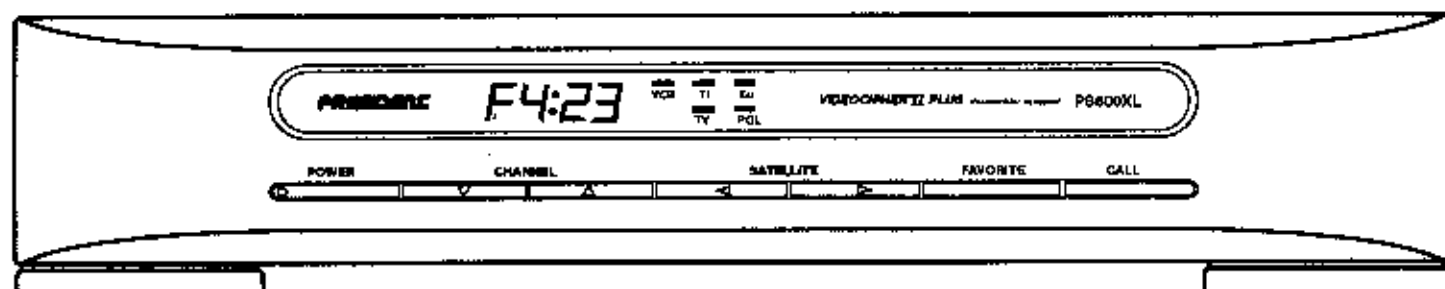


Satellite Television System

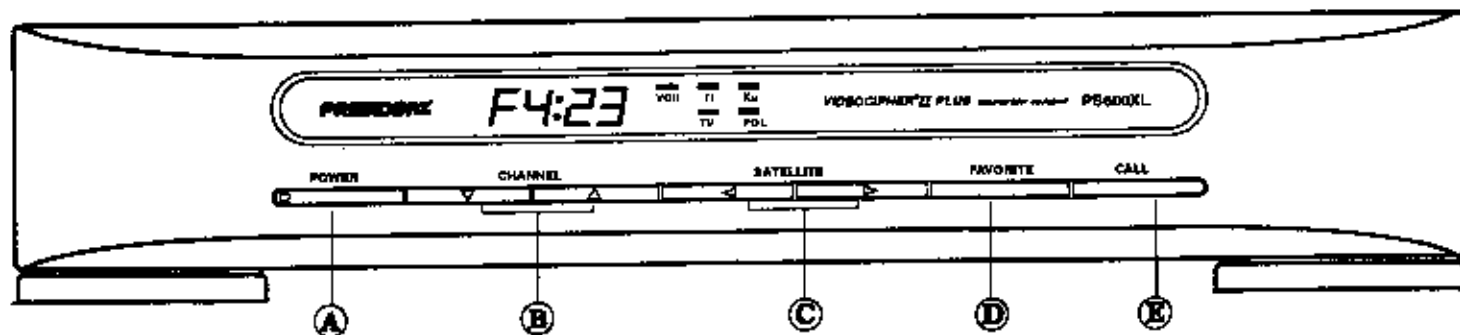
PS600XL

Operating Guide



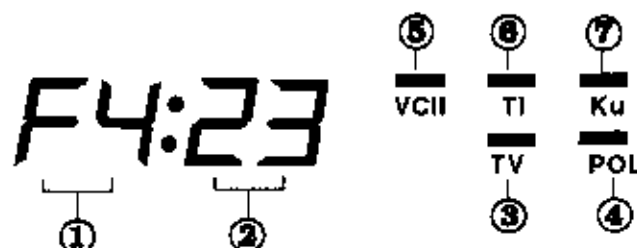
A complete guide to the installation and operation of the PS600XL Integrated Receiver/Descrambler (IRD) system.

Front Panel Controls



- A. POWER** — Press once to turn receiver on. Press again to turn receiver off. When the receiver is turned off, power will still be supplied to the microprocessor, the VideoCipher® II Plus descrambler, and components mounted on the antenna. It is normal for the top of the receiver to be slightly warm while the power is off. When the unit is turned off, all indicators are off.
- B. CHANNEL** and — Press once to move up or down a single channel. Press and hold for more than a half second to change channels rapidly. These buttons are also used for menu item selections and/or changes when using the built-in menu system. (See the Operations and Menu Functions sections in this Guide.)
- C. SATELLITE** and — Press to manually move the satellite dish East or West. While the dish is moving, the Dish Trimming screen is displayed. These buttons are also used for menu item selection and/or change when using the built-in menu system. (See the Operations and Menu Functions sections in this Guide.)
- D. FAVORITE** — Press to access the **RECALL FAVORITE** menu. (See the Operations and Menu Functions sections in this Guide.)
- E. CALL** — Press to access the **SATELLITE CALL** menu. When in the **SATELLITE CALL** menu or the **RECALL FAVORITE** menu, press this button to move to the selected satellite. (See the Operations and Menu Functions sections in this Guide.)

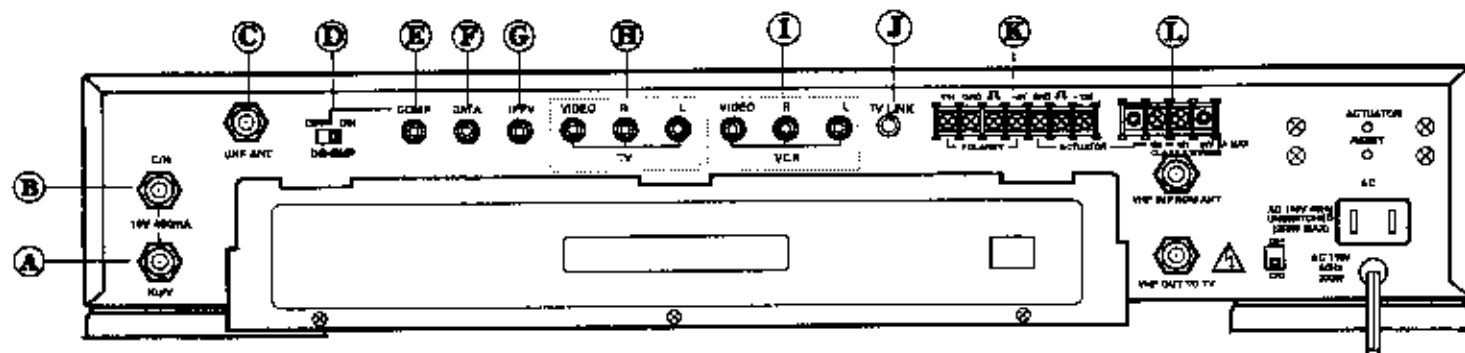
Front Panel Indicators



These indicators light only while the unit is turned on, and in the corresponding mode.

1. **Satellite Name** — Displays the 2-character designation of the current satellite. (e.g., **G3** for Galaxy-3) When moving to a new satellite, the previous satellite is displayed until the destination is reached.
2. **Channel Number** — Displays the current channel number.
3. **TV** — Indicates that the SAT/TV button has been pressed to pass the External VHF antenna through the modulator. (SAT/TV is described in the "Remote Control" section.)
4. **POL** — Indicates that the current polarity is Vertical. This indicator is off while on Horizontal channels.
5. **VCII** — Indicates reception of a VideoCipher encrypted channel.
6. **TI** — Indicates that the Terrestrial Interference filter is on.
7. **Ku** — Indicates that you are receiving a Ku-band satellite signal.

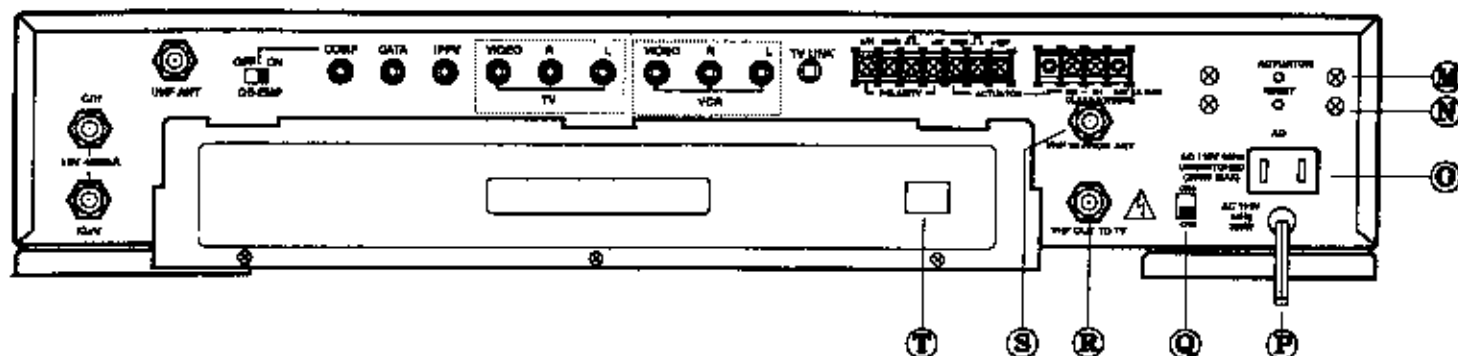
Rear Panel



WARNING: Do not use metallic objects to move the switches on the rear panel of the unit.

WARNING: Failure to observe proper polarity of connections may damage actuator and/or controller and void warranty.

- A. **KuV** — This input accepts the 950-1450 MHz input from the Ku-band or Vertical LNB. Power for the LNB is supplied through this connector.
- B. **C/H** — This input accepts the 950-1450 MHz input from the C-band or Horizontal LNB. Power for the LNB is supplied through this connector.
- C. **UHF ANT** — Connect the supplied UHF antenna here for using the **PS600r** Remote Control.
- D. **DE-EMP Switch** — This switch is used to turn the de-emphasis filter on or off for the composite output only.
- E. **COMP** — Composite video output used with external descrambling devices or processors.
- F. **DATA** — For connection with special external data equipment. (See your President Satellite Dealer for more information.)
- G. **IPPV** — For connection to an external VIDEOpal Recorder. (See your President Satellite Dealer for more information about VIDEOpal Recorders.)
- H. **TV VIDEO/AUDIO OUT** — These phono jacks are provided for connection to your stereo or stereo monitor. The R and L **AUDIO OUT** jacks provide stereo audio on most VideoCipher II® PLUS scrambled channels. Analog audio from Audio1 and/or Audio2 subcarriers is provided to these outputs when unscrambled channels are received, depending on the selected audio mode. The **VIDEO OUT** phono jack is for video output. This phono jack is equipped to block all on-screen messages (such as **MENU** selections) except VideoCipher II PLUS messages.
- I. **VCR VIDEO/AUDIO OUT** — These phono jacks are provided for connection to your VCR. The R and L **AUDIO OUT** phono jacks provide stereo audio on most VideoCipher II® scrambled channels. Analog audio from Audio1 and/or Audio2 subcarriers is provided to these outputs when unscrambled channels are received, depending on the selected audio mode. The **VIDEO OUT** phono jack is for video output. This phono jack is equipped to block all on-screen messages (such as **MENU** selections) except VideoCipher II PLUS messages.
- J. **TV LINK** — This jack is used by the dealer to set up the programmed information (transfer from one unit to another) in your **PS600XL** IRD.
- K. **VH Terminal** — Control Signal provided is 0 VDC for horizontal polarity and +12 VDC for vertical polarity at 100 mA maximum current.
- GND, \square , and +5V POLARITY Terminals** — These terminals provide power and control signals for a servo type polarization device. Power to the polarizer (+5V) is automatically disconnected after a polarity change.
- GND, \square , and +12V ACTUATOR Terminals** — These terminals provide power and monitor dish movement. The +12V supplies power to the actuator if necessary. The \square line is the return control signal of the actuator.
- L. **CLASS II WIRING - Actuator Terminals** — Connect the wires from your actuator to these connectors. The connections are:
 - M1 and M2 24V DC Motor Power (3A max.)



M. ACTUATOR Breaker — This circuit breaker is for the dish actuator power. Check this breaker if the unit is not able to move the dish.

N. RESET Breaker — This circuit breaker is for the unit AC power. Check this breaker if the unit fails to come on when the power button is pressed.

O. AC Outlet — A non-switched, 120VAC 200 watt outlet is provided for connecting any other additional accessories.

P. AC Power Cord — Connect to any 120V AC household outlet. Do not connect to an outlet controlled by a wall switch.

Q. Channel 3/4 Switch — The receiver is shipped with the switch set to operate on TV channel 3. Set this switch to 4 if there is a strong local TV transmitter on channel 3. Your TV set should match the setting of this switch to view satellite programming. Note: This switch setting is important only if you are using the VHF OUT TO TV modulated RF output for connection to your TV set.

R. VHF OUT TO TV — Connect this modulated RF output to the VHF input on your TV set if you do not use the direct connections to audio and video inputs.

S. VHF IN FROM ANT — Connect this input to your external VHF antenna. When the receiver is OFF, you will be connected to the off-air antenna for local television programming if you are using the VHF OUT TO TV modulated RF output.









You can also switch to the off-air VHF antenna when the receiver is ON by using the **SAT/TV** key on your remote.

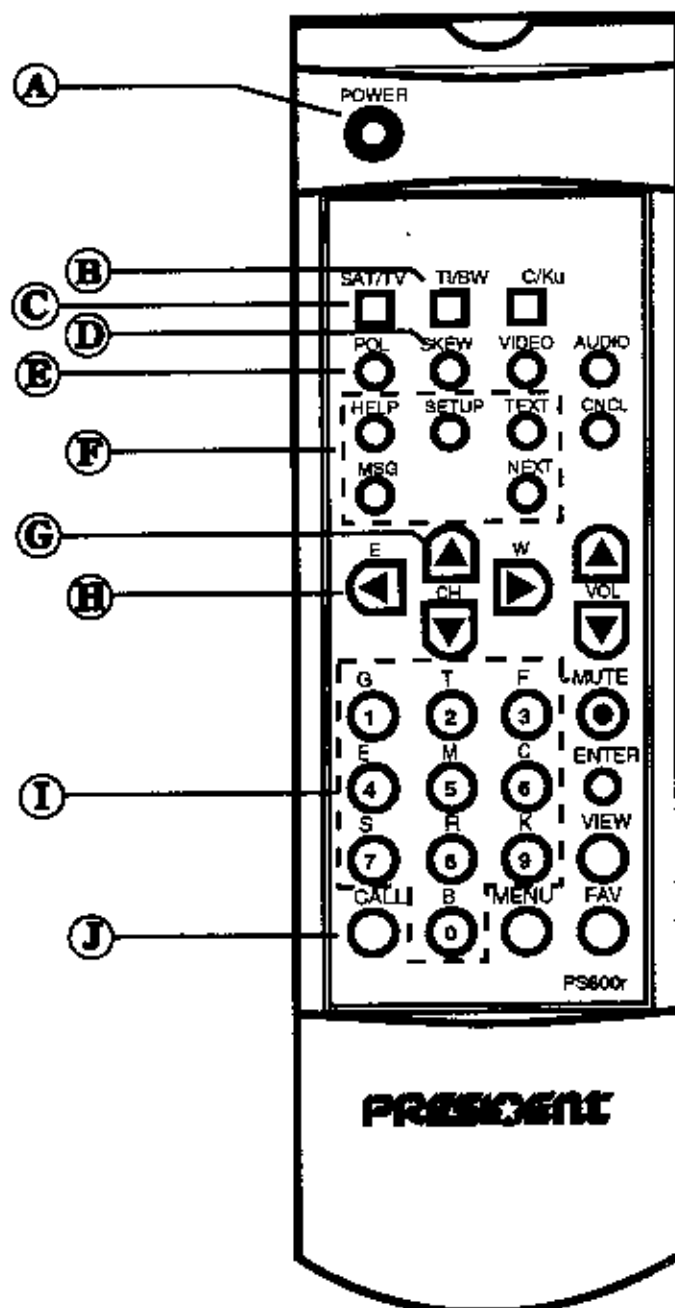
T. RJ-11 Jack — Connect the telephone line here if you have a VCI Modem-On-Module with built-in VIDEOpal. (See your President Satellite Dealer for more information about the VCI and VIDEOpal.)

