Recorded TV

On playing the recorded program, edit a section

- You can save the desired screen in the recorded program list after editing the recorded program..

1. At the point of desired start , press the ⟨•⟩ button.

   • The progress bar which be editied will be showed the red color.

   • It can be possible as search (◄◄ or ►►), pause while editing the section.

2. At the point of desired finish , press the ⟨•⟩ button.
   • Stop editing the section.

3. Repeatedly play the above 1,2 phase, it can be possible to edit some programs.

PLAYING 0:33:20 /1:06:40

4. If you press the ⟨■⟩ button to stop the recorded program playback, this message is displayed as shown below.

① Do you want to save changes before playback stops?

   Save   Undo   Cancel

• **Save**: Save contents of editing the section and finish the playback of recorded program.
• **Undo**: Don't save contents of editing the section and finish the playback of recorded program.
• **Cancel**: The screen is disappeared and the playback is continued.

Notes:
• It can be possible to play on the recording / reserved recording
• It can be possible to occur a noise by a hard-disk on playing the recorded program. The noise is irrelevant the proficiency and creditability of product, the noise occurred more than adequate is the same as good product.

• In case saving the content of editing the section, delete the portion not to select.
*• When power off on editing, It can be possible not to save the content of editing. You do press the **STOP (■)** button after checking the recording list.*
• Editing the section can be possible to the maxium of 10.
• You can not save editing of less than 10 seconds.

On playing the recorded program, repeat a section

- You can set the section and repeatedly view on playig the recorded program.

1. At the point of desired start, press the MARK button.

   • At start points, it is showed as marking [A] .

2. At the point of desired finish, press the MARK button.
   • At finiah points, it is showed as marking [B] .
   • Repeatedly play the marked section.
   • You can not make sections of less than 5 seconds.
   • The progress bar which be repeated will be showed the blue color.

3. Press the ◄◄ button to move the position of the start point.
   • Return to the start point of marked section and then start the playback.

4. If you press the ►► or MARK button to stop playing the repeat section.

Notes:
• It can be possible a function as search (Rew / FF), Pause, edit a section while repeating a section.
• When setting the section of start and finish, it can be possible both of Rew and FF.

Notes on Memory Card

What is Memory Card

This is a device equipment to communicate the data between AV external equipment. It's used to a digital camera, camcorder, MP3 player, notebook or PDA.

Precaution for Using the Memory Card

- Insert the memory card correctly.
- Don't insert the metal substances into the slots of the memory card.
- Do not bend, drop or apply strong shock to memory card.
- After pulling the memory card out from the TV, please keep the memory stick in a appropriate case to prevent static shock.
- The stored data may be changed or lost as a result of misuse, static electricity.
- Do not turn the power off while using the memory card (loading or erasing).
- Don't eject the memory card while using the it. Otherwise, it may cause a data loss or card damage.
- Only Insert one card to each slot.
- To prevent a change or loss for stored data, don't misuse the TV or don't let static electricity or electrical noise for TV.
- This Company takes no responsibility for problems such as the damage or malfunction that occurs while using the TV set, inappropriate TV settings, or any other reasons, except for defects or malfunctions intrinsic to the product.
- Ensure to use a memory card that lists the manufacturers name and serial number.
- The manufacturer shall not be responsible for damaged data. Be careful to avoid data damage, and back up your files.
- Make sure to comply with the following steps when ejecting a memory card.
- Each Memory Card is complied with standard.

Entry Modes- 1.Using the Memory Card / 2. Enter the HOME Menu

1.Using the Memory Card

How to insert and eject the Memory Card

50/60PY2DR

50PX4DR

A.

label-side
upward
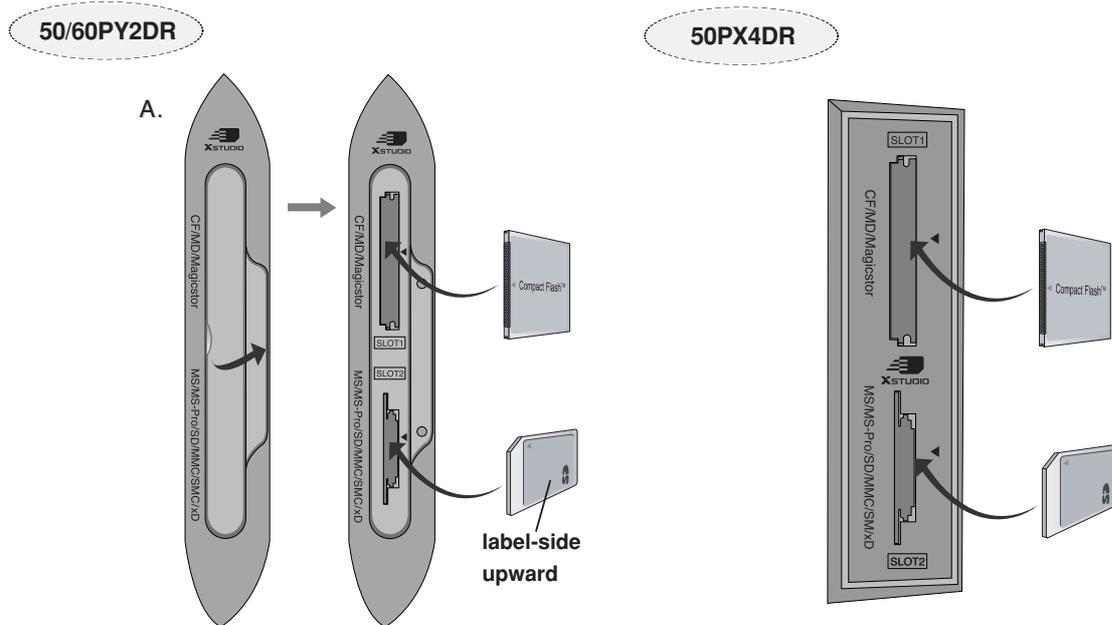
◆ **Inserting a Card**

1. Insert the Memory Card to Memory card slots of TV side panel.

2. Two slots support defferent types of the Memory Cards.

3. If Memory Card is not inserted, each slot is disable.

◆ **Ejecting a card**

1. Press the **M/C EJECT** button on the remote control.

2. Select the **Slot 1** or **Slot 2** based on the inserted card location.

    If selecting **Cancel**, OSD is disappeared.

3. Eject the card with the hand.

Note: If you insert or eject a card in one slot while the card in another slot (slot 1 or slot 2) is in use, the product can run abnormally.

⚠ **Caution**: Before you remove the memory card from the slot, do not forget to press the **M/C EJECT** button on the remote control and make it safe to eject the memory card, or the memory card may be damaged.

Notes on Memory Card

Memory Card type and Memory Card capacity

- 9 types of Memory Card can be used for this Plasma TV.
- Playback speed can vary dependent on the card type.
-Unsupported or damaged photo or music files can cause errors. Do not try to change the file extension of unsupported file
 types to the file extension of supported file types.

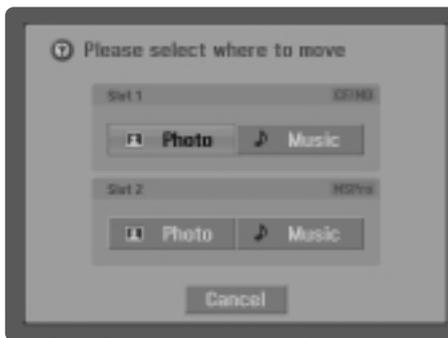| Slot 1	Slot 2
• **CF (CompactFlash) : 4GB** • **MD (Microdrive) : 4GB** • **CF+|| (MagicStor) :2.2GB** *MagicStor Plus card is not is complied with the TV.	• **SD (Secure Digital) : 1GB** • **MMC (MultiMedia Card) : 1GB** • **MS (Memory Stick) :128MB** • **MS Pro (Memory Stick Pro) : 1GB** • **SMC (Smart Media Card) : 128MB** • **xD (xD-Picture Card) : 512MB**
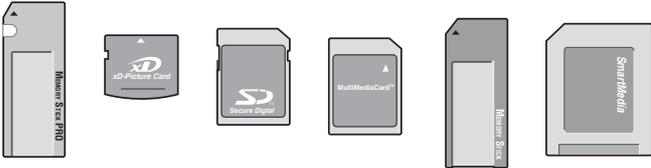
Select the Photo or Music

- When you plug the Memory Card, this screen is displayed, automatically.

B.

Memory Card
Loading ......

C.

T Please select where to move

Slot 1   CF/HD

    Photo   ♪ Music

Slot 2   MSPro

    Photo   ♪ Music

        Cancel

1. Press the ◄ / ► button to select **Photo/Music**. and use ▲ / ▼ button to select **Slot1** or **Slot2**.
2. Press **ENTER** button to move to **Photo List/Music List** of the each slot. (Directly move to p.59,(C))

Note: In 30 seconds later, 'Loading" message is disappeared.

- 2.Enter the HOME Menu

Photo List

- When you press the [X STUDIO] button, **HOME** menu is displayed.
  It's available to playback and copy the Photo file of Memory Card.or HDD.

  The total storage space of photo file is 10GB.

1. In **HOME** menu, use ▲ / ▼ button and then use the **ENTER** or
   ► button to select the **Photo List** .

2. Use ▲ / ▼ button to select the **HDD**/ **Memory Card 1**/
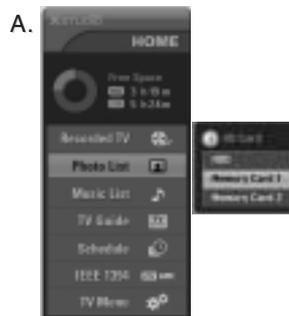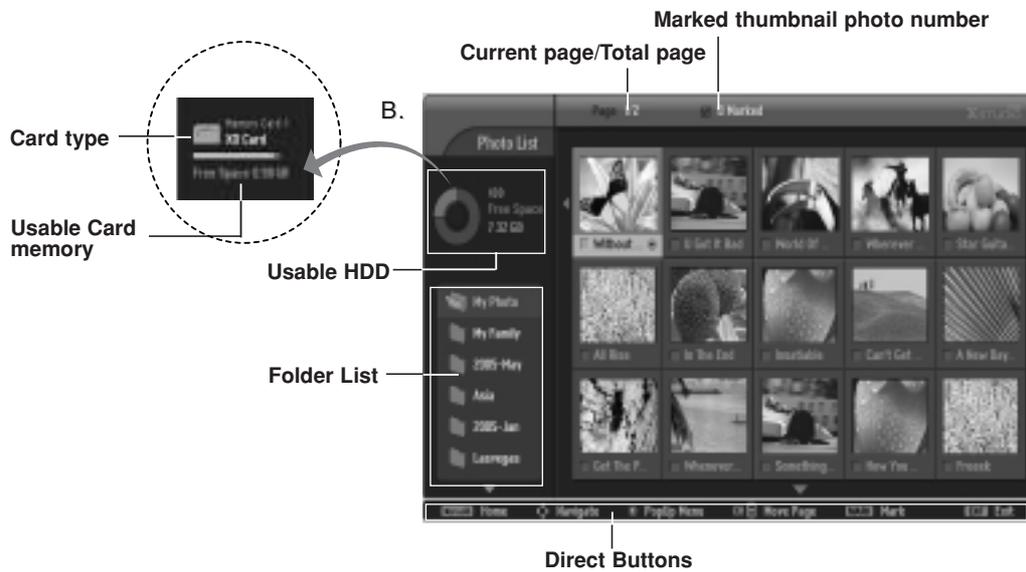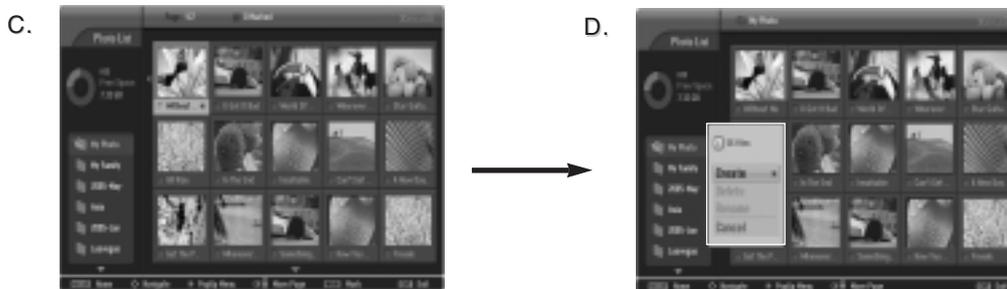   **Memory Card 2** and then you will see a screen filled with
   thumbnail photos (pic.C,D).

A.

Photo List

Screen Components

Marked thumbnail photo number

Current page/Total page

Card type

Usable Card memory

Usable HDD

Folder List

B.

Photo List

Direct Buttons

Folder List

C.

D.

3. Select the desired folder in the folder list and then press the **ENTER** button to view the detailed menu.

• **Create:** Create new folder.
• **Delete:** Delete folder (except 'My Photo')..
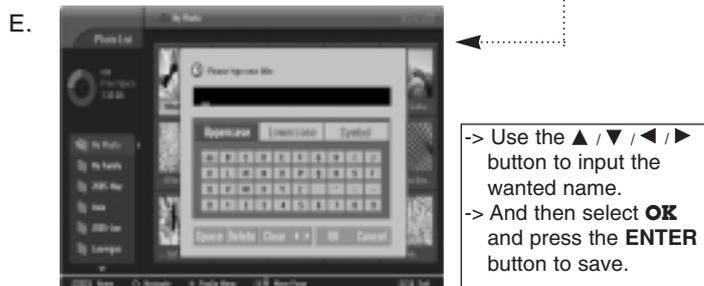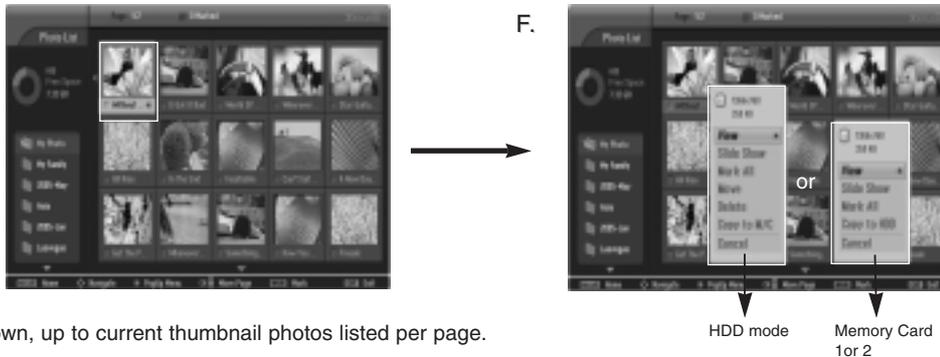• **Rename:** Edit folder name.
• **Cancel:** Close the detailed menu.

E.

-> Use the ▲ / ▼ / ◄ / ► button to input the wanted name.
-> And then select **OK** and press the **ENTER** button to save.

Photo Selection and PopUp Menu


F.

or

HDD mode   Memory Card
1or 2

- As shown, up to current thumbnail photos listed per page.

1. Use the **CH ▲ / ▼** button to navigate in the thumbnail photo page.
2. Use **MARK** button to mark or unmark a photo. When one or more photos are marked, you can view or slide show only the marked ones. If no photo is marked, you can view or slide show all photos in the folder.
3. Use ▲ / ▼ / ◄ / ► button to navigate the appropriate thumbnail photos, then press the **ENTER** button to show the PopUp menu

   • **View:** Display the selected item.
     Change from still image to slide show by pressing the **PLAY (►)** button.
   • **Slide Show:** Start a slide show of all photos in the folder. The slide show state can be changed to the view state by pressing the **PAUSE (ǁ)** button. Before start a slide show, you can choose the slide show interval (3,6 or 9 seconds).
   • **Mark All:** Mark all photos on the screen.
   • **Unmark All:** Unmark all marked photos.
   • **Move:** Only HDD mode, move the selected photo of this folder to another folder.
   • **Delete:** Delete the selected thumbnail photo. This menu is only available in HDD mode.
   • **Copy to M/C:** Copy the selected photo in the HDD to the Memory Card.
     This menu is only appeared in HDD.
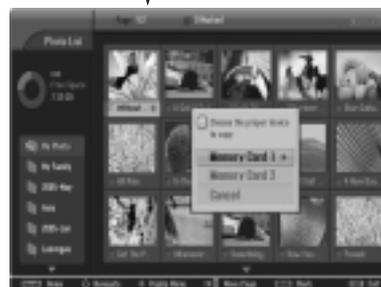
   • **Copy to HDD:** Copy the selected photo in the Memory Card to the HDD. At this time, you can also make new folder. This menu is only available in Memory Card mode.
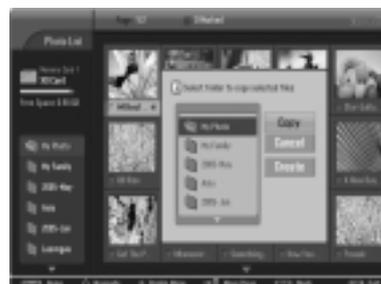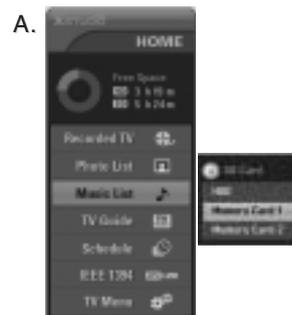

   • **Cancel:** Close the pop-up menu.

4. Repeatedly, press **EXIT** button to return to TV viewing or press [Xstudio] button to return to the previous menu.

Music List

- Purchased MP3/music files may contain copyright restrictions. Playback of these files may not be supported by this model.
- When you press the [Xstudio] button, **HOME** menu is displayed.
  It's available to play and copy the Music file of Memory Card or HDD.
  The total storage space of music file is 10GB.

