two keys such as 02, 03,... or 09 when a channel from 2 to 9 is desired.
- ④ **DISP BUTTON**
Press to select the on-screen display mode from among on mode and off mode.
- ⑤ **PROG. BUTTON**
Press to call up the MENU screen.
- ⑥ **REW BUTTON**
In the stop mode press to rewind the tape. In the play mode press to visually search a desired portion of the video tape in the reverse direction. Press once more in the reverse search mode to search faster. If pressed once again, the search will be operated in the previous speed.
- ⑦ **REC/OTR BUTTONS**
To start recording on a tape, press both buttons together.
- ⑧ **EJECT/STOP BUTTON**
Press to stop all the tape related functions. When the VCR is in stop mode, use this button to eject the cassette.
- ⑨ **POWER/TIMER BUTTON**
Press to turn the VCR on and off.
If held in for more than 2 seconds, the VCR enters timer recording standby mode.
- ⑩ **CLK/CNTR BUTTON**
This button is used to display the clock (present time and day) or the tape counter.
- ⑪ **RESET BUTTON**
Press to reset the counter to "0:00:00".
- ⑫ **ZERO RTN BUTTON**
Press this button to return to "0:00:00" reading of the counter.
- ⑬ **100 BUTTON**
To select channel numbers higher than 100, press this button.
- ⑭ **DIG. TR BUTTON**
Press to perform the digital tracking function.
- ⑮ **▲ CH/TRACKING ▼ BUTTONS**
Press to step up/down the TV channel for TV viewing. Also, press to input data for clock adjusting and timer recording. While the VCR is in playback mode, use these buttons to adjust tracking manually.
- ⑯ **SET BUTTON**
Press this button to enter the programmed data, proceeding to the next step of operation.
- ⑰ **FF BUTTON**
In the stop mode, press to fast forward the tape. In the play mode, press to visually search a desired portion of the video tape in the forward direction. Press once more in the forward search mode to search faster. If pressed once again, the search will be operated in the previous speed.
- ⑱ **PLAY BUTTON**
Press for the tape playback.
- ⑲ **SLOW BUTTON**
Press to perform slow playback.
- ⑳ **PAUSE/STILL BUTTON**
In the recording mode, press to pause. In the play mode, press for still frame.

Using the Remote Control Operation

This VCR can be operated with the remote control for up to a distance of about 23 feet (7 meters) and within an angle of 15 degrees either side of center.

There must be no obstacles between the remote control unit and the remote sensor of the VCR.

Battery Installation

- ① Remove the battery cover on the rear of the unit. (See Figure 1.)
- ② Install two size "AA" batteries into the battery compartment. (See Figure 2.)
- ③ Close the battery cover. (See Figure 3.)

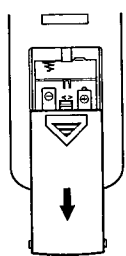


Fig. 1

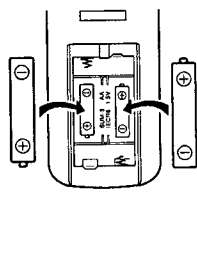


Fig. 2

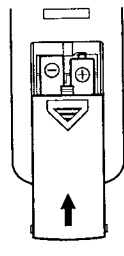


Fig. 3

Notes

- Be sure to install batteries properly to match the polarity diagrams drawn inside the battery compartment.
- Do not mix a new battery with an old one.
- Do not heat, disassemble, short or throw used batteries into a fire.

Precautions on Using

- Pressing two or more function buttons on the remote control unit (except *REC* buttons) at the same time may result in improper operation or damage.
- Do not place the remote control unit in an area where it may become wet.
- Do not place the remote control unit near high heat.
- Dropping the remote control unit on a hard surface may result in damage.
- Do not use benzene, thinner or other petroleum based solvent to clean the remote control unit. To clean, wipe a soft cloth slightly moistened with a mild detergent, and then wipe dry with a soft cloth.

Use of the Video Cassette

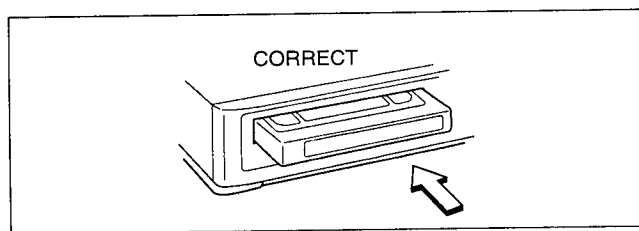
Only the video cassette tapes marked with VHS can be used in this VCR.

A cassette tape cannot be loaded or unloaded unless the AC power cord is connected to the AC outlet.

Loading and Unloading

Loading

Insert a cassette tape with its labeled side up as shown in the cassette compartment. The cassette will be automatically drawn inside the compartment.

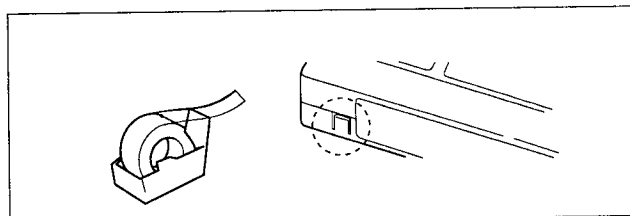


Unloading

- ① Press the **EJECT/STOP** button. The cassette will be ejected from the cassette compartment.
- ② Remove the cassette by pulling it toward you.

To Prevent Accidental Erasure

Every video cassette has a safety tab to prevent accidental erasure. Breaking off the safety tab is recommended for prevention from accidental erasure of the contents. If a tape without the safety tab is to be reused, cover the gap with a piece of adhesive tape.



Tape Speeds and Maximum Recording Playback Time

Video Cassette Record Mode	T-160	T-120	T-60	T-30
SLP	480 min	360 min	180 min	90 min
LP	320 min	240 min	120 min	60 min
SP	160 min	120 min	60 min	30 min

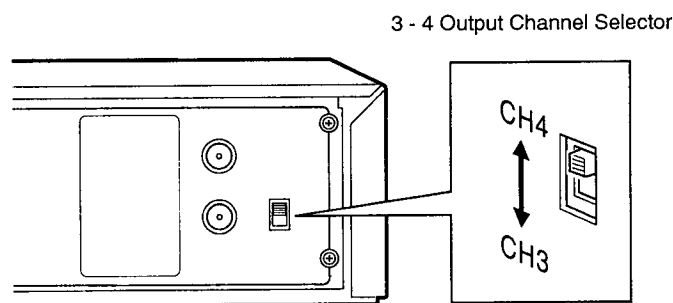
* LP mode is only available during playback.

Care of the Video Cassette Tape

- Avoid violent vibration or shock.
- Do not place in a location where strong magnetic fields exist (near a motor, transformer or magnet).
- Never place or store in direct sunlight.
- Avoid dusty places.
- Place the cassette in the cassette case and store vertically.
- Never store tape in a humid location.

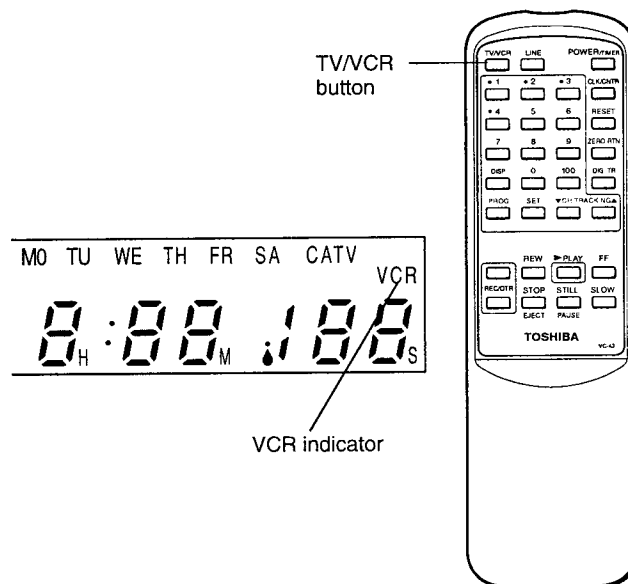
Setting the VCR Output Channel

Set the 3-4 output channel selector on the rear panel to the vacant channel in your area (3 or 4).



Using the TV/VCR Button on the Remote Control Unit

Use this button to select the TV mode or the VCR mode.



TV mode (using the TV Tuner)

- ① If the VCR power is OFF, simply turn your TV set ON. There is no need to turn the VCR ON.
- ② Select the channel you want to watch by using the channel select buttons of the TV set.

Note

If the VCR is ON and the VCR indicator "VCR" is lit on the VCR multidisplay, press the **TV/VCR** button on the remote control unit so that "VCR" indicator is OFF.

VCR mode (using the VCR Tuner)

- ① Turn your TV set ON. Set your TV to the same channel as the VCR output channel selector (3 or 4).
- ② Turn the VCR power ON. The power indicator light will illuminate.
- ③ Press the **TV/VCR** button on the remote control unit to VCR mode. The "VCR" indicator light will illuminate on the VCR multidisplay.
- ④ Use the **CHANNEL** buttons on the VCR or remote control unit to choose the channel you want to watch and/or record. The program on that channel will be shown on your TV screen.