Remote Control

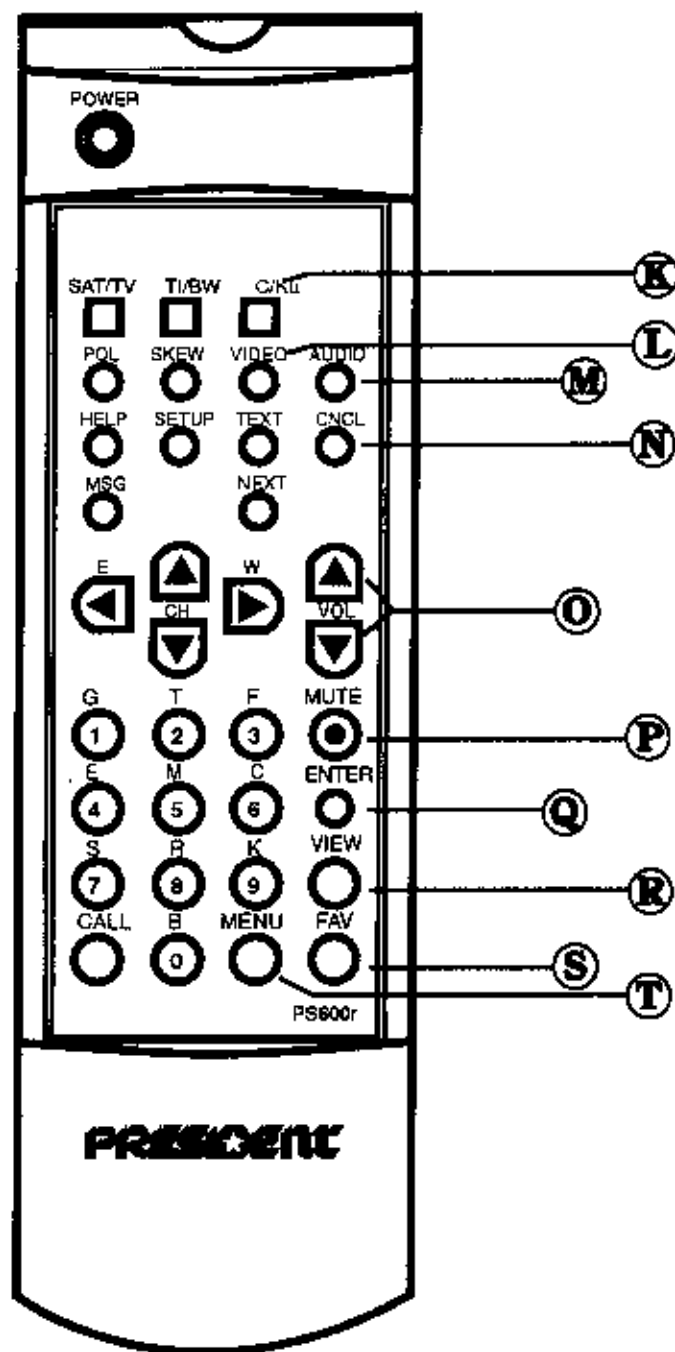
Note: The PS600r Remote Control operates in UHF, and has a range of over 150 feet. The remote control requires 2 AAA batteries.

Note: Pressing any key a second time without pressing any other key first will return to normal video.

- A. **POWER**  — Turns the satellite receiver On/Off.
- B. **TVBW**  — In C-band, use this key to switch the TI Filter on or off. In Ku-band, use this key to switch between **WIDE** or **NARROW**.
- C. **SATTV**  — Press this key to toggle between SAT viewing and TV viewing for RF Output only. When in TV mode, all other keys cannot be used until you return to SAT mode. This key only affects the RF modulated output. It has no effect on the TV or VCR video output.
- D. **SKEW**  — Press this key to display the **SKEW** screen for adjusting the skew position. While in the **SKEW** screen use **CH▲** and **CH▼** to adjust the skew in degree increments.
- E. **POL**  — Press this key to change polarity. When **POL** is pressed, the current polarity is changed and the **POLARITY** screen appears.
- F. **VCI** keys — These keys are used only while the **VCI** front panel indicator is lit. See the section on Video-Cipher II[®] PLUS descrambler operation for more details.
- G. **CH▲** and **CH▼**  — Press once to move up or down a single channel. Press and hold for more than a half-second to change channels rapidly. These buttons are also used for menu item selections and/or changes when using the built-in menu system. (See "Using the Main Menu" in this Guide.)
- H. **◀E** and **W▶**  — Press to manually move the satellite dish East or West. These buttons are also used for menu item selection and/or change when using the built-in menu system. (See "Using the Main Menu" in this Guide.)
- I. **Numeric Keys (1 to 9, 0)** — Use the numeric keys for channel selection and menu selection. Use the **Letter Keys (G,T,F,E,M,C,S,R,K,B)** keys for direct satellite access.
- J. **CALL**  — Press to display the **SATELLITE MENU**. When in the **SATELLITE MENU** or the **FAVORITE CH CALL** menu, press this button to move to the selected satellite and/or channel. It is also used for direct satellite access. (See "Using the Main Menu" in this Guide.)



- K. **(C/Ku)** — Press this key to switch between C-band and Ku-band satellites. While the satellite list is displayed, use this key to switch between C-band and Ku-band satellite lists.
- L. **(VIDEO)** — Press this key to display the **VIDEO TUNE** screen. At this screen you can adjust the video frequency in increments of 0.25 MHz.
- M. **(AUDIO)** — Press this key to display the **AUDIO TUNING** menu. Within this menu you can adjust the audio format for the current channel.
- N. **(CNCL)** — Press this key to return to video at any time. In some menus, this key will return you to the previous screen. Also, this key is used for **VCII** descrambler setup and operation.
- O. **(VOL▲ VOL▼)** — Use these keys to adjust the volume. When either key is pressed, the **VOLUME** screen appears.
- P. **(MUTE)** — Press this key to mute the audio. Press the key again to restore the audio. When **(MUTE)** is pressed, **(MUTE)** appears at the top of your screen. When the key is pressed again, the **VOLUME** screen appears.
- Q. **(ENTER)** — This key is used in certain menus to save the changes. This key is also used for **VCII** descrambler setup and operation.
- R. **(VIEW)** — Press this key to display the current satellite and channel. This key is also used for **VCII** descrambler setup and operation.
- S. **(FAV)** — Press this key to display the **RECALL FAVORITE** menu. Press and hold this key for at least 4 seconds to display the **STORE FAVORITE** menu.
- T. **(MENU)** — Press this key to display the **MAIN MENU**. Press and hold this key for at least 4 seconds to display the **INSTALLATION MENU**.



Normal Operation

This section of the Operating Guide takes you step-by-step through the most common procedures you need to perform. For typical operation, perform the procedures in order.

Power On

Turn the power on with the remote control or the front panel button. Next, turn on your television set and set it for either Channel 3 or 4, depending on the switch setting on the back of your PS600XL.

Note: You can press **CNCL** at any time to cancel a selection and return to the program you were viewing or listening to.

Channel Identification

You can tell what satellite and channel you're on by looking at the Front Panel Display. You can also press **VIEW** to see the satellite-channel information displayed on your screen.

SPACENET-1 S1 23

Select a Satellite

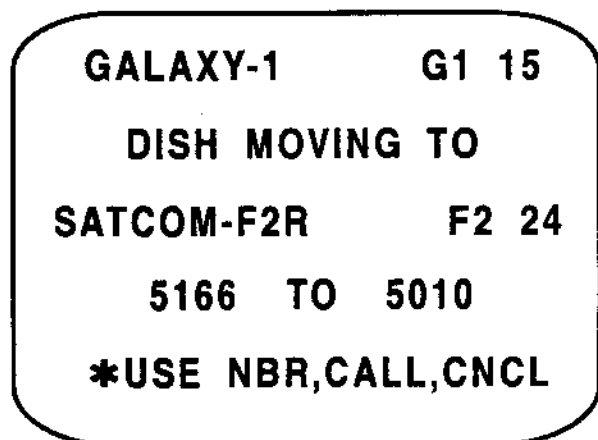
Press **CALL** on the remote control. The **SATELLITE CALL** menu will be displayed, with the current satellite identified by the cursor.

C -SATELLITE CALL
 → ■ G1 GALAXY-1
 F1 SATCOM-F1R
 T3 TELSTAR-303
 W5 WESTAR-5
 T2 TELSTAR-302
 G3 GALAXY-3
 F2 SATCOM-F2R
 *USE ←→, ↑↓, CALL, CNCL

Use **CH▲** and **CH▼** to move the pointer to another available satellite (indicated by a ■). (If the satellite you want is not displayed on the screen, use **W▶** to move to the next page, or **◀E** to move to the previous page.)

C -SATELLITE CALL
 F4 SATCOM-F4R
 → ■ F2 SATCOM-F2R
 T1 TELSTAR-301
 G6 GALAXY-6
 S4 SPACENET-4
 Z1 C-SPARE 1
 Z2 C-SPARE 2
 *USE ←→, ↑↓, CALL, CNCL

Point the arrow to the desired satellite and press **(CALL)**. Briefly you will see the **DISH MOVING TO** screen as the **PS600XL** automatically positions the dish antenna and tunes to the selected satellite.



You can also select a satellite directly with the Direct Satellite Access keys. These are the keys on your remote with letters above them labeled **G, T, F, E, M, C, S, R, K, and B**. To use these keys, first press **(CALL)** to bring up the **SATELLITE CALL** menu. Then press the Direct Satellite Access key for the satellite you wish to call.

Note: A list of satellites and corresponding key codes can be found in the 'Direct Satellite Keys' table in the "Appendix". On your remote, each letter key is programmed to access a specific satellite.

When a Direct Satellite Key is used with the appropriate number key, other satellites can be selected.

Example: Galaxy-1 is the programmed satellite for **(G)**; therefore, you would press **(G)** at the **SATELLITE CALL** menu to select Galaxy-1. To select another Galaxy satellite, use the two designated remote keys, such as **(G) (2)** to select Galaxy-2. When the **DISH MOVING TO** screen appears, press **(CALL)** again to tune to the satellite and view a channel.

To reprogram a Direct Satellite Key to access a different satellite, see '3 Direct Sat Key Set' in the "Using the Main Menu" section.

Selecting Channels

Channels can be selected by using **(CH▲)** or **(CH▼)** on the front panel of the receiver or on your remote. Simply press the appropriate key until the desired channel is reached. Or, use the number keys on the remote to select channels.

The **PS600XL** provides several methods for changing channels with the **(CH▲)** and **(CH▼)** keys on your remote. Press one of these keys to:

- Move the channel numbers up or down sequentially (1-2-3-4 ... -23-24).
- Skip the numbers in increments of two (i.e., 2-4-6 ... -24-26).
- Scan the channels until an active channel is found.

How to program your remote keys for these various methods is described later in "Using the Main Menu."

Last Channel Recall

Press **(0)** or **(0) (0)** to recall the last satellite and channel you viewed.

Selecting Favorite Channels

Up to 100 favorite stations can be programmed into memory for instant recall. To select a programmed favorite channel, press **(FAV)** to bring up the first list of program categories on the **RECALL FAVORITE** menu.

* RECALL FAVORITE *

- 0 → PERSONAL FAV.
- 1 MOVIES 1
- 2 MOVIES 2
- 3 SPORTS
- 4 NEWS

*USE NBR, ↑↓, ↔, CALL

To view the second list of program categories, press **(W▶)**.

* RECALL FAVORITE *

- 5 → NETWORKS
- 6 SUPERSTATIONS
- 7 MUSIC
- 8 FAMILY/EDUCATION
- 9 SPECIAL INTEREST

*USE NBR, ↑↓, ↔, CALL

If you want to return to the first list again, just press **(◀E)**.

To select a program category, use **(CH▲)** and **(CH▼)** to point to any of the categories on this menu. Then press **(CALL)** to move to that category

— OR —

Use the remote control number keys to enter the item number of the program category directly and move to that screen.

Example: If you select **1 MOVIES 1** at the **RECALL FAVORITE** menu, this screen is displayed:

* MOVIES 1 *

- 10 → C1-23 HBO/E
- 11 F1-13 HBO/W
- 12 G1-05 SHO/E
- 13 G1-16 SHO/W
- 14 F1-01 AMC

*USE NBR, ↔, ↑↓, CALL

If the channel item you want is not on the list, use **(◀E)** or **(W▶)** to see another list. Use **(CH▲)** and **(CH▼)** to select the channel item, and then press **(CALL)** to view that channel.

Personal Favorites

At the **RECALL FAVORITE** menu, the program category item **0 PERSONAL FAV.** consists of those personal satellite and channel listings that have been entered by you for quick access. (How to set up a personal favorite channel list is described later in "Storing Favorite Channels.")

Parental Lock

The PS600XL has a special feature which allows channels to be "locked out" or blocked from viewing. If you feel that a certain program is not suitable for viewing, you can lock out that channel so that it cannot be seen.

Note: When a channel has been locked out, it *will not be* possible to switch to the channel using **CH▲** or **CH▼**. You will need to use the remote control numeric keys to directly call the channel.

When you try to view a locked channel, the **P. LOCK** screen is displayed and the audio is muted.

SPACENET-1 S1 23

P. LOCK

ENTER PASSWORD
(- - - -)

***USE NBR,MENU**

To disable Parental Lock *temporarily*, just enter the four-digit password using the remote control numeric keys.* When you change channels, Parental Lock will automatically be restored.

***Note:** The factory preset **P. LOCK** code is "0000".

To unlock a channel *permanently*, press **MENU** to access the **MAIN MENU**.

MAIN MENU

- 1 PARENTAL LOCK
- 2 AUTO-ADJUST
- 3 DIRECT SAT KEY SET
- 4 GLOBAL SHIFT
- 5 RESYNC POSITION
- 6 CHANGE PASSWORD
- 7 GENERAL SETTINGS
- *USE NBR,CNCL**

At the **MAIN MENU**, press **1** to access the **UNLOCK** screen.

