TOSHIBA

Projection Television

OWNER'S MANUAL

TP50F60/TP50F61
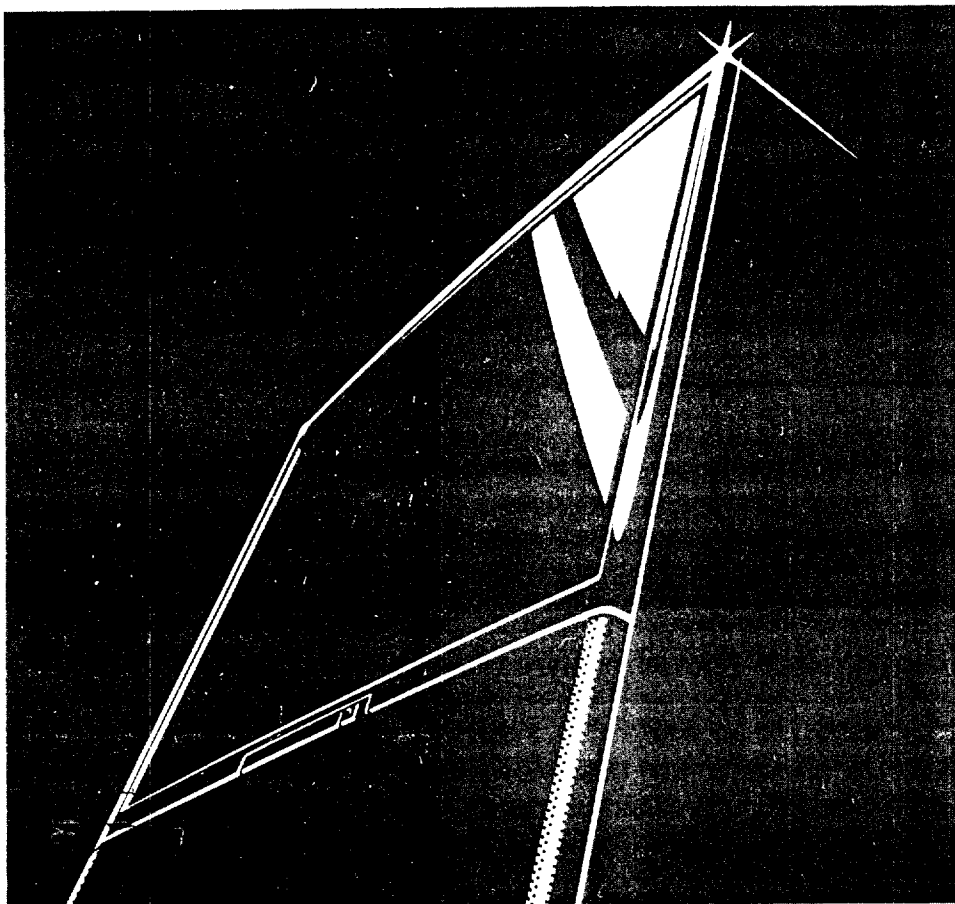
Dear Customer

Welcome to the high quality picture world created by the TOSHIBA Projection Color Television.
This owner's manual applies to models TP50F60 and TP50F61.
This manual will help you use the TV's many exciting and useful features.
Before operating the TV, please read all the safety and operating instructions in this manual thoroughly, and keep it for future reference.

Customer's Record

You will find the model number and serial number on the back of the TV.
Record these numbers in the spaces provided below.
Refer to them whenever you call upon your TOSHIBA dealer regarding this product.

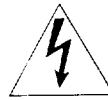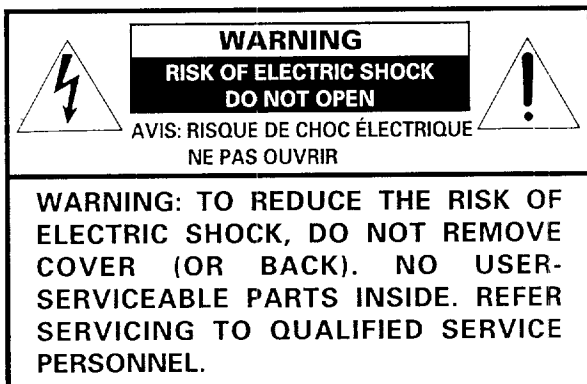Model Number _____   Serial Number _____

Safety Precautions

WARNING:

TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

WARNING
RISK OF ELECTRIC SHOCK
DO NOT OPEN
AVIS: RISQUE DE CHOC ÉLECTRIQUE
NE PAS OUVRIR

WARNING: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

The lightning symbol in the triangle tells you that the voltage inside this product may be strong enough to cause an electric shock.
DO NOT TRY TO SERVICE THIS PRODUCT YOURSELF.

The exclamation point in the triangle tells you that important operating and maintenance instructions follow this symbol.
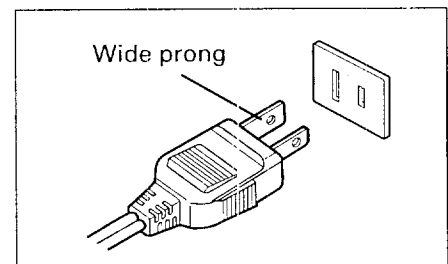
CAUTION:

As a safety feature, the AC plug has one prong wider than the other.
It will fit only one way into a standard electrical outlet.
If the plug will not fit into the outlet, try turning it around.
If the plug will not fit either way, the outlet is probably old and non-standard. You will need to have a new outlet installed by an electrician.
DO NOT CHANGE THE SAFETY FEATURE OF THE PLUG.

Wide prong

CAUTION:

TO PREVENT ELECTRIC SHOCK, DO NOT USE THIS POLARIZED PLUG WITH AN EXTENSION CORD RECEPTACLE OR OTHER OUTLET UNLESS THE PRONGS CAN BE FULLY INSERTED INTO THE OUTLET TO PREVENT ANY EXPOSURE OF THE PRONGS OF THE POLARIZED PLUG.

NOTE TO CATV SYSTEM INSTALLERS IN THE USA:

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.

Table of Contents

INTRODUCTION

CHAPTER 1 INTRODUCTION

Installation

To install the TV

Downward spot lights or fluorescent lights in an overhead "Honeycomb" prevent direct illumination of the screen.

Use curtains or blinds to shut out direct sunlight.
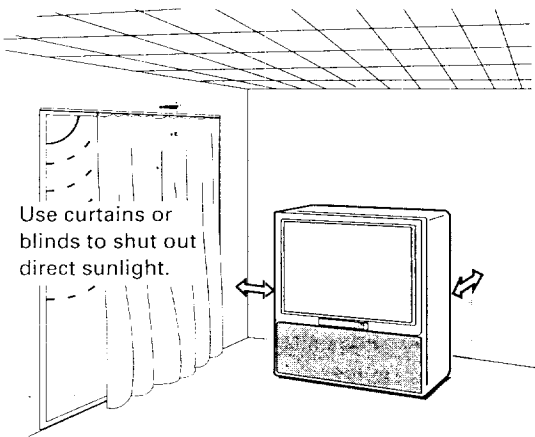
Cover shiny surfaces (floor and walls) with non-reflective materials (carpet, rugs, wallpaper, etc.).

Where to install
Place the TV on the floor or on a sturdy platform. The mounting surface should be flat and steady. If you install the TV on a soft floor, make sure that the floor is not damaged by the weight of the TV.

Air Circulation
Place the TV far enough away from the walls to allow proper ventilation. This will prevent the TV from overheating and avoid possible damage to the TV. Avoid dusty places too.

Heat Damage
Damage may occur if you leave the TV in direct sunlight or near a heater. Avoid places subject to extremely high temperatures or humidity, and temperatures of 41°F (5°C) or lower.

Power Supply
Plug into an electrical outlet with standard household power (120 volt AC, 60 Hz). Do not change the plug's safety prong. See page 2.

Moisture Condensation
If the room temperature suddenly rises (or if the TV is moved from a cool place to a hot place), condensation may occur on the lenses, resulting in picture distortion or color fading. In such a case, simply wait a while (with the power on) and the condensation will evaporate.

Best Viewing

Sit approximately 10-25 feet away from the TV. Sitting too far to the left or right of the screen will cause the picture to appear dull as will direct sunlight and room lights. Turn the TV off to check for reflections on the screen. Then remove the source of any reflections while viewing.

VERTICAL VIEWING
ANGLE [SIDE VIEW]

10 feet

4 feet
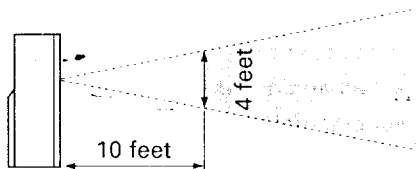
Viewing Range

HORIZONTAL VIEWING
ANGLE [TOP VIEW]

24 feet

10 feet

Viewing Range

4
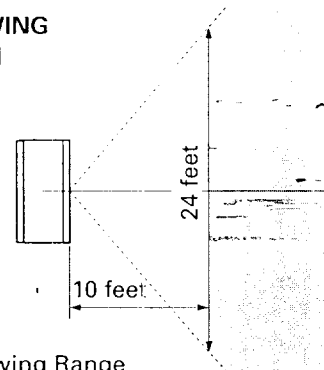
Care and Maintenance
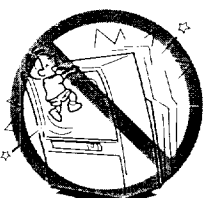
Do not stand or climb on the TV.
- The TV is dangerous if broken or if it has fallen over.
- Be careful when children are present.
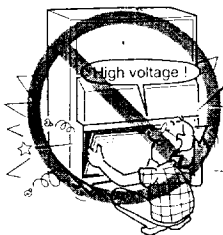
Do not remove the back cover and never remodel the cabinet or components.
- Let qualified technicians check and adjust your TV.
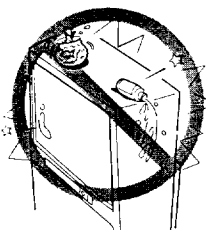
Do not place containers with liquids such as drinks or cosmetics on the TV.

If any foreign material or water has gotten into the TV, remove the AC cord and contact your dealer.
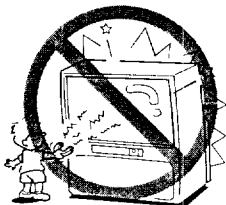
Keep magnets, toys with magnets, electric clocks, speakers, etc. away from the TV.
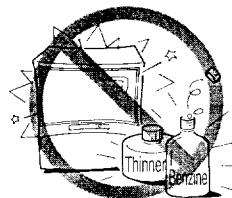
Do not use solvents such as benzine or thinner to clean the TV.
— These solvents may distort the cabinet or damage its finish.
— If rubber or vinyl products are in contact with the TV for a long time, a stain may result.
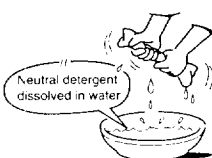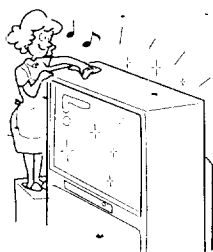
When the cabinet becomes dirty, clean it with a soft, dry cloth.
When the cabinet is very dirty,
① Use a damp cloth to wipe the cabinet clean.
② Finish with a dry cloth.

When cleaning the screen:
① Turn off the TV.
② Clean the screen with a soft, dry cloth.

5

Antenna/Cable TV Connections

- You can use either an indoor or outdoor antenna to receive VHF and UHF channels.
- Channels 2-13 are VHF channels, and channels 14-69 are UHF channels.
- We recommend using an outdoor antenna for better picture quality.
- You can receive Cable TV by connecting the cable supplied by your local cable company.

Types of antenna cables

Shown below are two basic types of antenna cables.
Signals from a home antenna may be conveyed by either type. Cable TV signals will always be conveyed by a 75 ohm coaxial cable.

① A 75 ohm coaxial cable is generally a round cable with F-type connectors that can easily be attached to a terminal without tools.

F-type connector (Not supplied)

② A 300 ohm cable is a flat "twin-lead" cable that can be attached to a terminal using the supplied antenna adapter.
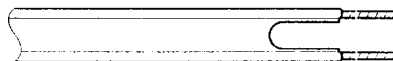
Antenna connection panel

There are two separate 75 ohm F-type connector terminals and a converter output terminal as shown below.

TV rear

ANT(75Ω)

ANT-1   OUT   ANT-2
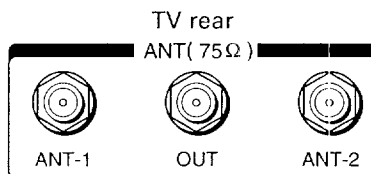
The ANT-1 and ANT-2 terminals are for connecting a VHF/UHF antenna or cable TV system. The signal input through ANT-1 is also output from the OUT terminal whenever the RF switcher on the TV is in the ANT-2 position. You can switch between the ANT-1 and ANT-2 inputs in the ANT 1/2 menu or with the **ANT/VIDEO** button on the TV. See page 21.

To connect a home antenna

Single antenna cable
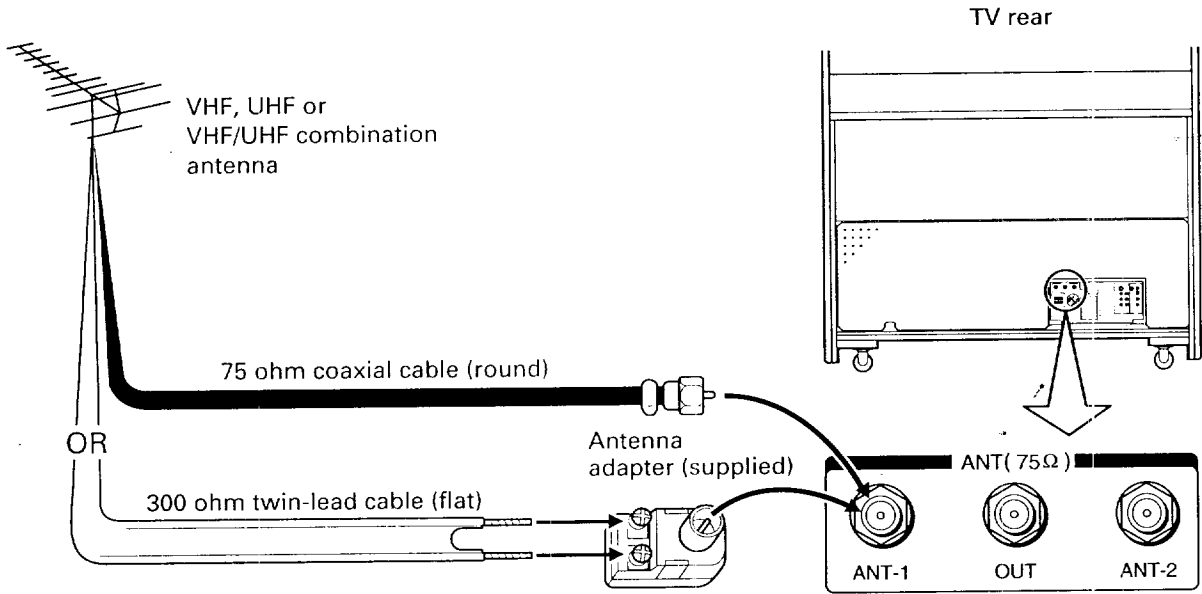
TV rear

VHF, UHF or
VHF/UHF combination
antenna

75 ohm coaxial cable (round)

OR

Antenna
adapter (supplied)

300 ohm twin-lead cable (flat)

ANT(75Ω)

ANT-1   OUT   ANT-2

Note:
You can connect another signal source such as a cable TV system or video game to the ANT-2 terminal.

Separate VHF and UHF antenna cables
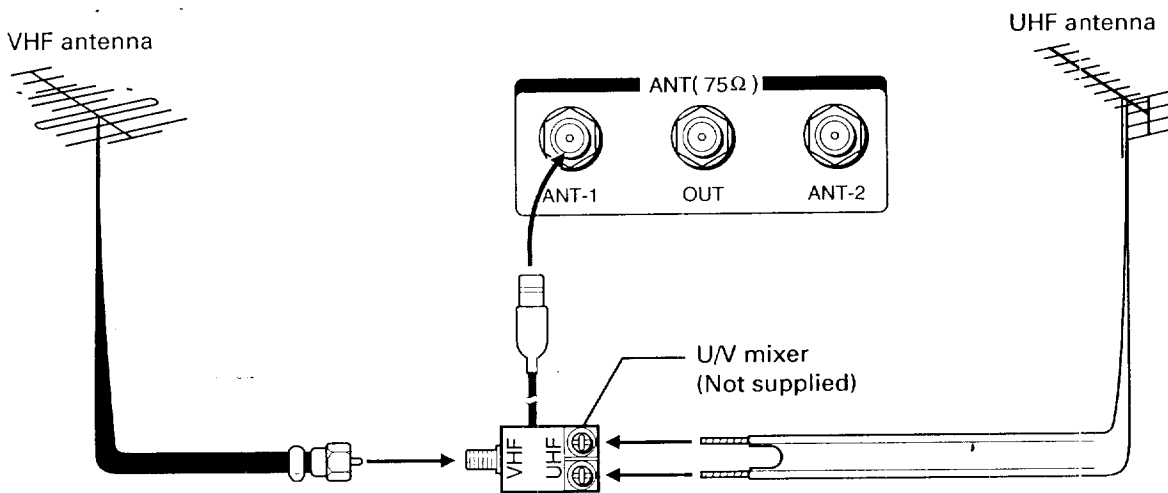
UHF antenna

VHF antenna

ANT(75Ω)

ANT-1   OUT   ANT-2

U/V mixer
(Not supplied)

VHF
UHF

Note:
You can connect another signal source such as a cable TV system or video game to the ANT-2 terminal.

7

Antenna/Cable TV
Connections (continued)

To connect a Cable TV

Generally, the cable TV system cable can be connected directly to the TV antenna terminal just like a home antenna. **(A-1)**

Some cable companies, however, offer premium pay channels. Since premium pay channel signals are scrambled, a cable TV converter/decoder is generally provided to the subscribers by the cable TV company. This decoder box is necessary for normal viewing of the scrambled channels. We recommend that you consult your cable TV company for more specific instructions on installing cable TV. **(A-2)**

(A-1) Cable without a decoder box (Unscrambled channels)

Cable TV ═══════════════════════════════════ ▪ ANT(75Ω) ▪

ANT-1   OUT   ANT-2

Note:
You can connect another signal source such as a cable TV decoder box or video game to the ANT-2 terminal.

(A-2) Cable with a decoder box (Scrambled and Unscrambled channels)

- The unscrambled channels are input through the ANT-1 terminal whenever the ANT1/2 menu, or the **ANT/VIDEO** button on the TV, is in "ANT 1" mode. See page 21.
- The scrambled channels from the decoding device are input through the ANT-2 terminal whenever the ANT 1/2 menu, or the **ANT/VIDEO** button, is in "ANT 2" mode. Set the TV to channel 3 or 4 to match the output channel of the decoding device.

Cable TV

ANT(75Ω)

ANT-1   OUT   ANT-2

IN   OUT

Cable TV converter/ decoder
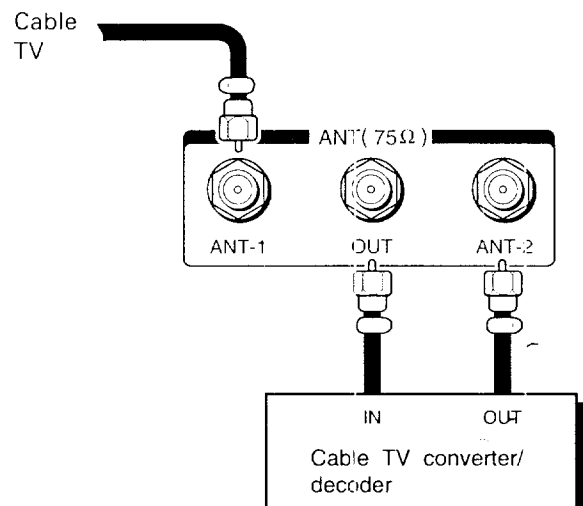
Note:
The decoding device may or may not be a part of the cable converter.

To connect an Antenna/Cable TV and VCR

Antenna/Cable TV connection via VCR (Simplified method)
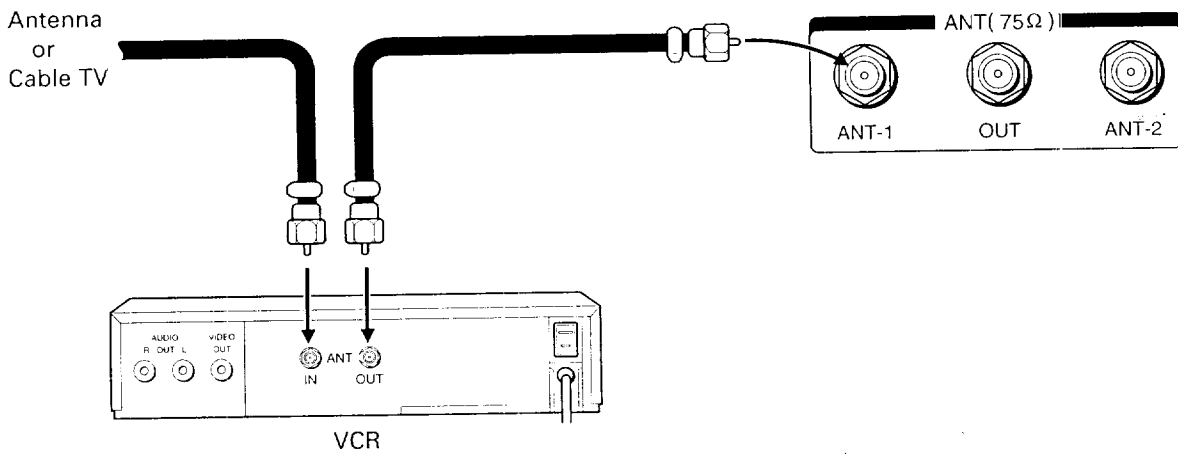
Notes:
- Tape playback may often cause the VCR to interrupt the antenna signal to the TV. If you cannot select a certain channel, try pressing the TV/VCR button on the Remote Control.
- VIDEO/AUDIO connections from the VCR to the TV are required for stereo tape playback from stereo VCRs. See page 49.

Using a 2-way signal splitter

You can view either TV programs or VCR tapes regardless of the position of the VCR's TV/VCR switch.
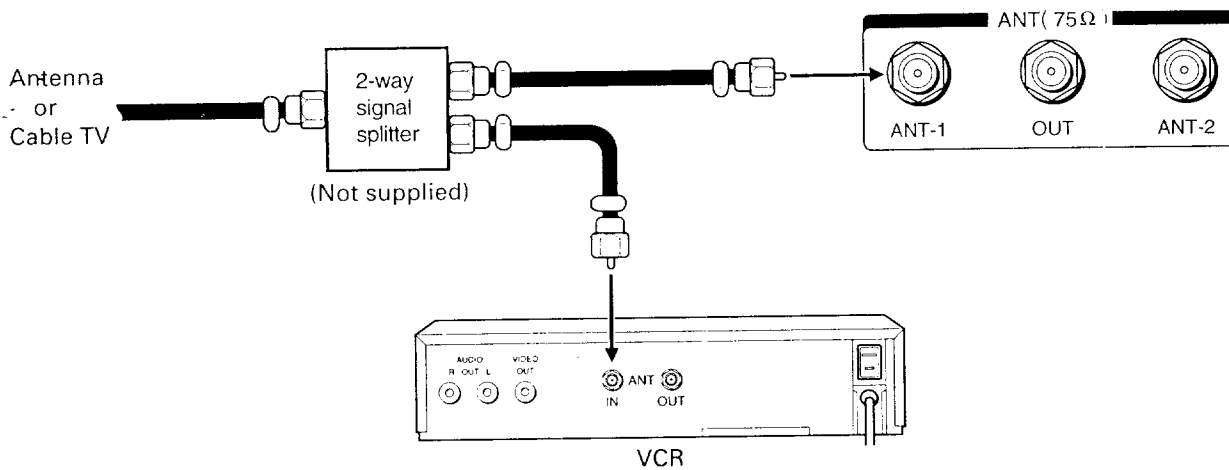
Note:
VIDEO/AUDIO connections from the VCR to the TV are required for playback. See page 49.

9

Antenna/Cable TV Connections (continued)

To connect an Antenna/Cable TV and VCR (continued)

Cable with a decoder box

- The unscrambled channels are input through the ANT 1 terminal whenever the ANT1/2 menu (see page 21), or the **ANT/VIDEO** button on the TV, is in the "ANT 1" position.
- The scrambled channels from the decoder box are input through the VCR and the ANT 2 terminal whenever the ANT1/2 menu, or the **ANT/VIDEO** button, is in the "ANT 2" position. Set the TV and the VCR to channel 3 or 4 to match the output channel of the decoding device.