Notes

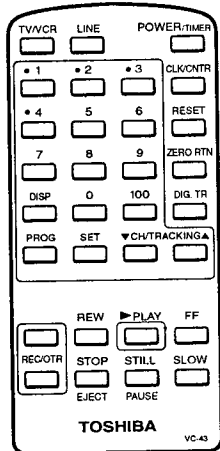
- If you have cable TV, choose the channel which gives you the best reception.
- To play back a tape, set your TV to the same channel as the VCR output channel selector (3 or 4).

PREPARATION

Using the Menu

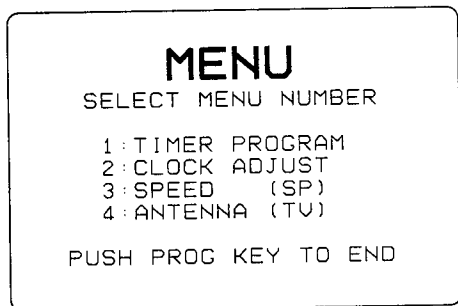
When you want to perform the following operations, you must use the MENU screen:

- TIMER PROGRAM setting
- CLOCK ADJUST
- Recording tape SPEED
- ANTENNA switching



The basic operation is as follows:

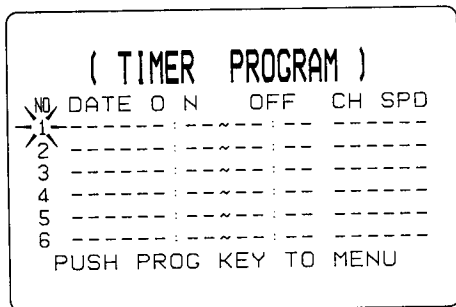
1. Turn on the TV.
2. Press the **POWER/TIMER SET** button to turn on the VCR.
3. Press the **PROG** button.
The MENU screen appears on the TV screen.



4. Now number buttons 1-4 can be used to select menu items.

Timer Program

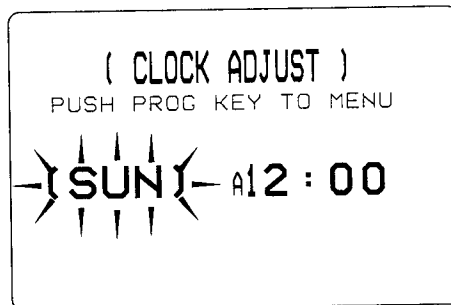
1. Press **NUMBER** button 1.
The **TIMER PROGRAM** screen appears on the TV screen.



2. Enter the program data with the **▼ CH/TRACKING ▲** buttons and press the **SET** button to perform any program setting.

Clock Adjust

1. Press **NUMBER** button 2.
The **CLOCK ADJUST** screen appears on the TV screen.



2. Enter the day of the week and time with the **▼ CH/TRACKING ▲** buttons and the **SET** button.

Speed [SP]

Each time you press **NUMBER** button 3, the indication changes between **SPEED [SP]** and **SPEED [SLP]** cyclically. (This change is made with the same MENU screen displayed.)

Antenna [TV]

Each time you press **NUMBER** button 4, the indication changes between **ANTENNA [TV]** and **ANTENNA [CATV]** cyclically. (This change is made with the same MENU screen displayed.)

Notes:

1. If you do not press any **NUMBER** buttons 1 to 4 within 60 seconds after pressing the **PROG** button, the VCR will be released from the MENU mode automatically.
2. If you quit the MENU mode, press the **PROG** button again.

Setting the VCR Clock

After installing the VCR, you must set the day of the week and time to set a timer program.

Adjust the clock when the VCR is turned on.

When the VCR is plugged into an AC outlet at the initial installation, the clock built in the VCR starts from 12:00 AM on Sunday.

PRIOR TO SETTING

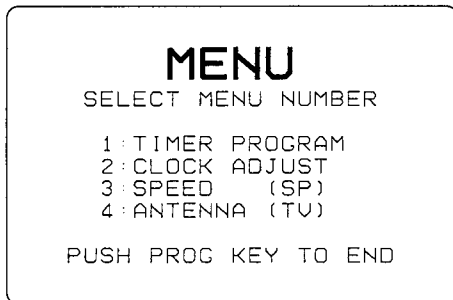
1. You cannot go back and reset a incorrect entry. If you inadvertently press an incorrect button, press the **PROG** button to call up the MENU screen and press again **NUMBER** button 2 to display the CLOCK ADJUST screen.
2. If no data is entered for longer than 60 seconds during setting, the clock starts from the day of the week and time set at this moment.

EXAMPLE:

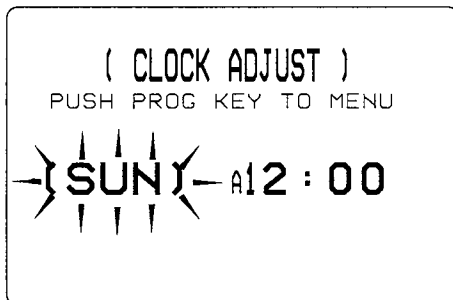
Setting at 8:30 PM on Friday.

PROCEDURE:

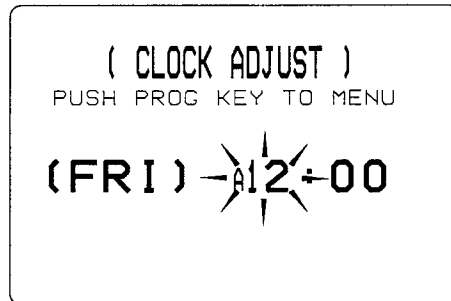
1. Press the **PROG** button to call up the MENU screen.



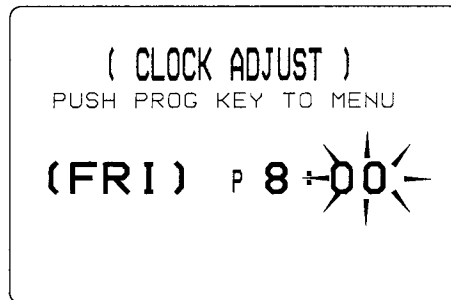
2. Press **NUMBER** button 2. The CLOCK ADJUST screen appears blinking on the TV screen.



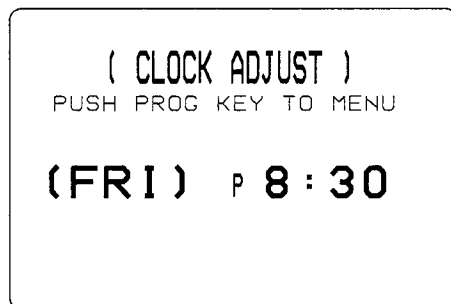
3. Press the **▼ CH/TRACKING ▲** buttons to select the current day of the week. Then press the **SET** button.



4. Press the **▼ CH/TRACKING ▲** buttons to adjust the current hour. Then press the **SET** button.



5. Press the **▼ CH/TRACKING ▲** buttons to adjust the current minute. Then press the **SET** button. The blinking stops and illuminates the time and the clock starts from zero seconds.



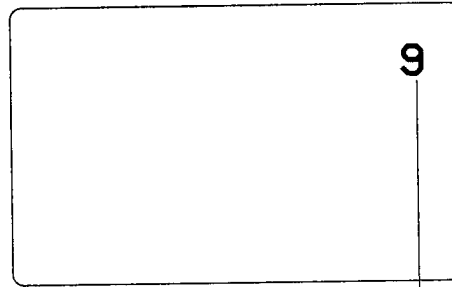
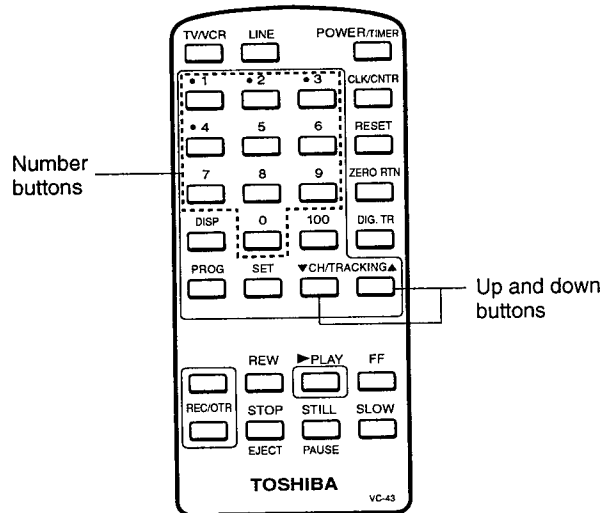
6. After 3 seconds, the MENU screen is resumed.