SPACENET-1 S1 23

TO UNLOCK CHANNEL

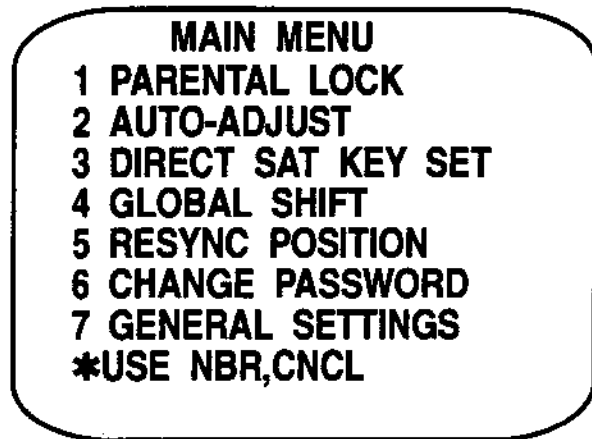
ENTER PASSWORD
(- - - -)

***USE NBR,CNCL**

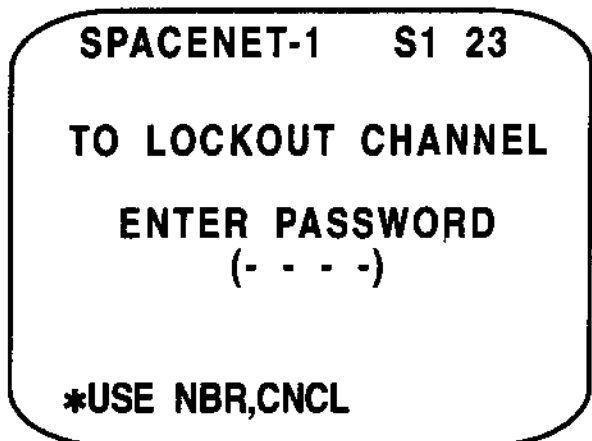
Enter the four-digit password using the remote control numeric keys. (The numbers will not appear on the screen.) If you enter the *wrong* password, the words "**WRONG PASSWORD**" will flash under the password, and you will return to the **MAIN MENU**. When you enter the *correct* password, the channel will be unlocked and you will return to the **MAIN MENU**. You can then press **VIEW** to view the program normally.

Re-locking the Channel

When you have finished watching the program, you can re-lock the channel. Press **(MENU)** to access the **MAIN MENU**.



At the **MAIN MENU**, press **(1)** to access the **LOCK** screen.



Enter the four-digit password using the remote control numeric keys. (The numbers will **not** appear on the screen.) If you enter the wrong password, the words "**WRONG PASSWORD**" will flash under the password, and you'll return to the **MAIN MENU**. When you enter the correct password, the channel will be locked.

Tuning the PS600XL

There may be times when you'll need to adjust the tuning of your **PS600XL** because of changes in the satellite signal. You can fine tune the video and audio, turn the TI (Terrestrial Interference) Filter On or Off, and adjust the skew and polarity by using the appropriate keys on the remote control.

Before using any of the following remote keys, select the satellite and channel you want to adjust.

Video Fine Tuning

Press **VIDEO** to access the **VIDEO TUNING** screen.

SPACENET-1 S1 23

VIDEO TUNE
(0.00)MHZ

*USE ↑,↓,CNCL

Use the **CH▲** and **CH▼** keys to change the frequency in 0.25 MHz steps. (The maximum range is ±15 MHz.)

SPACENET-1 S1 23

VIDEO TUNE
(+ 0.25)MHZ

*USE ↑,↓,CNCL

TI (Terrestrial Interference) Filter

If your picture is distorted, snowy or contains sparkles, you may be experiencing Terrestrial Interference. You may need to turn the TI Filter On for that channel. In C-band only, press **TI/BW** to switch the TI Filter On or Off. (The TI Filter setting will appear momentarily over the video.)

SPACENET-1 S1 23

TI (ON)

*USE TI/BW,CNCL

Note: In Ku-band only, press **TI/BW** to switch the bandwidth between **WIDE** and **NARROW**. (The bandwidth setting will appear momentarily over the video.)

Audio Fine Tuning

Press **AUDIO** to access the **AUDIO TUNING** menu.

SPACENET-1 S1 23

1 FORMAT (MONO)
2 AUDIO BW (WIDE)
3 AUDIO SEEK (OFF)
4→L / R (6.80)MHZ

*USE NBR,↑,↓,CNCL

Note: The Video Fine Tune, TI Filter status, and Audio Tuning information are remembered on a per-channel basis. No special commands are required to store any of the changes.

Press **(1)** to switch between the different audio formats (VCI, MONO, or DISC).

At the MONO AUDIO TUNING menu you can adjust AUDIO BW (audio bandwidth) by pressing **(2)** to switch between NARW (narrow) and WIDE.

SPACENET-1		S1 23
1	FORMAT	(MONO)
2	AUDIO BW	(NARW)
3	AUDIO SEEK	(OFF)
4	→L / R	(6.80)MHZ
*USE NBR, ↑, ↓, CNCL		

Press **(3)** to turn AUDIO SEEK (ON) or (OFF). When you turn AUDIO SEEK (ON), the unit will attempt to locate audio subcarriers by scanning up or down, depending upon whether you press **(CH▲)** or **(CH▼)**.

SPACENET-1		S1 23
1	FORMAT	(MONO)
2	AUDIO BW	(NARW)
3	AUDIO SEEK	(ON)
4	→L / R	(6.80)MHZ
*USE NBR, ↑, ↓, CNCL		

When you turn AUDIO SEEK (OFF), the **(CH▲)** and **(CH▼)** keys adjust the frequency in 0.01 MHz steps.

SPACENET-1		S1 23
1	FORMAT	(MONO)
2	AUDIO BW	(NARW)
3	AUDIO SEEK	(OFF)
4	→L / R	(6.81)MHZ
*USE NBR, ↑, ↓, CNCL		

At the DISC AUDIO TUNING menu you can adjust the audio bandwidth and turn AUDIO SEEK (ON) or (OFF) as in the MONO AUDIO TUNING menu.

SPACENET-1		S1 23
1	FORMAT	(DISC)
2	AUDIO BW	(NARW)
3	AUDIO SEEK	(ON)
4	→LEFT	(6.77)MHZ
5	RIGHT	(6.95)MHZ
*USE NBR, ↑, ↓, CNCL		

*Note: While tuning the LEFT channel, the RIGHT channel will automatically tune +0.18 MHz above the LEFT channel. This is done because the majority of the discrete (DISC) stereo signals are broadcast with a 0.18 MHz difference. For broadcasts that do not follow this standard, select **(5)** to tune the RIGHT channel only.*

Skew

If there is rotation in the position of a satellite, you may need to make small adjustments to the Skew. press **(SKEW)** to access the **SKEW** screen. You will see both the present **POLARITY** and **SKEW** displayed.

SPACENET-1 S1 23
POLARITY (VERT)

SKEW (+45)

*USE ↑,↓,CNCL

Use the **(CH▲)** or **(CH▼)** key to adjust the Skew in one degree increments, to a maximum of -90 degrees to +90 degrees. Press any key (including **(CNCL)**) to exit this screen and save the changes. If you do not press any key for 4 seconds, the changes for that satellite are saved automatically, and the screen disappears.

Polarity

The Polarity of a satellite channel (either horizontal or vertical) is established by the orientation of the satellite. Once your **PS600XL** is installed, you should not need to adjust this setting. (Caution: Changing the Polarity may cause loss of signal.)

If you do need to change the setting, press **(POL)**. The Polarity will change, and the **POLARITY** screen will be displayed.

SPACENET-1 S1 23
SKEW (+45)

POLARITY (VERT)

*USE POL,CNCL

You will see both the present **POLARITY** and **SKEW**. Press any key (including **(CNCL)**) to exit this screen. Only **SKEW** changes are stored. **POLARITY** changes are not stored. If you do not press any key for ten seconds, the screen disappears.

Note: If you change the Polarity and cannot get picture or sound, change it back by pressing **(POL)** again.

Note: If the Polarity needs to be stored for that satellite, change the Polarity so that a picture can be seen. Then re-program that satellite (see '1. PROGRAM A SATELLITE' in the "Installation Menu Functions" section).

Dish Antenna Tuning

Once your PS600XL is installed, you should not need to adjust the dish antenna for a particular satellite and channel. If you do need to make a small change in the dish antenna position for better picture clarity, you should do so for the clearest possible picture before using the video or audio fine tuning.

Press **◀E** or **W▶** to "trim" or adjust the dish position. The **TRIMMING DISH** screen will appear, showing the current dish position.

SPACENET-1 S1 23

TRIMMING DISH

5007 5000

***USE ◀,▶,CNCL**

Press either key again to move the dish a few counts at a time. You can also hold the key down to move the dish more rapidly.

Note: The dish can only be "trimmed" or adjusted ± 16 counts of the satellite's programmed position. Then, to store any Dish Tuning adjustments, you must reprogram the satellite (see '1. PROGRAM A SATELLITE' in the "Installation Menu Functions" section).

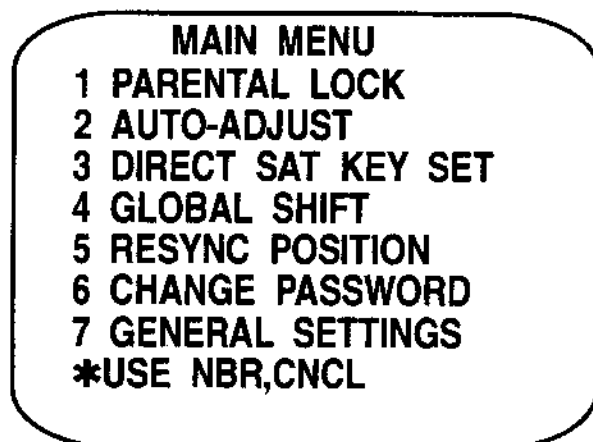
Note: Once you have moved the dish, **CNCL** will not cancel the move. You must move the dish back to the original position using **◀E** or **W▶**, or by simply pressing **CALL**, **CALL**.

Using the Main Menu

Operating the **PS600XL** is easy with the built-in menu system. Use the **MAIN MENU** to:

1. Turn Parental Lock On or Off.
2. Automatically peak the best picture and skew for the current Satellite and channel.
3. Program a single remote key as a Direct Satellite Access key to quickly access a satellite.
4. Adjust the frequency of any LNBs connected to the Satellite Receiver.
5. Resync all Satellites or a single Satellite received by the Dish Antenna.
6. Change the channel lock Password.
7. Access the General Settings menu in order to adjust the brightness of the Front Panel Display or to set the Scan Type method for selecting channels.

Press **(MENU)** to access the **MAIN MENU**.

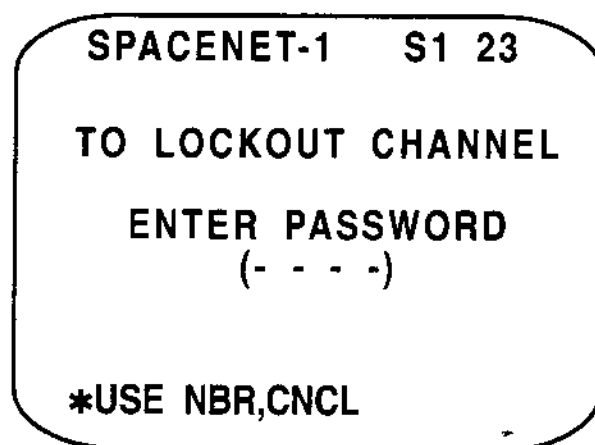


Once in the **MAIN MENU**, press the appropriate numeric key to select the corresponding function.

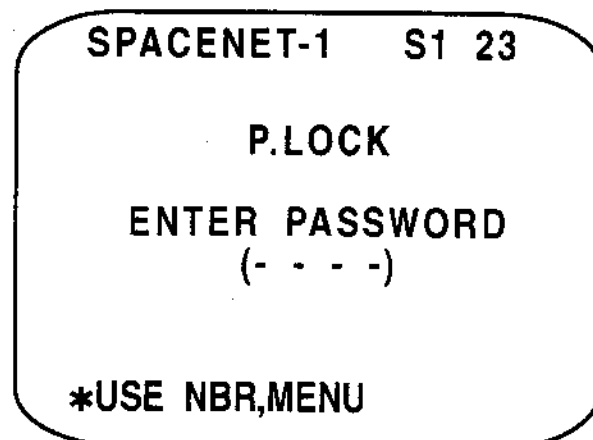
1. PARENTAL LOCK

This feature allows you to "lock out," or block a channel so that it cannot be accessed for viewing. Channels that are locked out will automatically be bypassed during channel selection.

To lock out a channel, first tune to the channel you wish to block, using any of the methods described earlier in "Normal Operation." Once you are at the channel, press **(MENU)** to access the **MAIN MENU**. Then press **(1)** to access the **LOCK** screen.



Enter the four-digit password using the remote control numeric keys. (The numbers will not appear on the screen.) If you enter the *wrong* password, the words "**WRONG PASSWORD**" will flash under the password, and you'll return to the **MAIN MENU**. When you enter the *correct* password, the channel will be locked, as shown:



Note: When a channel has been locked out, it is not possible to switch to the channel using **CH▲** or **CH▼**, or **FAV**. You will need to use the remote control numeric keys to directly call the channel.

Unlocking the Channel

To disable Parental Lock *temporarily*, just enter the four-digit password using the remote control numeric keys.* When you change channels, Parental Lock will automatically be restored.

SPACENET-1 S1 23

P.LOCK

ENTER PASSWORD

(- - - -)

***USE NBR,MENU**

***Note:** The factory preset **P. LOCK** code is "0000".

To unlock a channel *permanently*, press **MENU** to access the **MAIN MENU**.

MAIN MENU

- 1 PARENTAL LOCK
- 2 AUTO-ADJUST
- 3 DIRECT SAT KEY SET
- 4 GLOBAL SHIFT
- 5 RESYNC POSITION
- 6 CHANGE PASSWORD
- 7 GENERAL SETTINGS
- *USE NBR,CNCL**

At the **MAIN MENU**, press **1** to access the **UNLOCK** screen.

SPACENET-1 S1 23

TO UNLOCK CHANNEL

ENTER PASSWORD

(- - - -)

***USE NBR,CNCL**

Enter the four-digit password using the remote control numeric keys. (The numbers will *not* appear on the screen.) If you enter the *wrong* password, the words "**WRONG PASSWORD**" will flash under the password, and you will return to the **MAIN MENU**. When you enter the *correct* password, the channel will be unlocked and you will return to the **MAIN MENU**. You can then press **VIEW** to view the program.

2. AUTO-ADJUST

This feature automatically peaks the best picture and skew for the current satellite and channel. This is only done for the current channel (polarity). The Skew is automatically stored right after **AUTO-ADJUST**.