Cable TV

2-way signal splitter
(Not supplied)

Cable TV converter/decoder   IN   OUT

ANT(75Ω)

ANT-1   OUT   ANT-2

AUDIO R OUT L   VIDEO OUT   ANT IN OUT

VCR
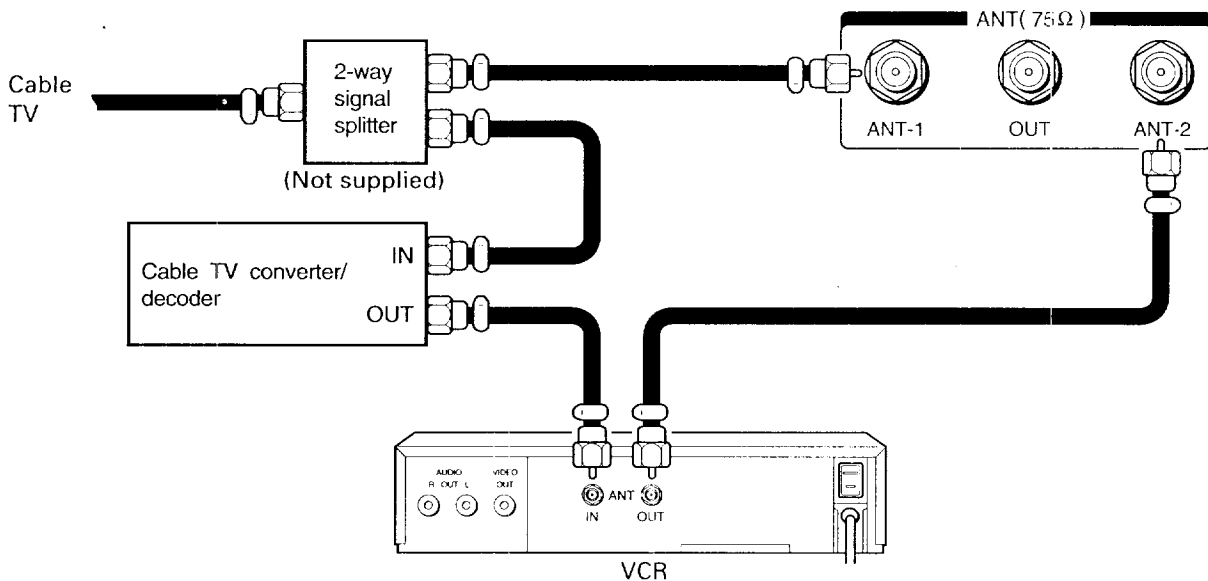
Notes:
- VIDEO/AUDIO connections from the VCR to the TV are required for stereo tape playback from stereo VCRs. See page 49.
- The decoding device may or may not be a part of the cable converter.

Operation and Controls

- The following describes the functions of each part of the TV and the Remote Control.
  For details on the use of each control, refer to the page numbers in brackets.

Front view

POWER indicator

POWER

Press to open the door.

POWER button [20]

Remote sensor

Behind the door

ANT/VIDEO button [21]
ENTER button [19]

IN–VIDEO 3
S-VIDEO   VIDEO   AUDIO
L/MONO   R

DEMO   MENU   ANT/VIDEO   VOLUME   CHANNEL

VIDEO 3 INPUTS [50]

MENU button [18]

DEMO button [48]

CHANNEL ▼/▲ buttons [25]
∨/∧ buttons [18]

VOLUME ▼/▲,buttons [25]
⟨/⟩ buttons [18]

11
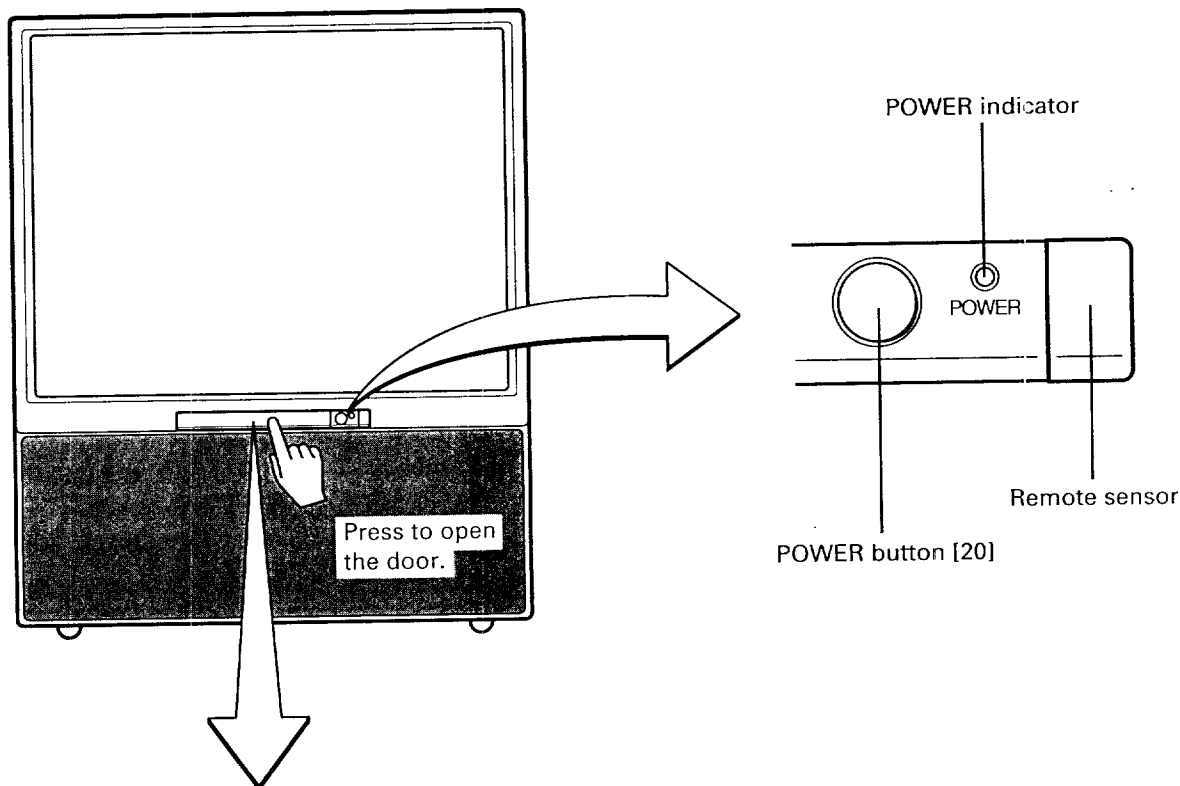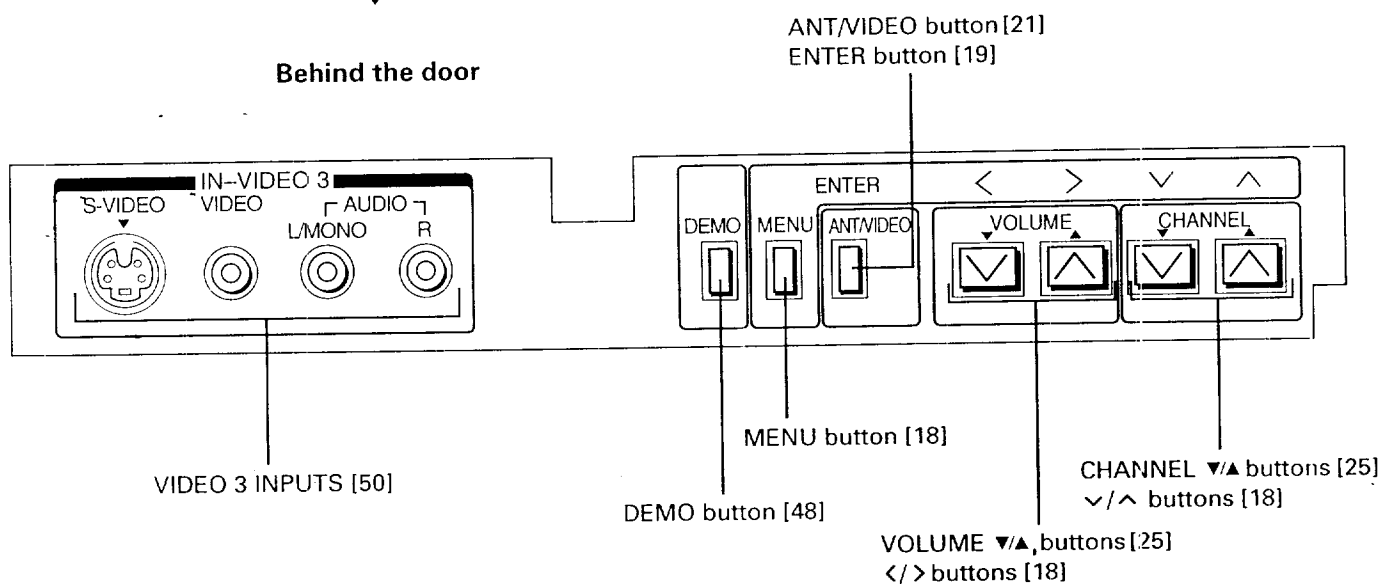
■ Operation and Controls (continued)

Remote Control

Only the buttons that are used to operate the TV are described here.
For details on the use of each control, refer to the pages in brackets.

Aim at the remote sensor on the TV

TIMER* [34, 35]

TV/CABLE/VCR switch [15]
Set to "TV" to control the TV.

TV/VIDEO* [51]

Channel Number* [25]

EDS* [27]

ENTER [19]

FAV ▼ * [42]

PIP CH ∨ * [36]

RESET* [30]

PIP functions* [36]
(For "TV" and "CABLE" positions)

RECALL* [35]

POWER [20]

MUTE* [26]

CHANNEL ▲/▼ [25]

CH RTN * [26]

VOLUME ▲/▼ [25]

MENU [18]

PIP CH ∧ * [36]

∧ / ∨ / ‹ / › [18]

FAV ▲ * [42]

EXIT* [19]

TOSHIBA
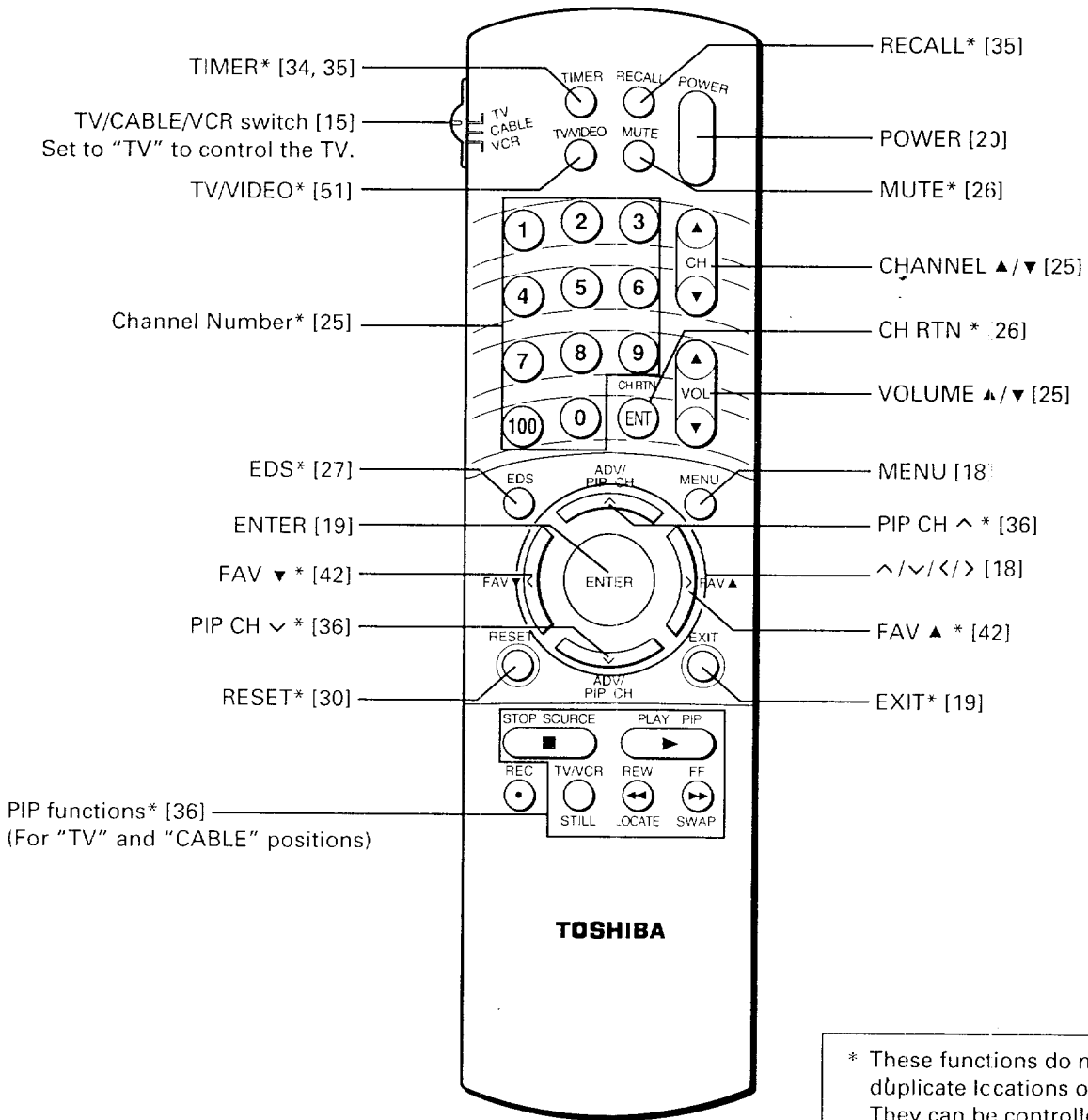
* These functions do not have
duplicate locations on the TV.
They can be controlled only by
the Remote Control.

12

Remote Control (continued)

With this Remote Control, you can operate your TV and most VCR and cable box models regardless of the manufacture. However, this Remote Control must be programmed to control other VCR and cable box brands. See pages 16 and 17. If you have a Toshiba VCR, your Remote Control has already been programmed for you.
Before attempting to operate your Remote Control, install the batteries according to "Battery installation" below.

Notes:
- After installing new batteries, the Remote Control will set itself to the codes for Toshiba TVs and VCRs. If you are using the Remote Control to operate other manufacture's equipment, you will have to reprogram those codes.
- This Remote Control may have functions not available on your VCR and cable box remote controls.
  These functions may or may not operate your VCR or cable box. Refer to the owner's manuals supplied with the equipment to see which functions are available.
- The remote control supplied with your VCR or cable box may have keys not duplicated on this Remote Control. If you want to use these functions, please use the original remote control.

Battery installation
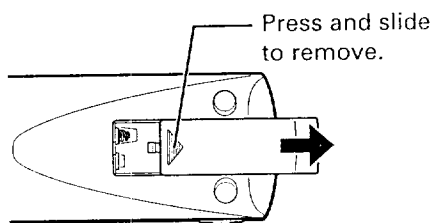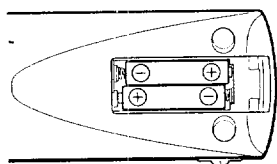
1 Place the Remote Control face down and remove the battery cover.

Press and slide to remove.

2 Insert two "AAA" size batteries, matching the + and – signs on each battery with the + and – signs in the battery compartment.

3 Slide the battery cover shut until the lock clicks.

CAUTIONS
- Do not throw your batteries into a fire. Dispose of your batteries in a designated disposal area.
- Do not combine used batteries with new ones.
- Do not mix battery types.

Tips for best operation
- For optimum performance, aim the Remote Control directly at the TV from a distance within 16 feet (5 m), and be sure there is no obstruction between the Remote Control and the TV.
- If your Remote Control does not always operate the TV as you wish, you probably need to replace the batteries. The life expectancy of the batteries is about 1 year.
- If the Remote Control will not be used for a long period of time or when the batteries are worn out, remove the batteries to prevent leakage.
- Do not drop, dampen or disassemble the Remote Control.

13

Operation and Controls (continued)

Remote Control (continued)

• To control a TOSHIBA VCR, first set the TV/CABLE/VCR switch to "VCR." The buttons shown below will then control the VCR. The rest of the buttons operate the TV as usual.
  If you have another brand of VCR, you can probably program the Remote Control to control it. Details are on page 15.
• To control a cable TV converter, this Remote Control must be programmed to recognize the brand of your converter. See page 15.
  Set the TV/CABLE/VCR switch to "CABLE" whenever you want to control the cable TV converter.

Aim at the VCR or cable TV converter
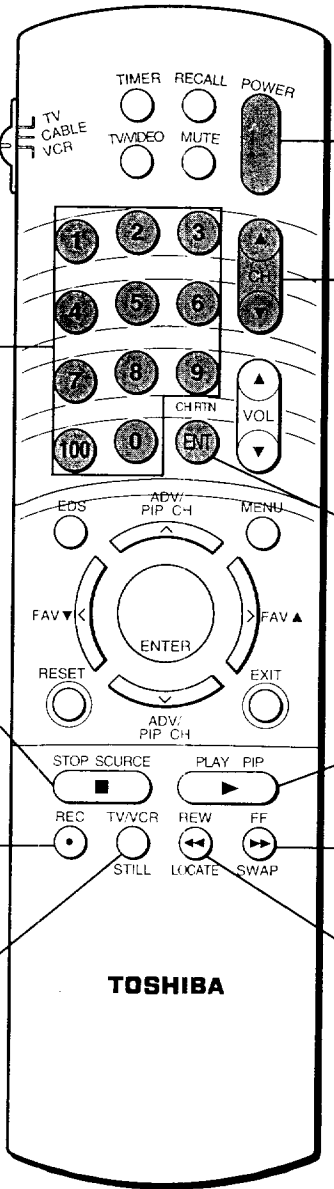
TV/CABLE/VCR switch
CABLE: To control a cable
       TV converter
VCR: To control a VCR

Channel Number buttons
Press the numbers to select
a channel.

STOP button
Press to stop the tape.

RECord button
Press to start recording.

TV/VCR button
Press to select the TV mode to
view one program while
recording another program.

Shaded buttons can be used to
control the cable TV converter.

POWER button
Press to turn the VCR (or cable
TV converter) on.
Press again to turn off.

CHANNEL ▲/▼ buttons
Press ▲ to select the next
higher channel.
Press ▼ to select the next
lower channel.

CH RTN button
Press to turn to the channel
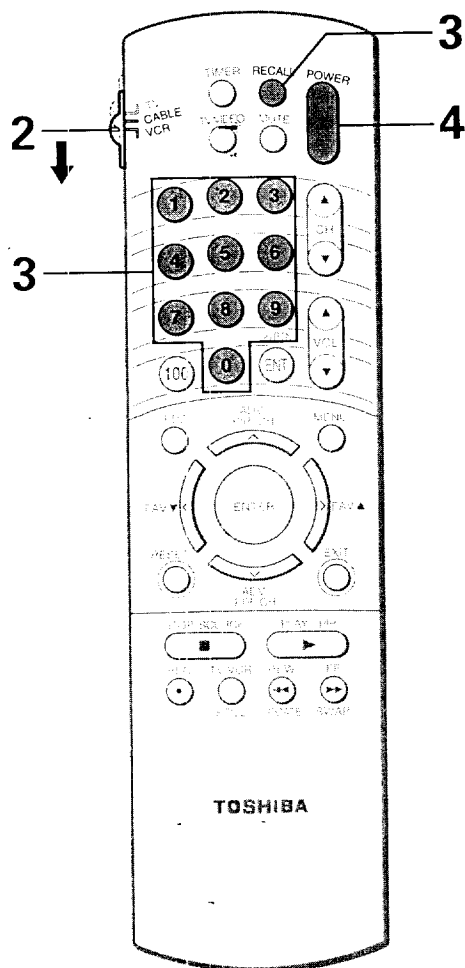previously viewed.

PLAY button
Press to begin tape playback.

FF button
Press to rapidly advance a tape.
In playback mode, press to view the
picture moving rapidly forward.

REWind button
Press to rewind a tape.
In playback mode, press to
view the picture moving
rapidly in reverse.

TOSHIBA

14

To program the Remote Control

- This Remote Control is programmed to operate Toshiba VCRs.
- To operate VCRs (or Cable converters) other than Toshiba models, perform the following procedures before operating.

1 Refer to the *"VCR code table"* (or *"Cable TV converter code table"*) on pages 16 and 17 to find the code number that corresponds to the brand name of your VCR (or your converter).

If more than one number is listed, try each one separately until you find the one that works.

2 Set the **TV/CABLE/VCR** switch to "VCR" (or "CABLE").

3 While holding down **RECALL**, press the **Number** buttons to enter the three digit code number for your brand of VCR (or converter).

4 Point the Remote Control at the VCR (or at the converter) and press **POWER** to test the code number.
—If the number is correct, the VCR should turn on.
—If the VCR does not respond to the Remote Control, repeat steps 1 through 4 with another code number.

Notes:
- Some newer VCRs are capable of working on either of two remote codes. These VCRs have a switch labeled "VCR 1/VCR 2."
  If your VCR has this kind of switch, and does not respond to any of the code numbers for your VCR brand name, set the switch to the other position ("VCR 1" or "VCR 2") and reprogram the Remote Control.
- In some rare cases, you may not be able to operate your non-TOSHIBA equipment with the supplied Remote Control. This is because your equipment may use a code that is not provided with this Remote Control. In this case, please use the equipment's own remote control.

For future reference, write the code number you set.

VCR CODE: _____

CABLE CODE: _____

Note:
You have to reprogram the Remote Control when you change its batteries.

TOSHIBA

Operation and Controls (continued)

• The code numbers listed below were the most recent ones available at the time of printing. New code numbers may or may not have been added since printing.