1. Use ▲ / ▼ button and then use the **ENTER** button or ► button to select the **Music List** .

2. Use ▲ / ▼ button to select the **HDD**/ **Memory Card 1**/ **Memory Card 2** and then you will see a list of music titles (pic.C,D).
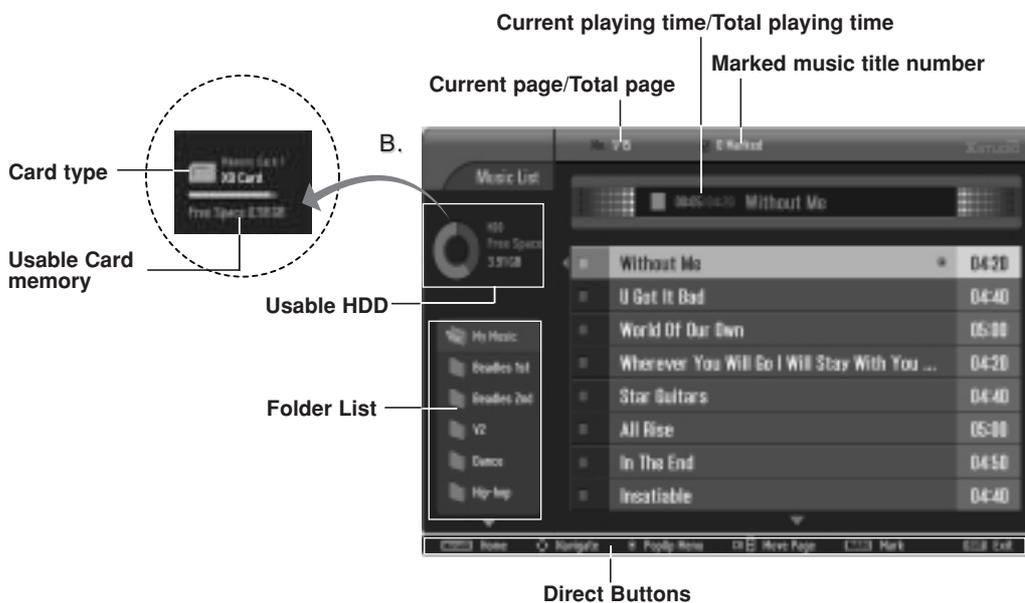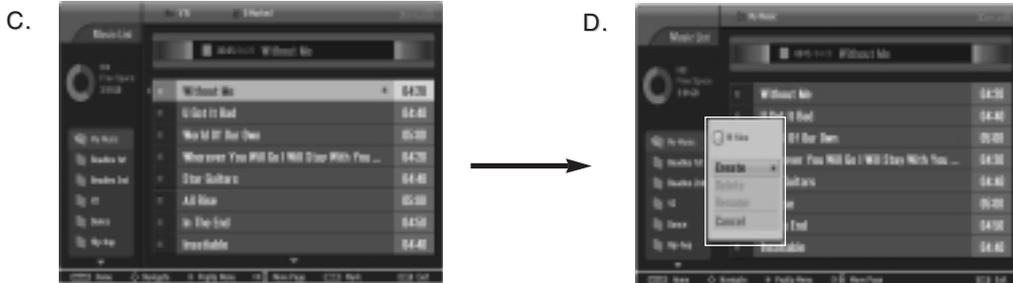
A.

Screen Components

Current playing time/Total playing time

Current page/Total page

Marked music title number

Card type

Usable Card memory

B.

Usable HDD

Folder List

Direct Buttons

Folder List

C.   D.

3. Select the desired folder in the folder list and then press the **ENTER** button to view the detailed menu.
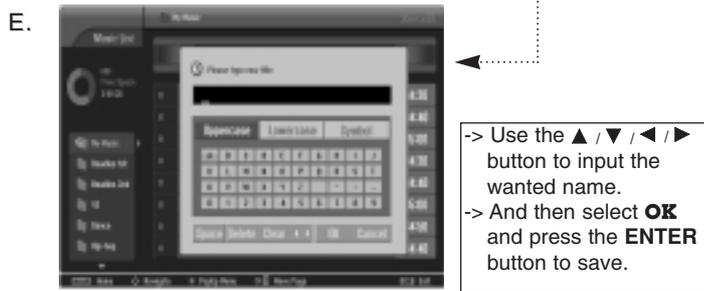
• **Create:** Create new folder.
• **Delete:** Delete folder (except 'My Photo').
• **Rename:** Edit folder name.
• **Cancel:** Close the detailed menu.

E.

-> Use the ▲ / ▼ / ◄ / ► button to input the wanted name.
-> And then select **OK** and press the **ENTER** button to save.

Music title Selection and PopUp Menu

    F.

or

Memory Card 1or 2   HDD mode

- As shown , up to 8 music titles are listed per page.

1. Use the **CH ▲ / ▼** button to navigate in the music titles page.

2. Use **MARK** button to mark or unmark a music title. When one or more music titles are marked, the marked music will be played by turns. For example, if you want to hear only 1 music repeatedly, just mark the music only and play it. If no music title is marked, all the music in the folder will be played by turns.

3. Use ▲ / ▼ / ◄ / ► button to navigate the appropriate music titles, then press the **ENTER** button to show up the pop-up menu.

Music List

- **Play:** Play the selected music.
- **Stop Play:** Stop playback.
- **Play With Photo:** Start playing the selected music and then move to the Photo List.
- **Mark All:** Mark all music titles in the folder.
- **Unmark All:** Change marked musics to unmarked music titles.
- **Move:** Move the selected music titles of this folder to another folder.
- **Delete:** Delete the selected music titles. This menu is only available in HDD mode.
- **Copy to M/C:** Copy the music titles in the HDD to Memory Card.
  This menu is only available in HDD mode.
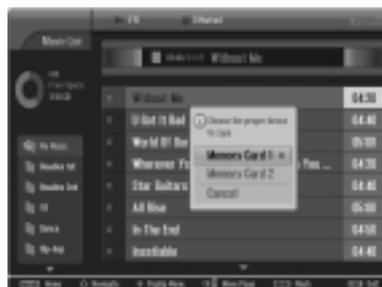
- **Copy to HDD:** Copy the selected music titles in the Memory Card to the HDD. At this time, you can also make new folder. This menu is only available in Memory Card mode.
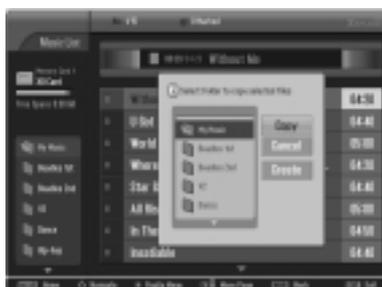
- **Cancel:** Close the pop-up menu.

4. Repeatedly, press **EXIT** button to return to TV viewing or press [XSTUDIO] button to return to the previous menu.

- If you don't press any button for 40 seconds, the play information box (as shown in the below) will float as a screen saver.

* The '**Screen Saver**'?
Screen saver operates
to prevent fixed image.

Notes:
- When music is playing, 🎵 is displayed in front of the music title.

- If you press any button except **VOL ▲** / **▼** , **MUTE, ►, II, ■, I◄◄, ►►I** buttons, screen saver is stopped.
- The **►, II, ■, I◄◄, ►►I** buttons on the remote control are also available in this mode.

TimeShift

- This function allows the unit to automatically record live TV and make it available for reviewing at any time. With Auto Buffering turned on, you may pause and rewind normal TV viewing at any time without missing any of the live broadcast.

1. Press the **MENU** button and then use ▲ / ▼ button to select the **OPTION** menu.
2. Press the ▶ button and then use ▲ / ▼ button to select **Advanced**.
3. Press the ▶ button and then use ▲ / ▼ button to select the **TimeShift Mode**.
4. Press the ▶ button and then use ▲ / ▼ button to select **On** or **Off**.

Progressing the Timeshift function

1. After selecting the **TimeShift Mode On**, press the **ENTER** button. .

• As soon as Timeshift starts, a progress bar indicating current recording status is displayed in the bottom of the screen. (Timeshift 'Progress Bar' is shown below)
• Press the **EXIT** button to hide the 'Progress Bar'. Pressing the **ENTER** button will display the 'Progress Bar'.
• Stay The TimeShift even change a channel on Timeshift.
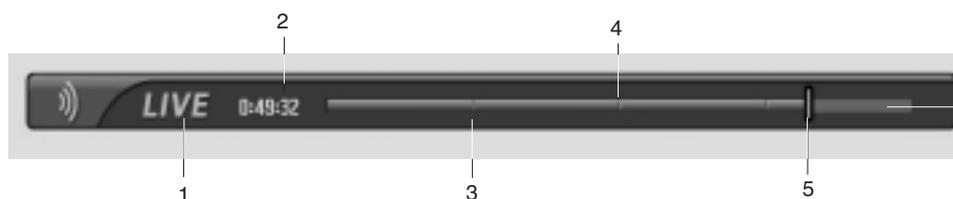
* The '**Progress Bar**'?
This function indicates a possible PVR reshowing section ,a current on-screen and real on-broadcasting position, a section of section-recording.

1. Indicates status of current displayed video.

2. Indicates current save time.

3. Indicates 15 minute intervals from Timeshift start time. (Total - one hour).

4. Indicates Timeshift elasped time.

5. Indicates current Timeshift position.

TimeShift

2. When finishing the Timeshift function, enter the **Menu** and then **Timeshift Mode** is to be **Off**.

Notes:

> •*PVR (Personal Video Recorder) : A device which records and plays broadcast program contents*
> *onto a hard disk in TV or SET TOP BOX.*
> •*If available hard-disk space is low when TimeShift is initiated, It will disappear automatically from the oldest part.*
> •*In order to save hard-disk space, no storage is done when there is no signal.*
> •*The total storage space of hard-disk is 160GB, there are 10GB minimum reserved for TimeShift.*
> •*When turning power on, it may take up to 3 minutes to initialize the HDD.*
> •*The TimeShift function will not initiate for a copy-protected program.*
> •*Because an analog broadcast is transfered to a digital signal, video that contains rapid movement may*
> *show "cross stripes". This happen when the analog signal is compressed and then restored in the digital*
> *signal. The unit will attempt to soften the video in order to reduce this effect of excessive picture noise.*
> •*When using the PIP/POP mode, Component 1/2 TimeShift is stopped.*

On progressing the Timeshift, play

- On progressing Timeshift, It can do a diversified playing .


```
DELAYED -0:17:58
```

Indicates that the current broadcast
and displayed video differ.

◆ **Using the remote control**

- You can shift playback to any point within playing the recorded program

◄◄ ►►	- When playing, press the **REW (◄◄)** or **FF (►►)** button. • Like ▌×2 -> ▌×5 -> ▌×20 -> ▌×50 -> ▌×300 in a row. 2 times 5 times 20 times 50 times 300 times • If the button is pressed continuously, it changes like above. If the button is taken away, it changes a normal playback.
◄◄	- If you wish to return to a initial portion of Timeshift, press the ◄◄ button.
►►	• If you wish to return to the current live broadcast, press the ►► button. (Indicator will change to LIVE)
II	- During playback, press the **Pause (II)** button. • Still screen is displayed. • Repeatedly press the **Pause (II)** button to advance frame by frame. • When pressing the **Pause (II)** button, longly, ❘▷ will be showed.
▲ ▼	• If you press the ▲ / ▼ button on piaying, the screen will be jumped back and forth in the current screen. • Pressing the ▲ button, the screen will be jumped 20 seconds in the front. • Pressing the ▼ button, the screen will be jumped 8 seconds in the back.
◄❘ ❘►	• After moving the cursor using the ◄ / ► button on playing, the point of the cursor is directly viewed on the sereen.
►	- Press the **PLAY (►)** button to return to a normal playback.

Recording

- This function is able to record channel watched on main screen of an Analog or Digital broadcasting.

Instant Record

- This function records the currently displayed channel.

1. Select the desired channel to record while watching program and then press the **RECORD** (●) button.

2. Use the ◄ / ► button to select the **OK** (as shown below A.) or **Options** or **Stop Record**. If you select the **OK** or press the **RECORD** (●) button in the TV mode, recording will start as marking, [■ ▸ REC] and recording will begin with basic settings.

A.
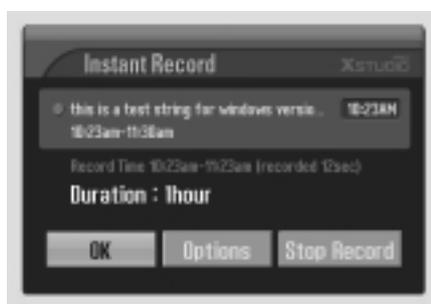
3. You can select the **Stop Record** to stop the recording.

4. You can set the duration of the recording by selecting **Options** and then **ENTER** button, then the recording time is displayed. Press the ◄ / ► repeatedly to adjust the recording length. Each press of ◄ / ► button changes the recording duration in the sequence shown below.
   30min -> 1hour -> 1hr 30min -> 2hr -> 2hr 30min -> 3hr

B.

Recording

5. You can also add recording time by pressing the **RECORD** (●) button during the Instant Record. Press the ◄ / ► repeatedly to add to the recording time. Each press of ◄ / ► button changes the recording duration in the sequence shown below.

   No Change -> +10min -> +20min -> +30min -> +40min ->+50min -> +1hr

   The extra recording time added to existing setting value makes final recording time length.

C.

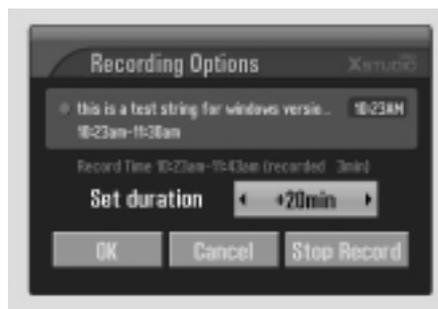6. After adjusting the recording time, select **OK** and the progress bar will be displayed.

Total recording duration

Elapsed recording time
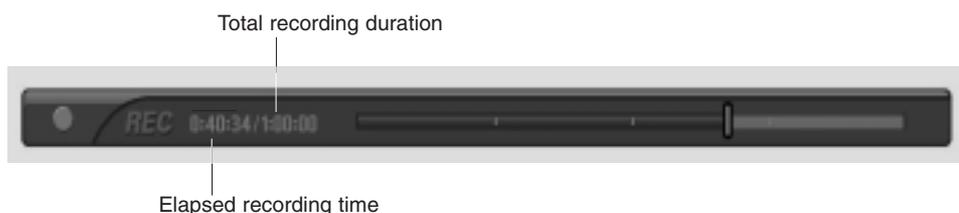
• Press the **EXIT** button to hide the Progress Bar. Press the **ENTER** button to display the progress bar.

7. Press the **STOP** (■) to stop recording, or, when the recording duration is reached, the HD DVR will stop recording. Although recording has stopped, the Timeshift features remain active.

Notes:
  •When recording, if the available storage space becomes low, the recording will be automatically end.
  •If power is interrupted or turned off too soon after recording, the program may not be saved. Therefore, first press the (■) button and confirm the recording list, before powering the unit off.
  •If you press the **POWER** button while recording, the Screen Saver will initiate and recording will continue.
  •Recordings of less than 10 seconds will not be saved.
  •To save the disk space while recording analog or digital screen, no data is saved when no signal is present.
  •The recording function will not initiate for a copy-protected program.
  •After recording, marked times may be somewhat different from actual times.
  •In no signal or film source, marked times may be different from actual times.

Watching & Record

- While recording, you can change channels or inputs, without disturbing the recording. And the screen being recorded will be shown in the lower-right corner of the main screen.

1. After starting an Instant Record or Reserved Record, change the channel or input.
    •You can check the screen being recorded in the lower-right corner the main screen (as shown below).
    •Press the **PIP** button to cancel or show the screen being recorded.
    •Press the **SWAP** button to return the screen being recorded in Watch & Record.
    •When changing to the channel being recorded in Watch & Record, screen is changed to Instant Record state or Reserved Record state.
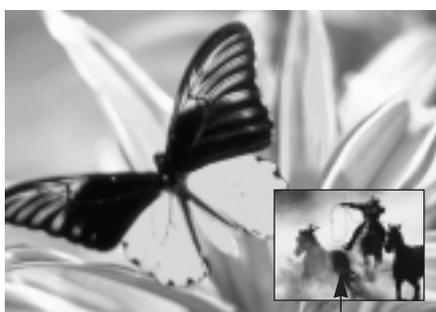
screen being recorded

• Watch & Record Input

Record / Watch	Digital	Analog	Video	Front Video
Digital	X	0	0	0
Analog	0	0	0	0
Video	0	0	0	0
Front Video	0	0	0	0
Component1	0	0	0	0
Component2	0	0	0	0
RGB-PC/DTV	0	0	0	0
HDMI1/DVI	0	0	0	0
HDMI2	0	0	0	0

Note: When digital broadcast is being recorded, another digital broadcast can not be tuned.

- if you turn the power off on recording, this message is displayed as shown below.

Do you want to stop recording before power off?

Yes   No
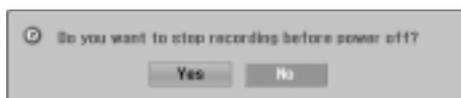
- If you selects **Yes**, recording stops and then power is off.
  And if you selects **No**, recording stops and then power is off.

⬤ TV Guide On Screen™ System

Overview

- Your new TV contains the TV Guide On Screen Interactive Program Guide.
- The TV Guide On Screen system has features that help you get the most out of your viewing experience.

TV Guide On Screen Overview

The TV Guide On Screen system has the following features:

• Eight days of show listings (today plus seven days).

• Icons that indicate show rating, stereo, HDTV, new episode, etc.

• Intuitive up/down/left/right navigation using your remote control.

• Set shows to Record.

• Schedule show Reminders.

• Search shows by category (e.g., Movies, Sports, Children, etc.).

• Search for shows based on keywords or alphabetically by title.

• Direct tuning to a channel.

• Show information while watching TV.

• Streamlined System Setup and default setting options.

• Channel lineup customization.

• Help screens while in the Guide.

Screen Components

- The screens displayed in the TV Guide On Screen system share many of the same components, as shown in the following figure:

•**Video Window** - displays TV video while the Guide is displayed

•**Service Bar** - provides access to the 5 main Guide Services

•**Current Service Label** - indented to indicate current Service displayed

•**Tile** - displays show title

•**Highlight** - indicates an active tile

•**Info Box** - provides information for a highlighted item

•**Info Button** - cycles through the various Info Box sizes

•**Channel Logo** - identifies network

•**Record/Remind Icons** - indicates a show is set to Record or set as a Reminder

•**Panel Ad** - location where show- or product-specific information appears (and also where Panel Menu appears)

⬤ TV Guide On Screen™ System

Panel Menu

Panel Menu

Default Command Button

Highlight

Entry Box

Odometer

- •A Panel Menu appears when the Menu key is pressed on a highlighted tile and additional options are available. It also appears when you press **ENTER** on a show starting in the future.
- •When a Panel Menu appears, the highlighted tile changes color to indicate the Panel Menu relates to this tile.
- •The Panel Menu displays below the Video Window.
- •Help is available for a displayed Panel Menu by pressing the **INFO** button.
- •The ▲ / ▼ button move between the options within the Panel Menu.
- •The left and right arrows move to adjacent options unless the highlight is on an odometer, where these arrows change the odometer choice.
- •Pressing **ENTER** from an odometer or number entry box moves the highlight to the default command button of that Panel Menu, for example, Schedule Reminder.
- •Pressing **ENTER** from a highlighted command button executes the action and closes the Panel Menu (e.g., Schedule Reminder, Cancel).
- •Select Cancel to cancel any changes and press **ENTER** to close this menu.
- •Pressing Menu is a shortcut to Cancel. Press Menu to cancel any changes and close the menu.
- •If a Panel Menu contains more menu options than can be displayed on a single screen, ▲ / ▼ button appear at the top or bottom of a menu. Simply scroll down to access these options.