Press **2** at the **MAIN MENU** to use **AUTO-ADJUST**.

SPACENET-1 S1 23
AUTO-ADJUST PROGRESS

SKEW (+45)
DISH AT (5002)

3. DIRECT SAT KEY SET

Press **3** at the **MAIN MENU** to display a series of screens that display a satellite name and the available satellite numbers for Direct Satellite Access. The **DIRECT SAT KEY SET** screen enables you to program a single remote key as a "default" Direct Satellite Access key when you use **CALL** to tune to a satellite in normal operation. (Using the Direct Satellite Access Key to select a satellite is discussed in the "Normal Operation" section.)

DIRECT SAT KEY SET
GALAXY (G3)

G1
G2
→ G3
G6

***USE ↑,↓,←,→,CNCL**

To program a remote key, use **◀E** and **W▶** to access the satellite you want. Then use **CH▲** and **CH▼** to select the abbreviation you want to use for that satellite. When you are finished, press **CNCL** or **VIEW** to save the new settings and return to video. Be sure to write the satellite you have chosen for default in the Direct Satellite Access Keys list in the Appendix.

4. GLOBAL SHIFT

Global Shift is used to adjust the frequency of any or all of the LNBs connected to your receiver, depending upon the RF configuration. This is used to compensate for any frequency drift in the LNB electronics. Press **(4)** at the **MAIN MENU** to access the **GLOBAL SHIFT** screen.

SPACENET-1 S1 23

GLOBAL SHIFT
ADJUST LNB

C BAND
(0.00)MHZ

***USE ↑,↓,CNCL**

Use **(CH▲)** and **(CH▼)** to adjust the frequency in 0.25 MHz steps.

SPACENET-1 S1 23

GLOBAL SHIFT
ADJUST LNB

C BAND
(+ 0.25)MHZ

***USE ↑,↓,CNCL**

Press **(MENU)** to store the configuration and return to the **MAIN MENU**.

5. RESYNC POSITION

This feature enables you to "resync" or realign a single satellite, or *all* satellites, in order to be tuned properly by your Dish Antenna. Usually it is not necessary to perform this function. However, you will need to do so should you experience tuning difficulty due to a mechanical problem in your Dish Antenna.

To resync a satellite, first press **(CALL)** to bring up the **SATELLITE CALL** menu. Use **(CH▲)** and **(CH▼)** to select an entry. Then press **(CALL)** to tune to the satellite and channel.

At the **MAIN MENU**, press **(5)** to access the **RESYNC POSITION** screen.

RESYNC POSITION

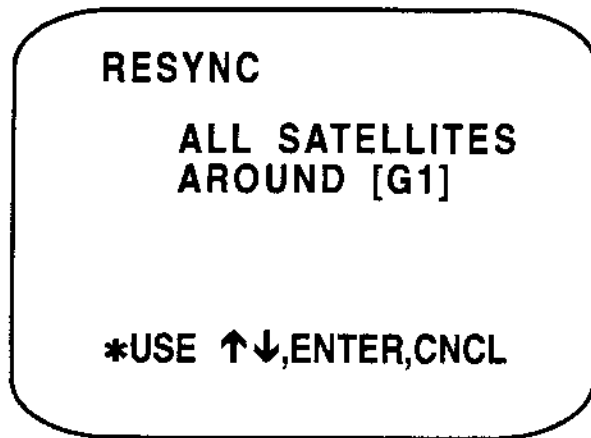
1 RESYNC ALL SAT.
2 SPACENET-2 SHIFT

***USE NBR,CNCL**

Press **(2)** to select the *current* satellite to realign with. (Spacenet-2 is used in the example below.) When this function has been performed, the following screen is displayed:

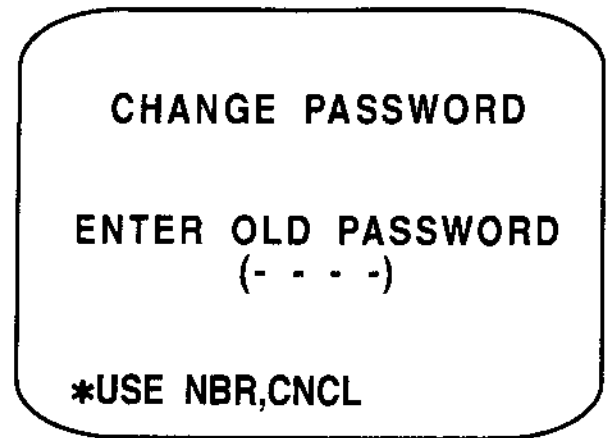
SPACENET-2
HAS BEEN SHIFTED

To resync *all* satellites, press **1** at the **RESYNC POSITION** screen. This screen appears:



6. CHANGE PASSWORD

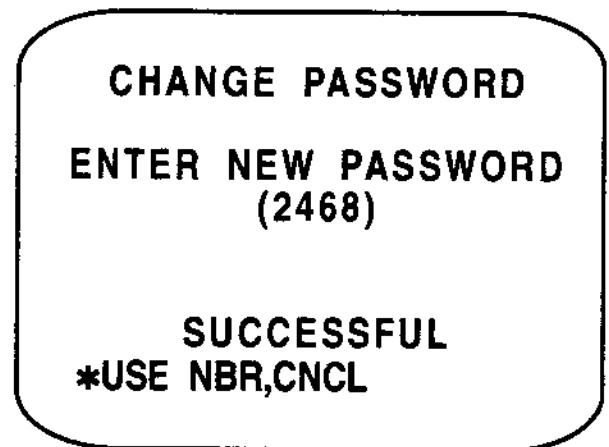
To change the password used only for Parental lock, press **6** at the **MAIN MENU**. You will be asked to enter the old password.



Enter the four-digit password using the remote control numeric keys. (The numbers will *not* appear on the screen.) If you enter the *wrong* password, the words "**WRONG PASSWORD**" will flash under the password, and you'll return to the **MAIN MENU**.

When you enter the *correct* password, you will be prompted to **ENTER NEW PASSWORD**.

Now type your new four-digit password ("2468" is shown in the example below). After entering the number, you will be asked to retype it to confirm your entry. When you have retyped the number, the word "**SUCCESSFUL**" will flash under the password. After a few seconds you will return to the **MAIN MENU**.



7. GENERAL SETTINGS

Press **(7)** at the **MAIN MENU** to display the **GENERAL SETTINGS** menu.

GENERAL SETTINGS

- 1 FRONT PANEL [BRT]
- 2 SCAN TYPE [NORM]

***USE NBR,CNCL**

This menu allows you to:

- Adjust the brightness of the Front Panel Display
- Set the channel selection method for changing channels.

1. FRONT PANEL

You control the brightness of the Front Panel Display in the **MAIN MENU**. The brightness is shown in parentheses after **FRONT PANEL**.

DIM: Dim

BRT: Bright

Press **(1)** at the **GENERAL SETTINGS** menu to switch between **BRT** and **DIM**.

GENERAL SETTINGS

- 1 FRONT PANEL [DIM]
- 2 SCAN TYPE [NORM]

***USE NBR,CNCL**

2. SCAN TYPE

In the **NORM** mode, changing channels using **(CH▲)** or **(CH▼)** will scroll through the channels *sequentially* (1-2-3-4-5...-23-24) during normal operation.

GENERAL SETTINGS

- 1 FRONT PANEL [BRT]
- 2 SCAN TYPE [NORM]

***USE NBR,CNCL**

If you press **(2)** at the **GENERAL SETTINGS** menu, you can switch **SCAN TYPE** from **NORMAL** to **SKIP** or **SEEK**.

In the **SKIP** mode, pressing **(CH▲)** or **(CH▼)** will scroll through every *other* channel (1-3-5-7...-23-2-4-6...-24) during normal operation.

GENERAL SETTINGS

- 1 FRONT PANEL [BRT]
- 2 SCAN TYPE [SKIP]

***USE NBR,CNCL**

Note: **SKIP** mode is recommended for systems using a single feed polarizer to prolong the life of the tiny servo motor located at the antenna.

In the **SEEK** mode, pressing **CH▲** or **CH▼** selects only the active channels to be displayed during normal operation.

GENERAL SETTINGS

- 1 FRONT PANEL [BRT]
- 2 SCAN TYPE [SEEK]

***USE NBR,CNCL**

Storing Favorite Channels

The **STORE FAVORITE** menu is used to add or change favorite satellite channels and radio stations to the **PERSONAL FAVORITE** category, or to update satellite and channel listings for one of the preprogrammed categories (**MOVIES**, **SPORTS**, **NEWS**, etc.).

* STORE FAVORITE *

0 → **PERSONAL FAV.**

1 **MOVIES 1**

2 **MOVIES 2**

3 **SPORTS**

4 **NEWS**

*USE NBR, ↑↓, ↔, CALL

Adding a Personal Favorite

Use any of the procedures in the "Normal Operation" section to tune to the satellite and channel you wish to store as a personal favorite. When you are at the satellite and channel, make any necessary changes such as fine tuning the video, or selecting a different audio mode for receiving a satellite radio station. (For more information on these procedures, refer to the "Normal Operation" and "Tuning the PS600XL" sections.)

When all adjustments have been made, press and hold **(FAV)** for at least four seconds to access the **STORE FAVORITE** menu.

Note: If you press any other key before you press **(FAV)**, you may not retain the video and audio settings you just made.

With the cursor pointing to **PERSONAL FAV.**, press **(CALL)** to move to the **PERSONAL FAV. STORE** screen.

* PERSONAL FAV. *

—STORE—

00 → G1-15 FAV 00

01 G1-03 FAV 01

02 **-* FAV 02

03 **-* FAV 03

04 **-* FAV 04

*USE NBR, ↔, ↑↓, ENTER

Use **(CH▲)** and **(CH▼)** to move to the first blank row (**-*).

* PERSONAL FAV. *

—STORE—

00 G1-15 FAV 00

01 G1-03 FAV 01

02 → **-* FAV 02

03 **-* FAV 03

04 **-* FAV 04

*USE NBR, ↔, ↑↓, ENTER

Note: When a screen of entries is full, use **(◀E)** and **(W▶)** to move to another set of **-* for additional entries.

Press **ENTER**. The satellite and channel number you are currently on are **automatically** stored at the location indicated by the cursor.

```

* PERSONAL FAV. *
-STORE-
00  G1-15   FAV 00
01  G1-03   FAV 01
02→ G1-04   FAV 02
03  **-*   FAV 03
04  **-*   FAV 04

*USE NBR,←→,↑↓,ENTER
  
```

To store additional favorite channels, repeat the above procedures.

When you are finished, press **VIEW** to return to normal viewing.

Note: After you have stored a favorite channel entry, you can change it at any time using the following procedure.

Changing a Personal Favorite

You can easily replace a favorite stored item with a new selection. To do this, you must first tune to the satellite and channel you want to store in place of the current item. Press and hold **FAV** to move to the **STORE FAVORITE** menu.

With the cursor pointing to **0 PERSONAL FAV.**, press **CALL** to move to the **PERSONAL FAV. STORE** screen.

Use **CH▲** or **CH▼** to position the cursor at the item you want to replace. (If the item you are replacing is not on that screen, use **◀E** or **W▶** to view another screen.)

Note: If you know the number of the stored item you are replacing (that is, the number in the left column on the **PERSONAL FAV STORE** screen, you can enter it directly with the numeric keys on the remote.

```

* PERSONAL FAV. *
-STORE-
00  G1-15   FAV 00
01  G1-03   FAV 01
02→ G1-04   FAV 02
03  **-*   FAV 03
04  **-*   FAV 04

*USE NBR,←→,↑↓,ENTER
  
```

Press **SETUP**. The first character in the channel description field (e.g., "F") starts blinking.

```

* PERSONAL FAV. *
-STORE-
00  G1-15   FAV 00
01  G1-03   FAV 01
02→ G1-04   AV 02
03  **-*   FAV 03
04  **-*   FAV 04

*USE NBR,←→,↑↓,ENTER
  
```

To change the channel description, press **CH▲** or **CH▼** to enter the first character (e.g., "S").

```

* PERSONAL FAV. *
-STORE-
00  G1-15   FAV 00
01  G1-03   FAV 01
02→ G1-04   SAV 02
03  **-*   FAV 03
04  **-*   FAV 04

*USE NBR,←→,↑↓,ENTER
  
```

(In this example, we are changing "FAV 02" to "SPORTS".)

Press **◀E** or **W▶** to go the next character. Then press **CH▲** or **CH▼** to change the second character. Repeat until all characters have been changed to the new channel description.

When you are finished, press **ENTER** to save the new entry.

The satellite and channel field will automatically be changed to the satellite and channel you are currently on (e.g., S1 02).

```

* PERSONAL FAV. *
-STORE-
00  G1-15  FAV 00
01  G1-03  FAV 01
02→ S1-02  SPORTS
03  **-*  FAV 03
04  **-*  FAV 04

*USE NBR,↔,↑↓,ENTER
  
```

To update additional items, tune to another satellite and channel, and repeat the above procedures.

Updating Preprogrammed Categories

To update satellite and channel items in the preprogrammed categories listed on the **STORE FAVORITE** menu (**MOVIES**, **SPORTS**, **NEWS**, etc.), follow similar procedures as described in "Changing a Personal Favorite."

For example, after you tune to the satellite and channel you wish to store, press **FAV** to move to the **STORE FAVORITE** menu.

```

* STORE FAVORITE *

0→PERSONAL FAV.
1  MOVIES 1
2  MOVIES 2
3  SPORTS
4  NEWS

*USE NBR,↑↓,↔,CALL
  
```

The **STORE FAVORITE** menu consists of two screens. If the category you desire is not on the first screen, use **◀E** or **W▶** to view the second screen.

```

* STORE FAVORITE *

5→NETWORKS
6  SUPERSTATIONS
7  MUSIC
8  FAMILY/EDUCATION
9  SPECIAL INTEREST

*USE NBR,↑↓,↔,CALL
  
```

Use **CH▲** or **CH▼** to position the cursor at the preprogrammed category you wish to move to, and press **CALL**.

For example, if you select 1 **MOVIES 1**, this screen appears:

```

      * MOVIES 1 *
    -STORE-
10→ C1-23 HBO/E
11  F1-13 HBO/W
12  G1-05 SHO/E
13  G1-16 SHOW/W
14  F1-01 AMC

*USE NBR,↔,↑↓,ENTER
  
```

If the item you desire is not on the current screen, use **◀E** or **W▶** to view another screen. Then press **CH▲** or **CH▼** to select the entry you wish to change.

Note: You can change both the satellite and channel entry (e.g., **C1-23**) as well as the channel description (e.g., **HBO/E**), or just the satellite and channel.

To change only the satellite and channel, press **ENTER**. The new entry will replace the previous one.

To change both the satellite and channel, and the channel description:

Press **SETUP**. The first character in the channel description field (e.g., "H") starts blinking.

```

      * MOVIES 1 *
    -STORE-
10→ C1-23 ☐BO/E
11  F1-13 HBO/W
12  G1-05 SHO/E
13  G1-16 SHOW/W
14  F1-01 AMC

*USE NBR,↔,↑↓,ENTER
  
```

In this example, we will change "HBO/E" to "CINEMAX".