VCR code table

BRAND NAME	CODE NUMBER	BRAND NAME	CODE NUMBER	BRAND NAME	CODE NUMBER
Adventura	019	Fisher	065, 066, 073, 085, 123	MGN Technology	259
Aiko	297			Minolta	061, 124
Aiwa	019	Frontech	039	Mitsubishi	062, 080, 086, 094, 100, 192, 233, 261
Akai	060, 068, 080, 125, 261	Fuji	052, 054		
		Fnai	019	Motorola	054, 067
Akiba	091	Garrard	019	MTC	019, 259
Alba	039, 228, 297, 314	GE	054, 079, 084, 221	Multitech	019, 091
American High	054	GEC	100	Murphy	019
Amstrad	019	General	071	NEC	057, 059, 060, 069, 086
Anam	181	Go Video	251, 298		
Anitech	091	Goldstar	037, 056, 057	Neckermann	100
ASA	056, 100	Goodmans	019, 039, 056, 081, 091, 297	Nesco	091
Asha	259			Nikko	056
Asuka	056	Gradiente	019	Noblex	259
Audiovox	056	Graetz	060, 123	Nokia	060, 065, 123, 125, 259
Baird	019, 123	Granada	065, 100, 123		
Basic Line	039, 091, 297	Grandin	019, 056, 091	Nordmende	060
Beaumark	259	Grundig	100	Oceanic	019
Bell & Hawell	123	Harley Davidson	019	Olympus	054
Blaupunkt	053, 181	Harman/Kardon	057, 094	Optimus	056, 067
Brandt	206	Harwood	087, 091	Optonica	067, 081
Broksonic	140, 203, 230, 380	HCM	091	Orion	140, 227, 228, 314
Bush	091, 228, 297	Headquarter	065	Osaki	019, 056, 091
Calix	056	HI-Q	066	Otto Versand	100
Canon	054	Hinari	091, 227	Palladdium	056, 091
Capehart	039	Hitachi	019, 060, 061, 084, 124, 254	Panasonic	054, 096, 115, 181, 244
Carver	100				
CCE	091, 297	Hypson	091	Penney	054, 056, 057, 059, 061, 073, 259
CGE	019	Imperial	019		
Cimline	091	Interfunk	100	Pentax	061, 084, 124
Citizen	056, 297	ITT	060, 065, 123, 125	Perdio	019
Clatronic	039	ITV	056, 297	Philco	054
Colt	091	JCL	054	Philips	054, 081, 100, 129
Condor	039	Jensen	060	Phonola	100
Craig	056, 066, 091, 259	JVC	027, 060, 086	Pilot	056
Crown	091, 297	Kaisui	091	Pioneer	086, 100
Curtis Mathes	054, 079	Kendo	125, 228	Portland	039
Cybernex	259	Kenwood	057, 060, 065, 086	Profitronic	259
Daewoo	039, 064, 065, 297	KLH	091	Proline	019
Dansai	091	Kodak	054, 056	protec	091
Daytron	039	Korpel	091	Pulsar	058
De Graff	061	Leyco	091	Pye	100
Decca	019, 100	Lloyd	019	Quarter	065
Dual	060	Loewe	056	Quartz	065
Dumont	019, 100, 123, 124	Loewe opta	100	Quasar	054, 096, 115
Dynatech	019	logik	091, 259	Quelle	100
Elcatech	091	Luxor	062, 065, 123, 125	Radio Shack	019, 056
Electrohome	056	LXI	056	Radiola	100
Electronic	019	M-Electronic	019	Radix	056
Electrophonic	056	Magnavox	019, 054, 058, 100, 129, 168	Randex	056
Emerex	051			RCA	054, 061, 079, 084, 096, 115, 124, 125, 168, 221
Emerson	019, 021, 056, 062, 080, 087, 140, 203, 227, 228, 230, 231, 313, 314, 380	Magnin	259		
		Manesth	064, 091		
		Narantz	054, 057, 081, 100		
		Marta	056	RCA Unified	079
ESC	297	Masushita	054	Realistic	019, 054, 056, 065, 066, 067, 081, 085, 123, 259
Ferguson	060	Matsui	227, 228, 314		
Fidelity	019	MEI	054		
Finlandia	100, 123, 129	Memorex	019, 054, 056, 058, 065, 066, 067, 123, 259	Rex	060
Finlux	019, 061, 100, 123, 124			Ricoh	053
				Roadstar	056, 091, 259, 297
Firstline	056, 062, 064, 091, 228	Memphis	091	Runco	058
		Metz	181	Saba	060
		MGA	062, 080	Saisho	227, 228
				Salora	062, 065, 125

Cable TV converter code table

BRAND NAME	CODE NUMBER
Sansung	064, 259
Sanky	058, 067
Sansui	060, 086
Sanyo	065, 066, 123, 259
SBR	100
Schaub Lorenz	019, 060
Schneider	019, 091, 100, 129
Scott	062, 064, 140, 203, 229, 230, 231
Sears	054, 056, 061, 065, 066, 073, 085, 123, 124
SEG	259
SEI	100
Seleco	060
Sentra	039
Sharp	067, 081
Shintom	091
Shgun	259
Siemens	056, 123
Silva	056
Singer	091
Sindyne	100
Sontec	056
Sony	051, 052, 053, 054
STS	061
Sunstar	019
Sylvania	019, 054, 062, 100, 129
Symphonic	019
Tandy	019, 123
Tashiko	019
Tatung	019, 060, 100
Teac	019, 060
Technics	054, 181
Teknika	019, 054, 056, 071
Teleavia	060
Telefunken	060, 206
Tenosal	091
Tensai	019
Thomson	060
Thorn	060, 123
TMK	227, 259
Toshiba	060, 062, 064, 085, 229, 231, 385
Totevison	056, 259
Triumph	227
Untech	259
Universum	019, 056, 068, 100, 125
Vector	064
Vector research	057, 059
Victor	027, 060, 086
Video Concepts	059, 064, 080
Videosonic	259
Wards	019, 054, 061, 066, 067, 081, 091, 168, 231, 259
XR-1000	019, 054, 091
Yamaha	057, 060
Yamishi	091
Yokan	091
Yoko	039, 259
Zenith	052, 053, 058

BRAND NAME	CODE NUMBER
ABC	020, 022, 026, 030, 032, 033, 036, 066
Antronix	041
Archer	041, 058, 172
Belcor	075
Cable Star	075
Cabletenna	041
Cableview	041
Century	172
Citizun	172
Color Voice	044, 050
Comtronics	059, 079
Contec	038
Eastern	021
Garrard	172
GC Electronics	035, 075
Gemini	034, 089
General Instrument	030
Hamlin	028, 039, 053, 278, 292
Hitachi	030
Hytex	026
Jasco	172
Jerrold	022, 030, 031, 033, 034, 043, 045, 066, 295
Macom	052
Magnavox	046
Memorex	019
Movie Time	175
NSC	089, 175
Oak	026, 038, 267
Panasonic	040, 126
Paragon	019
Philips	044, 046, 047, 048, 049, 050, 079, 172
Pioneer	042, 163
Popular Mechanics	419
Pulsar	019
PVP Stereo Visual Matrix	022
RCA	040
Regal	039, 278, 292
Regency	021
Rembrandt	030, 089
Runco	019
Samsung	059, 163
Scientific Atlanta	025, 027, 036, 296, 346
Signal	034, 059
Signature	030
SL Marx	059
Sprucer	040
Standard Components	174
Starcom	022, 034, 066
Stargate	034, 059
Starquest	034
STS	175
Sylvania	020
Teleview	059
Texcan	020

BRAND NAME	CODE NUMBER
Tocom	031, 032, 078
Toshiba	019
Tusa	034
Unika	041, 172
United Artists	026
United Cable	022
Universal	041, 058, 075, 096, 172, 210
Viewstar	046, 079, 230
Zenith	019

Quick Reference Menu Guide

- We recommend that you familiarize yourself with these procedures for using the Menu function.

Menus and functions

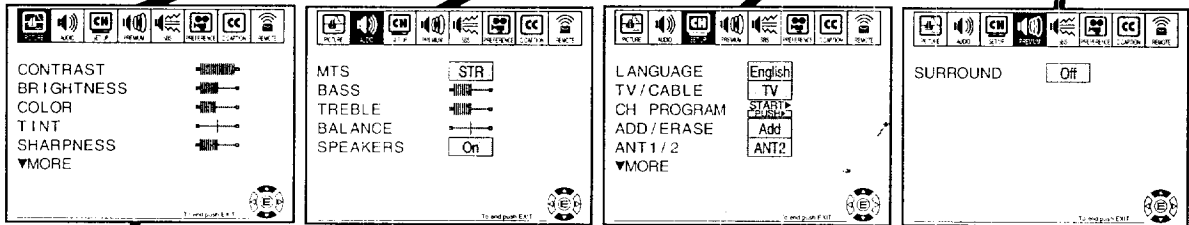**1** Press **MENU** to call up the on-screen menus.
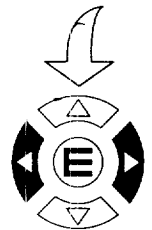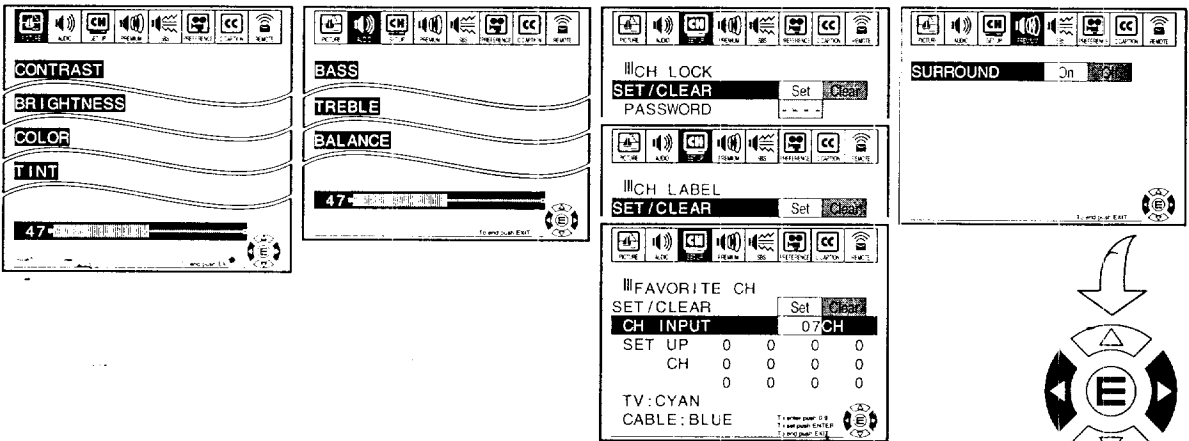
2 Press ＜ or ＞ to select the menu.

PICTURE AUDIO SET UP PREMIUM

3 Press ∧ or ∨ to select an item.

CONTRAST
BRIGHTNESS
COLOR
TINT
SHARPNESS
▼MORE

MTS   STR
BASS
TREBLE
BALANCE
SPEAKERS   On

LANGUAGE   English
TV / CABLE   TV
CH PROGRAM   START
ADD / ERASE   Add
ANT 1 / 2   ANT2
▼MORE

SURROUND   Off

▲MORE
FLESH TONE   On
NOISE REDUCTION   On
CONVERGENCE   START
PUSH

▲MORE
CH LOCK   START
PUSH
CH LABEL   START
PUSH
FAVORITE CH   START
PUSH
RESET   START
PUSH

4 Press ＜ or ＞ to select or adjust a setting.

CONTRAST
BRIGHTNESS
COLOR
TINT
47

BASS
TREBLE
BALANCE
47

ⅢCH LOCK
SET / CLEAR   Set Clear
PASSWORD   - - - -

ⅢCH LABEL
SET / CLEAR   Set Clear

ⅢFAVORITE CH
SET / CLEAR   Set Clear
CH INPUT   07 CH
SET UP   0   0   0   0
     CH   0   0   0   0
          0   0   0   0
TV : CYAN
CABLE : BLUE

SURROUND   On

This mark indicates which button you should press next.

18

SBS | PREFERENCE | C.CAPTION | REMOTE

SBS [Off]
SBS LEVEL

COLOR
TEMPERATURE [Cool]
PICTURE
PREFERENCE [Normal]

CLOSED
CAPTION [OFF]

REMOTE CONTROL
INSTRUCTION

SBS [On] Off
SBS LEVEL

COLOR
TEMPERATURE [Cool Medium Warm]
PICTURE
PREFERENCE [Normal]

CLOSED
CAPTION [C1 C2 C3
C4 T1 T2
T3 T4 OFF]

POWER
USED TO TURN THE
TV ON AND OFF
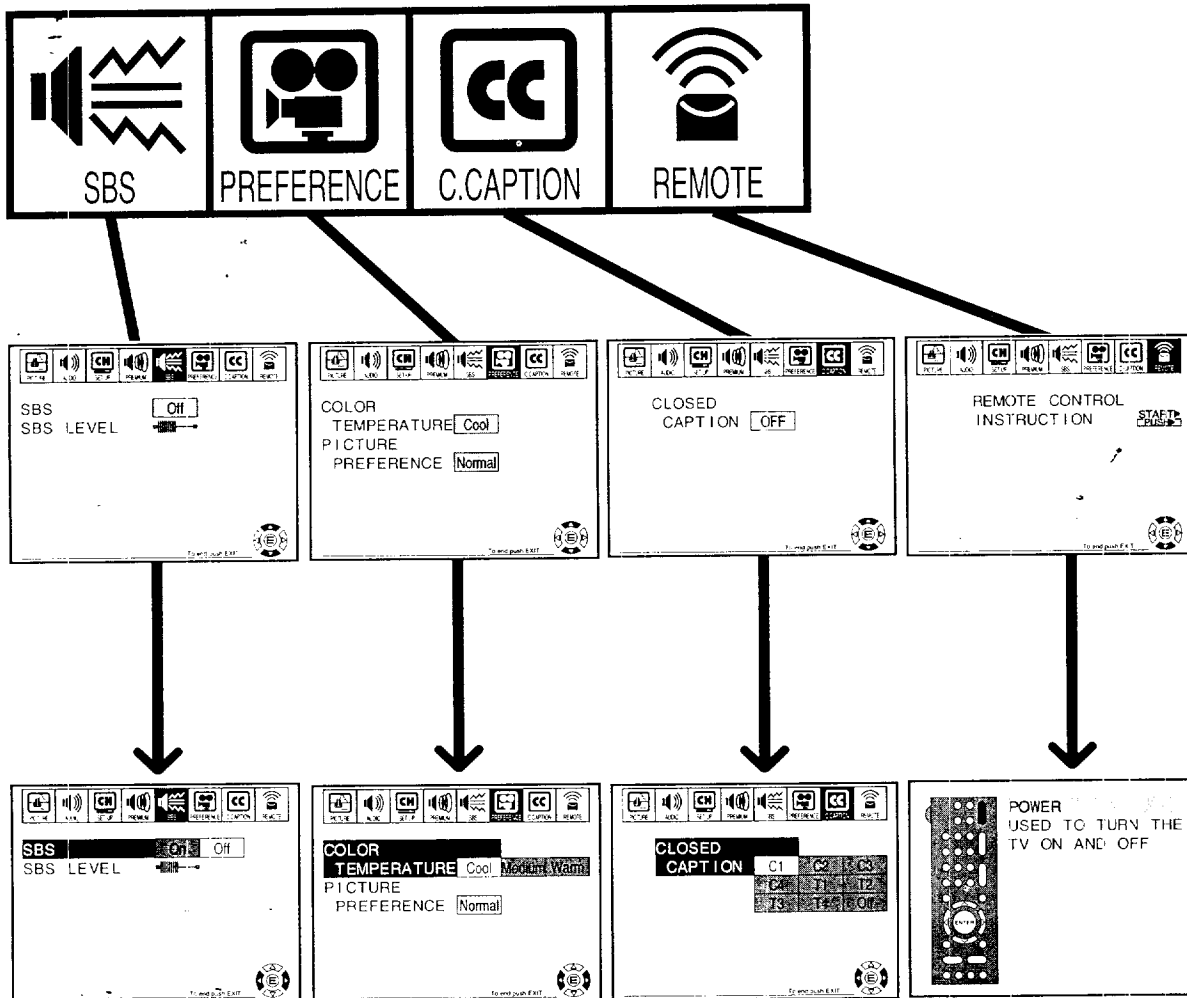
Notes:
- Use the **ENTER** button to activate the function settings in the SET UP menu after step 4.
- The main menu display will disappear automatically if you do not press a button within 15 seconds and other displays will disappear within 6 seconds.
- If you want to close all the on-screen displays instantly, press the **EXIT** button on the Remote Control.
- The ∨ and ∧ buttons on the TV function as the **CHANNEL** ▼/▲ buttons when no menu display is on the screen.
- The ‹ and › buttons on the TV function as the **VOLUME** ▼/▲ buttons when no menu display is on the screen.
- The ‹ and › buttons on the Remote Control function as the **FAV** ▼ and ▲ buttons when no menu display is on the screen.

∧ Press ∧ / ∨ / ‹ / › to select the button. You will see a brief explanation of its functions.
∨

19
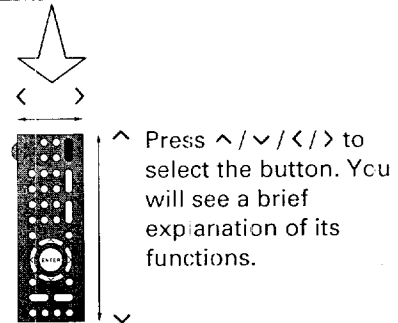
Turning the TV On/Off

GETTING STARTED

To turn the TV on/off

First set the TV/CABLE/VCR switch on the Remote Control to "**TV.**"

ANT/VIDEO

1, 3

TV/
VIDEO

1, 3
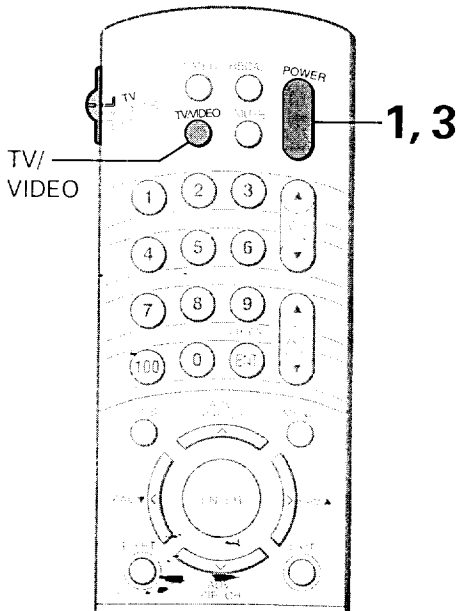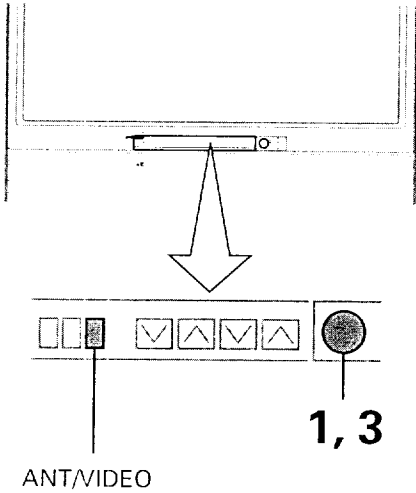
Note:
The **TV/VIDEO** button or **ANT/VIDEO** button is used to input signals from other sources such as VCRs or Laser Disk Players connected to this TV.
See page 51 for details.

1 Press **POWER** on the Remote Control or the TV.
The picture will appear in a few seconds.
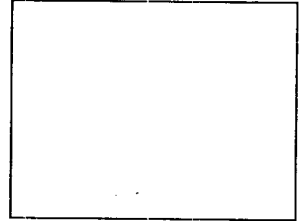
2 The following on-screen information will be displayed for a few seconds.

- Antenna input (when in TV mode).
- Channel label (if previously preset).
- Channel number or VIDEO mode selected.
- STEREO or SAP audio status.

STEREO
SAP

ANT 2
WXYZ
TV 4
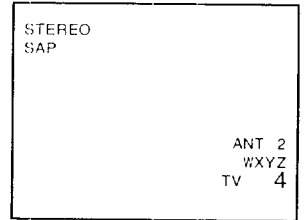
3 To turn the TV off, press **POWER** again.

Auto-Power-Off

If an empty channel is selected, or the TV broadcast for the day is finished, the TV will automatically turn off after about 15 minutes. This **Auto-Power-Off** feature does not operate in the VIDEO mode.

Last Mode Memory

If the power supply is cut off while you are watching the TV, the **Last Mode Memory** feature automatically turns on the TV when the power is restored. If you know the power is going to be cut off, or you are leaving home for a long time, remove the power plug from the wall outlet to prevent the TV from turning on in your absence.

20

Selecting the Antenna Input

_ • Your TV has two separate antenna inputs (ANT 1 and ANT 2) that allow you to connect
two different signal sources, if desired.

To select the antenna input
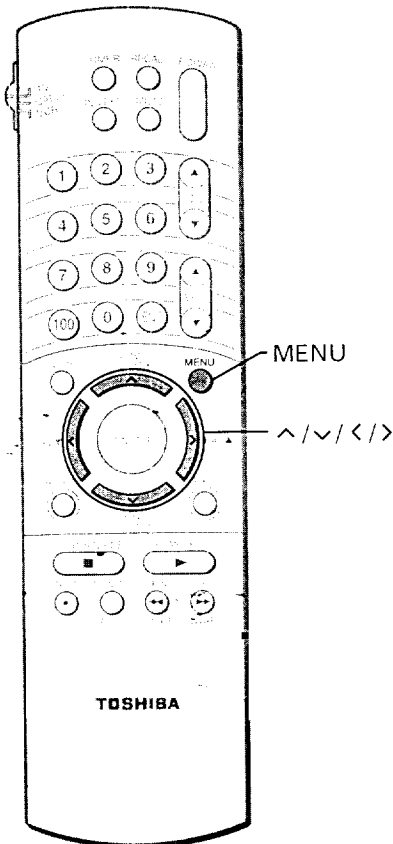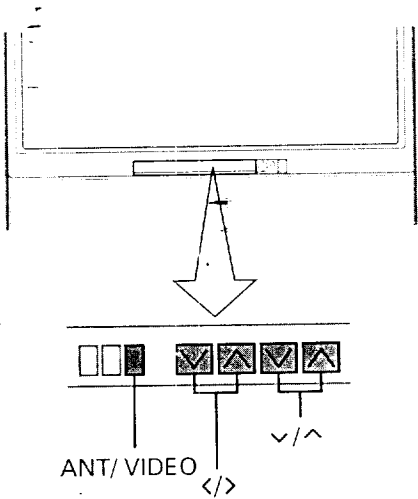
ANT/ VIDEO
∨/∧
</>

MENU

∧/∨/</>

TOSHIBA

Using the SET UP menu

1 Press **MENU**, then press 〈 or 〉 until the
SET UP menu appears.

LANGUAGE   English
TV / CABLE   TV
CH PROGRAM   START PUSH
ADD / ERASE   Add
ANT 1 / 2   ANT2
▼MORE
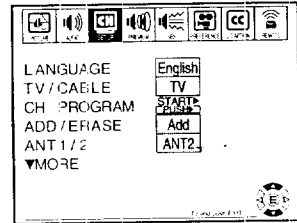
2 Press ∨ (or ∧) until "ANT 1/2" is
highlighted.

LANGUAGE   English
TV / CABLE   TV
CH PROGRAM   START PUSH
ADD / ERASE   Add
ANT 1 / 2   ANT1 ANT2
▼MORE
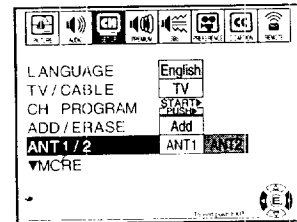
3 Press 〈 or 〉 to highlight "ANT 1" or
"ANT 2."

Using the ANT/VIDEO button (on the TV)

Each time you press this button, the ANT 1,
VIDEO 1, VIDEO 2, VIDEO 3 or ANT 2 mode
will be selected in order.
The selected mode will be displayed in
magenta to show which signal source you are
watching.
Press the button until "ANT 1" or "ANT 2" is
displayed in magenta to match the antenna
terminal you want to use.

VIDEO 1
                        ANT 1
VIDEO 2
                        ANT 2
V DEO 3

TO SELECT PUSH ANT/VIDEO

Note:
This button functions as the **ENTER** button
while the menu is on the screen.