HINTS ON CLOCK SETTING

- To set the time exactly to the second, press the **SET** button at the exact time corresponding with a time signal from the accurate clock, radio, telephone and so on after adjusting the current minute in step 5 above.
- The **▼ CH/TRACKING ▲** buttons can be pressed in two ways. When the button is pressed momentarily and released, the indication will advance or reverse by one. If the button is held in for longer than 0.5 second, the indication will advance or reverse continuously.
- With the memory back-up circuitry incorporated in this unit, the programming data for the clock and timer recording can be retained securely when a power failure of approximately 1 minute or less occurs.

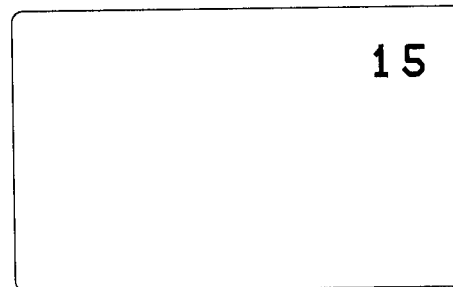
Operating the FS Tuner

This VCR has an FS (Frequency Synthesized) tuner and is designed to receive the following TV signals and CATV signals.

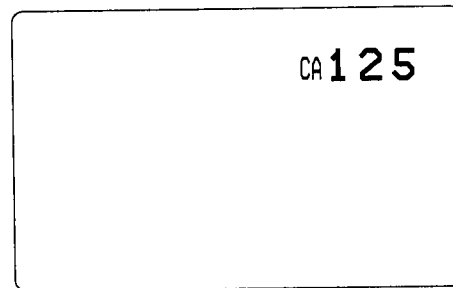


Channel number

- B) For a two-digit channel (10-69 and 70-99 of Cable channels), press the first digit, then the second digit. When setting channel 15: Press number button "1" and then "5".



- C) For the three-digit channels (100-125 of Cable channels), press the 100 button to enter the first digit, second digit and third digit in sequence. When setting channel 125: Press the 100 button, number button "2" and "5" in sequence.



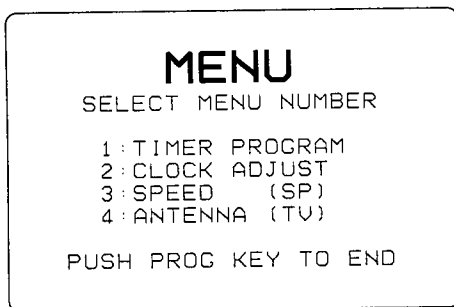
The channel will be automatically tuned within few seconds.

Notes:

1. If you don't enter the first digit for a two or three digit channel within few seconds, the previous channel will appear on the screen.
2. With OSD on, the channel number displayed on the TV screen will not disappear from the screen. Otherwise it will disappear within few second.
3. If a channel other than those that are valid is entered, it will not be register and the previous channel will be re-tuned.

Setting the CATV Mode

Press the **PROG** button to call up the MENU screen. Press number 4 to select the CATV reception mode.



To Select CATV Signals

This VCR is designed to select CATV signals (STD/HRC/IRC) automatically.

Channel Select

1. **To Tune with the Number Buttons 1-9 and 0 (Remote Control Unit only)**

Press the **NUMBER** buttons to be tuned.

- A) For a one-digit channel (2-9), press number button 0 and then the appropriate digit.

When setting channel 9:

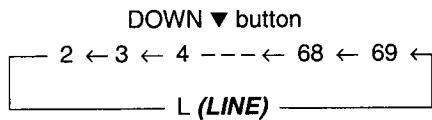
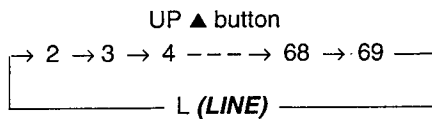
Press number button "0" and then "9".

Only CATV signal 1-9, 100 and TV channels 2-9 can be selected by pressing the appropriately numbered key.

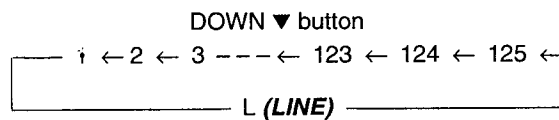
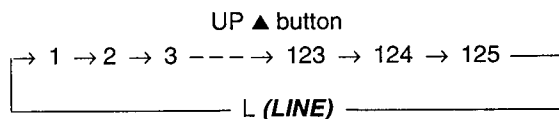
2. Using the CHANNEL UP (▲) /DOWN (▼) buttons (front panel or remote control)

Press and release the **CHANNEL UP (▲) /DOWN (▼)** buttons. The channel steps up or down automatically.

• TV mode



• CATV mode



Notes

- If the **CHANNEL** button is pressed and immediately released, the channel steps up or down to the next channel.
- If the **CHANNEL** button is held in for longer than 0.5 second, channels will keep changing until the button is released.
- The auxiliary position (displayed as "L") may be selected by pressing the **LINE** button. When the "L" position is selected, recording from an external A/V source may be performed with the AUDIO/VIDEO IN jacks connected to an external source via PHONO connector lead(s).

TV/CATV Channel Display

When selecting TV or CATV channels, the specified TV or CATV channel number is displayed on the TV screen.

Channel Reference Chart

The cable channels are numerically indicated in the multidisplay in place of each actual channel name originally assigned. Refer to the chart below for cable channel numbers to be shown.

BAND	CH NAME	DISPLAY
VHF LOW BAND	1	1
	2	2
	3	3
	4	4
	A-7	5
	A-6	6
CATV MID BAND	A-5	95
	A-4	96
	A-3	97
	A-2	98
	A-1	99
	A	14
	B	15
	C	16
	D	17
	E	18
	F	19
VHF HIGH BAND	G	20
	H	21
	I	22
	7	7
	8	8
	9	9
CATV SUPER BAND	10	10
	11	11
	12	12
	13	13
	J	23
	K	24
	L	25
	M	26
	N	27
	O	28
	P	29
	Q	30
	R	31
	S	32
	T	33
	U	34
	V	35

BAND	CH NAME	DISPLAY
CATV HYPER BAND	W	36
	AA	37
	BB	38
	CC	39
	DD	40
	EE	41
	FF	42
	GG	43
	HH	44
	II	45
	JJ	46
	KK	47
	LL	48
	MM	49
	NN	50
	OO	51
	PP	52
	QQ	53
	RR	54
	SS	55
	TT	56
	UU	57
	VV	58
	WW	59
	XX	60
	YY	61
	ZZ	62
	AAA	63
	BBB	64
CCC	65	
	66	
	67	
	68	
	69	
	70	
	71	
	72	
	73	
	74	
	75	
	76	
	77	
	78	
	79	

BAND	CH NAME	DISPLAY
CATV HYPER BAND	80	80
	81	81
	82	82
	83	83
	84	84
	85	85
	86	86
	87	87
	88	88
	89	89
	90	90
	91	91
	92	92
	93	93
	94	94
	100	100
	101	101
	102	102
	103	103
	104	104
	105	105
	106	106
	107	107
	108	108
	109	109
110	110	
111	111	
112	112	
113	113	
114	114	
115	115	
116	116	
117	117	
118	118	
119	119	
120	120	
121	121	
122	122	
123	123	
124	124	
125	125	

PREPARATION

Notes

- Since cable services may vary from area to area, please consult your local cable company for cable compatibility.
- Direct tuning to cable channels is limited to unencoded (unscrambled) channels only.

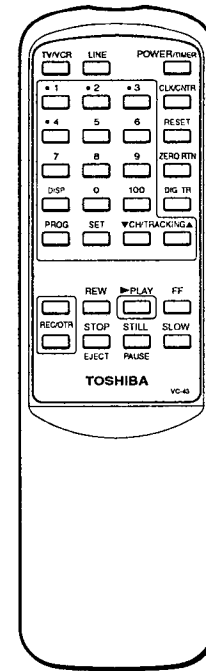
On Screen Display (OSD)

You can display the on-screen information which tells you the tape operation mode, the channel selected, the recording speed, the tape counter, and the day of the week and time.

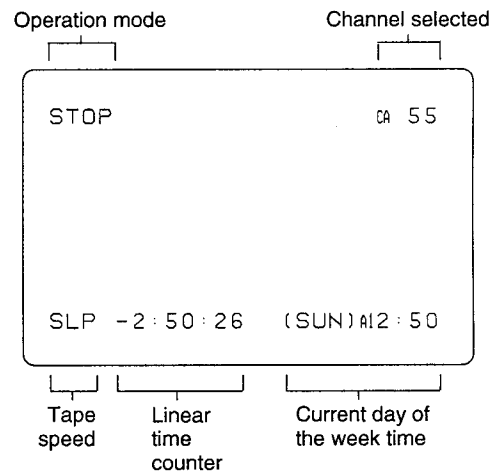
To call up the on-screen information, press the **DISP** button on the remote control unit.

All information (operation mode, channel selected, recording speed, tape counter and current day of the week, time) is displayed. If the **DISP** button is pressed again, the on-screen display disappears from the TV screen.

Even if the VCR is in OSD off mode, the superimposed information will appear on the TV screen for a few seconds when you press any tape operation button or when you select a channel.