Main Services

Listings

- Access Listings by pressing the TV Guide button on your remote or on the front panel of your TV.
- Listings is always the first Service displayed in the Guide.
- With Listings highlighted, press the Info button to display a Help screen.
  Press the Info button again to close the screen.

Use the ▲ / ▼ / ◄ / ► buttons to move the highlight
within Listings to:

- **View 8 days of show listings**
- **Read show descriptions**
- **Tune directly to a show currently airing**
- **Set a show to Remind**
- **Set a show to Record**
- **Lock and unlock the Video Window**
- **Access Panel and Channel Ads**

Notes: *There may be times when the TV Guide On*
Screen system could display partial or no program list-
ings. The reasons for this include:
• Program schedule information was not provided to TV
Guide On Screen.
• The transmission of the program listings was inter-
rupted.
The phrase "No Listings" will be replaced with program
information during the next transmission, which should
occur within the next 24 hours.
Please remember to turn off your TV when not in use
in order to receive program listings.
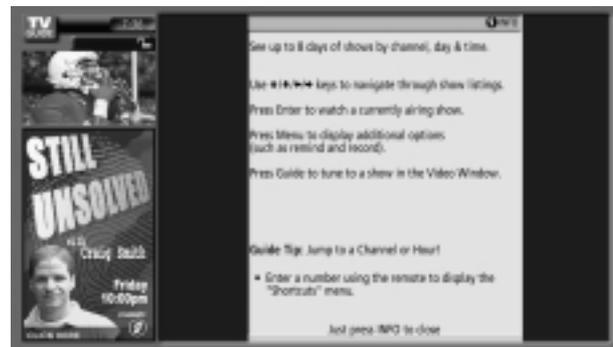
⬤ TV Guide On Screen™ System

Search

- Search lets you find shows by category (Alphabetical, Movies, Sports, Children, Educational, News, Variety, Series, HDTV) or by Keyword.
- With Search highlighted, press the Info button to display a Help screen.
  Press the Info button again to close the screen.

•**Category Search Example: Movies**

1. From Search, use the ▼ button to highlight Movies.

2. Use the ▼ button to highlight a subcategory (for example, All).
3. Press **ENTER** to display a list of all Movies, organized by date and time.

4. Highlight a show and press **ENTER** to watch (if on now) or the Menu key to display the Episode Options menu.

You can choose to set a recording, a reminder, or tune to the channel.

Go to Service Bar - closes the menu, changes no information, and returns to the Search Service Bar.
Tune to Channel - exits the Guide and tunes to the channel of the highlighted show (show airs in the future).
Note: This option reads Watch Now if the show is currently airing.
Set Recording - displays the Record Options menu, from which you can set frequency, start and end time, etc.
Set Reminder - displays the Remind Options menu, from which you can set frequency, when, automatically power On, and auto-tune the TV.
Cancel - closes the menu, changes no information, and returns to the highlighted show.

TV Guide On Screen™ System

• **Keyword Search**

- **Keyword search** lets you enter a word(s) to look for a particular show by category or for every show title that matches.

1. Highlight the Keyword navigation label, and press **ENTER** button to display the Keyword **Search** menu.

2. Highlight New Search, and press **ENTER** button.

3. The Search Options menu is displayed.

4. Highlight Category, and use the ◄ / ► button to select a category to search (e.g. All, HDTV, Children, Sports, etc.). When finished, use the ▼ button to highlight Enter Keyword.

5. Highlight Enter Keyword, and press **ENTER**. Then the keyboard is displayed.

6. Use the ▲ / ▼ / ◄ / ► button to highlight a character, and press **ENTER** to display it. When complete, high-light Done and press **ENTER**.

7. A list of all matching shows for that keyword is dis-
played.

Like the Category Search Example, you can highlight
a show, and press **ENTER** to display all airings. You
can then highlight a specific listing and press **ENTER**
to watch (if On now) or the Menu key to display the
Episode Options menu.

From the Episode Options menu, choose to set a
recording, a reminder, or tune to the channel, as pre-
viously described.

The TV guide on screen system stores all the keywords
you create. To edit or delete a keyword, highlight the
keyword and press the Menu key. A Search Options
menu is displayed.

Go to Service Bar - closes the menu, changes no infor-
mation, and returns to the Search Service Bar.
Edit Search - displays the keyboard, where you can
change the keyword.
Delete Search - A Confirm menu is displayed.
            •**Yes -** deletes the Search
            •**No -** closes the panel menu
Cancel - closes the menu, changes no information, and
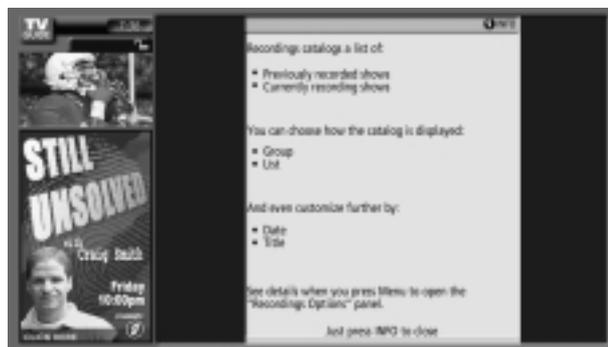returns to the highlighted show.

⬤ TV Guide On Screen™ System

Recordings

Recordings displays a list of previously recorded or currently recording shows on a DVR or the currently inserted DVD in a DVD recorder.

With Recordings highlighted, press the **INFO** button to display a Help screen. Press the **INFO** button again to close the screen.

Choose the way Recordings are displayed by highlighting Recordings on the Service Bar and then press the **MENU** button to display the Recordings Options menu. Use the ▲ / ▼ buttons to choose between the following:

• In View As, use the ◄ / ► buttons to choose between

  ◆ Group - recorded shows are listed without listing every
     recorded episode (see example in Screen A)

  ◆ List - displays a complete list of every recorded
  episode for a show(see example in Screen B)

• In Sort By, use the ◄ / ► buttons to choose between

  ◆ Title - shows are displayed in alphabetical order (see
     example in Screen A)

  ◆   Date - shows are displayed by date and time, with
  most recent date and time first (see example in Screen B)

When finished, press **ENTER** to hightlight Done. Press
    ENTER again to close the menu and display the
    Recordings with the selected options.

In List View, highlight an episode and ab Info box provides
    show information. Press the **MENU** button to display the
    Episode Options menu.
In Group View, highlight a show and press **ENTER** to view
    a summary for the all the recorded shows along with the
    episode list (pres **ENTER** again to collapse the episode
    list).
Highlight a specific episode and press the **MENU** buttos to
    display the Episode Options menu.

Screen A

Screen B

To view an episode, you can do one of the following:

• highlight an episode, and press **ENTER** to view it now. The episode either starts from where it was last stopped (if viewed previously) or from the brginning.

◆ Go to Service Bar - close the menu, changes no infor-mation, and returns to th Schedule Service Bar.

◆ Play from Beginning - starts from the beginning, even if stopped previously.

◆ Delete Episode - deletes the episode from the Recordings, A Confirm menu is displayed.

◆ Yes - deletes the episode.

◆ No - closes the panel menu.

◆ Cancel - closes the menu, changes no information, and returns to the highlighted show.

⬤ TV Guide On Screen™ System

Schedule

- Schedule lets you review, edit, or delete Record and Remind events that you set previously.
- With Schedule highlighted, press the **Info** button to display a Help screen. Press the **Info** button again to close the screen.
- An icon identifies the event type:

Record

◆ Once ▦ —records the show one time

◆ Regularly ▦ , ▦ —records the show every time the show airs on the same channel and starts at the same time

◆ Weekly ▦ —records the show each time the show airs on the same day of the week, on the same channel and starts at the same time

◆ Off ▦ —keeps the show in the list but will not record this show until the frequency is changed.

Remind

◆ Once ▦ —sets a show reminder one time

◆ Regularly ▦ , ▦ —sets a show reminder every time the show airs on the same channel and starts at the same time

◆ Weekly ▦ —sets a show reminder each time the show airs on the same day of the week, on the same channel and starts at the same time

◆ Off ▦ —keeps the show in the list but will not remind until the frequency is changed
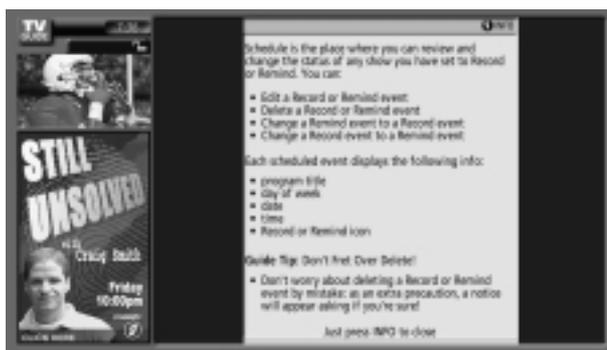
Highlight an event, and press the Menu key for options.

Go to Service Bar - closes the menu, changes no information, and returns to the Schedule Service Bar.
Tune to channel - exits the Guide and tunes to the highlighted show.
Delete Recording - removes the recording from the Schedule, after a Confirm screen.
Edit Recording - opens a menu from which you can change existing recording information.
Set Reminder - opens a menu from which you can set a Reminder for the show (Record is not cancelled).
Cancel - closes the menu, changes no information, and returns to the highlighted show.

Setup

- After you initially complete Guide Setup, you can make changes to Guide settings in the following areas:

• **Change System Settings**
• **Change Channel Display**
• **Change Default Options**

Highlight a choice, press **ENTER**, and follow the on-screen instructions.
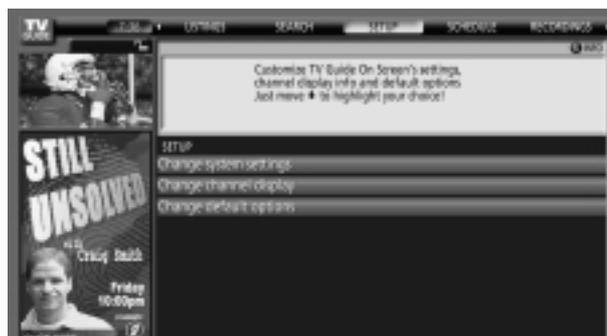
With Setup highlighted, press the **Info** button to display a Help screen. Press the **Info** button again to close the screen.
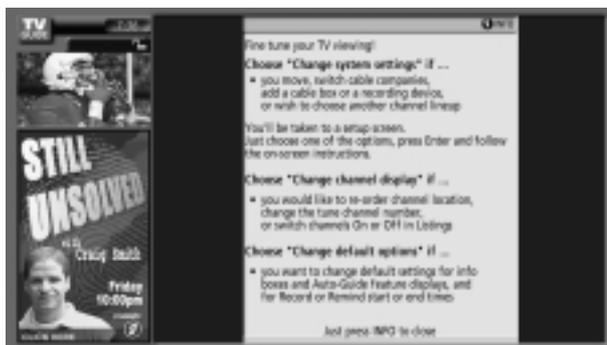
• Change System Settings

This option appears after you have completed the initial Guide Setup process.

Press **ENTER** to display the Confirming Your Settings screen. You see your current settings.

Choose one of the options, press **ENTER**, and follow the on-screen instructions.
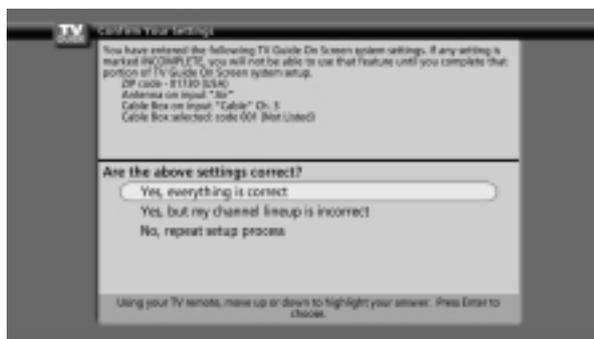
⬤ TV Guide On Screen™ System

• **Change Channel Display**

Change Channel Display lets you edit channel information
that appears in Listings. With Change Channel Display
you can :

• Change the position number to indicate where in the
Listings the channel displays
• Change the tune channel number
• Switch a channel
◆ On - the channel is always displayed
◆ Off - the channel is never displayed
◆ Auto-Hide - the channel is only displayed when
program information is available.

Press **ENTER** to display the Channel Editor screen.

Then, highlight a channel and press Menu. A Grid Options
menu is displayed.

Highlight Go Back to Setup to close the menu, change no
information, and return to the Setup Service Bar.

Or make changes and when finished, press **ENTER** to high-
light Done. Press **ENTER** again to close the menu and accept
the changes.

Highlight Cancel to close the menu, change no information,
and return to the highlighted channel.

• Change Default Options

Change Default Options lets you change default settings in the following categories:
•General Default Options
•Record Defaults
•Remind Defaults
Highlight Change Default Options, and press **ENTER**.

<General Default Options>

General Default Options lets you set defaults for the following:

•The initial Info Box size when the TV guide on screen system is entered.
 Choices are No, Small, Large, and Last Used
 (Default = Last Used).

•The Info Box size rotation when the Info key is pressed while in the TV guide on screen system.
  Choices are No only, Small only, Large only, No & Small, No & Large, Small & Large, All (Default = All)

•Automatic entry into the TV guide on screen system (Auto-Guide) when the TV is powered On.
  Choices are On and Off (Default = On).

Highlight General Default Options, and press the Menu key to display the General Default Options menu.

Highlight Go to Service Bar to close the menu, change no information, and return to the Setup Service Bar.

When finished, press **ENTER** to highlight Done. Press **ENTER** again to close the menu and accept the changes.

Highlight Cancel to close the menu, change no information, and return to the highlighted option.

TV Guide On Screen™ System

< Record Defaults>

• Record Default Options lets you set defaults for the following:

• When to start the record event. Choices are 120 minutes early to 120 minutes late, to On time. (Default = On time)

• When to end the record event. Choices are 120 minutes early to 120 minutes late, to On time. (Default = On time)

• Recorder choice: Please choose the VCR only. This TV does not support other devices with a recording feature.

Highlight Record Defaults, and press the Menu key to display the Record Default Options menu.

Highlight Go to Service Bar to close the menu, change no information, and return to the Setup Service Bar.

< Remind Defaults>

Remind Default Options lets you set defaults for the following:

•Power On the TV, if Off, when a Reminder is scheduled. Choices are Yes and No.
(Default = No)

•Automatically tune the TV to the channel (TV must be On), when a Reminder is scheduled. Choices are Yes and No.
(Default = No)

•When to display the reminder screen. Choices are 30 seconds to 15 minutes early, to 30 seconds to 15 minutes late, to On time.
(Default = 1 min early)

Highlight Remind Defaults, and press the Menu key to display the Remind Default Options menu.

Highlight Go to Service Bar to close the menu, change no information, and return to the Setup Service Bar.

When finished, press **ENTER** to highlight Done. Press **ENTER** again to close the menu and accept the changes.

Highlight Cancel to close the menu, change no information, and return to the highlighted option.

Record And Remind Features

Record

You can set a show to Record in Listings, Search, and Schedule or change Record settings for a show in Schedule.

There are 3 ways to set a show to Record:

1) Using the Record Button on the Remote

• Press the Record button on the remote to record the show Once with current default settings (Start and End recording On Time). Each time you press the Record button, you change the record frequency (but not the default settings) among Once (default), Regularly, Weekly, Off, and then Cancel.

Note: The proper Record icon appears on the show tile, as the Record button is pressed.

◆ **Once** ▣ —records the show one time

◆ **Regularly** ▣ —records the show every time the show airs on the same channel and starts at the same time

◆ **Weekly** ▣ —records the show each time the show airs on the same day of the week, on the same channel and starts at the same time

◆ **Off (not cancel)** ▣ —keeps the show in the list but will not record this show until the frequency is changed

◆ **Cancel (no icon displayed)**—does not record

2) From a Panel Menu

• Highlight a show, and press Menu to display the Episode Options menu.

• Highlight Set Recording, and press **ENTER** to display the Record Options menu.

• Highlight the Frequency option, and use the left and right arrows to choose among Once, Regularly, Weekly, and Off, as previously described.

• Recorder choice: Please choose the VCR only. This TV does not support other devices with a recording feature.

Note: *Video Window Lock is switched to on or off using PIP button in Listings mode.*

TV Guide On Screen™ System

When finished, press **ENTER** to highlight Schedule Recording.

Press **ENTER** again to close the menu. You see a Record icon for the selected frequency next to the show title.

Highlight Cancel to close the menu, change no information, and return to the highlighted show.

3) Manual Recording

•Highlight the Schedule Service label, and press Menu to display the Schedule Options menu.

•Use the ▲ / ▼ / ◄ / ► buttons to move through the options. Use the number or Use the ▲ / ▼ / ◄ / ► buttons to change the information, as necessary.

•Highlight New Manual Recording and press **ENTER** to display the Record Options menu.

•Current information (i.e., date, start and end times, channel, input) is displayed.

• Recorder choice: Please choose the HDD only. This TV does not provide other devices with a recording feature.

•Use the left and right arrows to choose between Once, Daily, Weekly, and Off, as follows.

◆ Once ▦ —records the time, channel, input, recorder combination one time.

◆ Daily ▣ —records the time, channel, input, recorder combination Monday through Friday.

◆ Weekly ▦ —records the time, channel, input, recorder combination once a week on this selected day of the week

◆ Off (not cancel) ▨ —keeps the time, channel, input, recorder combination in the list without recording until the frequency is changed.

When finished, press **ENTER** to highlight Schedule Recording.

Press **ENTER** again to close the menu. You see a Record icon for the selected frequency next to the show title.

Note: *Manual recording is listed by channel number.*

Highlight Cancel to close the menu, change no information, and return to the highlighted show.

Before a recording begins, a notification screen appears if you are using a Cable box and your TV is On. At that time, you can choose to start or cancel recording. If the TV is not On, the recording occurs as scheduled. If there is no activity for 3 minutes, the notification screen automatically closes and completes the highlighted item.

**Record Conflict**

A conflict message appears for the following reasons:

• a show set to Record overlaps with any part of another show previously set to Record,
• a show set to Record overlaps with a show previously set to auto-tune

Select one of these options:
◆ record anyway - this show will override an existing show set to Record or auto-tune
◆ don't record this show - cancel the Recording
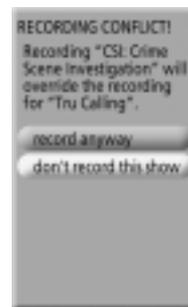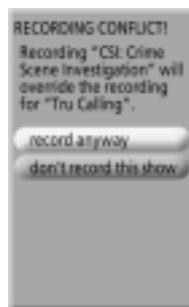
⬤ TV Guide On Screen™ System

Remind

You can set a show Reminder in Listings, Search, and Schedule or change Reminder settings for a show in Schedule. There are 2 ways to set a show Reminder:

1) From a Panel Menu

• Highlight a show, and press Menu to display the Episode Options menu.

• Highlight Set Reminder, and press **ENTER** to display the Remind Options menu.