21

Programming Channel Memory

- The channel memory is the list of TV channel numbers the TV tunes in when you press the **CHANNEL** ▲/▼ button. **First, use the TV/CABLE and CH PROGRAM functions to preset all active channels in your area automatically.**
  If necessary, arrange the preset channels with the ADD/ERASE function so you tune into only the desired channels.
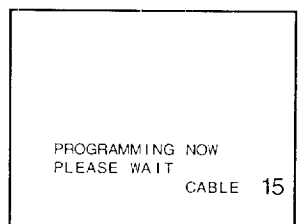
TV/CABLE and CH PROGRAM functions

TV/CABLE function

1 Press **MENU**, then press < or > until the SET UP menu appears.

```
LANGUAGE      English
TV/CABLE      TV
CH PROGRAM    START▶
              PUSH▶
ADD/ERASE.    Add
ANT1/2        ANT1
▼MORE
```
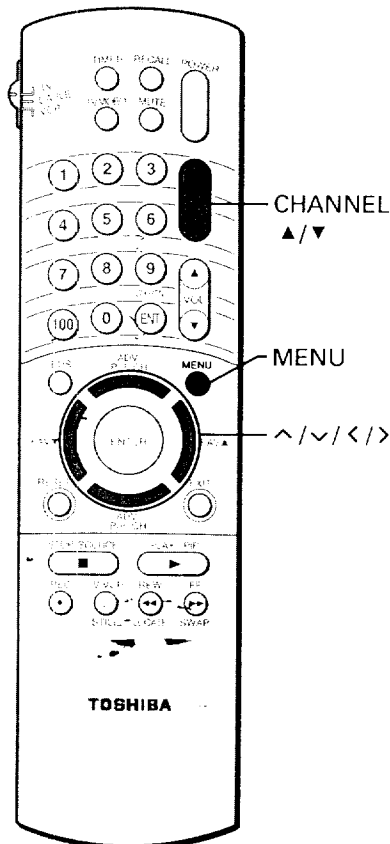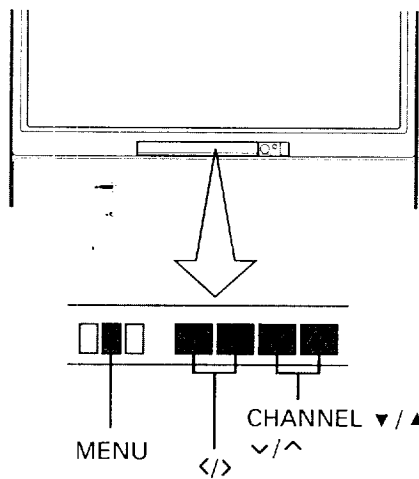
2 Press ∨ (or ∧) until "TV/CABLE" is highlighted.

```
LANGUAGE      English
TV/CABLE      █▌TV█  Cable
CH PROGRAM    START▶
              PUSH▶
ADD/ERASE     Add
ANT1/2        ANT1
▼MORE
```

3 Press < or > to select "TV" or "Cable", whichever you use.
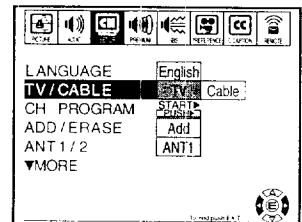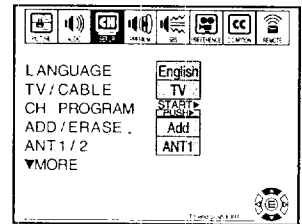
CH PROGRAM function

1 Select "CH PROGRAM" following steps 1 and 2 above.

```
LANGUAGE      English
TV/CABLE      Cable
CH PROGRAM █  START▶
              PUSH▶
ADD/ERASE     Add
ANT1/2        ANT1
▼MORE
```

2 Press < or > to start channel programming.
The TV automatically cycles through all TV or CABLE channels depending on the mode selected, storing received channels in the channel memory.

```
PROGRAMMING NOW
PLEASE WAIT
              CABLE   15
```

3 When channel programming is complete, the message at the right appears.

```
COMPLETED
              CABLE    2
```

4 Press **CHANNEL** ▲/▼ to make sure channel programming has been done properly.

CHANNEL ▼/▲
∨/∧

MENU </>

CHANNEL ▲/▼

MENU

∧/∨/</>

TOSHIBA

GETTING STARTED

ADD/ERASE function

CHANNEL ▼/▲
MENU   ∨/∧
⟨/⟩

Channel
Number
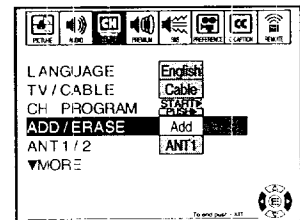
CHANNEL
▲/▼

MENU

∧/∨/⟨/⟩

TOSHIBA
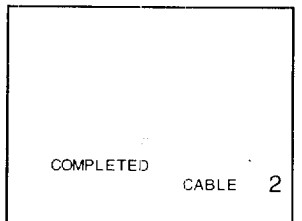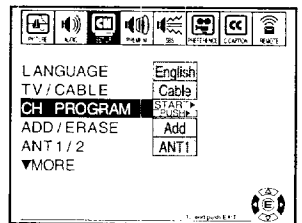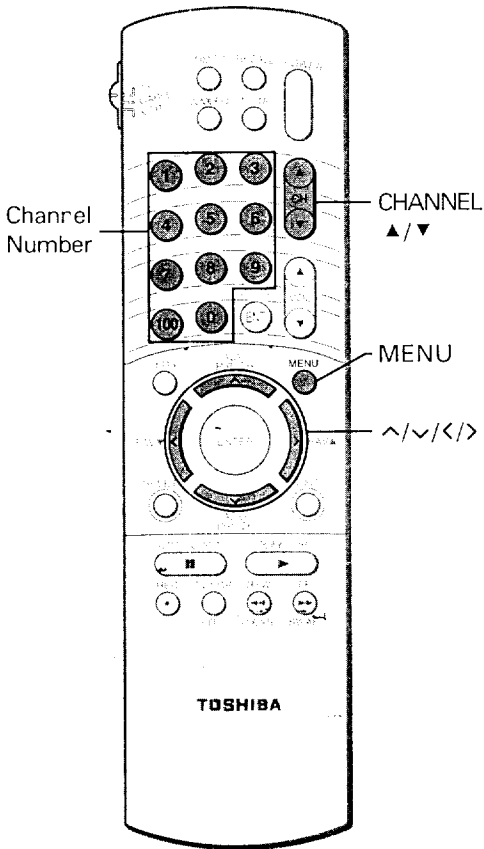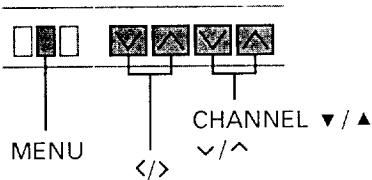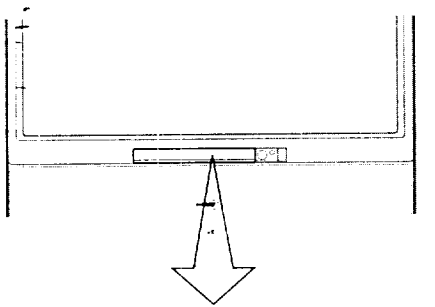
After performing the CH PROGRAM function, you can add or erase specific channels.

1 Select the channel to erase using the **CHANNEL ▲** or **▼** button, or select the channel to add with the **Channel Number** buttons.
See page 25 on how to select channels.

2 Press **MENU**, then press ⟨ or ⟩ until the SET UP menu appears.

LANGUAGE   English
TV / CABLE   Cable
CH PROGRAM   START PUSH
ADD/ERASE   Add
ANT1 / 2   ANT1
▼MORE
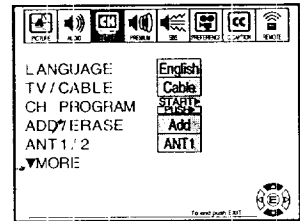
3 Press ∨ (or ∧) to highlight "ADD/ERASE."

LANGUAGE   English
TV / CABLE   Cable
CH PROGRAM   START PUSH
ADD/ERASE   Add
ANT1 / 2   ANT1
▼MORE

4 Press ⟨ or ⟩.

To erase the channel
Press ⟨ or ⟩ until "Erase" is highlighted. The channel will be erased from the memory.

To add the channel
Press ⟨ or ⟩ until "Add" is highlighted. The channel will be memorized.

5 Repeat steps 1 through 4 for other channels.

23

Aligning the colors

- This projection TV uses three separate TV tubes: a red one, a green one, and a blue one. The red, green and blue images are projected onto the screen where they converge to form a full color picture. You can see a clear picture only when they converge correctly.
- Your dealer should adjust the color convergence when your TV is delivered. However, convergence may drift over time or if you move the TV. If you can see clear images on the screen, skip this procedure.

To align the colors
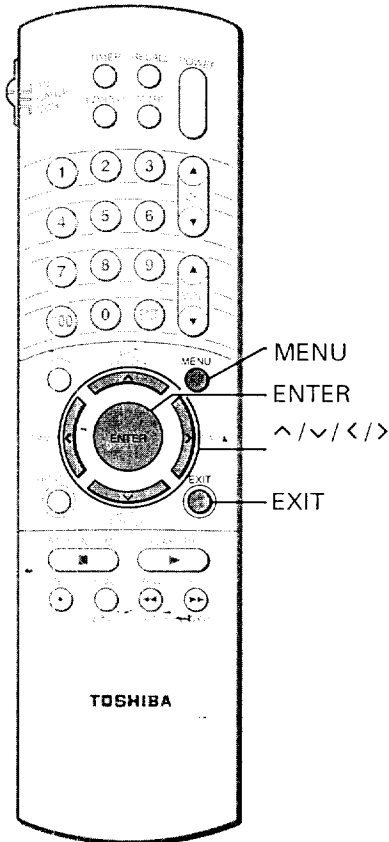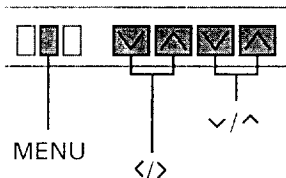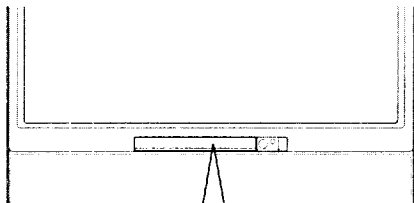
This adjustment should be made after the TV has been on for at least 30 minutes.

To check and align the colors

1 Press **MENU**, then press 〈 or 〉 until PICTURE menu appears.

CONTRAST
BRIGHTNESS
COLOR
TINT
SHARPNESS
▼MORE
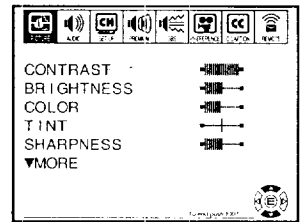
2 Press ∧ (or ∨) until "CONVERGENCE" is highlighted.

▲MORE
FLESH TONE   On
NOISE REDUCTION On
CONVERGENCE   START
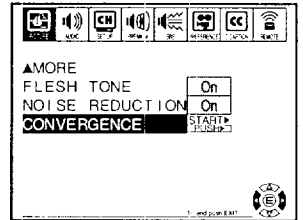
3 Press 〈 or 〉 to display the CONVERGENCE menu.
If alignment is correct, there will be one vertical and one horizontal white line.

RED BLUE
PUSH
TO SELECT COLOR
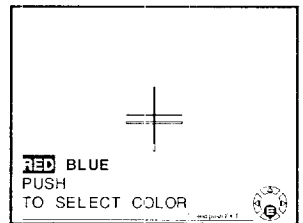
4 If you see separate colored lines, you have to align the colors by using the remote. Press **ENTER** to select "RED" or "BLUE". The selected mode is highlighted.

RED BLUE
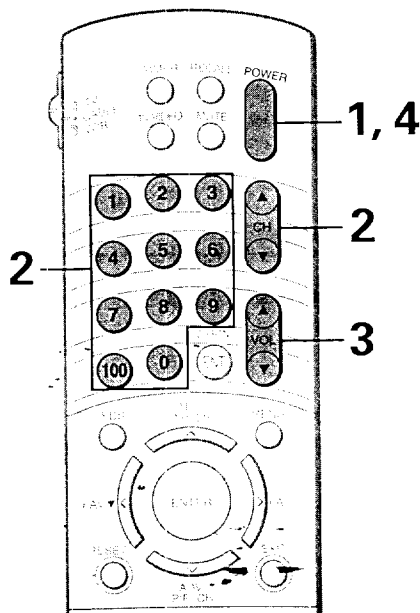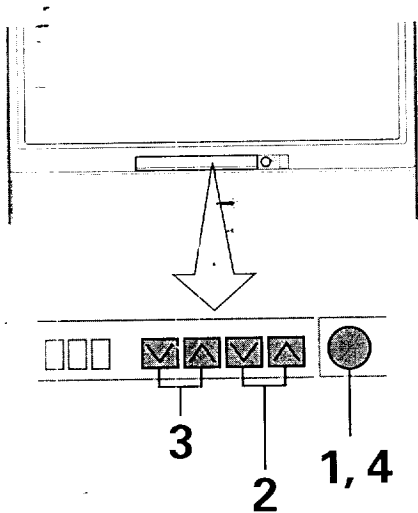PUSH
TO SELECT COLOR
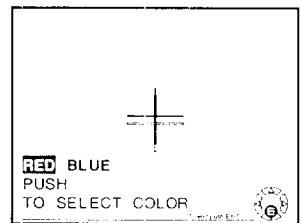
5 Press the " ∧ (up)", " ∨ (down)", " 〈 (left)" and " 〉 (right)" buttons to converge the red or blue line into the green line.
When color convergence is correctly adjusted, you will see two single white lines.

RED BLUE
PUSH
TO SELECT COLOR
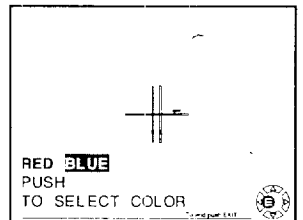
6 Press **EXIT** to close the CONVERGENCE menu.

MENU   ∨/∧
           〈/〉

MENU
ENTER
∧/∨/〈/〉
EXIT

TOSHIBA

24

Watching TV Programs

To watch a TV program

1 Press **POWER** on the Remote Control or the TV.
The following on-screen information will be displayed for a few seconds.

- Antenna input (when in TV mode)
- Channel label (if previously preset)
- Channel number or VIDEO mode selected
- STEREO or SAP audio status

```
STEREO
SAP



                           ANT 1
                            ABCD
                          TV   4
```
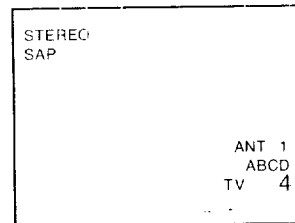
2 Select the desired program in one of the following two ways.

To scan the memorized channels in numerical sequence
Press **CHANNEL** ▲ to select the next higher channel.
Press **CHANNEL** ▼ to select the next lower channel.
Press the button again to select the next memorized channel.

```
                  10
```
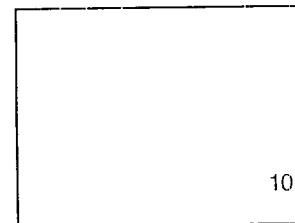
To select a channel directly
Press the **Channel Number** buttons (0 – 9 and 100).
To select channel 4, press "4" (or press "0" and "4" in order).
To select channel 38, press "3" and "8" in order.
To select channel 125, press "100," "2," and "5" in order.

3 Adjust the sound volume with the **VOLUME** ▲ / ▼ * buttons on the Remote Control or the TV.
Press ▲ to increase the volume; ▼ to decrease the volume.

```
VOLUME
47
```
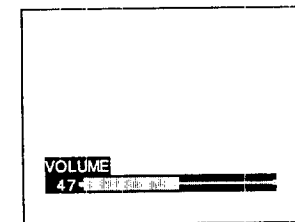
4 To turn off the TV, press **POWER** again.

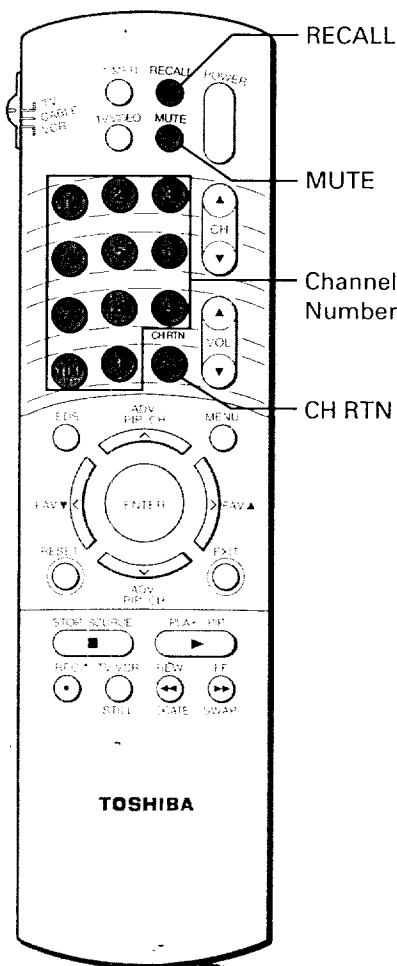**If you cannot select certain channels (either TV broadcast or CABLE channels)**
Check to see if the TV/CABLE function is properly set. See page 22.

* The VOLUME ▼ / ▲ buttons on the TV function as the menu ⟨/⟩ buttons while a menu is on the screen.

Convenient Remote Functions

To use On-screen displays/Sound muting/Channel return

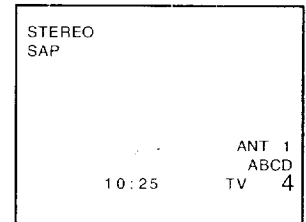### To display on-screen information

Press **RECALL** to display the following on-screen information.

- Antenna input (when in TV mode)
- Channel label (if previously preset)
- Channel the number or VIDEO mode selected
- Time (if the clock has been set)
- STEREO or SAP audio status

```
STEREO
SAP


                                    ANT  1
                                       ABCD
                         10:25      TV    4
```

To mute the sound

1 Press **MUTE** to mute the sound immediately without affecting the picture.

```




                                       MUTE
```
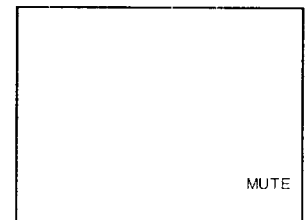
2 To restore the sound, press **MUTE** again.

Note:
When the **MUTE** button is pressed, the Closed Captioned feature "C1" is activated. To deactivate it, press the **MUTE** button again. This feature only functions when the Closed Caption mode is set to "Off." (See page 44.)

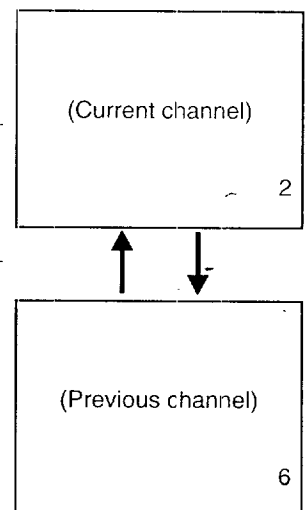### To return to the previously viewed channel

Using this function, you can watch two channels alternately.

1 Select the first channel you want to watch.

2 Select the other channel with the **Channel Number** buttons.

3 Press **CH RTN**.
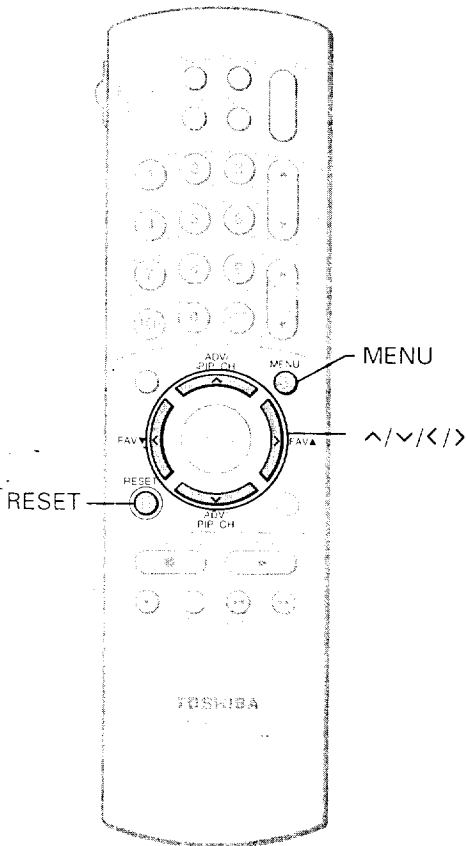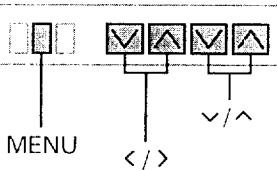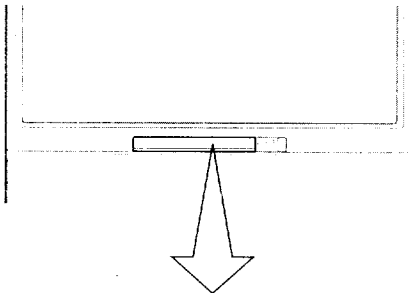The previous channel returns.

Each time you press **CH RTN**, the TV will switch back and forth between the two channels.

RECALL

MUTE

Channel Number

CH RTN

TOSHIBA

```
(Current channel)

                            2
```

↑   ↓

```
(Previous channel)

                            6
```

Press **EDS** to display the following EDS (Extended Data Service) information for about 30 seconds.

① ─ PBS ⋯GBH ─ ②
③ ─ SESAME STREET
⑤ ─ 00:45 Education 00:12 ─ ⑥
④ ─ EDS ON
⑦ ─ An education program for school children teaching the alphabet and numerals

- Network name ①
- Call letters ②
- Program name ③
- Program type ④
- Program length ⑤
- Time in show ⑥
- Program description ⑦

Some of the above information may not be displayed.

If the TV program you are watching does not include EDS information
Only "EDS ON" will be displayed for about 4 seconds when you press the EDS button.

EDS ON

To close the EDS display
Press **EDS** again.

EDS OFF

EDS

TOSHIBA

BASIC OPERATION

27

Controlling the Picture

To adjust the picture

To adjust the picture quality

You can adjust the picture quality (CONTRAST, BRIGHTNESS, COLOR, TINT, and SHARPNESS) to suit your personal preference.

1 Press **MENU**, then press ⟨ or ⟩ until the PICTURE menu appears.

CONTRAST
BRIGHTNESS
COLOR
TINT
SHARPNESS
▼MORE
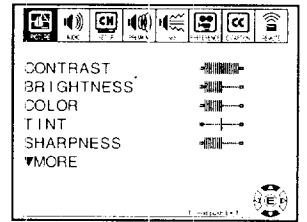
2 Press ∨ (or ∧) until the item you want to adjust is highlighted.

Example: CONTRAST adjustment mode display

CONTRAST
BRIGHTNESS
COLOR
TINT
SHARPNESS
▼MORE

3 Press ⟨ or ⟩ to adjust the level.

CONTRAST

83
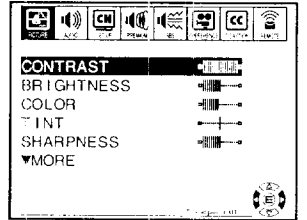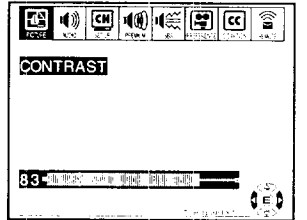
Item	Pressing	
	⟨	⟩
CONTRAST	lower	higher
BRIGHTNESS	darker	lighter
COLOR	weaker	stronger
TINT	reddish	greenish
SHARPNESS	softer	sharper

When you adjust any of the five PICTURE items, the new setting will be stored in the "MEMORY." (See page 29.)
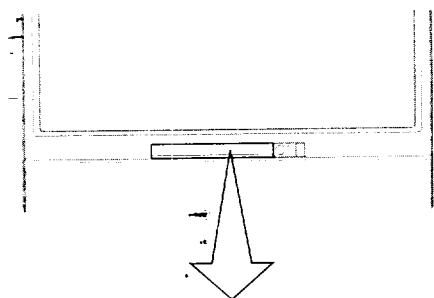
If you want to adjust any other item
Press ∧ or ∨ while the display remains on the screen.

To reset the picture adjustments to the factory preset level
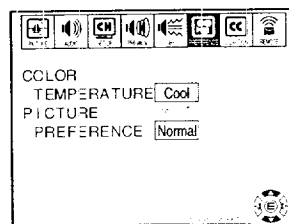Press **RESET**. (See page 30 for details.)

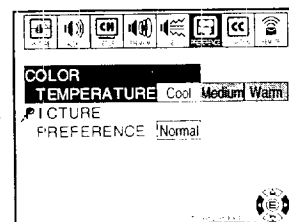MENU   ⟨ / ⟩

∨ / ∧

MENU

∧ / ∨ / ⟨ / ⟩

RESET

TOSHIBA
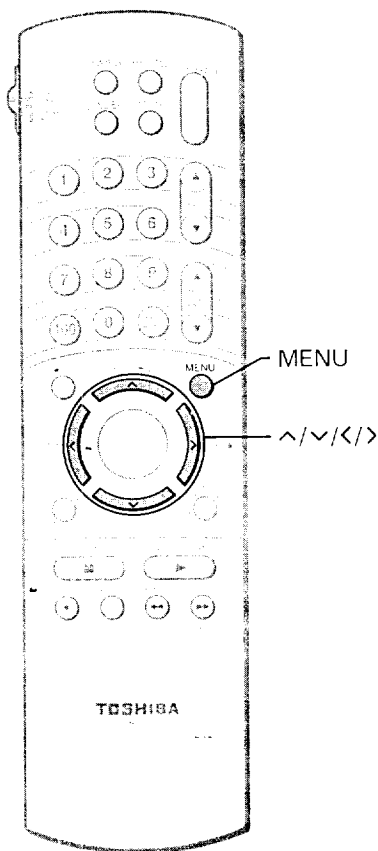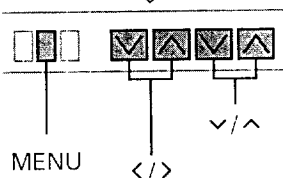
To select the color temperature

These selections (Cool, Medium, and Warm) change the overall tone of the picture.

1 Press **MENU**, then press ‹ or › until the PREFERENCE menu appears.

COLOR
TEMPERATURE Cool
PICTURE
PREFERENCE Normal

2 Press ∧ or ∨ to highlight "COLOR TEMPERATURE."

COLOR
TEMPERATURE Cool Medium Warm
PICTURE
PREFERENCE Normal

3 Press ‹ or › until the temperature you want is highlighted.
COOL, MEDIUM, and WARM are selected in order.

To select the picture preference

You can select a desired picture set up from three preset picture modes (Normal, Theater, and Memory) instantly.

1 Select the PREFERENCE menu.

COLOR
TEMPERATURE Cool
PICTURE
PREFERENCE Normal
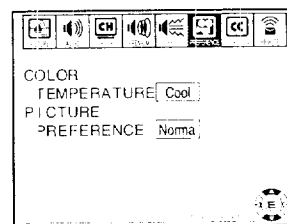
2 Press ∧ or ∨ to highlight "PICTURE PREFERENCE."
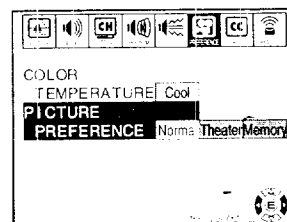
3 Press ‹ or › to highlight the mode you want.