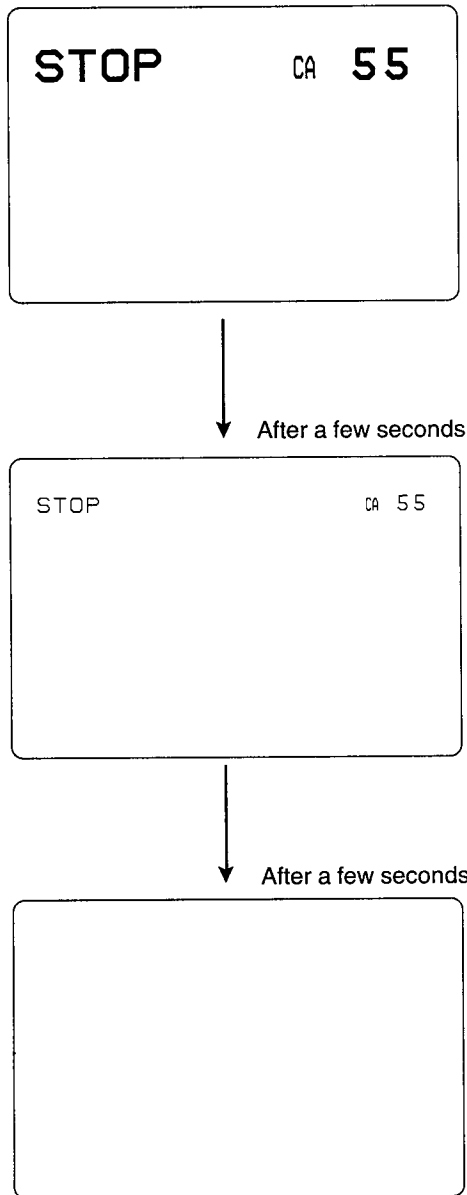
OPERATION	DISPLAY
Playback	PLAY
Recording	REC
Fast forward	FF
Rewind	REW
Pause	PAUSE
Stop	STOP
Cassette in/out	blinking
Dew condensation	DEW
OTR	OTR 30MIN
Timer recording	REC



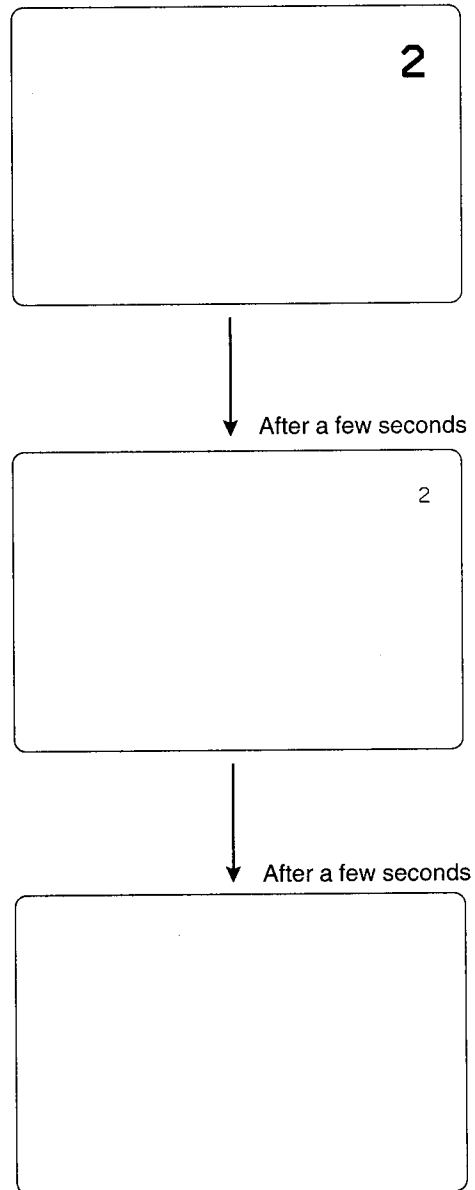
The indication appears in large scale first, then become smaller. Finally it disappears from the screen.
With the OSD on, the on-screen information remains on the screen.

Example:

When you press any tape operation button

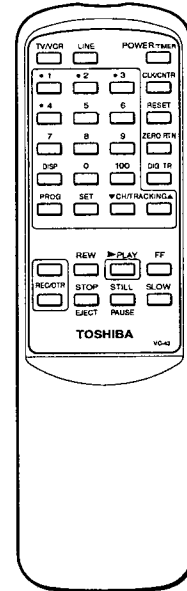
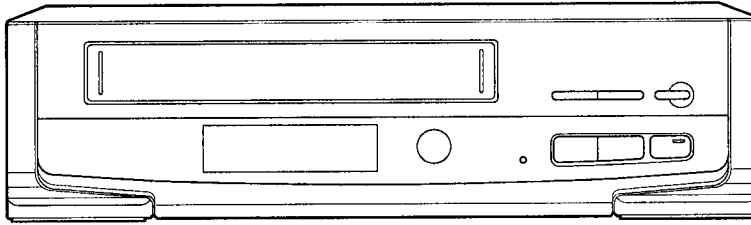


When you select a channel



PREPARATION

PLAYBACK



Basic Playback

- ① Press the **POWER/TIMER SET** button.
- ② Insert a cassette tape into the **CASSETTE LOADING SLOT**.
- ③ Turn on the TV and select channel 3 or 4 for video viewing.
- ④ Press the **PLAY** button to start playback.

To stop playback:
Press the **EJECT/STOP** button.

To rewind a tape in Stop mode:
Press the **REW** button.

To advance a tape rapidly in Stop mode
Press the **FF** button.

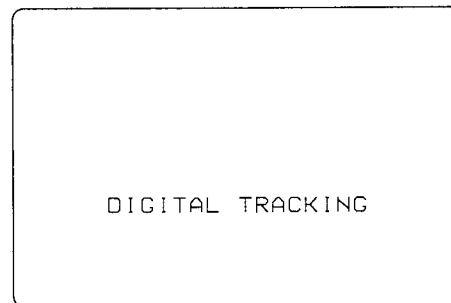
To stop fast forwarding or reeking:
Press the **EJECT/STOP** button.

Digital Tracking

When the cassette is first inserted and the **PLAY** button is pressed, the VCR enters digital tracking mode. At this time, the indication "DIGITAL TRACKING" appears on the TV screen for a few second.

When the playback speed is changed, the digital tracking operation is performed in the selected speed, and the indication "DIGITAL TRACKING" appears on the TV screen for a few second.

Ordinarily use the digital tracking function. To enter digital tracking mode, press the **DIG. TR.** button.



(On the TV screen)

Note

If video noise appears in the picture, after putting the VCR into digital tracking mode, use the manual tracking adjustment function. Press the **▼ CH/TRACKING ▲** buttons until the best possible picture is obtained.

A change of the tracking level is indicated by figures (-8 to 8) on the multidisplay.

Auto Rewind System

When a tape reaches its end in Playback, Fast Forward or the Record mode (except Program Timer Recording), it will be automatically rewound to its beginning and the unit will be switched to the Stop mode.

Auto Playback System

Simply insert a cassette tape without the safety tab into the cassette loading slot while the unit is turned off. The following operations (1 through 5) will automatically occur.

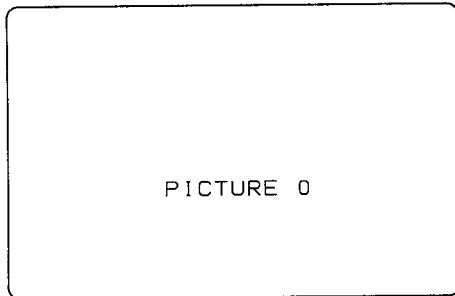
1. The VCR is turned on.
2. The cassette tape is played back to its end.
3. The tape is rewound to the beginning. (Auto Playback)
4. The cassette tape is retracted from the cassette loading slot.
5. The VCR is turned off. (Full Auto Playback)

Quick Play System

Playback will start quickly, approximately 1 second after the **PLAY** button is pressed.

PICTURE Control

The picture sharpness is adjusted using the **NUMBER** button 5 or 6. The adjusted level appears on the TV screen.

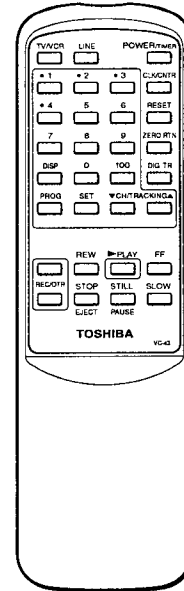
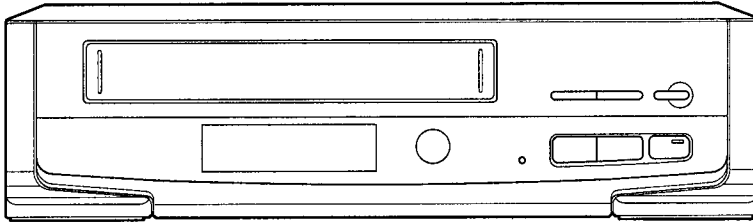


Press the **NUMBER 5** button makes the picture softer. (PICTURE -8~0)
Pressing the **NUMBER 6** button makes the picture sharper. (PICTURE 0~8)

Note

The Auto Playback or Full Auto Playback will be released if one of the tape related buttons (**FF**, **REW**, **PAUSE/STILL**, **EJECT/STOP**, **PLAY** or **POWER**) is pressed.