To change the channel description, press **CH▲** or **CH▼** to enter the first character (e.g., "C").

```

      * MOVIES 1 *
    -STORE-
10→ C1-23 CBO/E
11  F1-13 HBO/W
12  G1-05 SHO/E
13  G1-16 SHOW/W
14  F1-01 AMC

*USE NBR,↔,↑↓,ENTER
  
```

Press **◀E** or **W▶** to go to the next character. Then press **CH▲** or **CH▼** to change the second character. Repeat these steps until all characters have been changed to the new channel description.

When you are finished, press **ENTER** to save the change.

The satellite and channel field will automatically be changed to the satellite and channel you are currently on (e.g., **S2-10**).

```

      * MOVIES 1 *
    -STORE-
10→ S2-10 CINEMAX
11  F1-13 HBO/W
12  G1-05 SHO/E
13  G1-16 SHOW/W
14  F1-01 AMC

*USE NBR,↔,↑↓,ENTER
  
```

To update additional items, tune to another satellite and channel, and repeat the above procedures.

VCRS Module Operating Instructions

Features

The VCRS module represents the state of the art in satellite TV descrambling technology. Your VCRS module will also allow you to view the new and expanding world of pay-per-view programming as well as all of the subscription and "clear" programs you currently enjoy.

Other key features include additional data and audio channels for future services as well as greatly expanded on-screen displays (OSDs). These new displays can provide you with more helpful information about your system and the types of satellite programming you watch.

If your receiver is equipped with a built-in VIDEOpal Order Recorder, you can also access pay-per-view programming options each month.

Renewable Security With The TvPass Card

Assures a rapid, easy upgrade of security in the event that it becomes necessary. If necessary, this "smart card" will be sent to you by General Instrument of your program provider (it is not included in this initial shipment). At that time, you will be instructed to slide the TvPass Card into the back of your VCRS module. This process will change the level of subscription security.

Non-Scrambled, "Clear" Programming

These services will work with or without your VCRS module installed. These "clear" program services are not scrambled and you may enjoy the programs as you have in the past. Non-scrambled services may be viewed at any time they are broadcast and do not require subscription authorization.

Module Authorization

After your dealer has installed your new VCRS module, you or your dealer must follow the steps below.

1. Tune to a VideoCipher® scrambled channel. At this time the VideoCipher® signal LED should be illuminated on the front panel of your PS600XL.
2. Press **SETUP**, **(1)**, **(1)** to access the **INSTALLATION DATA** screen. The Unit ID will appear in two formats on the screen in lines number 1 and 2.

Please write the numbers down in the spaces provided:

Unit ID: _____

Phone ID: _____

These lines contain your unique unit identification numbers and are used by your program providers to authorize you for subscription program reception.

Note: The information on your screen may be different from that in the illustrations in this Operating Guide.

3. The installation data will also show Signal Quality on line 8. This should read greater than 60. If this signal reads less than 60, you may experience difficulty authorizing the module. Adjusting dish alignment, receiver video fine tuning, and/or skew may help to increase the Signal Quality received by the module. Press **(VIEW)** to leave this screen and resume normal viewing.

* INSTALLATION DATA *

VideoCipher RS Descrambler

- | | |
|-------------------|---------------------|
| 1) Unit ID: | 0400-3057-FF4E |
| 2) Phone ID: | 0100-0060-2577-7516 |
| 3) | |
| 4) Version: | Module 1.0 |
| 5) IRD S: | Subscribed |
| 6) VIDEOpal | not enabled |
| 7) Provider ID | 153 |
| 8) Signal Quality | 100 |
| 9) Trip Counter | 1 |
| 10) Message Rate | 10 |
| 11) Category | CO-4F |
| 12) Location | Set |

(Press **VIEW** to exit)

4. Call the programmer(s) who provided subscription services on the old module. This is necessary to transfer your subscription programs to your new module. Programmers may ask for the Unit ID that appeared on your most recent billing statement(s), or on the back of the older module. Your Programmers will also require the ID numbers noted in item 2 above. These numbers are also used for all new subscription purchases.

Note: The Unit ID is sometimes referred to as the Unit Address, or UA.

Installation

Because of the complex nature of TVRO systems, the placement and adjustment of the dish antenna and satellite system components is critical. Therefore, it is recommended that you do not attempt to install the system yourself. Your dealer can perform a professional installation that will provide you with the best reception possible.

When you install the **PS600XL** in a TVRO system you must first make all connections between the components. After you connect all the components, you must program the **PS600XL**.

Caution: Do not connect the **PS600XL** to AC power until you make all the proper connections to the dish antenna. Failure to do so may cause receiver damage and void the warranty.

Important: You must use the **PS600r** remote control when installing this satellite system.

Install the dish antenna according to the manufacturer's installation instructions and orient it in the proper direction. Use the manufacturer's template to adjust the feedhorn until it is on the polar axis. The dish antenna must be able to point at the satellites in the Clarke orbit belt without obstruction. If you are replacing an existing receiver and antenna controller with the **PS600XL**, do not disconnect the original receiver or antenna controller completely before you connect the **PS600XL**.

Place the **PS600XL** next to the existing receiver and antenna controller. Remove one wire at a time from the original receiver and antenna controller and connect it to the proper terminal on the back of the **PS600XL**.

If you are installing the **PS600XL** in a new system, you may want to use the **PS600XL** and a TV set or monitor at the dish antenna location to adjust the dish antenna. With this setup, you can immediately see the results of adjustments to the dish antenna as you make them. When using an extension cord outdoors during installation, be sure it is protected by a ground-fault circuit interrupter.

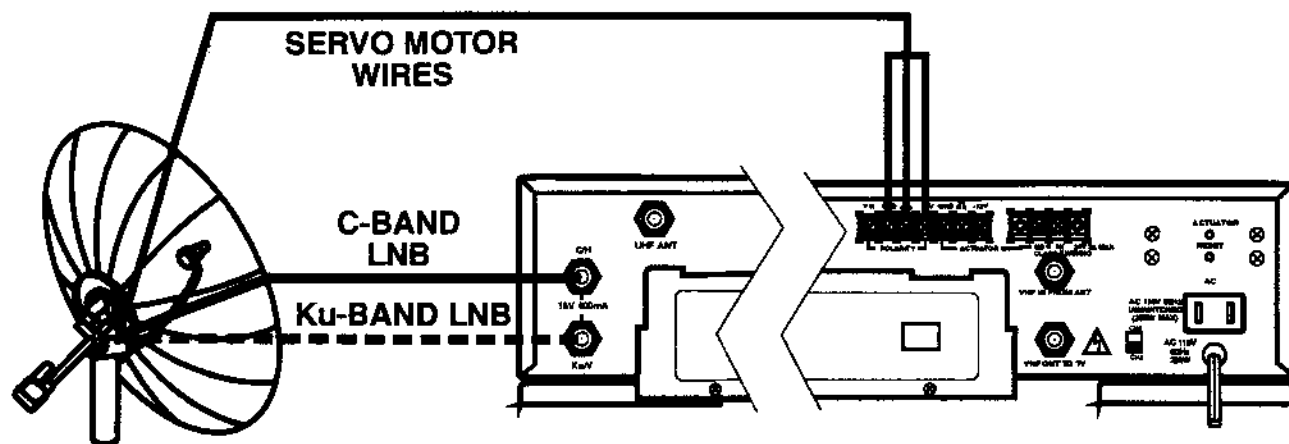
When installing the receiver indoors consult the customer about the location. Select a location that assures adequate ventilation for the sophisticated electronics. The ideal location is close to both the television set and an unswitched AC power outlet. It should also offer a clear view of the front panel displays of the **PS600XL** from the desired viewing position.

Use the table in the Appendix to determine the type of cables to use when you connect the dish antenna to the **PS600XL**. Make sure to protect all connections from moisture to ensure long and trouble free operation.

Single Receiver Installation


Single Feed (C-band and Ku-band)

A single feed system uses an LNB (Low Noise Block) downconverter attached to the feedhorn, and a single feed polarizer. The **PS600XL** has internal circuitry that prolongs the life of the tiny motor installed at the antenna to provide polarity selection. This circuitry limits the travel distance of the probe that selects polarity.



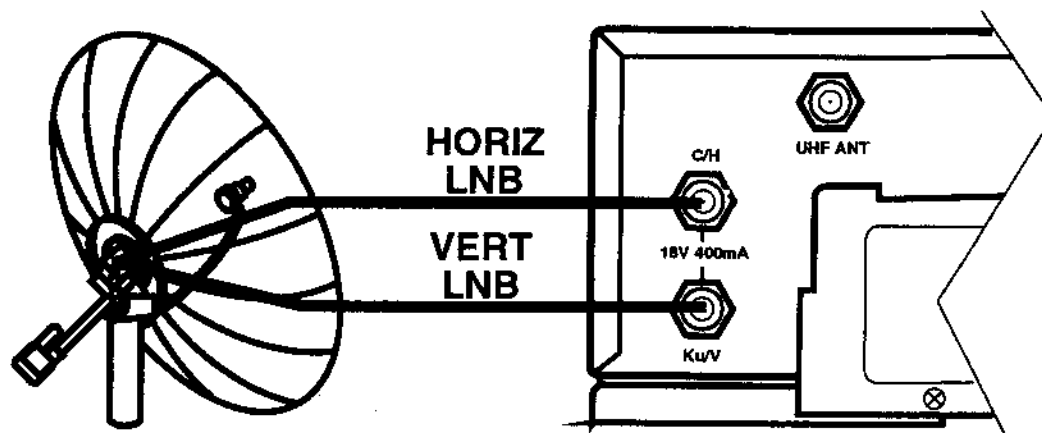
1. Use the cable recommended in the Appendix to connect the LNB directly to the corresponding input on the **PS600XL** rear panel. You can connect both the C-band and Ku-band directly to the receiver without using an external switch.
2. Since you are using a servo-type polarizer, you must run three additional lines to control it. Wire the polarizer to the terminal block on the back of the receiver according to the manufacturer's instructions.

The normal color codes used for the Polarity Terminals are:

- Red to +5V
- White to 
- Black to GND

3. Using the manufacturer's template, adjust the feedhorn until it is on the polar axis. If the proper polarity is not indicated on the front panel of the receiver (odd channels vertical on Telstar type satellites, odd channels horizontal on Galaxy type satellites), change polarity by pressing **(POL)**.
4. If the picture is recognizable but snowy, press **(SKEW)** to access the **SKEW** screen. Then use **(CH▲)** and **(CH▼)** to adjust for the best reception.
5. If you select a new channel and the picture is recognizable for just a moment, then disappears, rotate the feedhorn 90 degrees, or until the **PS600XL** receives a clear picture.
6. When you get the best picture, tighten the feedhorn bolts until you cannot rotate the feedhorn. After you retighten the feedhorn, press **(SKEW)** to access the **SKEW** screen. Then use **(CH▲)** and **(CH▼)** to adjust for the best reception.

Dual Feed (C-band or Ku-band)



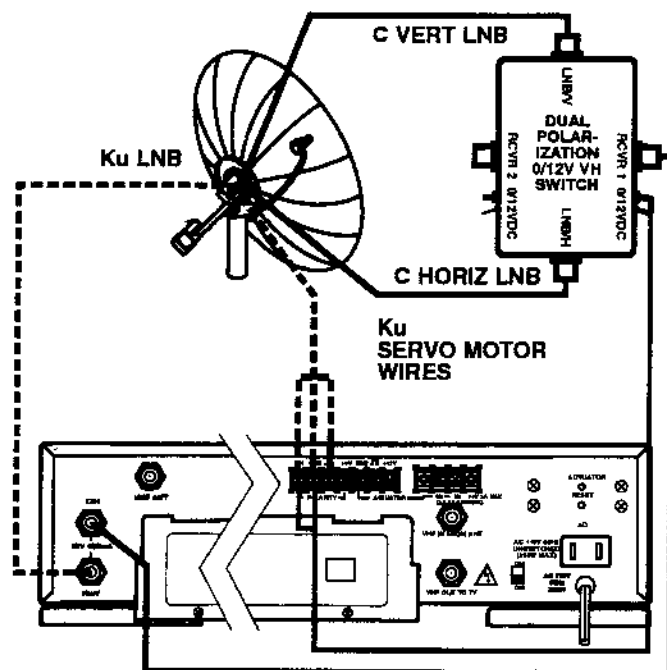
If you are connecting two LNBs and a dual feed polarizer to provide a dual feed, the **PS600XL** has two inputs that allow the customer to view both horizontal and vertical signals without an external switch.

1. Connect the horizontal and vertical LNBs directly to their corresponding inputs on the back of the receiver.
2. Move the dish antenna to the highest position.
3. Rotate the feedhorn until one of the LNBs is parallel to the polar axis and tighten the feedhorn bolts until you cannot rotate the feedhorn.
4. If the proper polarity is not indicated on the front panel of the receiver (odd channels vertical on Telstar type satellites, odd channels horizontal on Galaxy type satellites), change polarity by reversing the C/H and Ku/V coaxial cables on the back of the **PS600XL**.

Dual C-band Feed with Single Ku-band Feed

An external switch is required to install a dual C-band feed with a single Ku-band feed. Use a standard 0/12 Volt V/H switch when you install this type of system.

Wiring the Dual C-band Feed using a Standard 0/12 Volt V/H Switch




You must take special care when you decide what type of V/H switch to use. There are two common switches available: a 0/12 Volt V/H switch and a -12/12 Volt V/H switch. The PS600XL is designed to use the more common 0/12 Volt V/H switch.

1. Connect the horizontal and vertical LNBs for the C-band to their corresponding inputs on the V/H switch.
2. Connect the output of the V/H switch to the C-band input on the back of the receiver.
3. Two additional wires are required to control V/H switching. These connect to GND and V/H on the back of the receiver.
4. Follow the manufacturer's instructions to connect the switch. The V/H terminal switches between 0 and 12 VDC to switch between vertical and horizontal channels.

Wiring the Single Ku-band Feed

1. Connect the Ku-band LNB to its corresponding input on the back of the receiver.
2. Since you are using a servo-type polarizer, you must run three additional lines to control it. Wire the polarizer to the terminal block on the back of the receiver according to the manufacturer's instructions.

The normal color codes used for the Polarity Terminals are:

- Red to + 5V
- White to 
- Black to GND

Dual C-band Feed with Dual Ku-band Feed

An external switch is required to install a dual C-band feed with a dual Ku-band feed. Use a standard 0/12 Volt V/H switch when you install this type of system.