COLOR
TEMPERATURE Cool
PICTURE
PREFERENCE Norma Theater Memory
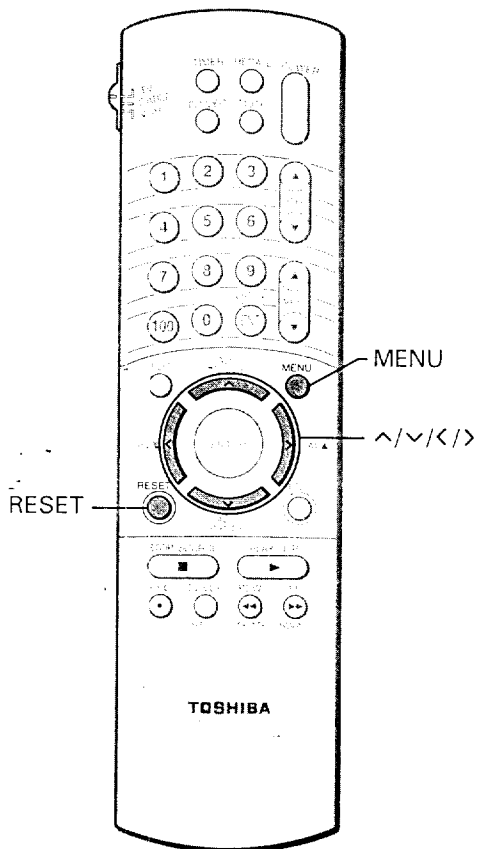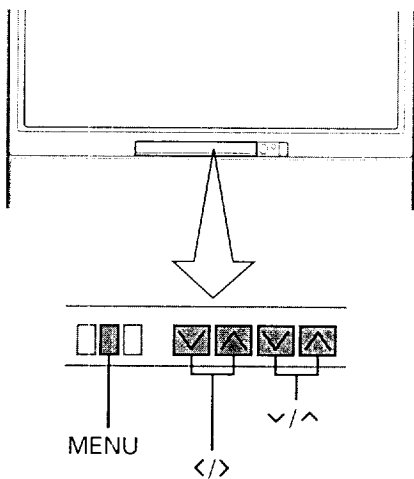
Mode	Picture quality
Normal	the picture quality preset at the factory
Theater	soft and moody picture
Memory	the picture quality you set (First follow page 28.)

MENU ‹ / ›

∨ / ∧

MENU

∧ / ∨ / ‹ / ›

TOSHIBA

BASIC OPERATION

Controlling the Sound
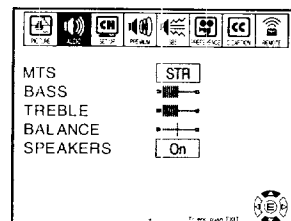
- You can adjust the sound quality (BASS, TREBLE and BALANCE) to suit your personal preference.
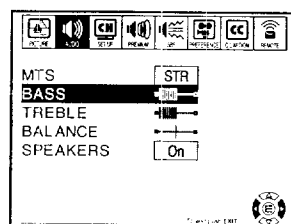
To adjust the sound

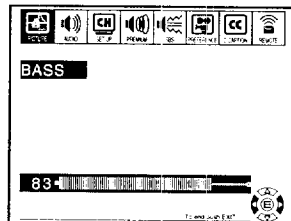**1** Press **MENU**, then press ⟨ or ⟩ until the AUDIO menu appears.

MTS   STR
BASS   ▸▮▮▮◂
TREBLE ▸▮▮◂
BALANCE ▸─┼─◂
SPEAKERS On

2 Press ⌄ (or ⌃) until the item you want to adjust is highlighted.

Example: Adjusting "BASS."

MTS   STR
BASS   ▸▮▮◂
TREBLE ▸▮▮◂
BALANCE ▸─┼─◂
SPEAKERS On

3 Press ⟨ or ⟩ to adjust the level.

BASS

83

Item	Pressing	
	⟨	**⟩**
BASS	weaker	stronger
TREBLE	weaker	stronger
BALANCE	decreases the right channel	decreases the left channel

If you want to adjust another item

Press ⌃ or ⌄ while the display remains on the screen.

RESET

To reset the PICTURE and AUDIO adjustments to the factory preset level (maximum CONTRAST and all other adjustments centered)
Press **RESET** or select RESET in the SET UP menu with ⌃ or ⌄, then press ⟨ or ⟩.

The **RESET** button also performs the following adjustments.
- COLOR TEMPERATURE ...., Cool
- PICTURE PREFERENCE .... Normal
- NOISE REDUCTION .... Off

RESET

MENU
⟨/⟩
⌄/⌃

MENU
⌃/⌄/⟨/⟩
RESET

TOSHIBA
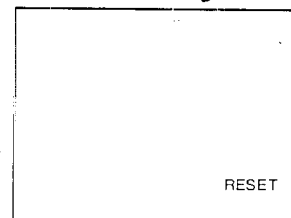
Selecting Stereo and SAP Broadcasts

- The MTS (Multi-channel TV Sound) feature allows you to improve your TV viewing with high fidelity stereo sound. MTS also provides for an extra channel, SAP (Second Audio Program), used to transmit a second language or other Audio information.
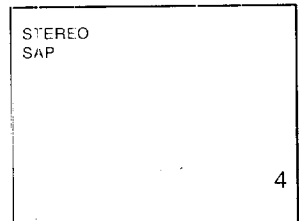
To listen to Stereo/SAP broadcasts

MENU   ⟨ / ⟩   ∨ / ∧

RECALL

MENU

∧ / ∨ / ⟨ / ⟩
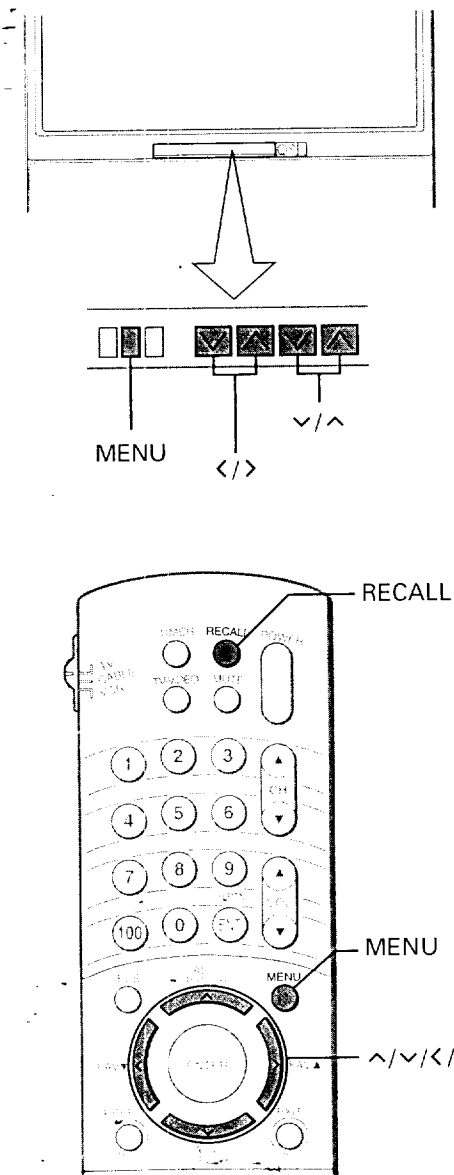
If the stereo sound is noisy
If a broadcast signal is not strong enough, and noise-free stereo sound is not available, select "MONO" in the MTS menu.
The noise should be reduced.

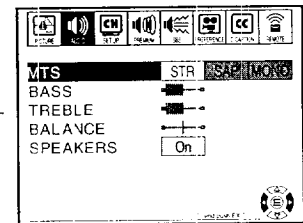### To listen to stereo sound

When the TV receives a stereo broadcast, the word "STEREO" (or "SAP") is displayed on the screen. It is also displayed whenever the TV is turned on, a channel is selected, or the RECALL button is pressed.

STEREO
SAP

4

1 Press **MENU**, then press ⟨ or ⟩ until the AUDIO menu appears.

MTS   [STR]
BASS
TREBLE
BALANCE
SPEAKERS   [On]
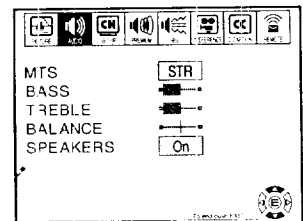
2 Press ∨ (or ∧) until "MTS" is highlighted.

MTS   STR
BASS
TREBLE
BALANCE
SPEAKERS   [On]

3 Press ⟨ or ⟩ to highlight "STR."
If a stereo broadcast is received, "STR" will be displayed in yellow.

Normally this function can be left in the stereo mode ("STR"). Your TV will then automatically reproduce either stereo or monaural sound, whichever is broadcast.

To listen to a second language

1 Follow steps 1 and 2 above.

2 Press ⟨ or ⟩ until "SAP" is highlighted. You will hear only the second language from the left and right speakers.

MTS   STR SAP MONO
BASS
TREBLE
BALANCE
SPEAKERS   [On] -
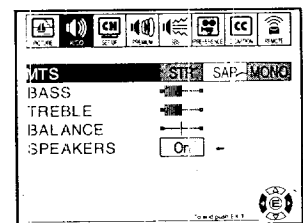
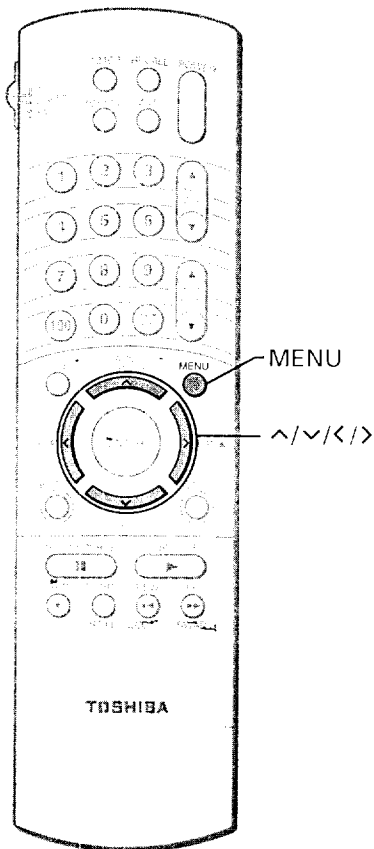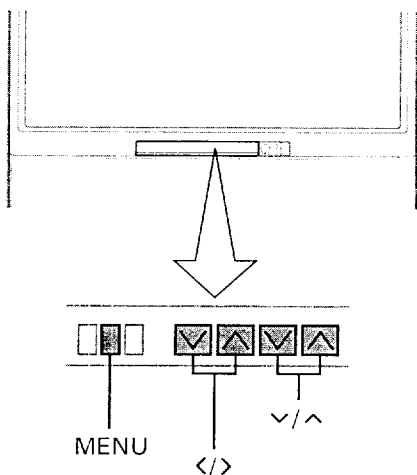**Notes:**
- Be sure to select the "STR" mode if the broadcast is in stereo.
- "MTS" in the AUDIO menu does not function while in VIDEO mode.

BASIC OPERATION
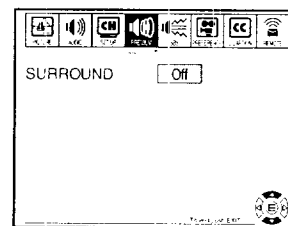
Enhancing the Surround Sound Effect

- This TV allows you to activate or deactivate the stereo surround effect.
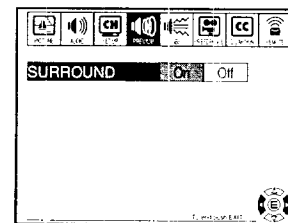
To activate the Surround sound function

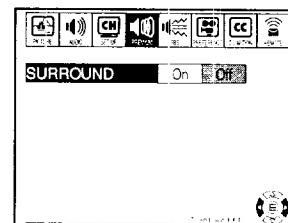**1** Select the "STR"(stereo) mode following steps 1 through 3 on the previous page.

2 Press **MENU**, then press < or > until the PREMIUM menu appears.

SURROUND [Off]

3 Press ∧ or ∨ to select "SURROUND."

SURROUND [On] Off

4 Press < or > to highlight "On."

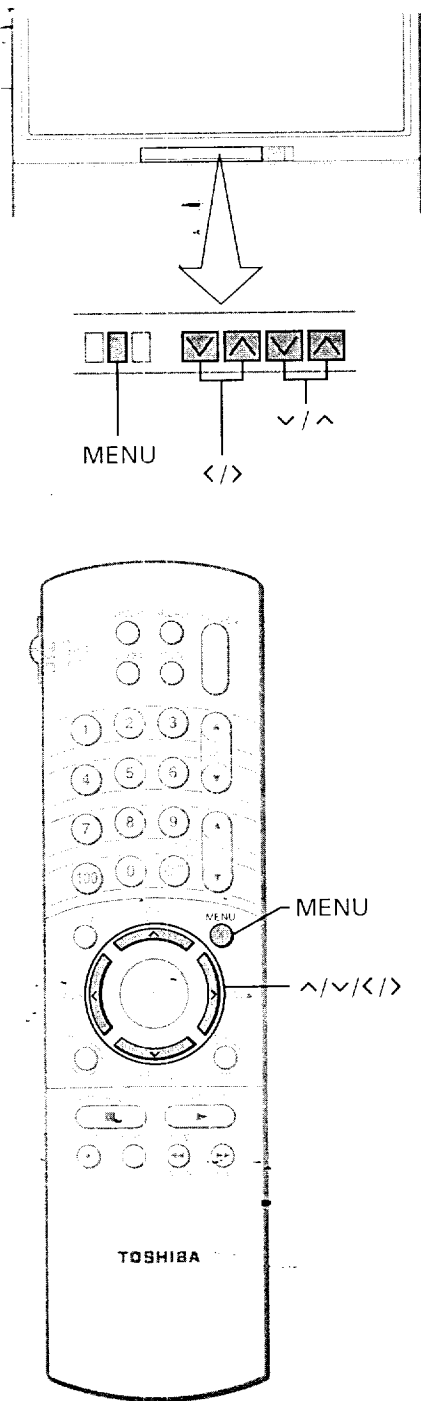SURROUND On Off

MENU

∨/∧

</>

MENU

∧/∨/</>

TOSHIBA

To deactivate the Surround sound function
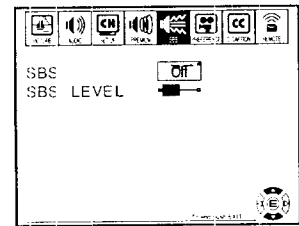Select "Off" in step 4 above.

Note:
Normally you can leave the MTS function set to "STR," and the SURROUND sound function set to "On." The TV will automatically produce either Surround sound stereo or monaural, whichever is broadcast.

MENU
< / >

∨ / ∧

MENU

∧ / ∨ / < / >

TOSHIBA
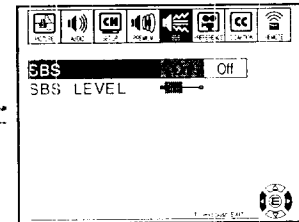
The Sub-Bass System allows you to improve bass performance (even when the sound volume is low).

1 Press **MENU**, then press < or > until the SBS menu appears.

2 Press ∧ or ∨ to select "SBS."

3 Press < or > to highlight "On."
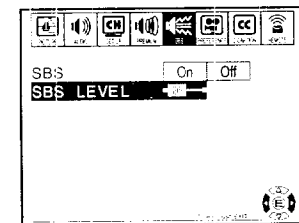
4 Press ∨ to select "SBS LEVEL."
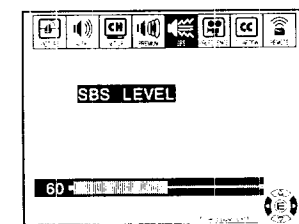
5 Press < or > to adjust the SBS level.

To deactivate the Sub-Bass System function
Select "Off" in step 3 above.

Note:
The Sub-Bass System signal does not pass through the "VARIABLE AUDIO OUTPUT" jacks. (See page 55.) However, the above on-screen displays will appear when the buttons are pressed.

ADVANCED OPERATION

33

Setting the OFF Timer and the Clock

- With the OFF timer, you can set the TV to turn off automatically after a pre-determined period of time (in 10 minute increments, up to 180 minutes).

To set the OFF timer

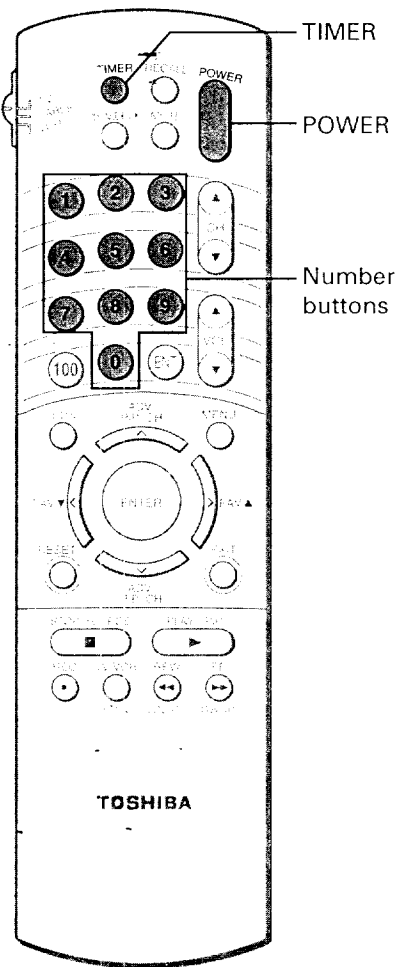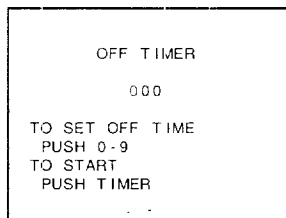**1** Press **TIMER** to select the TIMER mode. The first digit will flash.

```
OFF TIMER

    000

TO SET OFF TIME
  PUSH 0 - 9
TO START
  PUSH TIMER
```

2 Press any two **Number buttons** to enter the length of time you want the TV to stay on.
The remaining number(s) to be adjusted will flash continuously.
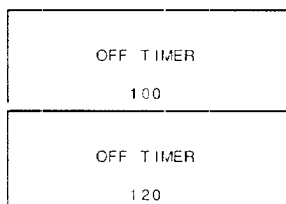
Example: 120 minutes
Press 1, then 2.

```
OFF TIMER
    1 00
```

```
OFF TIMER
    1 20
```

3 Press **TIMER** again to start the timer. The display color will change from magenta to cyan, then the display will go off.

```
OFF TIMER

    120

TO SET OFF TIME
  PUSH 0 - 9
TO START
  PUSH TIMER
```
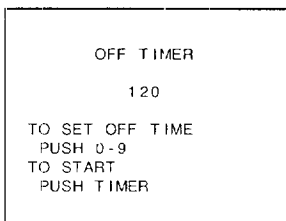
To cancel the OFF timer
Press **POWER** twice, once to turn the TV off and once to turn it on again.

TIMER

POWER

Number buttons

TOSHIBA

- To display the time remaining, press **TIMER once.** The remaining time will be displayed on the screen.
To close the display, press **TIMER two more times.**

TIMER

RECALL

Number buttons

TOSHIBA

Note:
If the power source for the TV is interrupted (i.e., AC cord unplugged or power failure), the clock will have to be reset. (The time display will show "00:00.")
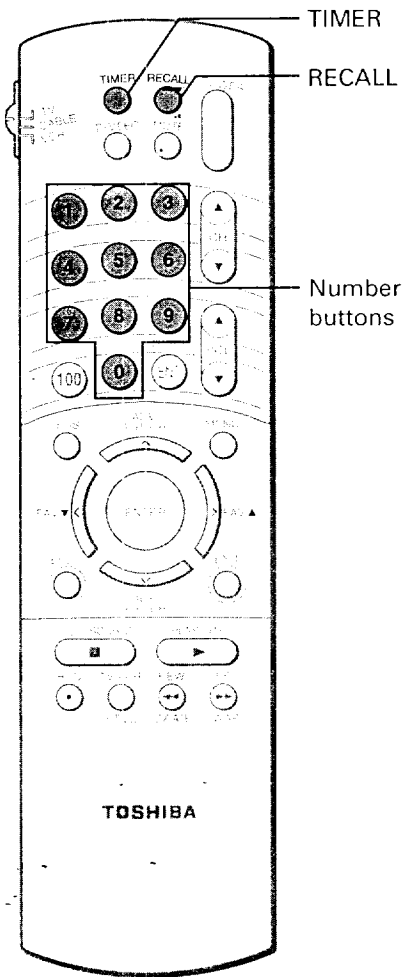
1 Press **TIMER** twice to select the CLOCK mode.
The first digit will flash.

```
         CLOCK
         00:00
TO SET HOUR AND MINUTE
   PUSH 0-9
TO START
   PUSH TIMER
```

2 Press four **Number buttons** to enter the correct time.
The remaining number(s) to be adjusted will flash continuously.

Example: To set 9:25 p.m.
Press 0, 9, 2 and 5.

• The clock operates on a 12 hour-cycle.

```
  CLOCK
  00:00
```

```
  CLOCK
  09:00
```

```
  CLOCK
  09:20
```

```
  CLOCK
  09:25
```

3 Press **TIMER** to start the clock.
The display color will change from magenta to cyan, then the display will go off.

```
         CLOCK
         09:25
TO SET HOUR AND MINUTE
   PUSH 0-9
TO START
   PUSH TIMER
```

To monitor the time
Press **RECALL**.

ADVANCED OPERATION

35

Watching Picture-in-Picture

- This TV is capable of displaying two pictures simultaneously. This is called the Picture-in-Picture function. A TV broadcast picture, or a picture from an external source such as a VCR, can be displayed as a small picture.
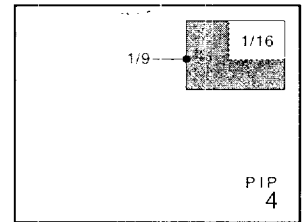
To display a small picture

Note:
Signal sources input through the ANT-2 terminal cannot be displayed as a small picture.
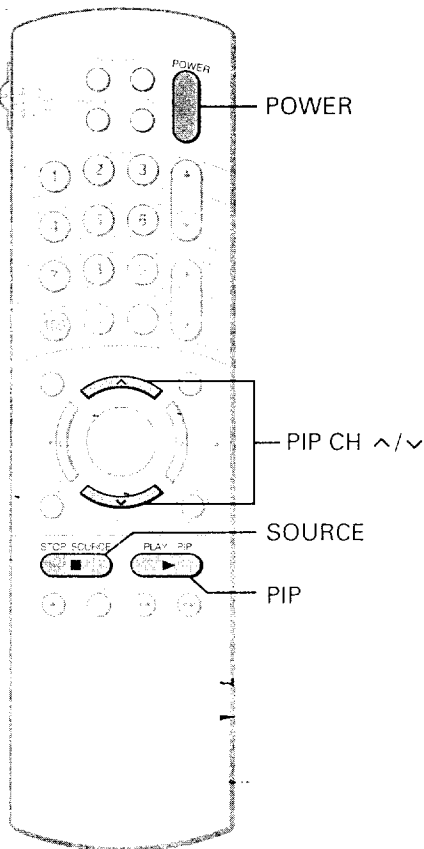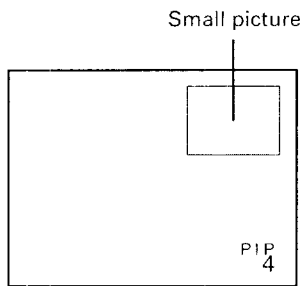
Small picture

To display a TV broadcast picture as a small picture

1 Turn on the TV and select the desired program.

2 Press **PIP** once to display a small picture. The 1/9 size window picture will appear. If you press **PIP** again, the 1/16 size window picture will appear.

3 Press **PIP CH** ∧ or ∨ to select the desired program for the small picture.

4 To turn off the small picture, press **PIP** again.

To display a picture from an external source as a small picture

Connect the external source equipment for the small picture. (For connections, see pages 51 – 53.)

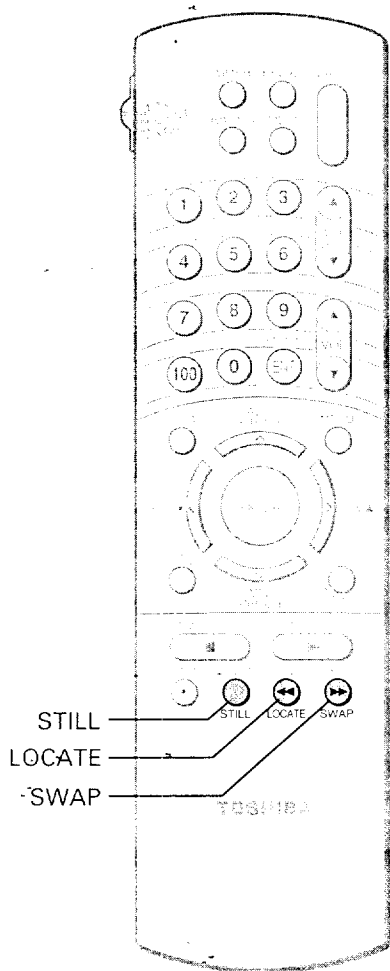**1** Turn on the TV, and select the desired program.