RECORDING



Basic Manual Recording

- ① Press the **POWER/TIMER SET** button.
- ② Press the **TV/VCR** button on the remote control unit so that VIDEO indication appears on the TV screen.
- ③ Select a desired channel to be recorded, using **CHANNEL** buttons or **NUMBER** buttons and the 100 button on the remote control unit.
- ④ Insert a cassette tape with the safety tab.
- ⑤ Press the **PROG** button to call up the MENU screen. Press **NUMBER** button 3 to select the recording tape speed (SP or SLP).
- ⑥ Press the **REC/OTR** button on the unit or the two **REC/OTR** buttons on the remote control unit simultaneously to start recording.
- ⑦ To end recording, press the **EJECT/STOP** button.

Notes

- If the tape reaches its end during recording, it will be automatically rewound to its beginning and the unit will be switched to the Stop mode.
- If a cassette without the safety tab is inserted, it will be automatically ejected when the **REC/OTR** button is pressed. This protects the recorded contents on the tape against accidental erasure.
- To change channels or eject a cassette tape during recording, first set the VCR in the Pause mode by pressing the **PAUSE/STILL** button, and then change channels or eject the cassette.
- The tape speed cannot be changed immediately after the VCR has entered the rec pause mode.

Checking the Picture Being Recorded

Turn on the TV and tune to channel 3 or 4 for video viewing.

Watching Another TV Program While Recording

1. While recording, press the **TV/VCR** button on the remote control unit to set the VCR into TV mode. The "VCR" on the multidisplay goes OFF.
2. Select the desired TV channel with the TV tuner.
3. Press the **TV/VCR** button when a TV program is finished. The VCR indicator on the multidisplay lights. Next set the TV channel to 3 or 4 (according to the setting of VCR 3-4 output channel selector).

PAUSE/STILL button

Use this button when you want to skip unnecessary scenes during recording or to edit a prerecorded tape.

1. Press the **PAUSE/STILL** button during recording to stop recording momentarily.
2. Press the **REC/OTR** button again to resume recording.

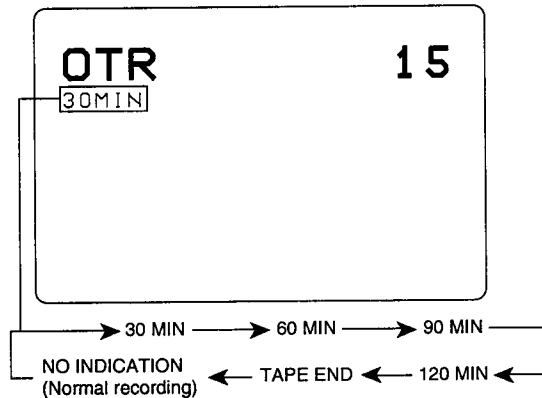
Notes

- If the VCR is left paused for more than 5 minutes, it automatically enters the stop mode to protect the tape.
- The recorded pictures on the tape may be distorted near where the **PAUSE/STILL** button is used. This is not a malfunction.

ONE-TOUCH TIMER RECORDING (OTR)

You can set the turn-off time in units of 30 minutes (up to 120 minutes).

1. Press the **REC/OTR** button on the unit or the two **REC/OTR** buttons on the remote control unit simultaneously during recording.
The VCR enters OTR mode.
2. Select the recording duration by pressing the **REC/OTR** button repeatedly. The OTR indication appears on the TV screen.



The OTR recording will immediately start.

Notes

1. When the selected recording time has elapsed, the OTR mode will be automatically released and the unit will turn off.
 2. If the **REC/OTR** button is pressed during OTR recording, the remaining recording time is indicated on the TV screen and is automatically brought down.
-

Changing OTR Duration

The OTR duration can be changed by pressing the **REC/OTR** button even after the OTR recording has started.

When the **REC/OTR** button is pressed once, the next 30-minute interval recording duration is selected.

e.g. When the remaining recording time is 13 minutes, the indication changes:

13 MIN → 30 MIN → 60 MIN → ...

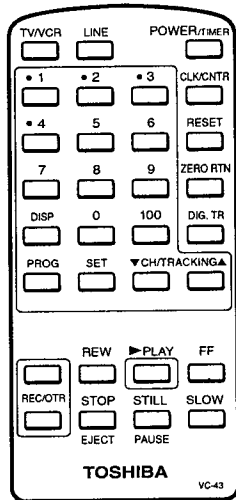
Notes

1. If a cassette without a safety tab is inserted, it will be automatically ejected when the **REC/OTR** button is pressed.
 2. If the tape reaches its end during OTR recording, it will be automatically ejected and the unit will be turned off.
-

COUNTER FUNCTION

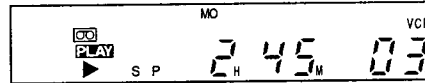
Counter Display

When a cassette tape is inserted, the counter display appears. The counter starts counting up or down when the **PLAY**, **REC/OTR**, **FF** or **REW** button is pressed.

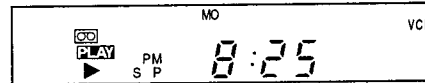


CLOCK/COUNTER Display Switching

To change the counter display to the clock display, press the **CLK/CNTR** (clock/counter) button on the remote control unit.



Counter Display



Clock Display

Counter Reset

To reset the counter to "0:00:00", press the **RESET** button on the remote control unit.

Note

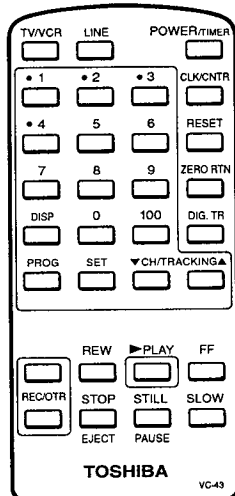
The counter display automatically reverts to the clock display when the unit is turned off or a cassette tape is ejected.

Note

The **RESET** button will not function if the clock display is shown in the multidisplay.

Zero Return Function

The zero return function is convenient for returning the tape to a desired point.



- ① Locate a desired point on the tape where you want to return later while you play back or record.
- ② Press the **RESET** button on the remote control unit to reset the counter to "0:00:00".
- ③ After recording or playback, press the **EJECT/STOP** button to stop tape movement.
- ④ Press the **ZERO RTN** button to enable the zero return option to function.
- ⑤ Upon returning to the "0:00:00" reading of the counter, the tape will stop.

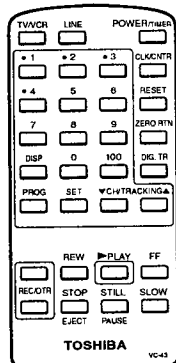
Note

The VCR does not stop exactly at the counter reading zero (0:00:00), but stops around zero, depending on the tapes you use.

SPECIALIZED EFFECTS

Picture Search

You can advance or rewind a tape rapidly without a picture using the **FF** or **REW** button. Picture Search operation is convenient to locate a desired portion of the tape quickly while watching a picture on the screen.



Forward Search

To view high-speed picture in the forward direction

1. In the Playback mode, press the **FF** button.
2. Press the button again to search faster.
3. To resume normal playback, press the **PLAY** button.

Reverse Search

To view high-speed picture in the reverse direction

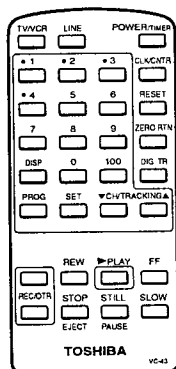
1. In the Playback mode, press the **REW** button.
2. Press the button again to search faster.
3. To resume normal playback, press the **PLAY** button.

Notes

1. The audio output is muted during picture search operation.
2. Noise bars appear on the picture during picture search. This does not indicate malfunction of the VCR.

Still Frame

This function enables you to freeze a picture, so that you can watch important scenes closely.



1. In the Playback mode, press the **PAUSE/STILL** button to freeze the picture.
 2. To resume normal playback, press the **PLAY** button.
- If the picture is distorted during Still Frame (or Slow Playback), Press the **▼ CH/TRACKING ▲** button to correct the picture (it may not always be possible to eliminate the distortion completely).

Notes

1. If the VCR is left in Still mode for longer than five minutes, it will automatically release still mode for protection against damages to a tape.
2. The audio output is muted in Still mode.
3. A tape recorded in LP mode can be played back. But a special playback such as still and slow playback is not assured.

Slow Playback

1. Press the **SLOW** button to perform slow playback.
2. Each time this button is pressed, the speed changes as follows.

1/6 → 1/12 → 1/18 → 1/24 → 1/30

3. To return to normal play, press the **PLAY** button.

- Press the **▼ CH/TRACKING ▲** button during Slow Playback to move noise bars up and down. Press the **PAUSE/STILL** button when the screen gets the best condition to make a still frame.