•Highlight the Frequency option, and use the left and right arrows to choose between:

◆ Once 🔲 —sets a show reminder one time
◆ Regularly 🔳 —sets a show reminder every time the show airs on the same channel and starts at the same time
◆ Weekly 🔳 —sets a show reminder each time the show airs on the same day of the week, on the same channel and starts at the same time
◆ Off 🔳 —keeps the show in the list but will not remind until the frequency is changed

•Power On the TV, if Off, when a Reminder is scheduled. Choices are Yes and No. (Default = No)

•Automatically tune the TV to the channel (TV must be On), when a Reminder is scheduled. Choices are Yes and No. (Default = No)

•When to display the reminder screen. Choices are 30 seconds to 15 minutes early, to 30 seconds to 15 minutes late, to On time. (Default = 1 min early)

When finished, press **ENTER** to highlight Schedule Reminder. Press **ENTER** again to close the menu. You see a Remind icon for the selected frequency next to the show title. Highlight Cancel to close the menu, change no information, and return to the highlighted show.

2) Manual Reminder

•Highlight the Schedule Service label, and press the Menu key to display the Schedule Options menu.

•Use the ▲ / ▼ / ◄ / ► buttons to move through the options. Use the number or ▲ / ▼ / ◄ / ► buttons to change the information, as necessary.

•Highlight New Manual Reminder and press the **ENTER** key to display the Remind Options menu.

•Current information (i.e., date, start and end times, channel, input, frequency, etc.) is displayed.

•Highlight the Frequency option, and use the ◄ / ► buttons to choose among Once, Daily, Weekly, and Off, as follows.

◆ Once ▣—sets a show reminder for the time, channel, input, recorder combination one time

◆ Daily ▣ —reminds for the time, channel, input, recorder combination Monday through Friday

◆ Weekly ▣ —sets a show reminder for the time, channel, input, recorder combination once a week on this selected day of the week

◆ Off (not cancel) ▣ —keeps the time, channel, input, destination combination in the list without reminding until the frequency is changed

•Power On the TV, if Off, when a Reminder is scheduled. Choices are Yes and No (Default =No).

•Automatically tune the TV to the channel (TV must be On), when a Reminder is scheduled. Choices are Yes and No (Default = No).

When finished, press **ENTER** to highlight Schedule Reminder. Press **ENTER** again to close the menu. You see a Remind icon for the selected frequency next to the show title.

Note: *Manual reminder is listed by channel number.*

Highlight Cancel to close the menu, change no information, and return to the highlighted show.
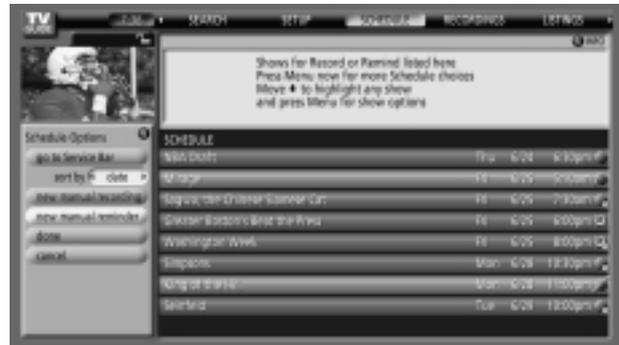
TV Guide On Screen™ System

Based on your option settings, a notification screen will appear, if your TV is On at the reminder time. You can then choose to hide the reminder, or highlight the show, and press **ENTER** to tune to the show. If there is no activity for 3 minutes, the notification screen automatically closes and completes the highlighted item (hide reminders).

If you choose Hide Reminders, the window closes for the show or shows, but does not affect other Reminders you set.

Note: *If more than 2 reminders are set for the same time, arrows appear on the Reminder screen. Use the ▲ / ▼ buttons to view the shows.*

Remind Conflict

A conflict message appears for the following reasons:
• a show set with an Auto-Tune Reminder has the same start time as an existing Auto-Tune Reminder.
• If you are using a cable box, a show set with an Auto-Tune Reminder overlaps with a Recording already scheduled.

Select one of these options:
    ◆ auto-tune anyway - this show will override an existing show set to auto-tune
    ◆ proceed, no auto-tune - set the show as a Reminder but do not auto-tune
    ◆ don't set this reminder - cancel the Reminder
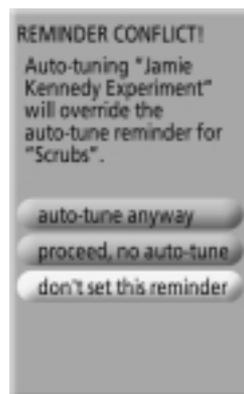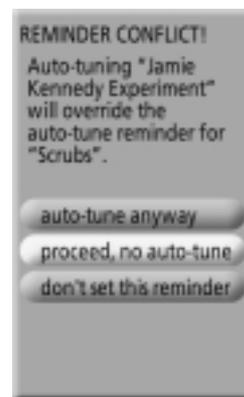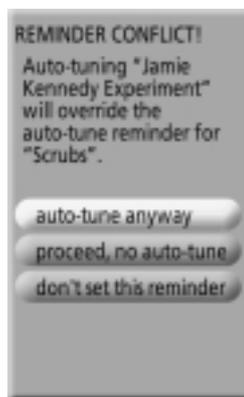
IEEE 1394 Functions

- It's available to communicate to either direction and you can give and take a image, sound, or each control command with one cable.

◆ **How to connect the 1394**

•To work the 1394, this methods can used.

1. When connecting the DVHS or the MicroMV Camcorder, as shown in the (a) or (b) figure, press the [xstudio] button to move the **IEEE 1394** in **HOME** menu to show the control panel.

(a) TV ◄·····► DVHS

<Connect the IEEE1394 Cable>

<DVHS>

<TV>

(b) TV ◄·····► MicroMV Camcorder

<Connect the IEEE1394 Cable>

<MicroMV Camcorder>

<TV>
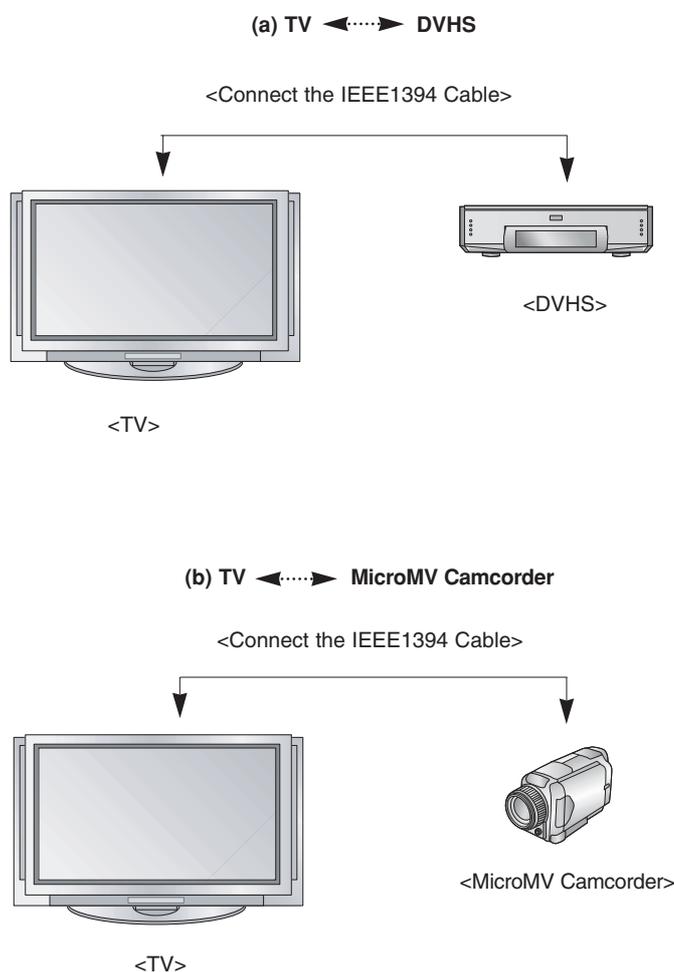
Note: *When connecting the DVHS and the MicroMV Camcorder, in case of showing 'input error', it's okay.*

IEEE 1394 Functions

2. When connecting the DVHS and the MicroMV Camcorder, as shown in the (d) figure, press the ⌧STUDIO button to move the **IEEE 1394** in **HOME** menu to show the control panel and then select the DVHS or the MicroMV Camcorder.

(c) TV ◄┈► DVHS + MicroMV Camcorder

<Connect the IEEE1394 Cable>

<DVHS>

<MicroMV Camcorder>

<TV>

<Connect the IEEE1394 Cable>
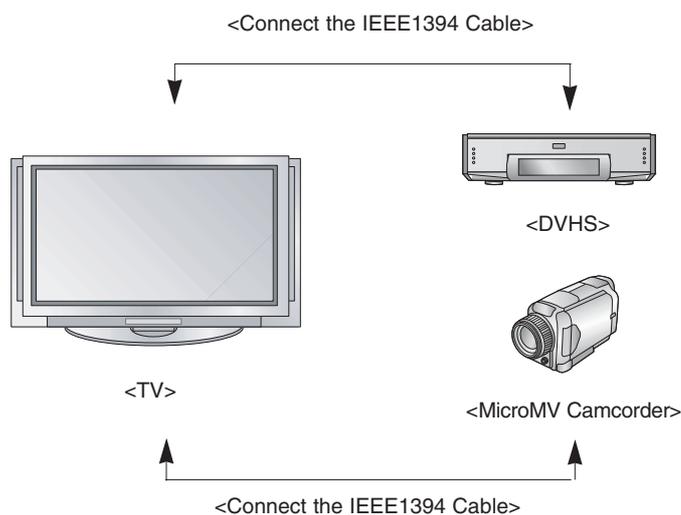
(d) Daisy Chain Connection

<Connect the IEEE1394 Cable>

<Connect the IEEE1394 Cable>

<DVHS>

<MicroMV Camcorder>

<TV>

<Connect the IEEE1394 Cable>

<Generic>
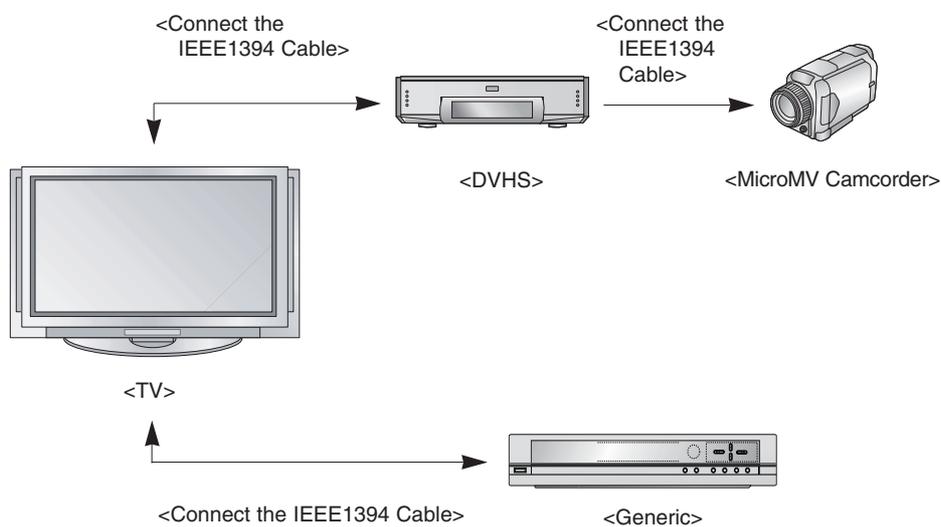
⚠ -When connecting the 1394 and then playing, you must use the original DVHS tape. If not, it may be occurred the errors.
-If the operation normally doesn't work on Daisy Chain connection, please change an arrangement of connected device.

DVHS

◆ How to play the DVHS

1. Connect the IEEE 1394 jack of the TV to the IEEE 1394 jack of the DVHS with IEEE 1394 Cable.

<Connect the IEEE1394 Cable>

<DVHS>

<TV>

2. When watching the TV, press the ⌧XSTUDIO button to move the **IEEE 1394** in **HOME** menu and then **ENTER** button.

3. Press the ▲ / ▼ buttons to select the **DVHS** and then use the **ENTER** button.

• Show the control panel of DVHS.

* Supported DVHS List

JVC(HM-DH40000K)
JVC(HM-DH40000U)
JVC(HM-DH5U)
MITSUBISHI(HV-HD1000)
PANASONIC(NV-DH2)

Note: *In case the DVHS have a incorrect recognition to Generic, the power of DVHS is completely pull out and then connect again.*

• The control panel of DVHS
-Depending on the connected equipment, marked control panel may differ.

1. DVHS Model
2. Connected Equipment to the 1394
3. DVHS Company
4. DVHS Operating Status
5. Power On/Off
6. DVHS Play Time
7. Tape Status
   • Tape shape Icon - Tape in or not
   • Lock shape Icon - Writable or not
8. Initializing Play Time
9. DVHS Play, Pause, Stop, Search, Skip,Record,DVR Record orDVR Stop.
*(**Notes**:*
 • *Skip- This function is for a fast search.*
  It searches the program's start point and then plays.
  On skipping, Search (►►, ◄◄), Rec(●) Pause (❙❙) and Play (►) are displayed on the Control Panel.
  In some models, it's not available to operate the Skipping (❙◄◄, ►►❙) function.

IEEE 1394 Functions

◆ **How to play the instant reecord to the DVHS**

1. When watching the TV, press the [XSTUDIO] button to move the **IEEE 1394** in **HOME** menu and then **ENTER** button.

2. Press the ▲ / ▼ buttons to select the **DVHS** and then use the **ENTER** button.

• Show the control panel of DVHS.

3. Press the ▲ / ▼ / ◄ / ► buttons to move to ● and then use the **ENTER** button. You can record the current program to the DVHS.

4. Press the ▲ / ▼ / ◄ / ► buttons to move to ■ and then use the **ENTER** button.

• Show the control panel of DVHS.

⚠ The instant record function couldn't use copy-protected programs.

◆ **How to save the DVHS to the DVR**

1. On playing the DVHS, press the ▲ / ▼ / ◄ / ► buttons to move to **DVR** ● and then press the
   ENTER button.

   • Save the current screen to the DVR.
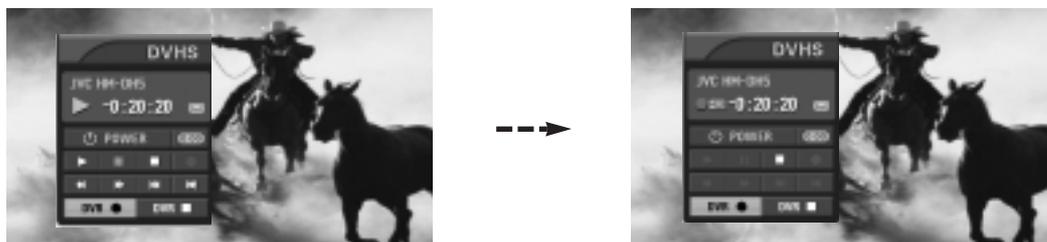
2. Press the ▲ / ▼ / ◄ / ► buttons to move to **DVR** ■ and then use the **ENTER** button to end a saving.
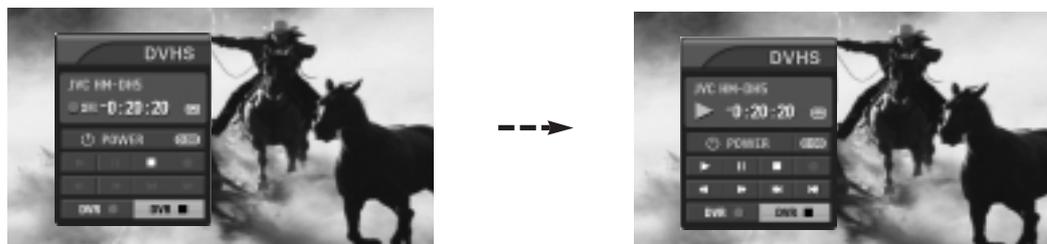
⚠ When you save the program which is copy - protected to the PVR, **"This tape is copy-protected"** is
display on the screen and don't save to the PVR.

IEEE 1394 Functions

◆ **How to save the DVR to the DVHS**

1. When press the [REC LIST] button, record list is displayed. You can select the wanted program by pressing the ▲ / ▼ / ◄ / ► buttons.
And then press the **ENTER** button.

2. Select the **DVHS Out** by pressing the ▲ / ▼ / ◄ / ► buttons and then press the **ENTER** button.

- Press the ▲ / ▼ buttons to select the wanted device and move to the **Record**

3. Press the ▲ / ▼ / ◄ / ► buttons to move to the **START** and then press the **ENTER** button to save to DVHS.

4. Press the ◄ / ► buttons to move to the **STOP** and then press the **ENTER** button to stop a saving.

• By pressing the **RESUME** button, you can contiously save the recorded contents from a point of stopping time.

⚠ The copy-protected contents couldn't save to the DVHS.

MicroMV Camcorder

◆ **How to play the MicroMV Camcorder**

1. Connect the IEEE 1394 jack of the TV to the IEEE 1394 jack of the MicroMV
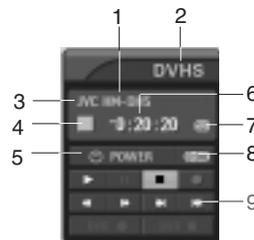   Camcorder with IEEE 1394 Cable.
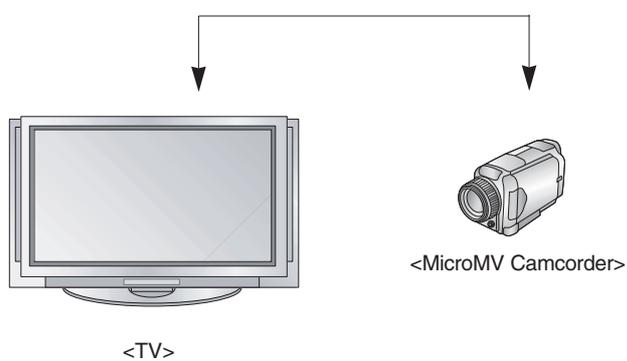
<MicroMV Camcorder>

<TV>

2. When watching the TV, press the [XSTUDIO] button to move
   the **IEEE 1394** in **HOME** menu and then **ENTER** button.
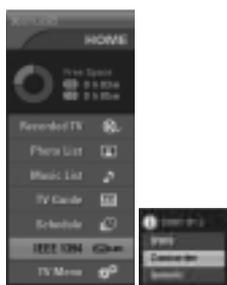
3. Press the ▲ / ▼ buttons to select the
   Camcorder and then use the **ENTER** button.

• Show the control panel of CAM.

IEEE 1394 Functions

• In camera mode of MicroMV Camcorder, this control
   panel is showed.

   • Show the control panel of CAM.