2 Press **PIP** to display a small picture.

3 Press **SOURCE** repeatedly to select the input source (TV, VIDEO 1, VIDEO 2 or VIDEO 3) for the small picture. The selected mode will be displayed in magenta.
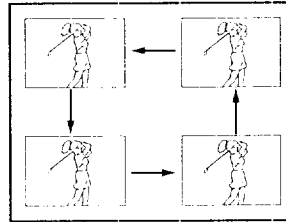
POWER

PIP CH ∧/∨

SOURCE

PIP

STILL ———
LOCATE ———
·SWAP ———
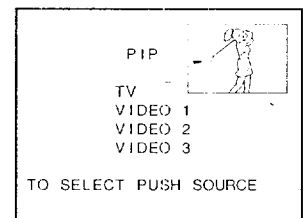
To change the position of the small picture

Press **LOCATE** repeatedly while a small picture is displayed. The display position of the small picture will change in order.

To switch the main and small pictures

Press **SWAP** while a small picture is displayed.
The main and small pictures will switch.
To switch them again, press **SWAP** again.
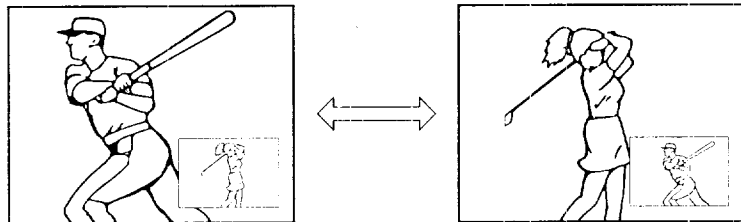
To freeze the small picture

Press **STILL** while a small picture is displayed.
The small picture will become a still picture.
To return it to a moving picture, press **STILL** again.
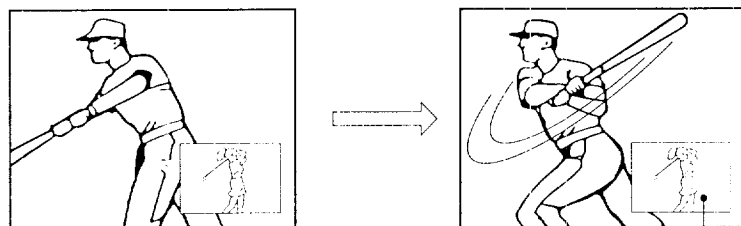
Still picture

CAUTION:
Avoid displaying stationary images on your TV screen for an extended period of time. Stationary patterns generated by the PIP display, computer displays, videogames, stock market reports etc. can become permanently ingrained on the picture tube.' This camage is not protected by your warranty as it is the result of misuse. If you use your TOSHIBA Television to display still images, it is always advisable to reduce the brightness and contrast settings. Never leave a PIP display, computer display or videogame unattended.

ADVANCED OPERATION

37

Locking Channels

- With this function, you can lock out specific channels by entering your own 4-digit code.
  The TV will not be able to tune to those channels for the next 24 hours, unless you
  enter the code.
  This TV has 8 memory spaces total, 4 for TV mode and 4 for CABLE mode.

To lock out channels

1 Press **MENU**, then press < or > until the
SET UP menu appears.

```
LANGUAGE        English
TV/CABLE        TV
CH PROGRAM      START
ADD/ERASE       Add
ANT1/2          ANT2
▼MORE
```
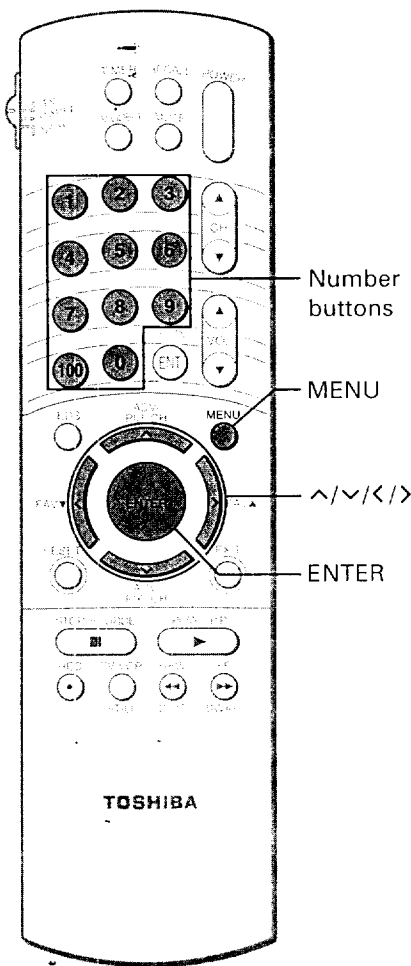
2 Press ∧ (or ∨) until "CH LOCK" is
highlighted.

```
▲MORE
CH LOCK         START
CH LABEL        START
FAVORITE CH     START
RESET           START
```

3 Press < or > to display the CH LOCK
menu.
"SET/CLEAR" will be highlighted.
Press < or > to select "Set."

```
CH LOCK
SET/CLEAR           Set Clear
PASSWORD            - - - -
CH INPUT                 CH
LOCKED    0    0    0    0
    CH    0    0    0    0
TV:CYAN
CABLE:BLUE
```
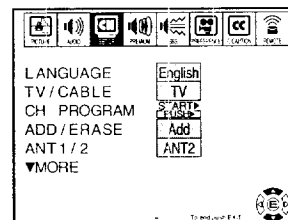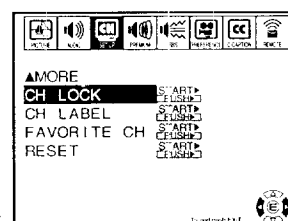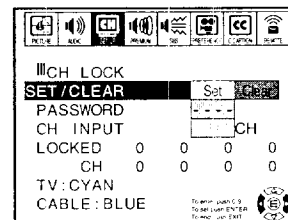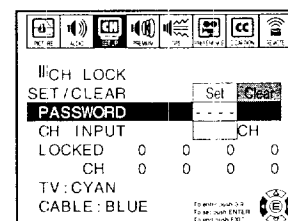
4 Press ∨ to highlight "PASSWORD."

```
CH LOCK
SET/CLEAR           Set Clear
PASSWORD            - - - -
CH INPUT                 CH
LOCKED    0    0    0    0
    CH    0    0    0    0
TV:CYAN
CABLE:BLUE
```

5 Press the **Number buttons** (0-9) to enter
a 4-digit code. The numbers you enter
will replace the dashes in the display.
Pick a number that is easy to remember.
Example: To enter "1234".
          Press 1, 2, 3, and 4 in order.
          1 ---→ 12 ---→ 123 -→1234

```
CH LOCK
SET/CLEAR           Set Clear
PASSWORD            1234
CH INPUT                 CH
LOCKED    0    0    0    0
    CH    0    0    0    0
TV:CYAN
CABLE:BLUE
```
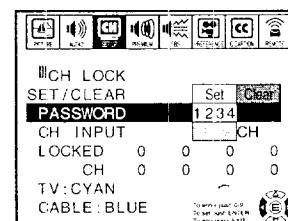
6 Press ∨ to highlight "CH INPUT," then
press the **Number buttons** (0-9, 100) to
enter the channel number.

```
CH LOCK
SET/CLEAR           Set
PASSWORD            1234
CH INPUT            15 CH
LOCKED    0    0    0    0
    CH    0    0    0    0
TV:CYAN
CABLE:BLUE
```

- Number buttons
- MENU
- ∧/∨/</>
- ENTER

TOSHIBA
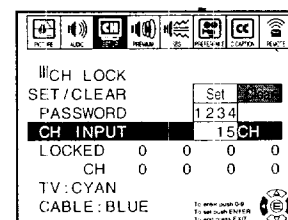
Note:
If a different code number is used to
lock out a channel, the last one has
priority over the preceding ones.

ADVANCED OPERATION

38

7 Press **ENTER**.

```
ⅢCH LOCK
SET/CLEAR          Set  Clear
PASSWORD          1234
CH INPUT           15 CH
LOCKED     0   0    0    0
     CH    0   0    0   15
TV:CYAN
CABLE:BLUE
```

8 Repeat steps 6 and 7 for other channels.

To unlock channels

1 Follow steps 1 through 3 on the previous page, and select "Clear."

```
ⅢCH LOCK
SET/CLEAR          Set  Clear
PASSWORD          - - - -
CH INPUT                 CH
LOCKED     0   0    0    0
     CH    0  30   24   15
TV:CYAN
CABLE:BLUE
```
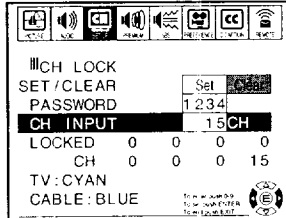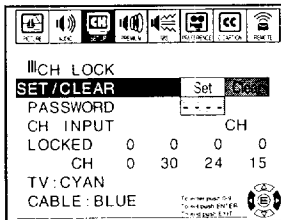
2 Press ⌄ to highlight "PASSWORD," and enter the 4-digit code used to lock out the channels with the **Number buttons**.

```
ⅢCH LOCK
SET/CLEAR          Set  Clear
PASSWORD          1234
CH INPUT                 CH
LOCKED     0   0    0    0
     CH    0  30   24   15
TV:CYAN
CABLE:BLUE
```

3 Press **ENTER**.

```
ⅢCH LOCK
SET/CLEAR          Set  Clear
PASSWORD          1234
CH INPUT                 CH
LOCKED     0   0    0    0
     CH    0   0    0    0
TV:CYAN
CABLE:BLUE
```
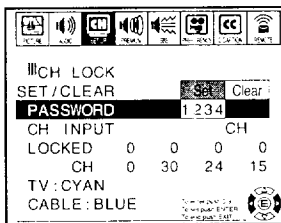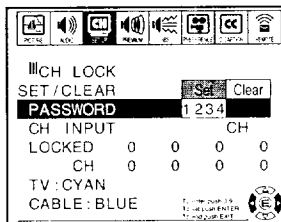
If a wrong code has been entered
These messages appear. Try to enter the correct code again.

```
WRONG PASSWORD
ENTER CORRECT ONE
```
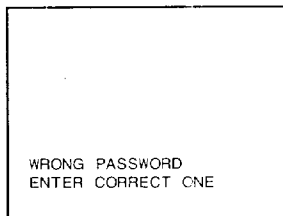
If you want to know the channels you have locked out
Call up the CH LOCK menu.

Labeling Channels

- This feature allows you to enter a 4 letter channel identifier of your choice that will appear over the channel number display. The label can be anything you want (for example the station call letters).
- The label you set will appear when you turn the TV on, select a channel, or press the **RECALL** button.

To program channel labels

1 Press **MENU**, then press ‹ or › until the SET UP menu appears.

Example: To assign "ABCD" to channel 4.

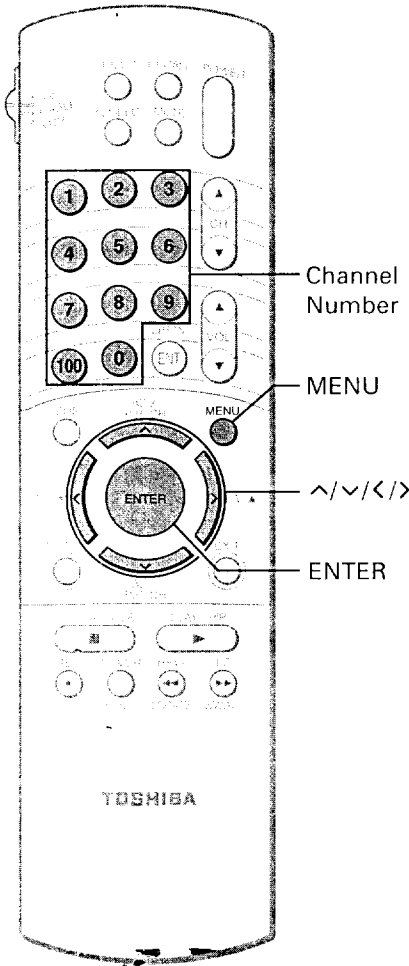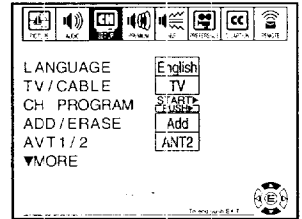| LANGUAGE | English |
TV / CABLE	TV
CH PROGRAM	START
ADD / ERASE	Add
AVT 1 / 2	ANT2
▼MORE	

2 Press ∧ (or ∨) until "CH LABEL" is highlighted.

▲MORE	
CH LOCK	START
CH LABEL	START
FAVORITE CH	START
RESET	START
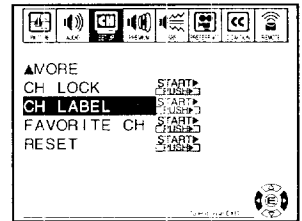
3 Press ‹ or › to display the CH LABEL menu.
"SET/CLEAR" will be highlighted.

III CH LABEL	
SET/CLEAR	Set Clear
CH INPUT	CH
LABEL	- - - -
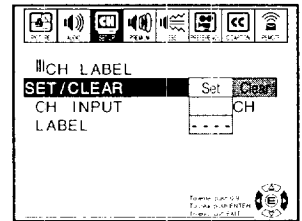
4 Press ‹ or › to select "Set."

5 Press ∨ to highlight "CH INPUT," and select the channel you want to label with the **Number buttons** (0-9).

III CH LABEL	
SET/CLEAR	Set Clear
CH INPUT	4 CH
LABEL	- - - -

6 Press ∨ to highlight "LABEL."

III CH LABEL	
SET/CLEAR	Set Clear
CH INPUT	4 CH
LABEL	- - - -

TV : CYAN
CABLE : BLUE

Channel Number

MENU

∧/∨/‹/›
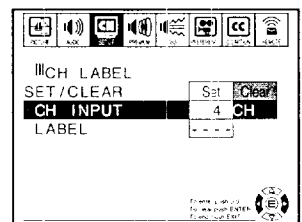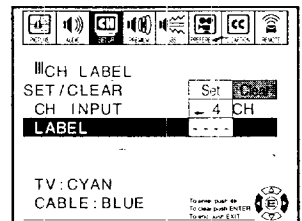
ENTER

7 Press < or > to select the first character for the label, then press **ENTER**.

Letters of the alphabet, numbers and other graphic symbols are available for labeling.
Each time you press the < or > button, the displayed character will change in the following order.

```
┌─blank
> button  ·┌→ - → 0 ··→ 9 → A ··→ Z → [ ⌄ ] → +─┐
          └─────────────────────────────────────┘

< button  ┌→ - → + → [   ] → Z ··→ A → 9 ··→ 0─┐
          └─────────────────────────────────────┘
```
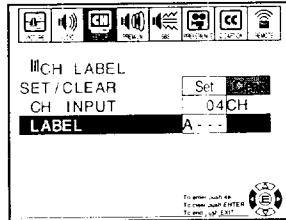
8 Repeat step 7 to enter the second, third and fourth caracters.
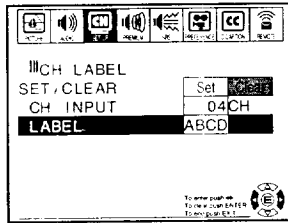
9 To label another channel, repeat steps 5 through 8. You can label 32 channels.

To clear the channel label

1 Follow steps 1 through 3 on the previous page.

2 Press < or > to highlight "CLEAR."

3 Press ⌄ to highlight "CH INPUT," then select the channel you want to clear with the **Number buttons**.

4 Press **ENTER**.

5 Repeat steps 3 and 4 for other channels.

ADVANCED OPERATION

41

Programming Your Favorite Channels

- The Favorite Channel Programming feature allows you to program up to 12 of your favorite channels.
  Once programmed, you can use the **FAV** ▼▲ buttons on the Remote Control to scan through only your favorite channels, skipping other channels you do not normally view.
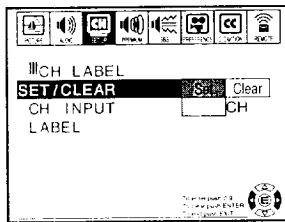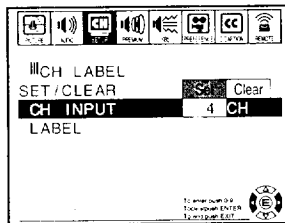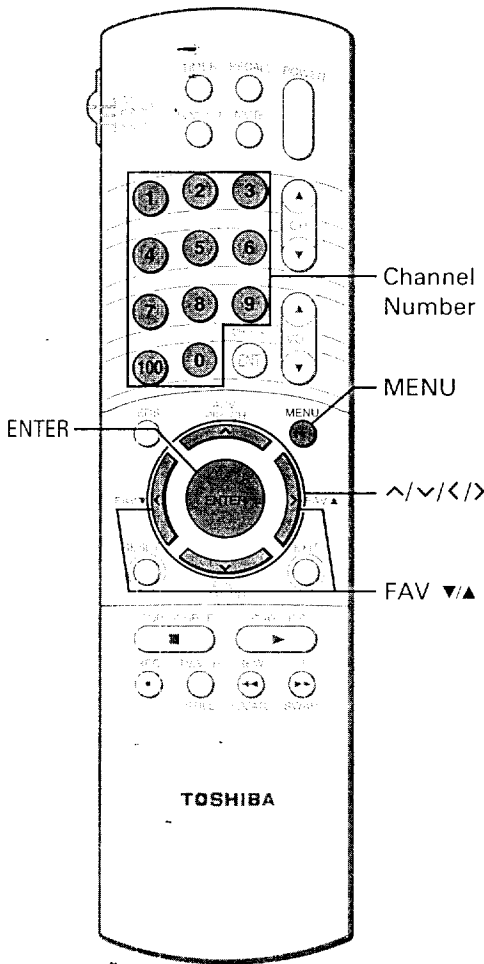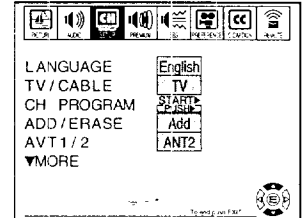
To program your favorite channels

1 Press **MENU**, then press ‹ or › until the SET UP menu appears.

```
LANGUAGE        English
TV/CABLE        TV
CH PROGRAM      START▶
ADD/ERASE       Add
AVT1/2          ANT2
▼MORE
```

2 Press ᴧ (or ᴠ) until "FAVORITE CH" is highlighted.

```
▲MORE
CH LOCK         START▶
CH LABEL        START▶
FAVORITE CH     START▶
RESET           START▶
```
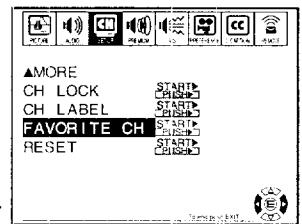
3 Press ‹ or › to display the FAVORITE CH menu.
"SET/CLEAR" will be highlighted, then select "Set."

```
Ⅲ FAVORITE CH
SET/CLEAR           Set  Clear
CH INPUT                 CH
SET UP    0    0    0    0
     CH   0    0    0    0
          0    0    0    0
TV:CYAN
CABLE:BLUE
```
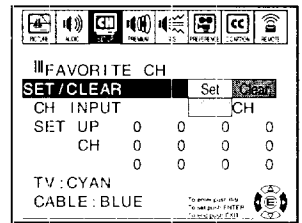
4 Press ᴠ to highlight "CH INPUT," then press the **Channel Number** buttons to enter the channel number.

```
Ⅲ FAVORITE CH
SET/CLEAR           Set  Clear
CH INPUT             7   CH
SET UP    0    0    0    0
     CH   0    0    0    0
          0    0    0    0
TV:CYAN
CABLE:BLUE
```

5 Press **ENTER**.

```
Ⅲ FAVORITE CH
SET/CLEAR           Set  Clear
CH INPUT            07   CH
SET UP    7    0    0    0
     CH   0    0    0    0
          0    0    0    0
TV:CYAN
CABLE:BLUE
```
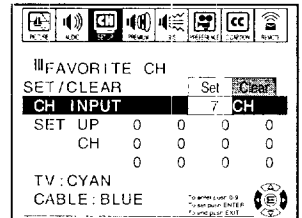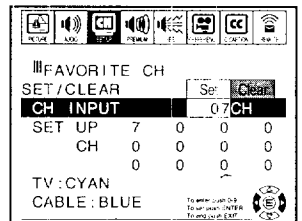
6 Repeat steps 4 and 5 for other channels.

Channel Number

MENU

ENTER

ᴧ/ᴠ/‹/›

FAV ▼/▲

TOSHIBA

To select your favorite channels
Press **FAV** ▼/▲.
When you want to access all the channels you programmed in the TV's memory, press the **CHANNEL** ▼/▲ button.

ADVANCED OPERATION

To clear the channels you have programmed

1 Follow steps 1 through 3 on the previous page.

```
⊞ ◀)) ⊞ ◀(0) ◀≦ 🖵 🄲🄲 📶
III FAVORITE  CH
SET/CLEAR           Set
CH  INPUT                    CH
SET  UP    7   11   18    0
      CH    0    0    0    0
             0    0    0    0
TV  CYAN
CABLE:BLUE
```
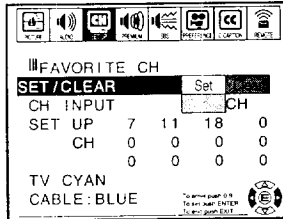
Note:
The **FAV** ▼/▲ buttons cannot function if you have not programmed your favorite channels.

2 Press < or > to select "Clear."

```
⊞ ◀)) ⊞ ◀(0) ◀≦ 🖵 🄲🄲 📶
III FAVORITE  CH
SET/CLEAR              Clear
CH  INPUT                    CH
SET  UP    7   11   18    0
      CH    0    0    0    0
             0    0    0    0
TV:CYAN
CABLE:BLUE
```
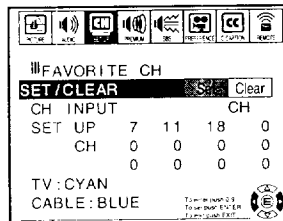
3 Press **ENTER.**
All the favorite channels you have programmed are cleared.

```
⊞ ◀)) ⊞ ◀(0) ◀≦ 🖵 🄲🄲 📶
III FAVORITE  CH
SET/CLEAR              Clear
CH  INPUT                    CH
SET  UP    0    0    0    0
      CH    0    0    0    0
             0    0    0    0
TV:CYAN
CABLE:BLUE
```

ADVANCED OPERATION

43
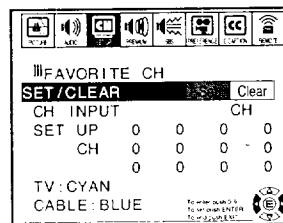
Operating the Closed Captioning Feature

To use Closed Captioning
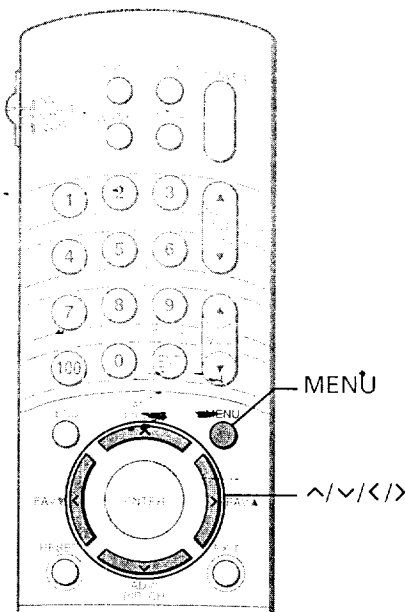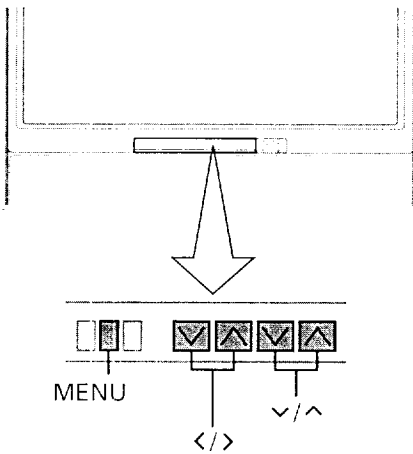
To view captions

Closed captioning is a printed version of the dialogue, narration, and/or sound effects of a TV program. Captions will appear at either the top or bottom of the screen during captioned broadcasts as shown. Captioning is especially helpful for hearing impaired individuals.