PROGRAMABLE TIMER RECORDING

A maximum of 6 events can be programmed within a period of 2 weeks (14 days) including the present day for the Timer Recording.

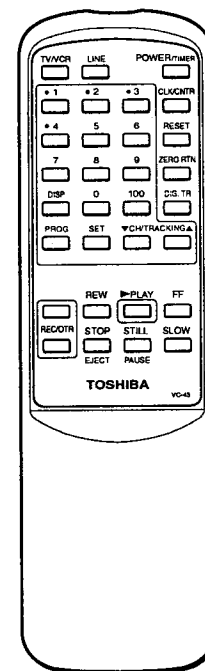
A timer recording can be activated at the same time every day (MO~FR), weekly, or on a particular day.

You can perform mixed programming of CATV and TV channels.
You must use the TIMER PROGRAM screen for making timer programs.

Prior to Programming

Make sure of the following:

- The inserted Cassette tape is equipped with a safety tab.
- The clock is showing the current time, including the day of the week and the AM/PM indication.
- The VCR is not set to the timer recording standby mode. Confirm that the TIMER SET INDICATOR on the front panel is not lighted up.

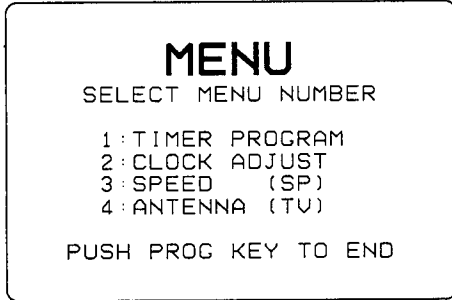


EXAMPLE:

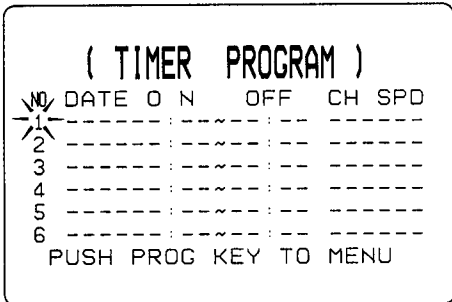
Current time ... 12:00 AM Sunday
To program the timer recording of TV channel 45, from
7:30 AM to 8:25 AM on Tuesday next week in SP mode.

PROCEDURES:

- ① Press the **PROG** button.
The MENU screen appears.

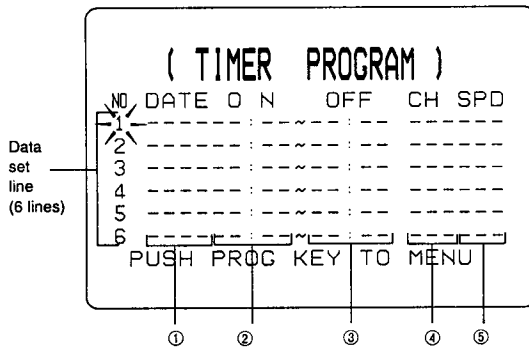


- ② Press **NUMBER** button 1.
The TIMER PROGRAM screen appears.



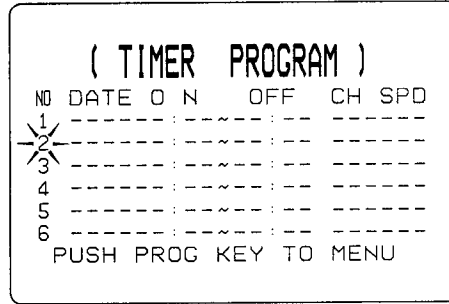
You can set the data for timer recording while observing this display, and confirm the programmed data any time when desired.

The middle six numbers show the data set lines to which you must enter program data for a corresponding timer programming.

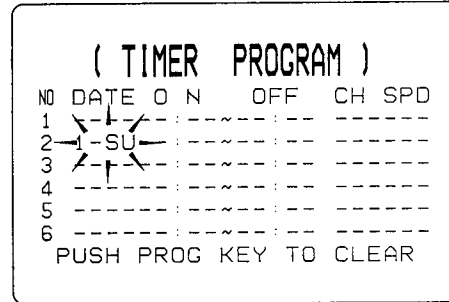


- 1 Program execution day
- 2 Program start time
- 3 Program end time
- 4 Channel number
- 5 Recording tape speed

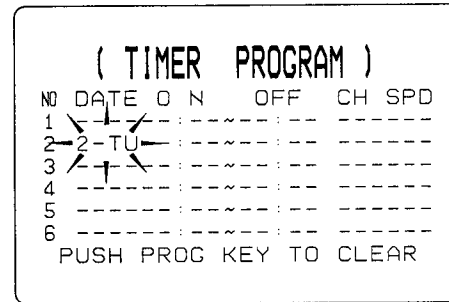
- ③ Press the **CH/TRACKING** buttons to select the data set line. For this example, select the second data set line.



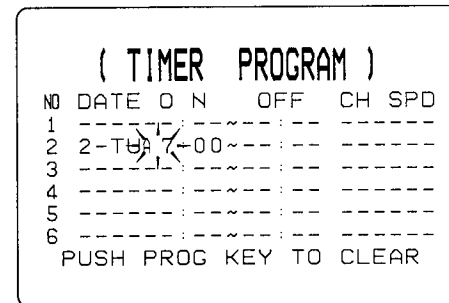
- ④ Press the **SET** button.
The current day appears blinking at the DATE setting position.



- ⑤ Press the **CH/TRACKING** buttons, to select the program execution day. For this example, select "2-TU".



- ⑥ Press the **SET** button.
The current time appears at the START setting position. Press the **CH/TRACKING** buttons, to set the program start hour. For this example, select "AM 7".



- ⑦ Press the **SET** button and the **▼ CH/TRACKING ▲** buttons to set the program start minute. For this example, select "30".

```

(TIMER PROGRAM)
NO DATE  O N   OFF  CH SPD
1 -----
2 2-TUA 7:30-----
3 -----
4 -----
5 -----
6 -----
PUSH PROG KEY TO CLEAR
  
```

- ⑪ Press the **SET** button and **▼ CH/TRACKING ▲** buttons to select between TV broadcast programs and CATV programs. For this example, select "TV".

```

(TIMER PROGRAM)
NO DATE  O N   OFF  CH SPD
1 -----
2 2-TUA 7:30~A 8:25TV-----
3 -----
4 -----
5 -----
6 -----
PUSH PROG KEY TO CLEAR
  
```

- ⑧ Press the **SET** button. The time advanced by one minute to the program start time appears at the STOP setting position.

```

(TIMER PROGRAM)
NO DATE  O N   OFF  CH SPD
1 -----
2 2-TUA 7:30~A 7:31-----
3 -----
4 -----
5 -----
6 -----
PUSH PROG KEY TO CLEAR
  
```

- ⑫ Press the **SET** button and the **▼ CH/TRACKING ▲** buttons to select the channel number. For this example, select "45".

```

(TIMER PROGRAM)
NO DATE  O N   OFF  CH SPD
1 -----
2 2-TUA 7:30~A 8:25TV 45-----
3 -----
4 -----
5 -----
6 -----
PUSH PROG KEY TO CLEAR
  
```

- ⑨ Press the **▼ CH/TRACKING ▲** buttons to set the program end hour. For this example, select "AM 8".

```

(TIMER PROGRAM)
NO DATE  O N   OFF  CH SPD
1 -----
2 2-TUA 7:30~A 8:31-----
3 -----
4 -----
5 -----
6 -----
PUSH PROG KEY TO CLEAR
  
```

- ⑬ Press the **SET** button and the **▼ CH/TRACKING ▲** buttons to set the recording tape speed. For this example, select "SP".

```

(TIMER PROGRAM)
NO DATE  O N   OFF  CH SPD
1 -----
2 2-TUA 7:30~A 8:25TV 45S P-----
3 -----
4 -----
5 -----
6 -----
PUSH PROG KEY TO CLEAR
  
```

- ⑩ Press the **SET** button and the **▼ CH/TRACKING ▲** buttons to set the program end minute. For this example, select "25".

```

(TIMER PROGRAM)
NO DATE  O N   OFF  CH SPD
1 -----
2 2-TUA 7:30~A 8:25-----
3 -----
4 -----
5 -----
6 -----
PUSH PROG KEY TO CLEAR
  
```

- ⑭ Press the **SET** button to finish this program setting.

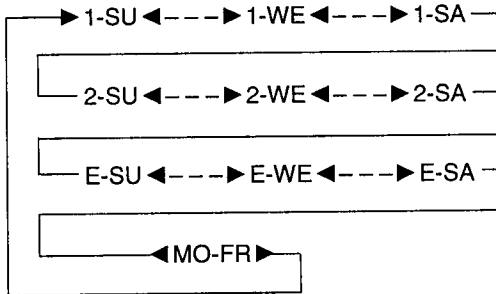
```

(TIMER PROGRAM)
NO DATE  O N   OFF  CH SPD
1 -----
2 2-TUA 7:30~A 8:25TV 45S P
3 -----
4 -----
5 -----
6 -----
PUSH PROG KEY TO MENU
  
```

- ⑮ If you want other program settings, repeat steps 3 to 14.
- ⑯ Press the **POWER/TIMER SET** button for two seconds to enter timer recording standby mode. The **TIMER INDICATOR** will be illuminated.