   * Supported MicroMV Camcorder List

SONY DCR IP-1
SONY DCR IP-5
SONY DCR IP-45
SONY DCR IP-210

 - Press the **TV INPUT** button to stop the IEEE1394
      function.

• The control panel of MicroMV Camcorder
-Depending on the connected equipment, marked control panel may differ.
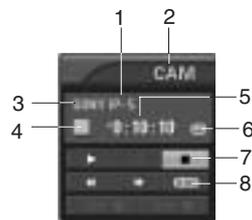
1. MicroMV Camcorder Model

2. Connected Equipment to the 1394

3. MicroMV Camcorder Company

4. MicroMV Camcorder Operating Status

5. MicroMV Camcorder Play Time

6. Tape Status

   • Tape shape Icon - Tape in or not

   • Lock shape Icon - Writable or not

7. MicroMV Camcorder Play, Search,Record,

   or Stop

8. Initializing Play Time

◆ **How to save the MicroMV Camcorder to the DVR**

1. On playing the MicroMV Camcorder, press the ▲ / ▼ / ◄ / ► buttons to move to **DVR ●** and then use the **ENTER** button.

• Save the current screen to the DVR.
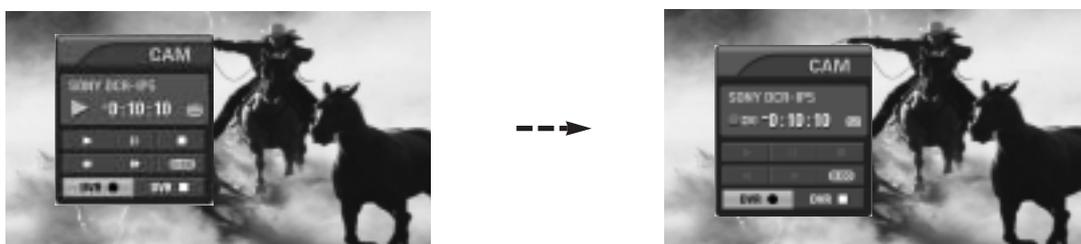
2. Press the ▲ / ▼ / ◄ / ► buttons to move to **DVR ■** and then use the **ENTER** button to end a saving.
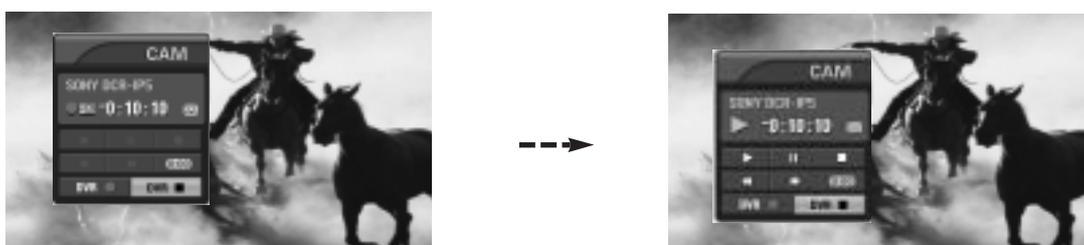
Notes:
• In memory mode of MicroMV Camcorder , it doesn't apply to connect the IEEE1394.
• Regardless of a mode of MicroMV Camcorder, if the tape is ejected, it doesn't apply to connect the IEEE1394.

IEEE 1394 Functions

Generic : **If the stream which is satisfied with standard of IEC 61883(MPEG 2 TS Data) inputs, this is a function which is able to show the stream on the TV screen and record in HDD.**

◆ **How to play the Generic**

1. Connect the IEEE 1394 jack of the TV to the IEEE 1394 jack of the Generic device with IEEE 1394 Cable.

2. When watching the TV, press the [XSTUDIO] button to move the **IEEE 1394** in **HOME** menu and then **ENTER** button.

<Generic>

<TV>
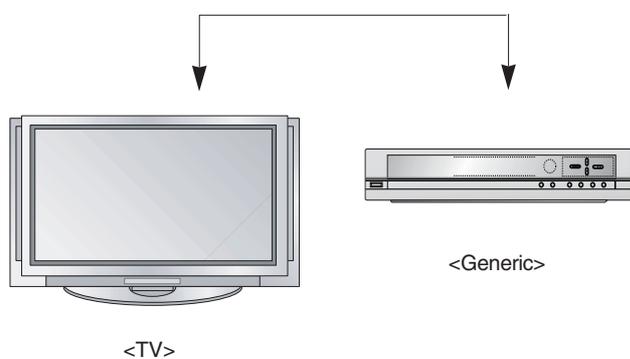
3. On playing the Generic, press the ▲ / ▼ / ◄ / ► buttons to move to **DVR ●** and then press the **ENTER** button.

4. Press the ▲ / ▼ / ◄ / ► buttons to move to **DVR ■** and then use the **ENTER** button to end a saving.

• Save the current screen to the DVR.
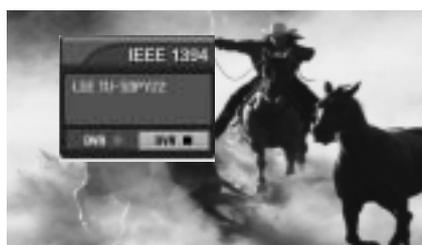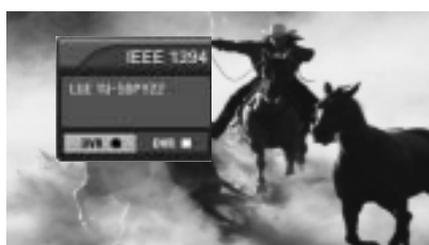
5. Press the **TV INPUT** button to stop the IEEE1394 function.

Note: *(Applicable devices) a device which output MPEG 2 TS Data stream through IEEE1394 port.*
(ex: LST-3410, Digital Cable STB etc.)

DTV Link : **DTV Link applies to 1394 connection of device labeled DTV Link logo.**

> * What's the **DTV Link**?
> It is normal standard of CEA which restricts by a remote and displays OSD and plays to stream of a remote control by using a connection of IEEE1394.

◆ **How to play the DTV Link**

1. Connect the IEEE 1394 jack of the TV to the IEEE 1394 jack of the DTV Link supported device IEEE 1394 Cable.

2. When watching the TV, press the [X STUDIO] button to move the **IEEE 1394** in **HOME** menu and then **ENTER** button.

<DTV Link-Producer>

<TV-Consumer>
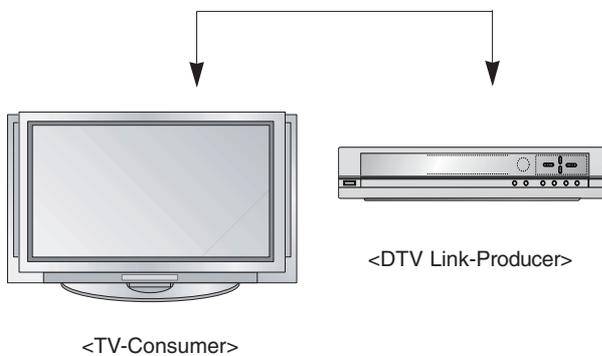
3. On playing the DTV Link, press the ▲ / ▼ / ◄ / ► buttons to move to **DVR ●** and then press the **ENTER** button.

• Save the current screen to the DVR.

4. Press the ▲ / ▼ / ◄ / ► buttons to move to **DVR ■** and then use the **ENTER** button to end a saving.

5. Press the **TV INPUT** button to stop the IEEE1394 function.

Note: *On a condition of connecting the IEEE 1394, you can a distant control of opponent's device while watching the OSD through DTV and DTV remote control.*
(ex: change of channel, play, record, a show of recording list etc.)

IEEE 1394 Functions

◆ **Don't connect !**

• When connecting these 2 methods, the **IEEE1394 will not work properly**.

(a) LOOP Connection

<Connect the IEEE1394 Cable>

<DVHS>

<Connect the IEEE1394 Cable>

<TV>

<MicroMV Camcorder>

<Connect the IEEE1394 Cable>
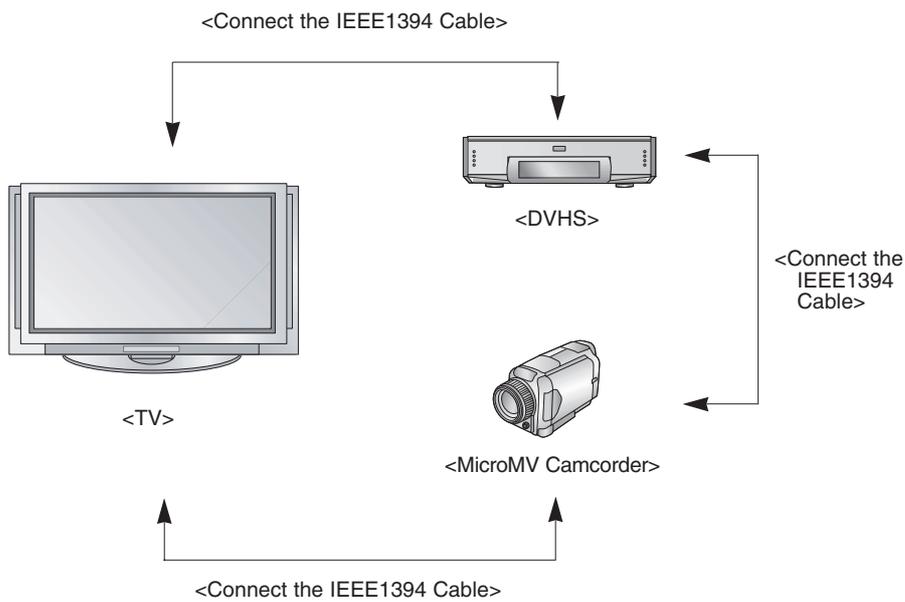
(b) When connecting the 4 devices and over, the 1394 will not work properly.

Note: *When the same devices connect with 2 devices and over, it's undesirable.*

CableCARD™ Function

* In this manual, the OSD (On Screen Display) may be different from your TV's because it is just example to help the TV operation.

Cable menu options

- The Cable sub menu displays when inserting the CableCARD™ to the TV.
- The CableCARD™ type is Motorola, Scientific Atlanta (SA), or SCM etc. The OSD (On screen display) is different from your TV according to your CableCARD™ type.
1. Press the **MENU** button and then use ▲ / ▼ button to select the **CABLE** menu.
2. Press the ► button and then use ▲ / ▼ button to select your desired item.
3. Press the ► button.
4. Press **EXIT** button to return to TV viewing.

In case of Scientific Atlanta CableCARD™

SETUP	SA CableCARD™ Diag Screen ►
VIDEO	SA CableCARD™/Host ID Screen
AUDIO	
TIME	
OPTION	
LOCK	
CABLE	MENU

i.e) CableCARD™/ Host ID Screen

CableCARD™ Message

In order to start service for this device, please contact customer service at Ph#: 1-866-303-0422

CableCARD™(tm): 0-010-405-698-001
HOST ID: 0-080-000-000-226

EXIT Exit
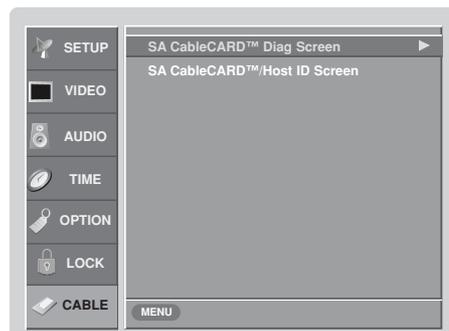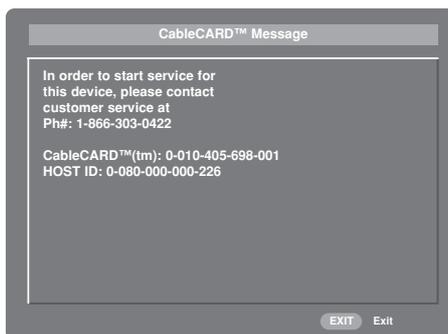
- As shown, the pairing number means your TV and CableCARD™ ID. For further information regarding cable TV service, contact your local cable TV service provider(s).

Scrambled channel

- Insert the CableCARD™. If you do it at first, it takes about 1 minute to exchange the data between the TV and the CableCARD™. Then, TV screen displays as shown right.
- Let your cable TV service provider know CableCARD™ ID and Host ID.
- If your cable TV service provider is registered CableCARD™ ID and Host ID, you can watch the premium or high value channel.
- If you ever registered to the cable TV service provider, you can watch the premium or high value channel without a message.

CableCARD™ Message

In order to start cable service for this device, please contact SuperVision Cable at 1-800-555-8888

POD ID: 7-561-034-449-009

Host ID: 0-100-331-784-018

EXIT Exit

Please call your operator and report an invalid CableCARD™.

- If the certificate don't match between the TV and the CableCARD™, the OSD (On screen display) displays as shown left.

CableCARD™ Function

Cable Channel List

1.

2.

3.

4.

1. If you enter the **Channel Edit** after running the EZ Scan, you can see the cable channel list.

2. Inserting the CableCARD™. Then, the TV receive a new cable channel list. At this time, it takes about 2~3 minutes. (Occasionally more than that time).

Note:
• As data gathering of CableCARD™, it may make a noise by fan in standby mode.

Emergency Alert Message

- If an emergency situation occur during watching the TV, you can receive a message from cable TV service provider(s).
- When receiving an emergency message, the message is displayed on the screen as shown below or the channel is changed automatically to a channel that maintains the emergency message. The message automatically disappeared.

Emergency Action Notification   Hurricane will be coming!!!

⬤ **Remote Control**

PIP (Picture-In-Picture) / POP / Twin Picture

- PIP lets you view 2 different inputs (sources) on your TV screen at the same time. One source will be large, and the other source will show a smaller inset image.
- Twin Picture mode splits the screen into 2, allowing 2 picture sources to be shown on the TV screen at the same time. Each source is given half the screen.
- If you set the block/rating for Lock menu options in PIP/Twin Picture mode, "**Rating Blocked**" doesn't display on screen.

Watching PIP/POP/Twin Picture

Press the PIP button to access the sub picture. Each press of PIP changes the PIP options as shown below.

PIP Mode → POP Mode → Twin Picture Mode

PIP Off

Selecting an Input Signal Source for PIP/Twin Picture

Use the **PIP INPUT** button to select the input source for the sub picture. Each press of **PIP INPUT** button changes the PIP source. You can also select sources for the **Sub Input** in the **SETUP** menu.

Main Picture Source	Available Sub Picture Sources
DTV	Analog, Video, and Front Video
Analog	DTV, Analog, Video, and Front Video

Swapping the PIP/Twin Picture

Repeatedly, use the **SWAP** button to switch the main and sub pictures.
• Component 1, Component 2, RGB-PC (or RGB-DTV), HDMI1/DVI,HDMI2 input sources for the main picture can't be used to swap the main and sub pictures.

Main Picture | Sub Picture ↔ Main Picture | Sub Picture
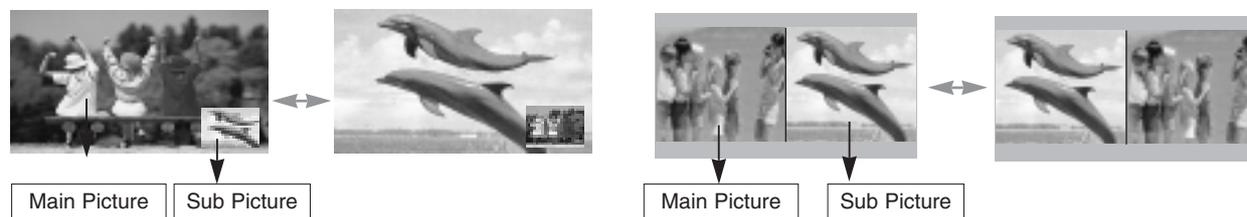
TV Program selection for PIP

1. Press the **PIP** button.

2. Select the Antenna or Cable option on the Sub input menu or with the PIP INPUT button. Use the **PIPCH+** / **PIPCH-** button to select a channel for the sub picture.
   (You can't select DTV for main and sub picture simultaneously).

Moving the PIP sub picture

In PIP mode, press the ▲ / ▼ / ◄ / ► button to move the sub picture to a different location on the screen.

Adjusting Main and Sub Picture Sizes for Twin Picture

Use the ▲ / ▼ / ◄ / ► button to change main and sub picture sizes in Twin Picture mode.

i.e)

If screen is adjusted to the maximal size, the large screen is filled with entire screen vertically as shown.

POP (Picture-out-of-Picture: Channel

Use POP to search the programs of all the memorized channels one-by-one on the 3 PIP screen display, (while the main picture source remains the current channel). The pictures of all the programmed channels are searched with the 3 POP screen.

Notes:
- *Run EZ Scan channel search before using POP mode.*
- *When Sub pictures are changed from the TV/DTV to CATV/CADTV in POP mode, it may make a noise from the Tuner switch.*

1. Press the **PIP** button to activate the POP mode while in PIP mode.

   - **Channel selection:** Use ◄ button to enlarge the selected channel being searched on the PIP screen to shift it for viewing on the Main screen.
   - **PIP selection:** Use ▲ / ▼ button to select one of 3 PIP screen pictures in POP mode.
   - When watching TV/CATV on Main picture, TV/CATV or DTV/CADTV on Sub pictures are in channel scanning. However, when watching DTV/CADTV on Main picture, only TV/CATV on Sub picture is in channel scanning.
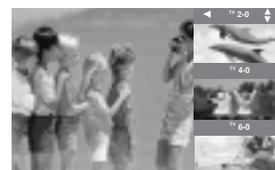
2. Press the **EXIT** button to cancel POP mode.

APM (Adaptive Picture Mode)

- Concurrently, compare with 4 EZ Pictures (**Daylight**, **Normal**, **Night Time** and **Custom**) on the screen.

1. Press the **APM** button at once. As shown below, the screen is divided to 4-split.
   Use the ▲ / ▼ / ◄ / ► button to navigate 4 EZ Pictures. By pressing the **ENTER** button, you can select the desired mode.

2. Press the **APM** button, again. As shown below, the 4-same screens are displayed.
   You can easily compare with 4 modes.

   Use the ▲ / ▼ / ◄ / ► button to navigate 4 EZ Pictures. By pressing the **ENTER** button, you can select the desired mode.
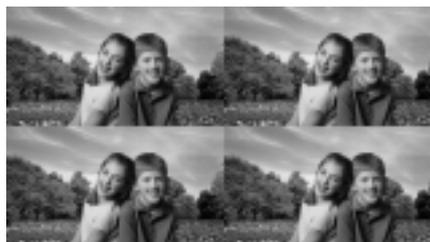
4. Press **EXIT** button to return to TV viewing.

*Note: While operating the 4-split, any button except **APM, ENTER, EXIT, VOLUME ▲ / ▼ , MUTE** button on the remote control are not available.*

Brief Info.

Operation: • Watching TV/DTV/CATV/CADTV
            • Watching Video, Front Video
            • Watching IEEE 1394
            • In Component1, Component2, RGB,
               HDMI1/DVI,HDMI2 modes, **INFO** button
               is not working.