1 Select the desired program.

2 Press **MENU**, then press < or > until the CLOSED CAPTION menu appears.
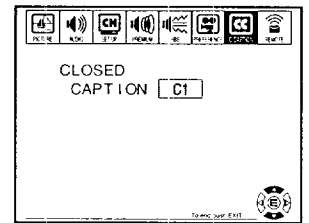
3 Press ∧ or ∨ to highlight "CLOSED CAPTION."
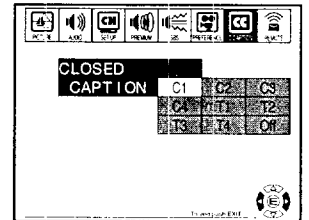
4 Press < or > until the caption you want is highlighted C1 (Caption 1), C2 (Caption 2), C3 (Caption 3), or C4 (Caption 4).

Select "C1" for a transcription of the primary language in your area. Select "C3" for captioning information (usually in secondary languages).
"C2" and "C4" carries Closed Captioning but not necessarily in the same time frame as the sound from the program.

To deactivate this function
Select "Off" in step 4 above.

Note:
A closed-captioned signal may not be decoded in the following situations.
• When a video tape has been dubbed.
• When the signal reception is weak.
• When the signal reception is non-standard.

MENU

∨ / ∧

< / >

MENU

∧ / ∨ / < / >

WORLD WEATHER

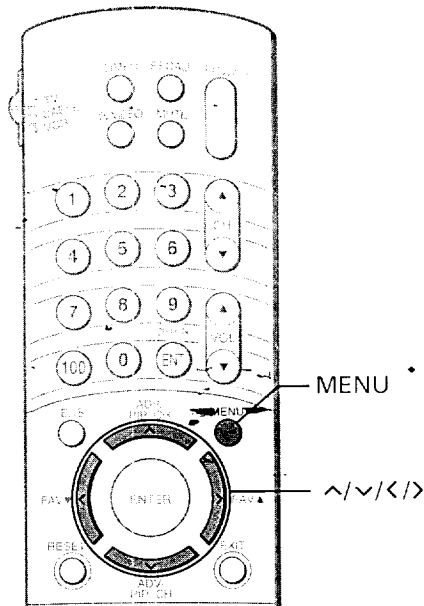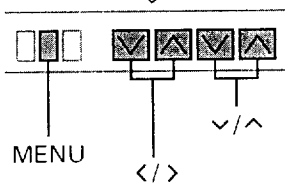|	Temps		Current
	F	**C**	Weather
LONDON	51	11	Clear
MOSCOW	57	14	Cloudy
PARIS	53	12	Clear
ROME	66	19	Cloudy
TOKYO	65	18	Rain

MENU

∨ / ∧
⟨ / ⟩

MENU

∧/∨/⟨/⟩
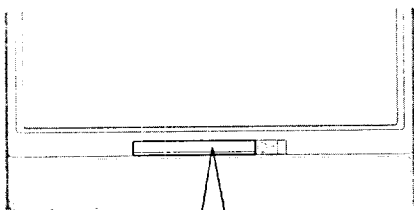
To view text

Text is information presented using all of the television screen. It is usually not related to the current program.
For example, it could be a listing of closed captioned programs, news, weather information, or stock market reports.

1 Select the desired program.

2 Press **MENU**, then press ⟨ or ⟩ until the CLOSED CAPTION menu appears.

CLOSED
CAPTION [T1]

3 Press ∧ or ∨ to highlight "CLOSED CAPTION."

CLOSED
CAPTION [C1 | C2 | C3]
[C4 | T1 | T2]
[T3 | T4 | CR]

4 Press ⟨ or ⟩ until the text you want is highlighted — T1 (Text 1), T2 (Text 2), T3 (Text 3), or T4 (Text 4).

To deactivate this function
Select "Off" in step 4 above.

Note:
When you select a caption format channel and the TEXT mode, the TEXT screen will always be displayed.
However, if TEXT character signals are not transmitted, the characters will not be displayed.

ADVANCED OPERATION

Flesh Tone/Noise Reduction

To activate the Flesh Tone and Noise Reduction Functions
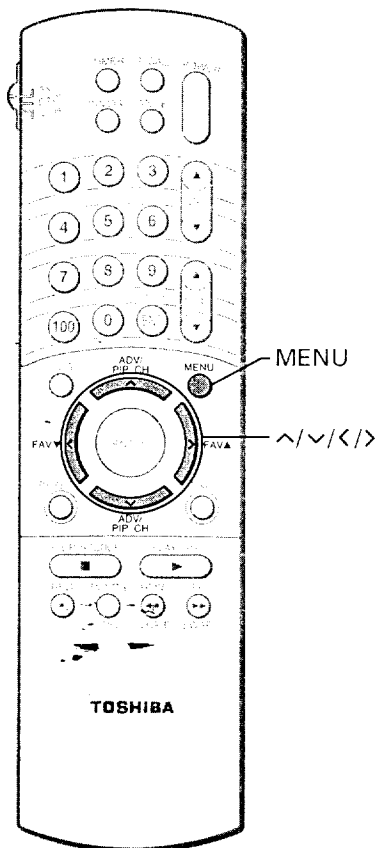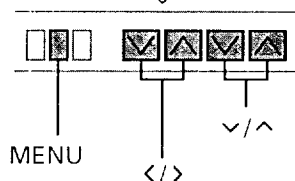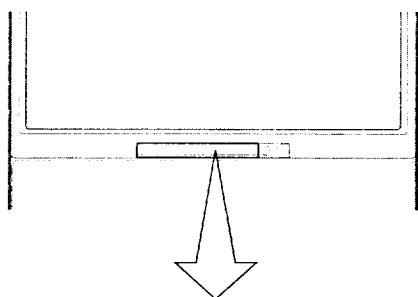
Flesh Tone Function

This function allows you to obtain natural flesh tones by correcting the difference of tint between TV stations.

1 Press **MENU**, then press < or > until the PICTURE menu appears.

CONTRAST
BRIGHTNESS
COLOR
TINT
SHARPNESS
▼MORE
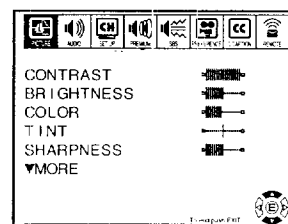
2 Press ∧ (or ∨) until "FLESH TONE" is highlighted.

▲MORE
FLESH TONE   On
NOISE REDUCTION   On
CONVERGENCE   START
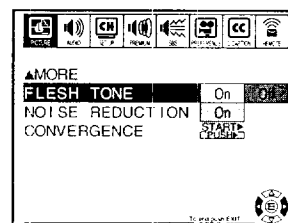
3 Press < or > to highlight "On."

Noise Reduction Function

This function allows you to reduce visible interference in your TV picture. This is useful when receiving a broadcast with a weak signal or playing back a video cassette or disk damaged by repeated use.

1 Press **MENU**, then press < or > until the PICTURE menu appears.

CONTRAST
BRIGHTNESS
COLOR
TINT
SHARPNESS
▼MORE
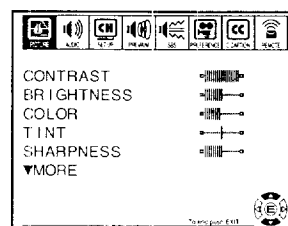
2 Press ∧ (or ∨) until "NOISE REDUCTION" is highlighted.

▲MORE
FLESH TONE   On
NOISE REDUCTION   On
CONVERGENCE   START
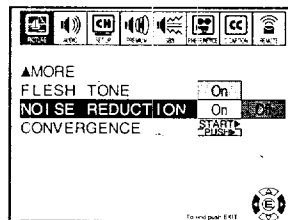
3 Press < or > to highlight "On."

To deactivate these functions
Select "Off" in step 3 above.

MENU
< / >
∨ / ∧

MENU
∧ / ∨ / < / >

TOSHIBA

ADVANCED OPERATION

Changing the On-screen Display Language

- Three different languages (ENGLISH, FRENCH and SPANISH) are available for the on-screen displays (adjustment menus, and messages), and you can choose the desired one.

To select a language for the on-screen displays

MENU

〈/〉 ∨/∧

MENU

∧/∨/〈/〉

TOSHIBA

1 Press **MENU**, then press 〈 or 〉 until the SET UP menu appears.

LANGUAGE	English
TV / CABLE	TV
CH PROGRAM	START PUSH
ADD / ERASE	Add
AVT 1 / 2	ANT2
▼MORE	
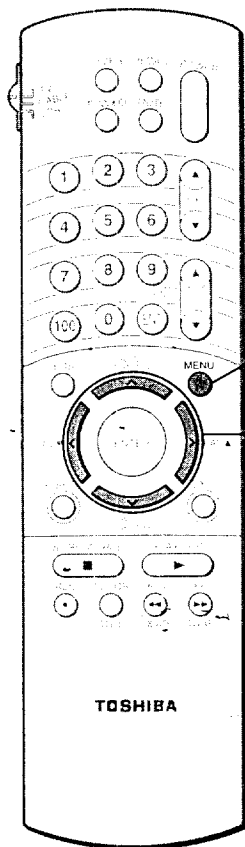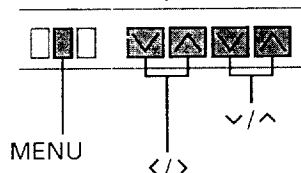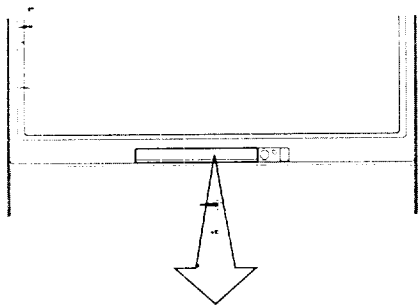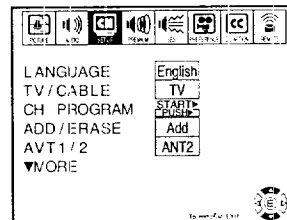
2 Press ∨ (or ∧) until "LANGUAGE" is highlighted.

LANGUAGE	English French Spanish
TV / CABLE	TV
CH PROGRAM	START PUSH
ADD / ERASE	Add
AVT 1 / 2	ANT2
▼MORE	
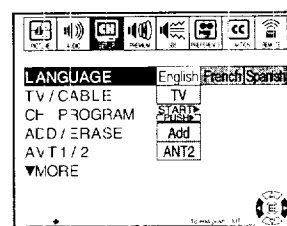
3 Press 〈 or 〉 to highlight the language you want.

LANGUE	Anglais Francais Espagnol
TV / CABLE	Cable
PROG CAN	SUIVANT
ADD / EFF	AddCan
ANT 1 / 2	ANT2
▼MORE	

"ENGLISH"

LANGUAGE	English French Spanish
TV / CABLE	TV
CH PROGRAM	START PUSH
ADD / ERASE	Add
AVT 1 / 2	ANT2
▼MORE	

"FRENCH"

LANGUE	Anglais Francais Espagnol
TV / CABLE	Cable
PROG CAN	SUIVANT
ADD / EFF	AddCan
ANT 1 / 2	ANT2
▼MORE	

"SPANISH"

IDIOMA	Espanol
TV / CABLE	Cable
CAN PROGRAMA	SIGUIENTE
ANAD / BORRADO	Anadido
ANT 1 / 2	ANT2
▼MORE	

ADVANCED OPERATION

47
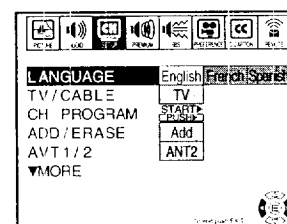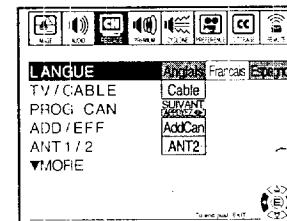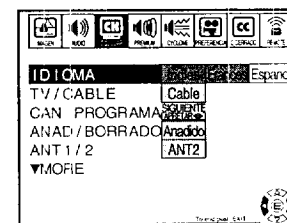
Demonstration Mode

When this function is activated, your TV will automatically display a variety of on-screen menus and special features.
This function is provided for demonstration purposes only.

The on-screen demonstration function

To start the demonstration

Press **DEMO**.
The on-screen demonstration starts about 4 seconds after you press the button.
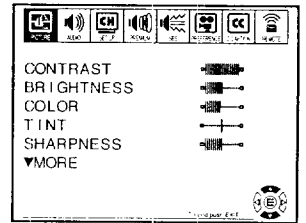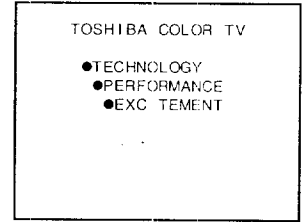
DEMO

To stop the demonstration

Press **DEMO** again.

48
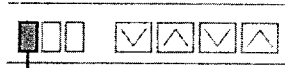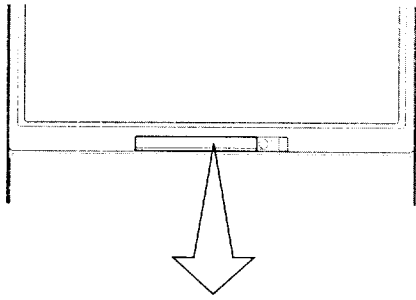
Connecting External Equipment

To connect video/audio equipment

VCR

VCR

Laser Disk Player

Video camera, etc.

Speaker system

Stereo system
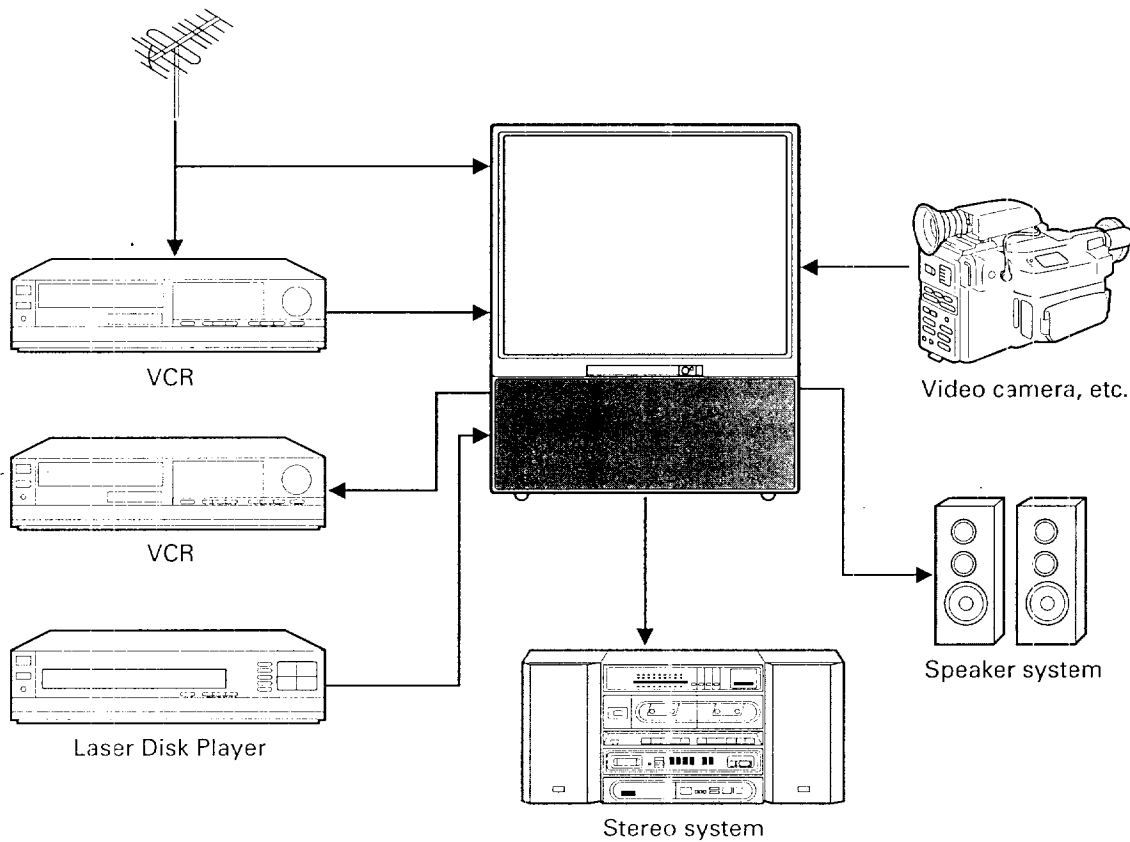
Notes:
- Refer to the owner's manual of the equipment to be connected as well.
- When connecting the TV to other equipment, first turn off all main power switches.
- If you connect monaural sound equipment, connect the audio output of the equipment to the L/MONO jack of the VIDEO 1, VIDEO 2 or VIDEO 3 INPUT jacks on the TV.
- The S-VIDEO jack accepts the SEPARATED Luminance/Chrominance (Y/C) signals conforming to the NTSC standard.

CONNECTING OTHER EQUIPMENT

49

Connecting External Equipment (continued)

Monitor panel

TV front

Behind the door

IN–VIDEO 3

S-VIDEO   VIDEO   ┌ AUDIO ┐
                   L/MONO   R

VIDEO/AUDIO INPUT jacks (VIDEO 3)
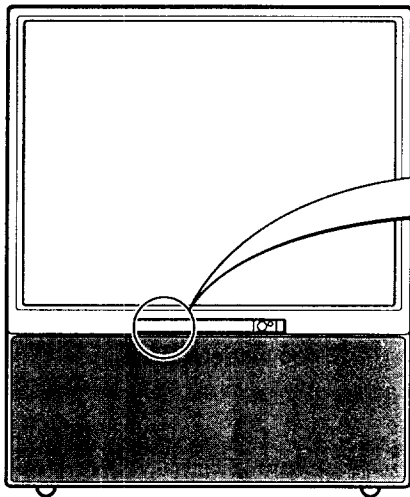
S-VIDEO INPUT jack (VIDEO 3)

TV rear

S-VIDEO INPUT jack
(VIDEO 1)

VARIABLE AUDIO
OUTPUT jacks
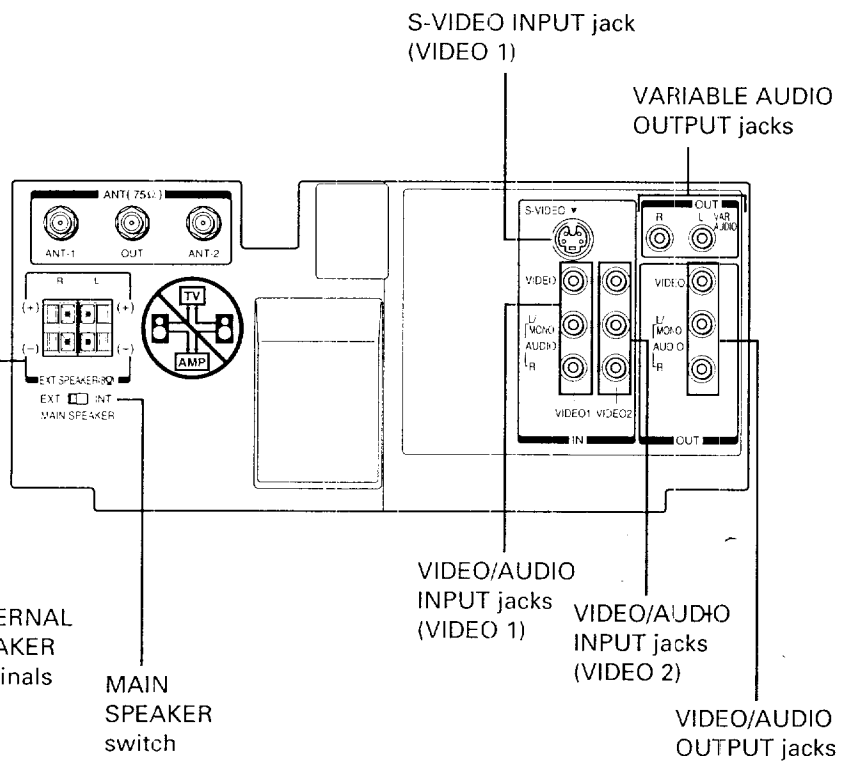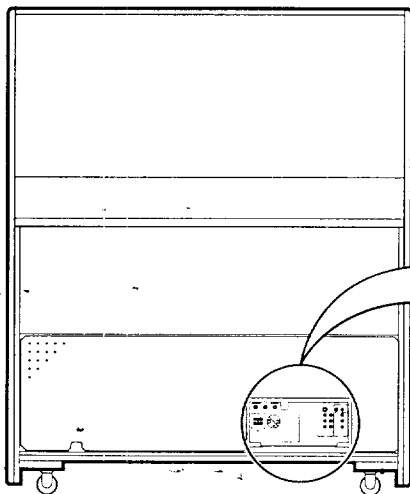
EXTERNAL
SPEAKER
terminals

MAIN
SPEAKER
switch

VIDEO/AUDIO
INPUT jacks
(VIDEO 1)

VIDEO/AUDIO
INPUT jacks
(VIDEO 2)

VIDEO/AUDIO
OUTPUT jacks

CONNECTING OTHER
EQUIPMENT

50

To connect a standard VCR

Connect the VIDEO 1 or VIDEO 2 INPUT jacks on the TV rear panel to the video/audio output jacks of the VCR, Laser Disk Player, etc. for playback of video recordings.

Antenna/Cable TV

See pages 9 - 10 for details on Antenna/Cable TV connections.

Antenna input   Antenna output   VCR   TV rear

Audio outputs   Video output

Video cable (not supplied)
Audio cable (not supplied)
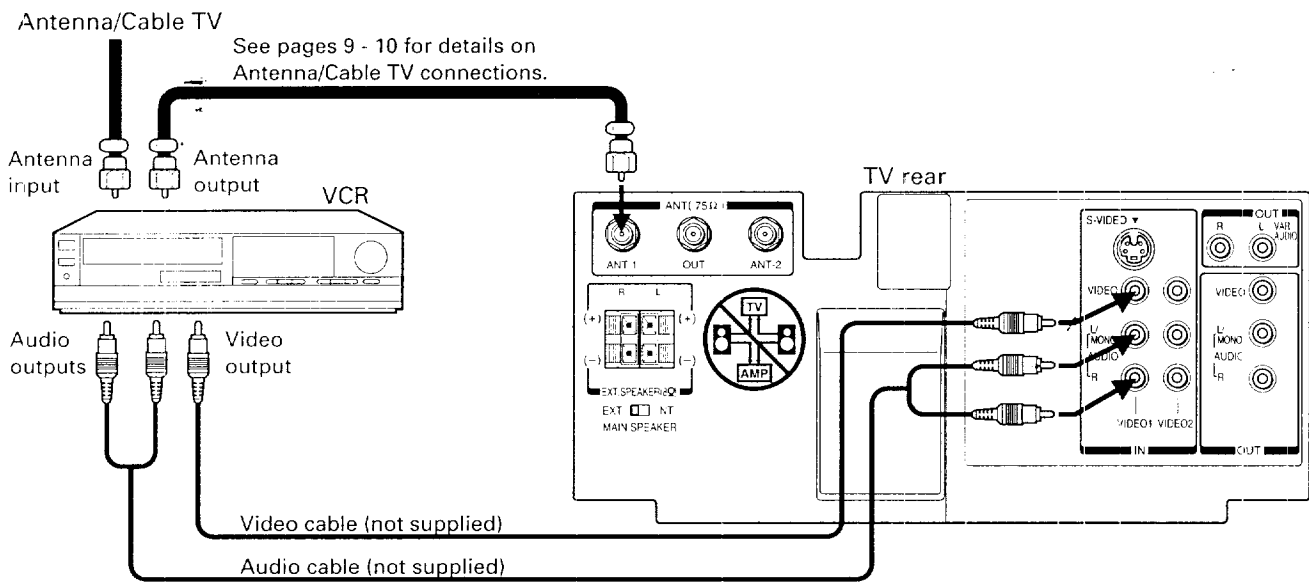
To select the video input source

Press **TV/VIDEO** on the Remote Control (or **ANT/VIDEO** on the TV) repeatedly to select the appropriate source. Each time you press the button, the TV, VIDEO 1, VIDEO 2 or VIDEO 3 source will be selected in order. The selected source will be displayed in magenta.


```
TV
VIDEO 1
VIDEO 2
VIDEO 3

TO SELECT PUSH TV/VIDEO
```
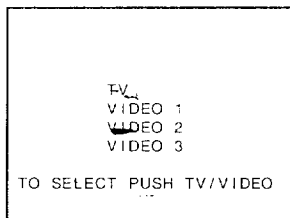
Note on the VIDEO 2 INPUT jacks
The VIDEO 2 INPUT jacks can also be used for connecting a second piece of video equipment with video/audio outputs.
To view signals from equipment connected to the VIDEO 2 INPUT jacks, select "VIDEO 2 "

Note on the VIDEO 3 INPUT jacks
The VIDEO 3 INPUT jacks on the TV front panel are convenient for connecting portable video/audio equipment.
To view signals from equipment connected to the VIDEO 3 INPUT jacks, select "VIDEO 3 "

Note:
If you connect a monaural VCR, connect the audio output of the VCR to the L/MONO jack.