Every Week and Everyday Setting

In step 5, the day indication changes as follows.



As for every week setting, select E-SU, E-MO, E-TU, E-WE, E-TH, E-FR, and E-SA.
 As for every day setting, select MO-FR.

Notes on Timer Settings

- You cannot go back in the timer setting procedure. If you inadvertently press an incorrect button, press the **PROG** button to clear all data entered and enter data for the timer program again.
- The VCR will turn on 10 seconds prior to the programmed recording start time and enter the pause mode. Timer recording starts on time.
- If the cassette has no safety tab when you press the **POWER/TIMER SET** button to put the VCR in timer recording standby mode, the **TIMER** indicator will blink and the cassette will be ejected automatically.
- If you press the **PROG** button in steps 4 through 13, the blinking item will be cleared.

Clearing the Programed Data

1. Press the **POWER/TIMER SET** button to release the timer recording standby mode.
2. Press the **PROG** button to call up the MENU screen.
3. Press **NUMBER** button 1.
4. Press the **▼ CH/TRACKING ▲** buttons to select the data set line to be cleared.
Only the program number blinks.
5. Press the **SET** button and then the **▼ CH/TRACKING ▲** buttons. The message "PUSH PROG KEY TO CLEAR" will appear on the screen.
6. Press the **PROG** button to clear all data of the selected data set line.
7. If you want to clear data partially and enter new data, press the **SET** button until the blinking position moves to the desired setting position to be cleared and change.

Confirming the Programed Data

1. Press the **POWER/TIMER SET** button to release the timer recording standby mode.
2. Press the **PROG** button to call up the MENU screen.
3. Press **NUMBER** button 1.
Now the **TIMER PROGRAM** screen appears on the TV screen, showing all program data you've set.

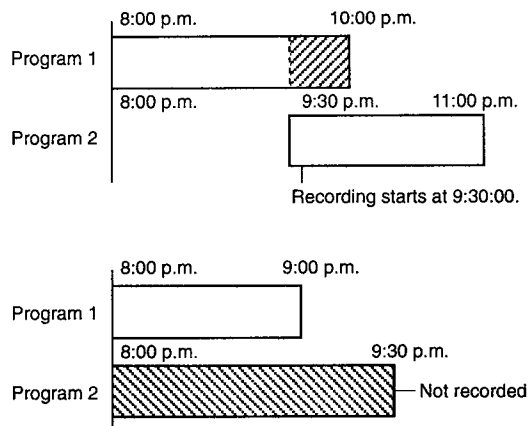
Confirming the Program Data Being Executed

1. Press the **TV/VCR** button.
2. Press the **PROG** button.
The **TIMER PROGRAM** screen appears on the TV screen, showing all program data you've set.
3. After confirming, press **PROG** button 1 and return to the screen in **REC** mode.

When a timer recording is executed, the programed data except for the everyday or weekly recording is erased. If a power failure occurs or the power cord is unplugged, the programed data will be erased. The clock display will illuminate "SU" and "AM 12:00". Reset the clock display and re-program for the timer recording.

When two programs overlap

- If the start time of the later program overlaps the recording period of the earlier program, the later program will start recording at the preset start time and the earlier program will not be recorded for the overlapped period.
- If the same start time is set on two or more programs, the lowest program number has priority over the other program numbers, the programed data of the other program numbers will be erased when the timer recording starts.



COPYING

Copyright

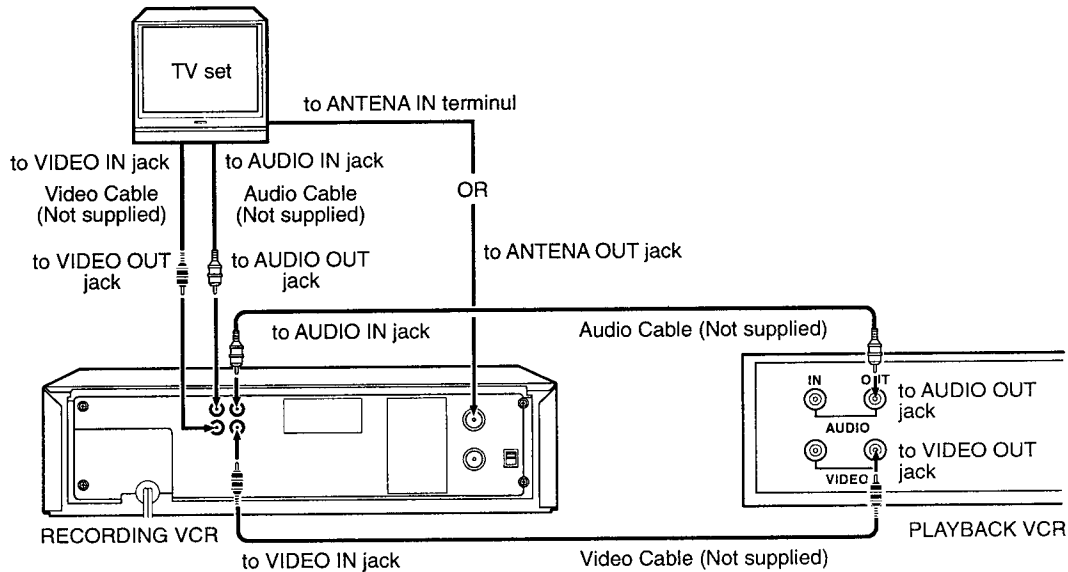
It is permissible to record television programs, film video tapes and other material only in the event that third party copyrights and other rights are not violated.

Copying VCR Recording

To copy all pictures and sounds of a prerecorded tape onto another tape.

Preparation

1. See below for how to connect the equipment.
2. Load the desired tape for copying into the **PLAYBACK VCR**.
3. Load a cassette with the safety tab into the **RECORDING VCR**.
4. Select "AU" on the **RECORDING VCR** by pressing the **CHANNEL UP** or **DOWN** button in channel selecting mode.



Operation

Procedure	RECORDING VCR	PLAYBACK VCR
①	Press the REC/OTR button then the PAUSE/STILL button (RECORDING PAUSE mode).	
②		Press the PLAY button.
③	Press the PAUSE/STILL button. Recording starts.	
④	Press the EJECT/STOP button after copying is completed.	
⑤		Press the EJECT/STOP button.

Note

In general, picture quality deteriorates somewhat in dubbing tapes. It is best to use SP mode.

OTHERS

Before Calling Service Personnel

Check the following list of problems and remedies before calling service personnel. The problem may be one you can solve yourself.

	PROBLEM	REMEDY
Power supply.	<ul style="list-style-type: none"> Power will not go on. 	<ul style="list-style-type: none"> The power cord may not be plugged in. Plug it firmly into the outlet.
	<ul style="list-style-type: none"> Although the power is on, the VCR will not work. 	<ul style="list-style-type: none"> Wait for about two hours until the DEW indicator goes off if moisture has condensed. (See page 3.) There is no cassette in the VCR. Load a cassette.
Clock/Timer	<ul style="list-style-type: none"> The clock will not work. 	<ul style="list-style-type: none"> There has been a power failure. Reset the clock. (See page 20.)
	<ul style="list-style-type: none"> The timer will not work. 	<ul style="list-style-type: none"> The clock time is incorrect. Adjust the clock to the correct time. (See page 20.)
TV Reception	<ul style="list-style-type: none"> Picture does not appear on the TV screen. 	<ul style="list-style-type: none"> The TV channel must be set to the VCR output channel 3 or 4, or set the TV/VCR select switch on the TV to VCR. Adjust antenna direction or use an optional antenna booster. The power cord must be plugged into the outlet firmly. Check connections between the TV and the VCR and connect them correctly.
Recording and playback	<ul style="list-style-type: none"> Picture does not appear on the TV screen during recording and playback. 	<ul style="list-style-type: none"> Make sure that "VCR" is selected in the multidisplay and that the TV channel is set to 3 or 4.
	<ul style="list-style-type: none"> The VCR will not record. 	<ul style="list-style-type: none"> The cassette's safety tab may be broken off. Use a cassette with a tab or cover the hole with adhesive tape. The tape may have run out. Replace with another one with sufficient length.
	<ul style="list-style-type: none"> The picture from the VCR tape is poor. 	<ul style="list-style-type: none"> Fine-tune the TV channel. Adjust the TRACKING control on the remote control unit. Clean the video heads of the VCR with a commercially available cleaning cassette tape. The cassette tape may be old and/or defective. Replace with a new one.
	<ul style="list-style-type: none"> The timer recording function will not work properly. 	<ul style="list-style-type: none"> There is an error in programming. Reprogram the preset information. There must be a cassette in the VCR. If the cassette does not have its safety tab, you must use another cassette or cover the hole with adhesive tape. There has been a power failure. Reset the clock to the correct time if the time indication shows "SU AM 12:00". Reprogram the timer. (See page 33.) More than one program has been preset within the same period. Reprogram the information. The active channel is not tuned with the built-in tuner of the VCR. Select the channel on which the TV/CATV program is aired.
Remote Control	<ul style="list-style-type: none"> The remote control will not work properly. 	<ul style="list-style-type: none"> Put new batteries into the unit if the old ones are exhausted. Make sure batteries are inserted with the correct polarity. Make sure that the remote control is within a 15° angle of the receptor on the VCR. Use the remote control unit within 23 feet (7 m) from the VCR. Remove any obstacle between the VCR and the remote control unit.
Miscellaneous	<ul style="list-style-type: none"> The cassette is ejected immediately after it is loaded. 	<ul style="list-style-type: none"> Remove the cassette and reload it carefully.
	<ul style="list-style-type: none"> The cassette will not go into the cassette compartment. 	<ul style="list-style-type: none"> The cassette was loaded immediately after pressing the EJECT/STOP button. Reload the cassette, waiting a moment after ejecting a cassette. There is already a cassette in the VCR.
	<ul style="list-style-type: none"> Correct indication does not appear in the multidisplay. 	<ul style="list-style-type: none"> Clear the data stored in the unit's memory with the CLEAR button and input data again.