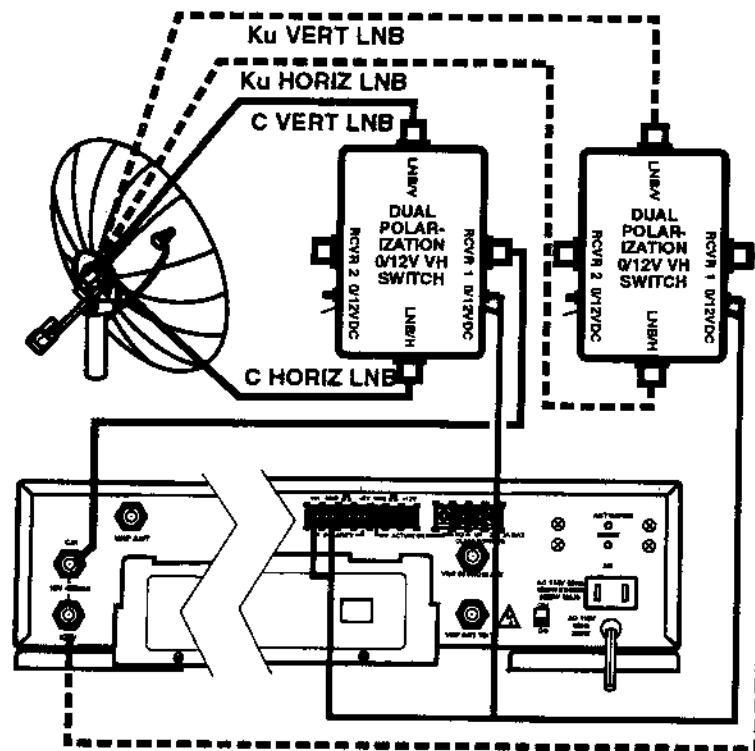
Wiring the Dual Feed using a Standard 0/12 Volt V/H Switch

Each band that uses a 0/12 Volt V/H switch requires its own switch (one for C-band and one for Ku-band).

1. Connect the horizontal and vertical LNBs to their corresponding inputs on the V/H switch.
2. Connect the output of the V/H switch to the corresponding band input on the back of the receiver.
3. Two additional wires are required to control the switching. These connect to GND and V/H on the four-terminal strip on the back of the receiver.

4. Follow the manufacture's instructions to connect the switch. The V/H terminal switches between 0 and 12 VDC to switch between horizontal and vertical channels. Repeat this process for each band that uses this type of switch.

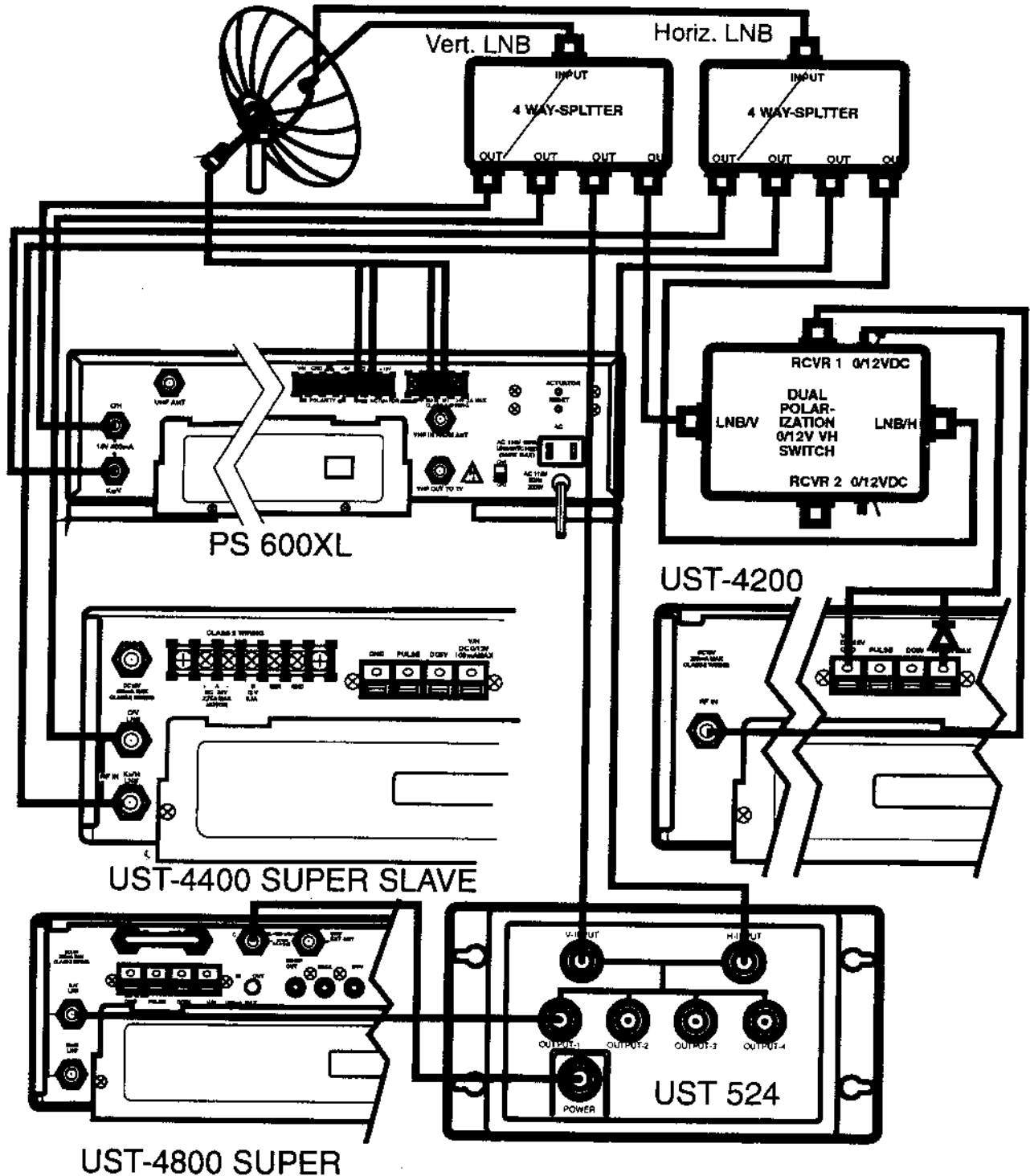
Warning! Dual switches may draw more current than provided by the PS600XL. An external power supply may be required, or two LNBs may be powered through a second receiver.



Multiple Receiver Installation

The **PS600XL** is specifically designed to operate in a variety of satellite system configurations. The ideal multiple receiver installation uses the **PS600XL** for the master and for slave receivers. When you use the **PS600XL** as slave receivers, all you need are one-way power passive splitters. When you use a receiver other than the **PS600XL** as a slave receiver, you use external switches. You wire both the C-band and Ku-band identically for multiple receiver installation.

Note: The following diagram illustrates any of the configurations on the next page.



Dual C-band using the PS600XL as Slaves

1. Connect the horizontal and vertical LNBs to the one-way power passive splitters. Connect the identified output of each splitter to the appropriate band input on the master **PS600XL**.
2. Connect one set of horizontal and vertical outputs of the splitter to their corresponding inputs on the back of the master receiver.
3. Connect the second set of horizontal and vertical signals to their corresponding inputs on the back of the slave receiver. If you install more than one slave receiver, each additional slave receiver requires two additional splitters or a four-way splitter.

Dual Feed using other 0/12 Volt V/H Switches

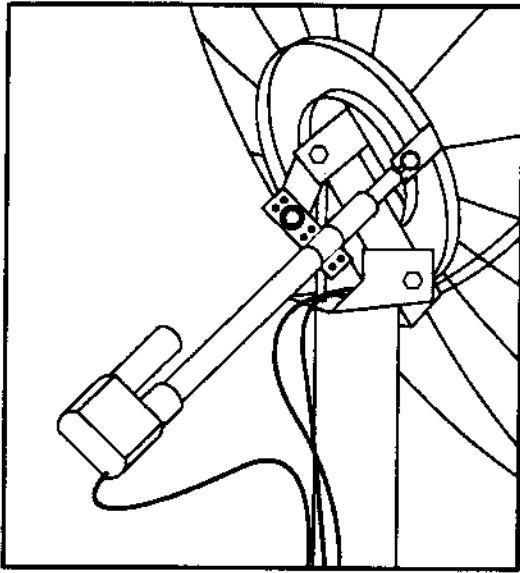
You must take special care when you decide what type of V/H switch to use. There are two common switches available: a 0/12 Volt V/H switch and a -12/12 Volt V/H switch. The **PS600XL** is designed to use the more common 0/12 Volt V/H switch.

Other switches have a horizontal and vertical LNB input, two IF outputs, and a controller for each IF output.

1. Connect the signal and controller lines from the switch to the appropriate connection on the back of each receiver.
2. Follow the manufacturer's instructions for each installation.

Actuator Installation

You can use the UST-706 actuator arm with most mesh dish antennas up to 10 feet in diameter. If the dish antenna is larger or you notice improper counting of the satellite positions, you may need a heavy-duty actuator jack.



Notes:

1. For proper installation, retract the actuator arm fully retracted and locate the motor casing above the arm.
2. Secure the clamp and pivot socket bolts tightly.
3. If you install the antenna west of the Rocky Mountains, reverse the actuator position (install it on the left instead of the right.). Reverse the + and - wires only on the back of the PS600XL. Then press the **W▶** key to extend the actuator just beyond the westernmost satellite you want to receive (Satcom C1 usually). Watch the antenna carefully during this step so that it does not tip over. You may need to adjust the limit cam inside the actuator to reach the satellite.

Assembly

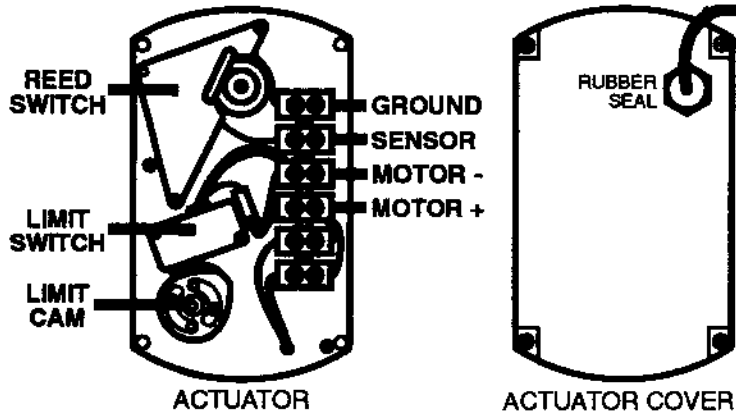
Assemble the actuator as follows:

1. Unpack the actuator and the parts kit.
2. Find the tube clamp and attach it to the right side of the metal plate on the antenna mount (for locations east of the Rocky Mountains) so that it extends downward.
3. Position the actuator through the clamp so the motor is up on top of the arm. The two small holes in the actuator case should point down for proper drainage.
4. Slide the actuator outer tube in the clamp until you can view all satellites from horizon to horizon.
5. Tighten the bolt on the clamp to hold the arm in place.
6. Pull the antenna down so that the end of the actuator arm attaches to the metal plate on the hub of the mount.
7. Use a 1/2 inch bolt to attach the pivot socket to this plate. Make sure that you fasten the lock washer and nut securely and that the connection is very tight.

Actuator Connections

Connect the actuator to the PS600XL as follows:

1. Remove the back cover of the actuator motor.
2. Route the cable through the rubber seal.
3. Connect the appropriate cable wires to the connectors on the terminal strip inside the casing. Make sure you use the cables recommended in the Appendix.

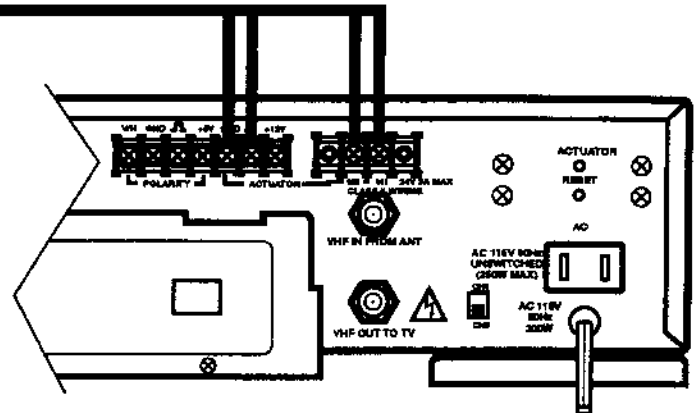


4. Connect the cable wires from the actuator to the screw terminals on the rear on the PS600XL.

Important: Improper connections can cause permanent damage to the satellite system.

5. If the mechanical limit switches are set, put the case back on the motor. Make sure you position the gasket properly to assure a watertight seal.

If the mechanical limit switches are not set, continue with the next section.



Actuator Mechanical Limit Settings

The mechanical limit settings prevent damage to the dish antenna by restricting the distance the actuator arm can travel. Use the following procedure to set the east and west mechanical limits:

1. Remove the back case of the actuator motor housing.
2. Set the west limit as follows:
 - a. Move the dish antenna all the way west until the bottom cam activates the limit switch.
 - b. Loosen the bolts on the collar and slide the actuator arm downward such that the dish antenna is pointed just beyond the westernmost satellite. Tighten the collar bolts

— OR —

Remove the bolt that attaches the inner arm of the actuator to the dish antenna and rotate the inner arm clockwise until the antenna is pointed just beyond the westernmost satellite. Replace and tighten the bolt that attaches the inner arm of the actuator to the dish antenna.

Note: Make sure that all bolts are attached securely to prevent actuator arm slippage.

3. Set the east limit as follows:
 - a. Move the dish antenna to a point just beyond the easternmost satellite.
 - b. Loosen the two screws that secure the top limit cam.
 - c. Rotate top limit cam until the limit switch is activated.
 - d. Tighten the screws that secure the top limit cam.