CONNECTING OTHER EQUIPMENT

51

Connecting External Equipment (continued)

To connect a VCR with an S-video jack

If you connect a VCR with an S-video jack to the "S-VIDEO" jack on the TV rear, you must also connect the audio cables to the "VIDEO 1 INPUT" AUDIO jacks on the TV rear panel. The S-video cable supplies video signals only. Audio signals are separate.

Antenna/Cable TV

See pages 9 - 10 for details on
Antenna/Cable TV connections.

Antenna input

Antenna output

VCR

TV rear

Audio outputs

S-video output

S-video cable (not supplied)

Audio cable (not supplied)
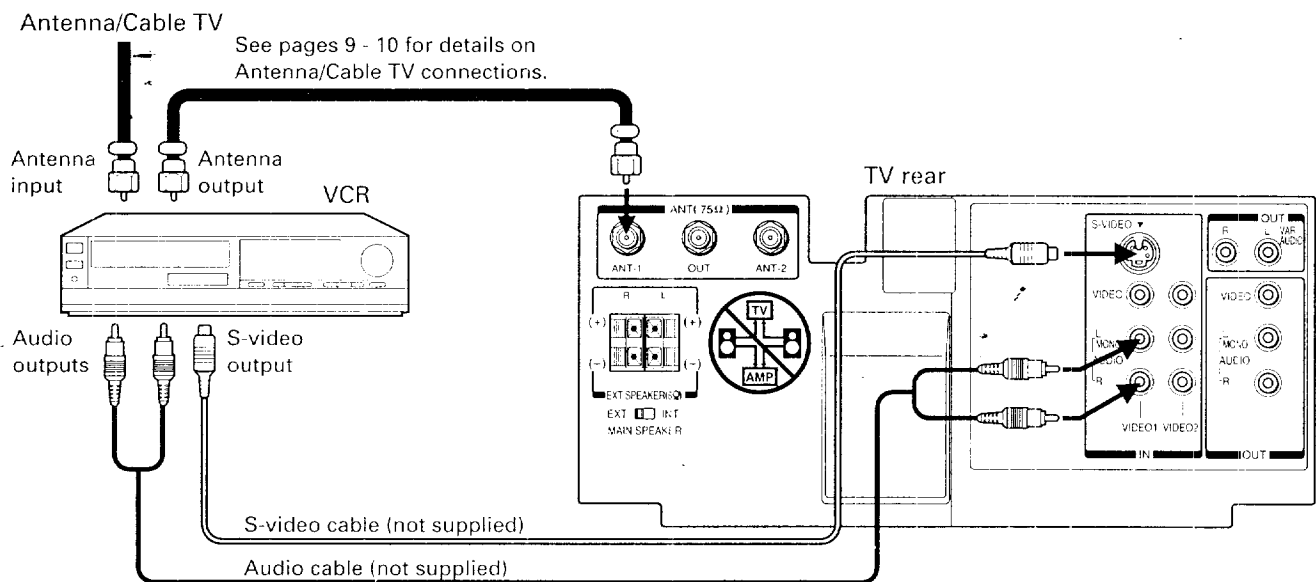
To select the video input source

1 Turn on the TV and the VCR.

2 Press **TV/VIDEO** on the Remote Control (or **ANT/VIDEO** on the TV) to select "VIDEO 1."

3 Operate your VCR normally.

Notes:
- When the S-video cable is connected to the S-VIDEO IN jack, the video cable (phono-type) should not be connected.
- The S-VIDEO jack accepts SEPARATED Luminance/Chrominance (Y/C) signals conforming to the NTSC standard.
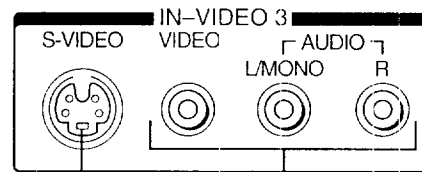
CONNECTING OTHER EQUIPMENT

To connect a video camera

This connection allows you to playback tapes in the video camera and watch them on the TV.
— If you have a video camera with an S-video jack, connect the S-video cable to the VIDEO 3 S-VIDEO INPUT jack.
— If you have a standard video camera, connect the video cable to the VIDEO 3 VIDEO INPUT jack.
With either video connection, you must connect the audio cables to hear the sound.

Video camera

Usually supplied
with the video camera

TV front

To S-video output

S-video cable

Video plug*

To A/V output

A/V cable

Audio plugs
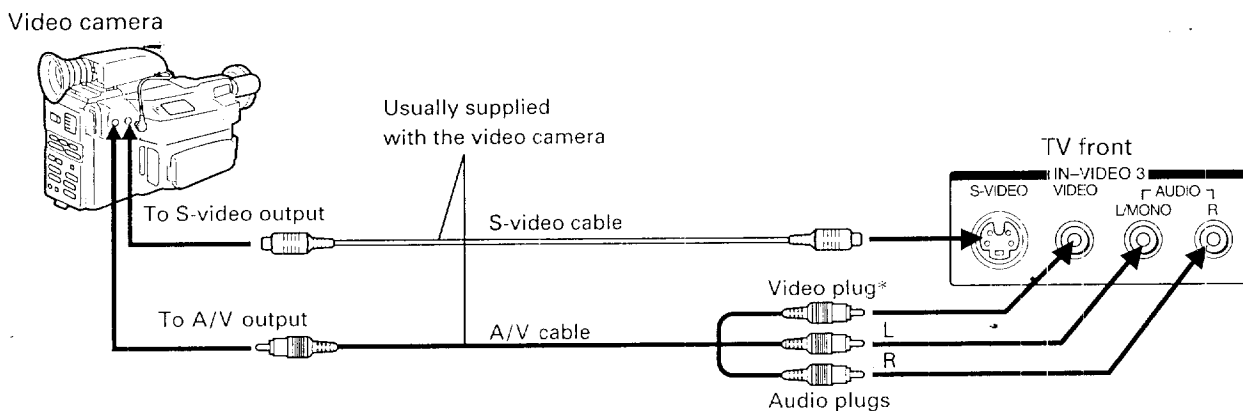
To select the video input source

To operate your TV and video camera properly, see the instructions supplied with the connected video camera.

1 Turn on the TV and the video camera.

2 Press **TV/VIDEO** on the Remote Control (or **ANT/VIDEO** on the TV) to select "VIDEO 3."

3 Operate your video camera normally.

Notes:
- When the S-video cable is connected to the S-VIDEO INPUT jack, the video cable (phono type) should not be connected.
- If you connect a monaural video camera, connect the audio output to the L/MONO jack.

CONNECTING OTHER EQUIPMENT

53

Connecting External Equipment (continued)

To dub/edit video tapes using two VCRs

To connect equipment for dubbing/editing

1 Connect the output jacks of the playback VCR to the input jacks (VIDEO 1, VIDEO 2 or VIDEO 3) on the TV.

2 Connect the output jacks (VIDEO/AUDIO OUT) on the TV to the input jacks of the recording VCR.

TV rear

Video output   Audio outputs

Playback VCR

Audio inputs   Video input
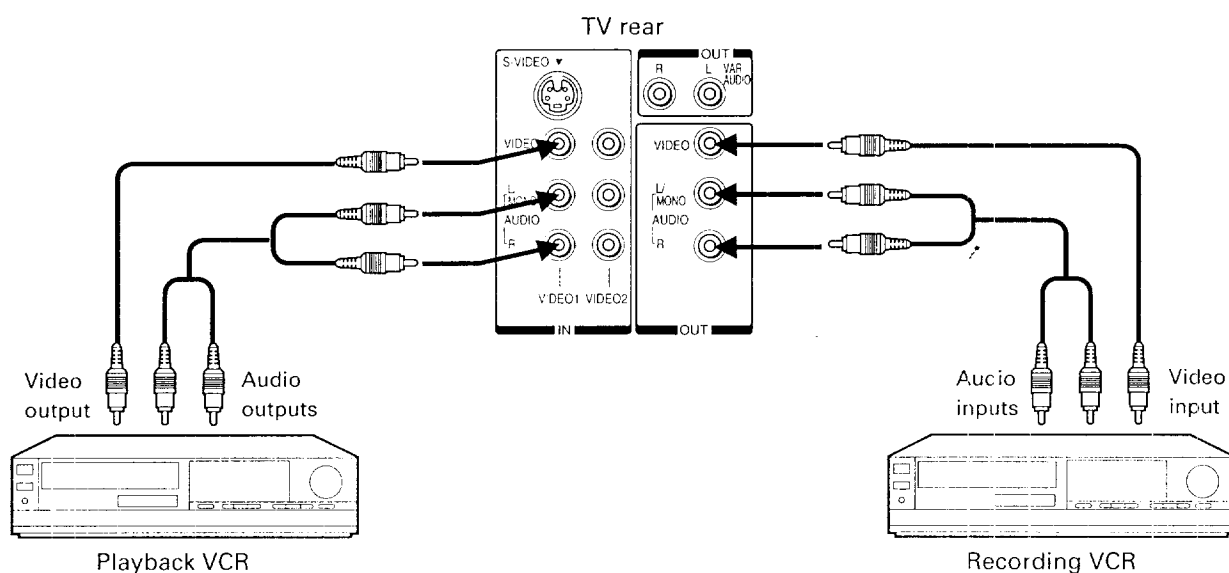
Recording VCR

Note:
Do not connect one VCR to the output and input jacks on the TV at the same time.

To monitor dubbing/editing

1 Turn on the TV and both VCRs.

2 Press **TV/VIDEO** on the Remote Control (or **ANT/VIDEO** on the TV) to select "VIDEO 1."

3 Set the recording VCR to record mode and the playback VCR to play.

4 You can view the video signal from the playback VCR on the TV screen while dubbing it onto the recording VCR.

CAUTION:
The unauthorized recording of television programs, video tapes and other materials may infringe upon the provisions of the copyright laws.

Notes:
- The input switch of the VCR is normally in the TV position. Change the switch of the recording VCR to the LINE or CAMERA position when using the video/audio inputs of the VCR as above. Some VCRs automatically switch when cables are plugged into the video/audio inputs.
- The PIP picture cannot be output through the VIDEO OUTPUT.

To connect an audio amplifier

Connect the VARIABLE AUDIO OUT jacks to the auxiliary input jacks on the stereo amplifier. You can control the audio signal going to the audio equipment using the Remote Control for this TV.

Fixed level AUDIO OUT*

AUX. input

Stereo amplifier
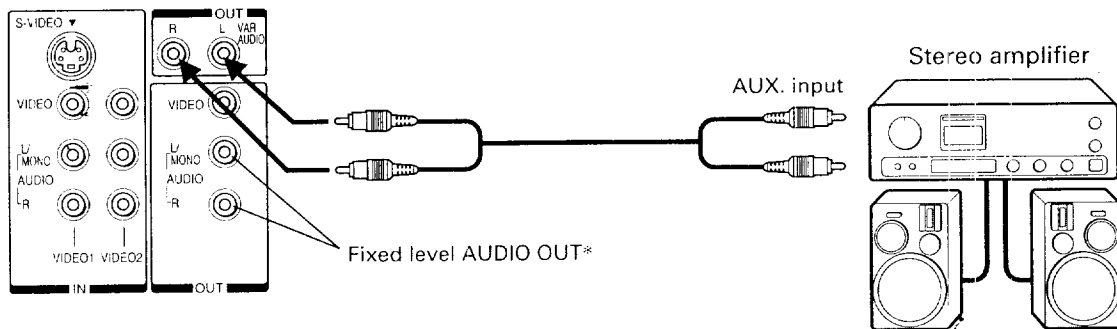
* The "fixed level" audio output of the VIDEO/AUDIO OUT jacks is also available for connecting an audio cassette recorder (or amplifier) to record audio from the TV. This constant audio signal is not affected by pressing the VOLUME buttons on the TV or the Remote Control for this TV.

To turn off the built-in speakers

1 Press **MENU**, then press < or > until the AUDIO menu appears.


```
MTS         STR
BASS        -IIII-
TREBLE      -IIII-
BALANCE     --I--
SPEAKERS    On
```

To turn on the built-in speakers
Select "On" in step 3.

Note:
Make sure the volume control of your stereo amplifier is set to a moderate listening level.
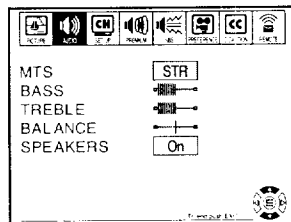
2 Press ∧ or ∨ until "SPEAKERS" is highlighted.


```
MTS         STR
BASS        -IIII-
TREBLE      -IIII-
BALANCE     --I--
SPEAKERS    On  Off
```
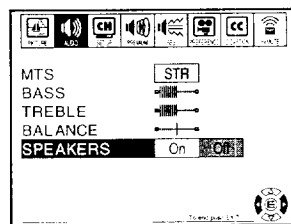
3 Press < or > to highlight "Off."


```
MTS         STR
BASS        -IIII-
TREBLE      -IIII-
BALANCE     --I--
SPEAKERS    On  Off
```

CONNECTING OTHER EQUIPMENT

55

Connecting External Equipment (continued)

To connect external speakers

- Before connecting the speakers, turn the TV off.

TV rear

Right speaker

Left speaker

R L

(–)   (–)

EXT SPEAKER(8Ω)
EXT ☐☐ INT
MAIN SPEAKER
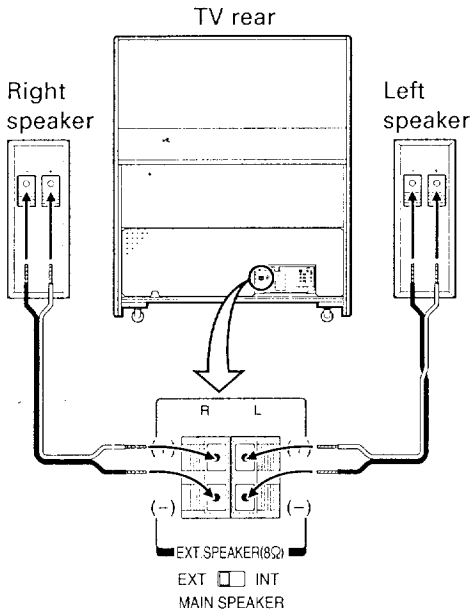
1 Connect the speaker leads.
While pressing the lever, insert the wire.
Then, release the lever.
Match the right and left channels and +/– polarities of the TV speaker terminals with the external speakers.
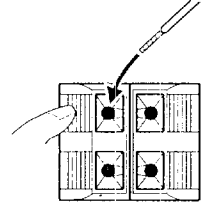
2 Set the MAIN SPEAKER switch to "EXT."
The built-in TV speakers are switched off.

◄────

EXT ☐☐ INT
MAIN SPEAKER

CAUTIONS:
- Do not connect external speakers to more than one audio source at a time. You will damage your equipment if you connect the same speaker system to both the TV and the amplifier.
- Use only external speakers with an impedance rating of 8 ohms and input power of 14 W or greater.

TV

Amplifier

Specifications

CABINET FINISH	TP50F60: Black oak cabinet TP50F61: Natural oak cabinet
TELEVISION SYSTEM	NTSC standard

CHANNEL COVERAGE	VHF: 2 through 13
	UHF: 14 through 69
	Cable TV: Mid band (A-8 through A-1, A through I)
	         Super band (J through W)
	         Hyper band (AA through ZZ, AAA, BBB)
	         Ultra band (65 through 94, 100 through 125)

POWER SOURCE	120 V AC, 60 Hz
POWER CONSUMPTION	185 W (average)
AUDIO POWER	14 W + 14 W
SPEAKER TYPE ·	Two 6-1/4 inches (16 cm) round

VIDEO/AUDIO TERMINALS	S-VIDEO INPUT (VIDEO 1/VIDEO 3)
	    Y-INPUT: 1 V(p-p), 75 ohm, negative sync.
	    C-INPUT: 0.286 V(p-p) (burst signal), 75 ohm
	VIDEO 1/VIDEO 2/VIDEO 3 INPUT
	    VIDEO: 1 V(p-p), 75 ohm, negative sync.
	    AUDIO: 150 mV(rms) (30% modulation equivalent, 47 kohm)
	VIDEO/AUDIO OUTPUT
	    VIDEO: 1 V(p-p), 75 ohm, negative sync.
	    AUDIO: 150 mV(rms) (30% modulation equivalent, 4.7 kohm)
	VARIABLE AUDIO OUTPUT
	    0–350 mV(rms) (30% modulation, 4.7 kohm)
	EXTERNAL SPEAKER TERMINALS
	    Accepts speakers of 8 ohm impedance, 14 W or greater input power

DIMENSIONS	Width: 41-3/16 inches (1,046 mm) Height: 49-3/8 inches (1,254 mm) Depth: 19-5/8 inches (499 mm)
MASS	253 lbs (115 kg)
SUPPLIED ACCESSORIES	Remote Control with 2 size "AAA" batteries Antenna adapter

Design and specifications are subject to change without notice.

ADDITIONAL REFERENCE

Before Calling Service Personnel

- Before calling service personnel, please check the following chart for the possible cause of the problem you are experiencing.

Symptom	Check	Adjustments
No picture, no sound	• That the power cord is securely plugged in. • For station trouble. • Antenna connections. • Antenna for broken wires.	• Press POWER button. • Try another channel. • Re-orient antenna.
No sound, picture OK	• For station trouble. • That the SPEAKERS ON/OFF function (page 55) or MAIN SPEAKER switch (page 56) is properly set.	• Try another channel. • Adjust VOLUME.
Poor sound, picture OK	• For station trouble. • For local interference from an appliance. • Antenna connections.	• Try another channel. • Adjust VOLUME. • Adjust BASS, TREBLE, or BALANCE control. • Re-orient antenna.
Poor picture, sound OK • Snowy picture • Lines in picture • Distorted picture • Weak picture	• For station trouble. • For local interference from an appliance. • Antenna connections. • Antenna for broken wires.	• Try another channel. • Adjust BRIGHTNESS. • Adjust CONTRAST. • Adjust SHARPNESS. • Re-orient antenna.
Poor reception of broadcast channels	• If the VCR is securely connected, check the TV/VCR switch. • Antenna connections. • Antenna for broken wires.	• Try another channel. • Re-orient antenna.
Unable to receive UHF channels, but VHF OK	• That the TV/CABLE function is in "TV" mode. (See page 22.)	—
Unable to select a certain channel	• To see if the channel is locked out with the CH LOCK function. (See page 38.) • That the TV/CABLE function is preperly set. (See page 22.)	• Try another channel.
Multiple images (ghosts)	• For station trouble. • Antenna connections.	• Try another channel. • Re-orient antenna.
Poor color, or no color	• For station trouble. • For local interference from an appliance. • If station is broadcasting in color. • Antenna connections. • Antenna for broken wires.	• Try another channel. • Adjust TINT. • Adjust COLOR. • Re-orient antenna.
Weak and noisy stereo program	• Antenna connections. • Antenna for broken wires.	• Select "MONO" in the AUDIO menu. • Re-orient antenna.
No stereo or SAP sound from a known MTS broadcast	• That the MTS function (page 31) is properly set.	—
Remote Control does not work	• That the TV/CABLE/VCR switch is properly set. • That the power cord is securely plugged in. • Battery in Remote Control.	• Change batteries.

Limited United States Warranty

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 One (1) Year Warranty
TACP and THI warrant this product and its parts against defects in materials or workmanship for a period of one (1) year after the date of original retail purchase. During this period, TACP and THI will repair a defective product or part, without charge to you. "Authorized TACP/THI service station personnel will come to your home when warranty service is required. Depending on the type of repair required, the service will either be performed in your home or the set will be taken to the authorized TACP/THI service station for repair and returned to your home at no cost to you."

Limited Two (2) Year Warranty of Picture Tube
TACP and THI further warrant the picture tube in this product against defects in materials or workmanship for a period of two (2) years after the date of original retail purchase. During this period, TACP and THI will replace a defective picture tube without charge to you, except that if a defective picture tube is replaced after one (1) year from the date of the original retail purchase, you pay labor charges involved in the replacement.

Rental Units
The warranty for rental units begins with the first rental or thirty (30) days from the date of shipment to the rental firm, whichever comes first.

Commercial Units
Products sold and used for commercial use have a limited ninety (90) day warranty for all parts, labor and picture tube.

Owner's Manual and Demographic Card
You should read this owner's manual thoroughly before operating this product. You should complete and mail the enclosed Demographic 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 provide you with better customer service and improved products. Failure to return the Demographic card will not affect your rights under this warranty.

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.
(2) All warranty servicing of this product must be made by an Authorized TACP/THI Service Station.
(3) **These warranties are effective only if the product is purchased and operated in the U.S.A. or Puerto Rico.**
(4) Labor service charges for set installation, set up, adjustment of customer controls and installation or repair of antenna systems are not covered by this warranty. Reception problems caused by inadequate antenna systems are your responsibility.
(5) 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, damage caused by Acts of God, such as lightning or fluctuations in electric power, improper installation, improper maintenance or use in violation of instructions furnished by us; or to units which have had the serial number removed, altered, defaced or rendered illegible.

How to Obtain Warranty Service

If after following all of the operating instructions in this manual and checking the section "BEFORE CALLING SERVICE PERSONNEL", you find that service is needed;

(1) Call the TACP toll free number **1-800-631-3811** after you find a defective product or part to find the nearest TOSHIBA Authorized Service Station.

(2) Please present your bill of sale or other proof to the Authorized Service Station. "Authorized TACP/THI service station personnel will come to your home when warranty service is required. Depending on the type of repair required, the service will either be performed in your home or the set will be taken to the TACP/THI Authorized service station for repair and returned to your home at no cost to you."

IN THE CONTINENTAL UNITED STATES
Should your unit require service, Call:

Toll Free
1-800-631-3811

HAWAII, 327 Kamakee Street, Honolulu, HA 96814
(808) 521-5377

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. With the exception of any warranties implied by state law as hereby limited, the foregoing 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 parts. In no event shall TACP or THI be liable for consequential or incidental damages.

No person, agent, distributor, dealer or company is authorized to change, modify or extend the terms of these warranties in any manner whatsoever. The time within which action must be commenced to enforce any obligation of TACP or THI arising under this warranty or under any statute, or law of the United States or any state thereof, is hereby limited to 90 days from the date you discover or should have discovered, the defect. This limitation does not apply to implied warranties arising under state law.

This warranty gives you specific legal rights and you may also have other rights which may vary from state to state. Some states do not allow limitation on how long an implied warranty lasts, when an action may be brought, or the exclusion or limitation of incidental or consequential damages, so the above provisions may not apply to you.

ATTENTION CANADIAN CONSUMERS:
Canadian consumers are requested to complete the special Canadian "Warranty Registration Form" enclosed, and forward this completed form with a copy of bill of sale to TOSHIBA OF CANADA to "Register and Validate" their warranty.

Products purchased in the U.S.A. and used in Canada are not covered by these warranties.

Products purchased in Canada and used in the U.S.A. are not covered by these warranties.

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TOSHIBA AMERICA CONSUMER PRODUCTS, INC.

HEAD OFFICE/82 TOTOWA ROAD, WAYNE, NEW JERSEY 07470
    FACTORY SERVICE CENTERS/NORTHEAST: 82 TOTOWA ROAD, WAYNE, NEW JERSEY 07470
                MIDWEST: 1010 JOHNSON DRIVE, BUFFALO GROVE, ILLINOIS 60089-6900
                    WEST: 5490 E. FRANCIS ST., ONTARIO, CA 91761
          SOUTHWEST: 1421 CHAMPION DRIVE, SUITE 304 CARROLLTON, TEXAS 75006
          SOUTHEAST: 6115 JIMMY CARTER BLVD., SUITE C2, NORCROSS, GA 30071-4607

TOSHIBA OF CANADA LTD.

HEAD OFFICE/191 MCNABB STREET MARKHAM, ONTARIO L3R 8H2, CANADA TEL: (905) 470-5400
    SERVICE CENTERS/TORONTO: 191 MCNABB STREET MARKHAM, ONTARIO L3R 8H2, CANADA TEL: 905) 470-5400
              MONTREAL: 1643,NORTH SERVICE RD., TRANS-CANADA HIGHWAY, DORVAL QUEBEC. H9P 1J1, CANADA
                        TEL: (514) 332-6860
          VANCOUVER: 3870 JACOMBS ROAD, RICHMOND, B.C., V6V 1Y6, CANADA TEL: (604) 270-8481

TOSHIBA HAWAII, INC.

HEAD OFFICE/327 KAMAKEE STREET, HONOLULU, HAWAII 96814, U.S.A. TEL: (808)521-5377

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