Specifications

Power supply:	120 V AC, 60 Hz
Power consumption:	22 W
External dimensions:	350 × 93 × 325 mm (W.H.D) (13-7/9 × 3-21/32 × 13 inches (W.H.D.))
Weight:	4.8 kg (12 lbs)
Channels received:	VHF: Channels 1-13, UHF: Channels 14-69, CATV: Channels A7 - A1, A - CCC and 66 - 125
Antenna input/output terminals:	UHF/VHF: 75 ohm F type connector
Signal system:	Standard NTSC
Recording/Playback Cassette:	VHS VHS format (SP, LP, SLP) Video cassette with VHS mark
Tape speed:	SLP: 1.11 cm/second, SP: 3.34 cm/second, LP: 1.67 cm/second.
Video record/playback time:	SLP: 480 minutes, LP: 320 minutes, SP: 160 minutes (When T-160 video cassette is used)
Fast forward/rewind time:	Within 6 minutes (When T-120 video cassette is used)
Video input:	1 Vp-p, 75 ohm, unbalanced, negative sync, pin jack
Video output:	1 Vp-p, 75 ohm, unbalanced, negative sync, pin jack
Audio input:	Line input: -8dBs more than 50 K ohm, pin jack
Audio output:	Line output: -8dBs less than 1 K ohm, pin jack
Audio frequency range:	80 Hz - 10 kHz
Utilization conditions:	Temperature: 40° F to 106° F (5 to 40° C) Operating Humidity: 35% to 80% RH
VHF output:	Channel 3 or 4
Time display:	12 hours digital display
Time precision:	Synchronized with the AC power frequency
Timer setting:	6 programs

Design and specifications are subject to change without notice.

LIMITED WARRANTY
TOSHIBA VIDEO CASSETTE RECORDER

Toshiba America Consumer Products, Inc. ("TACP") and Toshiba Hawaii Inc. ("THI") make the following limited warranties. These limited warranties extend to the original consumer purchaser or any person receiving this set as a gift from the original consumer purchaser and to no other purchaser or transferee.

Limited Ninety (90) Day Warranty

TACP and THI warrant this product against defects in materials or workmanship or a period of ninety (90) days after the date of original retail purchase. During this period TACP and THI will repair a defective product or part, without charge to you. You must deliver the entire product to a TACP/THI Service Center. You pay for all transportation and insurance charges for the set to and from the Service Center.

Limited One (1) Year Warranty

TACP and THI further warrant the parts in this product against defects in materials or workmanship for a period of one year after the date of original retail purchase. During this period, TACP and THI will replace a defective part without charge to you, except that if a defective part is replaced after ninety (90) days from the date of the original retail purchase you pay labor charges involved in the replacement. You must also deliver the entire product to one of the TACP/THI Service Centers. You pay for all transportation and insurance charges for the set to and from the Service Center.

Owner's Manual and Registration Card

You should read the owner's manual thoroughly before operating this product. You should also insure that your name and address are on file as owners of a TACP/THI product by completing and mailing the enclosed registration card within ten days after you, or the person who has given you this product as a gift, purchased this product. This is one way to enable TACP/THI to establish the date of purchase of the product, as well as to provide you with better customer service and improved products. Failure to return the card will not affect your rights under this warranty so long as you retain other proof of purchase such as a bill of sale.

Step-By-Step Procedures - How To Obtain Warranty Service

**IN THE CONTINENTAL
UNITED STATES...**

Should your unit require
service or parts, CALL

Your Responsibility

The above warranties are subject to the following conditions:

- (1) You must retain your bill of sale or provide other proof of purchase. Completing and mailing in the enclosed registration card within ten days after the original retail purchase is one way of providing such other proof of purchase.
- (2) You must notify an Authorized TACP/THI Service Station within thirty (30) days after you discover a defective product or part.
- (3) All warranty servicing of this product must be made by an Authorized TACP/THI Service Station.
- (4) These warranties are effective only if the product is purchased and operated in the U.S.A.
- (5) Labor service charges for set installation, set up, adjustment of customer, controls and installation of repair or antenna systems are not covered by this warranty. Reception problems caused by inadequate antenna systems are your responsibility.
- (6) Warranties extend only to defects in materials or workmanship as limited above and do not extend to any product or parts which have been lost or discarded by you or to damage to products or parts caused by misuse, accident, improper installation, improper maintenance or use in violation instructions furnished by us: or to units which have been altered or modified without authorization of TACP/THI or to damage to products or parts thereof which have had the serial number removed, altered, defaced or rendered illegible.



HAWAII

Toshiba Hawaii Inc.
Service Department
327 Kamakee Street
Honolulu, HI 96814
Phone Number:
(808) 521-5377

IN THE EVENT A PROBLEM SHOULD DEVELOP WITH YOUR PRODUCT, PLEASE PROCEED AS FOLLOWS:

- (1) Refer to the troubleshooting guide in your owner's manual. This check list may solve your problem.
- (2) Contact one of the TACP/THI Service Centers listed below for warranty service or call the TACP toll free number 1-800-631-3811 within thirty (30) days after you find a defective product or part.
- (3) Arrange for the delivery of the product to the Authorized TACP/THI Service Center. Products shipped to the Service Center must be insured and safely and securely packed, preferably in the original shipping carton, and a letter explaining the defect and also a copy of the bill of sale or other proof of purchase must be enclosed. All transportation and insurance charges must be prepaid by you. (See Packing and Shipping instructions on TOSHIBA SERVICE PROCEDURE.)
- (4) If you have any question about service, please contact one of the following TACP/THI Service Centers:

EAST

82 Totowa Road
Wayne, NJ 07470
Phone Number:
(201) 628-8000

SOUTHEAST

490 Armour Circle,
N.E.
Atlanta, GA 30324
Phone Number:
(404) 872-6955

MIDWEST

1010 Johnson Drive
Buffalo Grove, IL
60089
Phone Number:
(708) 541-9400

SOUTHWEST

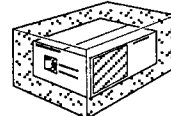
1421 Champion Drive
Suite 304
Carrollton, TX 75006
Phone Number:
(214) 243-1367

WEST

5490E, Francis Street,
Ontario, CA 91761
Phone Number:
(714) 988-5303

IMPORTANT: PACKING AND SHIPPING INSTRUCTIONS

When you send the product to a service center, you must use the original carton box and packing material, then insert the original carton box containing the unit into another carton, using more packing material.



ALL WARRANTIES IMPLIED BY STATE LAW, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE EXPRESSLY LIMITED TO THE DURATION OF THE LIMITED WARRANTIES SET FORTH ABOVE. Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you. WITH THE EXCEPTION OF ANY WARRANTIES IMPLIED BY STATE LAW AS HEREBY LIMITED, THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES, GUARANTEES, AGREEMENTS AND SIMILAR OBLIGATIONS OF MANUFACTURER OR SELLER WITH RESPECT TO THE REPAIR OR REPLACEMENT OF ANY PRODUCT OR PARTS.

IN THE EVENT SHALL TACP OR THI BE LIABLE FOR CONSEQUENTIAL OR INCIDENTAL DAMAGES. Some states do not allow the exclusion or limitation of incidental or consequential damages so the above limitation may not apply to you.

No person, agent, distributor, dealer, service station or company is authorized to change, modify or extend the terms of these warranties in any manner whatsoever. The time within which an action must be commenced to enforce any obligation of TACP and THI arising under this warranty or under any statute or law of the United States or any state thereof, is hereby limited to one year from the date you discover or should have discovered, the defect. This limitation does not apply to implied warranties arising under state law. Some states do not permit limitation of the time within which you may bring an action beyond the limits provided by state law so the above provision 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.

TOSHIBA AMERICA CONSUMER PRODUCTS, INC.

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