Function: • Show the present screen information.
        • On Watching with the upper Input signal,
          press the **INFO** button.
        • Press the **INFO** button or **EXIT** button to
          exit.
        A: Banner information, Refer to the
          <Channel Banner>.
        B: Program title
        C: Day, Month, Year
        D: Program start time
        E: Show the prosessing rate
        F: Program finish time
        G: Current time
        H: Added information. Refer to the icon
          explanation.
        I: Program information

4:3	Screen Ratio of Input Signal 4:3
16:9	Screen Ratio of Input Signal 16:9
480i	Resolution of Input Signal 720x480i
480p	Resolution of Input Signal 720x480p
720p	Resolution of Input Signal 1280x720p
1080i	Resolution of Input Signal 1920x1080i

⊕ Multilingual : Input Signal have over two Audio information. Press the **SAP** button to select wanted Audio.

CC Caption: Input Signal have over one Close service. Press the **CC** button to select wanted Closed caption.

🔒 Input Signal have rating information . Refer to the <Lock Menu>.
D (Dialogue), L (Language), S (Sex), V (Violence), FV (Fantasy Violence)
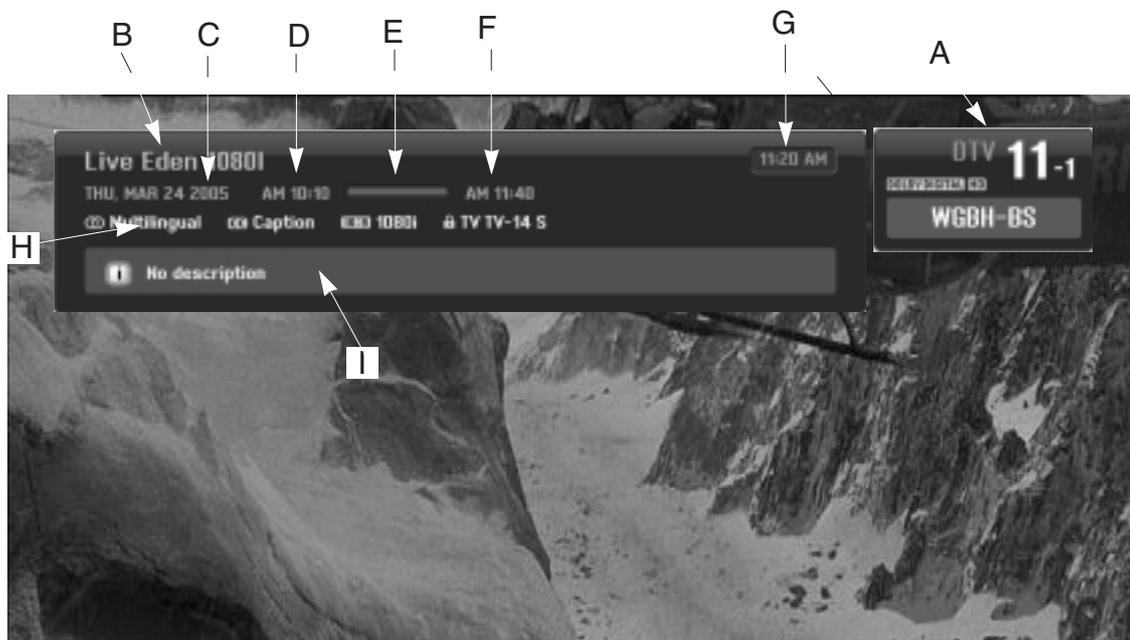
EZ Mute

- Nothing to do with Caption on/Off using **Mute** button, the mode selected Caption/Text is to be displayed.
- When you repeatedly press the **Mute** button, the screen is displayed in turn. (Refer to the lower picture)
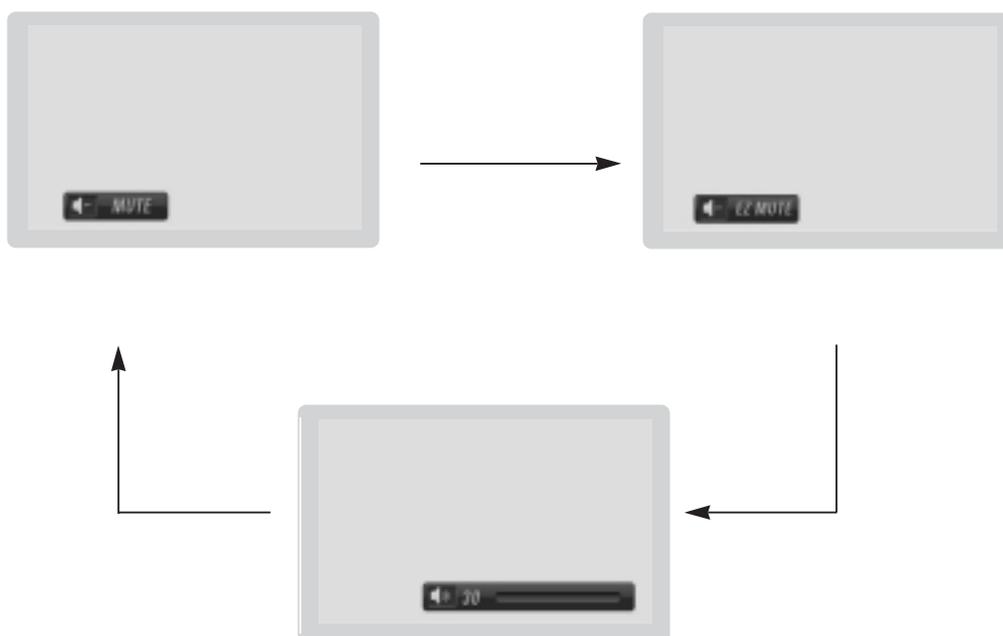
Note:
• EZ Mute only operates in DTV/Analog/Video/Front Video/IEEE1394.

Screen Setup for PC mode

Operation

• When RGB connect to PC input and select the RGB-PC, this function is used.
• When HDMI1/DVI connect to PC input and select HDMI1/DVI input, this function is used.
• In RGB-DTV, HDMI-DTV modes, SIZE and PHASE is not worked.

Adjustment for screen Position, Size, Phase, Reset

•After connecting RGB-PC or HDMI/DVI to PC input and checking the screen quality.

- Display PC Adjust Menu using **Adjust** button.

- Position : Adjust the screen position. After displaying the Adjust, select the screen position.

- Size   : Adjust the screen size.

- Phase   : Adjust the phase of Pixel clock.

- Reset   : Initializating Size, Position, Phase adjustment .
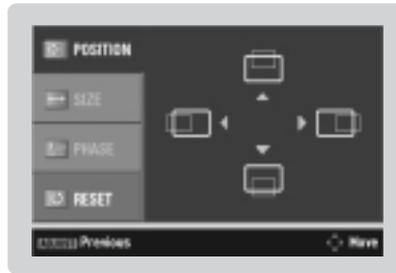
External Control Device Setup

- Connect the RS-232C input jack to an external control device (such as a computer or an A/V control system) and control the Monitor's functions externally.
- Connect the serial port of the control device to the RS-232C jack on the Monitor back panel.
- RS-232C connection cables are not supplied with the Monitor.

RS-232C Setup

PC
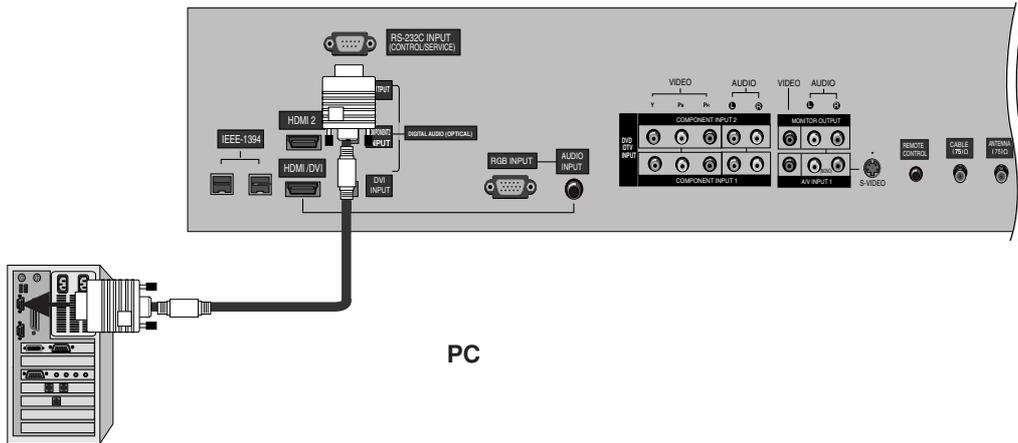
Type of Connector; D-Sub 9-Pin Male

No.	Pin Name
1	No connection
2	RXD (Receive data)
3	TXD (Transmit data)
4	DTR (DTE side ready)
5	GND
6	DSR (DCE side ready)
7	RTS (Ready to send)
8	CTS (Clear to send)
9	No Connection

1
5
9
6
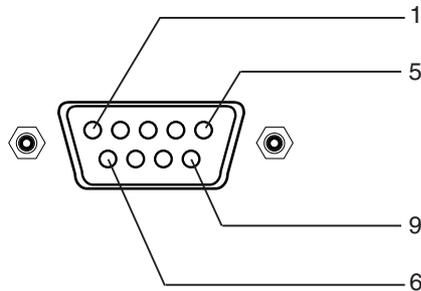
RS-232C Configurations

7-Wire Configurations
(Standard RS-232C cable)

	PC			PDP	
RXD	2		3		TXD
TXD	3		2		RXD
GND	5		5		GND
DTR	4		6		DSR
DSR	6		4		DTR
RTS	7		8		CTS
CTS	8		7		RTS

D-Sub 9   D-Sub 9
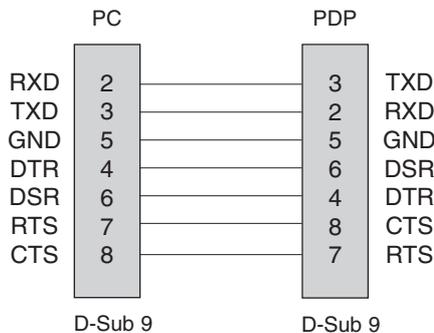
3-Wire Configurations
(Not standard)

	PC			PDP	
RXD	2		3		TXD
TXD	3		2		RXD
GND	5		5		GND
DTR	4		4		DTR
DSR	6		6		DSR
RTS	7		7		RTS
CTS	8		8		CTS

D-Sub 9   D-Sub 9
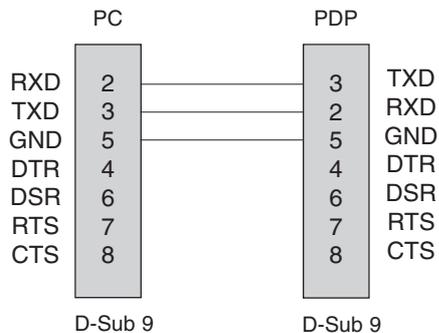
Set ID

Use this function to specify a TV ID number.
Refer to 'Real Data Mapping'. See page 119.

1. Press the **MENU** button and then use ▲ / ▼ button to select the **SETUP** menu.

2. Press the ► button and then use ▲ / ▼ button to select **SET ID**.

3. Press the ► button and then use ▲ / ▼ button to adjust **SET ID** to choose the desired TV ID number. The adjustment range of **SET ID** is 1 ~ 99.

4. Press **EXIT** button to return to TV viewing or press **MENU** button to return to the previous menu.
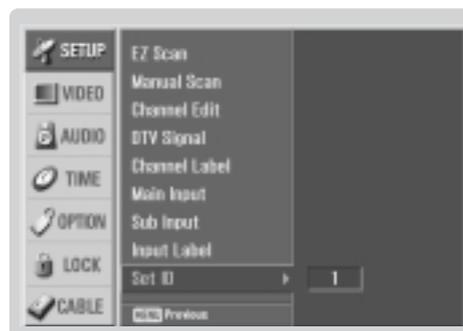
Communication Parameters

• Baud rate : 9600 bps (UART)
• Data length : 8 bits
• Parity : None
• Stop bit : 1 bit
• Communication code : ASCII code

* Use a crossed (reverse) cable.

Transmission / Receiving Protocol

Transmission

[Command1][Command2][ ][Set ID][ ][Data][Cr]

* [Command 1]: First command to control the set. (j,k,m or x)
* [Command 2]: Second command to control the set.
* [Set ID]: You can adjust the set ID to choose desired TV ID number in Setup menu. Adjustment range is 1 ~ 99. When selecting Set ID '0', every connected the TV is controlled. Set ID is indicated as decimal (1~99) on menu and as Hexa decimal (0x0~0x63) on transmission/receiving protocol.
* [DATA]: To transmit command data. Transmit 'FF' data to read status of command.
* [Cr]: Carriage Return ASCII code '0x0D'
* [ ]: ASCII code 'space (0x20)'

OK Acknowledgement

[Command2][ ][Set ID][ ][OK][Data][x]

* The TV transmits ACK (acknowledgement) based on this format when receiving normal data. At this time, if the data is data read mode, it indicates present status data. If the data is data write mode, it returns the data of the PC computer.

Error Acknowledgement

[Command2][ ][Set ID][ ][NG][Data][x]

* The TV transmits ACK (acknowledgement) based on this format when receiving abnormal data from non-viable functions or communication errors.

Data 1: Illegal Code
2: Not supported function
3: Wait more time

Command Reference List

	COMMAND 1	COMMAND 2	DATA (Hexadecimal)
01. Power	k	a	0 ~ 1
02. Input Select	k	b	0 ~ 9
03. Aspect Ratio	k	c	*
04. Screen Mute	k	d	0 ~ 1
05. Volume Mute	k	e	0 ~ 2
06. Volume Control	k	f	0 ~ 64
07. Contrast	k	g	0 ~ 64
08. Brightness	k	h	0 ~ 64
09. Color	k	i	0 ~ 64
10. Tint	k	j	0 ~ 64
11. Sharpness	k	k	0 ~ 64
12. OSD Select	k	l	0 ~ 1
13. Remote Control Lock/Key Lock	k	m	0 ~ 1
14. PIP/Twin	k	n	0,1,2,5
15. PIP Position	k	q	0 ~ 3
16. Treble	k	r	0 ~ 64
17. Bass	k	s	0 ~ 64
18. Balance	k	t	0 ~ 64
19. Color Temperature	k	u	0 ~ 2
20. PIP Input Source	k	y	0 ~ 3
21. ISM Method	j	p	*
22. Low Power	j	q	0 ~ 1
23. Orbiter Time Setting	j	r	1 ~ FE
24. Orbiter Pixel Setting	j	s	1 ~ 3

	COM-MAND 1	COM-MAND 2	DATA 0 (Hexadecimal)	DATA 1 (Hexadecimal)	DATA 2 (Hexadecimal)	DATA 3 (Hexadecimal)	DATA 4 (Hexadecimal)	DATA 5 (Hexadecimal)
25. Channel Tuning	m	a	physical/program high	major/program low	major low	minor high	minor low	attribute
26. Channel Add/Del	m	b	00 ~ 01					
27. Key	m	c	key code					
28. Input Select	x	b	*					
29. PIP Input Select	x	y	*					

01. Power (Command2:a)

► To control Power On/Off of the TV.

Transmission

[k][a][ ][Set ID][ ][Data][Cr]

Data 0 : Power Off   1 : Power On

Acknowledgement

[a][ ][Set ID][ ][OK/NG][Data][x]

* In a like manner, if other functions transmit 'FF' data
  based on this format, Acknowledgement data feedback
  presents status about each function.

02. Input Select (Command2:b) (Main Picture Input)

► To select input source for the TV.

Transmission

[k][b][ ][Set ID][ ][Data][Cr]

Data 0: DTV   5: Component 2
      1: Analog   6: RGB-DTV
      2: Video   7: RGB-PC
      3: Front Video   8: HDMI1/DVI
      4: Component 1   9: HDMI2

Acknowledgement

[b][ ][Set ID][ ][OK/NG][Data][x]

03. Aspect Ratio (Command2:c) (Main picture format)

► To adjust the screen format.
  You can also adjust the screen format using the RATIO
  button on remote control or in the Option menu.

Transmission

[k][c][ ][Set ID][ ][Data][Cr]

Date 1: 4:3   6: Set by program
      2: 16:9   10: Cinema Zoom (1)
      3: Horizon   ⋮
      4: Zoom 1
      5: Zoom 2   1F: Cinema Zoom (16)

Acknowledgement

[c][ ][Set ID][ ][OK/NG][Data][x]

04. Screen Mute (Command2:d)

► To select screen mute on/off.

Transmission

[k][d][ ][Set ID][ ][Data][Cr]

Data 0 : Screen mute off (Picture on)
      1 : Screen mute on (Picture off)

Acknowledgement

[d][ ][Set ID][ ][OK/NG][Data][x]

05. Volume Mute (Command2:e)

► To control volume mute on/off.
  You can also adjust mute using the MUTE button on
  remote control.

Transmission

[k][e][ ][Set ID][ ][Data][Cr]

Data 0 : Volume mute off (Volume on)
      1 : Volume mute on (Volume off)
      2 : EZ Mute

Acknowledgement

[e][ ][Set ID][ ][OK/NG][Data][x]

06. Volume Control (Command2:f)

► To adjust volume.
  You can also adjust volume with the volume buttons
  on remote control.

Transmission

[k][f][ ][Set ID][ ][Data][Cr]

Data Min : 0 ~ Max : 64
      ● Refer to 'Real data mapping' as shown below.

Acknowledgement

[f][ ][Set ID][ ][OK/NG][Data][x]

07. Contrast (Command2:g)

► To adjust screen contrast.
  You can also adjust contrast in the Video menu.

Transmission

[k][g][ ][Set ID][ ][Data][Cr]

Data Min : 0 ~ Max : 64
      ● Refer to 'Real data mapping' as shown below.

Acknowledgement

[g][ ][Set ID][ ][OK/NG][Data][x]

08. Brightness (Command2:h)

► To adjust screen brightness.
  You can also adjust brightness in the Video menu.

Transmission

[k][h][ ][Set ID][ ][Data][Cr]

Data Min : 0 ~ Max : 64(*transmit by Hexadecimal code)
      ● Refer to 'Real data mapping' as shown below.

Acknowledgement

[h][ ][Set ID][ ][OK/NG][Data][x]

* **Real data mapping**

0 : Step 0
⋮
A : Step 10 (SET ID 10)
⋮
F : Step 15 (SET ID 15)
10 : Step 16 (SET ID 16)
⋮
63 : Step 99 (SET ID 99)
64 : Step 100

09. Color (Command2:i)

► To adjust the screen color.
   You can also adjust color in the Video menu.

Transmission

[k][i][ ][Set ID][ ][Data][Cr]

Data   Min : 0 ~ Max : 64
   • Refer to 'Real data mapping'. See page 119.