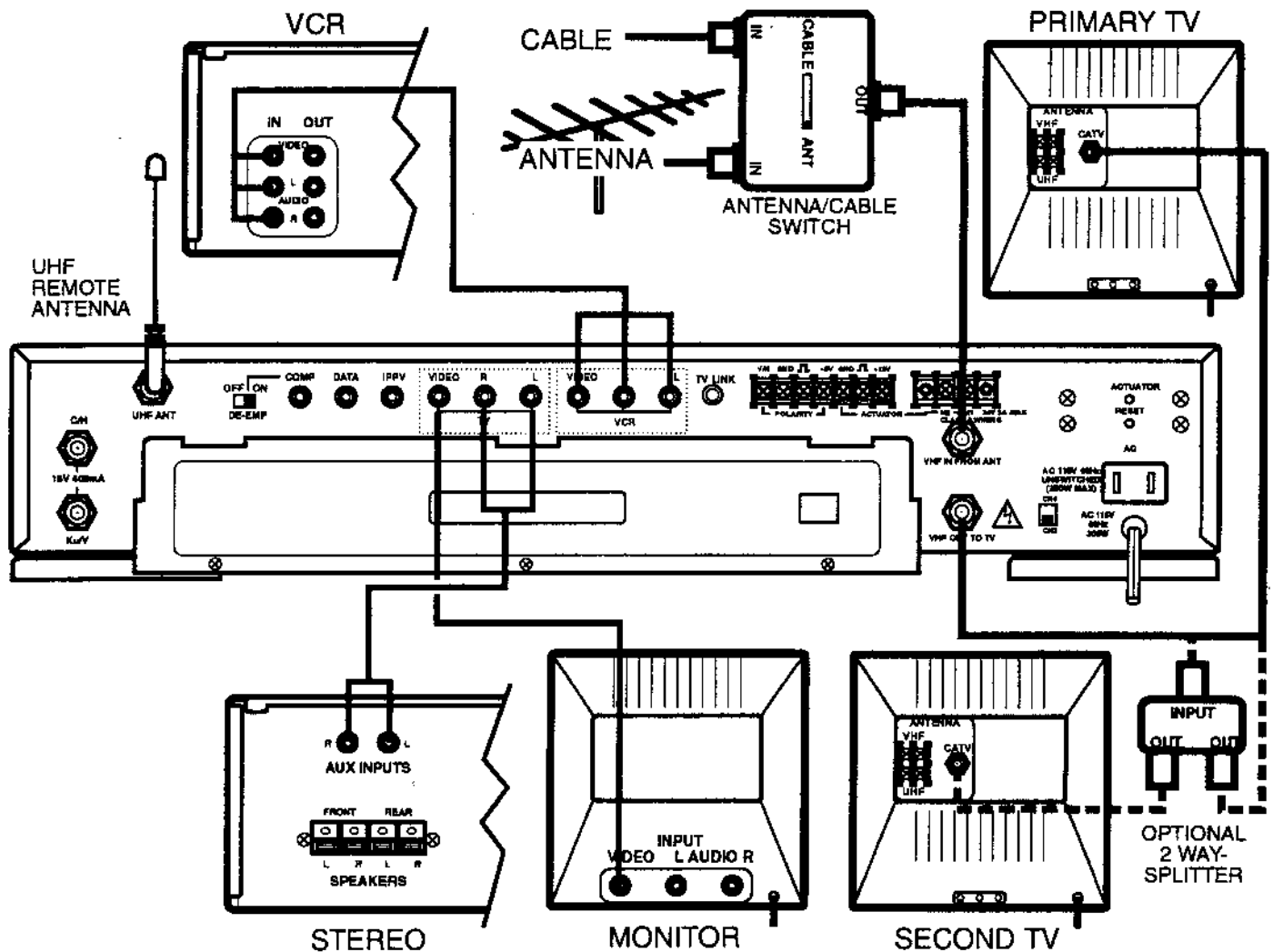
Important: Make sure the cam screws are tight before you replace the actuator case. If the actuator limit cam is not secure, it may cause permanent damage to the actuator.

4. Put the case back on the motor. Make sure that you position the gasket properly to assure a watertight seal.
5. Use the < and > keys to move the actuator arm back and forth. Make sure that the satellite dish can reach the satellite farthest west and the satellite farthest east before the limit switch stops the travel of the arm.

Note: The mechanical limit switches eliminate the possibility of damaging the dish antenna through extreme actuator movement. Also program the east and west limits from the receiver as an added precaution when you program the other receiver functions.

Connecting the TV Set and Other Components

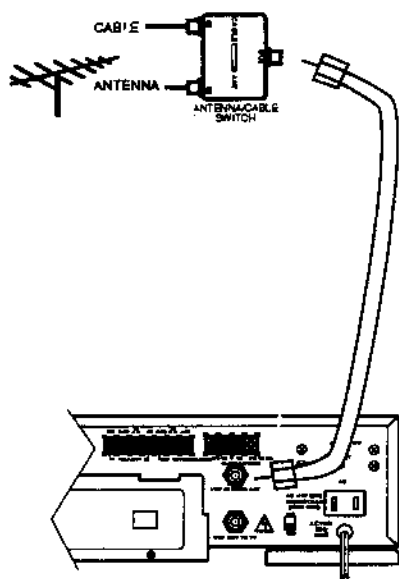
The PS600XL has two video outputs and two stereo audio outputs. These connections provide a variety of ways to customize the complete home entertainment center. The two sets of video outputs and the stereo audio outputs are intended for a TV set or monitor, stereo amplifier, and/or a VCR.



Connecting the Antennas

Note: The TVRO antenna system should be connected by a qualified installer.

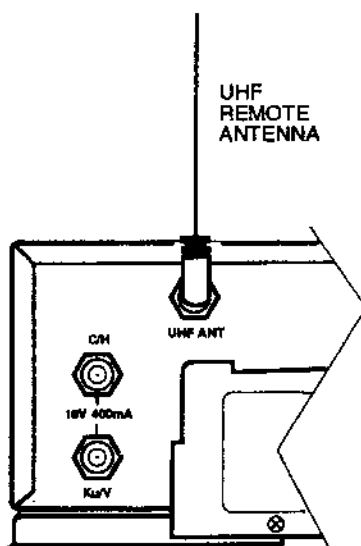
Connect the broadcast VHF antenna or cable decoder output to the **ANT IN** coaxial connector on the back of the receiver.



Note: Additional grounding may be required to avoid electrical damage caused by lightning.

Note: If the broadcast antenna cable is not coaxial cable, you will need to attach an adaptor with an F connector.

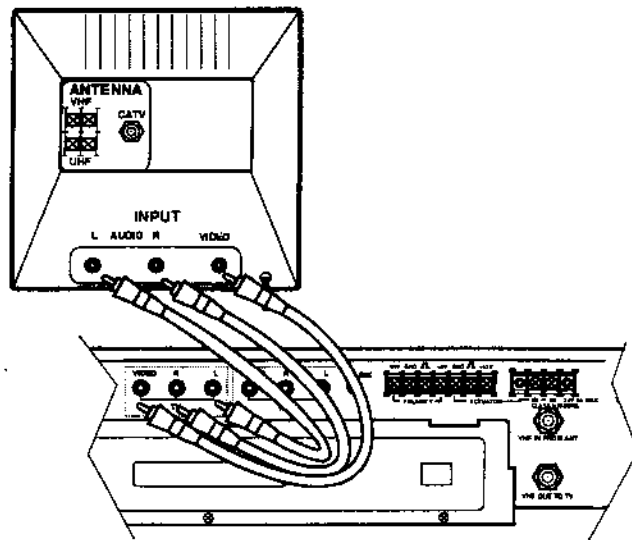
Connect the UHF antenna for the **PS600r** remote control to **UHF EXT ANT** connector on the back of the **PS600XL**.



Connecting a TV Set

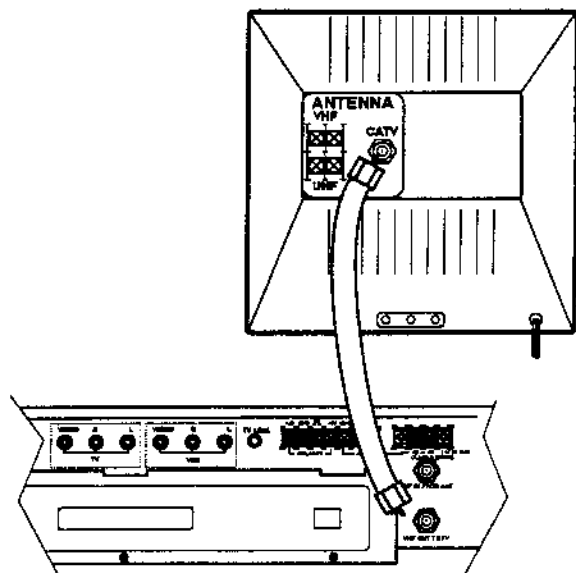
TV Set with Separate Audio And Video Inputs

Connect RCA cables from the **TV OUTPUT** audio and video RCA jacks on the **PS600XL** to the audio and video inputs on the TV set.



TV Set with Single Coaxial Input

Connect a coaxial cable from the **TV OUT** coaxial connector on the **PS600XL** to the VHF input on the back of the TV.

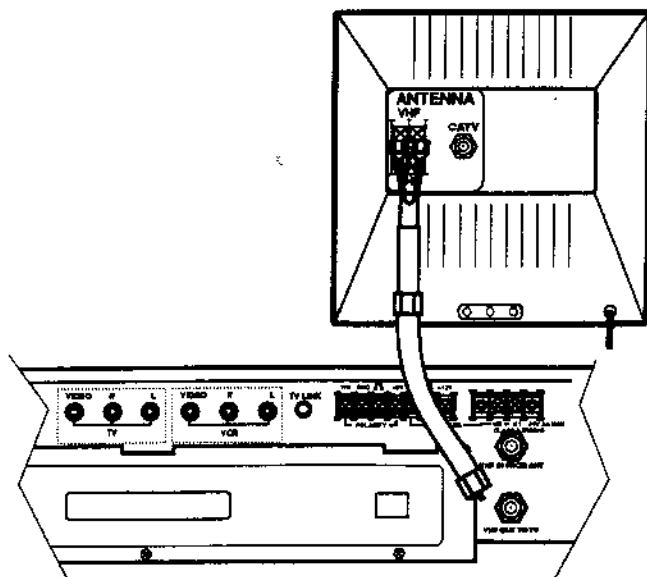


TV Set with Screw Terminals

If the TV set does not have a coaxial antenna connector, you will need an adaptor that matches the impedance (75Ω) of the **PS600XL TV OUT** coaxial connector.

Connect a coaxial cable from the **TV OUT** coaxial connector on the **PS600XL** to the F connector on the adaptor.

Connect the two leads of the adaptor to the screw terminals on the rear of the TV set.



If the TV set has separate UHF inputs, connect the broadcast UHF antenna directly to the TV set.

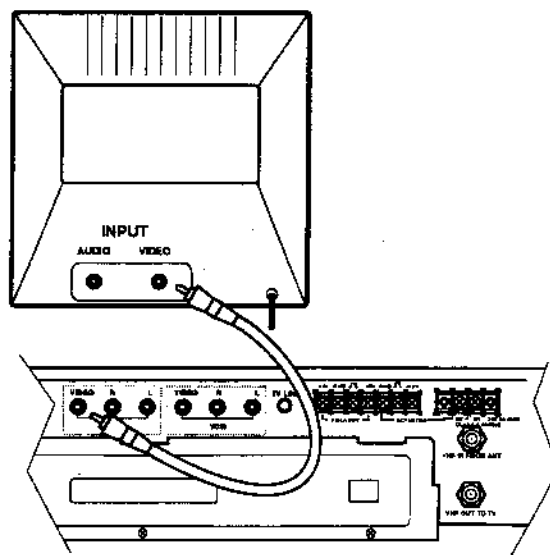
Tuning the TV Set

Tune the TV set to channel 3 or 4, whichever corresponds to the setting on the 3/4 switch on the back of the **PS600XL**. If you are unable to get good reception on one channel, change the setting on the 3/4 switch of the **PS600XL** and change the channel on the TV set to match the new setting. If there is no reception or reception is poor, you may need to adjust the fine tuning on the TV set. During satellite TV viewing, the TV set must stay on the channel set on the 3/4 switch on the **PS600XL**. It is a good idea to record the channel number inside this Manual.

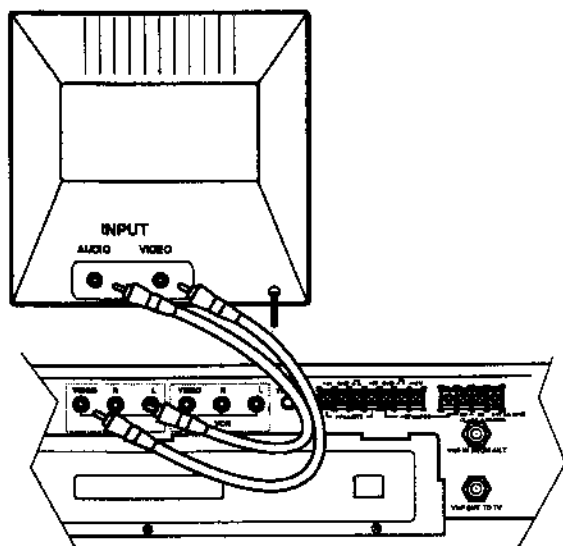
Connecting a Monitor

You may be using a monitor for your satellite viewing instead of a TV set. If so, follow these directions for connecting it to your **PS600XL** receiver.

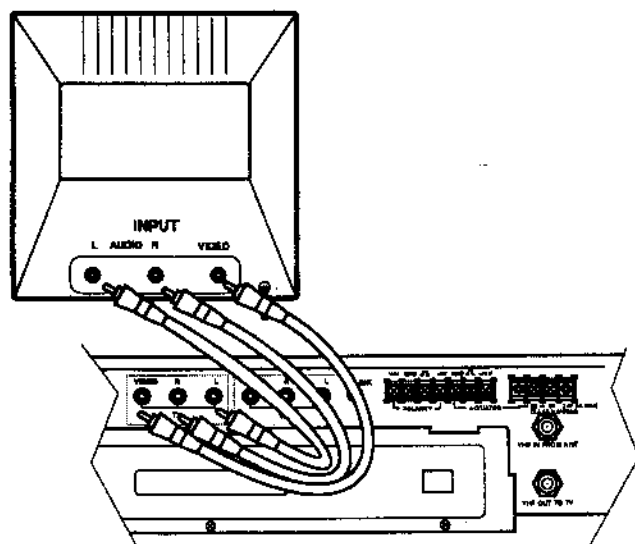
Connect an RCA cable from the **VIDEO OUTPUT (TV)** connection on the back panel of the **PS600XL** to the **VIDEO** input of the monitor.



For a monitor with mono sound, connect an RCA cable from the Left **AUDIO OUTPUT (TV)** connection on the back panel of the **PS600XL** to the **AUDIO** input of the monitor.

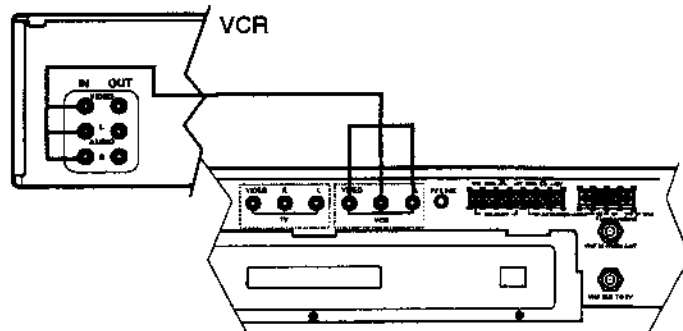


For a monitor with stereo sound, connect an RCA cable from the Left **AUDIO OUTPUT (TV)** connection on the back panel of the **PS600XL** to the Left **AUDIO** input of the monitor. Connect an RCA cable from the Right **AUDIO OUTPUT (TV)** connection on the back panel of the **PS600XL** to the Right **AUDIO** input of the monitor.



Connecting the VCR

Connect RCA cables from the **VCR OUTPUT** audio and video RCA jacks on the **PS600XL** to the audio and video inputs on the VCR.