Acknowledgement

[i][ ][Set ID][ ][OK/NG][Data][x]

10. Tint (Command2:j)

► To adjust the screen tint.
   You can also adjust tint in the Video menu.

Transmission

[k][j][ ][Set ID][ ][Data][Cr]

Data   Red : 0 ~ Green : 64
   • Refer to 'Real data mapping'. See page 119.

Acknowledgement

[j][ ][Set ID][ ][OK/NG][Data][x]

11. Sharpness (Command2:k)

► To adjust the screen sharpness.
   You can also adjust sharpness in the Video menu.

Transmission

[k][k][ ][Set ID][ ][Data][Cr]

Data   Min: 0 ~ Max: 64
   • Refer to 'Real data mapping'. See page 119.

Acknowledgement

[k][ ][Set ID][ ][OK/NG][Data][x]

12. OSD Select (Command2:l)

► To select OSD (On Screen Display) on/off.

Transmission

[k][l][ ][Set ID][ ][Data][Cr]

Data   0: OSD off   1: OSD on

Acknowledgement

[l][ ][Set ID][ ][OK/NG][Data][x]

13. Remote Control Lock Mode (Command2:m)

► To lock the remote control and the front panel controls on
   the set.

Transmission

[k][m][ ][Set ID][ ][Data][Cr]

Data   0: Lock off   1: Lock on

Acknowledgement

[m][ ][Set ID][ ][OK/NG][Data][x]

►If you're not using the remote control and front panel controls
   on the TV, use this mode. When main power is on/off,
   remote control lock is released.

14. PIP / POP / Twin Picture (Command2:n)

► To control the PIP (Picture-in-Picture)/POP/Twin picture.
   You can also control the PIP/POP/Twin picture using the
   PIP button on the remote control.

Transmission

[k][n][ ][Set ID][ ][Data][Cr]

Data   0:Off   2: DW1
       1: PIP   5: POP4(POP Scan)

Acknowledgement

[n][ ][Set ID][ ][OK/NG][Data][x]

15. PIP Position (Command2:q)

► To select sub picture position for PIP.

Transmission

[k][q][ ][Set ID][ ][Data][Cr]

Data   0: Right down on screen
       1: Left down on screen
       2: Left up on screen
       3: Right up on screen

Acknowledgement

[q][ ][Set ID][ ][OK/NG][Data][x]

16. Treble (Command2:r)

► To adjust treble.
   You can also adjust treble in the Audio menu.

Transmission

[k][r][ ][Set ID][ ][Data][Cr]

Data   Min: 0 ~ Max: 64(*transmit by Hexadecimal code)
   • Refer to 'Real data mapping'. See page 119.

Acknowledgement

[r][ ][Set ID][ ][OK/NG][Data][x]

17. Bass (Command2:s)

► To adjust bass.
   You can also adjust bass in the Audio menu.

Transmission

[k][s][ ][Set ID][ ][Data][Cr]

Data   Min: 0 ~ Max: 64(*transmit by Hexadecimal code)
   • Refer to 'Real data mapping'. See page 119.

Acknowledgement

[s][ ][Set ID][ ][OK/NG][Data][x]

18. Balance (Command2:t)

► To adjust balance.
   You can also adjust balance in the Audio menu.

Transmission

[k][t][ ][Set ID][ ][Data][Cr]

Data   Min: 0 ~ Max: 64(*transmit by Hexadecimal code)
   • Refer to 'Real data mapping'. See page 119.

Acknowledgement

[t][ ][Set ID][ ][OK/NG][Data][x]

19. Color Temperature (Command2:u)

► To adjust color temperature.
You can also adjust color temperature in the Video menu.

Transmission

[k][u][ ][Set ID][ ][Data][Cr]

Data 0: Medium 1: Cool 2: Warm

Acknowledgement

[u][ ][Set ID][ ][OK/NG][Data][x]

20. PIP Input Select (Command2:y)

► To select input source for sub picture in PIP/Twin picture mode.

Transmission

[k][y][ ][Set ID][ ][Data][Cr]

Data 0: DTV
1: Analog
2: Video
3: Front Video

Acknowledgement

[y][ ][Set ID][ ][OK/NG][Data][x]

21. ISM Method/Orbiter (Command2:p)

► To avoid having a fixed image remain on screen.

Transmission

[j][p][ ][Set ID][ ][Data][Cr]

Data 1: Inversion
2: Orbiter
4: White Wash
8: Normal

Acknowledgement

[p][ ][Set ID][ ][OK/NG][Data][x]

22. Low Power (Command2:q)

► To control the low power function on/off.

Transmission

[j][q][ ][Set ID][ ][Data][Cr]

Data 0: low power off
1: low power on

Acknowledgement

[q][ ][Set ID][ ][OK/NG][Data][x]

23. Orbiter Time Setting (Command2:r)

► To adjust orbiter operation time term.

Transmission

[j][r][ ][Set ID][ ][Data][Cr]

Data Min: 1 ~ Max: FE(*transmit by Hexadecimal code),
Unit: Second

Acknowledgement

[r][ ][Set ID][ ][OK/NG][Data][x]

24. Orbiter Pixel Setting (Command2:s)

► To adjust pixel number in orbiter function.

Transmission

[j][s][ ][Set ID][ ][Data][Cr]

Data Min: 1 ~ Max: 3

Acknowledgement

[s][ ][Set ID][ ][OK/NG][Data][x]

25. Tune Command (Command: m a)

► To tune channel to following physical/major/minor number

Transmission

[m][a][ ][Set ID][ ][Data0][ ][Data1][ ][Data2][ ][Data3][ ][Data4][ ][Data5][Cr]

Data 0: Physical Channel Number(Transmit by Hexadecimal code)
NTSC air:02~45
NTSC cable: 01, 0E~7D
ATSC air:01~45
ATSC cable:01~87

Data1,Data2: Major Channel Number (two part)/ Channel Number (One part)
Data1: High byte
Data2: Low byte
Two part channel number: Major number-Minor number
One part channel number: If the channel band is ATSC digital cable, it can be used. In case of using one part channel number, minor channel does not need.

Data3, Data 4: Minor Channel Number Data3: High byte Data4: Low byte

Data 5:

7	Main/Sub Picture	6	Two/One Part Channel	5	Using Physical Channel	4 Reserved	3	2	1	0	Step
0	Main	0	Two	0	Use	x	0	0	0	0	NTSC Air
1	Sub	1	One	1	No Use	x	0	0	0	1	NTSC Cable
						x	0	0	1	0	ATSC Air
						x	0	0	1	1	ATSC Cable_std
						x	0	1	0	0	ATSC Cable_hrc
						x	0	1	0	1	ATSC Cable_irc
						x	0	1	1	0	ATSC cable_auto
						x	0	1	1	1	Reserved
						x	x	x	x	x	...
						x	1	1	1	1	Reserved

* All data are transmitted by Hexadecimal code
Two/One part Channel: 6th bit
This bit is used in a cable-ready system.
Using physical channel: 5th bit
If the channel band is NTSC air or NTSC cable, channel tuning can be done by only physical channel. In this case, using physical channel bit must be low(0).
But if the channel band is ATSC air or ATSC cable, there are two cases that physical channel enable or disable.
If the physical channel sending is meaningful, you should set this bit low(0). If the physical channel sending is meaningless, you should set this bit high(1).

Example)
1. Analog channel: NTSC cable, channel number(35), main picture Command: ma 00 23 xx xx xx xx 01 attribute(0x01): main picture, two part(it's not mandatory), using physical channel, NTSC cable 'xx' data: don't care major and minor channel number in case analog channel tuning.
2. Digital channel: ATSC air, channel number(don't know physical channel, major(30), minor(3)), sub picture
Command: ma 00 xx 00 1E 00 03 A2 attribute(0xA2): sub picture, two part, not using physical channel, ATSC air 'xx' data: don't care analog channel number in case digital channel tuning.
3. Digital channel: ATSC air, channel number(physical(20),major(20), minor(3)), sub picture
Command: ma 00 14 00 14 00 03 82
attribute(0x82): sub picture, two part, using physical channel, ATSC air.

Acknowledgement

[a][ ][Set ID][ ][OK][Data0][Data1][Data2][Data3][Data4][x]
[a][ ][Set ID][ ][NG][Data0][x]

26. Channel Add/Del (Command: m b)

▶ To add and delete the channels
Transmission

[m][b][ ][Set ID][ ][Data][Cr]

Data   0: Channel Delete
          1: Channel Add
Acknowledgement

[b][ ][Set ID][ ][OK/NG][Data][x]

27. Key (Command: m c)

▶ To send IR remote key code
Transmission

[m][c][ ][Set ID][ ][Data][ ][Cr]

Data   Key code: Refer to page 124.
Acknowledgement

[c][ ][Set ID][ ][OK/NG][Data][x]

28. Input select(Command: x b)
   (Main Picture Input)

▶ To select input source for TV.
Transmission

[x][b][][Set ID][][Data][Cr]

Data Structure

MSB							LSB
0	0	0	0	0	0	0	0

External Input   Input Number

External Input				Data	Input Number				Data
0	0	0	0	DTV	0	0	0	0	Input1
0	0	0	1	Analog	0	0	0	1	Input2
0	0	1	0	AV	0	0	1	0	Input3
0	0	1	1	Reserved	0	0	1	1	Input4
0	1	0	0	Component	0	1	0	0	Input5
0	1	0	1	RGB_DTV	0	1	0	1	Input6
0	1	1	0	RGB_PC	0	1	1	0	Input7
0	1	1	1	Reserved	0	1	1	1	Input8
1	0	0	0	Reserved	1	0	0	0	Input9
1	0	0	1	HDMI1	1	0	0	1	Input10
1	0	1	1	Reserved	1	0	1	0	Input11
1	1	0	0	Reserved	1	0	1	1	Input12
1	1	0	1	Reserved	1	1	0	0	Input13
1	1	1	0	Reserved	1	1	0	1	Input14
1	1	1	1	Reserved	1	1	1	0	Input15
					1	1	1	1	Input16

Acknowledgement

[b][][Set ID][][OK/NG][Data][x]

29. PIP Input Select(Command: x y)

▶ To adjust input source for sub picture in PIP mode
Transmission

[x][y][][Set ID][][Data][Cr]

Data Structure

MSB							LSB
0	0	0	0	0	0	0	0

External Input   Input Number

External Input				Data	Input Number				Data
0	0	0	0	DTV	0	0	0	0	Input1
0	0	0	1	Analog	0	0	0	1	Input2
0	0	1	0	AV	0	0	1	0	Input3
0	0	1	1	Reserved	0	0	1	1	Input4
0	1	0	0	Reserved	0	1	0	0	Input5
0	1	0	1	Reserved	0	1	0	1	Input6
0	1	1	0	Reserved	0	1	1	0	Input7
0	1	1	1	Reserved	0	1	1	1	Input8
1	0	0	0	Reserved	1	0	0	0	Input9
1	0	0	1	Reserved	1	0	0	1	Input10
1	0	1	0	Reserved	1	0	1	0	Input11
1	0	1	1	Reserved	1	0	1	1	Input12
1	1	0	0	Reserved	1	1	0	0	Input13
1	1	0	1	Reserved	1	1	0	1	Input14
1	1	1	0	Reserved	1	1	1	0	Input15
1	1	1	0	Reserved	1	1	1	1	Input16

Acknowledgement

[y][][Set ID][][OK/NG][Data][x]

Note:
• *In case Video/S-Video is selected automatically by TV, use only single Video input.*
• *In case Video/S-Video is selected by user manually, use separate Video/S-Video inputs.*

IR Codes

How to Connect

► Connect your wired remote control to the Remote Control port on the TV.

Remote Control IR Codes

► **Output waveform**

Single pulse, modulated with 37.917KHz signal at 455KHz

Carrier frequency

$F_{CAR} = 1/T_C = f_{OSC}/12$
Duty ratio $= T1/T_C = 1/3$
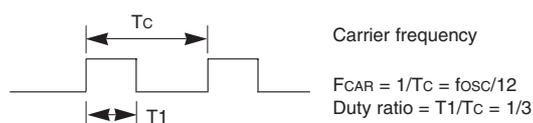
► **Configuration of frame**

• 1st frame
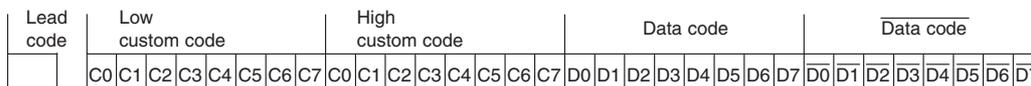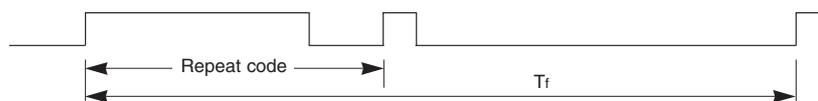
Lead code	Low custom code								High custom code								Data code								Data code							
	C0	C1	C2	C3	C4	C5	C6	C7	C0	C1	C2	C3	C4	C5	C6	C7	D0	D1	D2	D3	D4	D5	D6	D7	D0	D1	D2	D3	D4	D5	D6	D7

• Repeat frame

Repeat code

Tf

► **Lead code**

9 ms

4.5 ms

► **Repeat code**

0.55 ms

9 ms

2.25 ms

► **Bit description**

• Bit "0"

0.56 ms

1.12 ms

• Bit "1"

0.56 ms

2.24 ms

Acknowledgement
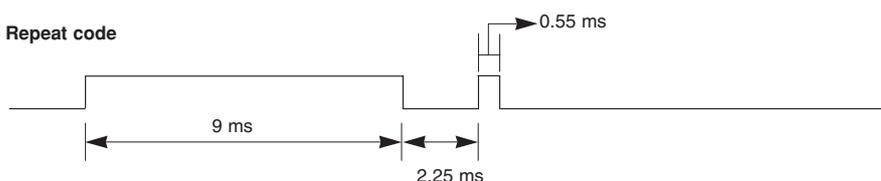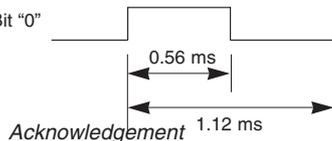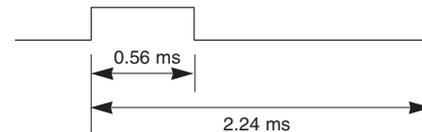
► **Fra** [a][ ][Set ID][ ][OK][Data0][Data1][Data2][Data3][Data4][x]
The [a][ ][Set ID][ ][NG][Data0][x]

Tf

Tf

Tf=108ms @455KHz
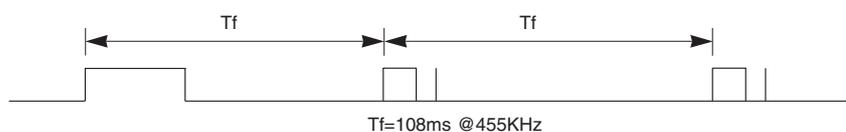
Code (Hexa)	Function	Note
0F	TV INPUT	R/C Button
0B	TV/VIDEO	R/C Button
08	POWER	R/C Button (Power On/Off)
79	RATIO	R/C Button
0E	TIMER	R/C Button
10 ~ 19	Number Key 0~ 9	R/C Button
4C	- (Dash)	R/C Button
1A	FLASHBK	R/C Button
09	MUTE	R/C Button
02	VOL ▲	R/C Button
03	VOL▼	R/C Button
00	CH ▲	R/C Button
01	CH ▼	R/C Button
1E	FAV	R/C Button
AA	INFO	R/C Button
39	CC	R/C Button
40	▲	R/C Button
41	▼	R/C Button
07	◄	R/C Button
06	►	R/C Button
44	ENTER	R/C Button
43	MENU	R/C Button
52	EZ SOUND	R/C Button
4D	EZ PIC	R/C Button
5B	EXIT	R/C Button
60	PIP	R/C Button
72	PIPCH -	R/C Button
71	PIPCH +	R/C Button
61	PIP INPUT	R/C Button
63	SWAP	R/C Button
0A	SAP	R/C Button
CB	ADJUST	R/C Button
D6	TV	Discrete IR Code (TV Input Selection)
5A	VIDEO	Discrete IR Code (Video Input Selection)
D0	Front Video	Discrete IR Code (Front Video Input Selection)
BF	COMPONENT 1	Discrete IR Code (Component1 Input Selection)
D4	COMPONENT 2	Discrete IR Code (Component2 Input Selection)
D5	RGB-PC	Discrete IR Code (RGB-PC Input Selection)
D7	RGB-DTV	Discrete IR Code (RGB-DTV Input Selection)
C6	HDMI1/DVI	Discrete IR Code (HDMI1/DVI Input Selection)
CC	HDMI2	Discrete IR Code (HDMI2 Input Selection)
76	Ratio 4:3	Discrete IR Code (Only 4:3 Mode)
77	Ratio 16:9	Discrete IR Code (Only 16:9 Mode)
AF	Ratio Zoom	Discrete IR Code (Only Zoom1 Mode)
70	POP	Discrete IR Code (Channel Search)
C4	POWER ON	Discrete IR Code (Only Power On)
C5	POWER OFF	Discrete IR Code (Only Power Off)
B0	PLAY	R/C Button
BA	PAUSE	R/C Button
B1	STOP	R/C Button
BD	REC	R/C Button
8F	REW	R/C Button
8E	FF	R/C Button
B2	GOTOPREV	R/C Button
B3	GOTONEXT	R/C Button
A9	TV GUIDE	R/C Button
92	APM	R/C Button
C4	MC EJECT	R/C Button
80	AUTO DEMO	R/C Button
C8	X STUDIO	R/C Button
7D	MARK	R/C Button
90	REC LIST	R/C Button

Programming the Remote

▶ The remote control is a multi-brand or universal remote control. It can be programmed to operate most remote-controllable devices of other manufacturers.
Note that the remote control may not control all models of other brands.

Programming a code into a remote mode

1. Test your remote control.
To find out whether your remote control can operate the component without programming, turn on the component such as a VCR and press the corresponding the desired component button on the remote control, while illuminating at the selected component. Test the **POWER** buttons to see if the component responds properly. If not, the remote requires programming to operate the device.

2. Turn on the component to be programmed, then press the corresponding the desired component button on the remote control.

3. Press the **MENU** and **MUTE** buttons simultaneously, the remote control is ready to be programmed for the code.

4. There are two ways to find the right code for the component.
Enter a code number using the number buttons on the remote. Programming code numbers for the corresponding component can be found on the following pages. Again, if the code is correct, the device will turn off.

5. Press the **MENU** button to store the code.

6. Test the remote control functions to see if the component responds properly. If not, repeat from step 2.

Programming Codes

VCRs

Brand	Codes	Brand	Codes	Brand	Codes	Brand	Codes
AIWA	034	KENWOOD	014 034 039 043	PORTLAND	108	TATUNG	039 043
AKAI	016 043 046 124		047 048	PULSAR	072	TEAC	034 039 043
	125 146	LG (GOLDSTAR)	001 012 013 020	QUARTZ	011 014	TECHNICS	031 033 070
AMPRO	072		101 106 114 123	QUASAR	033 066 075 145	TEKNIKA	019 031 033 034
ANAM	031 033 103	LLOYD	034	RCA	013 020 033 034		101
AUDIO DYNAMICS	012 023 039 043	LXI	003 009 013 014		040 041 062 063	THOMAS	034
BROKSONIC	035 037 129		017 034 101 106		107 109 140 144	TMK	006
CANON	028 031 033	MAGIN	040		145 147	TOSHIBA	008 013 042 047
CAPEHART	108	MAGNAVOX	031 033 034 041	REALISTIC	003 008 010 014		059 082 112 131
CRAIG	003 040 135		067 068		031 033 034 040	TOTEVISION	040 101
CURTIS MATHES	031 033 041	MARANTZ	012 031 033 067		053 054 101	UNITECH	040
DAEWOO	005 007 010 064		069	RICO	058	VECTOR RESEARCH	012
	065 108 110 111	MARTA	101	RUNCO	148	VICTOR	048
	112 116 117 119	MATSUI	027 030	SALORA	014	VIDEO CONCEPTS	012 034 046
DAYTRON	108	MEI	031 033	SAMSUNG	032 040 102 104	VIDEOSONIC	040
DBX	012 023 039 043	MEMOREX	003 010 014 031		105 107 109 112	WARDS	003 013 017 024
DYNATECH	034 053		033 034 053 072		113 115 120 122		031 033 034 040
ELECTROHOME	059		101 102 134 139		125		053 054 101
EMERSON	006 017 025 027	MGA	045 046 059	SANSUI	022 043 048 135	YAMAHA	012 034 039 043
	029 031 034 035	MINOLTA	013 020	SANYO	003 007 010 014	ZENITH	034 048 056
	036 037 046 101	MITSUBISHI	013 020 045 046		102 134		058 072 080 101
	129 131 138 153		049 051 059 061	SCOTT	017 037 112 129		
FISHER	003 008 009 010		151		131		
FUNAI	034	MTC	034 040	SEARS	003 008 009 010		
GE	031 033 063 072	MULTITECH	024 034		013 014 017 020		
	107 109 144 147	NEC	012 023 039 043		031 042 073 081		
GO VIDEO	132 136		048		101		
HARMAN KARDON	012 045	NORDMENDE	043	SHARP	031 054 149		
HITACHI	004 018 026 034	OPTONICA	053 054	SHINTOM	024		
	043 063 137 150	PANASONIC	066 070 074 083	SONY	003 009 031 052		
INSTANTREPLAY	031 033		133 140 145		056 057 058 076		
JCL	031 033	PENTAX	013 020 031 033		077 078 149		
JCPENNY	012 013 015 033		063	SOUNDESIGN	034		
	040 066 101	PHILCO	031 034 067	STS	013		
JENSEN	043	PHILIPS	031 033 034 054	SYLVANIA	031 033 034 059		
JVC	012 031 033 043		067 071 101		067		
	048 050 055 060	PILOT	101	SYMPHONIC	034		
	130 150 152	PIONEER	013 021 048	TANDY	010 034		

CATV

Brand	Codes	Brand	Codes	Brand	Codes	Brand	Codes
ABC	003 004 039 042	GOLDEN CHANNEL	030		065 085 090	SL MARX	030
	046 052 053	HAMLIN	049 050 055	PIONEER	034 051 052 063	SPRUCER	047 078
AJIN	112	HITACHI	052 055		076	STARCOM	002 004 008 009
ANTRONIK	014	HOSPITALITY	070 077	POST NEWS WEEK	016	STARGATE	008 030
ARCHER	005 007 014 024	JERROLD	002 003 004 008	PRUCER	059	SYLVANIA	067
CABLE STAR	026		009 010 052 069	PTS	011 048 071 072	TADIRAN	030
CENTURION	092		074		073 074	TAEKWANG	110
CENTURY	007	LG (GOLDSTAR)	001 106 101 005	PULSAR	100	TAIHAN	105
CITIZEN	007	M-NET	037	RCA	047	TANDY	017
COLOUR VOICE	065 090	MACOM	033	REGAL	049 050	TEXSCAN	029 067
COMBANO	080 081	MAGNAVOX	010 012 064 079	REGENCY	057	TOCOM	039 040 056
COMTRONICS	019 030	MEMOREX	100	REMBRANT	025	TOSHIBA	100
DIAMOND	023	MOVIE TIME	028 032	RK	091	UNIKA	007 014 024
EAGLE	020 030 040	NSC	015 028 038 071	SAMSUNG	102 107 030 068	UNITED CABLE	004 053
EASTERN	057 062 066		073	SCIENTIFIC ATLANTA	003 011 041 042	UNIVERSAL	005 007 014 024
ELECTRICORD	032	OAK	016 031 037 053		043 045 046		026 027 032 035
GE	072	PANASONIC	044 047	SHERITECH	022	VIEWSTAR	012 015 018 086
GEMINI	008 022 025 054	PARAGON	100	SIGNAL	030		087 088 089
GI	052 074	PHILIPS	006 012 013 020	SIGNATURE	052	ZENITH	100 114 060 093

HDSTB

Brand	Codes	Brand	Codes	Brand	Codes	Brand	Codes
ALPHASTAR DSR	123	EUROPLUS	114	MEMOREX	057	STARCAST	041
AMPLICA	050	FUJITSU	017 021 022 027	NEXTWAVE	028 124 125	SUPER GUIDE	020 124 125
BIRDVIEW	051 126 129		133 134	NORSAT	069 070	TEECOM	023 026 075 087
BSR	053	GENERAL INSTRUMENT	003 004 016 029	PACE SKY SATELLITE	143		088 090 107 130
CAPETRONICS	053		031 059 101	PANASONIC	060 142		137
CHANNEL MASTER	013 014 015 018	HITACHI	139 140	PANSAT	121	TOSHIBA	002 127
	036 055	HOUSTON TRACKER	033 037 039 051	PERSONAL CABLE	117	UNIDEN	016 025 042 043
CHAPARRAL	008 009 012 077		057 104	PHILIPS	071		044 045 048 049
CITOH	054	HUGHES	068	PICO	105		078 079 080 086
CURTIS MATHES	050 145	HYTEK	053	PRESIDENT	019 102		101
DRAKE	005 006 007 010	JANIEL	060 147	PRIMESTAR	030 110 111	UNIDEN	135 136
	011 052 112 116	JERROLD	061	PROSAT	072	VIEWSTAR	115
	141	KATHREIN	108	RCA	066 106	WINEGARD	128 146
DX ANTENNA	024 046 056 076	LEGEND	057	REALISTIC	043 074	ZENITH	081 082 083 084
ECHOSTAR	038 040 057 058	LG	001	SAMSUNG	123		091 120
	093 094 095 096	LUTRON	132	SATELLITE SERVICE CO	028 035 047 057		
	097 098 099 100	LUXOR	062 144		085		
	122	MACOM	010 059 063 064	SCIENTIFIC ATLANTA	032 138		
ELECTRO HOME	089		065	SONY	103		

Audio

Brand	Codes	Brand	Codes	Brand	Codes	Brand	Codes
AIWA	014 028 070 096	JVC	004 013 141	PHILIPS	026 112 143 253		147 218
	125 129 139 229	KEC	185 186 187	PIONEER	039 042 043 063	TOSHIBA	137
	230	KENWOOD	038 050 067 089		065 091 093 094	THE	061
AKAI	163		170 171 197 206		115 123 127 250	VICTOR	088 131
ANAM	003 014 017 023		215 222	QUASAR	113	WARDS	089
	059 106 189 216	KOHEL	030	RCA	080	YAMAHA	054 055 066 092
	217 235 236	NAD	045 046	RCX	092		199
BURMECTER	252	LOTTE	014 016 036 098	REALISTIC	103 106		
CARVER	086		100 172 173 174	SAMSUNG	124 145 146 182		
CLARION	199		175 176 177 178		193 194 195 203		
DAEWOO	027 053 060 084		179 180 181 183		204 244 245 246		
	102 148 198 221		201 202 208 213	SANSUI	011 135 138 144		
DENON	015 075 130 143		214 219 223 232	SANYO	019 083 234		
FANTASIA	071		238 240	SCOTT	106 186		
FINEARTS	022	LXI	103	SHARP	031 032 051 052		
FISHER	089 099	MAGNAVOX	111		072 082 117 119		
LG(GOLDSTAR)	001 021 024 029	MARANTZ	002 018 020 025		156 184 199 200		
	087 107 108 110		034 041 081 090		206 209		
	190 191 192 210		097 112	SHERWOOD	005 006 158		
	211 212 239	MCINTOSH	049	SONY	044 045 109 114		
HAITAI	034 035 188 222	MCS	104		118 126 248 249		
HARMAN/KARDON	068	MEMOREX	107	TAEKWANG	012 020 073 074		
INKEL	037 058 062 069	NAD	046		076 077 105 161		
	078 079 095 121	ONKYO	013 040 041 047		162 163 164 165		
	122 149 150 151		048 056 057 132		166 167 168 169		
	152 153 154 155		133 140		205 231 233 242		
	157 158 159 160	OPTIMUS	158		254		
	189 207 222 224	PANASONIC	007 033 064 113	TEAC	010 085 106 136		
	225 226 227 243		142 220 241 251		185 187 237		
	247	PENNEY	104	TECHNICS	101 113 128 134		

DVD

Brand	Codes	Brand	Codes	Brand	Codes	Brand	Codes
APEX DIGITAL	022	MAGNAVOX	013	PHILIPS	013	SONY	007
DENON	020 014	MARANTZ	024	PIONEER	004 026	THOMPSON	005 006
GE	005 006	MITSUBISHI	002	PROCEED	021	TOSHIBA	019 008
HARMAN KARDON	027	NAD	023	PROSCAN	005 006	YAMAHA	009 018
JVC	012	ONKYO	008 017	RCA	005 006	ZENITH	010 016 025
LG	001 010 016 025	PANASONIC	003 009	SAMSUNG	011 015		

Troubleshooting Checklist

No picture & No sound	• Check whether the TV is turned on. • Is the power cord inserted into wall power outlet? • Test the wall power outlet, plug another product's power cord into the outlet where the TV's power cord was plugged in.
Picture OK & No sound	• Press the **VOLUME** (▶) button. • Sound muted? Press **MUTE** button.
The remote control doesn't work	• Check to see if there is any object between the TV and the remote control causing obstruction. • Are batteries installed with correct polarity (+ to +, - to -)? (Refer to p.13) • Correct remote operating mode set: TV, VCR etc.? • Install new batteries. (Refer to p.13)
Picture appears slowly after switching on	• This is normal, the image is muted during the TV startup process. Please contact your service center, if the picture has not appeared after five minutes.
No or poor color or poor picture	• Select **Color** in the **Video** menu and press the **VOLUME** (▶) button. (Refer to p.42) • Keep a sufficient distance between the TV and the VCR. • Activate any function to restore the brightness of the picture. (If still picture is on the screen for more than 5 minutes, the screen gets dark.)
Horizontal/vertical bars or picture shaking	• Check for local interference such as an electrical appliance or power tool.
No output from one of the speakers	• Adjust **Balance** in the **AUDIO** menu. (Refer to p.44)
Unusual sound from inside the TV	• A change in ambient humidity or temperature may result in an unusual noise when the plasma display is turned on or off and does not indicate a fault with the TV.

Maintenance

- Early malfunctions can be prevented. Careful and regular cleaning can extend the amount of time you will have your new TV. Be sure to turn the power off and unplug the power cord before you begin any cleaning.

Cleaning the Screen

1. Here's a great way to keep the dust off your screen for a while. Wet a soft cloth in a mixture of lukewarm water and a little fabric softener or dish washing detergent. Wring the cloth until it's almost dry, and then use it to wipe the screen.

2. Make sure the excess water is off the screen, and then let it air-dry before you turn on your TV.

Cleaning the Cabinet

To remove dirt or dust, wipe the cabinet with a soft, dry, lint-free cloth.
Please be sure not to use a wet cloth.

Extended Absence

If you expect to leave your TV dormant for a long time (such as a vacation), it's a good idea to unplug the power cord to protect against possible damage from lightning or power surges.

Product Specifications

MODELS	50PY2DR-UA	60PY2DR-UA	50PX4DR-UA
Width (inches / mm)	55.9 / 1420	65.6 / 1666	55.2 / 1402
Height (inches / mm)	35 / 889	40.2 / 1022	31.4 / 798.5
Depth (inches / mm)	14 / 356.8	17 / 434	11.9 / 302.5
Weight (pounds / kg)	136 / 61.5	205 / 93	122 / 55.3
Resolution	1366 x 768 (Dot)		
Power requirement	AC100-240V ~ 60Hz		
Television System	NTSC-M, ATSC, 64 & 256 QAM		
Program Coverage	VHF 2 ~ 13, UHF 14 ~ 69, CATV 1 ~ 135, DTV 2 ~ 69, CADTV 1 ~ 135		
External Antenna Impedance	75 Ω		
Color	16,770,000 (256 steps of each R, G and B)		
Operating Temperature Range	32 ~ 104°F (0 ~ 40°C)		
Operating Humidity Range	Less than 80%		
Maximum Elevation	6561 feet (2000m)		

- The specifications shown above may be changed without prior notice for quality improvement.

LG ELECTRONICS, INC.
PLASMA TV — U.S. LIMITED WARRANTY

Your LG Plasma TV will be repaired or replaced in accordance with the terms of this warranty, at LGE's option, if it proves to be defective in material or workmanship under normal use, during the warranty period ("Warranty Period") listed below, effective from the date ("Date of Purchase") of original consumer purchase of the product. This warranty is good only to the original purchaser of the product and effective only when used in the United States, including Alaska, Hawaii, and U.S. Territories.

WARRANTY PERIOD:	HOW SERVICE IS HANDLED:
LABOR and PARTS: 2 YEARS from the Date of Purchase. Your unit will be repaired or replaced with a new, substitute model or factory reconditioned unit, at LGE's option. If repaired, parts used in the repair may be new or remanufactured. Replacement Units and Repair Parts are warranted for the remaining portion of the original unit's warranty period. **EFFECTIVE DATE OF WARRANTY:** Your warranty period begins on the date of sale to the original consumer/end user. KEEP THE DEALER'S DATED BILL OF SALE OR PROOF OF DELIVERY as evidence of the purchase date. You will be required to submit a legible copy of your bill of sale or proof of delivery when requesting warranty service.	**In-Home Service:** Please retain dealer's dated bill of sale or delivery ticket as evidence of the Date of Purchase for proof of warranty, and submit a copy of the bill of sale to the service person at the time warranty service is provided. **Please call 1-800-243-0000 to locate your nearest LGE Authorized Service Center.** Visit our website at: **http://www.lgservice.com**

THIS WARRANTY IS IN LIEU OF ANY OTHER WARRANTY, EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION, ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. TO THE EXTENT ANY IMPLIED WARRANTY IS REQUIRED BY LAW, IT IS LIMITED IN DURATION TO THE EXPRESS WARRANTY PERIOD ABOVE. NEITHER THE MANUFACTURER NOR ITS U.S. DISTRIBUTOR SHALL BE LIABLE FOR ANY INCIDENTAL, CONSEQUENTIAL, INDIRECT, SPECIAL, OR PUNITIVE DAMAGES OF ANY NATURE, INCLUDING WITHOUT LIMITATION, LOST PROFITS, LOST OR CORRUPTED PROGRAMMING OR DATA, OR ANY OTHER DAMAGE WHETHER BASED IN CONTRACT, TORT, OR OTHERWISE. Some states do not allow the exclusion or limitation of incidental or consequential damages or limitations on how long an implied warranty lasts, so the above exclusion or limitation may not apply to you. This warranty gives you specific legal rights and you may also have other rights that vary from state to state.

CONCERNING PIXEL FUNCTIONALITY: Your Plasma TV contains about one million individual pixels. Plasma TV typically contain a small number of pixels that do not function normally. Your display has been inspected and is in compliance with manufacturer's specifications, indicating that any pixel defects do not effect the operation or use of your display.

IMPORTANT: Please fill out and mail in your Product Registration Card or go to www.lgservice.com to register your product online. This information will allow us to reach you promptly should we discover a safety or reliability problem that could affect you.

THIS LIMITED WARRANTY DOES NOT APPLY TO:

- damage caused in shipping or transit
- service required as a result of improper installation, including incorrect or insufficient AC supply (please consult the owner's manual for power supply requirements)
- installation or repair of antenna systems, cable converters, cable company supplied equipment, or other components in a video system
- set-up or adjustment on consumer controls, or damage caused by improper adjustments
- damage caused by other system components
- any panel that has been modified or incorporated into any other product
- replacement of batteries on the remote control.
- damage (including cosmetic damage), failure, loss or personal injury due to misuse, abuse, negli-
gence, improper maintenance or storage, or to acts of nature or other causes beyond our control. (Causes beyond our control include but are not limited to lightning strike, power surges, power outages and water damage.)
- image burn-in
- repair or replacement of warranted parts by other than LGE authorized service centers.
- units purchased or serviced outside of the coverage area.
- product where the original factory serial numbers have been removed, defaced or changed in any way.
- product sold and labeled as "as is, where is" or similar disclaimer.

The cost of repair or replacement under these excluded circumstances shall be borne by the consumer.

CUSTOMER INTERACTIVE CENTER NUMBERS:

To obtain customer assistance, product information or Dealer or Service locations	**Call** **1-800-243-0000** 24 hours a day, 365 days per year

FOR SERVICE:
Before you call for warranty service, check your operating guide – you may avoid a service call.
For warranty service information, please contact the LGE Customer Interactive Center telephone number.

When calling for service, **please have your product model number, serial number and the date of purchase or the date of original installation available.**

If a replacement unit is required, under some circumstances you may be asked to provide a reserve deposit to the LGE Service Center against a credit card number as surety for advanced shipment. Your credit card will not be charged if you return the defective unit within 10 working days.

If a replacement unit is received, please use the carton and packaging from that unit in returning the defective unit to the LG®Brand Service Center.

Parts and service in accordance with the LGE warranty are LGE's responsibility and will be provided without charge. Other service requirements will be at the owner's expense. If you have problems in obtaining satisfactory warranty service, write or call the LGE Customer Interactive Center. Service may be provided by independently owned and operated service organizations.

To assure proper credit and avoid unnecessary charges, you must obtain an LGE Return Authorization before returning any product to the LGE Service Center. Contact the Customer Interactive Center for details.

TO CONTACT THE LGE CUSTOMER SERVICE CENTER BY MAIL:
LGE Customer Interactive Center
P.O. Box 240007
201 James Record Road
Huntsville, Alabama 35824
http://www.lgservice.com

P/NO : 3828VA0528A (3828VB0002M)