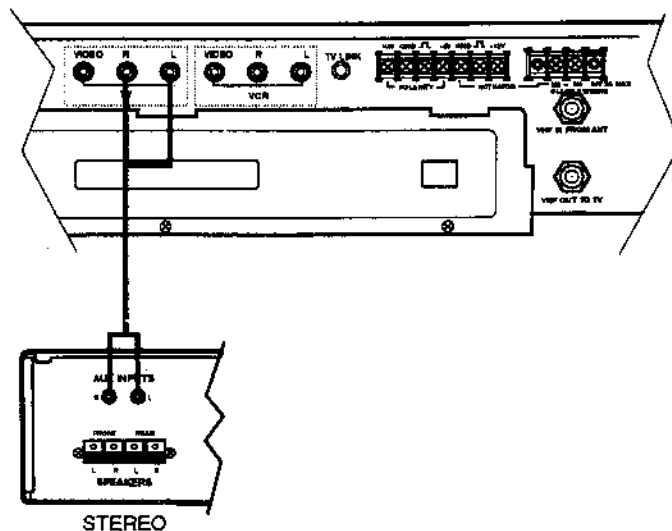


— OR —

Connect the VCR to the **TV OUT** output on the back of the **PS600XL** using a coaxial cable.

Connecting Stereo Audio Equipment

To attain the full dynamic sound of satellite television, connect the left and right TV audio outputs of the **PS600XL** to the auxiliary left and right inputs of a stereo system. Many satellite channels and audio services provide left and right audio signals for full reproduction of the sound.



Installation Menu Functions

Note: These functions are normally used by the Dealer for installation and setup.

Use the **INSTALLATION MENU** to:

1. Program a Satellite.
2. Automatically program all Satellites using the Auto Program feature.
3. Delete a programmed Satellite from memory
4. Set dish limits.
5. Set the RF configuration of receivers.
6. Add or change certain Setup information
7. Erase all receiver memory to reset the unit.

To access the **INSTALLATION MENU**, press and hold **MENU** for at least 4 seconds.

Note: You can exit this menu by pressing **MENU**. You can also return to this menu by pressing **MENU** from any submenu within the **INSTALLATION MENU**.

Once in the **INSTALLATION MENU**, press the appropriate numeric key to select the corresponding function.

INSTALLATION MENU
1 PROGRAM A SATELLITE
2 AUTO-PROGRAM
3 DELETE SATELLITE
4 SET DISH LIMITS
5 RF CONFIGURE (H/V)
6 ADD/UPDATE SAT.
7 MASTER RESET
***USE NBR,CNCL**

1. PROGRAM A SATELLITE

Press **1** at the **INSTALLATION MENU** to move to the **SATELLITE STORE** menu.

C -SATELLITE STORE
→ ■ G1 GALAXY-1
F1 SATCOM-F1R
T3 TELSTAR-303
W5 WESTAR-5
T2 TELSTAR-302
G3 GALAXY-3
F2 SATCOM-F2R
***USE ←→,↑↓,CALL,CNCL**

The **SATELLITE STORE** menu lists all pre-programmed satellites. The satellites already programmed into memory are identified by a **■** to the left of the name. Use **←E** and **W▶** to page forward and back to find the list with the satellite you want to program.

Note: Ku-band satellites are displayed by pressing the **C/Ku** key. To store Ku-band satellites, use the following procedure, substituting Ku for C.

Once at the correct list of satellites, use **CH▲** and **CH▼** to move the cursor next to the satellite name.

C -SATELLITE STORE
T1 TELSTAR-301
→ G6 GALAXY-6
S4 SPACENET-4
E2 ANIK-E2
E1 ANIK-E1
■ M1 MORELOS-1
M2 MORELOS-2
***USE ←→,↑↓,CALL,CNCL**

Press **(CALL)** to start looking for that satellite. The satellite programming screen will appear:

GALAXY-6 G6 10
SKEW (+45)
POLARITY (VERT)

DISH AT (5000)

USE ←→,↑↓,ENTER,CNCL

Use **(←E)**, **(W→)**, **(CH▲)**, **(CH▼)**, **(POL)**, **(VIDEO)**, **(SKEW)** and the numeric keys to locate and tune in the satellite.

Note: To enable or disable the blue screen while searching for the satellite, press **(VIEW)**.

Once you have tuned in the satellite, press **(ENTER)** to store the satellite, or press **(CNCL)** to return to the **SATELLITE STORE** menu without programming the satellite. If you store the satellite, a ■ will now appear to the left of the name.

C - SATELLITE STORE

T1 TELSTAR-301
→■ G6 GALAXY-6
S4 SPACENET-4
E2 ANIK-E2
E1 ANIK-E1
■ M1 MORELOS-1
M2 MORELOS-2

***USE ←→,↑↓,CALL,CNCL**

When you have finished programming satellites, press **(MENU)** to return to the **INSTALLATION** menu.

2. AUTO-PROGRAM

This feature is used to automatically program all of the satellites in the arc after the first two satellites have been programmed. Before you can go into this screen, the Dish Limits must be set. This has to be done to avoid any mechanical damage to the system. After the limits have been set, press **(2)** at the **INSTALLATION MENU** to go to the **AUTO-PROGRAM** menu.

AUTO-PROGRAM

1 BAND (C)
2 SET FIRST SAT (S2)
3 SET SECOND SAT (G6)
4 START AUTO-PROGRAM

***USE NBR,CNCL**

BAND is used to select which satellite band is going to be attempted, C-band or Ku-band.

SET FIRST SAT and **SET SECOND SAT** are used to program the first two satellites in the arc.

START AUTO-PROGRAM starts automatic programming of the satellites.

Note: It is recommended that if both C and Ku bands are to be attempted, do C band first and Ku band second.

3. DELETE SATELLITE

If you want to delete a programmed satellite from memory, you must first tune to the desired satellite.

At the **INSTALLATION MENU**, press **(3)** to delete the satellite. Before the satellite is actually deleted, a warning screen will appear to confirm if you really want to delete the satellite:

SPACENET-1 /1 07

**DELETE THIS
SATELLITE
ARE YOU SURE ?**

***USE ENTER,CNCL**

Press **(ENTER)** to delete the satellite, or **(CNCL)** to exit without deleting the satellite. If you delete a satellite, you will return to the **INSTALLATION MENU**.

4. SET DISH LIMITS

At the **INSTALLATION MENU**, press **(4)** to access the **DISH LIMIT SET** screen.

DISH LIMIT SET

1 EAST LIMIT (4792)
2 WEST LIMIT (5062)

DISH AT (4792)

***USE NBR,←,→,CNCL**

Use **(←E)** or **(W→)** to move the dish to the East limit. You will see the number in brackets next to **DISH AT** change.

Press **(1)** to set the current limit as the East limit. As soon as you press the key, the position appears in the brackets next to **EAST LIMIT**.

DISH LIMIT SET

1 EAST LIMIT (5000)
2 WEST LIMIT (5062)

DISH AT (5000)

***USE NBR,←,→,CNCL**

To set the West limit, follow the same procedure, pressing **(2)** to set the limit.

After you make any changes, press **(CNCL)** to exit this screen and save the changes.

Note: To enable or disable the blue screen while searching for the limits, press **(VIEW)**.

5. RF CONFIGURE

Press **[5]** at the **INSTALLATION MENU** to switch between **C/K** and **H/V**. Set **RF CONFIGURE** to **C/K** when a single **C** and/or a single **Ku** system is being installed.

Set **RF CONFIGURE** to **H/V** when two separate **LNBs** for each polarity are being used.

INSTALLATION MENU
1 PROGRAM A SATELLITE
2 AUTO-PROGRAM
3 DELETE SATELLITE
4 SET DISH LIMITS
5 RF CONFIGURE (H/V)
6 ADD/UPDATE SAT.
7 MASTER RESET
***USE NBR,CNCL**

6. ADD/UPDATE SAT.

Press **[6]** at the **INSTALLATION MENU** to add or change certain setup information for a selected satellite.

The **ADD/UPDATE SAT.** screen appears:

ADD/UPDATE C SAT
1 NAME:GALAXY-1
2 ABBREVIATION:G1
3 LONGITUDE:133.0
4 POL FORMAT:I

***USE SETUP,←,→,CNCL**

This screen allows you to reassign a satellite abbreviation (e.g., **G1** for **GALAXY-1**), set longitude, or change the **POL** format mode. It also allows you to change the name of the satellite.

Use **[←E]** or **[W▶]** to select a satellite. The name will appear in the field beside **1 NAME**.

Press **[SETUP]** to access the next screen, and input the data for that satellite. To enter or change the data, press the number of the desired item (1 – 4). The first character of the corresponding setting will start flashing to indicate it is waiting for your change.

ADD/UPDATE C SAT
1 NAME: GALAXY-1
2 ABBREVIATION:G1
3 LONGITUDE:133.0
4 POL FORMAT:I

***USE NBR,←→,↑↓,ENTER**

Press **[CH▲]** or **[CH▼]** to change the current setting. Then, press **[ENTER]** to save the change.

7. MASTER RESET

Master Reset is used to erase all the receiver memory. Press **7** at the **INSTALLATION MENU** to access the **MASTER RESET** screen.

MASTER RESET

ENTER PASSWORD
(- - - -)
8570

***USE NBR,CNCL**

You must then enter a special password to continue.

MASTER RESET

******* CAUTION *******
ERASE ALL WILL
DESTROY ALL STORED
INFORMATION !!!

ARE YOU SURE?
***USE ENTER,CNCL**

If you enter the wrong password, "**WRONG PASSWORD**" flashes. You then return to the **INSTALLATION MENU**.

General Information

Helpful Hints

To make sure you get the most out of satellite television viewing we offer the following information. The sophisticated engineering required to tune in satellite signals from about 22,300 miles away can be as mysterious as space itself. We hope that this information will take some of the mystery out of this technology, making it even more enjoyable for you.

Terrestrial Interference

The most common cause of interference for a satellite television system is Terrestrial Interference. It is caused by local telephone or data microwave links. If your antenna is located close to, or in the path of a microwave tower you may experience snowy video, sparkles or a distorted picture. This kind of interference is usually not constant and may appear to increase and decrease at different times of the day. If you experience terrestrial interference, turn the TI filter on. If the problem still exists you may need to relocate your antenna or use more sophisticated filters. Contact your President dealer for more information.

Solar Outage

Another cause of interference is the biannual solar outage. Due to the seasonal changes of the earth's axis the satellite belt moves between the earth and the sun. When the satellite belt moves directly between the sun and your antenna, the satellite transmissions will be overpowered by the natural radio transmissions of the sun. This kind of satellite eclipse occurs twice a year around the spring and fall equinox. As the satellite eclipse approaches you may notice a gradual, daily increase in interference. It will peak for about 10 - 30 minutes with a completely distorted picture. As the eclipse decreases so will the amount of interference until the picture is back to clear, normal operation. The degree of interference and the timing of this phenomenon varies with the satellite, your geographical location and the size of your antenna. Unfortunately the only solution is to tune to a satellite that is east of the sun's position until it has passed the satellite you were watching.

Other Sources of Interference

All electrical equipment is susceptible to interference from other electrical devices. The **PS600XL** is an extremely sensitive unit and may pick up interference from any household appliance. If you experience temporary audio or video interference you should check other equipment in your house. Appliances such as refrigerators, washers/dryers, microwave ovens, pumps, power tools, hair dryers, etc. may cause a variety of annoying interference. Also, radio transmitters such as CBs or shortwave radios may be a source of interference. Try plugging the **PS600XL** into another outlet, or isolated circuit. Check with your President dealer for other ways to control this type of interference.

Aircraft passing over or near to your antenna may cause some temporary interference as it blocks or reflects the satellite signal. This type of interference is momentary and cannot be filtered.

Troubleshooting

If your **PS600XL** is not performing up to your expectations, please try the simple steps listed below. If you cannot get satisfactory results after following these steps, contact your local President dealer.

Note: Over 80% of the problems occurring with satellite TV systems are related to cable trouble. If you are experiencing any problem with your system, first check all cables and connections carefully. If the problem still exists try the following steps:

Problem: The indicator lights on the receiver are not working. No video or audio.

1. Check the Power switch to make sure it is on.
2. Check the AC power cord to make sure it is plugged into an outlet that is not controlled by a wall switch.
3. Check the main circuit breaker on the back of the unit.

Problem: The indicator lights are on but no TV picture or audio.

1. Check the power switch on the TV. Check the cable between the RF Out connector on the back of the unit and the VHF In on the TV set. Make sure both connections are secured.
2. Check the channel selector on the TV to be sure it is set to 3 or 4 and that the 3/4 switch on the back of the unit is set to the same number.
3. Parental Lock may be engaged. Check another channel or satellite.
4. Check another channel on the satellite. The current one may not have any programming.
5. Check the alignment of the antenna. Press the **◀E** and **W▶** keys momentarily to align the antenna for the best picture.

Problem: There are ghost images or wavy lines on the TV screen.

1. Check polarization by pressing **(POL)**. Adjust the Skew by pressing **(SKEW)** and use **(CH▲)** or **(CH▼)**.
2. Check the channel fine tune adjustment on the TV and the channel selector to make sure it is on 3 or 4.
3. Fine tune antenna by pressing **(◀E)** or **(W▶)** momentarily so that satellite position counter changes up to ± 16 counts.
4. Check the alignment of the antenna.
5. External interference. See Helpful Hints section about interference.

Problem: Picture is full of snow or sparkles. Weak picture.

1. Check all cables for proper connection.
2. Make sure that the feedhorn is properly positioned. Check the feedhorn instructions.
3. 1 GHz cable is too long or improper cable used for length required. Check cable chart. Check with your President dealer about a line amplifier.

Problem: Distorted audio or no audio.

1. Check volume of receiver and TV. Check Mute control.
2. Check program guide to make sure the correct audio frequency is tuned. Press **(AUDIO)** to tune to a different frequency.
3. Check audio mode and band. Try a different band setting by using the audio tuning function.
4. If you are using the Audio Out jacks, check to make sure cables are properly connected.

Problem: The channel number displayed does not correspond to your program guide. The video is weak or has superimposed images. The polarity indicated in the program guide does not correspond to the setting on the receiver.

1. Change the polarity by pressing (POL).

Problem: Remote control will not work, works erratically.

1. Weak batteries. Replace with 2 AAA-size batteries.
2. Make sure the UHF antenna is connected properly.

Problem: Cannot receive scrambled channels.

1. You have not subscribed to the service.
2. The program is blacked out in your area.
3. Signal strength is too low.
4. Parental Lock is engaged for the channel
5. Rating ceiling is set too low.

Problem: Cannot select the desired satellite from memory.

1. Satellite not programmed.

Problem: Antenna will not move. Antenna movement is erratic.

1. Check actuator breaker on back of receiver.
2. Actuator improperly installed or binding. Check actuator installation and antenna mount to make sure nothing is obstructing movement.
3. Check actuator cable for proper connections at both the motor and back of receiver.
4. Antenna is too heavy for actuator. Check with your President dealer about a heavy duty antenna kit.